

cost in 1867 was £7,000,000, and in 1851 £5,000,000, an increase of 40 per cent. The sum of £5 10s, on an average, was spent in relieving each pauper in 1849-53, against £7 10s in 1869, the increase being 36 per cent.

The progress of the cost, as well as of the numbers of lunatics, has been remarkable. In 1862 the cost of lunatics maintained in asylums was £482,425; for the year 1869, it was £710,941, being an increase of 47 per cent. in the seven years.

Proportion of expenditure under 6 heads :—

| | 1862. | 1869. |
|--|----------------|-----------|
| In maintenance | 18·7 per cent. | 20·2 |
| Out relief... .. | 51·9 „ | 48·0 |
| Lunatics in Asylums } and Licensed Houses } | 7·9 „ | 9·3 |
| Workhouse cases | 3 „ | 2·7 |
| Officers' salaries | 11 „ | 10·4 |
| Other expenses | 7·5 „ | 9·4 |
| | <hr/> 100 | <hr/> 100 |

A Case of Cerebro-Spinal Meningitis. By T. S. CLOUSTON, M.D.

Considering the amount of attention which has lately been given to cerebro-spinal meningitis, and the obscurity which still hangs over the disease, I think the following case, which occurred in the Asylum at Carlisle, in April, 1867, worthy of record. It was a sporadic case, but its accessories and accompaniments invest it with some of the interest of those epidemics of the disease which have lately occurred :—

T. C. had been a patient in the asylum for five years ; he had laboured under melancholia with periodic exacerbations and suicidal tendencies. On the whole he enjoyed very fair bodily health, except when he became somewhat weak at times from refusal of food. But he generally got over this in a few days. He had most obstinate and severe psoriasis over shoulders, arms, hands, and legs.

One cold, raw day, when out at work on the farm, he felt chilly, and after coming in had a rigor. At night he complained of pain in his left side over the eighth rib, and headache, and was a little feverish, but nothing amiss could

be detected by auscultation. On the following day he still complained of the pain in the same part, but still there were no physical signs of any lung disease until the evening, when minute crepitation, dulness, and friction were discovered over the base of both lungs posteriorly, but principally over left. The case was assumed to be one of ordinary double pneumonia, and treated accordingly with hot fomentations, a saline mixture, stimulants, and good food. He continued steadily to get worse, but all the symptoms were referred to the pneumonia until the fourth day from the rigor, when he became so stupid and restless that it was clear his brain was affected in some way. He refused food, he did not understand questions put to him, he got out of bed constantly, and there was a peculiar tremor of the chin. But, being an insane patient, those symptoms were referred to the aggravation of the mental malady, which often accompanies severe bodily diseases. There was no paralysis of the legs or arms, for he could walk about and resist food being put to his mouth till the sixth day, when he became comatose. He remained quite comatose during that and the following day, when he died. There were no convulsions, and he ceased altogether to cough, so that his death appeared to be the result of the blocking up of the bronchial tubes. During the whole of his illness he had been hot and feverish. Before he became comatose he groaned as if in agony. He had severe herpes of the lips from the beginning.

Autopsy.—The dura mater was strongly adherent to skull cap, but separable without laceration. When removed it seemed to be normal in appearance. The arachnoid was opaque, and adhered to the morbid structure under it. This consisted of a yellowish purulent substance, which almost covered the convolutions and filled up all the interstices between them, being an eighth of an inch thick over the hemispheres, and between the cerebrum and cerebellum a quarter of an inch in thickness. It looked like ordinary pus, but it could be removed in cakes, and was of a cheesy, friable, semi-fibrous consistence. It was thickest over anterior lobes, round the pons, and under the posterior lobe. It was completely incorporated with the pia mater, and dipped down with it between the convolutions. The base of the brain was covered with it. The brain substance was dark in colour, the white substance very vascular, and so soft in the middle lobe of left side and outside the lateral ventricle of left side that it could be easily broken up by a small stream of water. The ventricles con-

tained a normal quantity of fluid. The cerebellum was vascular and dark in colour.

