re-established and the râles were chiefly confined to the end of inspiration. The patient was now got to practise forced breathing. She continued to excite as deep respirations as she could, and on listening over the affected base during this process one heard the air during the first part of inspiration as if struggling with some obstacle, passing slowly and accompanied by a few râles. It then broke into a "puff," terminating with a number of crepitations. The latter part of expiration was also performed in a halting manner but without the râles. It was bronchial in character. After the patient had continued the deep breathing for several minutes it was found that the râles had disappeared, the breath sounds had become sufficiently loud and free, and the percussion tone was perfectly resonant. Moreover, the edge of the lung descended two inches to percussion—a distance equal to that obtained on the right side. Owing to the stoutness of the patient no shadow was visible on either side.

I have seen other cases in young persons wherein collapse, if not too extensive or deep-seated, could be overcome by this method. Forced breathing will also inflate the compressed lung to a certain extent during the existence of a pleuritic effusion or after its absorption. In the case of tardy recovery of the pulmonary elasticity after broncho-pneumonia or pleurisy it is probable that forced breathing should form part of the treatment and be performed as a daily exercise.

Not having seen the last patient from the beginning of her illness, I am unable to say what lesions she may not have had. But when she first presented herself the condition of the extreme posterior base of the left lung was somewhat difficult to diagnose—as the signs of collapse when uniformly affecting this zone are very similar to those of a small effusion or of thickened pleural membranes. As it turned out she was suffering from chronic or rather subacute broncho-pneumonia with pretty extensive collapse. If pleurisy had existed for so long a time it is very unlikely that it would have left no adhesions or thickening at the extreme base. The absence of such is proved by the extension downwards which was demonstrated by liminary percussion.

Perhaps the notes of these cases, out of a considerable number which I have collected, may suffice to indicate the importance of utilising the various procedures to which reference has been made.

Henrietta-street, W.

NOTE ON A

CASE OF ARTHRITIS ACCOMPANYING OPHTHALMIA NEONATORUM.¹

By C. O. HAWTHORNE, M.D. GLASG., M.R.C.P. LOND.,
PHYSICIAN TO THE CENTRAL LONDON OPHTHALMIC HOSPITAL;
ASSISTANT PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL
AND TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.

FOR a recognition of the fact that the purulent ophthalmia of newly-born infants may be associated with joint complications analogous to those which not infrequently attend urethritis we are indebted to Mr. R. Clement Lucas.² His first observation, made so far back as 1885, was perhaps not unnaturally subjected to the ordeal of a somewhat incredulous criticism. From this, however, it emerged successfully and the suggestions that his case might have been one of epiphysitis or of syphilitic synovitis were successfully met by clinical arguments that can hardly be gainsaid. The lapse of time has provided further evidence. This is by no means abundant so far as volume is concerned, but it is supplied by a number of independent observers and contains elements which raise it to the level of established proof. To judge from systematic works dealing with the subject of ophthalmia neonatorum it would appear that Mr. Lucas's original observation hardly attracted the attention which it deserved, though for this some excuse may perhaps be found in the fact that, with one exception, recorded by Mr. R. G. Fendick,³ also in 1885, no parallel case was recorded in Great Britain during a period of 13 years. And when Mr. Lucas in 1899 introduced the subject to the Royal

Medical and Chirurgical Society a search through European medical literature had resulted in the discovery of only 23 cases. Writers on gonorrhœal rheumatism subsequently to Mr. Lucas's case, however, began to recognise the occasional occurrence of joint complications in ophthalmia neonatorum and the association was mentioned by Dr. Archibald E. Garrod⁴ in 1890 and by Dr. J. Mitchell Bruce⁵ in 1894. More recently Mr. Sydney Stephenson⁶ has given some interesting particulars of the character of the joint affections, and Dr. L. Vernon-Jones⁷ has also drawn attention to them. Yet, from what has been stated above the cases are anything but numerous, and so it seems desirable that examples of the condition should be put upon record, more particularly as in some instances the subacute character of the inflammation and its temporary duration may cause it to be overlooked.

The example now to be reported can only claim the interest that it confirms the results of the earlier observations, more especially as regards the possibly quiet nature of the arthritis and the prompt and thorough restoration of the efficiency of the affected joints. The diagnosis in this individual case was not confirmed by bacteriological examination, though this has been accomplished in other instances in reference both to the conjunctival discharge and the synovial effusion. But as we have medical warrant that the father of the patient had gonorrhœa two months before the child was born, that the mother was subsequently affected, and that the child began to suffer from purulent ophthalmia when two days old the diagnosis is not open to doubt.

