can be brought about by any means, it is worth our efforts as physicians. For the damaged mechanism, if it cannot be repaired, can, to a certain extent, be re-educated; and, by learning to make allowance for certain errors, the nerve-centres may reacquire a certain amount of the lost power of co-ordination. Thus we may have apparent, but only apparent, improvement. Our patient Ritchie, by finding that his forefinger, when he tried to touch his nose, went two inches beyond it, learned by practice to correct this error, and could after a time, with his eyes shut, hit the mark much better.

In the earlier stages of the disease, when there is reason to believe that there is a good deal of congestion or even of inflammation, ergot of rye in full doses—a drachm of the liquid extract three times a day—or bromide of potassium or sodium, may be given. Under this treatment, Joseph Hunter, who was in Ward 7 in 1877, and whose case, although not severe, was an unquestionable one and in the early stage, improved greatly. The electric-like pains disappeared, and he recovered the power, which he had lost, of standing with his heels and toes together and his eyes closed, although he swayed from side to side a good deal. Nitrate of silver in quarter-grain doses has been extolled by many authorities, and my experience of it has been satisfactory. The constant galvanic current to the spine and nerves is often useful. The actual cautery is most worthy of trial, having been employed in some cases with encouraging results. The electric-like pains are best treated by means of the subcutaneous injection of morphia. Where a syphilitic history is present, the prognosis is more hopeful, and bichloride of mercury with iodide of potassium should be given.

Some of the facts brought out in these cases seem to indicate that an important part of treatment may consist in stimulating the anæsthetic areas. However, I hope to be able to speak more fully and decidedly on this subject in a future lecture.

ENLARGEMENT OF BRONCHIAL GLANDS WITH RELATION TO WHOOPING-COUGH.

By THOMAS BARLOW, M.D.,

Assistant-Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street.

I WISH to give a few facts in reply to Dr. Gueneau de Mussy's remarks on the above subject in this JOURNAL of October 25th. Since the beginning of 1877, when there was considerable discussion of Dr. Gueneau de Mussy's doctrine, I have seized such few chances as came to my hand of testing, by *post mortem* examination, the statement that the bronchial glands are enlarged in whooping-cough.

1. Out of seven *post mortem* examinations on cases of undoubted whooping-cough, there was one in which the enlargement was considerable; and I took the specimen to the Pathological Society at the same time as the one to which Dr. Gueneau de Mussy has referred. There was one where the enlargement, though slight, was, I believe, definite; and there were five where there was no enlargement. The actual measurements I cannot give; but I have a note about one of the above cases, a child aged four months, that not one of the bronchial glands was as big as a red currant. I strongly suspect, from other observations, that the amount of enlargement of the bronchial glands, when found, must have some sort of relation either to the severity of the bronchitis, or, still more, to the extent of bronchopneumonia, if present. It seems possible, also, that the idiosyncrasy of the patient may have something to do with it. But this is speculative; and I am concerned only at present to state that the enlargement is not constant.

2. Dr. Gueneau de Mussy objects to arguments drawn from chronic enlargement of the bronchial glands, where nothing like whooping-cough had been present; but it is necessary that he should show how such cases anatomically differ from other chronic cases where paroxysmal cough is present, and which he claims in support of his theory. The distinction drawn between the effect likely to be produced by a slow chronic enlargement and an acute sudden congestion is reasonable; and therefore, at present, I will not consider the cases of tuberculosis with involvement of bronchial glands where the process is at all chronic. But, in infants under twelve months, tuberculosis is often moderately acute. I have examined such children in whom the duration of illness had been from six weeks to two months. Paroxysmal cough had not been present, and the tracheo-bronchial glands were considerably enlarged.

