that may be done by it, and the necessity for an extension of present powers. When Glasgow drank the Clyde water, the deaths, in cholera-years, were always very numerous, being, in 1832, 2,800; and in 1854, 3,900; whereas, in 1866, the first cholera-year after the pure and abundant Loch Katrine supply was obtained, they were, with a much larger population, only 68. Another very curious fact is, that public notices are said to have been everywhere posted throughout Oxford, our oldest seat of learning and light, early in last year, warning graduates that the city water was only safe when filtered, and not always so then. At the time of the last cholera-visitation, Dr. Hassall, then one of the inspectors, wrote:—"I beg to express my conviction that the water-supply of the metropolis will never be in a satisfactory condition, until the use of cisterns is abandoned and the constant supply adopted." Would such an extension of the law as should compel the sanitary authorities of towns to see to the provisions of a constant, direct, and pure supply of this necessary of life be unduly harsh?

But, infectious disease having broken out, can the provisions at present existing for its control be easily extended, and, if so, how? Any further extension, to be productive of more good than evil, should recognise and respect the following facts and principles: first, that there are two great social classes, the one anxious, when infectious disease occurs among them, to isolate the infected persons, and as a rule possessing the means of effecting isolation; second, that no regard for a remote public good will ever reconcile individuals to a great certain and immediate personal loss, or to the violation of deeply cherished sentiments, and that a law which tends to either of these results will be likely to be so often evaded as to neutralise, or nearly neutralise, any anticipated good; third, that the medical practitioners of the country are, and must, under any and every law, remain absolute masters of the situation, and that no law of the kind contemplated can hope to succeed which does not command their confidence and secure their cordial co-operation (and, even though in a lesser degree, those of the public also). The great objects to be secured are to bring all infectious diseases, and more particularly the first cases of such diseases, under the notice of those who possess the knowledge, power, and willingness to control them. The private medical practitioners always possess the requisite knowledge and desire, and, in the majority of cases, the power to do this; and any law will do injury in proportion as it promotes concealment of disease from them. To attempt to compel these gentlemen, under threat of fine, and, in the last resort, imprisonment, to hand over their preventive functions to a purely official class; and to compel them to accept, as it were, a double commission (for which is to be paid a double fee), viz., that for curing the patient on the one hand, and for informing on him on the other; to destroy the feeling of inviolable confidence which the unwritten law of our profession enables every patient justly to have in the secrecy of his medical adviser—a destruction of which our critics seem scarcely to have gauged the far-reaching social consequences; and to do all this by practically subordinating the vastly larger, and in most cases wiser and more discreet, class to a very much smaller class, and one whose members, as experience has painfully shown, are not always either wise or discreet, and by compelling this larger class in the vast majority of cases to give the information concerning their patients to men who are their rivals in practice, would be (as indeed we have frequent proofs that it is) to excite heart-burnings and antagonisms which will retard rather than advance sanitary progress. And to attempt to compel in every case, even the householder to notify, without at the same time giving him some sort of security beforehand against harmful intrusion on the part of the sanitary officer, would probably defeat its own end by encouraging total concealment, or, at any rate, delay in obtaining medical advice. But if a law, which, while it required notification of every case by the householder, should, at the same time, give to the medical attendant the power (by his certificate that the arrangements for isolation were sufficient) to prevent the visit of the sanitary officer (as in Section 128 of the Public Health Act), it would probably have the double effect of encouraging early application to a medical man in the hope of obtaining this security against intrusion, which would not be had if no medical man were in attendance, and of encouraging special sacrifices in order to satisfy his requirements as to preventive measures for fear it would have to be withdrawn. But then, in order to afford adequate security both to medical man and householder, the authority of this certificate must be allowed by statute, and not be made a mere municipal ordinance revocable at the pleasure of the sanitary authority, as is the case in Edinburgh at present. If it should be objected that the poor householders cannot be trusted to give the information on account of ignorance, it is sufficient to reply that they now do so in cases of registration of births; that they daily effect purchases in shops without error; and that the tenant of the common lodging-house has for years made this very notification.

