CHLOROFORM ANÆSTHESIA.[1]

THE administration of chloroform is a subject that is of personal and direct interest to everyone in this present age of civilisation. Sooner or later either we ourselves or those dear to us gladly accept the relief from suffering that is offered, and that chloroform shall be given so that no unavoidable risk is run is a necessity that forces itself on our attention.

That much remains to be done in the direction of safety is only too evident. We confess to perusing the diagram of the yearly increasing death-rate from chloroform on p. 14 of Dr. Waller's lecture with a feeling of horror, and that is deepened when we read the instances given of such deaths, and supplemented by others which have come to our knowledge independently, where chloroform has been given for a trifling operation to an otherwise healthy patient, and where the phrase "Death from cardiac syncope" has acted as an anæsthetic to the conscience of the ignorant and careless anæsthetist. It is plain that some vital factor in the problem of safe chloroform administration has been overlooked, and what this consists in is readily seen when it is pointed out to us. The student of anæsthetics is taught to regard most carefully the minor details of the process; the observation of the state of the pulse and the condition of the conjunctival reflex is reduced to a fine art, but the most important detail of all, the amount of chloroform administered, is dismissed with the remark, made in our hearing by a professional anæsthetist, "I judge of the dose of chloroform by the effect[2] on the patient"!!! Yet if strychnine or arsenic were given without a measured dose, the folly of the proceeding would be manifest, and the possibility of such a remark, made by one who had spent some time in the study of the subject, shows at least that this study had been misapplied.

To replace ignorance of knowledge it is, however, necessary to do more than talk, and the lecture now under review gives an outline of the research that has been carried on in the physiological laboratory of the University of London on chloroform anæsthesia. It was apparent that there was a great lack of quantitative measurement in the process, and the first step consisted in obtaining a ready and accurate method for the estimation of the percentage of chloroform in air, and this was accomplished by the "densimetric" method. It then became possible readily to ascertain :—

(1) What percentage of chloroform in the inspired air was sufficient to cause anæsthesia.
(2) What percentage of chloroform caused death.
(3) How this death was brought about.
(4) By taking the percentage of chloroform in the *expired* air as well as in the *inspired*, together with the amount of air breathed, to measure the total quantity of chloroform used in any experiment.

Proceeding in this quantitative way, it was found that though death from too much chloroform can occur in either of two ways, yet, so far as the experiments lead us, neither way can occur when chloroform is given regularly in a percentage not greater than 2, and so before we can claim that a healthy patient has died from "idiosyncrasy" or "cardiac syncope" it is incumbent on us to show that we have not given him too much chloroform, and to ascertain that the cause of death (in at least the great majority of cases) arises from this easily remediable source, and not from some mysterious accident, is a very great advance towards safety.

We shall await the results of further observations on the human subject with interest, as well as the records of the use of the Dubois apparatus, which appears to be well adapted for clinical use. But meanwhile the facts here recorded merit the most careful consideration, and clearly point out the lines on which further research must be carried out.

[1] A Lecture on the Administration of Chloroform to Man and the Higher Animals. Delivered in the University of London on October 3, 1903, by A. D. Waller, M.D., F.R.S.

[2] By a curious mental process this anæsthetist, when the patient dies, does not consider that too much chloroform has been given, but that death has occurred from "idiosyncrasy"!

THE FIRST INTERNATIONAL CONGRESS FOR SCHOOL HYGIENE.

THAT it should be possible to hold an international congress on a subject which a few years ago had but little attention paid to it shows the enormous strides which have been made in the knowledge of the hygiene of children attending schools.

The first International Congress of School Hygiene was held at Nuremberg from April 4 to 9, and the credit for starting the congress must be given to Prof. Griesbach, the president of the "Allegemein deutschen Vereins für Schulgesundheitspflege." The energy and determination with which Prof. Griesbach overcame all obstacles are proved by the fact that every European country, except Italy and Turkey, was represented at the congress, and in addition to these European countries America and Japan were also represented.

The congress was opened formally by Prince Ludwig Ferdinand of Bavaria, and the work of the congress was carried on in sections. How extensive the work of the congress was may be gathered from the fact that there were seven sections. The first dealt with school buildings and the furnishing of the school-room, the second with the hygiene of residential schools, with the methods of hygienic investigation and research in schools, and with the physiology and psychology of educational methods and work.

The third section dealt with instruction in hygiene for teachers and scholars, the fourth with physical education and training in personal hygiene, the fifth with contagious diseases, ill-health, and conditions affecting attendance at school. The sixth section dealt with special schools, including those for the feeble-minded, the blind, deaf, dumb, cripple, invalid and exceptional children, and the seventh with out of school hygiene, holiday camps and schools, the relation of the home and the school, and the hygiene of the teaching profession.

The sectional meetings were held in the Royal Industrial School, a building well adapted for such a purpose. An exhibition of apparatus necessary for school purposes was held in the same building. Excellent arrangements had been made for the accommodation of those attending the congress, and also for obtaining information. Nor had the social side of the congress been neglected, and every facility was given to visitors to see those things in which they took the greatest interest.

Great Britain was represented by a committee with representatives from various societies interested in education and hygiene, with Sir Lauder Brunton as president.

The next International Congress of School Hygiene will be held in London in 1907, and Sir Lauder Brunton has been elected president of that congress.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

AT the graduation ceremony at the University of Edinburgh on April 9 the honorary degree of LL.D. was conferred on Prof. Alexander Macalister, F.R.S.

DR. ROSE, H.M. Consul at Stuttgart, continues his account of German technical education in No. 603 of the miscellaneous series of the diplomatic and consular reports issued by the Foreign Office. The recent report is on technical schools for special branches of the metal industries. Dr. Rose finds that in Germany for certain special branches of the metal and other industries the practical instruction given to apprentices in the workshops of factories is often incomplete and not progressively arranged, and the theoretical instruction given in evening and Sunday continuation schools is generally insufficient and not even obligatory in all cases. At the special technical schools for these industries the instruction is complete and progressively arranged, practice and theory being carefully and judiciously combined. As the schools, moreover, are situated in the midst of the industries they are intended to promote, they are kept in the closest possible touch with the actual and progressive requirements of factory methods and processes. The report gives full accounts of the courses of instruction, the hours, the preliminary knowledge expected of students,