

**Egypt. Survey Department.**

The physiography of the River Nile and its basin. By H. G. Lyons. viii, 411 pp. 4°. Cairo. 1906.

The rains of the Nile basin in 1905. By H. G. Lyons. 40 pp. 8°. Cairo. 1906.

**Goetz, E.**

Meteorological observations at Bulawayo [1897-1904]. 29 pp. 8°. n. p. n. d.

**Guerrieri, Eugenio.**

Sulla relazione tra l'escursione diurna della declinazione magnetica a Capodimonte e la frequenza delle macchie solari. (Rendiconto, Napoli. Fasc. 8 a 11—Agosto—Nov., 1905.) 18 pp. 8°. Napoli. 1905.

**Hamberg, H[ugo] E[manuel].**

Moyennes mensuelles et annuelles de la température et extrêmes de température mensuels pendant les 150 années 1756-1905 à l'Observatoire de Stockholm. (Akad. Handl. Bd. 40. No. 1.) 59 pp. f°. Uppsala and Stockholm. 1906.

**Hunt, H. A.**

Meteorology [of New South Wales]. 6 pp. 8°. n. t. p.

**Lancaster, A.**

La pluie en Belgique. 1<sup>er</sup> fascicule. 224 pp. 8°. Bruxelles. 1899.

**Natal. Government Astronomer.**

Report. 1905. 33 pp. f°. n. p. n. d.

**Norway. Norske Meteorologiske Institut.**

Nedboriagttagelser i Norge. 1905. xviii, 133 pp. f°. Kristiania. 1906.

**Omodei, Domenico.**

Teoria ed uso del baro-ciclonometro Algué... (Estratto con aggiunte dalle opere del P. José Algué... fatte per incarico del R. Istituto Idrografico) 66 pp. 8°. Genova. 1906.

**Odessa. University. Meteorological and Magnetical Observatory.**

Annales. 1905. 157 pp. 4°. Odessa. 1906.

Revue météorologique. Travaux du réseau météorologique du Sud-Ouest de la Russie. Années 1904-5. 2<sup>me</sup> série. Vol. IX. 42 pp. f°. Odessa. 1906.

**RECENT PAPERS BEARING ON METEOROLOGY.**

H. H. KIMBALL, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —

**Nature. London. Vol. 74.**

Dines, W. H. Balloons and kites in the service of meteorology. (May 10, 1906.) Pp. 35-36.

— Observations of shadow bands. [Note.] (June 7, 1906.) P. 135.

M., W. The surface trajectories of moving air. (June 14, 1906.) Pp. 162-163.

Martyn, G. N. Musical thunder. (June 28, 1906.) P. 200.

— [Weight, size, and velocity of raindrops.] (July 5, 1906.) Pp. 230-231.

— The meteorology of the free atmosphere. [Summary of lecture by Teisserenc de Bort.] (July 12, 1906.) Pp. 255-256.

**Philosophical Transactions of the Royal Society of London. London. Series A. Vol. 206.**

Chree, C. A discussion of atmospheric electric potential results at Kew from selected days during the seven years, 1898 to 1904. Pp. 299-334.

**Proceedings of the Royal Society of Edinburgh. Edinburgh. Vol. 26, No. 3.**

White, Peter. Some experimental results in connection with the hydrodynamical theory of seiches. Pp. 142-156.

**Science. New York. New Series. Vol. 23. June 29, 1906.**

Rotch, A. Lawrence. The International Meteorological Conference at Innsbruck. Pp. 975-977.

**Scientific American. New York. Vol. 94. June 23, 1906.**

— The influence of increased barometric pressure on the human body. Pp. 510-511.

**Scientific American Supplement. New York. Vol. 62. July 21, 1906.**

— Atmospheric electricity and trees. Pp. 25545-25546.

**Terrestrial Magnetism and Atmospheric Electricity. Baltimore. Vol. 11. June, 1906.**

Burbank, J. E. Some atmospheric radioactivity observations at Washington, showing thorium in the air. Pp. 105-107.

Burbank, J. E. Recent papers in atmospheric electricity. [Abstracts.] Pp. 108-112.

Gockel's observations of atmospheric electricity during the solar eclipse of August 30, 1905.

