

ADDRESS
TO THE
ROYAL GEOGRAPHICAL SOCIETY
OF LONDON;

Delivered at the Anniversary Meeting on the 24th May, 1847,

BY THE
RIGHT HON. LORD COLCHESTER, CAPT. R.N., &c. &c. &c.
PRESIDENT.

GENTLEMEN,—At the commencement of the Address which I had the honour to deliver last year from this chair, I alluded to the expeditions then in progress, or under consideration, for the exploration of countries still little known, and from whose success we might hope largely to augment our stock of geographical knowledge.

The medals this day presented to Captain Sturt and Dr. Leichhardt, for their discoveries in Australia, prove these hopes to have been not altogether unfounded, and the researches of Sir T. Mitchell in the country lying between the routes of these travellers, largely increase our knowledge of that great continent, and lead us to augur favourably of the success of the new enterprise in which Dr. Leichhardt is now engaged.

In Africa our expectations have been disappointed by the abandonment of the proposed journeys of Mr. Duncan and Lieutenant Ruxton; the first not having yet sufficiently recovered from the effects of his former journey to face again the dangers of that deadly climate; and the latter for reasons not communicated to this Society. We learn, however, that a French officer, M. Raffanel, already known by his explorations in Senegambia, has set out on the arduous task of exploring that continent in its greatest breadth, from W. to E., between the parallels of 10° and 15° N. lat.

The attempts of Mr. Brockman to penetrate into Hadramaut were frustrated by the unsafe state of that country, and we have reason to fear that there is no likelihood of any European traveller being able at present to succeed in such an attempt.

We still continue without accounts of Sir John Franklin and his adventurous companions, but as his ships were fully stored and provisioned for three years, and we may reckon that whatever can be obtained from the united efforts of skill, science, and daring, guided by experience, will be performed, we may still be permitted to hope that success will eventually crown their arduous efforts, and we may rely upon Government's adopting every practicable means of furnishing supplies to such points of the coast as they may be able to approach, if prevented by insuperable obstacles from completing their passage to Behring's Straits. Other explorations in those icy regions are also in contemplation, to which I shall hereafter allude.

OBITUARY.

I must now, for a moment, call your attention to those eminent persons of our own Society, or of foreign reputation, whose loss we have had to lament during the past year. First among these must be placed General Sir George Murray, whose name will be long remembered by his countrymen at large as one of the most distinguished of those great warriors who contributed to restore the blessings of peace to Europe, and as subsequently presiding over the colonies of this empire, but who is more especially to be remembered here, as giving to this Society in its infant state the advantage of that great reputation, by accepting its Presidency in 1833.

We have also been deprived of the Duke of Northumberland, the Earl of Yarborough, the Right Hon. Thos. Grenville, Lord Chief Justice Tindal, and Sir George Gipps, lately Governor of New South Wales. Of distinguished foreign geographers we have to lament the great Russian circumnavigator, Krusenstern, an honorary member of this Society, and to whose kindness we are indebted for a beautiful facsimile of the famous Pizzigani map, constructed in the year 1367, of which the original is in the ducal library at Parma, and of which a more complete notice is to be found in the Address from the chair in 1843; three other copies alone are said to exist.

We have also to regret the loss of the Baron de Minutoli, who is said to have collected at Berlin a library of 40,000 volumes, one-fourth consisting of Oriental manuscripts.

I am happy, however, here to state, that the death of Monsieur Bonpland, the companion of Humboldt in South America, which had been publicly announced, has been since contradicted.

I must also record the loss sustained by the death of the Rev. T. Brockman, who, after the failure of his attempt to penetrate into

Hadramaut, continued exploring the coast of Arabia, and was unfortunately attacked by fever at Wady-Beni-Taber in Oman. His effects and papers having been forwarded to the British authorities in India, we may hope to benefit by the information obtained by Mr. Brockman during his long sojourn in Southern Arabia.

OUR OWN LABOURS.

During the session which is about to terminate, various papers have been read, and formed the subjects of discussion at our evening meetings. Of these I will briefly mention a letter from Colonel von Helmersen to the Society, remarking upon the great similarity between the Australian mountains and those of the Ural chain (being alike in direction, height, and geognostic character), and expressing his conviction that auriferous and platiniferous sands will be found in the former, as they are known to exist in the latter range; he concludes by strongly recommending a strict examination with a view to ascertaining whether such be the case.

From Sir J. H. Pelly we learn, that the Hudson's Bay Company have fitted out a well-equipped expedition for the purpose of surveying the hitherto unexplored portion of the coast at the N.E. angle of the American continent.

The Journal of Captain Sturt, giving an account of his explorations in the interior of Australia, has also been read before the members of the Society, and will appear in an early number of our Journal.

To Colonel Jackson we are indebted for a paper on the history and description of the various systems of representing hills, and the irregularities of the ground in general, on topographical maps. This paper may properly be included under the head of physical geography.

A very important paper by Dr. Beke, on the sources and affluents of the Nile, and which will be found in the forthcoming part of our Journal, has justly claimed the attention of the Society, but as this will be very shortly in the hands of the members, it would be supererogatory to dwell at any length upon it in my present Address.

