marked, and the patient died at 11 p.m. She was conscious until the last half-hour.

Post-mortem Report.—The brain showed generalized oedema, and the abscesses were present in it as follows. (1) A large subdural abscess covered the whole surface of the superior part of the left hemisphere, extending towards the base, and especially marked at the anterior part of the frontal lobe. (2) A left frontal lobe abscess, half an inch in diameter, contained thick grumous pus. There was some attempt at encapsulation. No stalk connecting it with the subdural abscess was found. (3) A right temporal lobe abscess, three-quarters of an inch in diameter, was situated nearer the occipital lobe, and not immediately adjacent to the mastoid region. This appeared to be more recent than the frontal lobe abscess, as there was very little attempt at encapsulation. The left mastoid and the sinuses showed no evidence of infection.

Comment.

It is obvious that the history given of this patient's illness was totally inadequate, but further inquiry from her doctor and relatives failed to elicit any other facts.

The case was diagnosed as meningitis, with the suspicion of a right temporo-sphenoidal abscess, but the possibility of a contralateral brain abscess was not seriously considered. The facial paralysis was taken to be due to involvement of the nerve in its canal, and not to a cortical disturbance. It was the only real localizing sign present, and in view of the post-mortem findings this is rather remarkable, as there must have been considerable pressure over the whole motor area from the very large subdural abscess. The infection here was haematogenous, but again we were unable to obtain any history of an apoplectic onset. Since the cerebral condition was of several days' or weeks' duration, during which time the patient was not under medical observation, this fact may be discounted. The duration of the illness would also account for the fact that the blood cultures were sterile, as organisms are soon eliminated from the blood once the cerebral infection has commenced. The findings in the cerebro-spinal fluid are what one would expect in view of the pathological findings.

The aphasia stands out pre-eminently in the clinical picture. This should have directed our attention to the left hemisphere, especially when we had ascertained that the patient was right-handed. It differs, however, in some respects from the aphasia observed in a temporo-sphenoidal abscess of the left side. Obviously several of the higher centres³ were involved, and if we analyse her symptoms we can pick them out.

1. She had a motor aphasia, since she could not repeat sentences, or, indeed, speak at all. This centre is usually said to be located in Broca's area; Marie and Head contend, however, that motor aphasia is not caused by interference with a specific area or tract, but that the area of the cortex involved is in relation to the squamous suture.

2. Whether she had a partial word-deafness is more difficult to determine, owing to the above symptom. At any rate, she had not a total word-deafness, since some questions asked were certainly understood.

3. She had a sensory agraphia, since she could not write a sensible sentence; this centre is in the angular gyrus. It does not appear that she had a word-blindness (alexia), which would have indicated involvement of the second occipital convolution.

4. There was probably involvement of some of her association tracts, but this is impossible to determine.

It is rather remarkable that with a subdural abscess of such a size the patient remained conscious until the end of her illness. One would have expected her to be far more drowsy and comatose than she was.

The post-mortem findings call for little comment. Jobson⁴ and others have recorded cases of contralateral brain abscesses, but it would seem that these were not true metastatic abscesses, but rather due to a retro-thrombophlebitis. I have been unable to find a reference to a chronic otitis causing metastatic abscesses in the brain, without showing any other evidence of the generalized pyaemia, but no doubt it has occurred.

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- ² Arnold, J.: Ueber Richtioffigen Transport. *Arch. f. Path. Anat. und Physiol.*, 1891, Bd. 124, S. 385.
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A SIMPLE AND SAFE METHOD OF OESOPHAGEAL INTUBATION.

BY

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A PATIENT reduced to fluid nourishment is immeasurably better off when he can take this by the mouth than when he must receive it directly into the stomach—in other words, a tube in the oesophagus is far preferable to a tube in the stomach, all things being equal. This qualification is necessary since intubation of the oesophagus may involve difficulty and danger in the introduction of the tube, and discomfort and uncertainty afterwards. Unless these defects of intubation can, to a great extent, be eliminated the procedure will not commend itself as a substitute for gastrostomy. It is the purpose of this short communication to describe a method of intubation which in large measure, I think, disposes of these objections.

In the first place, several concessions to gastrostomy should, in my opinion, be made. Gastrostomy is, I consider, the best treatment when the stricture is at the cricoid end of the oesophagus, and, except as an emergency or in special circumstances, it is preferable to the use of long flexible feeding tubes which extend from the mouth to the stomach, and to the use of those made of perishable material, or of such as are employed with anchoring threads in the mouth. After conceding so much to gastrostomy, however, there still remains a considerable field for intubation in those cases where the obstruction is in the thoracic part of the oesophagus or at the cardiac end, and especially where the growth is not very extensive and where the condition of the patient is good.

The suitability of the case for intubation having been determined, the object in view is to traverse the stricture with a tube of suitable size by means of a technique that is as quick and simple and safe as possible. The best tube to use is the one devised by Souttar. Being a closed

The drawings illustrate the method of intubation described. A, Wool-carrier. B, Cannula. C, Wool plug. D, Souttar's tube. E, Gum-elastic tip.

spiral of wire it is flexible and it is made with certain tortuosities which favour retention. The average length of the tube should be about 2½ inches, but on occasion a longer one up to 3 inches could be used. The lumen should not exceed 6 mm. at the lower end and 10 mm. at the expanded end. The larger sizes of Souttar's tubes I consider dangerous, requiring as they do considerable stretching of the friable stricture and the use of a very large oesophagocopy tube.

