though in the long run economic, entails heavy initial expenditure. On the other hand, to place townsmen on the land as isolated units and without adequate training and supervision is to court failure.

The comments upon the part education should play go to the very root of the matter. There is nothing to be gained by shutting our eyes to the fact that since the foreign migrant has a far more highly developed 'land sense' than the British migrant, less has to be spent upon looking after him during his early years. So far as I am aware, foreign Governments do not, and have no need to, give grants in aid of migration. But we have to deal with the fact that the drift to the town is more accentuated in the case of the Anglo-Saxon than with other nationals. Considerations of national safety demand that that tendency should be combated.

If we are to develop the empty spaces of the Empire by men of our own race, we must take the necessary steps to guide cultivators of the soil to those areas. A high degree of organisation and the full co-operation of all the Governments of the Empire is called for; and such organisation will cost money. We must maintain balance. Such effort does not preclude the migration of thousands of men who will not go upon the land, but it will be fatal if the agricultural side be overlooked. CHRISTOPHER TURNOR.

Stoke Rochford,
Grantham, May 31.

THE main criticism contained in the article in NATURE of May 14 was that the report of the Overseas Settlement Committee did not deal with those very points on which members of Parliament should be informed. The report should have contained the information given in Mr. Turnor's interesting letter, that the Dominions cannot at present absorb all those of our people willing to migrate, and that New Zealand absorbs, per head of population and *pro rata* for her area, more migrants than any other Dominion. Possibly there would be some difficulty in attempting to deal with certain of the factors enumerated in these columns which influence overseas settlement, but most of them could be dealt with—in particular, the inter-relations between overseas settlement and trade with the Dominions, and the programme of development and other development projects put forward by the Dominions which must at some time have been discussed by the Committee. We cannot altogether agree with Mr. Turnor that it is inexpedient to deal with the causes operating against the migration of our peoples to South Africa. They are not sufficiently well known to members of Parliament. Mr. Turnor suggests that migrants of other nations do not receive financial assistance. Possibly foreign Governments do not give direct assistance, but it is a fact that one of the principal objects of the 'Deutsche-Kolonialgesellschaft' is to afford financial support to German emigrants. With Mr. Turnor's concluding sentences we are in entire agreement. That is why regret was expressed that the report did not deal adequately with problems which face the Committee.

THE WRITER OF THE ARTICLE.

Measurement of Evaporation of Sea Water.

MANY methods have been devised for the investigation of the evaporation of sea water, but of them all only those can be applied aboard a ship in which errors caused by the rolling of the ship are prevented. Therefore the method invented by Dieulafait and modified by Penck and Merz has largely come into use. The authors mentioned measured the quantity of evaporated water by observing an increase of the concentration, or density, of the salt solution.

Evidently, however, such an increase must always be very small, because the concentration itself of the salt in the sea water is usually equal to 30-37 per thousand. For example, Merz and Wüst were obliged to wait 12-24 hours before it was possible to make a good observation of the increase of concentration. During such a long time all the meteorological conditions may be altered and the temperature of the evaporating water will change.

The simple method which I describe here is free from all these defects. It is based on the observation of the *cooling* of water caused by evaporation.

The sea water must be poured into a so-called Dewar vessel of a special form, represented in Fig. 1.

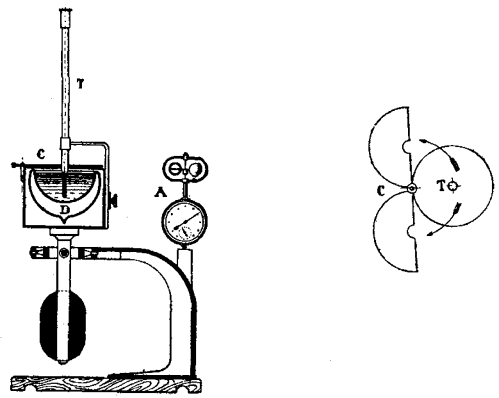

FIG. 1.

The thermometer T gives the initial temperature, when the instrument is closed with a cover C. When the latter is opened the water will begin to evaporate through the action of the wind blowing over its surface. The latent heat of evaporation, specific heat of water, the volume of the vessel, and the area of the water level are known. It is easy, therefore, to calculate the quantity of water which evaporates in 1 sec., per unit area, but only if the mean temperature of the water—before and after evaporation—is equal to that of the air. The interval of time sufficient for the perceptible cooling of the water usually *does not exceed a few minutes*, the thermometer scale showing not smaller parts than fifths of a degree.

The temperature of water is usually higher than that of the air. In such cases one must draw the curve of cooling (Fig. 2). The ordinates of this diagram represent the temperature of the water, and abscissæ either the time or the "distance which the air-particles travelled in the wind." This latter case occurs when the velocity of the wind varies strongly during a short period of time. (For further details on this question see my article mentioned below.)

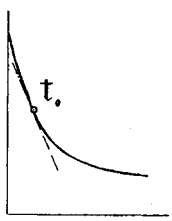

FIG. 2.

We will now consider only the case of constant velocity of the wind. Let us denote the temperature of the water by t (t_0 being the temperature of the air) and the time by T. Then it is evident that the velocity of evaporation is proportional to dt/dT, calculated for a point of the curve, where $t = t_0$. To the same quantity $(dt/dT)_0$ is proportional the quantity of heat which is lost by the water. If we calculate analogous quantities