An account of a voyage up the Tigris, by Lieutenant Jones, has formed the subject of an evening's discussion.

A memoir on the great river of China, the Yang-tze-Kiang, from its mouth to the outlet of the Poyang Lake, has also been read to you. That portion which was ascended by our fleet in 1842, as high as the city of Nankin, has been accurately surveyed by Captains Bethune, Collinson, and other officers of the navy. The upper portion is

described from the journals of those who accompanied the British Embassy in 1816, which ascended this magnificent river from the mouth of the Grand Canal at Kwa-tchoo to the outlet of the Poyang Lake.

A memoir of Baron Wrangell's, "On the best mode of reaching the North Pole," proposes to effect this object by means of dogs and sledges. The Admiral founds his hypothesis on facts collected by himself during a three years' navigation in the Polar Seas, and his plan is as follows:—"The ships of the expedition are to winter near the Esquimaux village under the 77th parallel, on the W. coast of Greenland. There should be previously despatched to this point 10 narty (a particular kind of sledge), with dogs and active and courageous drivers, likewise stores and provisions. In the autumn, as soon as the water freezes, the expedition should go to Smith's Sound, and from thence further towards the N.; on arriving at the 79°, it should seek on the coasts of Greenland, or in the valleys between the mountains, a convenient place for depositing a part of the provisions.

"In February the expedition might advance towards that place, and, in the beginning of March, another station, two degrees further N., might be established. From this last point, the polar detachment of the expedition would proceed, during March, over the ice, without leaving the coasts, or keeping along the valleys, or on the ridge of the mountains, as may be found most convenient; but deviating as little as possible from the line of the meridian, and shortening the distance by crossing the straits and bays."

The expedition, to reach the Pole and to return, must traverse, in a direct line, nearly 1200 miles, and, including all deviations, perhaps not above 1530 miles, which Admiral Wrangell considers would be very practicable with well-constructed sledges, good dogs, and proper conductors. While on the subject of Arctic exploration, we may briefly notice that Captain Sir John Ross, of the Royal Navy, so well known for his attempts to discover a North-West Passage, has written to the President of the Royal Astronomical Society, informing that learned body of his proposal to the Admiralty to proceed to Spitzbergen, for the purpose of measuring an arc of the meridian, and of endeavouring to reach the North Pole on sledges drawn by Swedish horses. Sir John conceives that former attempts have failed because a wrong season was chosen; he considers the months of April and May to be those best suited for the purpose. He proposes wintering at Spitzbergen, so as to start from thence at the proper season.

Papers on the N.W. coast of Borneo, by Mr. W. S. Harvey; on the

volcano of Saddle Island, by Lieut. Barker ; on Dr. Morse's system of cerography ; and one furnishing the details of a route in a part of the Sahara from Ghat to Twat, have been under consideration.

The Society has also had brought before it a paper by Governor Ingram, on the Gambia river and Settlement ; from this we learn that treaties have been concluded with many of the small states on the banks of the Gambia for the extension of our commerce and the total extirpation of the slave trade. Governor Ingram gives us some very pleasing and satisfactory statements concerning the condition of the liberated slaves, colonized on the banks of the river.

And, in conclusion, you have lately heard a very detailed paper on the Physical Geography of Lower Canada, by Mr. Wittich, describing the climate, the general features, and the productions of the three portions into which, for the purposes of his subject, he divides the country.

MARITIME SURVEYS.

Home.—The surveys of the coasts of the British dominions, under the direction of the Admiralty, which were fully detailed in the Address of last year, continue to be prosecuted, with their accustomed zeal and ability, by the officers employed on them, but they present no new features requiring special notice.

Foreign.—Captain Sullivan has returned from his labours on the river Plate, and has made a most interesting sketch-chart of the Parana as high as Corrientes. Captain Denham has also returned, having finished the survey of the coast from Cape St. Paul to the river Nun.

AUSTRALIA.

Australia.—By recent accounts from Australia we learn that Dr. Leichhardt proposed to start, in October last, on a new journey of exploration into the interior. Captain Sturt's expedition having shown that the interior, in the long. of the head of the Great Southern Gulf, is a desert, at least to lat. 24°, it would be useless to attempt to cross the continent in that or in a higher latitude : Dr. Leichhardt has arranged the following plan ; namely,—to proceed at once to lat. 23°, where in his last journey he found the Mackenzie and Peak range ; and, as the Mackenzie was well supplied with water, to follow it up to its sources, which he calculates on finding about 80 or 100 miles to the westward of the spot where he before first came to that river. He considers he shall then be able to ascertain whether the western

branches of the supposed watershed go down to the southward to join the system of the Darling, or whether they turn to the northward and form the sources of the largest rivers of the head of the Gulf of Carpentaria. Should the latter be the case, and should the country be sufficiently well watered, he would proceed to the westward, keeping the same latitude, and endeavour to reach the waters of the N.W. coast. But should want of water not permit him to continue his journey to the westward, or even to the northward, he will then retrace his steps down the Mackenzie, and follow the track of his last journey up to the Burdekin, where it is joined by the Cape in lat. $19^{\circ} 12'$.