The medulla oblongata was covered all round with the purulent cake, and on section was vascular to an abnormal extent.

The spinal cord was covered in its whole extent by a layer of the same firm purulent matter about one sixteenth of an inch thick. The arachnoid of the cord was still somewhat transparent and adherent to the morbid substance. This was easily separable from the cord, leaving the nerve structure dark in colour and abnormally vascular. On section there was abnormal vascularity seen everywhere. Unfortunately an accident happened to the pieces of brain and cord, which I put up in absolute alcohol and solution of chromic acid for microscopic examination.

On opening into the chest there was found, in the left cavity of the pleura, a cake-like layer of thick, cheesy, purulent substance, easily separable from the serous membrane, denser where in contact with the pleura, softer and more pultaceous inside, and containing a dirty serous fluid. It looked exactly like the substance that overlaid the brain and spinal cord. On section the lung was found to be in a state of red hepatization in its two lower thirds. The upper third was somewhat congested and oedematous.

The right lung was adherent by recent adhesions, and was covered by a morbid substance similar to that found over the left lung and nervous centres. The lung substance of the lower lobe was much congested and condensed, but floated in water. The upper lobe was normal.

The heart and abdominal organs were normal, except some ecchymosed spots towards pyloric orifice of stomach, and the spleen was large and soft ($7\frac{1}{2}$ ozs. in weight).

On a microscopic examination of the morbid structure found in the chest, it was seen to be composed almost entirely of pus cells, with some ill-formed fibres holding them together into some degree of solidity.

This man had died on the 16th April, and on the 22nd there died, in another ward, a general paralytic in the third stage of the disease, his life being terminated in the ordinary course of the disease apparently; but, on a *post-mortem* examination, the pleuræ over the base of both lungs were found covered with the friable, cheesy, purulent-looking substance, to the thickness of one-eighth of an inch. It had precisely the same consistence and the same appearance as the morbid substance found six days before in the case of

cerebro-spinal meningitis, and it had the same microscopic appearances. It could be easily separated from the pleura in the same way, and was so characteristic and peculiar, that there was no mistaking it for the products of ordinary pleurisy. But this man's brain only showed the ordinary morbid appearance of a general paralytic, and his spinal cord was quite normal. The mucous membrane of the stomach was very much thickened and, towards the pyloric orifice, was covered with black ecchymosed spots, from the size of a pin's point to that of a split-pea. The spleen, too, was large and soft (7½ oz. in weight).

On the 29th of April, or a week after this last man died, an old man, who had long laboured under chronic bronchitis, got rather suddenly much worse, became feverish, his breathing impeded, and he died on May 3rd. At the autopsy, I found the pleuræ of both lungs to be covered with a very thick layer of the same yellowish cheesy substance. The bronchial tubes showed signs of old inflammation, and there was slight pneumonia at base of left. There were also a few small nodules of stationary tubercle. The pericardium contained about two ounces of yellowish fluid, and its surface was covered with granulations of the same substance as was found on the pleura, only more firm, and less easily separable from the membrane. The brain and spinal cord presented no signs whatever of any inflammatory action. The stomach was not examined. The spleen was soft.

Remarks.—The case of T. C. derives its chief interest from its pathology and its connection with the two other cases. The symptoms during life cannot properly be compared with the recorded cases of cerebro-spinal meningitis on account of the insanity of the patient. But there were present the spasmodic movements, delirium, high temperature, and coma recorded by Stillé. I think all the evidence points to a simultaneous seizure of the pleura and nervous centres. Great headache accompanied the pain in the side from the first; the mental state after the first four days was not accounted for by the insanity, and the characteristic cheesy, solid pus was in the same state of organisation on the pleura and on the nervous centres. The rapid course of the disease closely resembled some of the recorded epidemics.

