

bacilli present. Seen the same evening, she showed definite signs of increased pressure in the meninges, Kernig's sign was marked on both sides, the temperature had gone up and I warned the relations that the case might end fatally. Next morning lumbar puncture was repeated and the same type of clear fluid under pressure came out. This puncture was done to relieve the pressure. The second afternoon, i.e., the third day after I saw her first, the temperature went to 106°F. and the girl died. Here again no post-mortem was available.

Case No. 3.—A girl, aged 14, was in a private hospital for some trouble with her ankle joint presumed to be of tuberculous origin. On examination there were no signs of tuberculosis. She was reported to be subject to hysterical fits. She was a child widow. With the experience of the former two cases in mind I was interested in this case and kept her under observation and attended her when she was in the fits. The fits were of an epileptic type and generalized throughout the whole of the body. She used to scream and had a marked aura in the form of twitching of the face muscles, upper extremities or lower. I watched a succession of fits one night. At first I told the father of the girl that she was a subject of hysteria, but later changed my opinion, being reminded of the former cases above referred to. Examination revealed that she had slight exaggeration of all deep reflexes and a faintly positive Kernig's sign. She was put under observation and her temperature was showing signs of rising. At this stage with 102°F. temperature a lumbar puncture was done. The fluid came out under pressure. It was clear, with cells increased, mostly mononuclears. Tubercle bacilli were found in it. After this examination I gave a grave prognosis and warned the house surgeon of the hospital and the parents that the commencing attack was probably the final stage in a tuberculous infection and that she might die of hyperpyrexia. Suitable treatment for hyperpyrexia was given. On the third day after the cerebro-spinal fluid was examined her temperature went up to 107.2°F. and she died. Here again a post-mortem was not available.

Case No. 4.—This case was that of a patient under Dr. Kohiyar's care at the J. J. Hospital. The patient was admitted with fever and signs of meningitis, and was for a couple of days only in the wards.

His temperature chart showed a persistent rise. The cerebro-spinal fluid showed lymphocytes and tubercle bacilli. After death a post-mortem was done. No tubercular lesions were seen anywhere. The sub-arachnoid space was tense with fluid, the fluid was collected and examined and it showed tubercle bacilli.

Case No. 5.—One more case may be cited of an adult male, aged about 32, brought down from Nasik by his relatives to Bombay. The history given by the relatives was that they considered him insane and a dangerous person and wanted me to certify him a lunatic. I examined him carefully. I noticed in him exaggerated knee-jerks and signs of meningitis and warned the relatives of a grave prognosis. The doctor who accompanied him was kind enough to give me details later. This man died of hyperpyrexia, developing signs of acute meningitis.

These are the cases I have come across which in my opinion may throw some light on nervous manifestations in tuberculous infection. The termination in all has been a typical acute tubercular meningitis, but I particularly wish to point out the initial signs and symptoms; the hysterical, the choreiform and epileptic manifestations. I am led to believe that the cerebro-spinal fluid is an unfavourable medium for tubercle bacilli, and this may explain the comparative absence of tuberculous lesions of the central nervous system and meninges even in cases which show generalized acute miliary dissemination. I have by now examined several cases in the post-mortem room.

Another suggestion I may venture to make. I believe that there are only some particular strains of tubercle bacilli which affect the central nervous system and an ordinary case of tuberculosis is quite free from nervous symptoms and has comparatively a very hopeful temperament. It may be that a particular strain gives off a neurotropic virus. It certainly would require experimental evidence to substantiate such a proposition.

On the other hand, to find tuberculous lesions in the central nervous system in very advanced and generalized tuberculosis cases in the post-mortem room is unknown so far as my experience goes.

X-RAY WORK IN BALUCHISTAN. (THE NEW X-RAY AND ELECTROTHERAPY DEPARTMENT OF THE C. M. S. HOSPITAL, QUETTA.)

By J. H. BARRETT, D.M.R.E.,

CAPTAIN, I.M.S.,

Quetta.

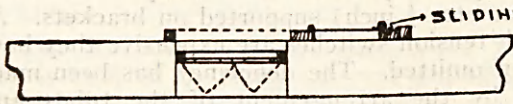
ONE is not often fortunate enough to have either the opportunity or the funds to erect and equip a department designed solely for radiological and electrotherapeutic work. I have had the good fortune to be associated with Dr H. T. Holland, C.I.E., and Dr K. W. Mackenzie, D.S.O., M.C., in the planning and designing of the new x-ray and electrotherapy departments of the Mission Hospital, at Quetta; and it has been no small pleasure to me to realize that the actual building plan submitted by me has been adopted by them. It is through the courtesy of the above that I now describe certain aspects of the new x-ray department which I hope may be of use to others who are confronted with the difficulty of erecting a similar department with semi-skilled labour, and where economy is a *sine qua non*. Incidentally it is no longer the fate of the unfortunate radiologist to be allotted a cell in the basement of a hospital where the darkness accentuates the difficulties of his work. The great advances that radiology has made in the recent years deserves something better than the cellars, and the Mission at Quetta has given a progressive lead in this direction.

