

of Tippo-Tip, is far more important than Nyan-gwe, being the place where caravans to Lake Tanganyika are fitted out. Tippo-Tip, whom Lenz had left at Stanley Falls, arrived at Kasonge about the time of Lenz's arrival, and as he was going to Zanzibar, Lenz feared that he would not be able to get a sufficient number of men for his caravan. Later telegraphic news informs us that Lenz was compelled to abandon his intention of reaching Dr. Junker and Emin Pacha (Dr. Schnitzler), and a short time ago the cable informed us of his arrival at Zanzibar. He has crossed the continent from the mouth of the Kongo to Zanzibar in less than eighteen months.

Lenz's remarks on the Arabian trade with Urua are of interest when compared with the views Captain Cameron expressed at the London institution, on Jan. 11, 1887. While Lenz emphasizes the difficulty the Kongo Free State and other European powers will encounter by Tippo-Tip's powerful influence in Kasonge and Urua, Cameron thinks that, by following the Lomami, the London missionary society's agents and the officers of the Kongo Free State would soon reach this country, and he expresses great hopes of their being able to do away with the horrors of the slave trade which prevails there owing to the Portuguese and Arabs.

Lieutenant Webster, late commander of the station of Stanley Falls, proposes to explore the district between Adamaua and Kameroun. This is the region which Robert Flegel tried to enter from the upper Benué. Here the unknown area almost extends to the coast, and the obstacles arising from the hostility of the native tribes have hitherto prevented all explorers from entering the continent.

The Italian traveller, A. Franzoj, has determined to abandon his intention of crossing the Somal country, on account of the unsettled state of affairs in that district. He will go to Zanzibar, and proposes to follow Thomson and Fischer's route through the Massai district.

Dr. K. Jühlke, of the German East-African company, was murdered in Kismayu in the beginning of December. After having purchased Usagara and the neighboring countries in 1884, he added to the possessions of the company, in June and July, 1885, the district as far north as the Kilimanjaro, and, on his last expedition, that from Vitu to the mouth of the Yuba.

Captain Rouvier, member of the joint commission of France and the Kongo Free State for determining the boundary line of the possessions of both states up to longitude 17° E., has made a survey of his routes, which, it is hoped, will be a great advance in our knowledge of the geography of the Kongo River. His observations show that

Stanley Pool is far smaller than it was supposed to be, and that the positions of many places and rivers require changing.

Henry M. Stanley left Suez on Feb. 6, on the steamer Navarino, for Zanzibar direct.

The German East-African company has been converted into a corporation by a committee of the founders, merchants, and financiers. The board of directors will hereafter consist of twenty-seven members, three of whom are to be nominated by Prince Bismarck. The capital is to be raised to 5,000,000 marks by a further issue of shares.

America.

Dr. P. Ehrenreich and K. von Steinen sailed from Hamburg last week for Brazil. They intend to explore the southern tributaries of the Amazon.

Oceans.

At a meeting of the Paris Academy of sciences on Jan. 10, a report was given of experiments made by the Prince of Monaco to determine the direction of the North Atlantic currents. Of 169 floats thrown overboard 300 miles north-west of the Azores, in 1885, 14 have been recovered, showing a general south-easterly direction and a mean velocity of 3.83 miles per 24 hours. Of the 510 floats thrown overboard in 1886, much nearer the French coast, 9 have been recovered, showing nearly the same direction, with velocities of from 5.80 to 6.45 miles.—*Nature*, Jan. 20.

NOTES AND NEWS.

THE plans of the Johns Hopkins university have always had reference to the establishment of a faculty of medicine whenever the Johns Hopkins hospital should be completed. The buildings are nearly ready to be occupied, and arrangements will be perfected for instruction in surgery and medicine. Meanwhile, courses preliminary to the study of medicine, especially in physics, chemistry, and biology, with the modern languages, are provided in the philosophical faculty. The nucleus of the medical faculty, as now constituted, includes the president of the university, a professor of pathology, a professor of physiology, a professor of chemistry, a lecturer upon hygiene, and an associate in pathology.

