

materia medica must be followed in order to educate a good therapist, and the sooner our medical institutions make a requisite of this branch, the better it will be for patients treated by their graduates.

ON THE PRESENT TENDENCY TOWARDS HIGHER STANDARDS OF PROFESSIONAL EDUCATION.

ONE cannot but observe with pleasure, in the present general advance and spread of higher education, that this advance is affecting not only the institutions of higher learning themselves and the general population, but also the strictly professional or technical schools. And whilst I wish in this short paper to refer more especially to law and medicine, my remarks will apply also to other — perhaps to all other — professions.

The medical education of this country has, deservedly enough, for many years been looked upon with little favor, and has ill stood the test of competition with the methods of other countries; but now we are observing a great change in this respect, and there is no doubt that before many years the degree of M.D. from an American university will be as valuable a certificate on its face as can anywhere be obtained. Medical courses of four years' duration are now being adopted, or have already been adopted, by the leading medical schools in the country. The requirements in preliminary education have also greatly increased, and one may hope that before long such subjects as botany and zoology may be added to the requirements of a good English and general education from the intending student of medicine. State legislation itself has not been idle, and we find in the State of New York, for example, that no person can practise medicine without undergoing an examination conducted by the State Board of Examiners. A requirement of preliminary education has also been added, and though as yet no more than an elementary education is required, we may hope for better things in future.

As regards the profession of law, the advance is perhaps even more marked; more marked, that is, as regards legal education, for we do not find that the advance in the requirements for admission to the bar has been so considerable as might be desired, though they have been by no means neglected. Three-year law-school courses, which not so long since were unheard of, have now become the rule rather than the exception; and even in those schools which still see fit to maintain a two-years' course for the degree of bachelor of laws, a graduate course has been commonly added. Towards the general extension of the study of law so as to include the Roman or Civil Law, the tendency is by no means general, caused no doubt by the non-requirement of this branch for admission to the legal profession. Some universities, indeed, in their college courses, offer instruction in this subject; but it must be remembered that the majority of law-students are not college graduates, and so the breadth of their legal knowledge will be measured by the instruction given in the law school, however the depth and extent of what subjects they do touch upon may be increased afterwards. Yale is, I believe, alone among the universities in this country which gives extended courses in the civil law, and encourages their study by the bestowal of a degree (that of D.C.L.); but even then the course is one taken by but few students, and, as the catalogue says, is intended for those who intend to be something more than practising lawyers. This is not as it should be, and we must look to the future for more general study of this subject, for without it

law can hardly be taught as a science, for law is — and should be known as — a science.

Education preliminary to the study of law has also risen greatly. Latin is now a usual requirement, and we may doubtless soon see it a universal one.

The day is not far distant then, let us hope, when the title Doctor or Lawyer will in itself mean an educated man.

N. H.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

On request in advance, one hundred copies of the number containing his communication will be furnished free to any correspondent.

The editor will be glad to publish any queries consonant with the character of the journal.

The Elm-Leaf Beetle, *Galeruca xanthomelæna* Schr.

IN *Science*, No. 492, for July 8, 1892, Dr. C. V. Riley records the facts, that at Washington, D.C., the imagos from the first brood of larvæ of the above insect had already appeared, and that eggs from beetles of this summer brood had been obtained June 28. In a letter dated July 27, Dr. Riley informs me that from these eggs larvæ had been obtained and that these larvæ were then pupating. Dr. Riley's observations are positive, and prove

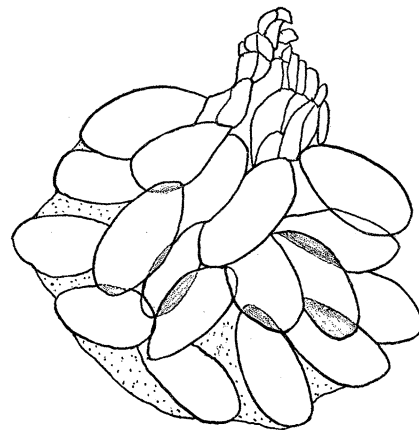


FIG. 1.

that there are two broods at least of this insect at Washington, D.C. They prove also that the beetles will mate and oviposit readily in confinement, and that there is only a brief interval between the appearance of the beetles and oviposition for the second brood of larvæ. This means that the beetles of both sexes are sexually mature when they emerge from the pupæ, or that they mature very rapidly and copulate within a very brief period after assuming the imaginal form. The accuracy of these observations I do not question; but neither do I admit that I am in error in claiming that in New Jersey, north of New Brunswick, there is only a single brood of this insect.

My acquaintance with the beetle at New Brunswick began in 1889, in which year I protected the large number of elms in and near the college campus and about the Experiment Station by spraying with a London purple mixture. In the Report of the College Experiment Station for 1888, Dr. George D. Hulst, my predecessor in office, had stated that there were two broods of the insect annually; and on the appearance of the summer brood of beetles, I made ready to spray again as soon as the second brood of larvæ should begin to appear on the protected trees. They never did make their appearance, and I was unable to find a second brood on any other trees in the city. Dr. Hulst, in response to questions, informed me that he had noticed only one brood of larvæ in 1888; but there had been a cyclonic storm about the time they became mature, which freed the trees and covered the ground beneath them with thousands of the slugs, only a few of which ever found their way back to their food.