The *post-mortem* appearances agree with those noticed by most other observers. Both pleurisy and pneumonia are noticed as having been present in this disease, but the chief peculiarity of this case I consider to have been that those

affections seemed to be *an essential part of the disease*. The serous membranes of the arachnoid and pleura were throughout their extent lying in contact with and adherent to a peculiar purulent formation, and yet those membranes themselves were not affected as they ordinarily are after acute inflammation—when the cheesy pus was scraped off them (which was quite easily done) a comparatively smooth surface was left. The dipping of this substance down along with the pia mater to the very bottom of the convolutions was a remarkable circumstance. It did not dip so into the fissures of the spinal cord.

The reasons for my connecting the other two cases with this one of cerebro-spinal meningitis are these:—1. The characteristic cakey purulent substance was the same in them all, and was so very peculiar in its appearance, that I have never met with it before or since in 180 *post-mortem* examinations which I have made in this asylum. 2. The pleuræ were affected in all of them, and were not affected as in ordinary inflammation, but in a manner *sui generis*. 3. They all occurred within a fortnight of each other. 4. In one of them, with no cerebro-spinal affection, there were the ecchy-mosed spots over the mucous membrane of stomach, and in both the enlargement and softening of the spleen described in true cerebro-spinal meningitis. 5. They all died very soon after the first symptoms of the disease appeared, treatment having no good effect on them whatever.

If these reasons are sufficient to show a true connection between those three cases, then there must have been a common cause. Contagion is, I think, out of the question, as they all occupied different wards in the asylum. The house was over-crowded at the time, but it so happened that one of them lived in a small block of buildings detached from the main asylum, which was not over-crowded. I am not aware of anything in the diet to have caused such an endemic. The weather had been particularly raw and cold previously, and I think it must be attributed to some atmospheric influence.

I think such a little endemic, occurring as it did among persons subjected to the same influences and conditions of locality, diet, clothing, and warmth, may throw some light on the natural history of cerebro-spinal meningitis. It seems to show that this disease may occur as one symptom of a general constitutional disease, which in one case shows itself in the pleura and lungs alone, in another in the pericardium as well, and in another in the coverings of the brain and

spinal cord. It is only in such an institution that such accompaniments of an epidemic are apt to be observed. One case, or a few cases, of cerebro-spinal meningitis might have occurred in a town, and there would have been no means of discovering the pathological lesions found in all the cases of other disease that died in the town about the same period. This was, in fact, an epidemic on a small scale, where all the ill effects of the morbid influence could be observed. It seemed as though the cold, raw, spring weather of that time did not, in that locality, produce the usual catarrhs and inflammations, but instead of these a peculiar and fatal form of morbid action, affecting chiefly the coverings of the brain, spinal cord, lungs, and heart.

OCCASIONAL NOTES OF THE QUARTER.

A Social Blot.

We have satisfaction in submitting to the Medico-Psychological Association, and especially to those members of the British Medical Association who signed the following protest against the offensive article entitled "A Social Blot," which appeared in the "British Medical Journal," for 27th October, 1870, the reply of the President of the Committee of Council to the same:—

TO THE COMMITTEE OF COUNCIL OF THE BRITISH MEDICAL ASSOCIATION.

We, the undersigned members of the British Medical Association, who are engaged in the care and treatment of the insane, desire to call the attention of the Committee of Council to an article that appeared in the Journal of October 22nd, entitled "A Social Blot."

Believing that the Journal of the Association was instituted for the advancement of science, and for promoting and upholding the dignity and interests of the Medical Profession, we venture to hope that the Committee of Council will agree with us in the opinion that, in criticising the public acts and conduct of any of its members, due care should be taken that no representation or statements injurious to the reputation of any member of the profession be admitted into its pages, unless they are indisputably true, and unless the good of the profession and of the public will be served by their publication.