

the week under notice were 25 fewer than the number in the previous week, and included 12 which were referred to the principal epidemic diseases, against 17 and 21 in the two preceding weeks. These 12 deaths were equal to an annual rate of 1.6 per 1000, the rate from the epidemic diseases during the same week being 1.6 in London and 1.9 in Edinburgh. Of the 12 deaths from these epidemic diseases in Dublin last week, six resulted from whooping-cough, three from "fever," two from measles, and one from diarrhoea, but not any from small-pox, from scarlet fever, or from diphtheria. Compared with the numbers in the two preceding weeks, the deaths from whooping-cough, from measles, and from diarrhoea showed a decline, while those referred to "fever" were in excess. The 187 deaths registered during the week included 28 of infants under one year of age and 59 of persons aged 60 years and upwards, both these numbers being lower than the corresponding numbers in the preceding week. Two inquest cases were registered, but no death was attributed to violence; while 84, or 44.9 per cent., of the deaths occurred in public institutions. The cause of one death in Dublin last week was not certified; in London all the 1393 deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 3.2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: C. Bradley to the *Cæsar*, on recommissioning; and R. H. J. Browne to the *Temeraire*. Staff-Surgeons: P. H. Bannister to the *Skirmisher*; and G. E. Duncan to the *Sentinel*, on recommissioning. Surgeon: A. S. Bradley to the *Hussar*, additional and on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Tom P. Woodhouse to be Brevet-Colonel under the provisions of Article 35 and 307 of the Royal Warrant for Pay and Promotion, 1907 (dated April 28th, 1909).

Major W. Hallaran, who has returned from Jullundur, has been appointed to the London District.

RESERVE OF OFFICERS.

The appointment of Captain Herbert E. Dalby, of the late Royal Army Medical Corps (Militia), which was notified in the Gazette of Nov. 17th, 1908, is cancelled.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd London General Hospital: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel John Adams, from the 21st Middlesex (The Finsbury) Volunteer Rifle Corps, to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). William Kirman Pauli, late Surgeon-Lieutenant, 3rd Volunteer Battalion, The Royal Fusiliers (City of London Regiment), to be Major (dated March 31st, 1909).

2nd Western General Hospital: Lieutenant-Colonel Alfred H. Young resigns his commission (dated Feb. 27th, 1909). Major William Thorburn to be Lieutenant-Colonel (dated Feb. 28th, 1909). Frederic Hibbert Westmacott to be Major (dated Feb. 28th, 1909).

For attachment to Units other than Medical Units.—The undermentioned officers, from the Westmorland and Cumberland Imperial Yeomanry, are appointed to the corps, with precedence as in the Imperial Yeomanry (dated April 1st, 1908): Surgeon-Major Joseph Edward Bowser to be Major; Surgeon-Lieutenant John Livingstone to be Lieutenant. Lieutenant Thomas Price Thomas, from the Royal Army Medical Corps (Militia), to be Lieutenant, with precedence as in the Militia (dated March 11th, 1909).

Unattached List for the Territorial Force.—Surgeon-Captain Henry Waite, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Surgeon-Major (dated Feb. 4th, 1909).

VOLUNTEER CORPS.

Rifle: The Cambridge University Volunteer Rifle Corps:

Surgeon-Captain (Honorary Lieutenant in the Army) Robert W. Michell, not having signified his wish to serve in the Territorial Force, is struck off the strength of the corps (dated March 31st, 1908).

ROYAL ARMY MEDICAL CORPS EXAMINATION.

An examination of candidates for not less than 20 commissions in the corps will be held on July 28th and following days. Applications to compete should be made to the secretary, War Office, S.W., not later than July 19th next. The presence of candidates will be required in London from July 26th.

Correspondence.

"Audi alteram partem."

CONVULSIONS UNDER CHLOROFORM.

To the Editor of THE LANCET.

SIR,—The occurrence of convulsions during chloroform syncope, referred to by Dr. A. E. Russell in his Goulstonian lectures, is a matter of considerable interest which has not received the attention it deserves. 15 years ago,¹ before the Society of Anæsthetists, I remarked upon the similarity of the symptoms in certain cases of death under chloroform to those occurring in death from failure of the circulation from other causes—e.g., sudden hæmorrhage and cardiac syncope. I argued from this that deaths under chloroform were due to failure of the circulation and not to gradual paralysis of the respiratory centre. In a continuation of that paper² I suggested that the presence of convulsions or muscular disturbance in chloroform fatalities was a further argument in favour of sudden paralysis of the circulation being the cause of death.

