

the great wheat lands just north of the Black Sea, where Mark Alfred Carleton gathered seed wheat for the U. S. Department of Agriculture nearly thirty years ago.

Dr. Smith, however, does not attach any blame to the work of this explorer, but believes that new plants should be grown under quarantine when first brought to this country, so that lurking diseases may be detected and excluded. Of Mr. Carleton's work he says:

"I have always considered Mr. Carleton's work to be the most far-reaching and practical piece of work ever done by the Bureau of Plant Industry, since in a district in our west stretching from Texas to North Dakota and covering several degrees of longitude, through his energy and ability, we now grow annually 100,000, 000 bushels of the Russian hard wheats, where previously we did not grow any.

"I write this not to condemn Mr. Carleton but only to point out that, if our government were as intolligent as it ought to be (few governments have much foresight), we should now have agents scouring the whole world studying all sorts of crops and crop diseases so that in future when we import valuable ornamental plants and food plants we may do so without at the same time bringing in their parasites. Had we known of this Russian wheat disease in 1889 weshould have imported the Russian hard wheats more slowly and grown the plants in quarantine first and so have avoided introducing the parasite along with the grain. In similar ways we might have avoided the introduction of a dozen very destmictive parasties which have come to us from the old world in the last three decades. The United States, even at the present time, is very derelict in making explorations in foreign countries for the benefit of its citizens and the conservation of its industries, but if we would lead the world we must change our policy. Japan is the only country thoroughly awake to the need of foreign exploration. Her scholars are in every quarter of the globe, dozens of them picking up every grain of information possible for use in the mother country. It is much to be regretted that we have not already adopted the same far-sighted and commendable policy."

TUBERCULOSIS VACCINATION MAY BE POSSIBLE IN FUTURE

Will our descendants be vaccinated for tuberculosis much as we now are for smallpox? That even the most conservative in the medical world do not consider such a future development impossible is shown by the editorial attitude of the Journal of the American Medical Association.

Discussion of the most recent results of the tuberculosis inoculation experiments of Prof. Albert Calmette of the Pasteur Institute, contrasts his methods with those of a German experimenter in this field, Dr. H. Selter, of the medical faculty of the University of Konigsberg. Attenuation of a disease germ to such a degree that it will confer immunity but will not cause serious illness has been the aim of many investigators for many diseases. Prof. Calmette and his associates believe that they have attained such a weakened strain of bacilli, by growing them for thirteen years in a medium consisting exclusively of bile.

Some 4,517 children have been vaccinated by Prof. Calmette since June, 1924. While detailed reports on all these cases are not quite ready for publication the following editorial comment is significant: "The vaccinated children all come from an environment in which open tuberculosis close at hand made natural infection seemingly inevitable. The records for 423 infants for the first six months after vaccination have been published. Approximately one-third of these children have been exposed within the family. In not one of them has a death occurred from recognized tuberculosis, although thirty have died from other causes. Calmette and his associates have compiled figures showing a mortality of 24 per cent. in three years for non-vaccinated children of tuberculous parents living under the same conditions."

Almost simultaneously with the last published account of Prof. Calmette's results, Dr. Selter makes the announcement through a German journal, the editorial continues, that to confer real immunity virulent living bacilli should be used for inoculation. In accordance with this theory he has vaccinated nine children with virulent tuberculous cultures, none of whom seem to have suffered any ill effects.

As in the French experiment, Dr. Selter used only children free from previous infection but exposed to tuberculosis in their home surroundings. Drastic as introduction of virulent tuberculosis bacilli into the system sounds, he felt that the trial was well grounded on animal experimentation and that the method had proved itself harmless. In no case did the children suffer any impairment to their general health. He is careful to state that he does not think his method will replace natural acquired immunity but he recommends that it be considered as an aid to infants who have to live in a tuberculous environment.

While the efforts of these European workers merit the close attention they are receiving, the editorial concludes with the warning that strains of tuberculosis bacilli vary greatly in strength since the occasional serious infection of animals following inoculation with supposedly attenuated strains of bacteria only shows that many factors are still unknown.

DEEP-SEA INKFISH SHOOTS LIGHT, NOT INK

A cuttlefish that confounds its enemies with light instead of darkness is the interesting creature described by Prof. E. Newton Harvey, student of what is popularly known as "cold light", who has just returned to Princeton University after eight months of research in the marine laboratories of Naples and Messina, Italy.

Ordinary squid or inkfish that live near the surface escape their pursuers by throwing out a cloud of black fluid, as a kind of submarine smoke-screen, Prof. Harvey explained. This abyssal form, which lives at depths of probably 10,000 feet, where no light ever penetrates, has only a rudimentary ink-sac, which instead of the usual inky sepia contains a luminous substance. When disturbed, it discharges a jet of this luminous material, and thus blinds its enemy with light instead of darkness.

Prof. Harvey is of the opinion that this deep-sea squid is a descendant of surface-living animals, but that as it evolved in darkness it found that this