The earlier particulars of the case, for which I am indebted to Dr. John Clarke, are as follows. The affection of the eyes commenced two days after birth and an abundant purulent discharge continued for fully three weeks. When the child was a fortnight old the right shoulder-joint became considerably, and the right wrist slightly, swollen without apparently causing the child much discomfort and the swelling subsided in the course of a fortnight without any very active treatment. When the child came under my observation he was six weeks old. There was still a slight amount of muco-purulent discharge from the conjunctivæ and the right cornea presented a small abrasion from which a diffuse haze spread through the corneal substance. It may perhaps be conjectured that here is to be found the explanation of a further outbreak of joint inflammation. For while the joints which were first attacked—that is, the right shoulder and wrist—had completely regained their normal characters the left elbow-joint was much enlarged and the swelling extended down the radial side of the forearm for a considerable distance, giving here a sensation of deep fluctuation, as though the sheaths of the muscles were involved. The skin was not reddened and though the child objected to manipulation of the joint he appeared otherwise to be free from pain and his general nutrition was entirely satisfactory. It was decided to fix the limb and to continue the local treatment of the ophthalmia and under these measures the patient made a rapid recovery, so that in from two to three weeks the elbow-joint and forearm had regained in every respect their normal characters.

Attention may first be drawn to the subacute character of the successive attacks of arthritis. Almost from the outset of his observations Mr. Clement Lucas recognised that two varieties of arthritis associated with ophthalmia neonatorum occurred—viz., (1) a very acute form with features suggesting a tendency to suppuration and (2) a milder form accompanied by a great deal of effusion and pain on movement but with little or no surface redness. The present case adapts itself exactly to this latter form. A second feature worthy of note is the extension of the swelling beyond the limits of the joint cavity. This is, of course, a well-recognised event in many cases of arthritis of urethral origin and Mr. Sydney Stephenson has drawn attention to "effusion into the sheaths of the tendons" in the neighbourhood of the affected joints in cases where the primary gonococcal inflammation involves the conjunctiva. The joints most commonly affected would appear to be the knees and the wrists, but in the present case the knees escaped altogether and the stress of the disease fell on the right shoulder and left elbow. It may be added that no history of injury could be obtained and there was no evidence of syphilis in either the child or the parents. Lastly, the promptness and completeness of the

¹ A paper read before the Society for the Study of Disease in Children on May 16th, 1902.

² Brit. Med. Jour., 1885, vol. i., p. 429; vol. ii., pp. 57, 699, 773; Transactions of the Royal Medical and Chirurgical Society, vol. lxxii., p. 137.

³ Brit. Med. Jour., 1885, vol. ii., p. 830.

⁴ Treatise on Rheumatism, p. 185 (Charles Griffin and Co.).

⁵ Quain's Dictionary of Medicine, second edition, vol. ii., p. 681.

⁶ Contagious Ophthalmia, 1890 (Baillière, Tindall, and Cox).

⁷ Gonorrhœal Arthritis, 1891 (H. K. Lewis).

restoration of the joints to normal may be noted. This is in harmony with other records and supports and justifies the presentation of a favourable prognosis in these cases. It is a feature of the condition in pleasing contrast to the obstinate and often prolonged evil effects which so frequently attend the usual form of gonorrhœal arthritis. The explanation is doubtless to be found in the ease and readiness with which a purulent ophthalmia can be successfully treated as compared with the difficulty of bringing to a close the opportunities for absorption of a purulent discharge offered by the urethra and its related glandular recesses. The difference between the course of the arthritis in a case of gonorrhœa on the one hand and in ophthalmia neonatorum on the other lends emphasis to the statement that the checking of the urethral discharge is the first claim in a case of gonorrhœal arthritis. It can hardly be supposed that the delicate tissues of the child's joints are more resistant to the gonococcal poison than are those of the adolescent or adult, and the explanation of the contrasted joint complications must therefore be found in the readiness with which the supply of poison is removed in the one case and the difficulty with which it is checked in the other.

Weymouth-street, W.

THE ADVISABILITY OF PRELIMINARY TRACHEOTOMY AND LIGATURE OF THE EXTERNAL CAROTID IN SEVERE OPERATIONS ABOUT THE FACE.

BY CHARLES R. KEYSER, F.R.C.S. ENG.,
SURGICAL REGISTRAR TO ST. GEORGE'S HOSPITAL.

PRELIMINARY tracheotomy and ligature of the external carotid artery are indicated in excision of the upper jaw, excision of the lower jaw, and removal of the tongue in some cases. In the latter, where a small portion only has to be removed and that portion is at or about the tip of the organ, this method is unnecessary.

In advocating what at first appears to be a somewhat severe measure I am aware that there are many who can point to a large number of cases in which the operation has been most successfully accomplished without the preliminary tracheotomy and ligature of the external carotid artery and in which the patient recovered without any untoward symptoms. But I maintain that in the majority of instances in which the operation, especially of removal of the upper or lower jaw, is required it is practically impossible to tell beforehand what the difficulties will be. To some extent, no doubt, it may be surmised that in one direction—viz., hæmorrhage—there will or will not be much danger; for example, in dealing with a rapidly growing exceedingly vascular sarcoma, hæmorrhage is expected and arrangements are made accordingly, but it is impossible to foretell in any given case whether the jaw can be removed with ease and comfort to those chiefly concerned, these being the patient, the operator, and the anæsthetist.

