## EXPLORATION AND TRAVEL.

### The Kongo Free State.

CAPTAIN THYS, on his return from Africa, delivered some very interesting lectures on the state of affairs on the Kongo, which were recently published in the form of a pamphlet. The following notes are taken from this publication. The establishment of easy communication between the upper and lower Kongo is of vital importance for the development of western Central Africa: therefore the Kongo Industrial and Trading Company has taken active measures for the establishment of good roads. A few months ago an expedition was sent out to study the feasibility of a railroad leading to Stanley Pool. After five months of hard work, a hundred miles of the proposed road were surveyed. The whole district to be traversed by the road was mapped on a scale of 1:2,500, with five-metre contour-lines. After this work was completed, the expedition, which is commanded by Captain Cambier, proceeded inland to make a reconnaissance and survey of the upper part of the road. After this preliminary survey has been made, the line will be located and resurveyed. It is expected that this work will be completed this year, and the company expects to make its detailed plans and estimates in the beginning of next year. So far, no serious difficulties have been met with. As the railroad will not be completed for a few years, the company has made an attempt to organize regular caravans for carrying the trade between Matadi and the Pool. At present sixty thousand loads of sixty-five pounds each are transported by carriers through the district of the cataracts. As this method of transportation is expensive and unsafe, it has been proposed to use cattle instead of men. With this aim in view, attempts have been made to raise cattle, and have been found to be successful; and it is hoped that by this means the cost of transportation will be greatly diminished. While the railroad is being surveyed, M. Delcommune has been sent on a commercial reconnaissance of the upper Kongo. In March he started on the steamer 'Roi des Belges' up the Kassai. The pamphlet is accompanied by a sketch-map of the Kongo Free State, by A. T. Wauters, showing the present state of our knowledge of this vast territory. A number of special maps show the situations of the important stations and the route along the Kongo from Matadi to Leopoldville.

THE KASSAI. — The observations of Captain Thys on the Kassai, and its principal tributary the Lulua, have been published by the Institut National de Géographie at Brussels in the form of a large map on a scale of 1:200,000. The map is mainly intended for the use of steamers going up and down the Kassai and Lulua, and the notes on the character of the rivers and their banks have been carefully compiled from the observations of Captain Thys and of Wissmann. While this map is particularly valuable on account of the large amount of detail it contains, Dr. B. Hassenstein's map of the Sankuru, which was published in the July number of *Petermann's Mitteilungen*, must be considered one of the most important contributions to the geography of Africa. In it the surveys of Dr. Ludwig Wolf in 1886, and those of Wissmann and François in 1884–85, have been made use of. The astronomical observations of these travellers have been carefully scrutinized, and the final results obtained by Hassenstein must be considered the most probable, considering the present state of our knowledge. The construction of the upper part of the Lulua is based upon the longitude of Mukenge, near Luluaburg, which has a probable error of $\pm 7'$. The barometer observations have been reduced, and a great number of elevations are contained in the map. The scale of the latter is 1:600,000, and a considerable amount of detail is given. The great value of this publication becomes obvious when comparing it with the preliminary maps compiled from the surveys of these travellers.

## BOOK-REVIEWS.

*A Guide to the Study of the History and the Constitution of the United States.* By WILLIAM W. RUPERT. Boston, Ginn. 12°.

THE first part of this book presents a selection of topics covering the whole period of American history, and accompanied by a numerous list of authorities, the whole being designed as a guide to young students. The author remarks in his preface that "young persons are incapable of distinguishing between important and unimportant historical facts," and therefore need guidance in the study of such facts. This is undoubtedly true; but unfortunately Mr. Rupert is not always successful in making the required distinction himself, for he gives altogether too much attention to military affairs, and too little to some political and social events of far greater importance. In other respects, however, his work is well done. The second part of the book is a brief exposition of the Constitution, giving an explanation of its provisions, and in some cases the reasons why they were enacted. The decisions of the Supreme Court on questions of constitutional law are not given, probably because they were deemed somewhat beyond the province of a schoolbook; but the author's exposition, so far as it goes, seems well adapted to the wants of students in the high schools.

