

1000 in each of these attacks. The year 1891 is referred to as the worst period, but at the date mentioned the Registrar-General says "one death was primarily attributed to influenza." In lieu of 1891 the year 1892 should have been given, when for the week ending January 23 the deaths in London were 506. The quiescence of the disease lasting three-and-twenty years is scarcely tenable, as shown by the above facts.

The total number of deaths from influenza for the past summer epidemic was 929 (not 1600), based on the reasoning followed in all epidemics since 1890. In the attack now in progress the total deaths (371) in London for the week ending October 19 were more than in any epidemic since 1895, when the deaths in the week ending March 19 were 473.

Since 1890 no influenza epidemic has occurred in London in September, only one (the present year) in August, two in October, two in July, three in June, and four in November. Of the total twenty-eight epidemics twenty-four have occurred in March and twenty-one in February.

Although the weather seems to have little bearing on the disease, the temperature generally has been abnormally high and the air humid at the outbreak of several of the epidemics, whilst when the air becomes cold and dry the incidence of the disease is commonly reduced.

CHAS. HARDING.

65 Holmewood Gardens, London, S.W.

#### Supplies of *Amœba proteus* for Laboratories.

ONE of the ways in which the war has interfered with zoological teaching in this country is by cutting off supplies of various of the animal types which are examined by the student in the laboratory. Amongst these, as has already been indicated by letters to NATURE, is *Amœba*—the animal with the study of which many zoological courses commence.

It is easy enough to obtain *Amœbæ* of a kind, but what the teacher requires is a supply of the large *Amœba* which commonly goes under the name *A. proteus*. Of this, again, it is easy enough to obtain a few specimens, but the teacher—at least, if he has a class of nearly four hundred students, as is the case in this University—must be able to obtain a thousand or more specimens on a particular date.

With the object of grappling with our local difficulties in this matter, Dr. Monica Taylor, S.N.D., has been so good as to make a special study of the distribution of *A. proteus* in the neighbourhood of Glasgow, and of its culture in the laboratory. Pending the publication of her paper on the subject, I think it may be useful to other teachers of zoology if I summarise in a few words her chief results.

During the months June to December *A. proteus* seems to be of general occurrence in moorland lakes and ponds, while it disappears from December to May—no doubt becoming encysted, as described by Miss L. Carter (Proc. Roy. Phys. Soc. Edin., vol. xix., 1915). The main conditioning factors of its occurrence appear to be abundant food supply and a rich supply of oxygen. An apparently ideal spot is one where richly oxygenated water from the overflow of a pond passes over mud rich in organic *débris*.

The supplies of *Amœba* obtained in such a locality are placed in aquaria in which the water is richly aerated either by water-weed or by a special apparatus, and as a source of food supply grains of wheat are mixed with the mud, as suggested by Hyman. In this way Dr. Taylor has succeeded, as she says, in obtaining "millions" of *Amœbæ* in laboratory cultures.

J. GRAHAM KERR.

University of Glasgow, October 22.

#### ALCOHOL IN INDUSTRY.

NOT the least remarkable result of the war on this country will be its effect on the development of chemical industry, and especially in the application of organic chemistry to the chemical arts. This, of course, has primarily resulted from the cutting off of the large supplies of manufactured organic products—mainly synthetic dyes and drugs, photographic chemicals, and numerous other substances comprehended under the term "fine chemicals"—which prior to 1914 mainly came to us from Germany. Thrown thus upon our own resources, we were compelled, in the interests of national health and welfare, to attempt the manufacture of certain of the more important of these products. Great difficulties were experienced at the outset, owing to our lack of experience and the absence of skilled assistance. The supply of chemists with any real training in the application of organic chemistry to industry was very far short of the sudden demand. We were overtaken by a Nemesis invoked by our own inactivity and lack of foresight. It is only within recent years that the teaching of organic chemistry has received any considerable amount of attention in our universities and technical colleges. For the most part it has been regarded as a purely academic subject, to be studied in the interests of pure science, and with no thought to its technical application as a branch of manufacturing chemistry. Except to the few who sought to fit themselves for a career in science, mainly as teachers, there was little or no inducement to pursue its study, as there were very few opportunities in this country to turn a knowledge of it to practical account.

The situation at the outbreak of war was further aggravated by the action of the Army authorities in drafting such trained men as were available into the combatant ranks. But, notwithstanding these disadvantageous circumstances, an astonishing amount of progress has been made. As regards medicaments our manufacturers have risen to the demands made upon them. In spite of many setbacks due to inexperience and ignorance, and a lack of adequate plant, we have it on the testimony of the highest authorities that the Services are now adequately supplied with every needful drug. In this respect our men, and the country generally, are infinitely better off than our enemies. It is notorious that Germany, in spite of all her boasted power of organisation, has failed lamentably in meeting the necessities of her Medical Service, and an untold amount of suffering, permanent injury, and a greatly increased mortality have thereby resulted.

As regards synthetic dyes, if the progress has not been relatively so striking or so adequate as in the case of drugs, it has at least been very considerable. We are very far from being alongside Germany yet, either in the amount or the range of our output, but we are in a fair way of being able to meet our more urgent demands. It is impossible in five years to make up the leeway of fifty, especially of fifty years of strenuous and