A distinction between the social classes has already been recognised in several ways, as by Section 84 of the Public Health Act, which requires notification from the tenant-in-chief of a common lodging-house; by a general order of the Local Government Board, which has the practical effect of law, whereby all district medical officers appointed after February, 1879, are required to notify; and by a similar onus being imposed on the tenant and lodgers in the lower class of tenemented houses in all towns to which, on their application for it, Section 90 of the Public Health Act has been applied. Probably means might be devised for extending the principle to public dispensary-practice.

By these provisions, all of which might perhaps advantageously be made statutory, the sanitarily dangerous and reckless classes would be covered, while the respectable artisan and small shopkeeper, as well as the classes socially above them, would be protected from the annoyance of an inquisitorial surveillance and domiciliary visitation; and the confidential relationships between the private medical man and his patients be left undisturbed.

FATAL CASE OF POISONING BY BUNGARUS CÆRULEUS.

By A. LONG, L.K.Q.C.P., Surgeon-Major A.M.D.

(Communicated by Sir J. FAYRER, K.C.S.I., M.D., F.R.S.)

[I AM indebted to Surgeon-Major Nash for the accompanying case of poisoning by *Bungarus Cæruleus*, a colubrine venomous snake. This interesting and admirably detailed case of snake-poisoning well illustrates the peculiar and distinctive characters of colubrine, as distinguished from viperine, poisoning, a fatal instance of which was described in the paper I read to the Medical Society on February 4th. These cases, both observed and well described by officers of the Army Medical Department, are good illustrations of the forms of poisoning well described by Dr. Wall in his recent work on *Snake-Poisoning*.—J. FAYRER.]

Private G. A., aged 33, total service five years, service in India one year and eight months, came to hospital on May 18th, shortly after 9 A.M., and said that he had been bitten three hours and a half before by a small snake, between the thumb and forefinger of his right hand; that he had experienced some tingling up the arm afterwards, but that it had almost disappeared. He made light of the matter, and had only come to hospital because he had been advised to do so. He had sucked the place at the time, spitting out afterwards. He had been in the habit of catching snakes, and stuffing their skins. I ordered him a dose of liquor ammoniæ at once. On examining the place said to have been bitten, I saw two minute punctures, such as might be made with a needle; and afterwards, with a lens, I made out two more, all on the dorsal aspect between the thumb and forefinger. There was no pain on pressure, nor any swelling or discoloration either of the hand or of the arm. Pulse natural. At 10 A.M., he complained of a violent pain in the epigastric region, but said he often suffered from the same. The apothecary on duty gave him some liquor ammoniæ and liquor potassæ. The pain soon passed off, and he said he felt perfectly well. He, however, took no dinner, and, I ascertained, very little breakfast. Between 2 and 3 o'clock, he began to complain of some difficulty in his breathing, and shortly afterwards some spasm of the glottis. It was necessary to keep him sitting up, as it was the only position in which he could breathe with any ease; even then, the spasm came on every few minutes, and he was greatly troubled by the saliva collecting in his throat. On auscultation, there was found to be slight congestion of the lungs. The pulse was quick, 96, but of fair volume. The skin was dry and hot. He had, a short time previously, an enema of turpentine and castor-oil, which brought away very little feces; but he passed urine freely. I ordered him a warm bath, to bring on action of the skin.

Hearing that the snake had been killed, and was in the possession of one of the soldiers, I sent for it, and found it to be a *krait* (*Bungarus Cæruleus*), twenty inches in length. I was also told that Private A. was playing with it, and had held it by the tail, when it turned and bit him. At this time, there was some swelling of the throat externally; but I could not obtain an internal view, as any interference brought on a spasm; and, although he could swallow small quantities of fluid, they had the same effect. The bath brought out profuse perspiration, and he became better in every respect. The pupils were dilated.

