not certain, that the conversion was due to the admission of air into the pleural cavity. It seems, however, possible to prevent by very simple means the admission of air; and certainly, whether in reference to this, or any other similar incidental source of danger, we are bound, in judging of the operation, to assume that it is performed skilfully, and with proper precautions.

Having thus very imperfectly considered some of the principal points connected with the subject before us, I may submit the following conclusions as deducible from an examination of the cases I have referred to:—

1. It is impossible to determine the precise period when the lung becomes irremediably damaged by effused fluid—as this must depend to some extent upon the individual case; but it can be proved to take place in a period of certainly not more than one month and nineteen days. On the other hand, the longest time a lung was subjected to the pressure of a large amount of fluid, and yet recovered itself, was four months; but in the great majority of cases, the lung lost its power of re-expansion long before.

2. That in regard to the danger of serum becoming converted into pus by delay, it can be shewn that serum, the result of inflammation, may remain such for seven months; but that, on the other hand, the conversion may take place in a very early stage of the effusion.

3. That when the serous effusion has become purulent, we are not justified in expecting absorption, although such an event has occasionally occurred; but must expect the matter to make its escape either by ulceration of the walls of the chest, or of the pleura pulmonalis, producing pneumo-thorax and expectoration of pus.

4. That the mortality per cent. in the cases operated upon (a large number of them apparently desperate cases) was 30·4, and only 26 per cent. in the cases of genuine empyema; that with regard to the non-fatal cases, some would doubtless not survive long; but that a fair proportion completely recovered, and that the most successful results were obtained when the operation was resorted to in an early stage. In some cases, immediate and permanent relief was obtained when death seemed imminent from suffocation. In none did the operation cause fatal results—facts which are much more encouraging than might have been expected from the experience of some other operators. Boyer performed the operation several times, but never saved a patient. Dupuytren saw only two successful cases in fifty. Sir A. Cooper saw only one successful case. Gendrin had not one successful case out of twenty in which he operated.*

5. In regard to the main question of the essay—it appears to be incumbent to resort to paracentesis when the dyspnœa is so urgent as to threaten death, whether it be in an early or a late stage of the effusion, and whether that effusion be serous or purulent.

Cases of mechanical hydro-thorax, or cases in which the effusion is complicated with phthisis, malignant disease, etc., in which the symptoms of asphyxia are urgent, and in which an operation can afford only temporary relief, may perhaps be regarded as analogous to cases of phthisis, in which, from the larynx becoming involved, suffocation is imminent, and tracheotomy alone can prolong, though it cannot save life.

It likewise appears to be reasonable to employ it when we feel satisfied that the effusion is purulent, and the patient is obviously losing ground. "It is," says Mr. Cock, Surgeon to Guy's Hospital; "it is from an early application of the trocar that a successful result must be anticipated, and it is the delay until the pressure of the fluid becomes indicated by external physical signs which has so often led to disappointment in the issue of the case."

How far, however, when a patient is in moderate health, and has a large collection of fluid in his pleura, uninfluenced by absorbent and other remedies pursued for many weeks; how far, I say, we are justified in endeavouring to anticipate the time when the lung will be irremediably compressed and bound down, by tapping the chest, is a much more difficult question; but, on the whole, I think that, unless we have strong grounds for believing the fluid has been converted into pus (judging of this more by the condition of the patient than the period of the effusion, important as this circumstance would be as an auxiliary), it would be rash to resort to paracentesis, especially when we know that occasionally large effusions are unexpectedly absorbed when remedial treatment has been regarded as hopeless. Dr. Hughes, however, says, "My own experience and consideration induce me to believe that it is preferable to tap the chest as soon as all hope of the future beneficial operation of remedies has disappeared; and, if possible, before the effusion has been converted from serum into pus."

To conclude, in reviewing the whole subject, and comparing more recent results with those formerly obtained, and admitting to the full the danger of too hastily resorting to operative interference, the expectations of Laennec have, I would submit, to a great degree been realised, when he said, "that the operation (of paracentesis) would become more common and more frequently useful in proportion as the employment of auscultation is extended."

* Dr. Bennett: vide Lancet, Dec. 30th, 1843.