Nordmann's observations of the ionization of the atmosphere during the total eclipse of August 30, 1905.

The Elster-Geitel dispersion apparatus and a quantitative research in absolute dispersion measurement.

**Annales de Géographie. Paris. 15<sup>ème</sup> année. 15 mai 1906.**

Passerat, C. Les pluies de mousson en Asie. Pp. 193-212.

**Bulletin de la Société Belge d'Astronomie. Bruxelles. 11<sup>ème</sup> année. Mai 1906.**

Dechevrens, Marc. La radiation terrestre par ciel découvert est-elle la principale cause de refroidissement de l'air? Pp. 241-247.

L., E. Crépuscules colorés. Pp. 264-266.

**Comptes Rendus de l'Académie des Sciences. Paris. Tome 142. 13 juin 1906.**

Villard, P. Sur l'aurore boréale. Pp. 1330-1333.

Hergesell, H[ugo]. Sur les vents locaux du voisinage des îles Canaries. Pp. 1360-1363.

Pilttschikoff, N. Sur la polarisation du ciel pendant les éclipses du soleil. Pp. 1449-1450.

Störmer, Carl. Sur les trajectoires des corpuscules électriques dans l'espace sous l'influence du magnétisme terrestre, avec application aux aurores boréales et aux perturbations magnétiques. Pp. 1580-1583.

**Revue Néphologique. Mons. Juin, 1906.**

Nell, Ch. A. C. Observations de bandes polaires à Groningen et Oosterbeek de 1874 à 1904. Pp. 41-42.

**Annalen der Hydrographie und Maritimen Meteorologie. Berlin. 34<sup>er</sup> Jahrgang. Heft 6. 1906.**

Meinardus, Wilh. Periodische Schwankungen der Eisdrift bei Island. Pp. 278-285.

**Annalen der Physik. Leipzig. 4<sup>te</sup> Folge. Band 20.**

Holtz, W. Verschiedene Methoden zur Prüfung der Zimmerluftelektrizität. Pp. 587-590.

**Beiblätter zu den Annalen der Physik. Leipzig. Bd. 30. Heft 11, 1906.**

Eoe, A. Theoretische Betrachtungen über den Anfluss des Regenwassers. [Abstract of article by W. Uhle.] P. 575.

**Gaea. Leipzig. 42<sup>er</sup> Jahrgang.**

— Wasserhosen. (Juli, 1906.) Pp. 418-421.

— Grosse Niederschläge in kurzer Zeit. (Juli, 1906.) Pp. 437-438

Hergesell, H. Der gegenwärtige und zukünftige Zustand der maritimen Meteorologie. (August, 1906.) Pp. 480-486.

W. Blitzableiteranlagen. (August, 1906.) Pp. 488-492.

**Illustrirte Aëronautische Mitteilungen. Strassburg. 10<sup>er</sup> Jahrgang.**

Ritter, Friedrich. Flächengrösse und Winddruck. Pp. 235-241.

**Meteorologische Zeitschrift. Braunschweig. Band 23. Juni 1906.**

Margules, Max. Ueber die Aenderung des vertikalen Temperaturgefälles durch Zusammendrückung oder Ausbreitung einer Luftmasse. Pp. 243-244.

Nimführ, Raimund. Ueber die reale Existenz der "Isothermen Zone" in 10 bis 12 km. Höhe. Pp. 245-253.

Kaehler, Karl. Ueber einige Zerstreuungs- und Bodenluftmessungen in Kiel im Herbst 1905. Pp. 253-256.

Hann, J[ulius]. Klima von S. Gertrud im Suldental. Pp. 256-261.

Hann, J[ulius]. Regenfall und Bewölkung in Südafrika. Pp. 266-267.

— Regenfall auf der Insel Ualan, Karolinen. P. 268.

Maurer, J. Die Aneroidregistrierung mit der Laufgewichtswage. Pp. 268-270.

Okada, T. Ueber die Beziehung zwischen Pulzfrequenz und atmosphärischem Druck. P. 270.

Köppen, W. Weite Ausdehnung V-förmiger Ausläufer von barometrischen Depressionen. Pp. 270-271.

— Eine neue Windfahne mit elektrischer Anzeigevorrichtung. Pp. 272-274.