The object of the two papers and others³ subsequently published was to bring out the fact that the signs of failure of the circulation under chloroform are identical with those present under similar conditions occurring during consciousness—that is, exaggerated respirations, pallor and dilated pupils, with, in certain cases, muscular disturbance of a spasmodic character. The non-appreciation of this obvious fact is responsible for many of the deaths from chloroform. Gradual respiratory paralysis as the sole cause of death under chloroform has been so insisted upon that the significance of too free respiratory movements is apt to be overlooked. Secure in the belief that gradual cessation of respirations is the main danger, the chloroformist may easily take the free respirations as a sign of well-being. This failure of the circulation invariably sets in at an early stage of the inhalation, just at the period when the attention of the administrator is most likely to be distracted by preparations for the operation. Under these circumstances, the exaggerated respiratory movements pass for normal breathing; it is their sudden cessation which attracts notice to the grave condition of the patient. The only treatment for these cases is artificial respiration, so applied as to exert vigorous compression of the chest. The object of this is to stimulate the heart and to raise the blood pressure, not to get air into and out of the lungs. This, too, is often misunderstood, for even if the serious condition of the patient is recognised while respiration continues, nothing is done because artificial respiration seems uncalled for when free breathing is present. Thus the only chance of resuscitating the patient is lost, for to be effective artificial respiration must be begun on the first onset of exaggerated respirations.

Dr. Russell suggests that "in cases of chloroform syncope the anæsthetic would doubtless negative the spasm." This is true only to a limited extent and is governed mainly by the degree of general anæsthesia present when the syncope occurs. The valuable list of chloroform accidents collected by THE LANCET Chloroform Commission contains a number of cases in which muscular disturbance was present. These varied from mere trismus or slight

¹ The Mechanism of Death under Chloroform, THE LANCET, Nov. 17th, 1894, p. 1143.

² Ibid., Sept. 11th, 1897, p. 656.

³ A Case of Death under Chloroform, THE LANCET, July 30th, 1898, p. 260; Accidents from Chloroform Anæsthesia, Medical Chronicle, 1906,

muscular rigidity to pronounced convulsions and opisthotonos. The factors which chiefly determine the extent of the muscular action are: the stage of general narcosis at which the syncope sets in; the suddenness and completeness of the arrest of circulation; the presence of any cause calculated to facilitate the induction of cerebral anæmia, such as the sitting posture; the condition of the muscular system as regards vigour and stability. The following cases taken from THE LANCET list illustrate the influence of the above conditions.

Case 55, a male, aged 30 years; operation, removal of necrosed bone from finger; duration of administration, from three to four minutes. Sitting posture. Symptoms: "Raised hands and trembled, kept spitting at the lint; appeared about to vomit. Suddenly he was violently convulsed as if in an epileptic fit." Here are associated an obviously slight degree of narcosis; the sitting posture conducive to cerebral anæmia; a young man with only a trifling ailment, therefore probably with vigorous muscular system. The arrest of circulation from the syncope produces "violent convulsions."

Case 83, a girl, aged 12 years; operation for necrosis of tibia. Symptoms: "Deadly pallor, twitching of muscles about mouth, eyes rolling up, pupils dilated, stertorous breathing." In this instance the syncope came on at a much more advanced stage of the anæsthesia, and the patient was presumably recumbent; the muscular disturbance was therefore slight.

These two cases are examples of many set forth in THE LANCET report and show the two extremes of muscular disturbance induced by chloroform syncope.

I have heard about, and been asked the treatment for, cases in which there occurs rigidity or fixation of the respiratory muscles in a condition of expiration. I have never seen any such symptoms, but imagine that such a condition is merely part of a general muscular action due to cerebral anæmia. It is most probably the contraction of the muscles immediately preceding dissolution. No doubt it is equivalent to the "sudden stiffening of all the muscles" which is referred to by Dr. Russell as exhibited by cats, when the cerebral circulation is interrupted. The only treatment under such circumstances is to attempt to restore the circulation, but at such a late stage there is very little chance of success except by direct massage of the heart. In this connexion Dr. Russell's remarks about the length of time the brain and heart can withstand the loss of circulation are very interesting and encouraging. If the brain can survive the loss of circulation for five minutes and the heart a much longer period of arrest, surely chloroform accidents should be more amenable to treatment? That they are often so hopeless is due to the fact that the symptoms of danger are not recognised sufficiently early. If the brain can do without circulation for five minutes the basal centres which are more fundamental in their nature should survive still longer. We are thus confronted by the fact that the respiratory centre, for instance, may be exhibiting energy for some minutes after cessation of the circulation; that the patient may, and no doubt does, continue breathing or making respiratory efforts for some time after the heart has ceased to beat or at least to beat effectively. This possibility makes it all the more necessary for the respirations to be studied carefully during chloroform administration, in conjunction with the circulation. Any alteration in the rhythm or character of the respiration, especially of the nature of an acceleration, should be viewed with suspicion and be checked by observation of the circulation. Failure of the circulation is indicated at once by exaggeration of the respirations, with which are associated pallor and dilated pupils. These symptoms may set in at any period of the inhalation, but almost invariably occur within the first few minutes of the administration.

