

ADDRESS
TO THE
ROYAL GEOGRAPHICAL SOCIETY
OF LONDON;

Delivered at the Anniversary Meeting on the 22nd May, 1843,

BY

WILLIAM RICHARD HAMILTON, Esq., F.R.S., &c.
PRESIDENT.

GENTLEMEN,—The Secretary having completed the reading of the Annual Report of the Council, I have much pleasure in congratulating you on the advances in geographical knowledge, which have been made during the lapse of the last year, to which advancement I am willing to believe that the Royal Geographical Society of London have contributed at least their due share.

You have just heard the grounds on which the Council have awarded the royal medals placed at their disposal by the generous bounty of Her Majesty for the current year. One of these medals, you will have observed, has been awarded in token of the sense the Council has entertained of the benefit derived to geography from the happy application of scientific acquirements to the extension of physical geography; and the other for the successful issue of one of the most daring attempts to extend our knowledge of a barren and inhospitable coast, attended with an heroic display of hardihood, perseverance, and devotion, amongst almost unparalleled circumstances of privation and distress.

It is now my painful duty to announce to you that during the last year the hand of death has deprived us of many eminent individuals, some of whom, by their labours, have greatly contributed to the advancement of geography, or to those departments of knowledge which are intimately connected with geography.

OBITUARY.

The Royal Geographical Society has, in common with other literary and scientific societies of the kingdom, to deplore the loss of the late Duke of Sussex. His Royal Highness was Vice-Patron of the Society; and he was ever warm in his expressions of good-will towards us, and anxious for the success of all our exertions for the advancement of geographical knowledge. As a British Prince, the Duke of Sussex was ever ready to come forward in the cause of science; and for the five years or more during which he held the office of President of the Royal Society for the promotion of natural knowledge, he spared neither pains nor trouble to forward their views; and nothing could exceed the genuine warmth of heart, and generous affability, with which he received every one who had access to him, particularly if he came to plead a cause wherein the interests of science, or literature, or the fine arts, were, however remotely, concerned.

The Rev. E. T. Daniell was not a member of our Society, but such an honourable and devoted victim to the cause of geographical discovery must not pass unnoticed from this chair.

Mr. Daniell left England in September, 1840, with the intention of travelling in Greece, Egypt, Syria, and Asia Minor. To the latter country especially he looked forward as a field for fresh discovery. Gifted with the finest taste, and the eye and hand of an artist, wherever he went he brought away memorials of the greatest interest in the shape of admirable sketches. Having explored the banks of the Nile as far as the second cataract, having visited Mount Sinai, and made an extensive tour in Syria, mainly with the view of illustrating the most interesting localities mentioned in Holy Writ, he proceeded to Constantinople, where he met with Captain Graves, of H. M. S. Beacon, and Mr. Fellows, then about to proceed to Lycia, to procure the marbles now in the British Museum. At the invitation of the commander and officers of the Beacon, Mr. Daniell joined the party, and remained with them until March, 1842, making excursions from the ship to all places of antiquarian interest around Telmessus, and in the valley of the Xanthus. When the Beacon left Xanthus, Mr. Daniell remained behind, in company with Lieutenant Spratt and Mr. E. Forbes, with the view of thoroughly exploring the geography of Lycia. During the tour he then made, which lasted until June, when the party returned to Rhodes, the sites of seventeen ancient cities were fixed with certainty, from the combined evidence of position and inscriptions: viz., Phellus, Candyba, Cyaneæ, Sura, Corydalla, Rhodiopolis, Idebessus, Acalissus, Gagæ, Lagon, Termessus Major, Lagbe, Cibra, Buton, Balbura, Cœnoanda, and Arsa; besides others, which from the evidence of position alone ap-

peared to be Pyrrha, Mandropolis, Sinda, Apollonia, or perhaps Marmora, Podalia, Amelas, and Olbia. Plans of all these ruins, and an elaborate map of Lycia, the Cibyratis and their borders, were constructed by Lieutenant Spratt during this journey. In June the party repaired to Rhodes, where Mr. Daniell left his companions, and returned to Adalia with the British Consul, Mr. Purdie. After revisiting several of the former sites, in order to settle some doubts and questions regarding them, he proceeded in search of Selge, the true position of which great city he determined; and on his return rectified several important points in the geography of Pamphylia. This journey was his last, and during it commenced a series of attacks and relapses of the malignant fever of Asia Minor, ending in the death of a most amiable, accomplished, and talented traveller, at Adalia, on the 24th of September, 1842.

Sir Robert Ker Porter has been long and favourably known to the public, besides his other various accomplishments, for his Travels in Georgia, Persia, Armenia, Babylonia, and Kurdistan. Possessing a ready use of his pencil, Sir R. K. Porter's Travels are replete with interesting portraits of the people whom he saw, the countries he passed through, and the architectural and sculptured remains on the monuments he visited; and in general he obtained and deserved a character for scrupulous accuracy. He had resided for the last eight or ten years of his life at the Caraccas, in the character of Her Majesty's Agent and Consul-General in the republic of Venezuela; and having obtained leave of absence to visit his relatives in Europe, he fell a victim to the severity of the climate, when on the point of returning to England from St. Petersburg.

To Lieutenant Wellsted the Society have heretofore been indebted for some papers inserted in their Journal, particularly for his very full and interesting description, in 1835, of the Island of Socotra, in which, after giving us his Journal from the 4th January, 1834, to the 8th of March of the same year, during which he visited every part of the island, Lieutenant Wellsted enters upon many details of its natural productions and soil, its government, religion, the existing customs and manners of the inhabitants, the state of the population, the two distinct races (apparently Asiatic and African) by which it is inhabited; and his Memoir closed with a vocabulary of English words rendered first into Arabic, and again into that peculiar dialect of the Arabic which is spoken in the island.

Lieutenant Wellsted also communicated to us, in 1836, his observations on the coast of Arabia, between Râs Mohammed, the southern point of the peninsula of Sinai, and the port and town of Jiddah in the Red Sea. The details of this journey fill up the line of the eastern shores of that gulf, which had been left unexplored by Burckhardt.

Lieutenant Wellsted has also described the ruins near Ras Bernas on the eastern coast of the gulf; and has added his reasons for thinking that they indicate the site of the ancient town of Berenice.

The late Sir William Ouseley, elder brother of Sir Gore Ouseley, was a gentleman of very considerable attainments in Oriental, and particularly in Persian literature; and the greater part of his life was devoted to the publication of works connected with the history and geography of Persia, into which country he accompanied his brother, appointed Ambassador Extraordinary to the Court of Teheran in 1811. Sir William took that opportunity to visit and describe some of the ancient remains in the neighbourhood of Ispahan and Shiraz. In 1821 Sir William Ouseley published his 'Travels in various Countries of the East,' more particularly in Persia, in which are many curious and important geographical details, interspersed with discursive treatises on various points of the local histories and manners of that part of the Asiatic continent, on which the learned author brought to bear his deep and varied acquaintance with the peculiarities of Oriental criticism.

The Chevalier T. O. Bröndsted was, in his line, one of the remarkable men whom the learned world of Europe has lost within the last year. He was a traveller, and one who travelled with his eyes open, and who has since given to the public the result of his researches; but as these were confined to parts of the continent and islands of Greece, so were the observations of Bröndsted almost exclusively devoted to the illustration of ancient history and ancient art, and in these branches of research his services were eminently meritorious. A few years before his death he had given to himself a task which, had he lived to carry it out, would have ranked him high amongst the promoters of historical or comparative geography. It was to ascertain from existing monuments, such as medals and topes, from the ancient writers, and from recent travellers, all the details which could be obtained respecting the cities built or founded by Alexander in the course of his conquests in the East.

Mr. E. R. Friederichstahl, whom we had the pleasure of seeing in this city the year before last, on his return home to Vienna, after his botanical researches in Central America, died, at an early period of life, in March last year. In the course of his excursions among the interesting regions where Nature loves to luxuriate amongst the desolate and deserted monuments of an extinct people, Mr. Friederichstahl was fortunate enough to have the means of taking Daguerrotype views of these most extraordinary productions of American science. We hope that some worthy inheritor of his papers will receive sufficient encouragement to give to the public the result of his labours.

Louis Claude de Saulces de Freycinet, Capitaine de Vaisseau in the Royal Navy of France, and one of the most successful of her sons in the

range of scientific navigation, and in voyages of discovery, was lost to his country in August, 1842. This distinguished officer began his career in the same path of geographical and maritime discovery in which his active life terminated. In 1800 he accompanied Captain Baudin to the South Seas, and in the course of the expedition was appointed to the command of the barque *La Camaria*, fitted out for the purpose at Port Jackson. In 1817 he undertook, in command of the *Urania*, a voyage of circumnavigation, the result of which has been to give to the world, though not yet in a complete form, a large mass of information on terrestrial magnetism, on meteorology, on natural history, and on every description of nautical phenomena. Captain Freycinet was elected a member of the Academy of Sciences in 1826, and his life has since that period been devoted to scientific investigations, more or less connected with his professional career.

The Baron Louis Costaz, Member of the French Institute, and of that of Egypt, was one of the early founders of the Geographical Society of Paris; author of memoirs on geographical subjects in the '*Courrier d'Egypte*,' the '*Annuaire d'Egypte*,' and the '*Décade Egyptienne*,' &c., such as the account of his Journey in the Desert, a Memoir on the Progress of the Sands and the Advance of the Dunes, on the Colour of the Sea, Observations on the Barabras and their language, on a new method of indicating the absolute Heights of Geographical Positions, &c.

Hensen Ernst, a Norwegian, who, on an expedition to the source of the White Nile, died at Assouan, in Upper Egypt, on the 30th January of the present year.

Count Alexander Louis Laborde, Member of the Institute of France, an oriental traveller, who died in October last, aged 68.

Professor Gesenius, of Halle, a celebrated orientalist, and a contributor to our Journal, who died on the 23rd of October, 1842, aged 57.

In addition to the above names, science has also to deplore Mr. Vaughan, Secretary to the Philosophical Society of Philadelphia, through whose kindness the Transactions of that Society and other works have been presented to us;

Professor Heeren, author of *Historical Researches into the Political Intercourse and Trade of the Carthaginians, Ethiopians, and Egyptians*; and

Dr. Edwards, President and one of the Founders of the Ethnological Society of Paris.

Captain Conolly, the well known author of an interesting work on Central Asia, has, we sincerely grieve to find, if reports be true, been put to death, together with Colonel Stoddart, by order of the authorities of Bochara.

M. Lefevre, a French traveller and geologist in the service of Mehemet Ali, died in Africa, from fever induced by heat and fatigue, in his exploration in the suite of the Pasha's expedition up the Nile in 1839.

Aucher Eloy, a young French traveller into Egypt, Arabia, Syria, Greece, and the islands of the Archipelago, and Persia, died at Djulfa, near Ispahan; and

Mr. Lehman, who had made a scientific journey into the Khanat of Bochara, died, on his return, at Simbirsk. His papers and collections have, however, been saved; and it is hoped they will serve the progress of science.

PROGRESS OF GEOGRAPHY.

EUROPE.

England—Maritime Surveys.—Of the surveys under the direction of the Hydrographic Office of the Admiralty, mentioned in my address of last year, some have been completed, and others are still in progress.

1. Captain Bullock, of H. M. S. *Tartarus*, has surveyed the Medway from Rochester Bridge to the Nore, and from the Nore to Harwich.

2. Captain Washington, of H. M. S. *Blazer*, whose name will never be pronounced within the walls of the Royal Geographical Society of London without the warmest feelings of attachment, and a grateful recollection of his services to the Society, has made a complete survey of Harwich Harbour, and of a new channel into Lowestoff Roads.

3. Lieutenant Otter is continuing the survey of the late Commander Slater.

4. Commander Frazer, H. M. S. *Comet*, on the coast of Ireland, has surveyed from Carlingford to Wicklow Head; the results will soon be published.

5. Commander Wolfe, having completed the survey of the Shannon, is now engaged on that of Cork Harbour.

6. Commanders Graves and Brock, of the *Beacon* and *Magpie*, have nearly completed the survey of the Greek Islands.

7. Captain Sir E. Belcher has surveyed Hongkong, which is nearly ready for publication; as also the Canton River from Canton to Lintin.

8. Captains Kellett and Collinson, of the *Starling* and *Plover*, whose zeal and skill were conspicuous in enabling the fleet under Admiral Parker to reach Nanking, have surveyed the whole of the Chusan Archipelago and the Yang-tse-kiang.

9. Captain F. W. F. Owen, of H. M. S. *Columbia*, is in the Bay of Fundy. The many dangers in this Bay, and the unusual strength of

the tides, which rise and fall 60 feet, render it very desirable to have a skilful survey made of it, as well as of the navigable part of the river of St. John; and no doubt this enterprise will begin vigorously this spring.

10 Captains James Ross and Crozier, of the *Erebus* and *Terror*, have made another attempt to penetrate the great barrier of ice which surrounds the South Pole, and succeeded in reaching a few miles further than they did in their first season. They then returned to the Falkland Islands, to fit and prepare for another attempt. They have sent home a large series of magnetic observations. Captain Ross was to leave the Falklands late in November, and to endeavour to reach the Polar land on the opposite side to that where he had previously struck it. If he finds the means of securing his two ships in safety during the winter, he will remain there till next January; if not, he will have immediately returned to the Cape of Good Hope, and may be now on his way home.

The Hydrographic Office of the Admiralty, under Captain Beaufort, has published during the year 30 charts: viz., 5 sheets of the Coast of China, 12 sheets of the British Isles, 6 sheets of the Mediterranean, and 7 sheets of North America. All of which have been obligingly presented to our library.

Captain Francis Blackwood, whom you elected at the anniversary last year as one of the members of the Council of this Society, has since commissioned H. M. B. Fly; and, in company with Mr. C. B. Yule, of the tender *Bramble*, has sailed on a scientific expedition to the Pacific, or rather to the Australian Seas: the point to which his attention is directed in the first instance is to make a survey of Torres Straits, between New Guinea and the N.E. coast of New Holland.

Ordnance Surveys.—During the past year, the Ordnance survey, published on the scale of one inch to a mile, has been completed, of the remaining portions of the counties of Derby, Stafford, and Cheshire; and the surveying for the six-inch scale map has made very considerable progress in the counties of Lancashire and York, including special surveys of Liverpool, Manchester, Leeds, Prescott, Newton, Warrington, Ashton-under-Line, and Middleton. The observations made with Ramsden's zenith sector for all determinations of astronomical latitudes, between the years 1802 and 1806, have been revised and published, together with subsequent observations made in the years 1813, 17, 18, preliminary to the publication of the triangulation connecting the several stations.

During the last year the Townland Survey of Ireland, on the scale of six inches to a mile, has been brought to a successful termination; and the counties of Kilkenny, Clare, and Waterford have been published.

Detailed plans, on the five-feet scale, of Cork, Limerick, and the other towns in the southern counties, have been completed.

Within the last year, also, a valuable series of spirit-levelling has been brought to a close. This series consists of lines extending from sea to sea, in various directions across the island, terminating on points, at which tidal observations have been carefully made.

In taking a brief view of the progress which geography is making in various parts of Europe, I shall begin with NORWAY. In 1842 the following surveys were completed.

Surveys.—A new combination with the Swedish triangles, executed with the theodolite.

In Norway, the base of the triangulation was measured on the Frith of Christiania. In Sweden, the triangulation is founded on a base measured on Oeland, the Swedish triangles having been formerly connected with those of Russia and Denmark. Thus the whole of the Baltic is surrounded by a coherent network of triangles.

The hydrographic surveys in the northern part of Norway, which furnished the materials for the charts of the coast commenced in 1828, were completed in 1842. During that period the whole coast from the entrance of the Frith of Thronhjelm to Jacob's River, which forms the limit between Norwegian Finmark and Russian Lapland, has been entirely surveyed; and, as far as circumstances permitted, the surveys have been verified by astronomical observations.

A separate expedition has been fitted out for the purpose of exploring the shoals further out in the sea between Hammerfest and Nordcap (the North Cape): these, as also the sea opposite to East Finmark, were sounded in 1842.

The survey in detail of the largest of the Norwegian ämter (shires), viz. Christian's amt, was concluded in 1842, after having been in hand for several years. This amt, which includes the districts of Hadeland, Laud, Valdres, Toten, and Gudbrandsdalen, contains about 500 geographical square miles. The scales made use of are $\frac{1}{200,000}$, $\frac{1}{300,000}$, and $\frac{1}{100,000}$ of the true dimensions, according to the nature of the ground, the greater or less population, and other considerations. In the north-western part of this amt the most considerable Norwegian mountains are found. The heights of these above the sea are determined by barometrical measurements, and checked by corresponding observations in the observatory at Christiania.

The following surveys are in progress:

The sounding of the large bank which is supposed to follow the western coast of Norway, and is called Havbroen (the Sea Bridge).

The triangulation of the southern part of Norway. This is to serve

as the foundation for the detailed surveys, and is now going on in the districts of Hallingdalen, in Buskeruds amt. This triangulation is executed with the theodolite; the signals are blocks of stone.

While this triangulation is going on, the triangles are filled up with the ordinary surveying instruments. The area of Southern Norway which has been surveyed up to the present time amounts to about 1300 geographical square miles.

Charts and Maps.—A chart, N^o. 6, of the Norwegian coast from Andoë and Gisund to Kvaloë, or from 69° 14' to 70° 21' N. lat. The trigonometrical survey has been executed by Captains Due and Hagerup, of the Norwegian navy, and Lieutenant Rynning, of the infantry, and is verified by astronomical observations. The chart is constructed by Captain Vibe, of the engineers (who is also the author of the descriptions of the coast accompanying each sheet), under the superintendence of the Director of the Royal Surveys at Christiania. The survey of the northern coast of Norway has been ordered by the Department of Finance, Trade, and Customs; many of the sheets of this survey are already published, and when the collection is complete it will embrace the whole of the coast from Thronthjem to the Russian frontier, in 10 sheets.