The main reasons for advocating the triple operation are as follows. The almost complete absence of bleeding after the external carotid has been ligatured. Besides the danger to the patient from loss of blood, which in many cases can be efficiently controlled without tying the main vessel, hæmorrhage obscures the view of the affected parts and renders it more likely that some portion of the growth or diseased tissue may be left behind. The operator is much more at his ease and need not be in a hurry. This is especially an advantage in removal of the superior maxilla for malignant disease. All surgeons must have seen cases where in this operation everything goes quite satisfactorily up to the point of twisting out the bone with lion forceps and giving the last few cuts with the knife which sever the remaining tissues which still hold the bone in place. What so often happens at this point? In the large majority of instances the bone and growth crumple up under the pressure of the forceps and are torn out in pieces, soft masses of growth and hard spicules of bone being forced in all directions, often into the patient's pharynx or even into the larynx, and all is for the

moment flurry and excitement, the surgeon endeavouring to get away the bone and growth and the anæsthetist sponging out the pharynx to enable respiration to be carried on. Even if these conditions are absent the last few strokes of the scalpel often divide some large vessel, such as the internal maxillary artery, and the field of operation is flooded with blood. With the external carotid ligatured and a tracheotomy tube in place, the pharynx being plugged with a sponge, none of these difficulties occur and the operator and the anæsthetist can proceed with deliberation and ease. Apart from a perhaps slight immediate danger of hæmorrhage there is another point: no blood enters the larynx and air-passages.

In a certain number of cases, no doubt much smaller now than formerly, broncho-pneumonia supervenes in a few days after operations such as excision of the tongue or jaw. This is nearly always septic in character and many patients have lost their lives from this cause when the operation has been quite successful in all other respects. I believe that the cause of this lung-trouble is almost invariably the result of putrefaction taking place in blood or blood-clot which has entered the air-passages at the time of operation. It is often stated that this complication is caused by the air which is inhaled passing over the wound and so carrying some virus to the lungs but the treatment of the cut surface nowadays is such that this cannot be reckoned as having much influence in the production of broncho-pneumonia. On this point I have quite recently seen two cases of partial excision of the tongue which bear on the question. Both were cases of epithelioma of the tongue; in one the patient was comparatively young and strong, the growth was of short duration, the tongue was not adherent, and there were no enlarged glands in the neck. In the other case a man was older and more feeble, the tongue was slightly adherent, and there were epitheliomatous glands in the neck. Both were operated upon on the same day by a well-known surgeon whose skill is beyond question. In the first case the growth was excised in the ordinary way by Whitehead's method. In the second case the glands in the neck were first removed and the external carotid was ligatured before removing the tongue. In this case the patient soon recovered and is now quite convalescent. The other, in whom the carotid was not tied, developed an irregular temperature, cough, and shortness of breath, and is still exceedingly ill. Signs of fluid in the chest appeared and a large horribly foul empyema was opened and drained. It had apparently been caused by an abscess in the lung and surgical emphysema developed all over the affected side of the chest. Although in the case given tracheotomy was not performed, the absence of all hæmorrhage and, in consequence, of all septic changes occurring in the air-passages, prevented any complication of the lung. I may also mention that the two patients are not only in the same ward and looked after by the same nurses, &c., but are in adjoining beds, so that the possibility of any external cause for the complication of the lung is extremely improbable.

It is of great importance to ligature the external and not the common carotid artery, as if the latter proceeding is done the hæmorrhage is very inefficiently controlled owing to the exceedingly free anastomosis through the circle of Willis and there is some danger of cerebral symptoms appearing subsequently. The most convenient position for the ligature is between the superior thyroid and lingual branches and in this situation the operation is not of great difficulty. Although, as mentioned above, there is not, as a rule, much danger to life from hæmorrhage if the carotid is not ligatured, yet within the last two years I have seen two fatal cases, one in which half of the tongue was removed for a papilloma and another in which excision of the upper jaw for sarcoma was performed.

There is no necessity to use a special tube or tampon for the trachea as an ordinary tube answers every purpose if at the same time the pharynx is plugged with a good-sized sponge. The following cases, which Mr. Herbert W. Allingham has kindly allowed me to publish, illustrate the kind of disease in which this method of operating is of use. The first four have already been published¹ but the remainder have not yet been recorded.

CASE 1.—The patient, aged 48 years, was suffering from epithelioma of the posterior part of the tongue, involving the anterior pillar of the fauces and the floor of the mouth. The submaxillary and the vertical chain of cervical glands were

¹ Practitioner, May, 1899, p. 572.