sputum if not actual hæmoptysis, and the physical signs indicated usually localized fibrosis with, in several cases, an occasional pleural friction and varying degrees of bronchitis. There was considerable difficulty in recognizing the advent of the tuberculous change, owing to the already existing abnormal physical signs and the absence of T.B. in the sputum, even when an apparently late stage of the disease was reached. For this reason considerable periods of time elapsed before tuberculosis became overt and diagnosed. In the light of after-histories, greater stress should probably have been placed upon the increasing exhaustion and dyspnœa on exertion or the more pronounced type of hæmoptysis, particularly when there was any loss of weight, but other factors might at the time seem to give sufficient explanation for some of these symptoms.

On the ground, therefore, of (1) location of disease and its association with the seat of injury; (2) the permanent impairment of loss of function involved, accompanied by a tissue change which, owing to the nature of the organ in which it was taking place, allowed no complete physiological rest; (3) often the retention of a foreign body, which necessarily was an irritating focus; it seems impossible to resist the conclusion that these conditions were factors of direct character in the development of active tuberculosis when eventually present.

III.—PERIODS OF TIME ELAPSING BEFORE TUBERCULOSIS WAS DIAGNOSED.

In the cases analysed the average period of years elapsing between the date of injury and the recognition of definite tuberculosis was eleven years. The maximum period in any one case was thirteen years. In many of the cases tuberculosis had been suspected at earlier stages, and many reports from tuberculosis officers for different periods in the progress of the cases are available for reference, but, owing to the persisting traumatic pathology of the conditions

present, the tuberculosis was not susceptible of earlier recognition in the absence of T.B. in the sputum or extension to the other lung.

SURGICAL RESURRECTIONS—VII.

SEVERAL of the cases already recounted dealt with recovery either from severe hæmorrhage or extreme toxæmia; the present case was brought to the verge of death first from one and then from the other cause.

A man, aged 32, consulted me on December 1, 1928, with a complaint of abdominal pain and loss of weight. The pain had been troublesome for over a year, during which time he had lost 26 lb. in weight. Recently he had been troubled with attacks of diarrhœa and bouts of vomiting. He looked pale and ill. Examination of the abdomen revealed a tender mass of irregular shape in the right iliac fossa. Borborygmi could be heard and felt in the region of the lump. An X-ray examination which had been carried out showed no lesion in the stomach or duodenum, but great dilatation of the end of the ileum. There was obvious obstruction of the end of the small gut, but the nature of the swelling could not be determined certainly, though it appeared to rest between a new growth, tuberculous disease, or a chronic appendicular inflammatory mass. Though his condition was urgent, it was thought that he could wait a short time until a bed would be vacant at the hospital. Five days later, and before he was sent for to enter hospital, an urgent message arrived saying that the man had been vomiting continuously and was very much worse. His admission to hospital was immediately arranged. On admission he appeared moribund. His face was ashen, the pupils were

widely dilated, the pulse was imperceptible and the systolic blood-pressure was only 90 mm. of mercury. None of us thought he would last long, and it was quite certain that any form of general anæsthesia would only precipitate the issue. Yet the obstruction had to be relieved and the intestine emptied of the toxins which were poisoning the system. Therefore, under local novocain anæsthesia, the abdomen was opened below the umbilicus and a rubber catheter tied into the distended coil of ileum just above the obstruction which was situated at the ileo-cæcal junction. The usual restorative measures (including anti-gas-gangrene-serum) were administered and the patient returned to bed with little hope of his recovery. But as the ileostomy began to work a slight improvement took place. The vomiting stopped and nourishment was taken. In eight days' time the condition warranted a short general anæsthetic, and under this the ileum above the fistula was laterally anastomosed to the sigmoid. Further improvement followed as the anastomosis began to work, but still some fluid was lost by the fistula, and fæcal matter still went on to the site of the disease in the cæcum.

Our purpose was to deal radically with the disease as soon as the general strength permitted. But on January 9, 1929, a very big hæmorrhage occurred from the rectum and the patient collapsed. His condition at this time was again desperate. It was clear the bleeding must have come from the ulcerated mass in the cæcum, and control of this was next to impossible. However, we decided to attempt this. First a pint of blood was put into his veins, and then, under light anæsthesia, I cut across the end of the ileum near the cæcum. The distal end and the cæcum were full of fresh blood. I attempted to excise the whole cæcum, but found it so fixed to the posterior parietes that removal was impossible. I therefore divided and ligated as much of the ileo-cæcal mesentery as possible, and

clamped some more of the mesentery which could not easily be divided. The clamps were left on for some hours. Both ends of the ileum were left open. I hardly expected the man to recover after this interference, but the bleeding vessel must have been secured since no more bleeding took place, and improvement, though slow, was steady. Two months later the general condition was well enough for me to close the fistulous end of the ileum. (The original small ileostomy had spontaneously closed.) Rapid strides were now made, and as soon as possible he was sent to the country, where he spent the summer. I did not see him again till this month (October). He had altered so much for the better that I scarcely knew him. I asked what his friends thought of him, and he said that they actually did not recognize him. He had gained more than two stones in weight and was now heavier than he had ever been. The scars were all sound, but a small fistula persisted in the right iliac fossa which presumably was connected with the distal end of the ileum; the fæcal flow must here be retrograde through the cæcum. The tumour in the cæcum had none of the characteristics of cancer, but conformed to the hypertrophic type of tuberculous disease of the cæcum. This diagnosis, though not confirmed by microscopical examination, is borne out by the great improvement which has followed simple diversion of the fæcal flow. The lump has disappeared and the general health has become normal.

ZETA.