bacillus was obtained in pure culture from the spleen. In bile salt glucose and mannite it gave acid and gas; no change took place in bile salt lactose. The Bordet-Durham reaction was tried with results shown in the following table:—

	Dilution.				
	1 in 40.	1 in 80.	1 in 160.	1 in 320.	1 in 1000.
Typhoid	Complete.	Partial.	Partial.	Negative.	Negative.
Paratyphoid A.	Almost complete.	"	Very slight.	"	"
Paratyphoid B.	Complete.	Complete.	Partial.	Partial.	Partial.

The Bordet-Durham reaction for Gaertner could not be performed as no agglutinating serum was available.

As the brain was at once placed in formalin solution no bacillus could be isolated from the abscess when sections were cut. It is unfortunate that the Bordet-Durham reaction for Gaertner could not be performed, but the evidence, clinically and bacteriologically, seemed fairly conclusive that the disease was due to the bacillus paratyphoid B."

A CASE OF HYSTERO-CATALEPSY.¹

By LIONEL A. WEATHERLY, M.D. ABERD.

THE following case is interesting on account of its rarity, the difficulty of early diagnosis and prognosis, and the favourable result after the case had looked absolutely hopeless. Such a case is mentioned in no English text-books that I have consulted, and leading psychologists and neurologists have written me that they have had no similar case in their practice. I saw the patient in consultation with Mr. Maitland Scott at a nursing home on July 14th, 1914, and at his and the mother's request she was removed to my care on the same day.

The patient was a spinster aged 35, but looked much younger. She came of neurotic parents. A brother was neurotic. The mother was always delicate and within the year had had a paralytic seizure. The patient had always lived with her mother and had been her constant companion. At the age of 17 she had a nervous breakdown and had been sent from home for a short time, but soon recovered. Some six months before admission she had been in constant attendance on her mother by day and night, much against the wishes of her medical attendant, Mr. Scott. The mother was most exacting, never liking the daughter to be out of her sight, and she was getting no sleep at night and no change by day. A few weeks before I saw her she had been so unwell and run down that she was sent away for a change with a companion. During this period her behaviour was somewhat strange. At the last place they stayed she was lost for a whole day, and when found could give no rational account of what she had been doing or her reason for absenting herself. She was then brought to Bournemouth to a nursing home. There was no history of masturbation.

I saw the patient on the morning of July 14th in consultation with Mr. Scott. She was laughing and singing; we had great difficulty in getting her to answer any direct question coherently. There was considerable mental excitement and restlessness

and confusion of ideas. She had a typical hysterical appearance, with considerable tremor of eyelids. Reflexes were all exaggerated. Powers of coördination were normal. I pronounced the case as one of hysteria major due to stress and anxiety. Catamenia had been absent for some two months. As the nursing home could not keep her there because she was disturbing some surgical cases by her singing, and as she consented to come under my care, she was admitted into my house on the same evening.

On admission she was hysterically excited, with a very weak pulse and definitely anæmic. Isolation from friends and relations was at once agreed upon. For a few days she was quieter at times and spoke quite sensibly to her nurses and lady companion, talking about events some weeks previous to her leaving home, but seemingly had no recollection of more recent events. At other times she would only laugh and repeat questions without any attempt to answer them. She took her nourishment well, and had very fairly good nights with 5i doses of compound cerebral sedative (Parke Davis), by day taking an iron tonic with valerian and nux vomica. In about 10 days' time some stereotyped movements of the arms and muscles of the face began, and the eyes were either wide open or tightly closed. The muscular tension in these movements was not always very marked at first and rigidity would after a short time lessen and the limbs could be easily moved (*flexibilitas cerea*). On August 1st the patient became worse. Some trismus set in. Great difficulty at times in feeding in consequence of violent laryngeal spasm. A rash now appeared on the arms, chest, and legs. There was no rise of temperature. The rash had the appearance of measles and urticaria and lasted 18 days. It was evidently trophic and gradually increased, and the fingers and toes had a myxœdematous aspect. Suprarenal extract (B. & W.), 5 gr. doses, was given by the mouth or rectum three times a day, and the rash gradually disappeared, but great desquamation followed.

During the period from August 1st to 18th she had several trance-like attacks, in which for some hours all reflexes were absent, including the conjunctival reflex. Prior to this trance condition there would be great rigidity of the limbs, the head thrown backwards, and the jaws either tightly closed or widely opened. After about an hour the rigidity would lessen, but the trance-like condition remained for some hours. Definite refusal of food now took place. Any attempt at tube-feeding by the nose or mouth was rendered impossible as violent spasms set in, and the patient almost collapsed. Rectal feeding was resorted to—beef enules, champagne and eggs, brandy and white of egg, &c. The pulse could hardly be felt or counted. Pituitary gland extract was injected hypodermically, and after each such injection the pulse began slightly to improve. This was alternated with hypodermic injections of 1/30 gr. strychnine. Mr. Scott saw the patient with me constantly, and I was with her several times in the night. Her relatives were summoned and death was expected every hour. She was greatly emaciated and almost unconscious. On the eighth day of rectal feeding the rectum no longer retained what was injected, and for 24 hours glucose was the only thing that could be retained, given in small doses.