In following the latter river, Dr. Leichhardt entertains no doubt of finding the heads of the Flinders, after crossing either a table-land or a dividing range. He then purposes continuing his journey to the Albert, following up its course to ascertain the latitude of its sources and the nature of the country. The whole of the journey, he hopes to perform in two years.

Accounts have very recently been received of an important journey performed by Sir T. Mitchell, with the object of reaching the Gulf of Carpentaria from the Darling, of which I must endeavour to give a sketch, although we have not yet received the details, except through the public prints.

Sir T. Mitchell started from the junction of the river Macquarrie with the Darling, in lat. $30^{\circ} 6' S.$ and long. $147^{\circ} 33'$; proceeding to the N., he crossed the Narran Swamp, and thence ascended the river Balonne, to a hill range in lat. $26^{\circ} 33'$ and long. $149^{\circ} 2'$. This he named "Fitzroy Downs." Beyond this range a river was discovered flowing to the S.W., fully as large as the Darling; it was called by the natives Maranoa; and was afterwards found, as well as the Balonne, to join the Darling. From hence Sir T. Mitchell traced the Maranoa upwards to a chain of mountains with volcanic summits; passing between these and a higher range towards the coast, he at length reached another chain of mountains extending westward, about the 25th parallel of latitude. A difficult sandstone country succeeded; on emerging from its ravines, a river, the Belyando, was struck, flowing, when first seen, to the N.W. The expedition encamped on it, in lat. $24^{\circ} 0'$, and long. $147^{\circ} 17'$. After following its course as far N. as $21^{\circ} 30'$, it turned to the N.E., and was recognised as the river "Cape" of Leichhardt.

Hence the party retraced their steps to the camp in lat. $24^{\circ} 30'$. The syphon-barometer gave the mean height above the sea of the range crossed in lat. 25° as exceeding 2000 feet.

Starting afresh from this camp, Sir T. Mitchell reached a gap in the westerly range, in lat. $24^{\circ} 50'$, and long. $146^{\circ} 42'$. On ascending the range he saw open downs and plains, with a line of river in the midst, extending to the N.N.W., as far as the horizon. He pursued the course of this river during ten successive days, the furthest point which he reached being in lat. $24^{\circ} 14'$, and long. $144^{\circ} 34'$. Here from a rising ground he could trace its downward course far to the northward. A range, showing sandstone cliffs, appeared to the southward, in about lat. $24^{\circ} 30'$, and long. $145^{\circ} 0'$. Sir T. Mitchell describes the whole of this country as the best watered portion of Australia that he had seen. New birds and new plants mark this out as a region different from any previously explored.* He feels convinced that the estuary of this river is in the Gulf of Carpentaria; and, at all events, that the country is open and well watered for a route thereto.

From this point Sir Thomas was obliged to return; and his account of his journey was forwarded from the depôt on the Darling, from which he originally started.

This journey is not only exceedingly interesting in itself, but, considered in connexion with those of Sturt and Leichhardt, completes our knowledge of the general physical features of the S.E. portion of Australia, which may now be considered as one great basin, watered by the Darling and the Murray, and their numerous tributaries, all rising in the eastern or coast range; while the western side is a desolate country, of lower elevation, deprived, so far as we know, of any running streams. We are happy to learn that that able geographer Mr. John Arrowsmith is preparing a new map of this country on a large scale.

EUROPE.

France.—M. Vivien de St. Martin has published the fifth series of his ‘*Nouvelles Annales des Voyages*,’ and the same indefatigable author has also given to the world his ‘*Recherches sur les Populations du Caucase*.’

M. J. J. Nicolas Huot has rendered an important service to our science by a translation into French of Pomponius Mela’s work, ‘*De Situ Orbis*.’ The translation is enriched with numerous notes, while many obscure passages in the text have been elucidated.

We are happy to see, by the ‘*Bulletin de la Société de Géographie de Paris*,’ that attention is being awakened to the important subject of

* The natives were few and inoffensive.

geographical orthography. The advantage of uniformity in the spelling of the names of places must be evident to all, and this advantage is still further enhanced by attention to proper orthography. Of all the various ways in which a name may be written, there can be but one that is correct, and the discovery and adoption of this one is certainly an object to which, as geographers, we cannot be indifferent.

The Abbé Roudon has addressed a memoir to the Academy of Sciences of Paris on the determination of a fixed first meridian, but we have not learnt the result.

Spain.—From our corresponding member Don Jose d'Urcullu we learn, that the principal master of the Museum of Engineers at Madrid has published models of Teneriffe and Villa Franca di Nisa, made by himself.

The Geographical Dictionary of Maloz, mentioned in my Address of last year, is proceeding steadily: four volumes are already published, and the fifth is in the press. The work is to consist of 18 volumes.

The great map of Majorca, in 4 sheets, illustrated with views of Palma and some other towns, was to be published on the 30th of April.

Italy.—A large map of Italy, on a scale of $\frac{1}{2800000}$, is in the course of execution, under the direction of the Imperial Military Institute of Vienna. In this map Rome constitutes the meridian.

A map of Italy, in 28 sheets, on a scale of $\frac{1}{3500000}$, has just been completed by the Messrs. Civalli, of Milan, who have dedicated the work to the Chevalier Adrien de Balbi.

