ordinary bacteria of putrefaction. Fresh miliary tubercle answers best, taken from an animal affected with inoculation-tubercle, and killed shortly before. If the glass is kept at a temperature of 37° or 38° C., at the end of about ten days the first effect of culture is observable as fine white points and streaks on the surface of the serum. Fresh glasses may be inoculated from this first culture; and so a series of generations may be obtained. Some of these series of cultures were continued for two hundred days. Under the microscope these grayish-white masses on the surface of the serum are found to consist of precisely the same bacilli as can be demonstrated by means of the method of double coloration in the primary tuberculous tissue. If a small portion is inserted into the anterior chamber of the eye of an animal, is injected into its blood, or inoculated beneath its skin, there results a widespread tuberculosis of almost all the organs and tissues that has a more rapid course than when the inoculation is made with ordinary tuberculous material. The first symptoms are to be observed in guinea-pigs ten days after the inoculation. Even animals which enjoy an almost complete immunity from tuberculosis, such as dogs and rats, are affected rapidly and with certainty. In some of the animals which died after these inoculations the amount of tubercle developed in the tissues was enormous, being hardly ever equalled in the human subject.

These experiments seem to demonstrate that the organism which is revealed by the method of double coloration is really the pathogenic element of tuberculosis. The researches appear to have been conducted with admirable care. The experiment will no doubt be soon repeated. Indeed, in the brief interval which has elasped since the demonstration by Koch, on March 24th, his observations have received independent conformation by Baumgarten, who has published in the *Centralblatt fur Med. Wiss.* an account of his observations. In every new formation of artificially-produced tuberculosis in the guinea-pig he found innumerable quantities of the rod-shaped bacteria infiltrating the area in diminishing intensity from the center to the circumference. As far as the tubercular growth can be traced the bacterial infiltration extends. His description of the organisms closely agrees with that of Koch, but he observed that the extremities of the rods frequently presented a knob-shaped or wedge-shaped enlargement. They were very rarely united in pairs, and never massed in the so-called zooglea form. He corroborates their characteristic of resistance to the ordinary methods of tinting, and only succeeded in bringing them into distinct view by dilute alkalies. In a postscript Baumgarten adds that he has succeeded in finding the same organisms in human tubercle. The pathological importance of the discovery of the proximate cause of this frightful scourge of the human race cannot be over-estimated; nor is it possible to foretell the practical results to which it may lead. —*The Lancet.*

DIABETES ITS TREATMENT.

E. A. Cook, Ph.D., L.R.C.P. and S.Ed., L.F.P.S.G., writes to the *Practitioner* that:

Whether the primary lesion in diabetes has been caused by sudden imbibition of cold liquid, or in some other way, it is certain that the quantities of liquid habitually consumed by diabetics must be very hurtful to digestion. The peptic glands would pour their secretion into a mass of diluting fluid, but little food could be rendered fit for absorption, and this fluid is absorbed, carried by the veins partly to the general circulation, partly to the liver, and thus the blood must be constantly diluted. In treating such cases we must endeavor to decrease the water consumed. This is very difficult to effect while so much urine is passing away, for if the patient denies himself liquid by force of will, a kind of ravenous state sets in, and life is unbearable. While the sugar is constantly produced it must be as constantly eliminated, and to effect this by the kidneys a certain amount of water is necessary. The state of the case in such patients seems to necessitate a choice of evils. If you seek by drugs or by deprivation of fluid to diminish the amount of urine, sugar accumulates in the blood. If water be allowed in the quantity required, the patient dies from want of nutrition, because the digestive organs are unable to act, and the blood is depleted of other life-sustaining substances.

In dealing with these symptoms we must not neglect the morbid physiological states produced by them; we must not hope for permanent improvement by administering drugs which increase morbid conditions. If in a disease like phthisis it is so well recognized that opiates are prejudicial in consequence of their action in disordering the stomach, how much more strongly should this fact be borne in mind in the treatment of diabetic symptoms? Doubtless a temporary apparent improvement is sometimes manifest from their use, but it is at the cost of a real decline in vital power; or if a real improvement is effected, it must be by some occult special action on the special lesion in these cases, and no generalization can be made. The diabetic symptoms in the order of their importance, when well established, are: 1. Excessive thirst; 2. Constipation; 3. Lack of digestive powers; 4. Twitching of muscles, especially those of the lower limbs; 5. Weakness; 6. The excretion of excessive urine and sugar; and it is in this order that treatment is most urgently demanded.

Any one who has watched a well-marked case will not need to be convinced that it is of the utmost importance for the comfort of the patient that the hard dry tongue should be kept moist, and if the orifices of the salivary ducts are examined