TRACHEOTOMY IN QUINSY, AND RAPID RECOVERY.

By W. H. BORHAM, Esq., Senior Surgeon to the Paddington Dispensary.

Dr. Prior, of Bedford, in the Journal for November 16th, page 1034, says, that he had a patient "with enormously enlarged tonsils; when scarlet fever supervened, symptoms of asphyxia began to show themselves, and whilst in the act of applying leeches to the throat the patient was seized with convulsions, and expired. Had there been time, the operation of tracheotomy would have been justified; nor would its execution have exercised an unfavourable influence upon the primary disease." I quite agree with him, and think the following case will strengthen his prognosis. The above remarks of Dr. Prior also lead me to open the case with a few preliminary observations which have occurred to my mind since reading them.

In all cases of surgery requiring the important operation of tracheotomy, the great and most desirable point to be displayed by the surgeon is, judgment as to the precise time of executing the operation. The nature of the disease or accident, the rapidity of their course, the tone of the system, and the probable results of the operation, are to be weighed, and carefully balanced by the surgeon, and ought to receive prior claims of consideration to the mere mechanism of the operation itself.

Frequently we see the very worst operators turn out the most successful cases; and I am inclined to believe that the case is studied more than the operation: and it is thus that it becomes so successful, from a sound opinion being formed. Expert and beautiful operators are often induced to sink their judgment in their dexterity for the *éclat* or applause of a wondering class. On the other hand, many combine the judgment of a good surgeon with the skill of a calm and expert operator; and this ought to be the climax of ambition to the young surgeon.

In cases that require the operation of tracheotomy for disease, how is the surgeon to form an opinion as to the exact moment at which the operation is to be resorted to? We have seen many cases of croup, where we have momentarily expected death, recover; we have seen cases of quinsy, so severe as to threaten instant suffocation, recover; we have seen the severest forms of scarlatina anginosa threatening asphyxia recover; and we have seen recovery where the tongue so enlarged as to threaten the blocking up of the natural apertures of respiration: and, on the other hand, we have seen cases similarly attacked die. Are we to allow our patients to die, that we may gain experience as to the most desirable time to select for operating? On the other

hand, knowing such dangerous cases frequently recover without the operation, how are we to decide upon such a momentous question as the exact time the operation should take place? It must be left to the surgeon, whose knowlage of the powers of vitality in disease and health must decide the point.

CASE. Mr. D., a respectable tradesman residing in the Edgware Road, aged 30 years, of fair complexion and sandy hair, easily susceptible of sore throat when exposed to damp, about four months since, from such exposure, suffered from a slight attack in the throat, but did not take much notice of it until August 12th, when he came under my care, and gradually improved for three days; but on the night of August 15th, I received a pressing message to attend him immediately, as he was "dying". On entering the room, I found him breathing laboriously and stertorously, and every inspiration requiring the most violent efforts. The pupils were contracted and turned up, the countenance livid and death-like, the pulse 150 and small, but the heart sounds natural; he was perfectly unconscious, and the thoracic walls were deficient in that natural swell induced by filling the lungs with air, and a total want of respiratory murmur; in fact, he was *in articulo mortis* from asphyxia.

Dr. Timms, who had been sent for before my arrival, concurred with me that there was no other hope for him but tracheotomy; which I forthwith performed, by making an incision an inch in length below the cricoid cartilage in the median line, exposing the trachea, and dragging it forward with a strong pair of forceps, and with a pair of scissors snipping out three or four pieces of cartilage from the third and fourth rings, and making an opening sufficiently large to insert the tip of my little finger; I then introduced a thick goose-quill I procured in the house, which was retained there by my assistant until I procured a proper double telescope tracheotomy tube. The patient's breathing gradually became more tranquil, and he was conscious for the first time, three hours after the operation. We had to contend for a few days with a sharp attack of bronchitis, which yielded to the ordinary remedies. At the end of a week, the tube was removed, and the wound healed by granulations; and by the third week it had quite closed, without a particle of air escaping; and he is now about his ordinary work, quite restored.

