dissected form—a condition greatly different. We have absolutely no true standard of the normal size or shape with which to compare the pathological deviation. It is not, I believe, known that, as regards its rectal surface, the gland is frequently undergoing change of shape. This change may be dependent on a variety of causes, namely, sleep, wakefulness, position of body, and even upon coition. Again, if we consider its pathological state—that is, those conditions which induce us to examine it *per rectum*—we are forced to confess that our diagnosis of its disease frequently requires propping up by other considerations than the mere feel of its surface and surroundings.

Doubtless the cause for this discrepancy is the fact that examination of the prostate is irksome to the practitioner and generally painful to the patient; and when necessity demands its performance, it is only too often perfunctorily or cursorily carried out. Another reason for this deficiency of knowledge is that tactile sensibility and appreciation of size and shape differ greatly in different observers. A tubercular deposit which one surgeon will pronounce to be bean-sized, will be described by another as being equal to a walnut.

The lack of a standard of comparison led me to investigate the prostates of many men in full health, and I was struck with the varieties I encountered. The knowledge I have derived I hope shortly to publish, under the title of *The Normal Prostate, and how its Shape is affected by Sleep, Posture, and Coition*. The object, however, of this paper is to lay before the profession a method which I adopted to record the varieties I have met with in health and disease.

At first I was in the habit of using diagrams to record the various prostates, and this, indeed, is the quickest and the most practical method; but it is inaccurate, for shading does not sufficiently express the elevations and depressions.

I then conceived an instrument for gauging the breadth of the gland. It consisted of a strip of metal, which rotated round a pivot situated on the ball of the right thumb. One end of the strip passed over a dial, and the other end was affixed to and moved with the right index finger. The index being inserted into the rectum, its lateral movements, and therefore the breadth of the prostate, could be marked on the dial. This proved ineffectual to record the antero-posterior diameter, or the varieties of surface-inequalities; so that I finally began to make clay models, and it is this method which is here described.

Figs. 1 and 2 are drawings of models of cases of carcinoma of the prostate, which I have selected out of nine cases of that disease, which came under my immediate notice during last year (1886).

Fig. 1 is from a man, aged 53, who came under my care in private

FIG. 1.

FIG. 2.

practice with symptoms of obstruction due to enlarged prostate. I performed colotomy with relief; the entire right lobe is converted into a fungating encephaloid mass; the left lobe is free from disease.

Fig. 2 is from a man, aged 63, who also came under my care with similar symptoms, and on whom I also performed colotomy with relief. The entire left lobe is involved; the right is free. After a few months' time, if the patient lives, another model will be taken to show the growth of the tumour.

The *modus operandi* is as follows: I usually have the bowels well

cleared out, and if the patient is very sensitive I inject a couple of drachms of a 20 per cent. solution of cocaine into the rectum. A lump of sculptor's clay roughly fashioned into the shape of a prostate and the back of the bladder, lies under the left hand while the right index finger explores the prostate and a general idea is obtained of its form. The right index is now withdrawn, and both hands roughly model the clay to correspond a little with what has just been felt. The right index is again introduced, and the right lobe is first taken, and little by little its form is thoroughly investigated; the same is done with the left, and the model is now correspondingly altered with both hands. Once again the right index finger is introduced, and is passed over the prostate piece by piece, and the left index is correspondingly passed over the rough model. The "living and the dead clay" are thus compared, and it is curious how well and how accurately the two forefingers work together if the movements be simultaneous. Any mistake, either of elevation or depression, is immediately recognised and altered with ease, a little oil on the surface of the clay model being of great use in making the moulding easier. The model is now put away to dry, after being marked with the name and number of the case in a note-book. If the case is a progressive one, another model can be taken in a month or two. For museum purposes it may be faced with plaster-of-Paris.

I submit this method for criticism, for I believe it to be a very simple and reliable means of estimating the due shape and proportions of the prostate in health and disease, as well as to allow of a permanent record being kept of the macroscopical changes which may ensue in the course of a prostatic complaint.

A CASE OF CESOPHAGOTOMY FOR THE REMOVAL FROM THE THORACIC CAVITY OF A HALFPENNY, WHICH HAD BEEN SWALLOWED THREE YEARS AND A QUARTER PREVIOUSLY: COMPLETE RECOVERY.

By BENNETT, MAY, F.R.C.S.,
Surgeon to Queen's Hospital, Birmingham.

EARLY in March, 1885, I was requested by my colleague, Dr. Suckling, to see a child in one of his wards at the Queen's Hospital. The consultation was with the view to an operation for the extraction of a halfpenny which the child was reported to have swallowed some years previously. Dr. Suckling believed that this had never entered the stomach, but that it had become impacted somewhere below the top of the sternum, and had thus been the cause of the very grave symptoms from which the child had ever since suffered. The patient, a boy 7 years of age, had been taken to the out-patient department at the Children's Hospital, to be treated for "asthma" or "consumption," and the following history was given.