## NOTES AND NEWS.

IN the *Overland Monthly* for September is a short paper on orange-culture, by Mr. Adolphe Flamant of Napa; the Grand Cañon of the Colorado is described by Mr. J. G. Lemmon, botanist of the State Board of Forestry; and among the short stories is 'A Question of Will-Power, a Psychological Study,' by A. G. Tassin. —— Ginn & Co. announce 'The Elements of Plane Analytic Geometry,' by John D. Runkle, professor of mathematics, Massachusetts Institute of Technology, as in press. They also invite attention to Taylor's 'Calculus' (differential and integral, in one volume), lately adopted by the Massachusetts Institute of Technology. —— 'The Relation of the Sexes to Government' will be discussed by Prof E. D. Cope in the October *Popular Science Monthly*. The differences between the two French schools of hypnotism will be set forth by Dr. Christian A. Herter, under the title 'Hypnotism: What it is, and What it is not.' Under the title 'Ethics and Economics,' Mr. Robert Mathews will give a thoughtful view of our social outlook. —— Henry Carey Baird & Co. will publish on Sept. 15 a new book on steam-engineering, entitled 'The American Steam-Engineer, Theoretical and Practical,' by Emory Edwards, the well-known author of 'The Practical Engineer's Guide,' etc. The author in the forthcoming book will give examples of the latest and most approved American practice in the design and construction of steam engines and boilers of every description. —— The J. B. Lippincott Company will publish on Sept. 14 the second volume of the new edition of Chambers's Encyclopædia, from Bea to Cat. The same thorough revision and accuracy that characterize the first volume are also found in the second. It contains 828 pages, is profusely illustrated with new woodcuts, and supplied with maps of Belgium, Burma, California, Dominion of Canada, Eastern Provinces of Canada, Cape Colony, and South Africa. They will begin at once the publication of a series of biographical studies of the great men who have influenced the social and political history of the world, under the general title of 'International Statesmen Series.' It is to be edited by Mr. L. C. Sanders, and its scope will be comprehensive, embracing the ancients and the moderns, and including not only the creators of the English Commonwealth, but also the makers of European and American politics, and the founders of the Indian and Colonial Empires. The initial volume of the series is 'Lord Beaconsfield,' by T. E. Kebbel, author of a 'History of Toryism.' —— Messrs. Trübner & Co., London, announce 'The Literature of Egypt and the Soudan,' by H. H. Prince Ibrahim-Hilmy; 'Mediæval Researches from Eastern Asiatic Sources,' by E. Bretschneider, M.D.; 'Table of Quarter-Squares of all Numbers from 1 to 200,000,' calculated by Joseph Blater; 'Bibliography of South Australia,' compiled by Thomas Gill; and 'Manual of New Zealand History,' by J. Howard Wallace.

— During the total eclipse of the moon on Jan. 28, 1888, Prof. W. H. Pickering searched, by means of photography, for a lunar satellite. The results of his observations have been published in the 'Annals of Harvard College Observatory.' The method of observation was to direct the telescope, with the camera attached to it, towards the moon, and to adjust it so as to follow the motion of the latter. The effect is, that the stars are represented as short lines, while any satellite, whose motion would probably be in accordance with that of the moon, would appear as a point or a line

having a direction different from that of the stars. The search was unsuccessful; and Pickering concludes from the results that the satellite, if existing at all, has a diameter of less than two hundred metres.

— Rudolf Clausius, the eminent physicist, died on Aug. 25 at Bonn. Clausius was born on Jan. 2, 1822, at Koeslin. In 1840 he commenced his studies at the University of Berlin. After having taken his degree, he became lecturer of physics at this university, holding at the same time the position of teacher at a military academy. In 1855 he was appointed professor of physics at Zürich, and in 1867 he was elected by the faculty of Würzburg, at which university he remained for two years. Since 1869 he has been professor of physics at the University of Bonn. His work on the theory of heat is so well known that we do not need to sum up his merits. His important researches on this subject were first published in *Poggendorff's Annalen*, and later on collected in a work of two volumes, the first of which treats of the theory of heat, while the second refers to the applications of the theory to electricity. With admirable modesty he termed his most important discovery 'the principle of Carnot,' as in following his line of research he was led to its discovery.

## LETTERS TO THE EDITOR.

### Mississagua Etymology.

A RECENT visit to the Mississaguas of Scugog Island (a remnant of a once powerful branch of the great Ojibwa confederacy) has enabled me to collect some interesting philological and folk-loristic information. Their language is nearly pure Ojibwa, and was in its uncorrupted form a purer dialect than that of Baraga's Dictionary. This conclusion is based upon a vocabulary of some five hundred words collected during my visit, and upon a manuscript French-Indian vocabulary of the region between York (Toronto) and Lake Simcoe of a date *circa* 1803. The words dealt with here were explained to me carefully by Mrs. Bolin, an aged member of the Scugog tribe, a very intelligent woman. Her Indian name is Nawigishcoké ('the sun in the centre of the sky'). She is about sixty-five years old.