Captain Arregoni has also published at Milan, remarkable alike for its correctness and the beauty of its execution, a map entitled 'Carta Postale dell' Italia dietro i migliori materiali.' At Parma, a general map of Italy, in 6 sheets, by Captain Azzi, has been published; and one of Pisanía, by the engraver Piazzini.

Milan.—At Milan have appeared some works mediately and immediately connected with geographical inquiry; of these we would more particularly refer to the 'Dizionario Corografie Universale dell' Italia,' a work the production of some Italian *savans*, and of which several parts have already appeared—of Lombardy and the Duchy of Parma; and also the 'Miscellanea Italiana,' a collection of original memoirs on geography and statistics, from the pen of M. Adrien de Balbi, and revised by the son of the author, M. Eugène de Balbi. We may also notice the 'Topografia Storica di Milano,' and a work entitled 'Notizie Naturali e Civili pello Lombardia.'

Zara.—An important publication by Mr. Carrara, under the title 'La Dalmazia Descritta,' has been published in Italian, in which we

find a clear and lucid exposition of the physical and political geography of Zara.

Turin.—The Superior Commission for Statistics has published a volume on Sardinia, and also one on the subject of criminal statistics. The Geographical, Statistical, and Commercial Dictionary, of Mr. Cassolis and his coadjutor Mr. Anguis, is continued, and its publication appears from time to time; as do also the Topographical and Statistical Works of Captain de Bartolommeij and Mr. Dho.

Sardinia.—Major-General Ferraro di Marmora has published a map of Sardinia, on the scale of $\frac{1}{250,000}$.

Florence.—At Florence geographical inquiries and studies are prosecuted with much earnestness. The publication of the work 'Corografo dell' Italia,' forming 18 volumes 8vo., with an Atlas of 144 maps and 260 illustrations, is just completed. Repetti's 'Dizionario Geografico Fisico Storico della Toscana,' with a Supplement, forming the sixteenth volume of this remarkable work, has recently been brought to a close.

Mr. Salvaguoli Marshatti, Medical Inspector of Grossetto, has published a 'Memorie Economico Statistiche sulle Marzemme Toscane,' a work abounding in statistical details of an important character, relating to that portion of Italy heretofore but little known. The publication of the volume entitled 'Geografia Politica dell' Italia,' by Mr. Biouelis, is being continued; as is the work by Mr. Marmoulie, the 'Podromo della Storia Naturale generale e comparata d' Italia.'

Naples.—General Visconti informs us that, during the past year (1846), the field operations of the Engineers of the Topographical Office were greatly obstructed by the great dryness of the season, which kept the mountains of Calabria, as seen from the island of Stromboli, hidden in continual clouds, so that the triangulation of the first order along the meridian from Termoli to Cape Passaro could not be carried on, and they were only able to determine some secondary points in Calabria.

In the present year, requiring some geodetic points for the Map of the Kingdom, on the scale of $\frac{1}{250,000}$, towards the frontier, it has been found necessary to employ the whole of the operators in determining points of the second and third order toward that frontier; deferring the operations on the arc of the meridian till they can be resumed with a greater force of persons and instruments. The triangulations of the second and third order advanced during 1846 considerably towards the northern frontier, and to the N. of Lake Fucino. The delineation of Lake Fucino is completed, as well as that of the country that summits

it, as far as the parallel which passes about a mile to the S. of Monte Velino. The topography of the country surrounding Naples has been revised, in order to add all the details of the ground which had not been inserted when the plan was originally drawn—that is, before 1820.

With regard to the internal labours of the office, much progress has been made in engraving the great Map of the Kingdom on the scale of $\frac{1}{600000}$: the statistical and road map of the kingdom, on the scale of $\frac{1}{340000}$, commenced two years since, is also much advanced. Some plans of the collection of Ports of the Mediterranean for the use of the Royal Navy, are also engraved.

Orography.—The frequent eruptions of Mount Vesuvius must necessarily produce variations in the height of the borders of its crater, and, accordingly, M. Elie de Beaumont, in a letter to our countryman Mr. Pentland, has expressed the desire that the height of Punta del Palo be very exactly measured every year, or at least once in ten years. On this subject M. Cangiano has written to M. Elie de Beaumont, stating the mode by which this admeasurement may be best effected. It would appear that the Punta, measured by M. Amanti on the 27th February, 1846, was 1203 metres above the sea; and that the burning cone was then 9·5 metres lower than it; but that, measured again on the 31st March, the latter had risen 2·7 metres.

Naples.—Of the various publications which have recently appeared at Naples, we may allude to that by Mr. Salvatore di Renzi, under the name of ‘*La Topografia e Statistica Medica della Citta di Napoli*,’ not confined to statistical details of that city only, but embracing also many scientific and learned considerations relative to the whole kingdom of the Two Sicilies.

Austria.—At Vienna is being prepared, by the Imperial Military Geographical Institution, a general Map of Tuscany and of the Papal States, on a scale of $\frac{1}{360000}$; being a continuation of those heretofore published of Venetian Lombardy, and the Duchies of Parma and Modena.

Under the same authority has been recently published, the result of the trigonometrical operations executed by Marieni in the years 1841, 1842, and 1843, in which will be found many important new altitudes, which were previously wanting in the orography of Italy.

