tion of these great bodies would be welcome at this moment, as it would tend to prevent mistakes and confusion in regard to the significance of the titles conferred by them. It is, indeed, most desirable that such an account should be published. Three or four pages of NATURE would suffice for a brief and accurate statement. L.

London, Mar. 5.

Solar Radiation and Diathermancy.

THE accompanying record (Fig. 1) of the temperatures attained by six thermocouples embedded

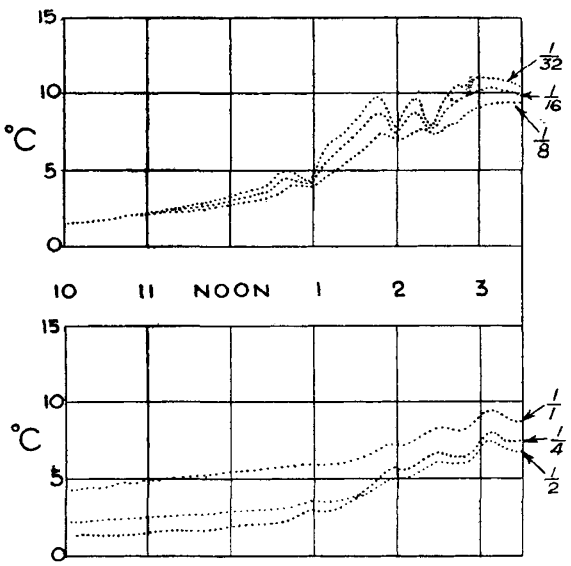

FIG. 1.

in a nine-inch brick wall may be of interest. The thermocouples, protected by a thin layer of Chatterton's compound, were embedded at 1/32, 1/16, 1/8, 1/4, 1/2, and 1/1 of the thickness of the wall, which faces west by south.

A considerable time is required for the transmission of (a wave of) heat by conduction through nine inches of brick, and the rapid response shown in the lower half of the record indicates that an appreciable amount of solar energy is transmitted as radiation.

The troughs at 2 P.M. and 2.25 P.M. in the upper half of the record correspond to the shadows cast by the sides of a wooden ladder. A. F. DUFTON.

Building Research Station,
Garston, Herts., Feb. 23.

Sand-flies and Chinese Kala-azar.

UP to the present there have been no records of any infection being produced from Phlebotomus fed on cases of kala-azar, therefore the results of the following experiment may be of interest, since they show that the flagellates which develop in the midgut of sand-flies are capable of producing the infection when they enter a susceptible host. The details of the experiment are as follows:

On Aug. 29, 1926, a female hamster (*Cricetulus griseus*) was inoculated intraperitoneally with a saline suspension of the midgut contents of five infected *Phlebotomus sergenti* var. (exp. S. 75) that had been fed three days previously on a hamster infected with the parasite of Chinese kala-azar. The sand-flies had been kept at a temperature of 30° C., and of those dissected after a three-day interval, six out of eight contained flagellates in the midgut. On Jan. 26, 1927, after an incubation of approximately five months, this hamster died. On examination the spleen was found to be moderately enlarged, and films made from the spleen, liver, and bone marrow, all contained enormous numbers of parasites.

This experiment shows that *Phlebotomus sergenti* var. is capable of harbouring the parasite of kala-azar in a virulent form, and that the parasite is in an infective stage in the midgut three days after being ingested by the insect. The experiment supports the hypothesis that sand-flies are responsible for the transmission of the parasite of this disease.

EDWARD HINDLE.
W. S. PATTON.

Kala-azar Commission of the Royal Society,
Tsinan, North China,
Jan. 28.

Amphipneustes.

THE Research item headed "Antarctic Echinoidea" (NATURE, Feb. 19, p. 294) says: "Antipneustes is a name that replaces Amphipneustes Koehler 1901 to avoid confusion with the unknown Amphipneustea Wiegmann." Since the name Amphipneustea was as unknown to me as to the writer of that note, I have taken some trouble, with the help of Mr. C. D. Sherborn, to get to the bottom of the puzzle. First of all, it appears that the name Antipneustes was proposed, at Prof. Koehler's request, on p. 427 of Lambert and Thiéry, "Essai de nomenclature raisonnée des Échinides," published in 1924, but only just obtained for the Natural History Museum. The supposedly conflicting name Amphipneustea is, on p. 428 of that work, credited to Wiegmann, 1837, without further reference. The "Nomenclator" of Agassiz helps one to track this down to A. F. A. Wiegmann and Ruthe, 1832, "Handbuch der Zoologie," p. 527. The name, however, is applied to a family of Pulmonate Mollusca, and therefore could not conflict with Amphipneustes Koehler, even if the spelling were the same. It may be mentioned that, in 1820, B. Merrem, "Tent. Syst. Amph.," gave the name Amphipneusta to a family of Reptilia.

The upshot of this is that Amphipneustes Koehler 1901 stands, and that Antipneustes is an unwanted synonym; and the moral is: "Verify your references!" F. A. BATHER.

Carbon Monoxide Poisoning in the Absence of Hæmoglobin.

MAY I remind Mr. Haldane (NATURE, Mar. 5, p. 352) that it was shown by Faraday, in 1834, that the interaction of hydrogen and oxygen, at a clean, cold platinum surface is prevented by the addition of carbonic oxide. Of course, we never discuss these fundamental things in text-books. Still, his observations are an interesting and useful addition to those of Warburg. I have considered the nature of the influence in my article on catalysis (NATURE, Aug. 22, 1925), published in the last Solvay Report. The effect of carbonic oxide upon animals would seem to be that of displacing oxygen from hæmoglobin. I am not aware of any proof that it inhibits oxidation, except by reducing the supply of oxygen. What is surprising is, that carbonic oxide is not generally a more active substance: unfortunately for it, fortunately for us, perhaps (though maybe the reverse holds good), its heat of oxidation is slightly lower than that of hydrogen—hence these tears.

HENRY E. ARMSTRONG.