At 5 P.M., he was much easier in every respect. He was ordered to have an enema of strong chicken-broth and brandy. At 7.30 P.M., he was not so well; he had frequent spasm of the glottis, but the external swelling appeared less. The pupils were dilated; pulse 100, of fair

volume. I had thought about laryngotomy, but did not like the state of his lungs, and therefore determined to wait for a time.

At 9.30 P.M., Surgeon Cusack saw him with me. He was then considerably better; the spasms were much slighter, and at longer intervals; he could swallow better. Pulse fair; pupils dilated, but not so much so as previously. I ordered another enema of brandy and chicken-broth. He went on well during the night, but had to be kept in a sitting posture. He dozed from time to time, took small quantities of chicken-broth and brandy and water, and sucked ice. The treatment was liquor ammoniac, liquor potassæ, turpentine and castor-oil enema, brandy, strong chicken-broth, mustard plasters, and a warm bath.

He appeared to be going on well up to 5 A.M. on the 19th, when all at once he became quite faint. The pulse was hardly perceptible. I was sent for, and found the heart and pulse fluttering and irregular. After a little brandy and water had been given by the mouth, these improved; he could swallow much better. There was no spasm of the glottis. The pupils were not so dilated. Temperature, 102.6°. I ordered an enema of brandy and chicken-broth, but he did not retain it. At 7 A.M., he appeared much better, but had a most extraordinary pulse; it appeared to flow under the finger, and then came up with a sudden jerk. The action of the heart was peculiar and irregular.

At 9 A.M., he appeared somewhat better; the pulse and heart were firmer; he swallowed better. Temperature, 100°. At 11 A.M. he appeared to have improved. He had another enema of chicken-broth and brandy, and retained the whole of it for some time, and then part of it came away. He appeared to be in much the same state up to 2 P.M., when he expired quite suddenly; the cause of death being syncope.

The patient during the whole time never appeared to become unconscious; although, during a great part of the last twenty-four hours, he either could not or would not speak for fear of bringing on a spasm, the rest of the time only in a whisper; but, when asked a question, he would generally nod or shake his head. I am of opinion that, when he sucked the wound, he must have had some sore about the mouth or fauces, and thus absorbed some of the poison.

Post mortem appearances, three and a half hours after death. The body was well nourished. There was no discoloration. The joints were pliant, with the exception of that of the lower jaw, which was firmly fixed. The brain and membranes were congested. There was no fluid in the ventricles. The brain weighed 50 oz. On removing the thoracic organs, the blood was found to be very fluid, and extremely dark coloured, with a very slight acid reaction. The larynx was congested; no sores could be discovered. The lining membrane of the trachea was congested. The right lung weighed 23 oz., left 24 oz.; both were congested, otherwise healthy. The heart weighed 8 oz., and was contracted; it contained a very small quantity of liquid blood. There was no fluid in the abdominal cavity. The peritoneum was natural. The liver weighed 62 oz.; it was slightly congested. The gall-bladder was distended. The spleen weighed 8 oz., and was highly congested. There was a patch of congestion, about the size of the palm of the hand, at the cardiac end of the stomach. The lining membrane was very corrugated; it could not be stretched out; the stomach contained only a little fluid. The intestines were healthy. A large *tenia solium* was found in the ileum. The right kidney weighed 7½ oz., the left 8 oz.; they were congested, but otherwise healthy. In the right upper extremity, there was no swelling or discoloration. Four minute punctures were seen on the dorsal aspect of the hand, between the thumb and forefinger; two of these could hardly be seen without a lens.

OBSTETRIC MEMORANDA.

A CASE OF CRANIOTOMY.