REMARKS. I do not remember ever having seen a case of quinsy thus treated in practice or on record. The inner tube was taken out two or three times a day, to be cleaned of mucus, etc., whilst the outer one remained in, and a piece of muslin doubled three or four times was placed over the tube on the throat, so as to prevent any foreign particles in the air being inhaled into the lungs. The temperature of the room was kept at 68, night and day; and at the end of a week, when the tube was removed, the cynanche had quite subsided, and the throat had regained its natural state, when he could breathe and swallow naturally. The wound was then daily strapped up, and the edges drawn in close contact.

I may mention here, that just about that time there appeared in this neighbourhood quite a quinsy epidemic, having had at the same time twelve or thirteen cases in my own practice.

November 1855.

ON HEADACHE.

By F. J. PRIOR, Esq., Tewkesbury.

I HAVE read with much interest Dr. Sieveking's communications on the subject of headache. Having met recently with several curious cases, I beg to contribute two, which much interested me.

CASE I. H. S., aged 30 years, a pale weakly rather diminutive stocking-maker, has suffered for nine years from occasional headache, confined to the right side of the forehead, over a space about equal to that half of the os frontis. It has come on two or three times in a month, and has always been worst in the day, and better at night. After trying numerous remedies, the only thing found beneficial has been one or two full doses of calomel. Recently, the head became worse; and one month since, I was, at 9 P.M., called to him, and found him in a state of furious delirium, held down with difficulty by several men. On inquiry, I found that the headache had been bad for two days, and had become aggravated since the morning. To deplete a weakly anæmiated looking subject, seemed unsatisfactory; but reasoning that congestion must exist, and must at any hazard be relieved, I opened the temporal artery. Many ounces had not flowed before he became quieter, and within ten minutes was able to speak, and say his head was better. I then ordered him a powder of pulv. Doveri gr. v, quinæ disulph. gr. ij, and kept a steady stream of cold water on his head during the periods of excitement. During the night he required watching, but had only slight attacks of unconsciousness and excitement. Seeing in the morning that, whatever the *rationale* might be, the treatment proved beneficial, I continued the use of quinine and Dover's powder, and ordered him some support in the shape of eggs and good beer. He became better from day to day, though for some days his manner was slow and hesitating. The same treatment has been persevered in: beer and a nutritious diet, with quinine and iron, and at night Dover's powder. He is now at work in his stocking-frame, and, though occasionally complaining, says his head is better than it has been for some years.

Supposing this to be a case of local congestion, it ultimately closely simulated inflammation. The treatment adopted was based on what I am glad to perceive is the prevailing impression in the present day—that local inflammations and congestions, especially if occurring among children, or in the lower classes of society, are best treated on a tonic and stimulant plan.

CASE II. W. R., a moderately strong looking healthy agricultural labourer, aged 32 years, residing in a locality where at intervals of years I have seen cases of ague, has been suffering occasionally for the last two months from intolerable headache, confined to the forehead and top of the head. It came on with no concomitant symptoms. Bowels regular; tongue clean; pulse quiet and feeble. The pain would come on almost suddenly, at no fixed periods of either day or night. So severe was it, that, in doubt as to its nature, I applied blisters behind the ear; but, judging from the pulse, etc., that the nature of the attack was essentially aguish, I put him on full doses of quinine and pulv. Doveri. After a full dose at night, he was always better in the morning, and in the intervals seemed quite well, though weak. Fourteen days after the first seizure, a regular fit of ague occurred, which satisfied me that the treatment was in the right direction.

The headaches have recurred at various intervals, but are becoming less severe, while at intervals of nine days he has had now four fits of ague, the last only three days since. As he is generally improving and gaining strength, and as the last fit was but slight, I shall be disappointed if he is not soon convalescent.

The severity of the headache, and the curious interval observed by the ague, have induced me to report the case, to which a practice in ague districts probably offers many parallels. I have lately seen two or three, in some respects allied, which I have treated on the same general principles.

CASE OF INVERSION OF THE UTERUS.

By CROSBY LEONARD, Esq., Honorary Surgeon Accoucheur to the Bristol Dispensary, and to the Lying-in Institution.

THE subject of this case was a lady, aged 34 years, a stout healthy person, who had previously had one child, stillborn, after a tedious labour, from absence of pains, requiring the application of the forceps.

April 25th, 1855. For the last two days there has been