— During the past year the Institute of social science of New York has held twenty meetings, at which were presented and discussed the following papers: 'The logical method of studying sociology,' Mr. Parke Godwin; 'An introduction to social science,' T. B. Wakeman, Esq.; 'Principles that should control the interference of the state in

industries,' Dr. H. C. Adams; 'The fiscal problem of all nations,' Prof. J. C. Zachos; 'Neglected factors in social reform,' Rev. Dr. A. H. Bradford; 'English socialism, especially co-operation, and the Christian socialistic movement,' Dr. E. R. A. Seligman; 'Heredity and opportunity,' Dr. Lester F. Ward; 'Criticism of Seligman's paper,' Mr. Edward King; 'The land question as presented by Mr. Henry George,' Professor Molina; Discussion of Dr. Adams's paper of April 8; 'Karl Marx's theory of value,' Mr. Ewald Langerfeld; Discussion continued of Dr. Ward's paper of June 10; 'The demands of labor,' Mr. Edward King; 'Free competition vs. state socialism,' Mr. Justus O. Woods; 'The moral aspect of the economic question,' Prof. Thomas Davidson; 'A practical view of protection,' Mr. Robert P. Porter; 'The basic law of ownership,' Mr. Edward G. Clark; 'The cause and cure of crime,' Mr. W. M. F. Round; 'The economic heresies of Mr. Henry George,' Mr. George Gunton. The papers generally were very meritorious, and several of them were published in the leading periodicals and journals, and others in pamphlet form. The institute has thus aided in elucidating social topics which are commanding so general and pressing public attention. One member of the institute has successfully organized two popular classes for the systematic study of social economics, and others are being formed. Three or more of the members are preparing books on this subject for publication. Those who have followed carefully the papers and their discussion bear emphatic testimony to their usefulness. It is worthy of remark that the result of the discussions has been favorable to conservative opinion, and proves that healthful social progress will come through a more general and better understanding of the principles underlying social economics. The discussion of the papers has taken sometimes too much the form of debates, in which the contention seemed rather for victory than truth. Disputants have not always confined themselves to the topic discussed, but have disputed with each other points not involved in the papers.

—Strenuous efforts are being made to induce the legislature of the state of New York to enact the amendments to the present tenement-house law of the city of New York, which were prepared by the tenement-house commission of 1885. The act provides that every tenement shall have a dry cellar, good drainage, ample water-supply, and a janitor; owner's name to be registered; a semi-annual inspection by the board of health, and an annual report; free winter baths; electric lights in tenement district; and cutting through Leonard Street to open up the Mulberry Street

'bend.' Petitions are now being circulated in behalf of this law. The citizens of Brooklyn are also moving in the matter of tenement-house reform, the law in that city being practically the same as it was twenty years ago, and the tenement-houses lacking many of the improvements which are to be found in New York. The amended ordinances which were forwarded to the common council of Brooklyn nearly two years ago still remain unacted upon, and efforts are now being made to have them adopted by that body. For this purpose a meeting has been called by the commissioner of health, of builders, architects, physicians, and philanthropists, to consider and revise these ordinances before their final adoption.

—Mr. H. C. Russell, government astronomer for New South Wales, and late president of the Royal society of that colony, gave an account in his last presidential address of certain oscillations, or *Seiches*, as the Swiss call them, in the waters of Lake George (New South Wales), as determined by the record of an automatic evaporation gauge. The lake is about eighteen miles long, five wide, and fifteen or twenty feet deep: its oscillations have an amplitude of from two to six inches, and are of two periods; the longer being two hours and eleven minutes, the shorter one hour and twelve minutes. In most cases the motion is connected with the passage of thunder-storms; but at other times it seemed to arise from the repeated and well-timed impulses of a less apparent force. For example: on one occasion, when the lake was very quiet, the water suddenly rose an inch, and fell again within thirty minutes; then it rose an inch and a half, and fell two inches in three-quarters of an hour; next it rose two inches, and fell three and a half inches in an hour; finally it rose three and three-quarters inches in forty minutes, and so started a series of pulsations which settled down to two-hour intervals, and lasted twenty hours.

—The Society of arts, England, offers two gold and four silver medals for the best motors suitable for electric-light installations, to be competed for in London next May or June. The motors will be divided into two classes, — those in which the working agent is produced (steam and gas engines), and those in which the working agent must be supplied (steam, gas, and hydraulic engines).

—The following is a copy of a note found by Mr. J. C. McClure on the south side of Nantucket, Jan. 29, 1887: "This bottle was thrown overboard from schooner Emma L. Cottingham, July 20, 1886, in latitude 41° 06' north, longitude 69° 08' west. Any person finding this will confer a favor by

sending this to the hydrographic office at Washington, D.C., stating when and where found." The note was signed "J. L. Somers, schr. Emma L. Cottingham, of Somers Point, N.J."