At Christmas, 1881, that is, three years and a quarter before, when less than 4 years of age, his mother saw him swallow a halfpenny he was playing with, and in his efforts to get it down she noticed that he struggled a great deal. After a short fit of choking he was violently sick, and for a week or more he could not swallow anything, owing to the cough and sickness which all attempts produced. After this period he seems to have so far improved as to be able to swallow a little, but regurgitation of a portion was even then perceptible. No attempt at exploration or extraction was made at this or any other period. Subsequently, when he got very ill, she consulted several medical men, but as she did not always inform them of this incident, treatment was generally directed to the progressive emaciation and chest-symptoms which the child exhibited.

March 20th. At the consultation to-day he looked like a little skeleton, and weighed only 25½ lbs. His manner of swallowing was typical of oesophageal obstruction. By long experience he had become very adroit in his efforts, proceeding in the most cautious manner to gulp down liquids in single mouthfuls, but with terrible avidity. With all his care, however, the larger portion regurgitated after an interval of from one to three or four minutes, and commonly mixed with much frothy and purulent mucus. His voice was hoarse and breathing stridulous. Dr. Suckling found impaired resonance and deficient respiratory sounds all over the right lung, and inferred that the right bronchus was obstructed, but he was not able to establish the existence of any fistulous communication between the two tubes.

On using the oesophageal sound I at once detected an obstruction behind the manubrium sterni. There was no feeling of metallic contact, and nothing to indicate the nature, whether stricture or foreign

body, but we could entertain no doubt it was caused by the halfpenny, and from the large amount of fluid which he regurgitated it appeared that the œsophagus was greatly dilated above it. My first attempts to pass it were fruitless, but at last I managed to slip a No. 3 gum catheter beyond and into the stomach. A large amount of liquid food was poured in through this, and I was very glad to leave it there for a time as a means of feeding the child, and thereby recuperating the vital powers, which had sunk to the lowest ebb—too low, as it appeared, to permit of a severe operation being undertaken. On the following day he pulled the tube out, but his powers of deglutition were then so much improved that for some days afterwards he could swallow liquids quite easily. This preliminary treatment was repeated on two occasions within the next fortnight, when it became impossible to pass the tube any longer.

Operation.—The first stage included the performance of œsophagotomy in the usual way on the left side of the neck. The incision in the œsophagus, which was about an inch and a half in length, was kept as low in the neck as possible, and the subsequent proceedings were facilitated by passing a wire through either edge to serve as a retractor. I then passed my finger down the œsophagus for exploration, and at a spot about an inch below the top of the sternum readily detected an obstruction. This quite corresponded with the edge of a coin as such would be felt obscurely through the œsophageal wall. It seemed to be obliquely in the mediastinum, in front of and to the right of the œsophagus, with the lower edge inclining away from that tube. No metallic contact could be made at any point, so that I presume it was outside the œsophagus, and not simply covered over with a swollen rim of mucous membrane at its upper part. I next very guardedly cut through the covering with a tenotome on to the metal, till this was sufficiently bared to afford a good hold to a strong pair of forceps. The coin was firmly fixed and required a good deal of force for dislodgment. When disturbed a rush of air into the œsophagus occurred, showing that a communication existed between this tube and the trachea or a bronchus, though it appeared as if the coin when *in situ* served to close the opening. The coin was withdrawn first into the œsophagus, and then out through the wound in the neck. It was black and tarnished, but not otherwise altered.

As it appeared imperative to permit no attempt at swallowing for several days, on account of the fistulous communication, I tried to pass a tube from the mouth into the stomach for feeding purposes, but found it impracticable. No sutures were employed either in the œsophagus or outer wound. Alimentation was effected solely by the rectum at the outset; but on the fourth day the temperature had fallen to 96° F., and as he was obviously on the verge of dying from starvation, I let him try to swallow a little milk by the mouth. He managed to suck down 3 or 4 ounces during the day, but of this half regurgitated through the wound in the neck, and, in spite of his care, some got into the air-passage, producing a perilous attack of dyspnoea. After this, he steadily swallowed more and more each day; but the amount regurgitating through the wound seemed to increase rather than lessen, and it consequently made but little progress in healing. On the fourteenth day he managed to swallow a soft rubber catheter, which served as a feeding-tube; this he continued to do twice a day, taking a good meal through it each time. The wound now rapidly began to heal, and was quite sound at the end of six weeks. With the healing of the wound all the chest symptoms gradually disappeared. Up to this time he had only gained one pound in weight.

