would detail an officer for the task. He would assign to each hospital the course for which it was most suitable, and he would see that it was carried on with joy. In this there is a hint for the Minister of Education, and for the London medical schools as well. What they will not do for themselves another may be found to do for them.

But lest something should be left unsaid, let it be affirmed that even in the idea "university" there is nothing sacrosanct. A university will not save unless it has the spirit and a willing mind. The good it does is done mainly by the prevention of evil. In its own turn it may develop the sectarianism of the school, make of three schools one, and in the professor lose the teacher.

Up to thirty years ago London was the medical centre to which all the world had resort. It lost that pre-eminence when the passion for teaching was destroyed by the appeal to mechanical experiment and the desire for uniformity. For more than thirty years earnest men have tortured themselves in the vain discovery of an alien method for the English mind. But the English mind would have none of it. Attend to the education of students, and the education of graduates will take care of itself—that was the final dogma of the Royal Commission on University Education.

London lost its pre-eminence in medicine because the breed of teachers died out, and the breed died out because it was not diversified and enriched by an allied strain. A medical school and hospital became a closed corporation, and men were promoted to teach merely because they were the oldest survivors of a system. There are in the world at any given moment very few teachers; for a teacher is an artist who transmutes, or mints, and sets in circulation, the ore which the scientist discovers, although in the rarest instances he himself may be artist and scientist too.

Teaching is the most precious of all gifts, and medicine without that aid perishes in all its branches. There is nothing more pitiable than the performance of a teacher who lacks the spirit. The performance is impious; the man is a charlatan; and the school where it is permitted is a mercenary school.

Upon those in London who are waiting, and upon those who are planning, it may be urged again that the Kingdom of Medicine also is within you. A school grows directly out of the mind of a man. Many years ago—nearly a hundred—there was a small school in a mean building in an obscure street of a small town. The root was there, transplanted from overseas like the Vine of Sibra. At times it was gnawed to the earth, but it always grew again.

In the fullness of time there came a man. A man always does come in the fullness of time. He nourished and tended. By the winsomeness of his nature he won colleagues and students. A great school—great even amongst the schools of the world—was developed, and it remained great so long as it was resolved to lead and not to follow. Now, alas! it is without a Principal, and even the chairs of anatomy and physiology are unfilled. This man was Sir William Osler, in whose honour I am privileged to make this piece of words. From McGill he went to Philadelphia; to Baltimore; to Oxford. Wherever he went he left behind the perfect work of his hands, his mind, his heart.

Within the past four years something has happened. Whatever it was it did not happen by chance. It was due to the inexorable progress of events towards their appointed end. God does not pay every week, but at least He pays in full measure.

We have not yet begun to realize that the whole fabric of life is shaken and must come down to make way for the things that cannot for the present at least be shaken. We are like other blind Samsons, supporting for a little time upon our poor shoulders a fabric that is doomed, and groping about for materials of repair.

Such catastrophes are not new. Humanity will not dwell in the mountains where it belongs. It is always making excursions into the easy plains, and will not return until it is destroyed, leaving only a remnant to escape out of the overthrow.

These are no times for the making of formulas even in medicine. The best we can do is trust to the genius of the race. It will carry us through, as it has borne us down the tide of history these thousand years. It may well be that the day of the scientist even in

medicine is over, seeing the calamity that science has brought upon us; and that men will forsake its pursuit, to frequent the shrine and consort with the saint; for magic, religion, and medicine have arisen out of the same protoplasm, as Sir William Osler himself has declared.

This essay was contributed to the volumes presented to Sir William Osler, Regius Professor of Medicine at Oxford, on July 11th, the eve of his seventieth birthday. The presentation was made by Sir Clifford Allbutt, Regius Professor of Physic at Cambridge and President of the British Medical Association, in the name of a large body of subscribers on both sides of the Atlantic.

RAPIDLY FATAL SPINAL CARIES.

BY

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I MET with the cases of rapidly fatal spinal caries here described during the three years in which I was officer in charge, medical division of 30th General Hospital, B.E.F. The condition is rare, and I have been unable to find a record of similar cases in the literature to which I have access.

In each case the anamnesis was taken with the greatest care, and there was no recollection of anything to point to old caries, or to warrant an opinion as to when the existing illness began.

CASE I.