THE MAIN X-RAY OPERATING ROOM

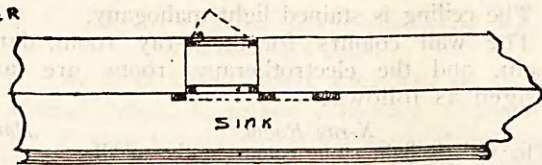
The whole finished building is designed so as to occupy three sides of a square. Funds at present only allow two sides to be completed, one for x-ray work, and one for electrotherapy. The third side will be used, when constructed, for stores and ultra-violet rays, etc.

The main x-ray room (indeed the whole building) is built of kacha brick cemented over. Both ceiling and floors are constructed of wood. The dimensions of the room are as shown (see building plans). The back windows face north, and it communicates directly with the electrotherapy room and

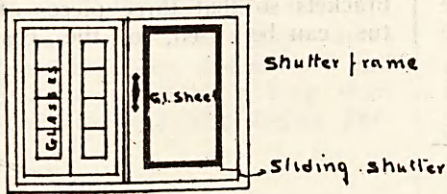
PLAN OF OUTSIDE LARGE WINDOW 3x4 1/2



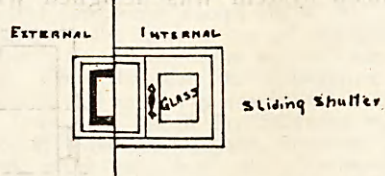
PLAN OF SMALL WINDOW IN DARK ROOM



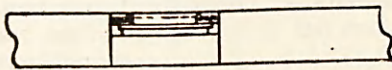
OUTSIDE ELEVATION



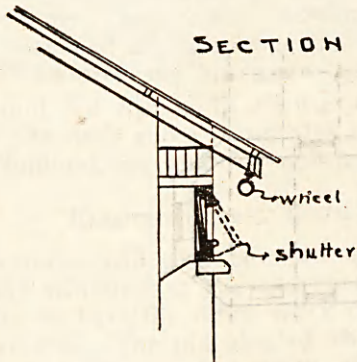
ELEVATION



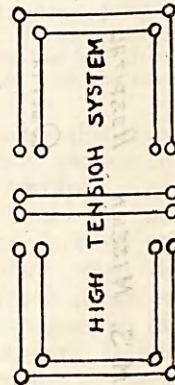
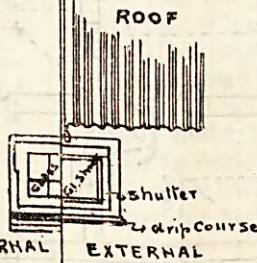
CLERESTORY WINDOW



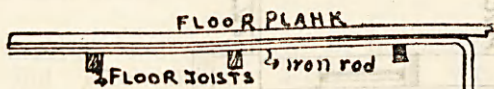
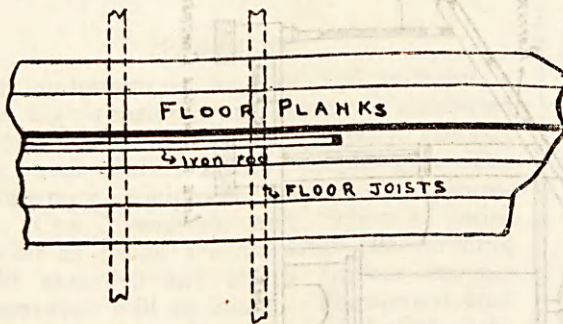
SECTION



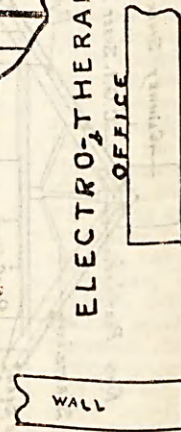
ELEVATION



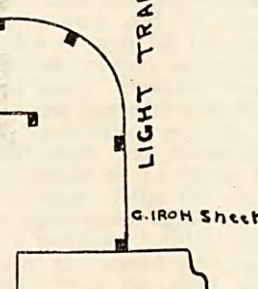
SINGLE BRACKET



ELECTRO-THERAPY OFFICE



LIGHT TRAP



IRON rod depth

XRAY DE POT

IRON PLATE

with the dark room, access to the latter being obtained by means of a special light-trap (not the cumbersome double door).

