Our earliest clinical diagnosis is also in the neighbourhood of five years of work.

X-ray Findings.—Excellent radiographs of these four advanced cases were taken for me by Dr. Rowden recently. Exposure was for two-fifths of a second. All the chests showed abnormal radiolucency and marked limitation of diaphragmatic movement. The radiographs show this translucency above the level of the ninth rib posteriorly and the fourth rib in front. Below that level, roughly, in all of them there is definite infiltration, particularly on the right side. The outline of the diaphragm tends to be irregular and flattened, and the root shadows to be enlarged in a downward direction. Without going into further detail, the picture is that of asbestosis. But the shadow of the fibrosed zone is in itself characteristic. It is devoid of radiations from the root shadow and presents an amorphous, flocculent appearance, in which small cavities are indicated in some of the cases. In estimating the respiratory handicap we must not forget that the bases extend below the shadow of the dome of the diaphragm.

Lung Puncture.—Another line of investigation, suggested by Dr. Henry, has been carried out—namely, lung puncture. Asbestosis bodies can be extracted from the patients' lungs during life by means of a hollow needle and syringe. I punctured all these four cases, and Professor Stewart has found "bodies" in two of them. We do not recommend it as a routine method of diagnosis. No tubercle bacilli were found in any of them.

Sputum.—Much preferable is the examination of sputum by the antiformin method, which Professor Stewart has applied with striking success, and the only difficulty is to get the sputum. This is often available in winter, and if the patient has a receptacle in readiness the sputum will turn up some time. Three of these cases yielded the "bodies" in sputum, and the fourth had no sputum but was positive on lung puncture.

Conclusions.

The following conclusions have been established:

1. That the inhalation of asbestos dust will "in the long run" produce a state of fibrosis, the distribution being peripheral and mainly basal, the right base becoming most advanced and the upper lobes tending to develop compensatory emphysema as first the diaphragmatic and gradually the entire pleural surfaces become obliterated.
2. That the disease is not as a rule complicated by tuberculosis.
3. That the disease is usually first recognized after more than five years' exposure, although systematic examinations might reveal it earlier.
4. That the condition is usually found first during an attack of influenza or winter cold, when exacerbations of the disease occur.
5. That even in the advanced cases there is marked abatement during the summer months.
6. That the onset of anorexia signalizes to the worker that work is no longer possible.
7. That the patient may then live for several years and continue to bear children, but becomes progressively weaker and more emaciated, more hopeless, sleepless, and exhausted, until an attack of broncho-pneumonia or bronchitis brings death at last.
8. Further, that asbestosis bodies can be found in the sputum, if any, in all advanced cases, as well as in most early cases.
9. That they can be demonstrated by lung puncture in advanced cases; but since no patient is likely to permit more than one puncture to be made a negative finding is inconclusive.
10. That radiography is of great value in diagnosis and in observing progress.
11. That the treatment of these cases, being purely palliative so far, calls for great patience and vigilance over several years, and much relief can be afforded.
12. Finally, that the disclosure of the danger arising from asbestos dust has brought home to the workers the need for observing the measures provided for their protection, and is bound to be salutary, although the mortality statistics will probably be swelled by the wider recognition of this disease.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A METHOD OF EXAMINING THE SPUTUM FOR ASBESTOSIS BODIES.

HALF an ounce of so of sputum is added to an equal quantity of undiluted antiformin. This is gently agitated until the sputum is completely dissolved, after which it is diluted down with two or three ounces of water and allowed to stand in a large test tube for three or four hours. The bulk of the supernatant fluid having then been decanted, the remainder is centrifuged at a moderate speed for ten to fifteen minutes. The whole of the supernatant is now poured off, and the deposit transferred to an albuminized slide by means of a pipette. After thorough drying on a hot plate and final fixation over a bunsen, the film is very gently washed in water, dried, and mounted in Canada balsam. After a little experience the asbestosis bodies are readily picked up with the low power, and their true nature is then confirmed with the 1/6 inch or oil immersion lens. As a rule they are present in very small numbers, perhaps only one or two in a whole film. In the case of some of the older workers, however, numerous bodies, up to one or two per field in certain portions of the film, have been found. It is obviously necessary to cleanse thoroughly all glassware, etc., used in making these examinations, otherwise there is a risk of contamination of subsequent specimens.

The films can be treated with hydrochloric acid and potassium ferrocyanide to demonstrate the Prussian-blue reaction given by the bodies.

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FOREIGN BODY IN THE LARYNX.

THE following case illustrates some of the difficulties of diagnosing the presence of a foreign body in the larynx, and the need, whatever the history may be, for making the most complete examination when this condition is suspected.

The patient, a waitress at a country hotel, consulted Dr. Frend of Hurstpierpoint on January 24th, stating that on the previous evening, as she got up from her chair, where she had been engaged in sewing, she felt a sudden pricking in the throat. After repeated questioning she admitted that she was in the habit of holding pins in her mouth, but stoutly denied that she had done so on this occasion. The meal which she had taken two hours previously contained nothing that could be impacted as a foreign body in the throat. Dr. Frend could see no abnormality in the larynx or pharynx, but with great difficulty he persuaded the patient to go to the Sussex Throat Hospital for further examination.

My examination by indirect laryngoscopy yielded negative findings, but as the patient still complained of the pricking sensation I asked Dr. Prowse to make an *x*-ray examination. I confess that I was surprised to see in the radiogram that a pin was lying horizontally and in an antero-posterior plane, opposite the sixth cervical vertebra—that is, on a level with the entrance to the larynx. The laryngeal mirror had failed to reveal the presence of this pin, although the patient's larynx had presented no difficulty in examination. I decided to examine with the endoscope, and did so the same evening with the patient under general anæsthesia. I used Lynah's œsophageal spatula, and at once discovered a longitudinal tear about one inch in length on the posterior œsophageal wall. This discovery was soon followed by the sight of a pin-point abrasion on the posterior aspect of the right arytenoid. By making the necessary adjustment in the patient's position I brought the larynx into view, and was able to see the pin transfixed through the right arytenoid, with most of it lying free in the middle of the larynx. I grasped the pin with forceps and inserted the tube a little deeper; by this manœuvre I was able to draw the pin forward wholly into the tube and thus eliminate any possibility of damage to the tissues. The patient wrote on February 17th that she had suffered no soreness or hoarseness, and that she had not felt the least discomfort.

The following features of this case are of special interest: (1) The absence of symptoms, even of the wheezing respiration described by Chevalier Jackson. (2) The unusual position of the pin—foreign bodies in the larynx usually lie with the long axis in the sagittal plane. (3) The failure to see the pin by indirect laryngoscopy. One concludes that it must have been tucked under the arytenoepiglottidean fold and brought into view as a result of