The following maps are also in course of preparation, and will be soon published: viz.—

1. A map of the southern part of Christian's amt (shire). It was constructed in May, 1842, by Lieutenant Gjessing, and is now in the hands of the engraver, Lieutenant Wergeland. This map is published by the Department of Finance; and is in continuation of the Norwegian amts formerly published by Captains Munthe and Ramm.

2. A general map of Norway, by Professor G. A. Munch. This map, it is said, will be engraved in Germany.

3. A general map of Norway, by Captain Roosen, is to be engraved this year at Paris.

4. The publication of a map of the Norwegian lake Miosen and its environs may be daily expected from Lieutenant Finnes' lithographic office.

5. A map of the roads of the southern part of Norway has been commenced by Captain Waligorski and Lieutenant Wergeland, of the Norwegian artillery.

6. A map of Christiania, and its environs to the extent of one square mile (Norwegian), is in progress, and will be soon published.

In the Norwegian charts the same methods are used as with us and the French. The projection is that of Mercator, the true north is parallel with the border of the chart, the variation of the magnetic needle is on the middle latitude, and the rhumb lines are laid down anywhere on the

navigable parts of the sea. The longitude is reckoned from three different meridians; viz., that of Christiania, Greenwich, and Ferroë. The arbitrary signs are the same as on our charts. With regard to the Norwegian topographical maps, it may be observed, that in the representation of mountains they do not use the method by lines or strokes, or what the French call *hachures*; but, on the contrary, they employ the mode of washing or shading in Indian ink. They say that by this method they gain much, both in time and in distinctness of expression, while it is equally elegant in its appearance.

The several maps and charts published under the direction of Professor Hansteen are to be sent to our library by the first opportunity.

Travels.—In the spring of 1839 a young geologist, Mr. Stuwitz, was sent by the government to Newfoundland to collect specimens for the museum of the university of Christiania, to make meteorological and magnetic observations, and to learn the method by which stockfish is dried and prepared in that island. He died last year of consumption brought on by his indefatigable labours. He has published various scientific papers. His later documents and instruments have just been brought to Christiania.

DENMARK.—In Denmark there have been published papers by Dr. Lund on the fossil and living mammalia of the Brazils, and also on the extinct and existing birds of prey of that country. Leibmann has described the botany of Mexico, and of the Pic of Orizaba, interesting for the geographical distribution of plants; and Dr. Kroÿer has communicated to the Society of Sciences of Copenhagen a memoir on the geographical distribution of the Amphipodes.

The government of Denmark has published in 1842 the 4th, 5th, and 6th parts of the statistical tables of the country; and within the same period two other statistical works have appeared, one by Major Baggesen, and the other by Bergsoë. Professor Forchhammer has also continued his inquiries into the geology of Denmark, a country long considered uninteresting in a geological point of view, but which, situated as it is at the foot of the great primitive masses of Scandinavia, will probably present facts of much importance. The professor, in a discourse at the secular meeting of the Society of Sciences at Copenhagen, discussed the application of the glacial theory of Agassiz and the petridiluvian theory of Seftstrom to the phenomena of boulders, and to that of furrows and streaks in the solid rocks, and he has come to the conclusion that neither of these theories is applicable to the facts in Scandinavia. But we must not enter into details trenching more directly on the domains of geology. Mr. Steenstrup has published an interesting work on the Danish peat-bogs in the ninth volume of the

Transactions of the Scientific Society, and also separately. We may also notice the publication, during the past year, of the first part of the third volume of the historical records of Greenland, containing, among other papers, geographical notes of the middle ages respecting Greenland and the adjacent parts, by the editor: also ‘Travels of the brothers Zeno,’ with an introduction and notes by the late Professor J. H. Bredsdorff.

The examination of those parts of Greenland, where remains are found of the old Scandinavian colonies, was concluded in 1841: the results of the later researches are embodied in the account by Dr. Pingel in the annals of the Society for 1842 and 1843. To the antiquarian chorography of Greenland, which will form part of the concluding volume of the ‘Historical Records of Greenland,’ will be appended a minutely detailed map, engraved last year, of that part of the district of the colony Godthaab, which is called, *par excellence*, the “Westerbygd,” or western colony. At present a similar, but larger map is in preparation, of the district of Julianehaab (“Asterbygd” of the ancients); this is founded upon the map of 1836 by Captain Graah, published in the ‘*Antiquitates Americanæ*’ (republished by this Society, with Captain Graah’s narrative in English), but which has since received many corrections and additions.

In 1842 was also published ‘*Scripta Historica Islandorum de Rebus Gestis Vet. Borealiæ*,’ vol. ix., x., xi.

At a meeting of the Society of Sciences Dr. Estrup communicated an inquiry on the situation of the Makarian Islands (*Insulæ Fortunatæ*) and Elisa.

The Society has published a general map of Denmark and Schleswig in two sheets, the corners of which are occupied by geognostic sections by Forchhammer, and a meteorologico-botanical section by Schouw. With this map the series of the Society is concluded. The surveying and publishing of maps will henceforth be under the direction of the Board of Ordnance.

The Iceland Literary Society is publishing a map of Iceland, partly founded upon new measurements; one-fourth part of which is ready, but not yet published. The maritime survey of the coasts of Denmark will be completed in the present year. The surveys ordered by the Danish government embrace the whole of Norway to the southward of Dronthjem; and all the coasts and narrow seas of Denmark Proper, Schleswig, Holstein, and Mecklenburg. The Danish Hydrographic Office published in 1842 an improved chart of the North Sea in two sheets, and a new chart of the Sound in one sheet. This is the first chart of the Sound based upon an actual trigonometrical combination of the coasts

of Denmark and Sweden. It is engraved on steel of the size of 36 decimal inches by 22.

RUSSIA.—1. Last year, when speaking of Mr. Murchison's late explorations in Russia, I alluded to a map of the Ural. Mr. Murchison has since presented to the Society a very beautiful MS. map of the southern portion of that mountain chain, with a detailed memoir by Mr. Khanikoff. It appears that the Ural, with its lateral ridges, has nowhere a less breadth than 30 miles. The true watershed or Ural Tau varies in altitude from 1600 to 2500 feet above the level of the sea; it is perfectly continuous through eighteen degrees of latitude. The elevations of this chain in some places hardly deserve the name of mountains, while in others they attain a height of nearly 6000 feet in rugged and imposing masses. The map of the South Ural is the reduction of many elaborate field surveys made by direction of General Paroffsky, and under the immediate superintendence of General Rakasoffsky. The memoir in explanation of the map is by Mr. Khanikoff; it is in Russian, but has been translated into English at the charge of the Society.

2. Among the deaths we have to deplore, I mentioned that of Mr. Lehman, and that his papers had been saved. We learn that they will be published. Mr. Bunge has undertaken to edit the botanical part, Mr. Helmersen the geological, and Mr. Khanikoff, the companion of Lehman, has prepared an account of the voyage in Russian, which is now in the press. These travellers visited Samarcand.

3. The travels of Pachtousoff in Novaïa Zemlia in 1832-3, have just been published, in Russian, in the Journal of the Hydrographic Department.

Explorations.—1. In December, 1841, Mr. Tchichatcheff was charged by H. M. the Emperor of Russia to undertake a scientific exploration into the Eastern Altaï and the Western branches of the chain of the Sayanes. The chief objects of his mission were, to discover the sources of Tchouïa, of the Tchoulichmane and of the Abachane;* and to make a geological and orographical examination of the system of the three rivers, as also of the eastern portion of the chain of the Altaï, and the adjoining parts of Chinese Mongolia.

This painful journey over countries, the greater part of which have never been visited by Europeans, occupied the whole year, and was perfectly successful. The sources of the three rivers were reached on very marshy plateaux, nearly all of them inclined towards the S., in which

* See Ritter's map of the Altaï; it is the only one which gives some details (though more or less hypothetical) of this distant region, of which Mr. Tchichatcheff has composed an orographical and hydrographical map, very detailed, on a scale of 5 versts to an inch.

direction they terminate rather abruptly. This observation is also applicable to the southern slope of the Sayanes Mountains, which the traveller crossed twice. On ascending this chain from the N. in the neighbourhood of the sources of the Abachane, Mr. Tchichatcheff was nearly three months in crossing it; but when, after the greatest fatigue, he had reached the southern edge of the snowy and swampy table-land which composes this part of the Sayanes, it only took him half-a-day's rapid descent to leave the heights. The traveller descended the southern slope of the Sayanes by the torrent of Alache, which he followed to its confluence with the Kemtchik. Thus, to the exploration of the sources of the three rivers, which was prescribed to him, he had the satisfaction to add that of one of the principal affluents of the western source of the Jeniseï. This latter river was descended as far as Krasnojarsk, and carefully mapped, as well as the rest. The voyage terminated by the exploration of a part of the Alps of Kousnetsk, of the mountains of Salair, Ryddorsk, Zmieff, &c., and by some excursions into the Steppe of the Kirghiz. Mr. Tchichatcheff has been authorized to publish the account of this journey. The work will be accompanied by two large maps, on a scale of 5 versts to $1\frac{1}{2}$ inch, geological sections, and many lithographed views. It is expected to be published in the course of the present year, under the title of 'Voyage Géologique et Orographique dans l'Altaï Oriental et vers la Frontière de la Chine.'

2. Mr. de Middendorff, whom I stated in my last year's address as appointed to travel in the North of Siberia, has commenced his journey: but having learned at Krasnojarsk that it was more difficult to reach the sea than had been anticipated, he will, probably, have to construct a boat in order to descend the Chatanga.

3. The expedition which had been sent to Khiva was forced to return, in consequence of the death of the khan to whom it had been addressed.

4. Mr. Kolenati, a young naturalist of Prague, is about to visit Persian Armenia.

Internal Hydrography.—The 'Bulletin de la Société de Géographie de Paris' contains a notice of the rivers of Russia; but, as it is taken from the 'Hydrographie de l'Empire Russe,' a copy of which was long since presented to our library by the present secretary, we shall merely notice it, in order to express a wish that a similar hydrographic tableau of our own country were published. The materials for such a work undoubtedly exist, but it is very desirable that these scattered documents were collected, and a complete treatise on the internal hydrography of the country, with a good map, were given to the public; such

a map should point out the course of every stream, showing how high the tide rises in those that are subject to its influence, how far the rivers are navigable for craft of different dimensions in different seasons; and in short every object of interest respecting them, as far as arbitrary signs, letters, and numbers can be advantageously employed; the remaining details being given in an accompanying memoir.

Maps.—A map of the Caucasus and of the provinces beyond, richer in names than any former one, has just been published at Berlin by Schropp.

Ethnology.—The Imperial Academy of Sciences at St. Petersburg has published, at its own cost, a Thibetian dictionary, with Latin and German translations, the work of Dr. Schmidt. It contains 22,000 Thibetian words, and is the only existing vocabulary of that language with translations into the European tongues.

A Russian commission has been sent to the East in order to make experiments on disinfection by means of heat, it having been found that although the means hitherto employed are effectual for the purpose, they are partially injurious to health, or destructive to the objects fumigated or steeped. The commission, after remaining some time at Constantinople, has proceeded to Alexandria.

PRUSSIA.—*Books*.—The following works have lately appeared in Prussia, viz. :—*1. Composed in Berlin, though printed in Paris, Alex. von Humboldt's 'Asie Centrale, Recherches sur les Chaines de Montagnes et la Climatologie comparée,' 3 vols. 8vo., with Tables and a Map. Of this work a German edition has been prepared under the superintendence of the author by Dr. Mahlman.

2. Mineralogical and Geognostical Journey to the Ural, the Altaï, and the Caspian Sea, by Professor Rose. Vol. II. This second part contains the journey to the Southern Ural and to the Caspian, with an account of the mountains, rocks, and minerals: thus forming the mineralogical section and personal narrative of the Asiatic journey of Humboldt, Ehrenberg, and Rose.

* 3. Comparative Geography of Asia, by Carl Ritter, being the Tenth Part of his Universal Comparative Geography. It comprises the Basins of the Tigris and Euphrates.

* 4. Archives of Scientific Information from Russia. Edited by A. Ermann, containing original contributions from Eichwald, Tschitchakoff, Ermann, Scholt, &c., and accompanied by geognostical maps, &c. This is the second year of its appearance.

5. Travels in Peloponnesus, by L. Ross.

* The different works marked with an asterisk are in the Library of the Society.

6. On the Connection between the Malayo-Polynesian Languages and the Indo-European. By Fr. Bopp.

* 7. The Seat of War in Central Asia; or, Remarks to accompany the General Map of Affghanistan, the Punjab, and the Countries on the Lower Indus, with Maps and Plans, by C. Zimmermann.

* 8. Monthly Report of the Transactions of the Geographical Society of Berlin (third and fourth years), 1842-3, with Maps and many original articles.

9. Claudii Ptolemæi Geographiæ Libri Octo, Græcè et Latinè, ad Codicum Manuscriptorum fidem, edidit Dr. Fred. G. Welberg. Fascicul. IV. Librum quartum continens. Fol.

* 10. F. G. Lüdde, Journal of Comparative Geography. Magdeburg, 1843. Second year.

* 11. Dittó, the Science of Geography. Magdeburg. 1842.

12. Ditto, the History of Geography. Berlin.

13. Annals of Geography, Ethnography, and Statistics. 1842. Breslau.

14. Greece, with reference to its Ancient Geography. 1842. By Dr. H. Dohrik, Professor in Königsberg.

15. Contributions towards a History of the latest Reforms in the Osmanli Empire, containing the Hatti-sherif of Gulhane, the Firman of the 21st Nov., 1839, and the New Penal Code, Turkish and German. Edited, in conjunction with Namis Effendi, by Dr. Petermann. Berlin, 1842.

16. Statistical Description of the Kingdom of Norway, by G. P. Blom. With a Preface, by Carl Ritter. Leipzig. 1843. 2 vols.

17. The Second Part of the Third Volume of the original German edition of E. Robinson's Palestine was published in 1842, at Halle.

18. Hermes and Weigelt, Historical, Geographical, Statistical, and Topographical Handbook of the District of Magdeburg. Magdeburg. 1842. 4to.

Maps of Prussia and the Provinces.—1. A General Map of Prussia and Northern Germany, in 24 sections, on the scale of $\frac{1}{300,000}$, has been published under the direction of F. B. Engelhardt, of the Statistical Bureau. Halle, Kummel. This is the third edition: the first appeared in 1820; the second in 1833; the third, now completed, was begun in 1840. The work has now attained a high degree of perfection. Every thing connected with boundaries, roads, and railways; all the old and new frontier custom-house stations; the forests, and whatever progress is made in the cultivation of the territory, even to the smallest new settlements, are entered with a completeness and accuracy found in few other maps. These improvements are systematically inserted in a copy

kept for that purpose in the Statistical Bureau, from official communications, with a view to future editions.

2. Of the Special Map of the Prussian States East of Berlin, by the same author, on the scale of one duodecimal inch to the (German) mile, and in 23 sections, the fourth, ninth, and tenth sections have appeared between 1839 and 1843. Improved editions of the earlier numbers have been published during the same time. The special maps of the Prussian State, owing to the rapid progress of improvement, the changes of property and of boundaries, the enclosure of commons, the clearing of wastes, the draining of lakes, the construction of canals, roads, and railroads, require *daily* alteration. The Statistical Bureau is the central department; to which information of all these changes is communicated from the various places, and scarcely a day passes in which intelligence of newly-erected villages, colonies, &c., is not received. It requires great attention to lay down the positions of these new places accurately, not only in the original projections on a large scale, but on the published maps, and to improve these continually. This map comprises not only Prussia East of Berlin, but the kingdom of Poland, with its present divisions, and Bohemia, to five (German) miles south of Prague, in equally minute detail.

3. The same author has published a new and improved edition of his Map of the district of Potsdam, in 4 sections.

4. The Maritime Atlas of Prussia, a splendid work, engraved on copper, on a scale of $\frac{1}{100,000} = 2$ decimal inches, folio, is in course of publication by the ministry of Commerce since 1841. It contains—

a. The historical introduction, index map, lighthouses, and profiles of the coast, in one part.

b. Seven parts only, in 20 sheets on the scale above mentioned, have yet appeared. These comprise the shores of the Baltic for half a (German) mile inland, with all the topographical details from a special survey made by officers of the General Staff; and half a (German) mile seaward; with the soundings in fathoms to the depth of 3 fathoms (18 feet), and all shallow parts in feet.

c. Two large charts, each 2 feet 9 inches square, on the scale of $\frac{1}{400,000}$, or half a decimal inch to the (German) mile. They contain the coasts of the Baltic from Warnemünde to Sackenbaume, 6 (German) miles N. of Liebau, and the whole breadth of the Baltic W. of Swinemünde, through the Sound to Kullen, and E. of Kaslin to the Isle of Oeland, as also the Islands of Bornholm, Christiansoe, and the S. coast of Schonen, with many direct and cross lines of soundings. It is a splendid and costly work.

5. A Special Topographical Map of Germany, commenced by C. D.

Reymann, and continued by Colonel W. von Oesfeld, Director of the Trigonometrical Bureau of the Royal Prussian Staff, on the scale of $\frac{1}{200,000} = 1$ decimal inch. The original editor, Reymann, contemplated 342 sections: of these, 142 have appeared. Since 1839, when Oesfeld became the editor, there have appeared sections 11, 12, 13, 28, 34, 35, 37, 43, 94, 145, 161, 163, 187, and 217; some of them new, others completely remodelled.

6. Topographical Map of the Province of Pomerania, consisting of 56 sections, the last of which have appeared during the present year. It is well lithographed, on a scale of $\frac{1}{100,000} = 2$ decimal inches, reduced from the topographical map prepared by the officers of the Military Academy, (the result of the survey undertaken by them, at the suggestion of the General Staff,) on a scale of $\frac{1}{25,000} = 1$ decimal inch.