I think that a proper appreciation of the first signs of danger under chloroform and prompt treatment will do more to diminish the number of fatalities than the use of any apparatus, however ingenious.

I am, Sir, yours faithfully,

ALEXANDER WILSON, F.R.C.S. Eng.,

Honorary Anæsthetist, Manchester Royal Infirmary;
Honorary Lecturer on Anæsthetics,
University of Manchester.

Manchester, April 20th, 1909.

THE UNIVERSITY OF LONDON AND THE STUDY OF ANTHROPOLOGY AND ETHNOLOGY.

To the Editor of THE LANCET.

SIR,—In the article on "An Imperial Bureau of Anthropology" published in THE LANCET of April 10th, you say that "the Universities of Cambridge and Oxford have established boards of anthropological studies, with the power of granting diplomas to those who have qualified by studies under their direction in prehistoric and historic anthropology and ethnology (including sociology and comparative religion, physical anthropology, and psychological anthropology). While the students at Oxford and Cambridge are thus provided for, no opportunities are given to students in London."

May I point out that for the past few years, owing to the munificent generosity of Mr. Martin White, the teaching of the subjects to which you refer has been carried on in London by two University professors of sociology, Mr. L. T. Hobhouse and Dr. E. A. Westermarck, and by a University lecturer in ethnology, Dr. A. C. Haddon (who holds a similar post at Cambridge). Sociology forms part of the curriculum, as an optional subject, both for the B.A. honours degree in philosophy and for the B.Sc. honours degree in economics, and the London classes in this subject are flourishing. The University is at the present moment making efforts to secure a permanent endowment for ethnology similar to that which has already been provided for the chairs of sociology, and for the past 12 months the Senate have been in communication with the Colonial Office with a view to ascertaining whether that Office would be able to assist and coöperate with them in the establishment of an ethnological department on a satisfactory basis.

With reference to the concluding paragraphs in your article, I beg to point out that the University has recently established a board of studies in ethnology.

I am, Sir, your obedient servant,

W. J. COLLINS, Vice-Chancellor.

South Kensington, S.W., April 27th, 1909.

* * We are glad to know from Sir W. J. Collins that a board of studies in ethnology has now been established by the University of London; in the last issue of the Calendar of the University (1908-09, p. 153) it is stated this board "is not yet instituted."—ED. L.

THE VASO-MOTOR THEORY OF EPILEPSY.

To the Editor of THE LANCET.

SIR,—In his admirable Goulstonian lectures embracing the above subject Dr. Alfred E. Russell is kind enough to refer to a work of mine in which are set forth almost identical views. He says: "Francis Hare maintains that the explanation of the aura is to be sought in the peripheral vaso-constriction which he postulates as preceding the cardiac inhibition."¹ The reference is accurate but incomplete. Some epileptic auræ felt at the periphery are certainly due to peripheral vaso-motor action, whether constrictive or dilative. In proof whereof I have adduced the following paragraphs from Hilton Fagge and Trousseau respectively.² "The patient perhaps experiences a sensation of coldness or weight in a limb; and the part is found on examination to be pale and cold to the touch, and to have its sensibility distinctly blunted" (Fagge). Others of the vascular changes may be peripheral and dilative. "A local determination of blood may occur in the finger, for instance, causing it to swell, reddening the skin and rendering it successively within a very short time red, and of a more or less deep violet colour. . . . The swelling is real, not apparent, for rings previously easy suddenly become too tight for the fingers" (Trousseau). So much for peripheral vaso-motor action as explaining some auræ felt at the periphery.

That, however, is but one side of the subject. On the same page I go on to say: "But many auræ are unassociated with appreciable objective changes in the part whence they

¹ THE LANCET, April 10th, 1905, p. 1031.

² The Food Factor in Disease, 1905, vol. i., p. 335.