*Manitoominis* ('bead') literally means 'mystery-seed.' The Indian was very much puzzled when he saw beads for the first time. *Musawkwodon* ('beard') literally means 'fuzzy-mouth.' *Musons* ('caterpillar'), the same word as that for 'nettle,' means 'fuzzy thing.' *Muskegamin* ('cranberry') means 'swamp-fruit.' *Shaganosh* ('Englishman') was explained as meaning 'sailing round the world.' The brother of the Mississagua chief at Scugog is called Shawanosh ('sailing from the south'). It is the termination of these words that gives the idea of sailing. *Wamitigoshi* ('Frenchman'), Mrs. Bolin explained to me as meaning 'he who carries a trunk.' She said that no doubt the first Frenchman with whom the Indians got acquainted carried, for some purpose or other, a trunk or box, hence the name. *Shabomin* ('gooseberry') is 'the transparent fruit.' *Pajicogoshi* ('horse') is 'the animal with one hoof.' *Piwabik* ('iron') is 'the metal that crumbles off.' *Oshkikwomin* ('lead') is 'that which can be cut with a knife.' *Wabimojichagwan* ('looking-glass') is a most interesting word. Mrs. Bolin explained it as meaning 'where ghosts are seen.' When the Indians first became acquainted with looking-glasses, they imagined that in them they saw their ghosts or spirits (*ojichag*). *Ashebojanak* ('oar') is from *ashebojan* ('to row'), the literal meaning of which is 'to sit backwards,' referring to the position assumed when rowing as opposed to paddling. *Pajicogoshinijin* ('oats') are literally 'horse's food.' *Ocadak* ('sarsaparilla') is 'the leg-root.' *Menagwacomis* ('sassafras') is 'the scented tree.' *Manitanis* ('sheep') is 'the animal that has the damaged hide,' or the hide that is not durable, as that of deer, etc. *Papakawaiyon* ('shirt') means literally 'thin wear.' *Shishibanwing* ('shot') is literally 'duck-stones.' *Muskeg* ('swamp') is a 'place which is full of sticks.' *Nibanakwanisitan* ('toes') are so named from their running in rotation. *Pakweshikanusk* ('wheat') literally means 'bread-herb.' *Wasaijakon* ('window') is 'that by which the light (*wasaija*) comes in.'

A few other examples might also be given. *Miskotchies* ('beet') literally means 'red turnip.' *Osawascopineshi* ('bluebird') means the same as in English. *Osawatchies* ('carrot') is 'the yellow turnip.' *Eshkon* ('chisel') means literally 'horn,' showing of what material these implements were made in the past. *Papiga omukaki* ('toad') is literally 'the rough frog.' *Papassa* ('woodpecker') means literally 'the pecker.'

At Scugog, English is fast superseding the native Indian language, and soon one of the most interesting and most constructive of American aboriginal tongues will have ceased to exist upon the island.

A. F. CHAMBERLAIN.

Toronto, Aug. 15.

### The Limit of Drift.

MAPS showing the drift-limit fix the boundary in Kansas a few miles south of Lawrence and Topeka. These are possibly correct so far as the drift-sheet is concerned, but erratic bowlders have strayed from their native ledges about Lake Superior to a greater distance. One of granite, weighing over 360 pounds, was found by the writer near the summit of a divide thirteen miles east-north-east of Eureka, and seventy-five miles south of Topeka, Kan. The elevation is about 1,160 feet above the ocean. It lay nearly buried in the soil near the head of a draw tributary to West Creek, a tributary of the Verdigris River. The draw trended south-south-west; and the configuration of the country immediately northward, on the opposite side of West Creek, lends weight to the supposition that that was the direction the emigrant travelled when he entered southern Kansas.

No other bowlders have been found in the neighborhood. This one has five planed faces, and bears other marks of having travelled, part of the way at least, at the bottom of a glacier. The country immediately north has never been visited by the writer, and so it is possible that other drift-material lies in that quarter, but none exists here.

If the attenuated margin of the glacier stopped some miles to the northward, and this country was flooded with water, it seems strange that so few bowlders floated away in bergs or floes. If this country was flooded to a sufficient depth to float bergs with bowlders, the eastern margin of this State must have been occupied by a river of extraordinary dimensions, emptying southward, etc. The find is very suggestive of questions.

L. C. WOOSTER.

Eureka, Kan., Sept. 5.

### A Brilliant Meteor.

ON Sunday evening last a meteor was seen by several people in and around this city, but, so far as I can learn, Mr. J. C. Mayo was the only one who made reliable time-observations of its appearance and disappearance.

Mr. Mayo is the telegraph-operator and stenographer of the Blue Bird Mining Company, Limited, and resides at the Blue Bird Mine, about three miles west of Butte City.

At 6.30 P.M. by Mr. Mayo's watch, which was five minutes slow of local time, a meteor burst into view in the southern heavens, and moved in an apparent downward and north-easterly direction. About two seconds (estimated) after its appearance the meteor burst, first into two parts, and then into fragments which immediately disappeared. Mr. Mayo, having his watch in hand, noted the time at which the meteor burst, and then listened for a report. At the expiration of five minutes and thirty seconds two loud reports, nearly simultaneous, were heard. These reports were like the explosions of heavy blasts of powder, and were followed by a rumbling like near thunder, lasting about ten seconds.

The place in the sky where the meteor was first seen, as pointed out to me, was S. 60° E. from the Blue Bird Mine, at an elevation of 50° from the horizon. The place where it burst was due east and at an elevation of 25°.

Mr. Mayo describes the meteor as having a well-defined body, egg-shaped, with the smaller end foremost. This body was distinctly visible, "resembling white-hot iron," giving off a pure white light, and was followed by a "bright blaze," which shaded into a dense white, "sulphurous" smoke. The trail of smoke left behind remained visible for fully ten minutes.

The sky was clear and the sun shining brightly; but the meteor apparently emitted as much light as the sun, and lighted up its shadows.

A. B. KNIGHT.

Butte City, Montana, Aug. 22.