usual methods of examining the total output of urea, and determining the amount of this which was due to the sound kidney, as perfectly satisfactory for ordinary purposes. It is manifest that if one kidney is almost completely destroyed, as is often the case, that the total output of urea may be credited to the other kidney. Also, if one kidney is only partially involved, and the opposite is a normal kidney, it is also able to sustain life. In cases in which one kidney is extensively involved, and the opposite kidney partially so, a cryoscopic examination of blood, and of the separated urine is of value in determining the feasibility of an operation.

Very often a diseased tubercular kidney can be palpated, and from its size, its tenderness, its rotundity, and a sense of fluctuation, it can readily be determined that this is the diseased organ. Again in a thin patient a kidney approximately normal in size may present areas of lobulations due to the disease. These kidneys are often much harder than normal.

In every case of urinary tuberculosis a careful search must be made for foci of the disease in other parts of the body; not infrequently an unsuspected lung affection will be found. I have had instances, two in which axillary glands were involved and one cervical, and one case with a diseased left knee.

One of three courses is open to the surgeon in the treatment of tuberculosis of the urinary tract, either nephrotomy and evacuation of the abscesses, or excision of the diseased portion of the kidney, or a complete extirpation of the kidney, oftentimes with its ureter and a portion of the bladder.

Nephrotomy is rarely curative, and ought rarely to be relied upon as final. Its greatest value is to drain off the pus from which the patient is absorbing toxins, due to the secondary invasion of the kidney by pyogenic organisms (Albarran). A patient who is too desperately ill for any radical operation, may, after nephrotomy, improve remarkably and then easily stand a nephrectomy. Nephrotomy is also of value where the patient is suffering from advanced disease of the lung or of the other kidney, in which case a further radical operation is out of the question.

Excision of the diseased area, the most attractive operation to the surgical mind, is not often successful. Christian Fenger made a brave effort at this sort of conservatism, and told me all his cases were failures. In a case of Israel's there was a "relapse" after four years with involvement of the ureter and bladder. Morris, however, had a brilliant case in which one kidney had already been removed, and he did a partial nephrec-