dilatation. These cases invariably show delayed excretion of the opaque medium or complete absence of a pyelographic shadow on the affected side.

In a large proportion of cases of renal tumour no shadow of the opaque medium is visible on the side affected. It will indicate the site of, but may yield no information diagnostic of the lesion. Only in a few cases have I visualized the deformities of the pelvis and calices characteristic of new growth. I have been enabled on three occasions to make a pre-operative diagnosis of solitary renal cyst, the cyst on each occasion being located at the lower pole. The deformity produced is that of compression, elongation and displacement of the renal pelvis and calices, and displacement of the adjacent portion of the ureter towards the middle line.

When routine radiographic examination reveals a suspicious shadow in the course of the ureter, excretion urography affords a convenient means of investigating its nature and its effect upon the kidney. If the shadow in question is a ureteric calculus, it will be completely included in the shadow of the ureterogram. Nodular dilatation at the site of the stone is frequently present, and the degree of obstruction caused by the calculus or a superadded inflammatory process may be determined by demonstrating the degree of dilatation of the ureter, pelvis and calices and the diminution of the excretory function of the kidney. It is also of value in showing to what extent a dilated ureter and pelvis will recover after the passage or removal of a ureteric calculus.

In lesions of the lower urinary tract, i.e., lesions distal to the uretero-vesical junction, excretion urography is of limited value, and should only be employed when the other methods of investigation are impracticable. By its means it is possible to determine the opening of a normal ureteric orifice into a vesical diverticulum; to demonstrate the presence of vesical diverticula and growth. Its chief application is, however, to demonstrate the presence of back pressure resulting from obstructive lesions of the lower urinary tract.

SEX DETERMINATION.

W. McK. H. McCULLAGH, D.S.O., M.C., F.R.C.S.

THE sex of the coming child is of intense interest to the expectant mother, but as yet we can give her no very definite information. The normal sex ratio in England and Wales is 103·9 males for 100 females. It varies but little in different countries. It rose slightly to 104·6 in the war decade.

It is now generally believed that the sex is decided at conception and that the male semen consists of two groups of spermatozoa—male producing and female producing—the difference being that they have a different number of chromosomes—the male-producing sperm 11, and the female-producing sperm 12.

At fertilization which takes place in the tube twenty-four hours after coitus, the sex is decided by whether the ovum is fertilized by a male or female-producing sperm.

This journey of twenty-four hours, travelled at the rate of 1 cm. an hour, is the means of separating the two groups of sperms and the deciding factor of sex is the presence or absence of the female orgasm.

I have obtained information in fifty-six cases in this regard and find that forty-six cases for and ten cases against give me reason to deduce the following rules :—

- (1) That if the female orgasm precedes the male then a male child will be born.
- (2) That if the female has no orgasm, or even one subsequent to the male, then a female is produced.

Many individuals, in this series of cases, were the mothers of three or four daughters and they all stated that an orgasm at coitus was unknown to them and that sexual relationship was a matter of emotional indifference.

The effect of the orgasm in the female is to produce an exudate from the cervical glands which is alkaline in nature and changes the reaction of the upper vagina from acid to alkaline. Hence one assumes that the male-producing sperm travels faster in an alkaline medium and the female-producing sperm in an acid medium.

I would not presume to express the above views were it not substantiated by other well-known facts.

Recently in Germany cases of sterility have been treated by douching with alkalis (soda bicarbonate) and with acid (lactic acid). Those who were successfully treated produced males in almost every case if soda bicarbonate was used and females if lactic acid was used.

In the animal kingdom breeders of cattle, pigs and dogs have discovered that if the female is brought to the male late, in heat, when presumably an orgasm is more likely to occur readily, then there is a preponderance of males.

