Large-scale Map of the Salonika Battle Front. (London: J. W. Bacon and Co., Ltd.) Price 1*s.* net on paper, 1*s.* 6*d.* net on cloth.

THIS map, on a scale of 5 miles to 1 in., shows the country to the north of Salonika as far as lat. 42° 10′ N., and east to Kavalla and west to Monastir. It is layer coloured, and the contour interval is 1000 ft. International boundaries are clearly shown, and a red line indicates the approximate position of the Allies' front. Railways and main roads are shown, as well as swamps. The map is carefully executed and contains plenty of names. No doubt it could be improved by the addition of a 500-ft. contour line, but it is the best cheap war map of this region which has yet appeared.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Talbot's Observations on Fused Nitre.

AMONG the little remembered writings of that remarkable man, H. F. Talbot, there is an optical note in which he describes the behaviour of fused nitre (nitrate of potash) as observed under the polarising microscope. The experiments are interesting and easily repeated by anyone who has access to a suitable instrument, by preference one in which the Nicols can be made to revolve together so as to maintain a dark field in the absence of any interposed crystal.

"Put a drop of a solution of nitre on a small plate of glass, and evaporate it to dryness over a spirit-lamp; then invert the glass, and hold it with the salt downwards and in contact with the flame. By this means the nitre may be brought into a state of fusion, and it will spread itself in a thin transparent film over the surface of the glass.

"Removed from the lamp it immediately solidifies, and the film in cooling cracks irregularly. As soon as the glass is cool enough, let it be placed beneath the microscope (the polarisers being crossed, and the field of view consequently dark)."

I have found it better to use several drops spread over a part of the glass. And instead of inverting the plate in order to melt the nitre, I prefer to employ the flame from a mouth blow-pipe, caused to play upon the already heated salt. The blow-pipe may also be used to *clean* the glass in the first instance, after a preliminary heating over the flame to diminish the risk of fracture. Further security is afforded by keeping down the width of the strip, for which half an inch suffices.

Talbot describes how, under the microscope, there appear crystalline plates of irregular shape, often fitted together like a tesselated pavement, each plate forming a single crystal. If one plate is darkened by rotation of the Nicols, the others remain visible in varying degrees of brightness. If the plates are thin, the light is white; but with more salt they display colour, and the colour is not always uniform over the whole plate, indicating a variable thickness. But this condition of things is not permanent. After perhaps a quarter of an hour the plates break up in a surprising fashion, and the general appearance is totally changed.

Moreover, the transformation may be accelerated. "Let a film of fused nitre be obtained in the manner already mentioned, and let it be allowed to cool during three or four minutes. The plate of glass should be turned round upon the stage of the microscope until the crystalline film is darkened as accurately as possible. Things being thus adjusted, let the observer touch the film with the point of a needle while he is observing it in the microscope. He will perceive that the touch immediately produces a luminous spot on the dark surface, and this spot will slowly expand itself in all directions like a luminous wave. This is a very curious object, but difficult to describe." And further on:—"If, however, we touch it prematurely, as, for instance, during the first minute after it has become solid, this change does not take place."

I have made a few trials to ascertain whether the life of the plates can be prolonged. Protection from atmospheric moisture did little good. Another plate, kept for five hours at a temperature not much short of that of boiling water, was found to have undergone transformation. But, as might be expected, a higher temperature over a diminutive gas flame acted as a safeguard, and the plate after removal behaved like one newly formed.

I have found that nitre may be replaced by *chlorate* of potash, with the advantage that the plates will keep (at any rate in an artificially warmed room) for weeks, and perhaps indefinitely. The appearances are similar, but less beautiful, as colour is not so often developed. The chlorate is more fusible than nitre, and the heat should not be pushed beyond what is needed for fusion.

Other salts—for example, silver nitrate—which fuse in the anhydrous state without decomposition may also be employed, as is probably known to those who prepare objects for the microscope. But Talbot's early observations on nitre are rather special, and deserve recall as they seem to be but little known.

RAYLEIGH.

"Plants in Health and Disease."

ON p. 331 of NATURE of December 28, 1916, the writer of the review of the book entitled "Plants in Health and Disease" remarks:—"The accounts of such pests as the cabbage-root fly and the onion fly, which have been very active this year, are particularly clear. We could only wish that the measures whereby these pests are to be combated were half as good." With reference to the cabbage-root fly, I am glad now to be able to report that an efficient measure for dealing with that widespread pest has been tested under my direction during the past season.

Mr. J. T. Wadsworth, research assistant in this department, has conducted a series of experiments with American tarred felt paper discs, and a full account of the work will appear in the next issue of the *Annals of Applied Biology*. The tarred felt discs each measure 2½ in. square, and are provided with a slit which enables them to be slipped round the stems of young cabbages and cauliflowers so soon as the latter are planted out in the field. Each disc is pressed flat upon the surface of the soil round the plant, and no further attention as a rule is needed. Its primary function is to act as a mechanical obstacle, preventing the flies from laying their eggs on the soil in the usual position, close around the plant. Out of 816 cabbages used in these experiments, half of them were provided with the discs, and the remainder left unprotected. Only one plant was lost out of the 408 protected examples, while fifty-four unprotected cabbages were severely attacked. With regard to cauliflowers, the results were even more striking. Alto-