— Ein neuer Windmesser für direkte Ablesung. Pp. 274-276.

Hann, J[ulius]. Täglicher und jährlicher Gang des Dampfdruckes in verschiedenen Seehöhen in Südindien. Pp. 277-278.

— Mittlere Resultate der meteorologischen Beobachtungen am R. Alfred-Observatorium auf Mauritius. Pp. 279-280.

— Periodische Temperaturschwankungen bei Föhn und ihr Zusammenhang mit stehenden Luftwellen. Pp. 281-282.

— Ein horizontaler Regenbogen. P. 282.

Hann, J[ulius]. Dauer des Sonnenscheins in Padua. Pp. 282-283.

H[ann], J[ulius]. Dauer des Sonnenscheins in Rom. P. 283.

H[ann], J[ulius]. Dauer des Sonnenscheins in Christiania. Pp. 283-284.

— Regenfall in Nicaragua. P. 284.

Mohn, —. Vierjährige Temperaturbeobachtungen in Bel-Sund, Spitzbergen. Pp. 284-285.

**Petermanns Mitteilungen. Gotha. Band 52. 1906.**

Weberbauer, A. Grundzüge von Klima und Pflanzenverteilung in den peruanischen Anden. Pp. 109-110.

Krebs, Wilhelm. Neuere tornados. Pp. 299-301.

*Hemel en Dampkring. Den Haag. 4 Jaahrg. Juni 1906.*

Smits, P. J. Bijdrage tot de kennis van den regenval in Nederlandsch-Indië. Pp. 23-29.

*Società Meteorologica Italiana. Bollettino Bimensuale. Torino. Anno 1906. Serie 2. Vol. 25. N. 5-6.*

— Lo statoscopio. Pp. 38-40.

#### LANTERN SLIDES FOR LECTURES.

We have received from Prof. H. J. Cox, of Chicago, Ill., an early copy of a pamphlet published by the Geographic Society of Chicago, and entitled "Lantern Slides for Illustration in the Study and Teaching of Meteorology", a subject to which we have already alluded in the MONTHLY WEATHER REVIEW, 1905, Vol. XXXIII, pp. 61, 255, and 444, and whose importance is very strongly urged in the article by Prof. J. P. Goode, printed on another page of this REVIEW. The pamphlet by the Geographic Society gives a detailed list of the slides offered, about 270 in all.

#### METEOROLOGY IN AUSTRALIA.

According to the Daily Telegraph, of Sydney, N. S. W., the third and last session of the Second Commonwealth Parliament was opened at Melbourne, with the usual ceremonies, on Thursday, June 7. In his opening speech to the Senate and House of Representatives, the Governor-General enumerated a series of subjects upon which Parliament would be asked to take action, and among these we find the following:

You will be invited to consider a bill for establishing a meteorological department and authorizing agreements with the states for work of this character hitherto undertaken by them.

These few words, taken in connection with the article by Mr. Andrew Noble, in the MONTHLY WEATHER REVIEW for November, 1905, Volume XXXIII, pages 480-484, show that there is some prospect of the eventual realization of a general federal weather bureau. A bill to this end was in the course of preparation in August, 1905, and was introduced by Senator Keating at the session of the Senate immediately following the above-mentioned opening address of the Governor-General, so it is likely that it will now be taken up and considered by the Australian Parliament.—C. A.

#### THE ENERGY OF A STORM.

By T. D. SMITH, M. D. Dated Louisville, Ky., February 6, 1906.

There has lately occurred to me a thought that seems to account for the energy employed in perpetuating the cyclone after it has once been inaugurated. It may be assumed that the momentum of the upward moving currents in the center of a cyclone carries the atmosphere in that situation far above the common level; that is, it produces a mountain of atmosphere in such situations, largely upheld by the momentum of the incoming air at the base of the cyclone. The top of this mountain is continuously pulled off and carried onward by the upper or anti-trades, if it be near the Tropics, or by the constant easterly current if it be in the temperate zones. This decapitated mountain, hollowed out at its base as it is, as regards its gravity, by the momentum of the upward moving core, constitutes a vast "low" into which the air around is continuously pressed. While this continuous decapitation is taking place by the upper currents the cyclone is made to lean in the direction of such upper current. This leaning gives to the mass of atmosphere drawn into it, or rather forced into it from in front, an advantage over the mass coming in from the rear; that is, it can reach any given point on the front of the cyclone sooner than the mass from behind can reach the corresponding point; and this in turn will cause a reforming of the center continuously in advance, which will carry the cyclone with it. Thus, the upper currents of the atmosphere, deriving their motion from the rotation of the earth, in turn furnish the motive force for the cyclone, and the energy derived from precipitation and latent heat might be largely or altogether dispensed with.