The ceiling is stained light mahogany.

The wall colours for the *x*-ray room, dark room, and the electrotherapy room are arranged as follows:—

X-ray Room.

The wall is light stone colour in the middle, with 2½-inch belts of dark green, 3½ ft. from the floor and 1 ft. from the ceiling. The lower 3½ ft. of wall is light green and the upper foot near the ceiling is white.

Dark Room.

Light blue.

Electrotherapy Room.

Light blue in the middle with 2½-inch belts of black, 3½ ft. from the floor and 1 ft. from the ceiling. The lower 3½ ft. is coloured grass green, and the upper foot the same blue as the middle.

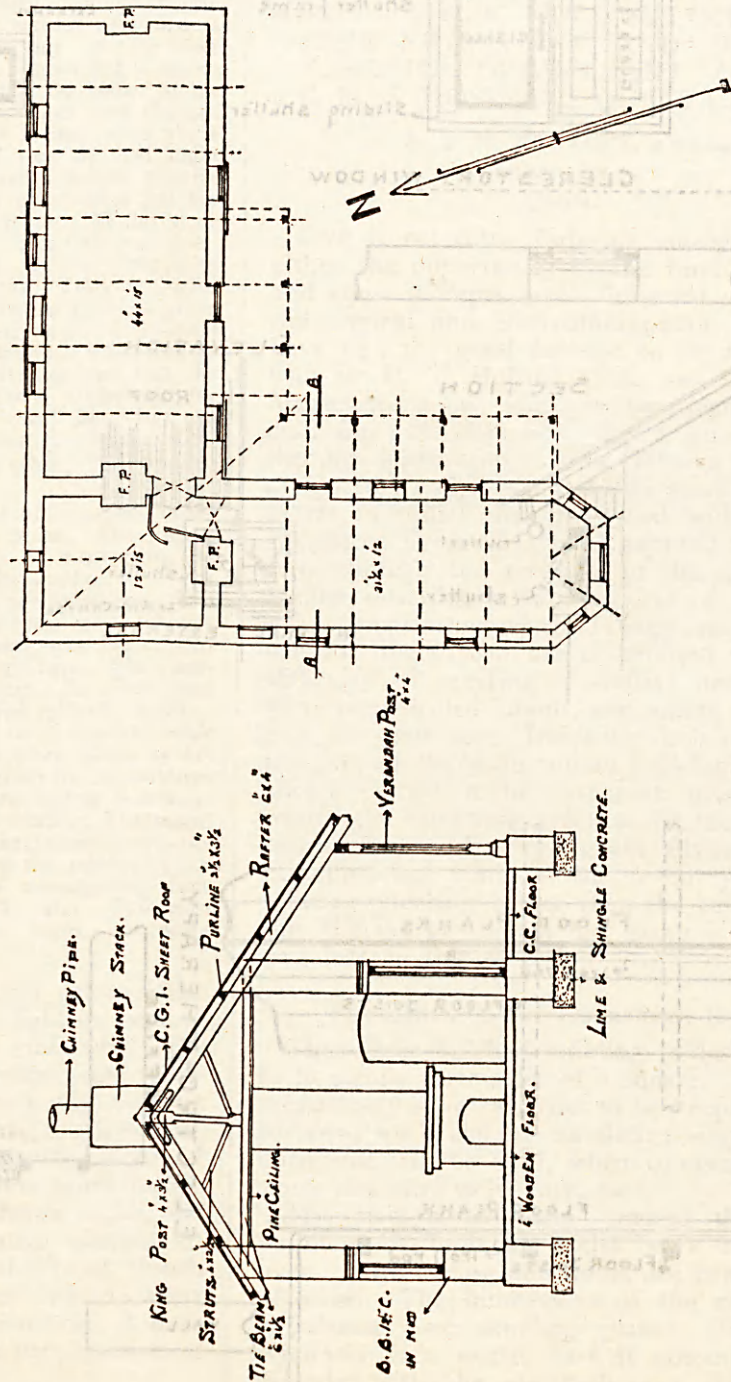
The High Tension Wiring System.—The overhead system was designed with an eye

to simplicity and economy. A glance at diagram No. 2 shows the arrangement. It is merely a system of ordinary brass tubes (diameter ½ inch) supported on brackets. As high tension switches are expensive they have been omitted. The deficiency has been made up by the arrangement of the tubes and brackets so that three pieces of *x*-ray apparatus can be used, so the cost of the high

PLAN of
C.M.S. MISSION HOSPITAL
QUETTA.

XRAY DEPARTMENT

SECTION ON A. B.



tension switch is saved. The special shape of the brackets, one limb longer than the other, enables correct spacing of the spring leads to obtain during operation.

