

It appears to the writer that the inevitable deduction must be—that under the influence of the sun's rays the air becomes in some way soarable; and the theory that birds can only soar in ascending currents of air becomes untenable.

Personally, I feel a debt of gratitude to Dr. Hankin for the extremely valuable articles on "Bird Flight" which have come from his pen. It is to be hoped that others may follow his lead and co-operate in elucidating the problem.

Agra. H. R. COOK, Major R.G.A.

[At first sight, the sequence in which the birds begin to soar agrees so closely with what one would expect on the assumption that their support is due to sun-heated up currents which may reasonably be expected to grow in strength with time, that the especial significance of the observation in its relationship to Dr. Hankin's sun-light theory may readily escape notice.

It is, for instance, somewhat natural to regard "Ergaer" as a quantity of something in the atmosphere because it appears to be a function of time. The fact that the birds, once up, continue soaring in the same zone shows, however, that the state of soarability is maintained. It seems, therefore, as if the time function has no relation to quantity, but is merely an index of the intensity of the sunlight, the mere presence of which *instantaneously* "ergaerifies" the atmosphere as fast as the energy is extracted therefrom. In a previous article we have suggested that "ergaer" may be an electrical phenomenon. If the soarability were due to up currents, the energy would be due to a physical circulation of the atmosphere in mass, a condition that can only be regarded as an atmospheric state within a limited zone. There is no need to suppose any such circulation effect in the conception of "ergaer."—ED.]

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AIRSHIP NEWS.

"Selle de Beauchamp" out Again.

ALTHOUGH she has been inflated for over three months, the "Selle de Beauchamp" had no difficulty in lifting a load of 1,700 kilogs. of ballast, and a crew of nine persons, on Monday week. During a cruise over the Moisson plain, even against a strong wind, the Panhard motors easily drove the airship at a good speed.

France Not Finished with Dirigibles.

ACCORDING to a recent speech of General Roques, the French Inspector of Military Aeronautics, the airship is by no means played out yet. It has proved its utility for night reconnoitring, and now that higher speeds are being obtained it should not be dependent so much on the weather. The airship also permits of the transmission of trustworthy information in a way not possible with the aeroplane, while wireless telegraphy may also be utilised.

The French Rigid Airship.

IT is hoped that the dirigible which has been built for the French Army on the Spiess rigid principle will be ready for its trials in the spring. The aluminium framework supporting the main gasbag is complete, and the work of installing the two 120-h.p. motors is being proceeded with. The balloon is 90 metres long, while the car is 60 metres long, and it is hoped that the airship will carry from 20 to 25 passengers. Four propellers are being fitted, one pair being arranged at each end of the car.

The New Clement Bayard Airship.

THE new Clement Bayard airship will be slightly smaller than its predecessors, as the cubic capacity of the envelope will only be a thousand cubic metres. The gas bag will also be different in not having the usual elevator, but instead a rib will be arranged along its centre line. The airship will be fitted with two motors of 120-h.p. each, while a novel feature will be a special bomb-launching apparatus.

The "Adjutant Reau" at the Hunt.

ON the 10th inst., the dirigible, "Adjutant Reau," left Issy at 10 a.m., having on board M. Deutsch de la Meurthe and several friends he had invited over for a hunt. Three quarters of an hour later the balloon came down in M. Deutsch's grounds at Romainville, close by Meulan, and the chase commenced as soon as the huntsmen had mounted their horses, while the dirigible returned home meantime. The airship was also out for a long time on the 12th inst., and passed over Paris.

French Army takes over "Adjutant Reau."

ON the 13th inst., the Astra-built airship "Adjutant Reau" made its last trial before being taken over by the French Military authorities. The dirigible was taken for a lengthy trip over Paris

with seventeen persons on board, including a number of army officers. On the previous Friday it had made a flight of about 400 kiloms. in eight hours during a snowstorm.

More Trials With "Capitaine Ferber."

WITH eleven persons on board, the Zodiac dirigible "Capitaine Ferber" made a long voyage over the Beauce Plains on the 10th inst., and on the 12th it underwent its first official speed trial over a course of 90 kilometres. The airship was piloted by Count de la Vaulx, and the average speed worked out to about 55 kilometres an hour. On the following day an altitude trial was carried out over a circuit embracing St. Cyr, Versailles, Marly, Breteuil, Bonnelles, Limours, and Chateaufort. The greatest altitude attained was 1,670 metres.

The "Adjutant Vincenot" at Toul.

DURING last week flights were made almost daily with the "Adjutant Vincenot" at Toul and on the 13th inst. it was out both in the morning and the afternoon. On the latter occasion during a cruise of an hour and a half it made a reconnaissance over Luneville and passed along the Meurthe Valley to Nancy, after which it returned to its headquarters at Toul.

A Zeppelin to Visit Kiel.

IT is stated that arrangements have been made for a Zeppelin airship to visit Kiel during this year, and it is probable that Count Zeppelin will take the "Schwaben" there himself, paying a visit en route to Schleswig-Holstein and Hamburg.

A New German Airship Station.

A NEW giant dirigible shed is being built at Thorn, on the east frontier of Prussia. It will be 490 ft. long, 163 ft. wide, and 98 ft. high, capable of housing two airships of the Zeppelin type.

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Aeronautical Patents Published.

Applied for in 1910.

Published January 18th, 1912.

27,610. P. DE MONTGOLPIER. Aerial vessels.

Applied for in 1911.

Published January 18th, 1912.

- 255. W. E. DENNIS AND H. S. BRETTON. Flying machines.
- 8,108. H. L., A. S., AND H. O. SHORT. Propelling mechanism for flying machines.
- 20,707. E. WILSON. Launching device for aeroplanes.
- 21,905. C. W. VAN DEURSEN AND J. KNEPPERS. Propelling device.

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