To consider still more acute cases: Along with my colleague Dr. David Lees, I have lately made *post mortem* examinations on two children where there was considerable enlargement of bronchial glands, associated in one case with severe bronchitis and collapse, and, in the other, with extensive bronchopneumonia. In neither case had whooping-cough been present during life, nor had the cough been at all

paroxysmal. I have made *post mortem* examinations, also, on cases of diphtheria with bronchopneumonia, where acute enlargement of bronchial glands occurred, although, during life, no cough simulating whooping-cough had been present.

To sum up these conclusions:

1. Enlargement of the bronchial glands in whooping-cough is not constant.

2. Acute and subacute enlargement of bronchial glands occurs without paroxysmal cough.

To these may be added:

3. Dr. Gueneau de Mussy's admission that paroxysmal cough may occur without enlargement of bronchial glands.

Holding these three propositions to be true, I cannot admit that enlargement of bronchial glands pressing on the vagus is the *vera causa* of the characteristic symptom of whooping-cough.

There are many clinical arguments which might be considered, but I do not think with much profit. In spite of all that has been written on the subject, I cannot acknowledge that the diagnosis of enlargement of the bronchial glands during life is sufficiently satisfactory to admit of sound deductions. Where such enlargement is guessed at with a fair amount of probability, it is, in the majority of cases, so much complicated by morbid conditions of lung, pleura, or bronchus, that it seems a fruitless task to attempt to unravel results special to it.

RECURRENT HEADACHES IN CHILDREN, AND ASSOCIATED PATHOLOGICAL CONDITIONS.*

By FRANCIS WARNER, M.D., M.R.C.P.,

Assistant-Physician to the London Hospital and to the East London Hospital for Children.

THE object of this paper is to draw attention to the frequency of recurrent headaches at an early age, and to point out some symptoms and objective conditions commonly associated with headaches in children; some clinical facts which seem to be connected with the development of chorea will also be noted.

In studying a group of cases as to which we have no known pathology to define the class, it appears convenient to start with a general description; and, for this practical purpose, a summary has been made of the principal symptoms of fifty-eight cases of headache in children under fifteen years of age. Though recurrent headache was the most prominent and constant symptom met with in this group of cases, it was not always the one first complained of by the patient or mother. Classifying the symptoms, we find the largest number referable to the mental and cerebral condition of the child. We are told that he is excitable, melancholy, passionate, or fretful; that sleep is restless and disturbed by dreams and night-talking, by attacks of terror and screaming, or by somnambulism. Often there are vague pains in the limbs, chest, or abdomen. The appetite is often variable, voracious or entirely lost; there may be considerable emaciation with a good appetite, and without any accompanying signs of organic disease; often there is considerable nausea or retching with the attacks of headache. Hacking cough, without physical signs to account for it, is often met with, and usually the child is excessively fidgety.

In studying this group of nervous excitable children in whom recurrent headache was a main symptom, it was first necessary to look out for certain objective signs by which they might be identified; and these were principally found in the condition of the nervo-muscular system, the teeth and the urine, but chiefly in the muscular system.

The principal means at our disposal for studying the condition of the brain during life is by observing nervo-muscular phenomena. All expression of the subjective states is effected by muscular action, whether expression be produced by speech in words, by the facial movements or gesture, in which cases voluntary muscles are called into play; and such modes as dilatation of the pupil, erection of the hair, or disturbed action of the heart, are due to the condition of inorganic muscular fibre.

Local paralysis, and, in some cases, localised convulsion, may give definite indication as to the part of the brain affected and its conditions. We commonly recognise certain appearances of the face, and certain positions of the body and limbs, as indicating a fatigued or exhausted condition of the brain; and it is frequently with truth said that such an one looks as if he had a headache. Again, the look of expression in the face, and the tremulous condition of the muscular fibre of the tongue, is characteristic in general paralysis, as the depression of the angles of the mouth and the other signs of mental dejection are in melancholia. All these symptomatic conditions will, I think, if analysed, be found to depend on muscular conditions due to the conditions of the nerve-centres. Indeed, excluding the use of the ophthalmoscope, we have but

* Read before the Hunterian Society.