

Dr. B. H. Knight's letter is welcome as emphasizing the apathy which exists on this subject. What has been done in South Africa and also in Australia for students out of reach of teaching institutions should be possible in England. The aspect of private profit is a bogey that obsesses the professional educationist, but the fact that the practical training of engineers is far more influenced by commercial considerations causes no concern whatever. While it is the case that correspondence colleges in Great Britain have no official recognition, it can be said that at least one, the Technological Institute, has received the encouragement of both the Institution of Civil Engineers and the Royal Aeronautical Society.

What has to be feared is the 'dead hand' of officialdom, as is shown by the following case. A lad working in the country received an elementary

training in classes held in the works and then went to a technical institute in the near-by town. Having there completed the equivalent of the first two years of the National Certificate course, he took the third-year subjects in the county borough, 10-12 miles away, travelling three nights a week, and passed the examination. He was not, however, awarded the certificate. The verdict was that he must now attend the second-year course—in effect, a sentence of one year's educational imprisonment. While the system is controlled with such lack of vision that a better way out could not be seen, any prospect of an enlightened policy must be dim, but it is to be hoped that the forthcoming conference will deal fairly with the case of those hapless students who are, as it were, 'without the gate'.

THE WRITER OF THE ARTICLE.

### Points from Foregoing Letters

USEFUL results can be obtained by submitting built-up molecular films to high vacuum; S. J. Gregg and E. E. Widdowson have determined by this method the condensation coefficients of stearic and arachidic acids, and the free-acid content of built-up films of barium soaps.

K. S. Krishnan and N. Ganguli find that the specific resistance of a single crystal of graphite in the basal plane is at least one ten-thousandth of that along the plane normal to the basal plane.

Using the assumption that a heavy electron may be regarded as a quasi-stable state of an ordinary electron, Ira M. Freeman derives a formula for the life-time of a mesotron which gives a result in good accord with experimental deductions.

H. O. Jenkins has found a linear relation between dipole moment and  $1/r^2$ , in the series  $C_6H_6$ ,  $C_6H_5CH_3$ ,  $C_6H_4C_2H_5$ , etc., where  $r$  is the distance between the carbon of the ring and the terminal carbon atom of the side chain (H in the case of  $C_6H_6$ ). This relation also gives the correct limiting value of  $\mu$  for the series.

P. K. van der Merwe describes a simple and inexpensive method of decontaminating water of its fluoride by the addition of superphosphate and precipitating tricalcium phosphate by the addition of lime.

W. A. Engelhardt and M. N. Ljubimowa state that they have extracted adenosinetriphosphatase of muscle. It is precipitated with and has all the properties of myosine. Thus the primary energy-yielding reaction in muscle, the hydrolysis of adenosinetriphosphate, seems to be associated with the protein forming the anisotropic contractile part of the muscle fibre.

In an extensive series of experiments, A. E. Braunstein and R. M. Azarkh have shown that transamination of *d*- and *l*-amino-acids is either not effected at all by minced tissue from various malignant tissues or at a much lower degree than it is by normal tissues.

A. E. Axelrod, H. A. Sober, and C. A. Elvehjem have demonstrated a decrease in the *d*-amino-acid oxidase content of liver from rats fed on a diet low in both riboflavin and factor *W*. When the basal ration was supplemented with riboflavin alone or a

factor *W* concentrate alone, there was some increase in the oxidase content of the liver, but the value returned to normal only when both riboflavin and the factor *W* concentrate were given.

Ambisexual action of progesterone has been observed by A. Bolliger and A. Carrodus in the common Australian opossum. In the female, progesterone was found to increase the size of the pouch; in the male, broadening of the neck of the scrotum was observed, followed in immature specimens by testicular ascent. After prolonged administration the penis remained in a state of erection.

H. C. Trimble and C. E. Keeler report that over a period of twenty-five years Dalmatian dogs inhabiting a large colony have shown differences in the eagerness with which they have followed horses and have had individual preferences for particular positions when running beneath a carriage. These differences and preferences appear to have been transmitted to offspring through several generations to an extent which seems to have genetic significance.

J. W. H. Horry describes a new method of practical eelworm control by the use of soluble, organic silver compounds. The best results were obtained with silver proteinate.

Filtrates of throat washings collected from measles patients on first appearance of the characteristic rash have been used by G. Rake and M. F. Shaffer to infect fertile hens' eggs. Broth emulsions from such infected embryonic tissue have been passed from egg to egg, and even after five such transfers are still able to produce measles symptoms in rhesus monkeys.

Referring to an article in NATURE on the training of engineers B. H. Knight endorses, from personal experience, the statement made as to the perfunctory interest shown by the professional institutions in education. For those out of reach of approved colleges he recommends the establishment of correspondence courses as have been arranged in South Africa and Australia. Our contributor, by way of comment, directs attention to the way in which the approving authority at present deals with cases not conforming to the system, and to the need for a more enlightened attitude towards such students as are hampered by distance.