The essence of the method of intubation now to be described is the fitting on the lower end of the tube of a gum-elastic tip which guides the tube safely and surely through the stricture, and then, having done its work, is disengaged from the tube and passes down into the stomach and intestines. The gum-elastic tips are conical in shape and about 3½ inches long. Their bases are specially made to fit into the lower end of the tubes, the latter being filed

so as to make the union perfectly smooth and uninterrupted. The appliance for introducing the tube serves also for expelling the gum-elastic tip. It consists of a very slender rod enclosed in a cannula. The latter is expanded and flattened below and is perforated for a screw above. The former has fine hooks and a thread at its lower end to serve as a wool-carrier.

To prepare the equipment for use the following procedure is necessary—namely,

1. Lightly fit the gum-elastic tip to the tube; on no account must the union be firm, as it requires to be easily broken when the tube has been placed in position.
2. Affix wool to the wool-carrier in bulk sufficient just to engage the lumen of the tube and support its weight.
3. By means of the screw adjustment extend the wool-carrier so that the little wool piston just touches the gum-elastic tip when placed inside the tube, whilst at the same time the flattened lower end of the cannula makes contact with the tube.
4. Fix the wool-carrier in this position by tightening the screw.

The apparatus being assembled and prepared in this way is ready for use. The oesophagoscope is now passed and the face of the stricture brought into view. One or two rubber-tipped Jackson's bougies are now passed to dilate the stricture and to determine the exact position. Everything is now ready for passing the tube. The gum-elastic tip, being soft and pliable, easily and safely finds its way through the stricture, carrying with it, harmlessly and unerringly, the metal tube. When the expanded upper end

of the tube reaches the face of the stricture the downward movement is discontinued and the gum-elastic tip expelled. This is achieved by loosening the screw which fixes the wool-carrier, so that it is free to push out the tip. After so doing the final step consists merely in withdrawing the wool plug into the expanded upper end of the tube. In doing this the tube must be held in position with the flattened lower end of the cannula until the wool plug, having reached the tubal expansion, is quite free and the introducing mechanism comes away unimpeded. It will be seen that the use of the oesophagoscope is unfortunately essential, but the actual placing of the tube is easy and safe, only requiring one simple action and occupying but a few seconds.

The efficiency of Souttar's tubes is surprising. Even the smallest size, with a diameter of 4 mm. at the lower end, is fully adequate for fluids and may continue to function well for months. Trouble can arise from displacement of the tube downwards or obstruction of the lumen. I have little experience of displacement upwards of Souttar's tubes, but on a number of occasions I have known a tube to work its way harmlessly through the stricture and pass into the stomach.

The maximum length of service of an intubation tube is obtained when the largest size possible, within the limits previously stated, is used, and when nothing but thin fluid nourishment is given, succeeded on each occasion by a drink of water to flush out the tube.

All the appliances referred to in this communication are made by Messrs. Mayer and Phelps of London.

COMPARISON OF A THOUSAND SERUMS TESTED BY THE WASSERMANN AND KAHN METHODS.

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In the series of investigations of 1,000 serums now reported the Wassermann technique used was that devised by Colonel Harrison; Kahn's technique¹ was closely followed, as laid down by the inventor. The antigen was supplied by Messrs. Parko, Davis & Co., London. An attempt was made to use symbols in expressing the comparative strengths of the reactions in either case. A list of equivalents is given in Table I.

TABLE I.—Comparative Strengths of the Kahn and Wassermann Reactions.

Reaction.	Comparative Strengths.				
Wassermann ..	++	±	+	±	—
Kahn	++++	+++	++	+	—

For diagnostic purposes the two tests were in agreement in 98.4 per cent. of cases, and they appeared to be of equal strength in 94.6 per cent. In 3.8 per cent. the cases showed quantitative differences; 40 per cent. of these were treatment cases. In 87 per cent. the Wassermann reaction appeared to be the stronger of the two. Disagreement between the two tests was apparent in only 1.6 per cent. of the 1,000 cases; these are listed in Table II. Of these, it will be noted that 50 per cent. are treatment cases, and that the Wassermann test appeared to be the more sensitive. In two doubtful cases—one of general paralysis, and another of pernicious anaemia—the serums were in bad condition, and the results should not, perhaps, be included. In both instances, unfortunately, we have no further knowledge of the cases.

TABLE II.—Disagreements.

Clinical Description Given.	Wassermann Reaction.	Kahn Reaction.
Gonorrhoea and pregnancy	+	—
? Congenital syphilis... ..	—	+
Treatment case	+	—
Previous ++ (Wassermann reaction) treated	±	—
Arthritis case	Trace	—
Treatment case	±	—
Ulcer of lip	+	—
Treatment case	+	—
Treatment case	+	—
? General paralysis	—	++++
Previous positive (treatment case)	—	+++
Treatment case	±	—
Rash and alopecia (four months)	+	—
Addison's anaemia	—	+++
Treatment case	±	—
Adherent placenta	—	++

Summary.

1. This series would seem to suggest that the Kahn test and the Wassermann reaction can be fairly strictly compared.

2. In this series the results are in favour of the Wassermann reaction.

3. It is valuable to test a serum by both methods.

4. The convenience, simplicity, and rapidity of Kahn's method make it a very useful test where conditions would render a Wassermann test difficult or impossible.

5. The Kahn test should not supplant the Wassermann.

6. The Kahn test is more difficult to read, and is more affected by external temperature than is the Wassermann test—that is, apart from tropical conditions.

REFERENCE.

¹ Kahn: *The Kahn Test: A Practical Guide*, Baillière, Tindall and Cox.