history, it is ascertained that they were all in robust health; none were drunkards, epileptics, or had any nervous disorder. The two boys had not left their ships for three weeks previous to their seizure, and the marine was a steady well conducted young man, enjoying the usual privileges as to leave from barracks. In short, all three patients belonged to a class which is well fed and well cared for, neither cold, exhaustion, nor privation being elements of "cause"; and, although two were "sailor boys", they were, on board the training ship, far from suffering such hardships as midnight watches, wet clothes, bare feet, or scanty provisions; but, on the other hand, were at the time particularly well guarded against exposure to inclement weather, etc.

Symptoms.—Although the above cases differ somewhat in minor details, a fairly typical case of cerebro-spinal fever may be constructed from their symptoms, the more salient points in each being identical, and all relating to the generic characters of the disease. The principal symptoms common to all were:—

1. *Headache*, limited to the vertex, intense in character, ceasing before death, and at its height on the second or third day's illness.

2. *Derangement of the Digestive Functions*, which was probably the earliest symptom, and evinced by a coated tongue, foul breath, epigastric tenderness, constipated bowels, and bilious vomiting.

3. *Moderate Pyrexia*.—In Case I, during the most violent phrensy, the pulse did not rise above 70. From the nature of this case, the pulse and temperature could not be taken so regularly as in the others, where it will be seen that the febrile symptoms did not run high until a fatal termination appeared inevitable.

4. *Tetanic Contraction of the Muscles*, the decubitus in all these cases being remarkable, but most pointed in Case II. This boy, from admission, complained of stiffness of the neck; said that he "often had a stiff neck, but never anything like this". He lay for the most part on his right side, his head drawn back, the sterno-mastoid muscles being tense in front, the posterior cervical muscles rigid and very tender to the touch, so that he had the greatest horror of being in any way disturbed. In the other cases, this partial opisthotonos was less pronounced, but in all there were involuntary clonic spasms or twitchings of muscles, most marked in Cases II and III, where, on feeling the pulse, a kind of subsultus tendinum was repeatedly felt.*

5. *Dilated Pupils* were observed in all cases from the third or fourth day till death; there was no strabismus observed, but, in Case III, there was much photophobia, and on admission he at once volunteered the statement that he "saw everything double".

6. *The Sensorium* was in all affected early, rambling or delirium occurring in each case on the third night of the disease; but only in Case I was the delirium of a violent character.

7. *Retention of Urine*, and latterly suppression, occurred in all, the paralysis of the bladder commencing and continuing with the comatose condition of the patient.

No characteristic eruption was observed on the bodies. Herpes labialis was present in one case in a slight degree; and in another, after death, several purpuric-looking stains, about the size of "thumb-marks", were observable on the anterior and upper portion of both thighs; but, as these had not been observed during life, and the *post mortem* lividity was very great, no particular attention was paid to them as diagnostic marks. The cases were treated in the general wards of the hospital, and no suspicion has been aroused with regard to any emanating contagium.

Diagnosis.—Each case, in its early stage, promised to be a simple mild continued fever, and for such disease was admitted into hospital. On the second day, the general symptoms pointed to enteric fever or a low type of pneumoemia. In Case II, for instance, the "gurgling" in the left iliac fossa was most marked, and the dull pain in the chest was the more suspicious on account of a large number of pneumonic cases being at the time received from the same ship; but the absence of diarrhoea or cough, the low temperature and moderate pulse, opposed such an opinion, and, on the third day, the intense vertical headache, constipated bowels, dilated pupils, and tetanoid contraction of muscles, pointed to the real condition.

Prognosis was in each case unfavourable. From the beginning, there seemed a downward tendency, except perhaps on the sixth day's illness of Case II, when, although the pulse rose to 120, the tongue became moister, the intellect clearer, and the general expression more favourable. The temperatures show a rise *patri passu* with the approach of death.