— Three more sheets of the topographical atlas of New Jersey are issued, making thirteen out of the seventeen for the whole state. The new sheets are named after their chief places, Trenton, Mount Holly, and Camden. The remaining sheets will probably be completed in 1888.

— The report of Lieut. William H. Schurtze, U.S.N., on his official trip to Russia to distribute the testimonials of the government to the subjects of Russia who extended aid to the survivors of the Jeannette exploring expedition, was presented to congress last week. The report is quite long, and records in detail the movements of the lieutenant and the results of his observations. Accompanying the report are copies of two charts the existence of which Lieutenant Schurtze believes have been forgotten outside of Russia. He says, in view of the general interest taken in anything pertaining to the Jeannette expedition, it seems that these charts are worthy of special consideration, because they relate directly to two regions most prominent in the history of the expedition, namely, Bennett Island and the Lena Delta, North Siberia.

— The U. S. coast and geodetic survey report for 1885 — Appendix No. 10 — contains a paper by Charles O. Boutelle, who gives practical suggestions for geodetic reconnaissance, such as he derives from his long experience in field-work. His information on the selection of base-lines and stations for triangulation will be useful for topographers.

— In 1882 small-pox was very prevalent in New York, there having been 708 cases with 259 deaths. In 1883, only 26 cases and 12 deaths occurred; in 1884, 5 cases and no deaths; in 1885, 105 cases and 26 deaths; and in 1886, 109 cases and 31 deaths. During the week ending Jan. 29 of the present year, there were 23 cases, of which 3 proved fatal.

— The health commissioner of Denver, Col., reports that in 1886 there were 195 deaths from consumption in that city, only five of which originated in the state of Colorado.

— The U. S. geological survey is engaged in the preparation of a detailed topographical map of the vicinity of Washington, Alexandria, and contiguous parts of Maryland and Virginia. It is intended to show the elevation by contours at twenty-five feet intervals, showing the curvature of the earth as it rises from the sea-level. The

existing coast-survey work in this neighborhood will be incorporated in the new map. This will be the first authentic topographical map, on a trigonometric basis, of the District of Columbia and its surroundings. The coast-survey steamer Hassler arrived at the Mare Island navy yard last week, and will soon go north to the Alaska coast and resume work in that vicinity.

— Dr. Hinrichs has lately published a comparison of the weather-predictions of the signal service for last August, as indicated by flag-signals hoisted at Iowa City, with the weather occurring in the period for which the predictions were made, getting the following results:—

Predictions.	Facts.
Colder, 7 days.....	3 days, average difference from preceding noon, 3°.3 colder. 4 days, average difference, 4°.0 warmer.
Stationary temperature, 13 days.....	8 days, average difference, 3°.6 colder. 5 days, average difference, 4°.8 warmer.
Warmer, 8 days.....	3 days, average difference, 3°.6 colder. 4 days, average difference, 1°.8 warmer. 1 day, no change.
Local rain, 11 days.....	2 days, no rain. 4 days, rain not measurable. 3 days, rain barely measurable. 2 days, appreciable rain.
Fair weather, 20 days....	2 days, appreciable rain. 1 day, violent thunder-storm, with heavy wind and rain (others not mentioned).

Dr. Hinrichs concludes that it is exceedingly unfavorable to the people's confidence in the flag-display of the signal service, when its fair-weather flag is beaten by storm and rain, and when its rain-flag flutters lustily and dryly in a hazy, balmy atmosphere of summer.

— A valuable Algonquin-French lexicon (*Lexique de la langue Algonquine*) by the distinguished philologist, the Rev. J. A. Cuoq, has lately been published (Montreal, J. Chapleau et Fils). The Algonquin, as the name is here used, is the language of that tribe of Indians who formerly possessed the country about Montreal, and of whom some bands still remain in the neighborhood of that city. Their speech has a special importance, both scientific and historical. As in the case of the author's Iroquois lexicon, there are interesting notes, linguistic and ethnological, on almost every page. The volume lacks the French-Algonquin part. It is to be hoped that the industrious author will hereafter supply this deficiency, as well as the similar lack which detracts from the usefulness of his excellent Iroquois lexicon.