Russia.—Sir Roderick I. Murchison has received a communication from Admiral Lütke, of an intended Russian expedition of discovery along the Uralian chain, being the first enterprise of the Imperial Geographical Society of St. Petersburg, a Society founded on the

model of the Royal Geographical Society of London. Colonel Hoffmann (the companion of Colonel Helmerson in his Siberian tours) is the chief of the expedition, and is already on his way to Perm, accompanied by M. Kowalsky as astronomer. At Perm he will be joined by M. Strajefsky, the previous explorer of that part of the chain N. of Bogoslofsk, who will act as second in command. Branth, the faithful companion of Middendorff, is the naturalist of the expedition.

This summer will be passed in reaching the 65° N. lat., the parallel previously attained on the Asiatic side by the labours of Strajefsky ; and, in the ensuing year, it is hoped that the glacial sea will be reached.

Finland.—M. Leozon de Luc, who has published a work on Finland, proposes going again to that country, and asks instructions of the Academy of Sciences of Paris.

AFRICA.

M. Rochet d'Hericourt, whose first travels in Abyssinia, in 1839 and 1840, you are already acquainted with, has just published the account of his second visit to the same country ; he had already, as I stated in my last Anniversary Address, furnished the Geographical Society of Paris with some of the results of his second voyage. The whole of his late labours have now been submitted to the examination of a Committee of the French Academy of Sciences.

M. Rochet had embarked from Marseilles in January, 1842, and returned at the end of 1845. The report of the Academy is very favourable to M. Rochet's exertions.

He has taken the respective bearings of leading positions from the points already determined, and made a considerable number of meteorological observations, not only at Angobar and Angolala, but also at Kosseir and at Moka. The magnetic declination was also observed by him at Malta, at Alexandria, at Cairo, at Denderah, at Kosseir, at Djidda, at Mokha, at Ambabo, at Ganbadi, at Angolala, and at Ankobar.

The geology of the country through which he passed has not been neglected by the traveller, who has likewise collected many plants, some of which are new.

The tides of the Red Sea were observed by M. Rochet, whenever he had an opportunity, and it appears from his observations that the mean diurnal variation at Moka, on the N. of the Strait of Babel Mandeb is 0·6 metre ; but that it is much greater at Ambabo, to the S. of the strait. M. Rochet's narrative contains, moreover, some interesting

details on the character, manners, and religion of the people of those parts of Abyssinia visited by him ; and, on the whole, whether as confirmatory of the statements of other travellers who have lately explored that part of Africa, or as supplying fresh matter, is a most welcome addition to our knowledge of Abyssinia.

We sincerely regret to learn that no accounts have been received of *M. D'Abbadie* since early in 1845 ; nevertheless, his friends are sanguine of his return, attributing the absence of all communications rather to the difficulty of forwarding them than to any personal disaster. We trust that these opinions may be realized in his safe return.

On the dark side of the picture of geographical research, we lament to place the assassination of *M. Maizan*, an officer of the French navy, who has fallen a sacrifice to native jealousy or native cupidity. This young and zealous officer purposed proceeding direct into the interior of the country bordering the Zanzibar ; he had made considerable progress, when the too murderous blows of the assassin terminated at once his discoveries and his life. Of *M. Kraff* also we regret to learn that very serious fears are entertained lest he have shared a similar fate.

M. Raffanel, whose exploration of the River Faluné, and of the gold-mines of Keniébe, in Senegambia, in the years 1843-44, was mentioned in my predecessor's anniversary address for 1845, has undertaken the very difficult and hazardous task of exploring the African continent in its greatest breadth, from W. to E., between the parallels of 10° and 15° N. ; and the French Academy of Sciences, ever ready to further the views of adventurous travellers for the benefit of science, have furnished *M. Raffanel* with all the necessary instructions for his researches. The general questions supplied to him have been drawn up by *M. Freycinet*, and special questions by the indefatigable *M. Jomard*, besides particular instructions on various subjects by other *savans*. Thus the means have been afforded him of acquiring valuable information on the historical traditions of the people and their government, their manners, customs, laws and religion, and their industry : on the soil, the geological formation, the productions of the country and its climate. The study of the winds has been particularly recommended to him, and the desirableness of ascertaining, if possible, whether the W. wind which blows from the Atlantic a little to the N. of the Equator be due to the rarification of the air over the African continent pointed out : as also whether it be true, as affirmed, that in the latitudes he is about to traverse the wind from the S. be hot, in which case it is probable that no high mountains lie in that direction ;

or that if they do, they are further removed than the position of 10° , in which a chain is laid down on the maps. The traveller's attention has also been called to the importance of meteorological observations generally, and to the advantage that would accrue from hourly readings of the thermometer and barometer, at different stations on his route, and the method pointed out by Boussinghault for ascertaining the mean annual temperature of any place particularly recommended to him, as well as the observation of maxima and minima temperatures. Observations for lat. and long. have been properly stated as most desirable, there being on the line of his journey but three points ascertained, viz., Sakkatou, Aussa, and Kobe, in Darfour: the magnetic variations will also be observed. With the detailed instructions thus supplied to him by the Academy of Sciences, and in possession of various inedited memoirs and itineraries of parts of the country he is about to explore, furnished with the more essential instruments, and gifted with the necessary moral qualifications, and already acclimated, and experienced in dealing with the natives; there is every reason to hope that M. Raffene's exploration will produce important results to geography and to science in general: he assuredly has our best wishes for his safety and success.