7. Topographical Map of Westphalia. A very detailed survey has been made of the Rhine provinces and Westphalia, on a scale of $\frac{1}{25,000} = 8$ decimal feet to the (German) mile, for financial purposes. These special maps, however, indicate only the character of the soil, not its inequalities. At the request of the provincial government of Westphalia, the ministry allowed copies to be made on the reduced scale of $\frac{1}{100,000}$ to the mile, to be surveyed and laid down on these copies, by officers appointed by the Topographical Bureau, and lithographed. This is the first accurate topographical map of Westphalia which can be relied on. Nine sections of it have appeared, and the towns of Minden, Nieheim, and six others. In respect of clear and sharp lithography, and accurate topographical and orographical delineation, it far surpasses all those previously published by the General Staff of Prussia.

8. Maps of the Circles of the Provinces of Westphalia. In addition to the preceding map, maps of each circle in the province have been in course of publication since 1840, by the Counsellor of Finance, Emmerich, with the assistance of the Geographical Engineer, Schmelzer. Four circles have appeared on a scale of $\frac{1}{100,000}$; they contain the hills in detail, and the ground plan of the villages.

The following important maps have also appeared:

9. Special Map of the Government of Koblenz and the Duchy of Nassau, by Mr. W. Walter. Lithographed, the hills shaded. Four sheets, on the scale of $\frac{1}{25,000}$.

10. Environs of Berlin, accurately laid down by the General Staff, in 14 large sections, clearly lithographed, on the scale of $\frac{1}{25,000} = 8$ decimal inches per German mile. It extends from Berlin over Potsdam, as far as Grossenkreutz.

11. Government of Erfurt; Maps of the Circles of Erfurt, Mühlhausen, Langensalza, Heiligenstadt, Worbis, Weissensee, Nordhausen

Zeigenrück, and Schleusingen. Published by Platt, in Magdeburg. Lithographed, and on the scale of $\frac{1}{100,000}$.

12. The Government of Erfurt in one sheet, with the circle boundaries on the scale of $\frac{1}{200,000}$. Magdeburg.

13. Government of Erfurt, on the scale of $\frac{1}{300,000}$, with accurate statistical details. Published by the house of Müller in Erfurt.

14. Special Map of the Province of Saxony, by A. Platt, on the scale of $\frac{1}{400,000}$, with a statistical table, corrected according to information from the local government authorities.

General Maps.—The most important maps on the eve of completion, or just published, are—

1. H. Kiepert, Map of Palestine; chiefly after Robinson. Published by Carl Ritter. Constructed by the author of the special maps in Robinson's work.

* 2. H. Kiepert, Atlas of Hellas and its Colonies; 24 plates. The third part is in progress. The house of Nicolaï publish it, and promise that the last 8 maps shall appear in the course of the summer.

* 3. C. Zimmermann, Map of Western Persia and the Countries on the Tigris, 4 sheets. The continuation of his Map of Central Asia. Berlin, 1843. Khorasan, one sheet; the region between Herat and Semrúm, one sheet, connecting the map of Central Asia with that of Western Persia, appeared in 1842; sheets with Fars and Mekrán, and sheets to complete an Atlas of Hither Asia, are in progress.

* 4. The Physical Atlas of H. Berghaus is in course of publication since 1838. This work, which has nothing equal or similar to it in any country, which renders *visible* the progress of geographical science, consists of six divisions; the ninth livraison has appeared this year. The first division, Meteorology, contains 12 sheets; the second, Hydrography, 15 sheets; the third, Geology, 9 sheets; the fourth, Magnetic Phenomena, 5 sheets; the fifth, Geography of Plants, 6 sheets; no sheets of the sixth division, Zoology and Anthropology, have yet appeared: 47 sheets have been published, and, according to the original plan, there will be thirteen more.

* I cannot pass over the mention of this very valuable work without expressing my satisfaction that through the enlightened enterprise of Mr. A. K. Johnston, Geographer to the Queen at Edinburgh, we shall be put in possession of it in an English dress. Some of the sheets have already appeared, and will tend materially to increase the interest felt amongst us in the science of Geography.

5. A most important contribution to our knowledge of Hither Asia is on the eve of being published; the six-sheet map of the countries from the Tigris and Euphrates to the Bosphorus, compiled from the surveys

of the Prussian staff-officers, by Kiepert, on a scale of $\frac{1}{1,000,000}$, lithographed by Mahlmann, and to be published by Schraff. The two eastern sheets, the upper course of the Tigris and Euphrates, after the survey of Major von Moltke (author of the important letters on the condition of Turkey, and events there in the years 1835-9. Berlin, 1841, 8vo.), with Turkish Armenia, according to Russian and English observations, are completely engraved and will soon appear. The two middle sheets, containing Cappadocia, Galatia, and Cilicia, from the survey of Majors von Vincke, von Fisher, and von Maltke, with routes and positions communicated by English travellers, will be published in the course of the present summer. The two western sheets (Asia Minor) contain the surveys of the Prussian travellers Schönborn, Löw, and H. Kiepert. The masterly survey of the course of the Tigris and Euphrates from Samosat, Bir, and Mosul, to the sea, will be connected with these operations.

Cartography.—The following publications deserve to be noticed as specimens of coloured printing, by means of several lithographic plates, viz. :—

1. E. von Sydow. Mural * Atlas of all parts of the earth. A general sheet, the plane projection of the sphere (each hemisphere of three feet in diameter), and the four divisions of the globe on a scale of $\frac{1}{4,000,000}$, and Europe on a scale of $\frac{1}{4,000,000}$, have been published for the use of schools, 1840-3, with a short explanation of the best methods of using them.

2. The same method of coloured printing has been skilfully applied by von Sydow, on a smaller scale, in the ‘Methodical Hand Atlas, for the Systematic Study of Geography.’ Gotha, 1842-3. In two parts.

3. The School of Geographical Art, under the direction of H. Berghaus, in Potsdam, is making continual progress in the perfecting of its plans, maps, engraving, and printing.

4. Lithographic delineation of maps has been much improved by Deliris, Mahlmann, and the persons employed in the office of the General Staff.

5. The maps in relief, and the globes of K. W. Kummer, are in course of gradual and constant improvement. He is at present engaged on a globe four feet in diameter, with the countries in relief. He is also publishing segments of this globe, with maps of different parts of the earth in relief, and with a spherical surface, as in nature. The horizontal is to the vertical scale in the ratio of 1 : 10.

6. Lieutenant Zimmermann has constructed an index map of Central

* This term is used by continental geographers in speaking of maps made for being suspended on the walls, for public instruction.

Asia on a new plan. The details of the mountain ranges are not given, but the normal direction of their axes and their profiles, cultivated lands, waste lands, and mountainous regions, are distinguished by colours. On this map are six hypothetical profiles of mountain ranges; all land that rises to the height of 800 or 1000 toises is distinguished by its colour. The direction of the four principal mountain ranges which cross each other are indicated, as also the extent of the deserts, their extension into the bosom of the mountain region, the limits of the cultivated regions on the edge of the mountain country and in the principal valleys. The scale is $\frac{1}{1,400,000}$.

Surveys.—The state of the Prussian surveys may be gleaned in great part from what has been already said of the maps. The survey of the Prussian states of the German territory is completed in Silesia, Pomerania, the Marks (Prussian), Saxony, the Rhineland, and Westphalia. East and West Prussia have still to be surveyed by the General Staff; nothing has been done there since Von Schröter's operations, and some years will elapse before a new beginning can be made. The government, in addition to its own surveys, is in possession of a survey of the whole of Saxony, kingdom and dukedoms, by its own General Staff, and of the provinces on the left bank of the Rhine by Transhot. Improved special surveys are instituted in different parts of the kingdom; in 1842, 149 square (German geographical) miles were surveyed by the General Staff, partly in Westphalia between Ems and Rhine, partly in the Marches between the Havel and Elbe.

Geographical Instruction.—In reference to the great progress now making in Prussia for improving the materials of geographical instruction, I mention, with particular satisfaction, the important impulse which may be expected to the study of ancient and comparative geography, from Gustavus Kramer's new critical edition of Strabo. The groundwork of this edition is a careful investigation of all the MSS. collected by the editor in Italy and France. It has thus been rendered possible, not only to restore many original readings, and lay the foundation of a correct text, which has been hitherto a desideratum, but also to fill up in great measure the lacunæ at the end of the 7th Book by the discovery of a very complete epitome, which corresponds almost verbally with the fragments of this part of Strabo's work that have been preserved. A number of less important lacunæ are also supplied. This edition will contain everything necessary for a correct estimate of the text, with critical notes and a complete index. It will consist of four volumes, which are expected to be ready in the course of the year.

2. A no less important work is the second large folio volume, just completed in three parts, under the title 'Corpus Inscriptionum

Græcarum Auctoritate et impensis Academiæ Literarum Regiæ Borussicæ, edidit Augustus Bœckhius, Acad. Soc. Berolini. Folio. Ex officina academica. Reimer. 1843. Vol. II.' Fasciculus I. contains six sections: sec. 7, with inscriptions from Acarnania, Epirus, Illyrium; sec. 8, from Corcyra and the neighbouring islands; sec. 9, uncertain localities; sec. 10, from Macedonia and Thrace; sec. 11, from Sarmatia, Chersonesus Tauricus, and the Cimmeric Bosphorus; sec. 12, the islands of the Ægean Sea, with Rhodes, Crete, and Cyprus. Fasciculus II. contains the continuation of sec. 12; sec. 13, inscriptions from Caria; sec. 14, from Lydia. Fasciculus III. contains inscriptions from Lycia, Pamphylia, and the rest of Asia Minor.

3. Rudolph von Benningsen Förder has published this year at Berlin in 4to. a Memoir with an illustrated map, entitled 'The law of numbers in rock formations in relation to the disposition of valleys, springs, running and standing waters, elevations and localities, especially in the north of France, with remarks on the relation of Geology to special Geography in orographical, hydrographical, statistical, and historical respects.' This is an important contribution to the application of geognosy to illustrate physical geography. The motto prefixed to the Essay is one of the great maxims laid down by Alexander Von Humboldt, 'La physique du globe a ses élémens numériques comme le système du monde.'

Geographical instruction is also a part of the *curriculum* in every Prussian school, gymnasium, military academy, and university.

Travels and Discoveries.—1. Professor Lepsius began in the middle of 1842 a journey to the countries on the Nile, which will occupy several years, and is supported by the King, and by the Berlin Academy of Sciences. He is accompanied by architects, painters, and men of science; several independent travellers have attached themselves to his expedition, which is intended to be supplemental to that of Champollion. Antiquities, history, and geography, are its objects. A revision of the monuments, for the purpose of throwing light on the oldest civilization and history of the race, is also contemplated, in connexion with surveys, drawings, models, and excavations, collection of inscriptions explanatory of hieroglyphics and chronology. Fragments of the results of the labours of this expedition have already been received, which have enriched the field of geography. Some important papers have already appeared in the monthly report of the Geographical Society of Berlin.

2. Professor Welcker, of Bonn, has returned with rich contributions to geography, as well as other branches of knowledge, from an archæological journey of several years, in the course of which he examined the architectural and scientific monuments of Italy, Sicily, Greece, the

Archipelago, and Western Asia Minor or the Bosphorus. The journal of Welcker's friend and predecessor, Ottfried Müller, of Göttingen, who died at Athens, will shortly be published at Halle by his fellow-traveller Professor A. Schöll. Müller's second associate Dr. E. Curtius, who took part in his latest explorations at Delphi, is about to publish his friend's *Delphica*.

3. The geography of Greece, as it is, has been also illustrated by the 'Communications respecting Greece' of Professor Christopher August Brandis, the critical reformer of the text of Aristotle's Philosophical Works. This publication appeared in 1842 at Leipzig in 3 vols.; the first part contains the author's personal narrative of his travels, the second a history of the War of Liberation, from Greek authorities, and the third an examination of the present condition of the kingdom of Greece.

4. H. Kiepert employed the years 1841-1842 on a journey from Constantinople to the W. coast of Asia Minor, undertaken at his own expense, for the extension of geographical knowledge. He went by Brussa, where he executed a survey of Mount Olympus, to Smyrna. He took, in company with some men of science, Schönborn and Loew, a new route over Adranas, Balat, Bahaditsch, Balukhissar, Pergamo and Manisa; in the course of which he examined and mapped the lateral valleys of the Upper Rhyndacus and the Macistus. From Smyrna, Kiepert alone visited Phocæa and Cyme, examined Lesbos, with a view to make a more accurate map of the island, in the course of which he discovered the Cyclopean ruins of Eresus and another ancient town, perhaps Arisba. In the winter of 1842 he explored the Thracian Chersonesus, the Troad, the whole mountain system of Ida, with the adjacent countries, to the hitherto unexplored valleys of the Rhodius, Practius, Granicus, and Æsepus. This tour supplied few antiquities beyond some inscriptions incorporated into the second volume of Boekh's 'Corpus Inscript. &c.'; but the traveller was able to construct a complete and detailed map of the region. Of the islands, Imbros and Samothrace, hitherto but imperfectly known, were explored. The most interesting results next after the geognostical structure of the island, are the ruins of the old town and temple of the Cabiri in Samothrace. From the Dardanelles Kiepert returned by the least familiar routes to Adramyti and along the Æolian coast to Smyrna. From thence he visited, in company with Professor Welcker, Ephesus, Magnesia, Tralles, Tireh, and Nymphi; traversed and laid down several new routes, and made a drawing at Nymphi of the sculpture called the Monument of Sesostris. This drawing, a map of the surrounding district, and an explanatory memoir, have been published by Kiepert in Professor Ger-

hard's Archæological Journal (No. III. March, 1843. Berlin: Reimer). The rest of his tour is to be published separately. His maps have been incorporated into the two western sheets of the map of Hither Asia before mentioned.

5. The journey of Professors Schönborn and Loew of Posen, although they accompanied Kiepert from Constantinople to Smyrna, was quite unconnected with his. This expedition, partly at their own cost, partly assisted by the department of education, was undertaken with a view to complete and extend the discoveries in Lycia, so happily commenced by Mr. Fellows. The most obscure parts of the geography of Caria, Lycia, Pamphylia, Pisidia, and Phrygia, have been illustrated by their researches. Loew travelled for purposes of geology and natural history, and will publish in due time his observations. The route taken by Schönborn (who was sometimes separated from his companion) was as follows:—In Pamphylia he penetrated by the valleys of the Cestrus and Eurymedon, on the one hand to Isbarta, on the other to Eghirdi and the Bey-shehr-gël. This route gives, along with the course of the rivers, a tolerable approximation to the direction of the principal mountain ranges of that region. E. of the Cestrus he found the ruins of Selge. To the N. of Karaburlu are the ruins of a second large town; a third is in the Eurymedon valley near Kesme. There are many churches and other ruins. The coast of Adalia was examined, particular attention being paid to the mountain passes by which it is reached, and the valley of the Duden. Termessus and the high plain N. of it as far as the lake of Buldur were visited. Here were found besides Olbassa the ruins of two towns near Folla and Pajamadsh (Isionda?). It appears easy, from this route, to give the direction of the mountains and the courses of the principal rivers, between the valley of the Cestrus and as far W. as Gülhissar and the sources of the Xanthus, and the connexion of this region with the adjoining districts. The high plains of Almalü were examined with especial care on account of the passes. Several ancient sites were visited, particularly in the Cibyratis, Bubon, Cibyra, Balbura, and Cenoanda. The antiquarian discoveries in the mountain region, between these sites and the Talaman Chain, were of less consequence. It was crossed in two places from N. to S.; the tributaries of the Talaman cháí explored, and the stream itself followed to the sea. Here Caunos was easily recognised; the names of some ancient sites on the road from Tabae to Cibyra could not be discovered; Trapezopolis, at the south base of the Baba Tagh, was easily recognised. The passes, with the plains of Davas and Karajik, and the watercourses of the former, were most interesting. These are all affluents

of the Jenidéré cháï, which falls into the Meander. On a tour along the western declivity of the Solyma chain two ancient towns, one of which was Marmara, were found; and W. from Myra, in the direction of Antiphellus, Sura, Cyanae, and a third town were discovered. Irnesi, in the Kassaba valley, was clearly Arneæ, and many churches were met with. W. of Cragus an ancient site was sought for, but in vain. Many petrifications were found in places on the coast and the lower valley of the Xanthus, among the debris of the Pamphylian mountains, and in great masses near Davas. Professor Schönborn has promised an account of the courses of the Pamphylian and Lycian coast rivers in his programme for Easter 1843; and this will be a very important addition to the comparative geography of this interesting region. He has brought away more than a hundred inscriptions in the Greek and Lycian languages.

6. Dr. Peters, an experienced pupil of J. Müller, the distinguished Professor of Anatomy and Physiology in Berlin, set out for Mozambique in the middle of 1842, by way of Lisbon. He travels at the expense, and by the direction, of the King and the Academy of Sciences, to investigate the Fauna of this unknown tropical coast, and to make collections for the Berlin Museums. It is his intention also to exert himself to extend our acquaintance with the geography of the region.

7. The Journey of Captain von Orlich (favourably known by his historical writings) to the East Indies, to which the King contributes, although mainly with a view to military history, also promises valuable geographical contributions.

8. An expedition to Armenia and the Caucasus, to investigate the geography, ethnography, languages, and natural history of that region, is organizing under the auspices of the King and Academy of Sciences. Professor Koch, from Thüringen, the botanist, is at the head of it. He has already visited the Caucasus, and enriched the botanical gardens and herbariums with his collections. Among other associates, he is to be accompanied by the philologist Dr. Rosen, brother of the late eminent orientalist of that name, who was professor in the University College of London. They are to explore the yet unknown sources of the branch of the Euphrates, N. of Erz Rúm, the Tchuruk, and the upper course of the Araxes, on whose banks they expect to collect information respecting the language of the Tcherkesses, Ossetes, and other races.