On Sept. 3rd the patient became rather more conscious, and small doses of Valentine's meat juice and Brand's essence of beef were swallowed.

¹ Read before the Bournemouth Medical Society.

Gradually more nourishment was taken. Virol, cod-liver oil and malt, and a preparation of iron were now able to be administered, and she gradually improved physically, but for some days she had a return of the stereotyped movements of the hands and arms, and she did not recognise her relatives. She gradually improved, and by the end of September catamenia appeared, she became much more rational, took plenty of nourishment, and in about ten days' time she was able to join our family circle, and took short walks, played games, read, and made a complete recovery, and was discharged on Nov. 3rd.

Since then, by my advice, the patient has had a companion, has not been so constantly with her mother, and has been out much more and to places of amusement and has kept quite well, with the exception of occasional trophic skin affections, which Mr. Scott tells me have cleared up under thyroid or suprarenal extract.

I think I am justified in calling this a case of hystero-catalepsy. When the katatonic symptoms commenced I rather suspected one had to deal with a case of dementia præcox, but her age and some of her symptoms were, to my mind, against this, and I think the marked hysterical element was proved by the more or less sudden improvement and ultimate recovery after being at death's door. It will, of course, be interesting to know the further history of her condition, as cases are on record of recoverable dementia præcox, with an almost inevitable relapse.

Bournemouth.

THE X RAY THEATRE IN WAR HOSPITALS.

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IT is the experience of most who have to deal with the extraction of foreign bodies from the tissues that, in spite of the most accurate localisation, time and time again there are the most mortifying failures. The early realisation of this prompted us, at the Baltic and Corn Exchange Hospital, Ecole Sophie Berthelot, Calais, to seek for some method which afforded more direct guidance, and to this end we experimented for a time with the electric probe; but after five months of experience of the removal of foreign bodies, directly under the X rays, we venture to plead for the more routine adoption of a method which has afforded us so much satisfaction.

There are two chief reasons why we plead for the installation of an X ray theatre in all large war hospitals. First, the speed with which extractions can be performed—a factor of importance both in that the maximum of cases can be done in the minimum of time, and in that prolonged anaesthesia is avoided for the patient; and, secondly, the minimum of damage is done to the tissues. Over and over again we have had old, healed cases here for extraction, showing most extensive scars, souvenirs of prolonged search, in which we were able to extract the foreign body *via* incisions incomparably smaller than their less fortunate predecessors. It is not our intention to minimise the value of accurate localisation; for that, of course, with this method is still necessary, especially when the trunk or head is involved. The X ray room here is equipped exactly as an operating theatre, but a few points may be worthy of note regarding technique and the general method of working in

the theatre. The apparatus employed is by Dean, of London, and has given complete satisfaction. The table employed is three feet broad, with a movable tube box underneath, and the top used for operating is an extra-broad canvas stretcher. On this table it is possible, with the guidance of the rays, to operate on almost any part of the body. In place of mackintosh sheeting we employ jaconet, as the former is too opaque for general use (indeed, it acts as a fluorescent screen). It is obvious that the surgeon must always stand at the same side of the table, otherwise the proximity of the high-tension wires might prove annoying; but if the induction coil be on wheels, it is possible for the assistant to stand on the opposite side, the high-tension wires being made to approach the table obliquely from the opposite end. As assistance is not necessary during the actual extraction, he can stand aside while the apparatus is working. For the protection of the operator's hands we use here extra-thick rubber gloves; if more protection is desired, a thin sheet of aluminium may be placed between the tube and the patient.

The lighting of the theatre was at first very troublesome, the ideal light for the X ray room being subdued, while the reverse is true of the operating theatre. This difficulty we have overcome by employing an old automobile headlight over the table. A 100 candle-power electric lamp is placed behind the condenser, thereby concentrating the light only on the area of operation, the rest of the room being in comparative darkness. This permits careful dissections to be made when necessary, the eyes retaining that acuity so necessary for the actual extraction.

Regarding the administration of anaesthetics it is sometimes necessary for this to be done for a time in the dark; the anaesthetist is equipped with a covered lamp, controlled by an ordinary electric bell push, and this flashed occasionally and working through a small diaphragm affords him sufficient light without interfering with the course of the operation. It is often necessary for anaesthetics to be administered with the patient in the prone position, but as in most cases the operation is a rapid one there has never been any trouble.

All cases admitted here are subjected to a preliminary X ray examination, and if a foreign body is present it is localised with a thoroughness which varies with the part involved. Should the trunk, the head, or the neck be implicated stereoscopic radiograms are taken. For the extremities all that is usually necessary is to determine roughly by moving the tube the relationship of the foreign body to neighbouring bony structures. Each case, however, must be judged on its own merits.

To facilitate description we may roughly divide cases to be treated into two great classes: (1) old and healed; and (2) recent and septic. In the old and healed the preparation is as for an ordinary operation; the towels are applied in the usual fashion, but we might add that it is advisable to clip them firmly to the skin, so that in the darkness they may retain their position. A towel is set aside for the screen of sufficient size to cover its under surface completely with a margin all around of about 2 inches. This is laid over the cleansed area and the screen is placed in position by the theatre orderly. The assistant now clips on the towel at the four corners, and for this purpose we employ Dieffenbach's bull-dog forceps. Before the actual commencement of the operation the X ray tube is