During the seventh week, he had an alarming attack of obstruction of the bowels, attended with great abdominal distension, tympany, and fullness in the right iliac fossa. I suspected intussusception at first; but soon came to the conclusion that it was due to large accumulation in the intestines. This proved to be the case, for under strict abstinence and the use of enemata it speedily disappeared with copious evacuations. There had been no obvious neglect of the bowels, though they had been persistently torpid; but there is no doubt that his powers of assimilation were greatly reduced, and that he was unable to cope with the large amount of nutriment suddenly thrown into him. After this attack he rapidly gained flesh, and in the next six weeks had made an advance in weight of 11½ lbs.—from 25½ to 37 lbs.

For a long time I was anxious about possible contraction of the œsophagus, and carefully watched him for evidences of its appearance. While in hospital he had two or three attacks of choking, with inability to swallow, each of which I was able to refer to attempts to bolt pieces of bread-crust or other solid food which he had stolen from the other patients' supplies. This induced me to keep him restricted in his diet as long as possible, he being so greedy in his eating. I was never able to pass a bougie with facility; but this seemed more owing to angular bend than contraction, as he could

always himself swallow with perfect ease a flexible rubber tube equal to a No. 12 or 13 catheter. He has since remained perfectly well, and has experienced no difficulty in swallowing, with one exception only; on this occasion he had vainly attempted to swallow an entire quarter of an orange, which I fished up from the œsophagus two days afterwards.

REMARKS.—I believe this case is quite unique in the length of time intervening between the impaction of the foreign body and its successful extraction, and also in the situation from which it was removed. Monro records a case of impaction of a halfpenny in the œsophagus for three years, fatal by consumption without operation; and numerous cases are recorded of retention of foreign bodies of various kinds in the œsophagus for long periods, which terminated fatally by various accidents; but, as these are detailed in most text-books of surgery, I need not particularise them. Mr. Durham's table of cases of œsophagotomy for foreign body is probably the most complete list of operations up to the date of its publication (Holmes's *System*, 1870). This list gives a total of twenty-one, four only of which were fatal, and mostly from causes existing before the operation. In most of them the foreign body was cut directly down upon, but in one (Syme's case) a coin had passed below the top of the sternum. This case, too, had the longest interval (two months) intervening between the accident and the successful operation of any in the list.

SUCCESSFUL OPERATION IN A CASE OF ACUTE INTESTINAL OBSTRUCTION.

By G. E. WILLIAMSON, F.R.C.S.,
Assistant-Surgeon to the Newcastle-on-Tyne Infirmary.

ON Friday, August 27th, 1886, my friend, Dr. Drummond, asked me to see with him and Dr. Walker a patient suffering from intestinal obstruction, as he thought it was a case for abdominal section. The patient was a groom, about 22 years of age. He did not look so anxious or distressed as I had expected, but this was probably due to the effect of the morphine and belladonna he had been taking. His tongue was very foul, and there was an evil fœcal odour about his breath. The abdomen was tense, somewhat tender, and coils of distended intestine were distinguishable through the abdominal wall. Except for a little dullness in the right iliac region, the abdomen was resonant to percussion. There was no sign nor history of any hernia. It appeared that he had had two attacks of severe pain in the abdomen two or three years previously, but the accounts of these were somewhat vague. His present attack dated from Friday, August 13th. On that day he ate a large dinner of pork in great haste, and then rushed off home. He was suddenly seized with severe pain in the belly and with vomiting. Dr. Walker saw him on the following day, and gave him a dose of castor-oil. The vomiting ceased, but it began again after two days, and on Thursday, August 19th, it was fœcal. Dr. Drummond saw him on Saturday, August 21st. The pulse was small and quick, and the man was almost in a state of collapse. The temperature was not raised, the tongue was dry. A large quantity of fœcal matter was produced, which he had vomited. The abdomen was distended, and tender about the umbilicus and cæcum; no tumour could be found. The rectum was examined, but without result. On Sunday, August 22nd, a large enema of fat mutton broth was given, which passed distinctly into the cæcum. It was retained for two to three hours, and then returned void of fœcal matter. After this the vomiting ceased, the pulse slowed, and the temperature was normal. One-sixth of a grain of morphine was given by the mouth. The vomiting began again, and on the 25th he was put under chloroform, and the abdomen thoroughly examined, but without throwing any further light on the case. The vomiting continued fœcal, and on Friday, the 27th, a fortnight after the onset, we met in consultation, and after again carefully examining the patient under chloroform, we decided upon abdominal section. The urine was drawn off with a catheter, but only a little flowed, although—as is common in these cases—he had complained of difficulty in passing urine for some days previously. An incision was made over the outer margin of the right rectus abdominis, and the edge of the muscle was exposed with very little bleeding. The remaining tissues were slit on a director, and when the slight hæmorrhage ceased the peritoneum was opened. My reason for making a lateral, and not a median, incision was that it seemed probable that the seat of obstruction was in the region of the cæcum. The bleeding could scarcely have been less had the incision been median, as there was not a vessel requiring ligation.