It is unnecessary to state that the great Mæcenas (Ritter's expression) of these branches of knowledge, Alexander von Humboldt, takes a warm interest and active part in promoting all these geographical expeditions.

FRANKFORT.—*Books.*—The President of the Geographical Society of Frankfort, D. Boegner, has just published an interesting work on the ‘Origin of Springs,’ and particularly of mineral waters.

Maps.—* Mr. August Ravenstein has published a new Map of the Duchy of Nassau, on the scale of $\frac{1}{400,000}$, the best that has hitherto appeared; of this we are promised a copy, together with the 3rd part of the catalogue of the library of the Geographical Society of Frankfort.

Surveys.—Professor Gesling, of Marburg, has published the results of his surveys of the Electorate of Hesse; and other surveys are in progress.

Geographical Instruction.—The method by drawing is gaining ground every year more and more in the schools; and relief maps have been introduced into them in the Grand Duchy of Baden as well as in Prussia.

BAVARIA.—*Books.*—An historical and geographical dictionary has been commenced by the Historical Association in Upper Bavaria.

M. de Sprunner, who has travelled along the Main with Dr. Häule, is about to publish a Handbook for travellers, founded on accurate observation, and giving many new notices, based chiefly on ancient chronicles, and other information from authentic monuments.

Maps.—There have been published:—

- a. The Second Section of Klein’s Map (scale $\frac{1}{300,000}$).
- b. A Map of the Ecclesiastical Jurisdictions in Bavaria, by George Mayer, on a scale of $\frac{1}{400,000}$.
- c. Plans and Views of Salzburg, by Mayer (scale $\frac{1}{100,000}$).
- d. The 4th and 5th Numbers of Sprunner’s Small Historical and Geographical Atlas.
- e. A Panorama of Athens. Views and Plans on 19 Sheets, by Stademann and Sommer (scale $\frac{1}{300,000}$).
- f. A Geographical Map of the Circle of Lower Bavaria, by Kistler (scale $\frac{1}{400,000}$).
- g. The Section Tann, of the Topographical Atlas of Bavaria, by the Military Staff.
- h. A Map of Lower Bavaria, with the Boundaries of the Judicial districts, by Schuhmacher (scale $\frac{1}{300,000}$).
- i. A Plan of Munich, marking the several inns, wine, beer, coffee, chocolate, and mead houses, breweries, &c. (scale $\frac{1}{100,000}$).
- j. The Sections Rottenburg and Wolfstein, of the Topographical Atlas of Bavaria, with a new index map to that Atlas, will appear very soon.
- k. M. de Sprunner, one of the most active geographers of Bavaria, has published the 6th Continuation of his ‘General Historical Atlas;’ the first livraison comprises the Empire of the Visigoths in the Iberian Peninsula, in one sheet.

* 1. An Index Map has also appeared of the Great Cadastral Survey of Bavaria, in several sheets, on each of which the progress of the survey itself, and of the various operations for which the great work has been undertaken, are distinguished by different colours. Thus, one map shows how far the triangulation has been carried on; another, the parts which have been measured; a third, the portions which have been levelled: one shows the provinces in which the estates have been classified; another, where the houses have been taxed, &c. These maps are also accompanied by a table, showing the details of the several operations as far as they have yet proceeded. The Society has been favoured with a copy of this work, kindly brought over by General Washington, Aide-de-Camp to the King of Bavaria.

2. The Emirat of Cordova, to the extinction of the Omajades. This is the first particular map of Spain under the Mahomedans, and embraces also the N. coast of Africa, as far as Constantine. Sheets 3, 4, and 5 give the Iberian peninsula from 1028 to the present time, accompanied by additional maps and plans, as of Granada, Andalusia, &c; sheet 6 gives the ecclesiastical division of the Peninsula with the convents; and 7, a general view of the possessions of the Spaniards and Portuguese in the sixteenth century.

Of the next livraison there are prepared two sheets of the Empire of the Caliphs in its greatest extension; Syria in the time of the Crusades; and two general sheets of Europe for the Scandinavian Empires down to the union of Calmar, in 1397.

Cartography.—*a.* Models for drawings connected with Topography, Statistics, or Tactics, for the use of the Bavarian army, on different scales, and embracing all objects requisite for public business, have been drawn and engraved, and are now nearly completed. This work contains 68 models or patterns for drawings, and will be published in the course of the present year. It furnishes the results of the experience acquired by the Topographical Institution during many years, and affords the best evidence of the intelligence, with which the business of that office has been conducted.

b. Some very satisfactory trials have been made on the application of Galvanoplastics to Cartography, and sets of plates for the above mentioned object will be multiplied by this process.

I beg leave also to invite your attention to an ingenious instrument called a chartometer, invented by Lieutenant Carl Theodor von Rogister. It is a ruler for ascertaining by a ready and certain method the proportional scale upon which any map or chart has been constructed. The instrument consists of a brass triangular or prismatic ruler, about a foot in length, each of whose sides is accurately divided by proportional

lines on different scales; the first side having for its starting point the subdivision of a degree of latitude into its 500,000th part, and thence proceeding upwards by proportional subdivisions to its 20,000,000th part; the other two sides having respectively for their starting points the subdivision of 5 minutes of latitude into the 50,000th part, and 1 minute of latitude into its 10,000th part; and proceeding by proportional subdivisions, the one to the 1,000,000th part of 5 minutes, and the other to the 50,000th part of 1 minute. Lieutenant von Rogister gives the following direction for using the instrument:—Lay one side of the ruler on the scale of the map, or on the graduation of latitude, in such manner that its value shall accurately correspond with one of the quantities engraved on the chartometer (*e.g.*, 1° , $5'$, or $1'$, as the case may be); when, at once beginning at the end marked A, the proportional number of the scale on which the map is constructed will be visible, and read off on the ruler by taking (when the two lines do not exactly coincide) that number on the ruler which is the nearest number below the line on the scale of the map which is being measured.

The revision of the Actual Survey, made for the purpose of improving the Topographical Atlas, and the Zenith and Barometrical Measurements in the Circle of the little Palatinate, have been continued by the *Etat-Major*.

Geographical Instruction.—The 1st part of Major Aulitscheck's work on 'Elementary instruction in the principles of Geographical Projection,' for the illustration of Lectures delivered to the officers of the Topographical Office, has just been lithographed.

A new set of Regulations for the duties and service of the Topographical Office, now in course of preparation, will secure the production of geographical works, as well as the geographical instruction of young officers, the diffusion of topographical knowledge in the army being the leading object of the military staff.

Another point worthy of notice is the improvement of theodolites for astronomical purposes (such as zenith measurements), undertaken in Munich, by J. O. Erle, which gives those measurements a far greater degree of accuracy and certainty than could be attained previously with the old theodolites adapted to the double purpose of terrestrial and astronomical observations.

SAXONY.—The second livraison of the Saxon Atlas is now in progress of printing. We have already been favoured with the first part of this beautiful work; and the second is promised to us in the course of the summer.

* **BELGIUM.**—*Books.*—Mr. Dally is continuing the publication of his Elements of the History of the human race in relation to their geographical distribution at various epochs. The same gentleman is also publishing, in 600 *livraisons*, forming 16 volumes, with 600 engravings, a new edition of the *Lettres Edifiantes et Curieuses*; being the voyages and travels of Missionaries in all parts of the world. This edition will contain, in addition to the Missionary narratives, and their Geographical, Historical, Political, Religious, Literary, Industrial, and Commercial notices, the accounts also of all the more important researches and discoveries of Missionaries since the last published edition of the *Lettres Edifiantes* from 1783 to 1819.

* *Maps and Charts.*—A map of the frontiers of Belgium and Holland (according to the Treaty concluded between the two countries and agreed to by the European Powers) has been completed in 8 sheets, at the Geographical Establishment at Brussels.

* The mining map to which I alluded in my last Address has now been completed at the same establishment, and, through the kindness of M. Vandermaelen, we now possess it: it is in 9 sheets, accompanied by a voluminous memoir. It has been executed by the engineers of the mining department, and is published under the direction of the chief engineer Cauchy, by order of the Minister of Public Works. It points out all the mines, mineral and metallic deposits, quarries, founderies, &c., of the country; and, in an administrative and industrial point of view, will be of great use to the government and the country generally. Mr. Vandermaelen is preparing the materials for a similar, though still more detailed map of the whole of Central Europe, including our own island. The study of this map will throw much light upon the curious subject of the relation which exists between the industry and commerce of different provinces and countries, and their natural resources.

* *Surveys.*—The necessary surveys for the great topographical map of Belgium are still going on; those of the provinces of East and West Flanders have been executed during the past year; and the provinces of Antwerp and Brabant are now being surveyed. This is the individual enterprise of M. Vandermaelen, and carried on at his own expense. We have been favoured with four sheets of it, two more are completed, which are on their way, and others are in hand.

Geographical Instruction.—We are happy to hear from Belgium that geographical instruction in that country is making great progress; not only is it taught in all the colleges and schools of the country, but the exceedingly low price at which maps are delivered from the establish-

ment of our honorary member, Monsieur Vandermaelen, at Brussels, enables every one to possess them: we are assured, indeed, that there is not a village school without them.

Expedition.—The savants whom I mentioned in my last address as having been despatched from Belgium upon exploratory and scientific missions are still in active employment; M. Ghiesbreght making researches into the geography and natural history of Mexico, and Messrs. Linden and Funk exploring in Columbia.

Since the return of Colonel De Puyot from his exploratory voyage in Guatimala, a Belgian company has sent out a first expedition of men and materials to Vera Paz, under the direction of Mr. Simons, the engineer of public works, who, with Mr. De Ridder, constructed the first railroad in Belgium. The object of the expedition is to found a colony. The necessary men and materials are taken out in two vessels; six wooden houses, and a chapel constructed in Belgium, form part of the outfit for the intended establishment.

HOLLAND.—We learn (from the ‘Foreign Quarterly Review’) that Herr von Siebold is preparing for the press a work on some early nautical discoveries of the Dutch. Among other MSS., of which an account will be given in this work, is that describing the important voyage made in 1639 by Quast and Tasman, and in which were discovered the Bonin Islands to the E. of Japan. Every thing relating to the voyage of Tasman, whom Kreusenstern justly calls “the greatest navigator of the seventeenth century,” is particularly interesting. It is said that some curious supplementary documents and plates will accompany the work.

FRANCE.—*Maps.*—The Prototype Geography of France by Colonel Denais, mentioned in my last year’s address, is now published in one volume 8vo., accompanied by two maps illustrative of the author’s system. On this subject we cannot but acknowledge the want of a systematic arrangement of the principal facts of physical geography. There are unquestionably considerable difficulties attending the accomplishment of this desirable object. The facts of the science are themselves so indefinite in their character, that a natural classification is almost impossible. This inconvenience might, however, be overcome; and indeed, although a natural classification might certainly have advantages over an artificial one, still, as the object of any kind of arrangement is to make us familiar with the facts arranged and the relation they bear to each other, that arrangement, whatever it may be, is the best which best answers the purpose for which it is designed. A systematic classification, therefore, of all the facts of physical geography might certainly be effected; but still it would be of little use to the science unless its terminology were universally adopted. If, indeed, the lan-

guage of the science were once fixed, a very great step would be made towards a complete acquaintance with the physical condition of the earth, on which all the interest of geography depends; and perhaps the time is not distant when the savants of Europe, whose scientific conclaves unite the learned of every country into one body for the intercommunion and extension of knowledge, will adopt some comprehensive principle, on which the terminology of geographical science may be fixed, and the same words may convey precisely the same ideas. The science itself is one, and for its details to be understood alike by all, its language should be one.

Travels.—1. From France, Monsieur De Castelnau has proceeded, under the sanction of the French government, on an exploratory journey across the continent of South America, from Rio Janeiro to Lima, whence he proposes to return by the Marañon and the interior of Guayana. This expedition was originally patronized by the late Duke of Orleans, and since his death has been adopted by the Duke of Nemours. Monsieur de Castelnau has resided some years among the red men of North America, and has published several works on the natural history of that country; he is considered fully competent to the arduous labours of an exploratory traveller.

2. The French government have sent Mr. Charles Ochoa, a young Orientalist, to visit the regions of Central Asia, between Cashmir and Cafristan. His attention is to be directed principally to the geography and ethnography of the country.

I cannot omit this opportunity, while dwelling on some of the many advances made by our neighbours, during the last year, for the promotion of geography, of calling upon you to pay the due tribute of applause to the Geographical Society of that country for the liberal manner in which they granted last year one of their silver medals to Mr. Deane, to whom this Society formerly awarded their patron's medal for his discoveries on the North Coast of America; and another of these silver medals to Mr. Schombergk, whose successful labours in Guayana, under the joint auspices of Her Majesty's Government and of the Royal Geographical Society, we had also acknowledged in the same manner.

The same Geographical Society of Paris have, within only a few days, and in the same spirit of generous and noble liberality, awarded their large gold honorary medal for this year to our own Captain James Ross, for his valuable discoveries in the Arctic and Antarctic Regions.

PORTUGAL.—The Royal Academy of Sciences at Lisbon has published, in the 7th volume of '*Collecção de Noticias para a Historia e Geographia das Nações Ultramarinas, &c.*,' the Journal of the voyage, and detail of the operations of the astronomers and geographers, com-

missioned to determine the limits of the Portuguese and Spanish possessions in South America, according to the treaty of the 13th of January, 1750. In this journal will be found many geographical positions astronomically determined.

The Academy has also commenced the publication of a MS. work on the Molucca Islands, written in the sixteenth century under the title 'Informação das cousas de Maluco dada ao Senhor D. Constantino de Bragança, em que se tratão algumas novidades da naturera, e succintamente de seo descobriment pelos Portugueses e Castelhanos, &c.'

ITALY.—*Tuscany and Papal States.*—Signior Francesco Marmocchi is on the point of publishing a complete course of geography and cosmography, accompanied with geographical maps. Attilio Zuccagni is also preparing a chorography of Italy, with tables and map; and we may expect soon to receive the completion of the geographical, historical, and statistical Dictionary of the Grand Duchy, compiled by Emanuel Repetti. The city of Florence and its environs have been mapped by the engineer Cantozzi; and Gamba of Leghorn has engraved a map of Italy, executed by Balbi. A complete collection of voyages by the most celebrated navigators is also in the course of publication in the former of those cities.

The Austrian engineers are at this moment on the point of completing the triangulation of the Papal States; and they are connecting it with that of Tuscany by the Padre Inghirami, which will at the same time be rectified, and also with that of the Grand Duchy of Lucca, by the late Carlo Brioschi, with that of the two Sicilies, by Visconti, and with that of Upper Italy, which has already been executed by French, Italian, and Austrian engineers. In the course of the summer the engineers now occupied upon this work will return to the bureau at Vienna, to proceed to the calculation of the geographical positions of their geometrical points, for the construction of the great map of the whole of Italy above mentioned.

Naples.—The triangulation carried on by the Institute of military geography of Vienna, for the construction of the great chorographical map of Italy, is proceeding: circumstances occurred to delay it during the last year, and it has only of late been continued along the parallel of Naples; the portion between Naples and Fusano, on the Adriatic, is completed. What still remains to be executed, is the part between Naples and the island of Ponga, the western extremity of the parallel, which will be executed in the course of the present year. The triangulation of the third order has been carried on during the year 1842, along the frontier of the Abbruzzi.

The topography of the kingdom of Naples, on the scale of $\frac{1}{250,000}$, has

been continued for the space between Sora, Gaeta, and Venafro. The topographical plan of the Faro of Messina, on the scale of $\frac{1}{10,000}$, is completed; and in the course of the present year the coasts adjoining to the Faro will be sounded; but the soundings already indicated in the beautiful chart of Sicily in 31 sheets, by Capt. W. H. Smyth, of our own naval service, will be retained for the mid-channel through the Faro. The publication of this plan is not yet decided on, nor the scale on which it is to be engraved.

Twelve sheets of the topographical map of the environs of Naples, on the scale of $\frac{1}{25,000}$, are already engraved and published; three more sheets will complete the work. That of the kingdom, on the scale of $\frac{1}{30,000}$, is in hand, and three of the sheets are being engraved: the only sheet already published is that containing the city of Naples itself.

A map of the whole kingdom of the two Sicilies has been undertaken in four sheets, on the scale of $\frac{1}{64,000}$, for the use of the different public offices: this is reduced from the great topographical operations, on the scale of $\frac{1}{30,000}$, and is corrected by the triangulations.

Hydrography.—M. de la Roquette has published a detailed account of the hydrographic labours of the kingdom of Naples for the last fifty years. By this document, highly interesting in an historical point of view, it will be seen what eminent services have been rendered to the science by the indefatigable and able exertions of Colonel Visconti, one of our honorary members.

SARDINIA.—Having omitted in my address of last year to make any mention of the topographical labours of the Etat-Major of the army of his Sardinian majesty, I am happy to have it in my power on the present occasion to state to you that for the last two or three years the topographical bureau of the Etat-Major at Turin has been in possession of all the materials, collected during the requisite triangulations, for the construction of an atlas composed of 94 sheets, each 7 decimetres wide and 5 high, and forming together the topographical picture of the continental states of the kingdom on a scale of $\frac{1}{30,000}$. And in 1840 a reduction of this atlas was commenced to one-fifth, *i. e.* a scale of $\frac{1}{25,000}$, in six sheets. In 1841 one of these sheets was published accompanied by a pamphlet, entitled 'Notices on the Construction of a Topographical Map of the Continental States of his Sardinian Majesty.' Two other sheets have been published since; and a further reduced map of that in six sheets has been published in a single sheet on a scale of $\frac{1}{30,000}$.