Treatment.—It will be seen that no specific treatment was adopted. The two boys were treated, one on antiphlogistic and the other on

stimulating principles, with equally unfortunate results. Leeches and sinapisms to the nape of the neck somewhat relieved the spasmodic contractions. For the relief of this painful symptom, Dr. B. W. Richardson suggests the inhalation of five or ten minims of nitrite of amyl, frequently repeated, and, from its marked success in similar nervous affections, it seems well worthy of a trial. The obstinate constipation required the constant use of purgatives. The catheter was in each case required two days before death, and all along the most assiduous nursing was required to watch and feed the patients with beef-tea, milk, eggs, etc.

In conclusion, I regret I have but little to say regarding the cause of the above disease. It is now some years ago, after an epidemic in Northern Germany, that Niemeyer pointed out and expressed a decided opinion that it did not depend upon any atmospheric or telluric influence, and that it by no means belonged to that class of infectious diseases of which typhus is a type, but, on the other hand, that the febrile symptoms arose from a local disease induced by a specific poison.

Dr. Richardson and Dr. Baker have, no doubt, made out a strong case on behalf of the supposition that poisoned grain is the *origo mali* of tetanoid fever. Without some more definite proof, however, of such origin, I would submit that the panic likely to arise from the premature promulgation of such a theory amongst the *populus* would counterbalance any good which would otherwise result from it; but the subject is well worthy of careful consideration and study, and, without too rashly asserting the existence of ergot of wheat in the food of the above patients (a subject still under investigation), it would, no doubt, be well, with such grave suspicions, to cut off or change all bread and flour supplies in any district where such disease appears in an epidemic form.

No diseases usually considered of malarial origin were then prevailing in the men-of-war in harbour, nor, indeed, zymotic disease of any kind, and the returns of other diseases from the training ships and barracks present nothing unusual.

SOME REMARKS ON WHOOPING-COUGH AND ITS TREATMENT BY CARBOLIC ACID INHALATIONS.

By SAMUEL LEE, M.R.C.S.

BEFORE alluding to the treatment of whooping-cough by inhalation, we may with advantage consider what means we have at our disposal in retarding the spread of the malady. It is apparent that, in a considerable majority of cases, no precautions likely to lead to the desired result are adopted; and at first sight it appears somewhat surprising that isolation of patients suffering from scarlet fever, small-pox, and enteric fever, should be strongly advocated, and in many instances enforced, when the victims of pertussis, which may be looked upon as one of the most fatal diseases to which children are liable, are submitted, as a rule, to no such restraint. There is reason to believe that the isolation of patients in a special ward in some of our hospitals, both in London and the provinces, would be beneficial. In a former number of the BRITISH MEDICAL JOURNAL, we were favoured with an interesting communication from Mr. Richard Harrison, of H.M. Convict Prison, Dartmoor, on the treatment by carbolic acid inhalations; and the general conclusion arrived at was that, in the majority of cases so treated, considerable relief to the more urgent symptoms was the result. The inhalation of the acid may be conducted in two ways, either by long continued inhalations of a weak solution, or by strong inhalations three or four times a day. For this purpose, I have used the steam-draught inhaler, by means of which, owing to the free admixture of fresh air with the vapour to be respired, the inhalations can be prolonged for several hours; and, there being no effort of inspiration, one of the main difficulties in obtaining the desired result in young children is overcome. In cases complicated with obstruction of the bronchial tubes with mucous secretion, a stimulating inhalation will sometimes excite spasmodic contraction and expulsion of the offending material. I have used the carbolic acid inhalations in the mild and severe forms of the disease, and in both with considerable relief. In three cases that have come under my notice in adults, in one of which the malady had continued in spite of all treatment for eight months, attended with hæmoptysis and severe and frequent attacks of coughing, the relief obtained by inhalation of the acid was very marked. I hope on a future occasion to be able to communicate to the JOURNAL a report of cases treated by the above method.

* In a paper by Dr. Dowse, read before the Medical Society of London, he states that, in sporadic cerebro-spinal meningitis, these tetanoid symptoms do not occur. The temperature, too, in sporadic cases is much higher from the commencement of the disease, and the sensorium is not usually affected so early.