On Saturday, February 10th, I was called to Mrs. M., a primipara, aged 18, who had been in labour for several hours. The pains were strong and frequent, and the pulse good. On examination, I found the os fully dilated, the membranes ruptured, the head very large, the pelvis deformed in the antero-posterior diameter, the promontory of the sacrum projecting considerably forwards. As no progress was taking place, I administered chloroform, and applied the long forceps. I pulled intermittently for about an hour or more, but the head made no advance. Dr. Finegan was then called in consultation. Thinking that a stronger forceps might be more effective, he applied an extra strong and long forceps, and we both pulled in our turns for a considerable time, but with no effect. At last, we decided to perforate. After perforation, and the emptying of the contents of the cranium, Dr. Finegan applied the cephalotribe, which soon crushed the cranial

bones, and was afterwards used as a tractor. Pressure externally produced a good contraction of the uterus, but, as the placenta was not expelled, I put my hand in, and extracted it. An injection of ergotine was also given hypodermically. The woman made a complete and speedy recovery. If she become pregnant again, it will be extremely advisable to bring on labour prematurely at the seventh month. The interest of the case is that it shows the advantage of the cephalotribe over the craniotomy-forceps in such cases after perforation. If the craniotomy-forceps had been used, it would, probably, have been necessary to break down and remove a considerable portion of the vault of the cranium before the head would have been sufficiently lessened to pass, and there would have been the risk of injuring the maternal structures; while the cephalotribe crushed the bones within the scalp, the latter forming a covering which prevented the sharp edges from coming into contact with the maternal structures.

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SPASMODIC CONTRACTION OF UTERUS OR PLACENTA.

MR. ALFRED JAMES's communication on "Hour-glass Contraction," in the JOURNAL of February 16th, has interested me very much, as it reminds me of a somewhat similar case which occurred in my own practice a few years ago.

A primipara, aged about 30, had a fairly good time, the child being born naturally (but a dose or two of ergot having been given). On my finding that slight traction on the cord, telling the patient to blow on the back of her hand, and other simple means, failed to dislodge the placenta, I introduced my hand gradually into the vagina, and found that (apparently) the whole of the uterus was spasmodically contracted on the placenta, the os being somewhat contracted as well; so that I could only get two or three of my fingers into the cavity. There was no hemorrhage, and the pulse was 60. I did not, however, deem it advisable to wait very long; chloroform was therefore given by my partner, and the patient partially put under its influence. I was now enabled to introduce the whole of my hand into the uterus, and then found that the placenta was rotten and broken down; but it was not adherent anywhere. There were still irregular contractions of the uterus, which caused me some difficulty in passing the whole of the placenta; but by degrees I did so, as I was anxious to remove it all without reintroducing my hand; this I effected at last, and thus saved the poor woman the discomfort of my removing it piecemeal. She made an excellent recovery, and at no time during the whole of the operation, or afterwards, did the pulse rise above its original standard of 60. It passed through my mind whether the ergot was accountable for this spasmodic contraction; but I am inclined to think that it was merely an idiosyncrasy of the patient, as I have repeatedly used ergot in my midwifery-practice, and have never witnessed a similar untoward result. W. L'HEUREUX BLENKARNE, M.R.C.S., Buckingham.

SURGICAL MEMORANDA.

RUPTURE OF BLADDER, DISLOCATION OF THE KNEE, AND COMPOUND FRACTURE OF BOTH LOWER LIMBS.

On July 4th I was called to an accident which had occurred at the local railway-station. On arrival, I found a lad, aged 15, in the following condition. He was blanched, and the surface of the skin was quite cold; he was conscious, and complained of great abdominal pain and an extreme desire to pass urine. There was tenderness on pressure over the lower part of the abdomen, and, on passing a catheter, about two ounces of bloody urine were drawn off, but without relieving his desire. The catheter was thereupon tied in, under the full impression that grave injury, probably rupture, existed. Further examination was then made, chloroform having been given. There was a compound comminuted fracture of the lower third of the right leg, with loss of blood from the wound, and dislocation at the knee-joint. There was also a compound and much comminuted fracture of the left leg.

The following treatment was at once adopted. Both wounds were covered with dry absorbent wool, and then the legs, to above the knee, were enveloped in Southall's pads. These were strengthened with soaked millboard splints, and the whole was firmly and evenly bandaged from the toes to above the knee-joints. The dislocation was then reduced. The boy was then carried to bed, and the legs placed in Lawrence's cradle-splints, and these were swung by ropes suspended from the ceiling, so as to ensure to the limbs the freest possible move-