It is also reported that four Italians (missionaries) are about to explore simultaneously, but by different routes, the central parts of continental Africa, throughout the large space comprised between the Sahara and the Congo, the Senegal and Abyssinia. This combined exploration is said to have been a favourite project with Gregory XVI., and the present pope appears to enter on the plan of his predecessor with much goodwill.

Madagascar.—The projected voyage of M. Leguillon to Madagascar, we understand, is not to take place; and the instructions which had been drawn up for the traveller have been sent to the governor of the Isle of Bourbon, to be given by him to such surgeons of the French navy as may have an opportunity of exploring in Madagascar.

AMERICA.

United States.—The report of the Secretary of the Treasury affords us information of the progress made during the last year in the surveys of the line of coast. His report embraces the operations of the different surveying parties in the field, and the office work, including computations, drawing, engraving, and publishing of maps and charts. The plan on which the work has proceeded during the past two years,

contemplates the survey, at one and the same time, of different sections of the coast, and the publication of the resulting maps. Thus in 1844-45, the triangulation was begun in North Carolina, and a reconnoissance made on the Gulf of Mexico, from Mobile Bay westward and eastward. At the same time the work was vigorously prosecuted in the eastern section, and in the Chesapeake section, and unfinished parts were completed on the coast between Point Judith and the Capes of the Delaware.

In 1845-6 the operations on the Chesapeake have been resumed, the number of parties in North Carolina increased, and the triangulation on the Gulf of Mexico commenced. The reconnoissance of the coast of South Carolina, Georgia, and the coast of Texas, has been ordered. The discovery of the New South Shoal off Nantucket is important, lying six miles S. of any known danger, in the usual track of vessels between New York and Europe, out of sight of land, unmarked and unknown except to the lost.

From these surveys, it appears that the line of coast has been much under estimated hitherto. It is now proposed to divide the whole extent of shore-line into nine sections, by which arrangement the survey may be completed within a limited period; in 1847-48 six of these sections will be in full activity. During the past year fourteen surveying parties have been employed in fourteen States, but the existing hostilities between the United States and Mexico have been productive of delay and interruption, from the withdrawal of all the officers of the line for military service.

The magnetic telegraph has been used to ascertain the differences of longitude between the Washington and Philadelphia observatories, as an introduction to operations on a large scale.

Charts of New Bedford and Annapolis Harbours have been published; also the chart of Fisher's Island Sound, and the middle sheet of Delaware Bay and River; the chart of Little Egg Harbour, and a sketch of the newly discovered South Shoal off Nantucket. A chart of New Haven Harbour is stated to be ready for printing. The charts of New London and Syopet Harbours are nearly engraved.

The labours of the hydrographic party have been rewarded by the discovery of a shoal to the southward of that known as the Nantucket South Shoal; and of a shoal spot in the Vineyard Sound, where it was supposed there was deep water. These discoveries are important services to the intercourse between Europe and the United States, the dangers brought to our knowledge lying, as it were, in the very highway of each.

West Indies.—The West Indian Archipelago, and the Island of Guadaloupe in particular, has been minutely examined by a French traveller, M. Charles Deville, who was witness, at the latter island, of the earthquake of the 8th of February, 1843, the most disastrous with which it has ever been afflicted. He has correctly surveyed the southern and most difficult portion of the island, and has corrected the configuration and relative position of some of the other islands. He has determined the heights of 150 points in Guadaloupe, and found, from a mean of many observations, that the highest peak is 1484 metres above the sea. It may be here stated, that M. Deville, having made an excursion to Teneriffe, to the Cape Verde Islands and Barbadoes, observed in the first of these islands the height of its peak, to which he gives 3706 metres—the mean of six other observers being 3702. At Trinidad, Porto Rico, St. Thomas, and Guadaloupe, very numerous and very exact meteorological observations were made, the results of which, said to be of the greatest interest, will no doubt be published. In the West India Islands, the temperature of their rivers, lakes, and springs has been carefully observed, as also the temperature of the sea around them and of the ocean, in his trip to and from Teneriffe. The high temperature of the ocean, observed by M. Deville, between Guadaloupe and Bermuda, is a new fact in science. M. Deville has also confirmed the fact of the difference, all reductions made, in the indications of the barometer at the level of the sea at different places, and corroborated the curious results arrived at by Erman on this subject. Terrestrial magnetism and geology have also, particularly the latter, been carefully observed by M. Deville, whose work will no doubt be one of very great interest.

Central America.—Mr. M. Hurtado has taken his departure for the Isthmus of Panama, where he intends making observations on Physical Geography, being supplied for that purpose with instructions from the Paris Academy of Sciences.

North America.—M. Morelet is travelling in Mexico and the neighbouring countries, as a naturalist and antiquarian; and, as he has been supplied with both general and special instructions, it is hoped he will glean much interesting and valuable information.