GREECE.—My predecessor, Mr. Greenough, in his last anniversary address, called your attention to the neglect, which Greece had experienced on the part of our map-makers, and complained justly that, although that country had been partitioned into thirty governments, the names

and boundaries of these had not yet found a place upon any of our own maps. Since then the desideratum has been in part supplied by Mr. Johnston of Edinburgh, in a map of Greece and the Ionian Islands lately published by him; though it would almost seem as if this country, though long since said to be the seat of an independent kingdom, is still to be regarded by its western neighbours as a province of the Ottoman empire, and allowed by them to partake of the barbarous ignorance of its former masters: as if, too, the very circumstance of the intense interest felt in the events of its ancient history, and in the details of its ancient geography, was a sufficient compensation for the state of the most profound ignorance in which we are allowed to remain with regard to its present existence.

ASIA.

ASIA MINOR.—Amongst the geographical publications of last year there is one, to the fate and character of which I cannot plead the indifference of a cosmopolite: I mean Mr. W. I. Hamilton's *Journal of a Tour in Asia Minor during the years 1836-7*. I am assured by no incompetent judges that this traveller has substituted a faithful delineation of the physical and superficial structure of a large region of Central Asia Minor and of part of the northern coast of that peninsula, for many very erroneous impressions which had previously prevailed respecting that country: that he has examined and described geologically the nature and formation of its rocks and soils; that he has collected many ancient inscriptions, by whose help, and from other materials, he has fixed the sites of cities hitherto unknown, and explained military and other operations which were unintelligible before; that he has done his best to tread in the steps of Colonel Leake towards completing the positive and comparative geography of the region, and that he has set a good example to future travellers, in preparing himself beforehand for what he was to undertake, in the accuracy with which he noted down his day's journey, in the careful manner in which it has been prepared for the public eye, and in the construction of a map confined to ascertained positions, and to verified characteristics of the country.

Lycia.—Mr. Fellows's travels in Lycia and the surrounding hilly regions, with the discoveries of the sites of Xanthus, Tlos, Pinara, and other towns on that and the adjoining coast, are too well known to the public, to render it necessary for me to enlarge upon them on this occasion. We may expect that the general curiosity excited in Europe by these discoveries of Mr. Fellows will soon lead to a thorough investigation of the whole range of coast, comprising Caria, Lycia, Pamphylia,

and the two Cilicias, once the most flourishing region of Lesser Asia, and which has been for many years, for the whole extent between the range of Taurus and the coast, equally neglected by the government to which it belongs, and, till a very recent period, by the European traveller.

A further knowledge of this interesting portion of Western Asia has been imparted to us by the 'Narrative of a Survey of Parts of the South Coast of Asia Minor, and of a Tour into the Interior of Lycia in 1840-1,' by Mr. Richard Hoskyn of H.M.S. *Beacon*, acting under the direction of Commander Thomas Graves. This paper, which is published in the last number of our Journal, is followed by a short memoir by Colonel Leake on some parts of the comparative geography contained in it, and a brief explanation of the Greek inscriptions collected by Mr. Hoskyn and his companion Mr. Forbes, during their journey through Lycia between Macri, the ancient Telmessus, the mouth of the Xanthus river, Almali in the Cibyratis, and the elevated plains of Cabalia.

I have also to call your particular attention to the publication by Mr. Ainsworth of his 'Travels and Researches in Asia Minor, Mesopotamia, Chaldæa, and Armenia.'

We have been assured likewise that Mr. Eugene Boré has successfully explored the sources of the three principal rivers in the N. and W. of Asia Minor, the Halys, the Lycus, and the Iris. We shall hail with much pleasure the details of this exploration, as soon as they shall be made known.

SYRIA.—In presenting the Patron's Medal awarded by the Council to Lieut. Symonds for his triangulation over a part of Palestine and the final settlement of the long-disputed point on the comparative levels of the Mediterranean, the Dead Sea, and the Lake of Tiberias, the former of these last being 1312·2 feet, and the latter in the Lake of Tiberias 328·1 feet below the Mediterranean, it cannot have escaped your notice that there still remains to be executed in this part of the globe a very important and interesting operation, to account for the very great discrepancy of these figures: for it follows from these two ascertained levels that there is a difference of nearly 1000 feet between the Lake of Tiberias and the Dead Sea, a distance in direct line of little more than one degree of latitude, which implies (the Jordan not being a meandering stream) a fall of more than 16 feet in every mile of its course. This is in itself a very remarkable phenomenon, and calls for the early attention of travellers and geographers. The river has been frequently crossed, and is always noted as a rapid stream, but no cataracts or decided *rapids* as such have been observed, and no one has traced its banks from one of these points to the other. It is earnestly to be hoped that the attention

of our engineer officers, if there are any still in Syria, will be directed to this remarkable circumstance; and the present generation having done so much (within, I may say, the last ten years) for the elucidation of the topography of the Holy Land and its adjacent districts, particularly in the southern portion of the basin of El Ghor, we must not allow this desideratum to be overlooked.

The Society has already been informed of the departure of Mr. Badger on a mission to the Nestorians, and that he had taken the route by Samsún and Mosul. We have not since heard from him, but we hope that his sojourn amidst the mountains of Kurdistán will make us better acquainted with the geographical features of a country, whose inhabitants, their manners, and history were so favourably described in Dr. Asahel Grant's Sketches of a Journey performed in 1835. For it must be remembered that the character in which Dr. Grant travelled, namely, that of a missionary physician, whilst it secured to him a kind reception from the mountains, precluded him, as he tells us, from engaging in any minute examination of the topography of the district.

PERSIA.—In the southern part of Persia an interesting journey has been performed by the Baron Clément Augustus de Bode. He took the route from Kazerún to Bebehán; and from thence, leaving on his left the road followed by M'Donald Kinneir, he went over new ground in a N.W. direction along the foot of the Zagros mountains. At Tenghi Soulek he found some interesting sculptures, of which he has made accurate drawings, and of which, together with the details of his route, he has communicated a description to the Society. After leaving Tenghi Soulek, the Baron crossed the head waters of the Kurdistán and its northern tributaries, and proceeded by Manjanik and Kale Tul to the plain of Mal Amir, remarkable for its mounds and the sculptured caves on its confines, and where he thinks he has discovered the site of the Uxian city besieged by Alexander. Finding it impossible to prosecute his journey over the mountains to Ispahan by reason of the passes being blocked up with snow, he turned eastward, and traversing a hilly country and crossing the southern tributaries of the Kureu, arrived by Beítavend at Shuster. By this route, which may be regarded as complementary to those taken along the S.W. slope of Zagros by Rawlinson and Kinneir, we are now well acquainted with the character of that part of the country, and with its interesting remains of Sassanian edifices.

Belúchistan.—Since the publication of Mr. Masson's three volumes on Belúchistan, &c., a fourth has appeared containing a narrative of his journey to Khalát during the late campaigns W. of the Indus. His notices of that country are calculated to complete the picture of it found

in the former part of the work; and it is accompanied with a map, which, however imperfect, enables the reader to follow the author's route. A memoir on Eastern Afghanistan is also appended, in which is a classified memoir of the geographical, mineralogical, archæological, statistical, and physical information collected in the country by Mr. Masson. It is not necessary to advert to the spirit in which a part of this work is composed, nor to the controversy in which it bears a part; but there can be no doubt that when these animosities shall have passed away, Mr. Masson's publications will take a very respectable rank amongst those, which have aided by ocular testimony to extend our acquaintance with that important range of country immediately west of the Indus.

SINDE.—Although Major Outram's rough notes of the campaign in Sinde and Afghanistan in 1838-9 have been some time before the public, I cannot refrain from calling your especial attention, as geographers, to the detailed narrative of that distinguished officer's dangerous and critical journey from Khalât to Sommeanee Bunder on the coast of Belûchistan, with General Willshire's dispatches announcing the capture of Khalât in November, 1839. This expedition, which was undertaken for the purpose of ascertaining the practicability or otherwise of the route for the passage of troops, was accomplished under no ordinary circumstances of danger and difficulty; and with the result that the country would present no serious obstacles for the purpose in question, except the crossing of the Pooralla Pass, about 130 miles before it reaches the sea, where Major Outram mentions several places which would barely admit of one laden animal to pass at a time, and incapable of being improved.

The late glorious events in this part of Hindostan, in securing to us the possession of the mouths and lower course of the Indus, cannot fail to lay open a most important portion of this part of the world to geographical inquiry.

AFGHANISTAN.—The name of Rawlinson is so honourably mixed up with geographical researches in this part of the world, that I must not omit referring to a letter which your Foreign Secretary has received from that accomplished officer, dated from the Khiber Pass in November last, as an earnest that the critical nature of the diplomatic and military duties in which he has been engaged during the last three years, amidst the stirring scenes of Afghanistan, have not entirely called off his attention from the comparative geography of a country which has ever excited great interest in Europe since the conquests of Alexander. We may expect to receive from Major Rawlinson, on his return from India, very ample details on the interior of Ariana generally. In the

mean time his learned correspondent has permitted me to state that amongst the many sites of ancient cities which he has been able to substantiate, the ruins of *Cafshán*, about 10 miles from the mouth of the vale of *Ghortand*, mark the site of *Capisa*, capital of the territory named *Capisene* by the Greeks. *Upigan*, at the entrance of the same valley, named *Heup'hi-nga* by the Chinese travellers of the fourth century, is doubtless the *Opiane* of Ptolemy and Stephanus Byzantinus, or rather the site of *Alexandria ad Caucasum*, called *Alexandria in Opiana* by the latter. *Jelál-à-bád*, now so well known to Englishmen for its glorious defence, has replaced the Hindú *Nagara*, Chinese *Nă-kÿe*, and the Dionysiopolis of the Greeks. *Pésháwer*, formerly *Persháwer*, the Chinese *Palusha-polo*, is the Sanskrit *Panasha-pura*. The ruins called old *Kandahár* are probably remains of the *Arachosian Demetrias*, as the natives of the place still ascribe them to a Feringé king called *Dhamarned*. The *Arachosian Alexandria* was at *Panj-wái*, 18 miles S.W. of the modern *Kandahár*: but the ancient capital *Arachotis*, or *Chorochoad*, as it is named by Isidore, was at *Khúl* in 32° 37' N. lat. and 67° 17' E. long., near *Ulán Robát*. This city was also called *Cophen*, and is the *Kî-pin* of the Chinese. On crossing the Persian frontier, Major Rawlinson found that the ruins of *Zarang* or *Dharang*, the capital of *Drangiana*, are now probably submerged in the *Lake Zarrah*; but the remains of *Shehsistan*, the *Sásáni* capital of *Séstán*, still exist, and are an inexhaustible mine of ancient coins.

The late campaigns of the British armies in Afghanistan, where a few months ago we had only to lament over a series of disasters, and to apprehend more, will have opened a very large field of geographical research; and we may expect that the next twelve months will supply us with abundant information on the great extent of country partly watered by the *Helmund*, and bounded to the N. and S. by the *Hezareh* mountains and the coast of *Belúchistan*.

CASHMIR.—I had scarcely an opportunity of mentioning to you last year the appearance of Mr. Vigne's second book of *Travels in Central Asia*, embracing *Cashmir*, *Ladak*, and *Iskardo*. Mr. Vigne, in his former publication, gave us the result of a residence in *Cabool*; and in these volumes we are agreeably led through a great variety of mountain passes in and out of *Cashmir*; of which passes Mr. Vigne describes, from personal observation or from inquiries he had made, no less than twenty; and others from *Cashmir* into the lower and middle *Thibets*. Mr. Vigne has supplied us with a large body of information respecting the manners, the religion, and the history of the *Hindoos*, *Moslem*, and *Bouddhists*, in the elevated districts; and he enters into more detail than is yet elsewhere to be found, on the upper or mountain courses of the

Indus, first between Ladak and Musjed, some distance below Iskardo : and again, when from Akko, at its junction with the Astor, he beheld, at an elevation of 9000 feet, this the noblest river of Hindostan, emerging, as he says, through a great portal, round the western extremities of Cashmir, from the thralldom which controls its course through the Cordilleras of the Himalayas. Mr. Vigne had the good fortune to meet the Baron Hügel in Cashmir ; and what he says of that distinguished traveller, in whose company he afterwards occasionally journeyed, only make us the more anxious for the publication of his explorations in what have been called by some the primæval regions of the world.

When, after a term of three years, spent in travelling over this region, the seat of so much history, so much conquest, so much religious mystery, and where the productions of nature are seen and studied in such variety and vigour, where the hills are the highest mountains of the earth, and the mountain torrents already broad and magnificent rivers, as Mr. Vigne was descending the lower Indus, on his return home, he was well entitled to record the pleasure he felt in calling to mind that he had crossed all the rivers of the Punjab high up in their mountain channels ; that he had forded the Shy-yok, or most northern branch of the Upper Indus, at Mebra-killā ; that he was the first European who had been ferried across the same stream (after its junction with the Ladak, or western branch) at Iskardo, the capital of little Thibet ; that he had crossed the Ravi at Chumba, and the Chunan in Kishtawar, between Ram Hur, the southern promontory of Cashmir, and the barren plains of Thibet ; and that, during repeated visits to Cashmir, he had visited Gunga Bul, the most holy of its lakes, and had slaked his thirst at the source of the Hydaspes.

Czome de Korös.—In dwelling upon the more recent exploratory travels or researches in Central Asia, I cannot omit tendering a few words of regret and respect to the memory of an European traveller whose name and pursuits are little known in this country, but who was a very remarkable man in the society which he frequented in the East. Czome de Korös, a native of Hungary, after having made himself master, besides various modern languages, of the different dialects of the Slavonic, was at an early period of life seized with an ardent desire to ascertain by personal research the original seat of the ancestors of the modern Hungarians ; and, from some resemblances of language, he was convinced that this country would be found in that part of Central Asia which is situated between Thibet and Boutan, and somewhere N.E. of Hlassa, on the upper course of the Bourampouter, towards the Snowy Mountains, forming the N.W. frontier of China. For this purpose, and in order that he might make himself perfect master of the Thibet

language, did Czome de Korös, according to the account of him published some time ago by Professor H. Wilson, pass between ten and twelve years of his wandering life, chiefly in the monastery of Zimskar in Caman, or at Ladak, far from all the enjoyments of social or physical existence, but earnestly bent on attaining the one object of his ambition: no bed but the bare ground, no fire in the severest cold; but he succeeded in collecting and arranging forty thousand words of the Thibet language, and in compiling a grammar and dictionary of the same. This extraordinary character, who is described as having denied himself everything beyond what is necessary to the support of a bare existence, seems to have expended all he had to dispose of in the collection of books in the language to which he was thus devoted; he lived entirely on tea and plain rice, and it was rarely he was ever seen out of his room; he never changed his dress, and all he was thought to own beyond what was on his person were a few shirts, a copper kettle, books, and a writing apparatus. He was not, however, without money; and he left 5000 rupees to the Asiatic Society at Calcutta, to be expended on some literary object. A few days before his death, Czome de Korös, being then at Darjiling, in the kingdom of Sikkem, a small independent territory, under British protection, between Nepaul and Boutan, had made arrangements for penetrating to Hlassa, on the Bourampouter. This city being the capital of Eastern Thibet, and the residence of the Llama, he expected to discover in its chronicles the origin of the Hungarians, which he had failed to do in the less important situations of Kaman and Ladak. Mr. Campbell, the British resident at Darjiling, rendered to this worthy and indefatigable traveller every assistance in his power, and had just succeeded in putting him in communication with the Vakil of Gulpo, or king of Sikkem, for the purpose of facilitating his journey; but the hand of death was upon him; already wasted to a skeleton, he was attacked by the fever of the country, and he died on the 11th of April, without a struggle or a groan.

I have much pleasure in referring, for many very interesting particulars in the life and travels of this singular character, to the autobiographic sketch in the first volume of the *Journal of the Royal Asiatic Society*, an article by Professor Wilson in the *Calcutta Gazette*, and to two notices in Nos. 227 and 228 of the Austrian "*Beobachter*" of August last.

CENTRAL ASIA.—The most prominent work on geography which has appeared during the last year is beyond doubt the '*Asie Centrale*' of Baron Alexander von Humboldt. You will find a brief analysis of it in the last volume of our *Journal*. But I would particularly call the attention of the working geographer, whose object is to collect all the

best authorities to which he can have access, and to present, upon the most logical principles, the result of many apparently contradictory accounts, so as to form one connected whole upon an obscure part of his science, to him I would earnestly recommend the careful study of that chapter of this admirable work (vol. ii. p. 365) entitled 'Système des Montagnes du Bolor.' He will there see how beautifully the patriarch of our science has developed the characteristic features of that very remarkable range of mountains, the Imaus of the ancients, which forms the meridian axis of Central Asia; how, in the first place, it is in itself only one link of a long series of elevated ranges running, as it were, from S. to N., which, with axes parallel to each other, but alternating in their localities, extend from Cape Comorin to the Icy Sea, between the 64th and 75th degrees of longitude, and keeping an average or mean direction of S.S.E. and N.N.W. To this system, our author observes, of meridian slopes, or breaks, belong the Ghauts, the chain of Soliman, the Paralasa, the Bolor, and the Oural. It is remarkable that in this alternating arrangement of heights unconnected with each other, no one of these meridian chains is directly to the E. or W. of another; each new elevation in the series only commencing in the latitude in which the other has ceased to exist; and it is exactly in this part of the series, namely, in the Bolor chain, that we come upon that very remarkable event in the orographic and hygrometric configuration of the Asiatic continent, which consists in the intersection of this N. and S. line of mountains by that other great line of mountains running nearly E. and W. between the 35th and 36th degrees of latitude, which was known in ancient times by the name of the Diaphragm of Dicæarchus, and which extends through the whole of this division of the globe, from the Chinese province of Houpé, south of the Gulf of Petcheli, along the line of the Kouenlun (not, as generally has been supposed, along the Himalaya) to the Elburz in Mazanderan, and to the termination of the Taurus in the S.W. angle of Asia Minor.