The following table gives the result of an investigation in cattle :—

Early in heat	...	...	males per 100 females =	75·3
Middle of heat	...	...	" "	" = 115·3
Late in heat...	...	...	" "	" = 175·0

The *Edinburgh Medical Journal* of August 1886, for a reprint of which I am indebted to Dr. H. J. C. Churchill whose father was a Consul in Zanzibar, is of interest. It describes a war-like tribe in Africa—the Waganda—who were generally successful in their battles with neighbouring tribes. After the battle they killed all the males and took the females as wives. These captive women subsequently gave birth to females to males in the proportion of 403 to 79. These figures are startling and in view of the circumstances of conception it is unlikely that orgasm in the female occurred to a greater extent than these figures reversed. The sex ratio of the native-born Wanda women was normal.

Rural areas have a higher male-sex ratio than urban areas and according to Dr. Marie Stopes the town-dwelling male is more subject to ejaculatio præcox, hence the theory would account for this group of cases. The figures are 104·3 for country areas as against 103·8 for town areas.

Lastly it is widely accepted that the sex-ratio rate for Jews gives a higher male-sex ratio than do other races. This would be accounted for by the ritual of circumcision which deprives the male of the sensitive point of origin of the reflex of orgasm and so tends to cause a higher proportion of sex response in the female. At the Jewish Maternity Hospital the sex ratio is 106·3 as against the normal 104.

I have been interested in sex determination for years and as a result of investigation of many cases have come to the conclusion that sex is not determined by the time of

fruitful coitus either as regards alternate periods or as regards the early or late ovum of one period. The theory that one ovary produces males and the other females has long since been discarded.

A CASE OF INTESTINAL OBSTRUCTION WITH COMMENTS.

By V. ZACHARY COPE, M.S.

A MAN, aged 32, consulted me on December 1, 1928, on account of abdominal pain and loss of weight. The pain had troubled him for a year, during which time he had lost 26 lb. in weight. Recently the pain had been more constant and vomiting had occurred. For some months diarrhoea had been troublesome, and he from time to time "heard noises inside the abdomen."

A glance at the man showed that he was really ill. Examination of the abdomen revealed some distension, and a tender lump was palpable in the right iliac region where borborygmi could be felt and heard. X-ray examination, after a barium meal, showed a normal stomach and duodenum, but dilatation of the end of the ileum.

At this stage put down on paper the possible causes for obstruction of the end of the ileum.

I arranged for the patient to be admitted to hospital within a few days, but before a bed could be obtained the symptoms became much worse, and on December 6 he was admitted in a very collapsed state with a rapid feeble pulse, systolic blood-pressure of about 90 mm. mercury, and the general appearance of a dying man. He had been vomiting fæculent material and the abdomen was distended.

What would you have done in these circumstances?

It was quite evident that the patient was dehydrated and poisoned by absorbed toxins, and that any but the slightest surgical interference would inevitably cause death. Saline infusions were given, and under local anæsthesia the abdomen was opened below the umbilicus, and a distended coil of lower ileum brought out. Ileostomy was then performed by means of a rubber catheter sewn into the bowel. By this means the poisonous contents of the small bowel were gradually emptied, and owing to this, the injection of antigas-gangrene serum and general restorative measures, the patient's condition rapidly improved. He was still, however, too feeble to allow of radical measures for dealing with the cæcal swelling, yet one did not want him to lose the contents of the intestine now that they were normal.

On December 14, therefore, under general anæsthesia, the ileostomy was closed and an anastomosis was made between the ileum (above the ileostomy) and the transverse colon. From this time great improvement took place.

On January 9, 1929, a setback occurred, in that a very severe hæmorrhage took place from the rectum. There was no local lesion in the rectum, and the presumption was that the bleeding had its origin in the diseased bowel in the right iliac fossa. The loss of blood was so great that the patient was in great peril.

What would you have advised to be done?

A blood-transfusion was first given, and then the abdomen was opened (under general anæsthesia) in the right lower quadrant. There was a large œdematous mass involving the cæcum and ascending colon from which the bleeding obviously came.