South America.—M. Castelneau, we learn, has sent home from Lima, and still more recently from Cuzco, some information respecting the countries he has visited, and procured a complete list of all the earthquakes which have been felt in that city from 1820 to 1846.

M. Castelneau has also addressed to the French Minister of Public Instruction a report of his expedition from Cuyaba to the frontier of

Paraguay. His route lay through a country almost unknown to Europeans. Leaving Paraguay, he entered the great Lake Gaïva, a bay said, by the natives, to communicate with the Uberava. This river M. Castelnau proposes to name Rio Pedro II. in honour of the emperor. The best maps, the writer states, mark not fewer than four or five imaginary rivers.

M. Castelnau proposed returning from Cuzco by the route of the rivers Apurimac and Ucayale to the Amazons, which he would descend to Para, and thence proceed to Cayenne.

The exploratory expedition of the Amazons, which was to have been executed under the direction of M. Tardy de Montravel, has been postponed, as appears from a communication made by the Minister of Marine to the Academy of Sciences, in the beginning of last January.

Other French travellers are preparing to explore different portions of the continent of South America. M. Hellert proceeds to the isthmus of Darien; M. Morelet is about to examine the natural history of Guatemala; M. d'Anet will explore the interior of Brazil; and M. de Marcey has lately quitted the region of Paraguay to descend into the Pampas and the solitudes of the Rio Negro.

FOREIGN CORRESPONDENTS.

ASIA.

We have been favoured by M. Biot with a communication, from which we regret to learn that his valuable labours, as regards the publication of the second portion of his *Essay*, have been for a time suspended, in consequence of domestic bereavement. Of the former part of this *Essay*, you will find some particulars in my *Address* of last year.

China.—Mr. Stanislaus Julien has produced a most valuable translation of the Chinese description of the province of Ili, which, though probably somewhat dry, and but little attractive to the general reader, yet contains important scientific facts, and is the more valuable as enabling us to add to or correct the maps of Central Asia, published some time since by M. Klaproth. It is, we are happy to hear, the intention of Mr. Stanislaus Julien to continue his labours, and to translate many other descriptions of provinces connected with the, so-called, Celestial Empire. He purposes also to make us acquainted with the account of certain expeditions undertaken by the Chinese in Central Asia, thus rendering to geographical science and discovery

very valuable service, by making us more intimately acquainted with the interior of a vast country hitherto nearly closed from our inspection.

M. Schrenck, a Russian voyager, has made some very interesting excursions towards the frontiers of Central Asia, visiting the countries in the vicinity of the lakes Balkach and Alactougoul. The particulars of these excursions have been published at Petersburg, by M. Baer.

Hong Kong.—A map of this island, on the contour principle, giving the heights at every 100 feet, has been completed by the officers of the Royal Engineers.

Historical Geography.—For a long time past, two of our most valued foreign members, each with an ardent desire for truth, but each very naturally anxious to find in favour of his own country,—the Viscount de Santarem and M. Détvezal, have been at issue on the subject of priority of discovery between the Portuguese and French navigators to the south of Cape Bojador. The honourable zeal and the extensive researches of the disputants command our admiration; and without venturing to pronounce in favour of either, we cheerfully acknowledge our obligations to both for the mass of curious facts which they have severally collected in support of their views, and which is all so much valuable addition to historical geography.

Subjects cognate to Geography.—M. Grange, it appears from the ‘*Comptes Rendus*,’ has printed, though not published, a memoir, entitled ‘*Recherches sur les Glaciers, les Glaces flottantes, les Dépôts Erratiques, sur l’Influence des Climats, sur la Distribution Géographique et la Limite inférieure des Neiges perpétuelles, et études du phénomène erratique du Nord de l’Europe.*’ The matters thus treated of by M. Grange are not only highly interesting in themselves, but constitute some of the most important problems of physical geography.

To the same department of our science belongs also a memoir of M. Alexis Perry on earthquakes; by which it appears, that in 1845 there were no less than fifty felt in Europe, distributed equally over the seasons, though it was previously believed that the autumn and the winter were the seasons most subject to them.

The ‘*Comptes Rendus*,’ 25th May, 1846, contains a memoir by M. Dureau de la Malle, tending to establish, in opposition to the work of Dr. Fuster, that the climate of France has not changed in modern times. M. Dureau de la Malle intends to follow up the subject by a memoir on the Ancient and Modern Climatology of Italy. In the number of the 15th of June, however, will be found Dr. Fuster’s answer to M. Dureau de la Malle,—and in the number for 29th June,

p. 1080, M. Dureau de la Malle's rejoinder ;—last reply of Dr. Fuster, 10th August, p. 299.

The geographical distribution of plants, a branch of our science raised into its well merited importance by the labours of Humboldt, Wahlenberg, R. Brown, Schow, de Mirbel, de Candolle, de St. Hilaire, Martius, &c., who have laid down its laws, is entitled to the best attention of those who have a just appreciation of the vast range of intimately connected subjects implied by the general term Geography ;—it is accordingly my duty in the present address, to point out where any additional information on the geography of plants may be found. I will therefore state, that in the 'Comptes Rendus' of the Academy of Sciences of Paris, of the 29th June, 1846, you will see the very interesting report on a valuable memoir by M. Ch. Martius, entitled an 'Essay on the Climate and Vegetation of the Northern Estuary of Norway.'