This *Bolor chain*, Baron Humboldt observes, has for ages, with but one or two exceptions, been the boundary between the empires of China and Turkestan: various etymologies have been assigned to its name; but the most in accordance with the genius of the neighbouring people is that which considers it a corruption from Vaidurya, the Sanskrit for 'Lapis lazuli;' the V being changed into B, and the dental D into L. The culminating points of the Bolor are about 3000 toises above the sea level; but where it intersects other chains parallel to the equator, such as the Thian Chan, or the Celestial Mountains, the Kouenlun, and the Himalaya, the elevation is greater. It is crossed on three principal points, but that by the Lake of Sirikol, or the Victoria Lake, the

source of the Oxus, as discovered and described by Lieutenant Wood, at the height of 2444 toises, is the most frequented. This was in early times the great commercial route between the E. and W. of the continent, when the Oxus was the highway of nations, and gave an easy access to the great Aralo-Caspian basin. The chief authorities from which our author takes his data are the two Bouddhist travellers, Songzun (519 A.D.) and Hivan-thsang (630 A.D.), whose narratives have lately been translated from the Chinese, and commented upon, by Mr. Stanislas Julien; Marco Polo's narrative, though it is doubtful whether he ever crossed this range of mountains; and the four of our countrymen to whom we owe most of our real knowledge of this part of the world—namely, Elphinstone, Burnes, Wood, and Lord. Mr. Vigne's last publication is also frequently quoted by the Baron in his description of the positions on the upper course of the Indus, in the two Thibets, and in Cashmir.

It may be noted also that Humboldt, in his map which accompanies this work, in which, be it observed, he is wisely cautious in avoiding details where little is certain, identifies the Dzang-ho river with the Bourampouter; contrary to the opinion of Julius von Klaproth, who supposed it to be the upper course of the Irawaddy.

CHINA.—The late events in China have given rise to many publications, of various character and merit; but few as yet of much interest in a geographical point of view. We may, however, look forward, within no long period of time, to the acquisition of much new and valuable information respecting the geography of this great empire, as the necessary consequence of the improved terms of amity and commercial intercourse between this government and that of China. At any rate, we must soon become intimately acquainted with the whole of the sea-coast, that of the neighbouring islands included: and the possession ceded to us of the island of Hongkong will, it is to be hoped, lead to the establishment of an observatory, on the same liberal principles as those which have been in action in other parts of the world. No situation can be better adapted to such an institution, connecting as it does a great extent of coast, with many of the best harbours and largest navigable rivers within its reach, and in the midst of seas swarming with our own traders, and ships of the other commercial nations of Europe. Here, too, the advantages of the situation, and the growing importance of our commercial and political interests with that large portion, I may say, of the world, which the late success of our arms has opened to us, will probably induce the government to establish a seminary for the instruction of some of our young countrymen in the Chinese language; a task not, I believe, difficult in itself, though made to appear

so by its total want of analogy with the dialects of Europe. If this object should be attained, amongst other good results from such an acquisition to the sources of information already at our disposal, we may confidently look forward to the possession of a knowledge of the interior of China, its literature, sciences, and arts—the last probably the most valuable of the three—equal to that which we now have of other long known portions of the globe: and, as geographers, we shall hail this accession with the greater pleasure, as till now access to the interior of China has ever, with the rare exception of the Jesuit missionaries, been as a sealed book to the European traveller.

Chinese Language.—It is observed by the distinguished philosopher and traveller to whom I have referred, that the study of the Chinese language was of course at first limited to its structure, and the nature of the signs which served to express ideas and sounds; then to the absence of grammatical inflections, and of those organic analogies common to other idioms; the influence which such a language must necessarily exercise on the development of the intelligence of those who speak it, and the obstacles it may or may not present to the progress of civilization. When we have at length attained to a sufficient analytical knowledge of the language to interpret what is written in it, we seek to know its literary productions, in poetry, in history, and in philosophy. But it is only of late years that the western world has come to a knowledge of the fact that Chinese literature is rich in the most valuable records of geographical knowledge, mixed up, it is true, with their historical notices, but containing ample details of geographical and statistical descriptions of extensive provinces, indications of different climates and modes of cultivation, discussions on the vicinity and direction of mountain chains, on the distribution of perpetual snow, and on the extent of the hydraulic systems, or river basins of Nature. These Chinese compilers were wont also to record an exact register of natural events; they watched nature in the exhibition of her mechanical powers, and in her ordinary productions; and they described the inequalities of the soil, earthquakes, and the fall of aerolites. This extraordinary people were mainly aided in enriching their literature with these expanded geographical views by the three circumstances enumerated by Humboldt: namely, their warlike expeditions against the nations of the West, joined to the peaceful conquests of the Bouddhist pilgrims; secondly, the religious interest attached to the mountains, occasioned by the necessity of sacrifices; and, thirdly, their early use of and familiarity with the qualities of the needle. Whilst the two former of these advantages pointed their particular attention to the great mountain ranges of Central Asia, the last, dating, it is supposed, twelve centuries before our era, gave to the

ographical and hydraulic descriptions of the Chinese a very decided superiority over those which we find, rare, indeed, and scattered as they are, in the writers of Greece and Rome.

INDIA.—*Surveys.*—The measurement of the grand meridional arc in India, which was commenced about twenty years ago by Colonel Lambton, by order of the Court of Directors of the East India Company, was completed, in the course of last year, by Lieut.-Colonel Everest, as far as the astronomical and trigonometrical operations are concerned. That officer is now occupied in the computations necessary to bring out the results. The entire arc extends from Cape Comorin to the Himalaya Mountains. The officers who assisted in this work have been formed into separate parties, and are engaged in measuring subordinate meridians branching from the grand one, in order to extend the triangulation over the whole peninsula. The survey of the district of Salem was sent home during the past year; this, with a small exception, completes the survey of the whole of the Madras Presidency. The survey of the Nizam's territory proceeds steadily. That of the Nandair Circar, which has been lately received at the India House, will enable the Court of Directors to publish the fifty-sixth sheet of the Indian Atlas during the present year. Several other sheets are in the hands of the engraver.

In the marine department, two sheets of the principal harbours and anchorages in the Red Sea, from the surveys of Captain Moresby, Elwan, Haines, &c., have lately been published. The survey of the sea face of the Sunderbunds, showing all the entrances of the rivers and channels, at the head of the Bay of Bengal, and the survey of the sands and channels extending from the Hoogly to False Point, by Commander R. Lloyd, I. N., were published during the autumn of last year, as well as a new edition of Captain Ross's chart of the coast of Arracan, Cheduba, &c., with considerable additions from the surveys of Commander R. Lloyd, I. N., and Commander E. P. Halsted, R. N. A survey of the coast of Africa, from the Strait of Babelmandeb, round by Tajurrah, Bay of Barburra, by Lieutenant Barker, I. N., and of Soonmeeany Bay, by Lieutenant Montrion, I. N., are being engraved. Lieutenant Roberts, I. N., has lately executed an interesting survey of the Yan-tze-kiang, from its mouth to Nankin. The surveys of the Gulf of Manaar and adjacent coast of India are going on under Mr. Franklin.

BOMBAY.—We have been informed by the Secretary of the Bombay branch of the Royal Geographical Society, Mr. Buist, that they are active, and that if we have not received their Journals it is not from any want of attention on their part, nor from want of exertion of the members. They have abundance of valuable papers, but the difficulty

of getting them properly printed in Bombay is so great that they have had thoughts of sending their Transactions here to be printed. We sincerely hope that our fellow-labourers in the East will take some effectual steps by which we may be put in possession of the result of those interesting researches, for which the naval, military, and civil services of India have been so conspicuous.

CEYLON.—The latest accounts from Columbo announce the arrival there of Mr. C. L. Mitford, after having traversed Asia Minor, Syria, Palestine, Mesopotamia, Babylon, &c. by Hamadan, through Khorassan, Afghanistan, and Sinde, to Bombay. This route by an experienced traveller cannot fail to add to our stock of geographical data for improving our knowledge of a country in which British interests are every year acquiring additional importance.

AFRICA.

EGYPT.—I am at all times happy to announce any circumstances which arise to connect the progress of geography with any other pursuit of science, literature, history, or art; for it is no less instructive than agreeable to watch how the several branches of instruction are interwoven with each other, how they are linked, as it were, together, and how, though at times one may perchance be fostered more particularly by accident or by favour, as a general rule, they all rise, flourish, and fall, under the same circumstances, accidental or otherwise, of protection or persecution. M. Letronne, member of the Institute of France, illustrious for his labours in the several departments of philology, Græco-Egyptian inscriptions, and the history and character of the fine arts in Greece, has just commenced the publication of a very learned and useful work on the Greek and Latin inscriptions copied from the monuments, the rocks, the tombs, and the papyri of Egypt. His ample illustrations of these inscriptions, embracing as they do the whole basin of the Nile from the frontiers of Nubia, the Fayoum, and the desert between the river and the Red Sea, tend to clear up many doubtful points of the topography of Egypt; and in particular I would call the attention of the Society to the use which M. Letronne has made of the paper communicated by Sir G. Wilkinson, published in the second volume of our Transactions, on the granite and porphyry quarries in the elevated range on each side of the 26th parallel of latitude, between Coptos on the E. bank of the Nile, and the port of Philotera on the Red Sea coast. These quarries are situated on one or other of the roads frequented by the ancients, leading from points on the river to others on the sea. In D'Anville's map of this region, it is called Mons Porphyrites; but from Sir G. Wilkinson's description, and from the

tenor of the inscriptions which he copied there, it is evident that that appellation, Porphyrites Mons, can only apply to a part of the range, namely, the most northerly, where are the quarries exclusively of porphyry, but that the name given to the whole range, in the authorities which first speak of it, was Mons Claudianus; and there is every reason to suppose that this name was given to it because these quarries, particularly those of porphyry, were first discovered, or at least first turned to account, in the reign of the Emperor Claudius.

M. Letronne then proceeds to show the extreme probability, indeed the almost demonstrated necessity, from the structure of the country, of its having been the practice, after the discovery of these quarries, and as long as they continued to be worked, *i. e.* from the time of Ptolemy Philadelphus to the reign of the Antonines, to convey the large blocks of granite or porphyry which they yielded, and which were wanted, at first for the Egyptian temples under the Greek kings, and afterwards either for Rome or for Constantinople, or even for Alexandria, not westward over the crest of the bare rocks to the banks of the river, but eastward along a more or less regularly inclined plane, a shorter and more commodious route to the Red Sea. These blocks were then floated to the head of that gulf, where, at the town of Arsinoe, they were conveyed into the canal, and thence by the Nile to their respective destinations; and this M. Letronne thinks to have been, for a considerable length of time, one main purpose for which this celebrated canal was made use of. On this occasion M. Letronne has very happily applied his familiarity with the ancient geographers and writers of the first and second centuries to a consistent geographical arrangement of the hitherto uncertainly defined port of Arsinoe, at the embouchure of the canal, then the *town* of Philotera, then further south, on the western shore of the Red Sea, another Arsinoe; then the *port* of Philotera; and so on successively, to Myos Hormos, and Berenice. Of these two quarries of porphyry and granite in the Mons Claudianus, M. Letronne thinks that the latter ceased to be worked about the time of the Antonines, which was also coeval with the filling up in part, from neglect or accident, of the great canal, and with the discovery of other granite quarries nearer to the Nile, which yielded large blocks; but that those of porphyry continued to be worked certainly till the reign of Diocletian; and he adds that passages from Paulus Silentarius prove that they were in request at a still later period, when, however, it being no longer the practice to extract such colossal blocks, they were removed by the shorter and more direct route to some place of embarkation on the bank of the river.

There is a point in the geography of this part of the world in which we, as subjects of a great commercial nation, are most immediately

interested, to which attention has already been given, but which is, I am assured, up to this moment very inaccurately defined. I mean the doubt which still hangs over what are called the ascertained positions of Alexandria in Egypt, and Suez at the head of the Red Sea.

Captain W. H. Smyth places the Pharos of Alexandria . . . $29^{\circ} 52' 51''$ E. long.
The chart constructed by Moresby and Careless, E.I.C., places Suez $32^{\circ} 39' 0''$ E. long.

In the chart the longitudes are deduced from Bombay, on the assumption that Horsburgh's longitude of that town is correct ($72^{\circ} 57' 40''$ E.). Mr. Goldyngham has since, by a series of lunars, and observations of Jupiter's satellites, made Bombay $72^{\circ} 54' 36''$ E., *i. e.* about 3' farther W. Deducting, therefore, these 3' from the position of Suez on Moresby's chart, will give for Suez $32^{\circ} 36' 0''$ E. Even this reduction, however, leaves the difference of longitude between Alexandria (as fixed by Smyth) and Suez (as fixed by Moresby) 6' in excess of the difference as shown by Captain Haviland's measurements with a perambulator, when the Indian army was in Egypt.

In the *Connaissance des Temps* (1841) these places are given (reducing the longitude to Greenwich): long. Alexandria, $29^{\circ} 52' 59''$; and Suez, $32^{\circ} 31' 28''$; difference, $2^{\circ} 38' 29''$. This is $7' 40''$ greater than the difference between their positions according to the English navigators, and $1' 40''$ greater than the difference resulting from Haviland's perambulator measurements.

These statements would show the uncertainty in which we are respecting the position of Suez, and it may be suspected that the position of Alexandria is not much more to be relied on.

The coast of Northern Africa has been surveyed better by French and English navigators, from Alexandria to the Straits. A survey of the coast of Syria is now in progress by command of the Admiralty. Of course it will be extended from El Arish to Alexandria, in order to connect it with Smyth's survey, but this will not help us with the position of Suez.

The establishment of steam navigation by way of the Red Sea to India, and the contingent development of English commerce in these quarters, renders certainty in these matters of the greatest importance; and the point in question can perhaps only be ascertained by a trigonometrical determination of the relative positions of Suez and Alexandria, and a series of observations at both ends of the line.

If Her Majesty's Government, or the Directors of the East India Company, were, either separately or jointly, to undertake a trigonometrical survey of the Delta, it would be an operation of general utility, and not without interest to the inquirer in comparative or physical geo-

graphy, to have a general survey of the whole district lying between the four points: El Arish, Suez, the Pyramids, and Alexandria.

The liberal protection which the present Governor of Egypt has extended towards the commerce of Europeans, even under the most trying circumstances, fully warrants us in supposing that he would readily give all the aid in his power to the furtherance of an enterprise so beneficial to his own people and to the foreigners resident in the country.

ABYSSINIA.—The tide of exploration has set of late years in a particular manner towards Abyssinia. In my last anniversary address, I mentioned several travellers into that country. I may now add the name of the Baron de Wrede, who, according to a communication from Mr. Texier, intends to proceed to Shoa by Tajurrah and Houssa, following up the Hawash. From Shoa he proposes to penetrate the country in a S.W. direction, in order to discover the sources of the White Nile, of the Tchadda, and the Quilimansa, following the latter to the sea, whence he will return by Hurrur and Barbera. If only a part of this vast project be successfully executed, it will be a great deal, considering the various difficulties to be surmounted.

Messrs. Ferret and Galinier, of the French Etat-Major, have lately returned to Cairo from a voyage into Abyssinia, whither they had been sent by the Minister of War; they are said to have brought with them several maps of the country. Messrs. Krapf and Sapeto have also returned from Abyssinia, the former after a sojourn of three years. He reports that Mons. D'Abbadie was still at Adowa, engaged in compiling a dictionary of the Hamtonga or Agow language, which already contains 1400 words. An English traveller of the name of Bell had arrived in the month of April at Adowa, whence, it is said, he continued his journey inland. François Rocher, who was erroneously reported to have gone to Sennaar, had proceeded to Koseïr and the Red Sea. The German naturalist, Schimpfer, was with D'Abbadie at Adowa.

Dr. Beke, I am glad to say, continues his explorations in Abyssinia with the same zeal. Since the last anniversary meeting we have heard from him twice; the first time was by a communication dated Dîma, 15th December, 1841, in which he detailed his route from Angolalla to Godjam. During the first part of his journey, the country, he says, was beautiful and populous. He describes the Hill Fort of Dey as being at an elevation of 7,887 feet above the sea, and lower than Angolalla by about 600 or 700 feet. This place is described as important, being the key to the high mountain district to the West, and commanding the mountains on the East. Having crossed the Bersena river, and passed over a country cultivated with pulse, tobacco, cotton, and maize, the country became again mountainous, and the traveller reached Wûla,

where he was hospitably entertained. From hence he proceeded to Angorcha, where gold had lately been found. From Angorcha Dr. Beke continued his route towards the Abáí, passing on his way a country of varying character, but having many towns and villages, and generally well cultivated. Several streams and deep and rough valleys were next crossed, and having passed the Djamma river, with a breadth of 30 yards, and a depth at that season of only 3 feet, the traveller ascended to Dáda, a little distance beyond which the Abáí became visible. On the 24th November it was reached. It is here 2936 feet above the sea, which gives a fall of about a foot per mile for its course from this spot to the Mediterranean. After having crossed the river with much difficulty, and not without loss from robbery by the natives, Dr. Beke entered the province of Godjam, and took a northerly direction. The country on both sides the stream, which was not quite 200 yards wide, is described as jungle, but without wild beasts. Proceeding onwards, he arrived at the church of St. Abo, and the plain country of Godjam, which he traversed without assistance, and at length reached Díma, commonly known as Díma Gurjis, from the large monastery and church of St. George which it contains. The town is described as large and well constructed. From the time this account reached us, we have had no further news from Dr. Beke till about three weeks ago, when a letter was received from him, dated Dembecha, February 5, 1842. In this letter the traveller states that he was detained some time at Díma by a cutaneous disorder, which he attributes to the particular kind of diet he had been reduced to. He left Díma on the 20th January, 1842, on his way to Dembecha. Having crossed the river Gad, he entered the district of Yazínna. The direction now taken was a little to the S. of W. On the right rose the lofty mountains called Tal ba Waha, said to be covered with perpetual snow. From these heights numerous streams descended, forming the head waters of the Abáí; these had their courses towards the S.E. and S., and were successively crossed. The country was sometimes rough and irregular, sometimes level, grassy, and with trees, and little cultivation was seen. On the 21st the monastery of Yederebán was reached; here the ground was found clothed with numerous acacias and wild rose bushes, but it soon resumes its former more general character, that of a mere grassy plain. On the 22nd, the traveller came to a spot, which he regards as the water-shed between the streams flowing East and West. The rivers here were sluggish, and Dr. Beke thinks that in the wet season the country must be swampy. This day the river Didjil was reached, whose waters were creeping towards the N.W. On the 24th, the traveller left the village of Lachilachita, where he had rested the previous day. He skirted an extensive jungle, and

crossed different windings of the Didjil, which flows into the Godib. On crossing the Didjil for the last time, and entering the province of Damot, the difference of the two provinces soon became evident. Godjam is almost bare of trees, while Damot is celebrated for its beautiful forests. Damot is also more peopled, and numerous villages were seen on the way. The Godel has a slow current, its direction W.S.W.; it is 30 feet wide, and 2 feet deep. The road from Lachilachita had changed its direction to N.W., and from Arrat, the place now reached by the traveller, it went due N. to Dembecha, rounding the foot of the Tal ba Waha mountains. The streams now ran in a south-westerly direction, and where the Samsha was crossed its course was westerly, between steep banks, with a strong current and stony bottom. On the 27th the traveller reached the large town of Dembech, but not having yet entered it, and being encamped outside, he leaves the description of the place, and a more detailed account of his route, for a future communication.