#### AERO CLUBS AND METEOROLOGY.

Our readers have no doubt noticed the formation of several aero clubs. The members are apparently wealthy gentlemen who propose to develop the art of navigating the air. Kites, balloons, aeroplanes, and other apparatus will be used. The records of voyages made in balloons, and the various observations made by the members of these clubs, will interest meteorologists, as contributing somewhat to our knowledge of the atmosphere. The simple record of direction of motion of a free balloon and its speed, as measured upon a map, is of itself a very great addition to our knowledge of the movements of the air. As is well known, no anemometer gives anything more than the relative movements for a very restricted locality; on the other hand cloud movements are sometimes quite illusory, because they represent only a locus of condensation, and we may have stationary clouds with a gale of wind blowing through them. Consequently every balloon voyage that is faithfully charted, whether it be a pilot balloon, a manned balloon, or a sounding balloon, is a record, and at present the only record we have, of the absolute movement of free air over a long path.

In December, 1871, the Editor presented to the Philosophical Society of Washington the results of a study of a large number of balloon voyages made by Prof. Samuel A. King, the well-known aeronaut of Philadelphia. These were made before daily weather maps were accessible, but at least one important generalization appeared, namely, that as the balloon rose higher and higher it kept moving in a direction that almost always deviated more and more to the right of the movement of the lowest wind. From that time forward balloon voyages, as reported in the daily newspapers, were regularly entered upon the manuscript daily maps used by the Editor in the forecast work.

During the past ten years an increasing interest has been shown in balloon work from a meteorological point of view; and now the establishment of aero clubs throughout the United States can not but be helpful to our science, no matter whether the voyagers work from the point of view of the practical aeronaut, the enthusiastic faddist, the wealthy pleasure seeker, the ingenious inventor, or the intelligent investigator. We therefore hope that each of the aero clubs established in this country will kindly contribute records of its voyages, very much as shown in the following list sent us by the Aero Club of America.

#### ASCENSIONS MADE BY MEMBERS OF THE AERO CLUB OF AMERICA FROM FORMATION OF CLUB TO DATE.

Dated 753 Fifth Avenue, New York, N. Y., July 28, 1906.

[Communicated by Mr. E. L. JONES for Mr. Augustus Post.]

*Sunday, February 11, 1906.*—Balloon "Alouette"; 350 cubic meters capacity; coal gas used; pilot and passengers, Charles Levee; ballast taken, 68.04 kilograms; ascent made at West Point, N. Y., 3:55 p. m.; descent at Hurley, 5 miles west of Kingston, N. Y., 8:10 p. m.; manner of landing, rip cord; elapsed time, 4 hours and 15 minutes; distance, 59.545 kilometers; speed per hour, 14.01 kilometers; general direction, north; highest altitude, 1000 meters; barometer at start, 30.6; lifting power of the gas, 233.15 kilograms.

On account of the wind, inflation consumed considerable time. Wind on the ground was from the north. After ascending, the balloon struck a current of air from the south, carrying it over the Hudson River toward Storm King Mountain; then traveled in a northwesterly direction over the Catskill Mountains; a further change brought it back in an easterly direction to Hurley.

*Washington's Birthday, February 22, 1906.*—Balloon "Alouette"; 350 cubic meters capacity; coal gas used; pilot and passengers, Charles Levee; ballast taken, 9 kilograms; ballast used, 9 kilograms; ascent at Hillburn, N. Y., 5:44 p. m.; descent at Ramsey, N. J., 6:10 p. m.; elapsed time, 25 minutes; distance in kilometers, 8:05; speed per hour, 19.32 kilometers; general direction, south; highest altitude, 500 meters.

Gas very poor, with little ascensional force. Balloon was followed by automobile which arrived about the time of descent. Rip cord used in landing.