— Prof. Max Müller's volume on 'The science of thought,' on which he has been engaged at intervals for several years, will soon be published. The author is occupied in it with the origin of

speech, which in his view, as in that of the Greeks, is identical with thought. A contribution of this sort to metaphysical science, from a writer who is at once a profound philologist, an able annotator of Kant, and the master of a most lucid and happy English style, will be expected with general interest.

— 'Harvard and its surroundings' (Boston, *Rand Avery Co.*, 1886), of which the seventh edition has just been issued, is designed to take the place of an intelligent companion to the visitor in his walk through Harvard and its vicinity, giving brief yet sufficiently definite descriptions of every place visited, with passing allusions to its leading historical and biographical associations, and devoting the larger proportion of space to the specially noteworthy objects.

— The *Athenaeum* prints the following: "The bibliography of learned societies is being enriched by a couple of useful publications now coming out in sections, — 'Die Wissenschaftlichen Vereine und Gesellschaften Deutschlands im 19 Jahrhundert,' by Dr. Joannes Müller; and the 'Bibliographie des Travaux Scientifiques et Archéologiques publiés par les Sociétés Savantes de la France,' published under the auspices of the minister of public instruction. Now, Mr. A. P. C. Griffin, of the Boston public library, proposes to issue by subscription a 'Bibliography of American historical societies.'"

— We learn from the *Athenaeum* that three important libraries of deceased professors have lately been sold in Berlin, — that of Professor Scherer, which was bought for 28,000 marks by an American university; that of the historian Waitz, which fetched 16,000 marks; and that of Professor Müllenhoff, which has been purchased for the new Germanische Seminar of the University of Berlin. Scherer's library is reported to have been one of the finest private collections in Germany.

— Kleiber of St. Petersburg has lately computed, in the *Meteorologische Zeitschrift*, the half-yearly variations of atmospheric pressure in the two hemispheres, taking January and July for the months of extreme conditions. He finds the mean pressure for the whole earth 759.20 mm. This result is necessarily the same for the extreme months, and the agreement of the author's figures serves as a check on his work. The mean pressure of the northern hemisphere is 760.31, varying from 761.80 in January to 758.82 in July: for the southern hemisphere, the figures are 758.09, 756.60, and 759.58. The mean pressure in the northern hemisphere thus exceeds that in the southern by 2.22. In July, when the northern

atmosphere is expanded and flows off to southern latitudes, the average northern excess is reversed to a slight deficiency of 0.76; but in January, when the cold of the land hemisphere is extreme, it accumulates more air than usual, and its excess rises to 5.20. It may therefore be said that a mass of air, equivalent to that which would give a pressure of 5.96 over a hemisphere, is periodically transferred from one side of the equator to the other.

— The report of the U. S. geological survey on the mineral resources of the United States for 1885 contains some interesting statistics. The total mineral product is valued at \$428,521,356, an increase of \$15,306,608 over 1884. Among seventy mineral substances cited, coal is the most important, showing a total value of \$159,019,596. An increase is shown in the production of coke, natural gas, gold, silver, copper, zinc, quicksilver, nickel, aluminum, lime, salt, cement, phosphate rock, manganese, and cobalt oxide, while the production of coal, petroleum, pig-iron, lead, precious stones, and mineral waters decreased. From the present outlook, says the report, it is probable that the total output of 1886 will prove much greater than that of 1885, and even larger than the prosperous year of 1882.

— A very valuable contribution to the study of cerebral localization is made by Dr. Henry Hun in the *American journal of the medical sciences* for January, 1887. The article records seven unusually interesting cases in which the symptoms were observed during life, and the lesions of the brain carefully examined after death. The results corroborate many of the current views on localization, and in a few points carry the process further than was possible before.

— The year 1886 has added eleven new asteroids to the list, which now numbers 264. Seven of the strangers were discovered by Dr. J. Palisa of Vienna, who has found no less than fifty-seven in all, while three were discovered by Dr. Peters of Clinton, who is now credited with forty-six. No. 258, Tyche, was found by Dr. R. Luther of Düsseldorf. No. 254 has been named Augusta; 255, Oppavia; 257, Silesia; 259, 260, 261, Aletheia, Huberta, and Prymno, respectively. The remaining four are still unnamed.

— The duplex principle has been successfully adapted to the Phelps system of inductive telegraphy, so that messages may be sent to and from moving trains in the ordinary manner without interfering with the transmission of messages by induction. With this improvement, a single line is all that is required for both train and ordinary telegraphy.