M. Blondel, Belgian Consul-General in Egypt, who had undertaken a journey into Abyssinia, had been detained prisoner in that country, but was happily released by the exertions in his behalf of the Pacha of Egypt; he has since returned to Cairo.

M. Antoine d'Abbadie has communicated several interesting notices on the geography of South-Eastern Africa to the Geographical Society of Paris, and has been honoured with their silver medal.

Bahr el Abiad.—It is known to you that two expeditions have been fitted out by the Viceroy of Egypt, for the exploration of the White Nile, but no details had reached us when I last addressed you.

The *first expedition*, under the conduct of Selim Bimbashi of the Alexandrian navy, left Khartúm on the 17th Nov., 1839, and ascended the stream for 72 days. Observations were made daily of the distances gone over, the breadth and depth of the river, the velocity of the current, and the temperature. But I must refer you for the very interesting details of this expedition to the Nos. 103, 104, and 105 of the *Bulletin* of the Geographical Society of Paris; regretting, however, that the account contains no precise geographical information. In this expedition the party ascended the river to the sixth parallel of North latitude.

The *second expedition* was accompanied by two Europeans, Messrs. Arnauld and Sabatier. They left Khartúm on the 25th Nov., 1840, returned there in 1841, and again proceeded on the 26th September of the same year. This expedition ascended the White Nile for a distance of 518 leagues from Khartúm, and reached a spot in lat. 4° 42' N., and a little to the E. of the meridian of Cairo. The want of water at that season of the year prevented their further progress; but when the waters are high, the stream may be navigated, it is said, as far as the

third parallel of N. lat. In lat. $7^{\circ} 43'$, a stream came in from the E., and a larger one from the W., which latter is supposed by M. Arnauld to be the Keilak or Misselad of Brown. The great body of water, however, came from E.S.E., and this was therefore concluded to be the true Nile. Arrived at their furthest, in lat. $4^{\circ} 42'$, they yet saw no high lands, so that the far famed mountains of the Moon must disappear from our maps. The bifurcations of the rivers are formed by islands only, and in about the ninth degree of N. lat. there are immense marshes. Several tribes, differing widely from one another, are mentioned as having been met with, and some are said to be quiet and peaceful. In the dominions of the King of the Behrs various articles of Indian merchandise were found. The king's palace is on the waters, and can be approached only by swimming. His guards are two battalions of women, armed with spears and bucklers, and his ministers never enter the palace but when the king is supposed to be dangerously ill, when it becomes their duty to strangle him, that he may not die a natural death, like the vilest of his subjects.* M. Arnauld had made valuable collections, but being wrecked in the river, he lost every thing but his Journal, and only saved his life by swimming for upwards of two hours. He is stated to have made astronomical observations at every station. It is therefore to be hoped the geographical details of this interesting expedition will soon be made public, with a map, and new light be thus thrown on the so long dubious point, as to whether the White Nile or the Blue Nile be the great feeder and chief source of the river.

Bahr el Azrek.—The Bulletin of the Société de Géographie contains also a letter addressed to M. Cochelet, the French Consul-General in Egypt, by M. Lefevre, whom I mentioned in my last address as having communicated some interesting papers on Abyssinia to the same Journal, and whose death I have with regret announced to you. In the letter to which I now allude, M. Lefevre describes the nature of the commerce and the character of the people on the Blue Nile, and gives a short account of the country of Bertha, a mountainous district lying between the Bahr el Azrek and one of its tributaries, the Tumat. Gold dust is found in the mountain streams of the Bertha. This metal, either in its crude state, or worked into wire of various thickness, is the grand medium of exchange in Bertha, and in the Fazoglou, and immediate neighbourhood. Annual fairs are held at Benichangoul and at Farmaca (not on our maps). Fadassi is the capital of the territory of the Bimbichi. M. Lefevre gives the names of the several stations on the route followed by the merchants who go from Fazoglou to Fadassi, which, it

* Bulletin de la Société de Géographie. Nov. 1842. Page 381.

appears, occupies $6\frac{1}{2}$ days. The places mentioned by him are not to be found on our maps, and as their direction is not given, we may presume M. Lefevre has not been there himself, but has given the names of the stations from native information.

West Coast.—Captain Allen, so well known to you for his excellent survey of the Niger, and for his contempt of danger in the expeditions up that fatal river, has recently added to our knowledge of the Western Coast of Africa by his exploration of the Cameroons river, and the Bay of Amboises. In the months of May and June, while waiting on the coast for orders, Captain Allen seized the opportunity of examining the Cameroons river. By carefully feeling his way with the lead, he took the Wilberforce up to the anchorage of the palm ships in the estuary; here he found an important community under two chiefs, King Bell and King Aqua; the houses were well built, and the grounds well cultivated. From this place he ascended the river in boats, accompanied by Lieut. Sidney, surveying officer, Mr. Terry, chief clerk to the Commissioners, Mr. Sterling, assistant-surgeon, and Mr. Lilley, a volunteer. King Bell and Prince Bebbo also attended the party. Having passed shoals and mudbanks, where mangroves and decayed vegetable matter produced a most offensive odour, they reached an open expanse of water, and there entered a narrow channel, in which the mangroves ceased as the salt water terminated. In the undivided stream there was a breadth of 500 yards, the banks low but firm, and covered with high grass, behind which were ferns, plantations, and bushes in endless variety. Villages became numerous as they proceeded; their appearance was neat, and the cultivation around denoted plenty and comfort. At three miles from the head of the Delta, the Yabiary river came in from the W., navigable, it was said, to Abo, which might be reached from where they were at sunset. A little above the confluence, the Cameroons forms two branches, inclosing the island of Wúri, which Captain Allen went round, ascending by the western, and returning by the eastern branch of the river. He next ascended the Yabiary to within a short distance of Abo, and returning thence the party regained the Wilberforce in safety. In this excursion the river had been ascended to 40 miles from the sea. In the floods it has water enough for any draught, but at 90 miles from the sea the navigation is said to be interrupted by rocks. Captain Allen was prevented from exploring the Qua Qua River, but he surveyed the Cameroons or Dualla from Bell's Town downwards, and connected it with Captain Vidal's survey. A slight attack of fever induced the Captain to hasten to the Bay of Amboises, or Ambas, which he examined, and has described; and he thinks that from the peculiarity of its situation, and from local circumstances, this bay will be

found the most healthy position on this coast of Africa. The anchorage is excellent, both as to holding ground and depth. Although a lee shore, it never blows hard. The breeze from the Atlantic is refreshing. There are but few mangroves or marshes, water is excellent, and provision abundant and cheaper than at Fernando Po.

NORTH AMERICA.

I now beg leave to call your attention to some objects of geographical interest in the New World.

NEWFOUNDLAND.—Besides the map of Newfoundland by Mr. Arrowsmith, two works upon that country have lately appeared—the one by Mr. J. B. Jukes, and the other by Sir R. H. Bonnycastle. Of Newfoundland very little was generally known; and although both the writers just mentioned have considered the country more especially under a geological point of view, and differ in their opinions of the importance and value of the colony, still they afford geographical information of some interest. Mr. Jukes has a chapter exclusively on the Physical Geography of Newfoundland, by which it appears that a great part of the western portion of the country presents only woods, marshes, and barrens, alternating with each other. The most remarkable feature, however, is the great extent of lagoons and ponds, varying in size from pools of 50 yards in diameter to lakes upwards of 30 miles long and 4 or 5 across. The quantity of ground covered with fresh water has been estimated at one-third of the whole island, which Mr. Jukes thinks is not exaggerated. The overflow of these lakes is intercepted and absorbed by the spongy marshes, so that the island has no large rivers. The country is rugged; the hills, however, rarely rising to the height of mountains, and the hollows or valleys as rarely expanding into plains. The interior is still little, if at all, known; it contains an immense coal-field, and, according to Sir Richard Bonnycastle, whose account is considerably at variance with that of Mr. Jukes, it has, particularly along its western coast, many cultivable spots, and capable of giving subsistence to a greatly extended population.

Sir Richard's book contains a more complete account of the political geography of the settled part of the island than any previous work, with copious details of its climate and meteorology, agricultural resources, and fisheries, and notices of Red Indian nations now supposed to be extinct. The maps which accompany both works have little pretensions to accuracy, beyond a partial indication of the probable geological structure of the country. Mr. Arrowsmith has, however, compiled a map of Newfoundland from materials furnished by the Admiralty and Colonial Office. The Eastern coast line from Belleisle to Cape Race has been

laid down according to the survey of Captain Bullock: the relative positions of places on the coast as given by that officer being preserved, but the latitudes and longitudes of all corrected by the more recent observations of Mr. Jones of H.M.S. *Hussar*. The southern coast, from Cape Race to Cape Ray, is taken in part from the positions determined by Mr. Jones, and in part from the old but excellent survey of Cook. The western coast, from Cape Ray to Belleisle, is laid down according to Cook's survey. The interior is—*First*, from three routes of Mr. Cormack; in 1822 from the head of Random Sound, on the E. coast to St. George's Bay on the W.; in 1827 from the Bay of Exploits to the head of Hall's Bay, and a chain of lakes 30 miles further W., and back to the Bay of Exploits, by a line nearly parallel and more to the S., and subsequently along the E. shore of the narrow part of the island to the N., from Hares Bay to the bottom of White Bay. *Secondly*, Captain Buchan's route from Hall's Bay to the southern extremity of the Grand Pond. *Thirdly*, Mr. Jukes's short excursion, from the S. coast of St. George's Bay to the interior. A "preferred line of exploration," laid down in Sir Richard Bonnycastle's map, from the northernmost point of Placentia Bay to the S.E. shore of Grand Pond, is only about 150 miles in length, and would intersect the country midway between Mr. Cormack's routes in 1822 and 1827, and would go far to increase and correct a knowledge of the interior.

UNITED STATES.—Messrs. Sherman and Smith, of New York, have nearly completed a large and well engraved map of the United States. It has been prepared with great care by Mr. Smith; but, like the maps of most young geographers, is too much crowded. Thus he has introduced the *townships* of each state, a proceeding the more injudicious as they are continually undergoing changes, and it is utterly impossible to keep pace with them.

The system of executing maps on wood is much practised in America, especially by those whose only or chief aim is pecuniary advantage; but they have a coarse appearance, and will doubtless be soon rejected by the public.

A map of the United States, on a small scale, has been published by S. A. Mitchell, cut on wood; and, although neatly executed, it has a slovenly appearance, and is full of errors; even the projection is defective in the extreme, the proper lengths of the degrees of latitude and longitude appear to have been wholly disregarded. With these exceptions no maps of any consequence have appeared since last year.

Mr. Tanner, our corresponding member at Philadelphia, is engaged on a general Geographical, Historical, and Statistical Atlas; the maps will be somewhat smaller than those of his Universal Atlas, published

some years since, and accompanied by descriptive letterpress, statistical tables, and a general consulting index. It is to be published in monthly parts, the first of which is nearly ready. The several parts will be forwarded to us as they appear.

With the exception of a journal of travels to the Columbia river, by Mr. Farnham, nothing has appeared in relation to unknown regions. The work of Mr. Farnham, which we are promised, is said to afford but little additional information on the geography of Oregon, the work being mostly filled with the incidents of the writer's journey; but some facts may, it is added, be gleaned from it.

Mr. Nicolai's map of the N.W. section of the United States is still in the hands of the engraver, as well as most of those of Hasler's survey of the Atlantic coast. This survey, it is feared, will be abandoned; or, if continued, is likely to be prosecuted with more vigour and less precision by others than was done by Mr. Hasler, who is now very old and infirm.

The surveys of Pennsylvania, New York, and New Jersey are completed. A report on the former is in course of preparation by Professor Rogers, the gentleman under whose direction it was made. The topographical surveys of the public lands continue to be steadily prosecuted under the treasury department of the general government.

CENTRAL AMERICA.

Norman's and Stephens's Works.—From Central America we have two works, which call for some notice, as illustrative of the ancient and modern state of the country—Mr. Norman's 'Antiquary Tour in Yucatan,' and Mr. Stephens's 'Incidents of Travel in Yucatan.' The last mentioned of these works has already obtained a well-deserved popularity in this country. It contains the results of an exploratory excursion in Yucatan, supplementary to a previous one in Guatemala, during which, with the aid of my esteemed friend Mr. Catherwood, he excavated, measured, and delineated with considerable success. Mr. Stephens's two publications together form an important contribution to the positive and comparative geography of the countries now comprised under the general designations of Central America, and the province of Yucatan, and may give us some vague notions of the social and natural history of the tribes, who ruled in the same regions previous to the arrival of the European race, and whose descendants constitute a numerical majority of its population. Mr. Stephens has fixed the sites of many aboriginal cities, and supplied correct delineations of their existing monuments; he has also succeeded in identifying some of these sites with localities which occupy a prominent place in the narratives of the

early Spanish conquerors; and there is every reason to believe that many other equally interesting monuments of a bygone state of civilization are still to be explored. Mr. Stephens's book is a fair earnest of what is still left for him or his successors to do in following up what he has so well begun. The great object will be here, as in all unexpected discoveries, to avoid rash and premature generalization, to accumulate, with untired industry, facts. These naturally divide themselves into two classes:—1. Accurate surveys of the province of Yucatan, and the federal republic of Central America, must be the groundwork of any satisfactory investigation; large portions of this tract of country in Yucatan, Vera Paz, and Tabasco are still totally unknown; and these must be accompanied with accurate delineations of the actual condition of all ancient sites and monuments. Here the daguerrotype process has already been turned to good account by Mr. Friederichstahl, an Austrian botanist: its value is eminently great in the case of newly-discovered objects, in reference to which we have no other authorities to go to, for a comparison and proof of accuracy.—2. In the next place, all the printed works, as well as such MS. compilations as are accessible, of Spanish discoverers, settlers and colonists from the first visit to the coast of Yucatan down to the present time, ought to be analysed, and their statements regarding the natives, their civil organization, and settlements should be well digested. For this purpose it may be necessary to make a search in the archives of the cities and monasteries within the district; and those of the council of the Indies may provide much useful information. When these two classes of research shall have been brought to bear on one another, the materials will exist for such a systematic synopsis of the comparative geography of these regions under aboriginal rule, and for an explanation of the affinities of their various tribes as we can hope to obtain, or as can possess any scientific value. Though we have little ground for hoping that the hieroglyphic writings of the primitive Americans, if they should ever be deciphered, will throw any considerable light on the progress of art or science; yet they may disclose some historical facts of value, respecting the sources of the early population of the country—the constitution of their language, and possibly also on the successive development of the human intellect. On this subject I willingly refer to the splendid work entitled ‘*Les Antiquités Américaines*,’ lately published at Paris, under the superintendence of the Comte de St. Priest.

Isthmus.—We are not yet in possession of any positive and detailed information respecting the progress of that great undertaking which has attracted the attention of the speculators and geographers of the Old and New Worlds, almost ever since the discovery of the latter; but most

especially, at intervals, for the last 150 years: I mean the means of establishing a water communication between the Atlantic and the Pacific: but it may be mentioned that M. Manel, a French engineer, in the employment of some gentlemen who hold from the Grenadine government the privilege of constructing a canal across the isthmus of Panama, has been engaged during the years 1837-41 in making a survey of the country. M. Manel states that by ascending the Farfan, seven miles above its embouchure, on the E. bank of the Rio Grande, he was able to cross to the Trinidad, an affluent of the Chagres, by a route 25 miles in length, on which the summit level between the oceans was less than 34 feet. By ascending the Rio Grande he was able to cross the isthmus by a route a few miles to the N. of about the same length, and with nearly the same height of summit level. This indicates that the high mountains N. of Panama sink down nearly to a level with the ocean about the parallel of that town. The sources of the Chiamito, which falls into the Bay of Chorera, and of the Trinidad, are near each other, and to the south of the lines explored by M. Manel. This seems to indicate that the ground rises again immediately to the south of them; for the Trinidad, at the point where M. Manel's southern line strikes, is navigable for vessels of 200 tons, with a current of a mile and a third per hour. This appears to imply a considerable length of course, and a rather elevated source. The rocks along both lines are calcareous, interchanging with sandstone: the country is covered with dense forests.

SOUTH AMERICA.