Light Exclusion.—In the main x-ray room this is effected by using external sliding galvanized iron shutters. These shutters can be operated also from inside the room. The "roshan dans" (windows near the ceiling) are occluded by a special cap, operated from the room but opening outwards (see diagram No. 2).

Earthing.—Efficient earthing of the apparatus is facilitated by two large steel plates buried below the floor, one at each end of the room, and connected by a long steel bar down the centre, and also below the floor.

THE DARK ROOM.

Easy access to the dark room is effected by the light trap door previously mentioned. An arrangement has been made to enable films to be passed easily in and out of the dark room (see diagram No. 2).

Safe Light.—By means of a simple arrangement films may be developed, using either screened daylight, electric light, or the light of an ordinary hurricane lamp.

A point not lost sight of was the possibility of the dark room being also required for transilluminations and for ophthalmic work.

ELECTROTHERAPY ROOM.

This room will also be used as an office. The bay windows at the end ensure efficient lighting so that the office work can be done at that end. The old idea of the combined x-ray room-office is bad from all points of view. The necessary number of wall plugs have been inserted to enable different types of apparatus to be used.

EQUIPMENT.

The equipment is modern and includes a Victor high tension transformer; a combined screening-stand and couch (Schall), metalix tubes, and Potter-Bucky diaphragm. The electrotherapy equipment includes a pleurostadt (Cox-Cavendish) and Schnee's baths. As soon as funds are available the building will be extended and also a further increase in apparatus will be made. The actual cost of the apparatus alone (not including delivery, freight charges, etc.) is approximately £750.

The erection and equipment of the above X-ray and Electrotherapy Department was made possible as a result of a munificent donation of Rs. 11,000 (to the C. M. S. Hospital, Quetta) by his Excellency the Khan of Kalat State.

A Mirror of Hospital Practice.

A CASE OF VARIOLA TREATED BY VACCINATION.

By C. D. CHATTERJI, B.Sc., M.B., B.S.,

Medical Officer, Kapurthala Dispensary, Lucknow.

Mr. F. came to Lucknow with a son aged five years and a daughter aged eight years. The son got an attack of fever on the 16th May, 1929, and developed rashes on the 19th May. The rashes developed into a severe confluent type of variola and the child died on the 29th May. His sister aged eight years was brought to my dispensary on the 31st May, suffering from fever (temperature 104°F.). Her face was flushed but she showed no other symptoms, except slight pain in her joints. I diagnosed the case as one of smallpox and advised immediate vaccination. She was vaccinated the same evening. From that date the temperature never went below 104°F. and an ice cap was constantly applied. On the 3rd June (the fourth day following vaccination), pimples appeared on her face, forearms, hands, legs and feet which two days later developed into typical variola, but in a milder form. On the 6th June, the pimples appeared on the sites of vaccination and her fever came down to 102°F. Henceforth her convalescence was rapid and uninterrupted, the fever leaving her on the 7th June; the pustules quickly dried up and she was able to leave her bed after a week. The pustules of the vaccination took the usual time to dry up.

The point to be noted in this case was that the child was not previously vaccinated. This suggests that if cases of smallpox are vaccinated in the earliest stage, the attack becomes milder and the patient may be saved; however, the advisability of vaccinating a patient when the system is already under the reaction of an acute infection cannot be settled unless numerous experiments of this nature are made with favourable results. The patient may not be able to tolerate the effects of vaccination over and above the severe reaction of variola.

A CASE OF AN ABSCESS OF THE BRAIN.

By SURESH CHANDRA DAS GUPTA, L.M.S.,

Senior Surgeon, Bir Hospital, Nepal.

In October 1928, R. N. S., a male aged 20 years, was brought to the Bir Hospital in an unconscious state for depressed fracture of the skull caused 3 days previously by direct violence with a heavy piece of stone hurled against his head by an insane man. The patient was comatose, passing urine and stools in bed, and with the right hand and left side of the face paralysed.

On examination it was found that the scalp was lacerated, the wound being situated just below and a little anterior to the parietal eminence, and there was a compound fracture of the skull with much depression. But, as the pulse was very weak and the respiration almost stertorous, I decided to wait till the condition improved, and in the meantime ordered antiseptic dressings to be applied every 6 hours. However, there was no change for the better in the course of next 48 hours, on the other hand the temperature rose to 104°F. Therefore, I thought that delay was dangerous, and with the consent of the members of his family I made up my mind to operate at once. After the usual preparations the patient was anaesthetised lightly as he was almost insensible to pain, a semilunar incision was made and the infected margins of the wound were cut away after careful sterilization. Then the skull was laid bare and trephined, and all the in-driven fragments of bone from the depressed area were removed, when