Pte. J. W. M., aged 26, left Felixstowe, where he had been training for nine weeks, for France on April 23rd, 1917. He arrived in Calais three days later. On April 28th he felt some pains in his back, but carried on until April 30th, when he reported sick to his medical officer, and was given light duty and medicine. On the following day he again reported sick, as his legs had become weak. He was admitted to hospital on May 1st, 1917. The orderly officer found that he was unable to stand owing to paresis, but could feel pin-pricks in both legs. When I saw him at 6 p.m. there was complete flaccid paralysis of both legs. Knee and ankle jerks were absent, cremasteric and abdominal reflexes feeble, and the plantar reflexes flexor. There was loss of sensation to cotton-wool and pin-prick as high as the xiphisternum. There was absence of sensation to tuning-fork over both tibiae. The motor and sensory reflexes of both arms were normal. The pupils were equal, and reacted to light. By lumbar puncture a clear straw-coloured cerebrospinal fluid was obtained which, when centrifuged, yielded a deposit of erythrocytes and leucocytes in normal proportions. On May 2nd the anaesthesia had extended up to within 2 in. of the umbilicus—that is, up to the area of the fifth thoracic nerve. The temperature ranged about 105° F. during the five days of his illness. Lumbar puncture was performed on four occasions, and each time the cerebrospinal fluid was straw-coloured from blood haemolysis. In the later specimens polymorphonuclear leucocytes and a few micrococci were found. The patient became delirious, unconscious, and died on May 5th.

Post-mortem Examination (by Major Anthonisz, R.A.M.C., Pathologist to the Hospital, Adviser in Pathology).

The body is of a powerful well-developed man showing no emaciation. The brain was examined and no evidence of disease was found.

On opening up the spinal canal a considerable amount of thick yellowish pus was found situated extradurally, extending up as far as the fourth dorsal and down as far as the tenth dorsal vertebra. On removal of the cord, blood-stained disintegrating material was found lying upon the posterior common ligament in the region of the ninth dorsal vertebra, and was proved to be connected with caries of this vertebra, the upper and lower parts of the bone being most affected. When examined from within the thorax the sides of the vertebra were also found to be eroded and carious, the right side being more affected than the left. The cord itself showed no evidence of disease macroscopically, and on opening the theca no pus was seen.

On opening the thorax both lungs were bound down by their bases to the diaphragm by old fibrous adhesions. The left lung was also adherent to the pericardium near its base, and to the chest wall over its apex and outer border. The latter adhesions were easily broken down and were apparently of recent origin. There was no effusion into the pleural cavity. Miliary tubercles were present in the upper and lower lobes of both lungs. These tubercles were grey in colour, and some of them much larger than a pin's head. They were situated under the pleura and scattered through the substance of the lung. The lungs were congested in parts, but there was no consolidation, cavitation, caseation, or other evidence of old tubercle.

No evidence of tubercle was found in the abdomen. The spleen was large but otherwise healthy. In smears and cultures from the pus Gram-positive staphylococci were seen.

CASE II.

P. A., air mechanic R.A.F., aged 28, was admitted to hospital on April 19th, 1918, complaining of pain in the left side of his chest and in his back. He stated that he had felt quite well up to two days before admission. Some impairment of resonance was found over the base of the left lung, and small crepitations were audible over the lower lobes of both lungs. It was noted that the physical signs in the lungs varied considerably from day to day. On April 25th at 11 a.m. he, for the first time, complained of stiffness in his legs. He had walked into the ward, and nothing had previously occurred to draw attention to his limbs. It was now found that there was great loss of power in both legs, the patient was delirious at times, and the skin over the lower limbs was insensitive to cotton-wool touch and pin-prick.

At 7.30 p.m. he was more sensible. Both lower limbs were now completely paralysed, and there was absence of sensation to cotton-wool and pin-prick up to the level of the ninth thoracic nerve. Tendon reflexes and abdominal reflex were absent. By lumbar puncture clear cerebro-spinal fluid was obtained, which was found to contain no cells when centrifuged, except an occasional epithelial element. There was now retention of urine, and the bladder had to be emptied twice a day by catheter. The sputum was examined for tubercle bacilli, with negative result. The paralysis spread, and on April 29th the level of anaesthesia had reached the level of the sixth dorsal nerve area, and on May 1st to the area of the fourth dorsal. Lumbar puncture now yielded thick grumous pus, which passed with difficulty through the needle. A definite bulging, due apparently to a collection of pus, had appeared over the left side of the back. On May 3rd he was quite conscious, but the anaesthesia had extended up to the level of the third thoracic nerve, the abdomen was distended from flatus, and there was paralysis of the abdominal muscles. He became weaker and died on May 4th at 11 p.m., in the act of taking a drink.

Post-mortem Examination (by Captain Horsburgh, R.A.M.C., Pathologist to the Hospital).

The body is of a well-developed man. On incising the muscles of the back large quantities of thick pus escaped from the substance of the muscles. The spinal cord was exposed throughout its length, and was found to be in a bath of the same type of pus. When the theca was opened only a little pus was found round the cord itself. The consistence of the cord was soft and flabby, suggesting to the naked eye considerable degeneration. The brain was removed and the meninges carefully examined, but no sign of meningitis was found.