MISCELLANEA.

An historical sketch by Mr. Francis Dutton, a resident in South Australia, and having a considerable stake in the well doing and prosperity of that important colony. This work gives an account of the discovery of the vast mineral treasures of South Australia, which, though declared to exist, by Menge, a German, were accidentally discovered by the youngest son of Captain Bagot, whilst gathering flowers, and subsequently by the author.

The topography of the harbours of Athens, by the late Professor Ulrichs, a small, but interesting treatise, has been translated from the modern Greek by Mr. E. Pye Colquhoun.

A dissertation on the knowledge of the Passes of the Alps possessed by the Roman historians, under the title of 'Some Remarks on the Alpine Passes of Strabo,' has been printed by a member of our Society, W. J. Law, Esq.

A second volume of Humboldt's 'Kosmos' has appeared since my last address, but not having yet appeared in an authorized English form, I am obliged to content myself with the bare announcement.

Our learned honorary member, the Chevalier Balbi, has published his "Essay upon the Population of Portugal from the Time of the Romans to the present date." After stating the great diversity in the accounts of former writers, caused by the deficiency of accurate data, he proceeds to show that the population, which by the census of the Emperor Augustus amounted to 2,841,000, had decreased in 1580 to 1,000,000, after which it increased regularly up to the year 1807, when it reached

3,199,000. The war with France, and the emigration of the royal family to Brazil, caused a diminution, so that, according to Colonel Franzini, it was reduced on the 1st of January, 1815, to 2,959,000, since which date it has gradually recovered, till in 1841 it amounted to 3,460,000.

Atlases.—I have in my last year's address called your attention to the very beautiful and improved edition of Berghaus' Physical Atlas of Mr. Alexander K. Johnston, of Edinburgh, which is now drawing to a conclusion, and which, but for the extraordinary demand made by the proprietors of railways on draughtsmen and engravers generally, would have been completed by this time. Of the ten numbers promised, have already appeared; and the work will, in all probability, be finished by the end of the year. The execution of these maps is beyond all praise; and while the atlas reflects honour on the skill and ability of the enterprising publisher, it is admirably calculated for calling attention to that most interesting and important object, physical geography, to the study of which I must again invite all who would derive from our science all the delight and the practical benefits it is competent to yield.

Within the last few weeks Mr. Betts has published an atlas containing some new features, and rendered extremely valuable by a most copious index, comprising nearly 60,000 names of places. In addition to the longitudes and latitudes usually given, there is an arrangement of letters round the margin of the maps, by referring to which the situation of any required place can easily be learnt. We must, however, observe that this arrangement of marginal letters is not now introduced for the first time, as Captain Mangles, R.N., a member of this Society, had some years since brought forward a similar mode of easy reference. Several entirely new maps of India, Canada, Polynesia, &c. are introduced.

An atlas has just been announced by Mr. John Sharpe, which we notice in consequence of a peculiarity that is undoubtedly a step in the right direction. While in every atlas with which we are acquainted there are as many scales as maps,—in the present atlas, consisting of between 50 and 60 maps, the number of different scales is reduced to four, which are denominated Continental, Intermediate, Divisional, and Enlarged. The Continental, which is the smallest of the four scales, comprises 45 by 60 equatorial degrees; the Intermediate are twice this size, or $22\frac{1}{2}$ by 30 degrees; the Divisional, five times the Continental, or 9 by 12 degrees; and the Enlarged, fifteen times the Continental, or 3 by 4 degrees. By this arrangement both

the linear dimensions and the superficial extent of countries may be compared with facility and dispatch. A greater uniformity of scales than generally prevails among our map-makers is very desirable on many accounts; one of the most obvious disadvantages of a great variety of scales is the great time that is lost in seeking for a place whose approximate distance from some capital or principal town is known, but the eye being unaccustomed to the scale, much time is lost in seeking for it. It is, however, but fair to notice that it is not so much the map-makers as the publishers who employ them that are to blame. The representations of the map-maker are frequently unheeded, because the maps must be made to a given size, and thus the advantage of the science is sacrificed to the convenience of the publisher.

Conclusion.—Permit me, in conclusion, to advert for a moment to the present state and future prospects of the Society. The Report of the Council has so fully detailed the financial reforms which it has adopted since the last anniversary, and which you have now confirmed, that I will only add my own conviction that, if fully carried out, the Society will be entirely relieved from the fear of any deficiency in the means of meeting its ordinary expenses, without any decrease in the efficiency of its operations, except a reduction in the size of the Journal, which we may hope will only be temporary, and that increasing funds will soon enable the Council to restore it to its former bulk. It would doubtless be very desirable to possess more commodious apartments for holding our continually increasing collection of books and maps, but I fear we must not at present look for any assistance towards this object beyond our own Society; and the researches of the Council during the past winter have shown that any removal to more desirable apartments can only be effected at an increased annual expense. We must trust, therefore, to our own exertions; and now that past differences of opinion have subsided, let us hope that our prospects will continue to brighten, and that under the guidance of the able and distinguished geographer whom you have this day elected to fill the chair of the President, the Geographical Society will again increase the number of its members, and extend the sphere of its public utility.