BRITISH GUAYANA.—Few, or rather none, of our colonies have been more fortunate than British Guayana in having so excellent an explorer as Mr. Schomburgk. Time will not allow me, however, to state to you what he has done in that part of the world; and his successive labours have been already made known to you in different volumes of our Journal, and in former annual addresses from this chair. His explorations of the mouths of the rivers Barima and Waïni, and his subsequent ascent of the former of these rivers and of others connected with it, to which I alluded last year, have been read at the evening meetings, and are now given at length with illustrative maps in the just published part of the Journal. Since the termination of those researches, as valuable to the colony as they are interesting to science, Mr. Schomburgk has successfully terminated another exploration, for the details of which we are again indebted to the kindness of Her Majesty's government. Mr. Schomburgk having quitted Pirara on the 26th of March, 1842, arrived at the junction of the Mahu with the Takutu, on the 2nd of April. The point of confluence was found to be in $3^{\circ} 35' 8''$ N., and the difference of longitude

from Pirara 1m. 36s. 11 W. in time. The water in the Takutu was low, and the ascent of the river in canals consequently tedious. Among other objects found in the bed of the Takutu, a black sand was occasionally met with containing gold, but whether in sufficient quantity to render it worth the washing, Mr. Schomburgk had not time or means to determine. The Takutu, which has a N. and S. course between the Rio Branco and the Rupununi, runs through savannahs, whose surface is covered with a vast abundance of angular masses of quartz rock, while the subsoil is a white ochreous clay mixed with rounded pebbles, covered by a few inches of vegetable mould. These savannahs, in the traveller's opinion, are of no use but as grazing lands. Continuing the ascent of the river, different affluents were passed, and some mountains of considerable elevation. By one of these affluents the Curatí, and a short portage to the Guidiwau, an affluent of the Rio Branco, this latter river is reached. By the 6th of May a spot was reached where the river was only a few feet wide, and its waters collected into almost stagnant pools, the colour of which was nearly black; while lower down it was bluish. Continuing to ascend, Mr. Schomburgk arrived at the source of the river, whose position he ascertained to be in $1^{\circ} 50' N.$, and 19 miles W. from Pirara. The next morning the party retraced their steps, and arrived at Pirara on the 22nd of May, having been absent nearly two months, and having suffered severely from fatigue and excessive heat. The details of this journey are rich in descriptions of the animal and vegetable productions of the basin of the Takutu, and will be read with interest in the forthcoming number of our Journal. On his return from the Takutu Mr. Schomburgk ascended the Cotinga to Roraima, from whence he struck off through the savannahs and forests to reach the Cuyuni. This journey was as novel and interesting as it was fatiguing: in the course of it he discovered many new plants, and saw hundreds of acres of plantains growing wild, and so luxuriantly that some of the stems were as thick as a man's body, and attained a height of 40 and 50 feet. Soon after his return to George Town, he again started with a view to explore that part of Guayana which lies between the upper courses of the Essequibo and Corentyn. Since which we have not heard from him. This expedition will occupy at least six months, so that some time must elapse before we get any further communications. It is greatly to be hoped that his constitution will not sink under such unremitting fatigue, fatigue greatly increased by the fact of his having been nearly all the time without an assistant surveyor. Indeed, as he himself says, he has not yet been able to find time to draw up a detailed account of his journey from Pirara to Roraima, and from thence to the Cuyuni, nor to work out the results of his many astronomical and

magnetic observations. His plan for the survey he is now engaged in, was to join at Pirara Mr. Goodall, the artist, and others of the expedition, and to start thence for the sources of the Essequibo; then to trace the mountains which divide the basin of the Amazons from that of the Essequibo and Corentyn, and to descend the latter river to its embouchure. His health has hitherto been good; we hope sincerely, both for his own sake and that of science, that it may continue so.

FALKLAND ISLANDS.—Among the many advantages of geographical science may be mentioned the discovery, in distant countries, of productions which, by living and flourishing in our own, may be made to contribute to the wealth and resources of our countrymen. Thus, from the reports of Lieut. Moody, Governor of the Falkland Islands, and which reports have been communicated to this Society by Lord Stanley, it appears that the tussac-grass, mentioned by navigators who had previously visited these islands, is likely to become of the greatest advantage to some parts of Great Britain, and particularly to Ireland, where extensive and unprofitable marshes usurp the place of productive soil. For it is precisely in such situations, particularly if within the influence of spray from the sea, that the tussac-grass, so valuable for the feeding of cattle, is always found, and thrives best. With respect to the Falkland Islands themselves, the nature of the climate, and the advantages afforded by the soil for sheep and cattle feeding, bid fair to raise them into importance as a grazing colony; while as a station for vessels doubling Cape Horn, they are admirably situated.

NEW ZEALAND.—The colonization of these islands has produced a great many books professing to treat of them; but from all that have hitherto appeared, little geographical information can be gleaned: the partial and insulated surveys which have been undertaken, being quite unconnected with any general base line, or system of triangulation, have done little towards producing a true picture of the features of the country; nor is it likely that any general survey will be attempted till the prosperity of the colony shall be able to furnish the expense of it. Much, however, may be gleaned from what has been published, and chiefly from the late work of the naturalist of the New Zealand Company, respecting the productions of the islands, the general character of the country, and its original inhabitants. Dr. Dieffenbach dwells chiefly upon their natural history, and the language of the natives, of which he gives a copious vocabulary and the outline of a grammar: and the observations he has made in various exploratory excursions convey a better notion of the physical geography of the islands than has been given by any previous writer. He suggests one very important inquiry while speaking of the whale-fishery. It is the opinion

of the whalers that the range within which these animals are found most abundantly south of the Equator is a great bank, over which the water may be said to be shallow when compared with the depths of the surrounding ocean. Dr. Dieffenbach expresses a wish that this hypothesis should be tested by deep sea-lines; such an investigation might throw additional light on the structure of the submarine portions of our earth.

MISCELLANEOUS.

Cartography.—As an improvement in the material construction of maps, I may state that the parallel lines representing seas and lakes, &c. are now produced by a machine made by Mr. Sang, Professor of Engineering in Manchester, which cuts the lines at once instead of drawing them on an etching ground as formerly; a process which produces much better work, and in a much shorter time. The result of this practice may be seen on some of the maps lately published by the Messrs. Johnston of Edinburgh.

Ethnology.—The importance of the study of languages in an ethnological point of view is too well known for me to dwell upon them; but every accession to this branch of knowledge which is made cannot but be interesting to us as tending to throw fresh light upon the very curious problem of the former connection and present dispersion of the various races of mankind; you will therefore be glad to learn that Messrs. C. G. Teichelmann and C. W. Schürmann have just published ‘*Outlines of a Grammar of the Aboriginal Language of South Australia.*’ In this work the author maintains the opinion held by others, that the languages of all the Australian tribes, except those on the N. coast, are derived from one and the same source; and that, consequently, all the native population, with the above exception, are of the same race.

* Dr. Pritchard has also published, as a sequel to his learned work on the ‘*Physical History of Mankind,*’ another volume entitled ‘*The Natural History of Man,*’ beautifully illustrated, and accompanied with an illustrated ethnological atlas.

Manuscript Map of Peking.—Amongst the geographical novelties of the year, I may mention the acquisition, by Sir Woodbine Parish, whilst at Naples, of a very beautiful manuscript plan of the Tartar or northern city of Peking; on which are represented, with some detail, the walls and gates of the city, the Imperial palace, the public treasuries, the Imperial cemetery and summer houses, the public offices, the observatory, &c.: the space within the walls is between sixteen and seventeen miles.

The plan has since been most successfully lithographed by Major Jervis, late of the E. I. C. corps of engineers ; who has had the Chinese names of places translated. Major Jervis proposes to accompany it with some extracts from Father Hyacinthe's topographical description of the city.

Pizzigani MS. Map.—The Society is indebted to the liberality of one of the most distinguished of their foreign honorary members, Admiral von Krusenstern, for the possession of a beautiful copy of the MS. Planisphere-Mappa Mondo, now in the Imperial Library at Parma. The original of this map, on vellum, is described by Angelo Pizzara, keeper of that library, as bearing date the 12th of December, 1367, according to the following inscription :—“Hoc opus composuit Franciscus Pizigano Venetianen. et Dominicus Pizigano. In Venetia me fecit Maretes die 12 Decembri.” It is stated to contain the whole of the world then known ; and, considering its date, to be a *chef d'œuvre* in regard to design and exactness of representation. Many of the principal towns are neatly traced, with some characteristic features of the countries. It was formerly in the possession of Girolamo Zanetti, the author of a work entitled ‘*Origine di alcune Arti principali presso i Veneziani,*’ in 1758 ; and who presented it to the Ducal Library at Parma, out of regard to P. M. Paciaudi, the librarian.

In this country, where almost everything is left to individual exertion, the defects inherent to a system of centralization are unknown ; but we are also deprived of those manifold advantages which arise from its application to certain objects. Thus, it can hardly be doubted that a grand central map department or establishment under the control of, or at least patronised and supported by, the government, and under the superintendence of an able director, would go far towards the diffusion of correct geographical information. Such an establishment, receiving from the various departments of the government the original surveys forwarded to them from our colonies and other possessions abroad, would possess the most authentic materials for the protraction of hitherto unknown regions, and for the gradual correction of those errors, which, by the present mode, are inseparable from our most carefully and conscientiously constructed maps. The first object of most map-makers, in all countries, is pecuniary advantage, and in accordance with this they cater to the wants of the moment, heedless of the quality of the article they supply. With such an establishment as I have alluded to, it would be otherwise ; its primary object would be the construction of correct maps ; and as those bearing the stamp of authority would soon be preferred to all others, remuneration would

follow as a necessary consequence. Nor is it to be implied that map-makers promulgate error designedly; on the contrary, it is their interest to make their maps as correct as possible; but while, on the one hand, they have not generally access to the latest and best materials, so, on the other, the political events of the day frequently occasion a sudden call for chorographic maps, which, by being immediately responded to, offers a chance of profit too great not to be eagerly seized; and thus crude and ill digested delineations are dispersed, to the injury of science. Some there certainly are who have a higher ambition, and who seek not only to combine profit with reputation for accuracy, but who are content to let their ultimate advantage be contingent on proof of their scientific ability: such will ever be patronized by the discerning portion of the public; but even the establishments of these meritorious individuals must be greatly deficient in the requisite resources for map-making on a large scale. The care and time required for the collation of materials, the reductions, the copyings and corrections, both before and after engraving, are such that nothing but an extensive sale can remunerate; but to supply an extensive sale, large means of commanding the services of engravers, printers, &c., are requisite; all which demands great capital and extensive premises. Centralization in this department would have the further advantage of ensuring a more perfect and systematic uniformity in cartography. At present, each map-maker has his own method of drawing, shading, colouring, and writing. Accuracy is often sacrificed to beauty of appearance. The scales of maps are arbitrarily varied, and different projections adopted for the same country or portion of a country; so that the same region presents to the eye a different contour, to the utter confusion of all definite ideas. These are disadvantages which one central cartographic establishment would greatly diminish or wholly do away with: nor is this all; the department or establishment in question would become the grand *depôt* of geographical archives, as essential to the government as to the public. It could effect the most desirable exchanges of its productions with the maps, charts, and memoirs of other countries; and lastly, not the least of its advantages would be the training of an efficient body of practical geographers.

The preceding observations forcibly recall to my memory, and perhaps they may do the same to some whom I am addressing, the purport of the discourse which I had the honour of delivering to you on the anniversary of 1839, in reference to the value of accurate geographical knowledge in our military, diplomatic, and commercial relations. Their importance will not sound in your ears the less to be appreciated than

it was four years ago; and though one subject of discussion, at that period thought to be almost interminable, has, by the prudence of our councils, been brought to a conclusion; in a manner, too, which I trust will not lead to further misunderstandings in reducing it to practice, still are there other sources of disagreement between us and our Transatlantic brethren, which can only be allayed by a knowledge of the ground we are contending for. I do not propose to allude further to that subject; but the events of the last two years in the countries west of the Indus are too fresh in our memory to allow us to remain insensible to the paramount importance of acquiring a knowledge of the geography of all countries conterminous to our own possessions, with the least possible loss of time. The operations of war do perhaps lead to this knowledge in a more direct and rapid manner than the deliberate movements of a state of peace; but we pay an exorbitant price for knowledge so acquired, and gold may be purchased too dearly.

Notwithstanding the large demands which I have made upon your patience upon this occasion—the fourth occasion, I am proud to say, on which I have performed, however inadequately, this most honourable and pleasing duty of the President of the Royal Geographical Society—you must yet be sensible that I have passed over in silence a large portion of the accessions to geographical knowledge which have been acquired during the expired year. Some of the most important points I have attempted to bring before you. For others I refer you with satisfaction to our own Journal, and also to the eloquent and very comprehensive discourse which the President of the Geographical Society of Paris, M. Cunin Gridaine, delivered at their anniversary meeting on the 30th of December, last year. But, Gentlemen, although much has been done since I had last the honour to address you, much more will, I hope, be effected in the year now opening upon us; and in the same degree in which I have felt my own inability to do justice to the position in which you placed me, do I exult and rejoice for your sakes, and in the name of the noble pursuit we are engaged in, that the gentleman whom you are about to elect as my successor will bring to your service and councils a name, already decked with the most distinguished honours, which he could have received from the professors of the kindred science of geology—one whose travels in the south as in the north of Europe have fitted him peculiarly for this chair—one who, from the knowledge which he has gathered in the forests of the Tyrol, and in various other parts of our continent, and most eminently of late in the

ranges of the Ural, on the borders of the Asiatic and European continents, has essentially contributed to extend our acquaintance with the forms and construction of those countries, and has ever been sensibly alive to the interests and pursuits of this Society.

I beg you, therefore, Gentlemen, to remember, that under the presidency of Mr. Murchison, you will not be expected to remain idle spectators of what the rest of the world is doing in the cause of geography; he has a peculiar antipathy to drones, his friends are all working bees, after his own fashion, and I shall be very much disappointed, if, at the close of his biennial career of office, the Royal Geographical Society of London shall not have gathered fresh laurels from the garden of scientific discovery, shall not have effected something eminently deserving of its name, and of the royal patronage which we have received. Amongst other projects opened to our ambition has been suggested to us, by an active and most intelligent officer of the Society, a new map of the Chinese Empire; for which the events of late years must, in great part, have provided ample materials: I mean especially the frontiers of that vast empire. The interior cannot, of course, be well mapped until further opportunities shall have offered themselves for verifying and correcting the former operations of the Jesuit geographers; but there cannot be wanting the data for very great improvements along the whole of the coast, from the Tonquin Gulf to the head of the Yellow Sea; almost every part of this coast must have been more or less examined by our cruizers and steamers during the last three years, and the recent observations of Russian surveyors, astronomers, and general travellers, English and others, who have visited the eastern and northern frontiers, have greatly enlarged our knowledge of all the successive chains of those high mountainous districts which feed the several affluents of the Oxus, the Jaxartes, the Irtysch, the Obi, the Jenisei, Lena, and Amour. But we must not yet expect, whatever pains we may bestow upon it, to bring such a vast undertaking to anything approaching to a state of perfection, particularly to the N. and E. Immense tracts of country throughout this line still remain absolutely unknown, and many others, though successively explored, have never been surveyed; but we may lay the foundations of something better than has yet been attempted; and by only proceeding to state as facts what have been ascertained as such, we may hope to lead many, and to mislead none. You are, of course, aware, and I have already alluded to this subject, of the great field of inquiry which has lately been laid open to the learned world by a deeper study of the Chinese language, for which we are chiefly indebted to the laborious spirit of enterprise amongst our neighbours the French; a closer

attention to the contents of their histories has proved that the literary men of China have for a long period of years carried on the most accurate inquiries into the geographical relations and the statistical resources of their more distant provinces, particularly towards the N.W. of the empire. Their Booddhist pilgrims have also left detailed accounts of what they saw and observed when they visited those regions, and the result has been that Chinese literature has been found to contain a most valuable mass of information respecting the early and present state of those countries, far beyond what European scholars ever gave them credit for. These authorities it must be our province to make available for the purpose.

I have one more point to which I wish to draw your especial attention ; though last, it is not the least ; perhaps, indeed, it is of the greatest importance of any. It is not, however, the most agreeable—I mean the state of the finances of the Society. From the Report of the Council, read to the meeting by the Secretary, you have seen that we are at length out of debt, and that our real annual income is balanced by our annual expenditure ; but that the Council, in order to bring this about, and to enable themselves to pay within the last year the sums expended during that year, for work which should have been done in the former year, was under the painful necessity of again trenching upon the Society's stock, which is now reduced to 2570*l.* stock, the interest upon which is 94*l.* 19*s.* per annum. The heavy expenses occasioned by the publication of the Journal still press severely upon the means in our hands ; but the gratification which the individual members of the Society derive from its punctual and regular delivery, the advantage felt from the mass of useful and interesting matter the volumes continue to contain, are too great to allow of us to contemplate for an instant the suspension of that publication, or the limitation of its extent ; notwithstanding the fact, which stares us in the face, that we receive back in the shape of this Journal at least one half of the amount of our annual subscription. Those, indeed, who have compounded from the beginning for their annual payments, have already received back the full value of their compositions. Our expenses are reduced to the most moderate scale, which will admit of our keeping up the necessary establishment ; and the Council have long withheld their hands from the risk of incurring any extraordinary expenditure. The only and readiest means for increasing our funds, the most natural and easy, that in which we may all help, and in so helping both gratify ourselves and others, is that each of us in his own separate person do exert himself to procure an additional number of subscribers ; and, in proportion as the sphere of the

Society's operations is enlarged, as the mass of useful information we are enabled annually to lay before the public is increased, as our Journal improves in the interest it excites, as our own individual interests in distant countries expand with the extension of our empire, the multiplication of our colonies, the opening of new marts of commercial intercourse in the different parts of the world, in proportion as these relations daily and hourly grow upon us, so must we not only not relax in our cares for the body to which we belong, but we must join heart and hand to do our best to enlarge the sphere of its activity, and to give new vigour to its life's blood.