When the thorax was opened considerable adhesions were present on both sides of the chest, between the lungs and the chest wall. The left lung showed a tuberculous cavity about the size of a walnut, situated in the apex of the upper lobe, and a few smaller and more superficial caseous nodules. On the left side, where the lung was in relation to the fourth dorsal vertebra, it was covered with a thick layer of lymph. Underneath the lymph the lung showed no disease. The body of the fourth dorsal vertebra was stripped of its covering, and advanced caries of the body was revealed. Rarefaction and destruction of bone had taken place, and apparently the meningitis had resulted from the caries of the vertebra. In the abdomen a large calcareous tuberculous gland was present in the mesentery, otherwise nothing abnormal was found.

CASE III.

Spr. G. S., aged 38, was admitted to hospital on September 7th, 1918, complaining of pain in his back. He stated that he had suffered with pains in his back for several years, on account of which he had been in the habit of wearing a body belt. He was in the inland water transport, and gave a history of having received a blow on the back six months previously during a collision between two barges, but the injury was not severe enough to make him report sick. When admitted, he walked into the ward and made no complaint of any loss of power in his legs.

On September 10th, when asked to sit up in bed, he complained that his legs were weak, and he was unable to get up without assistance. Both legs were now completely paralysed. The knee jerks and ankle jerks and the abdominal reflexes were absent, the plantar reflexes flexor. There was loss of sensation to cotton-wool and pin-prick and to heat and cold to half way between the umbilicus and ensiform (eighth thoracic nerve area). There was also absence of bone vibration sense in both legs. There was retention of urine. Lumbar puncture yielded a cerebro-spinal fluid clear but tinged a straw colour. When it was centrifuged no cells were found in the deposit. Rachicentesis was repeated on September 13th, and the same straw-coloured fluid was obtained, in which no cellular elements were found; but, on standing, it became solid from coagulation of the contained protein. The patient was quite clear mentally, and discussed intelligently whether his wife would be able to get out to France to see him before he died. In this he was unfortunately disappointed. On September 14th the zone of anaesthesia had ascended as high as the nipples, and his arms were becoming paretic. He died the following morning at 5 o'clock.

Post-mortem Examination (by Captain Horsburgh, Pathologist to the Hospital).

The body is of a well developed man, exhibiting no sign of injury or of emaciation. The brain was examined, and general

congestion over both hemispheres was noted. The vessels entering the main fissures showed a series of small lymphoid nodules suggestive of tubercle. No tubercles were detected in the interpeduncular space.

When the spinal canal was opened a considerable quantity of purulent material was present along the whole length of the cord. The pus lay outside the dura, and when the theca was opened the cord itself appeared healthy. When the cord was removed it was seen that the seventh, eighth, and ninth dorsal vertebrae were in a state of carious necrosis with rarefaction. There was no spinal curvature.

When the thorax was opened a diffuse military tuberculosis was found in the lower lobe of the left lung. Old healed calcareous foci were present in the apices of the upper lobes of both lungs.

Each of these three men appeared robust and gave a good previous health report, with the exception that the second gave a history of pains in his back. The first patient was of quite exceptionally fine physique, and said he had always enjoyed excellent health.

The illness of the first lasted six days, that of the second fifteen days, that of the third nine days. The onset in each case was swift and without warning. The first case, to his surprise, found himself unable to walk to the medical hut, the other two found one day when in hospital that they had become powerless in their legs. The first case had six months' service, the second one year and five months', and the third two years and three months'. Cases of this description might become of considerable medico-legal importance in civil life, as had there been a history of a blow or a strain, it would be difficult to prove to the satisfaction of a jury that the acute disease of the spine was not due to the injury.

THE COMPARATIVE VALUE OF NOVARSENO-BILLON BY THE INTRAVENOUS AND INTRAMUSCULAR METHODS;

WITH SOME NOTES ON THE TREATMENT AND PREVENTION OF SYPHILIS.

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The following is a short account of cases of syphilis treated at New Bridge Street Military Hospital (V.D. Section), 2nd Western General Hospital, Manchester, during 1918 with novarsenobillon (novarsenobenzol) given intravenously and intramuscularly, with a comparison between the results and some conclusions which may be drawn therefrom with regard to the treatment and prevention of syphilis.

The course of novarsenobillon given in all cases was the same, pressure of work not allowing any discrimination, the course being the prescribed army course, namely:

Day of Treatment.	N.A.B. Intravenously.	or N.A.B. Intramuscularly.	with Hg Intramuscularly.
1st	0.45 gram	0.45 gram	gr. i
8th	0.45 ..	0.45 ..	gr. i
15th	0.45 ..	0.6 ..	gr. i
22nd	—	—	—
29th	0.6 gram	0.6 gram	gr. i
36th	0.6 ..	0.6 ..	gr. i
43rd	—	—	—
50th	0.6 gram	0.6 gram	gr. i
57th	0.75 ..	0.6 ..	gr. i

N.A.B. = Novarsenobillon.

If the "Wassermann" reaction was still positive, potassium iodide mixture (gr. xv ad 1 oz.) was given for a fortnight, followed by a course of two or three injections, 0.45, 0.6, 0.75 gram, at weekly intervals according to the strength of the reaction. One grain of Hg was given with each injection if well tolerated.