extent, so that no solid food would pass; but she took fluid nourishment twice a day, and always vomited about the half of what she had taken in about four hours. The vomiting seemed to come from the œsophagus, not the stomach; and Signor Loreta believes that the œsophagus was a good deal dilated, and that the sojourn of any quantity of food in the tube ultimately provoked the muscular fibres to act, while in the meantime a certain proportion of the fluid had filtered down. No bougie could be got beyond the stricture, though repeated attempts had been made during two years. The nature of the disease was quite uncertain; it could not be cancerous, and there were no signs of syphilis. As conjectural causes were suggested, a tumour in the posterior mediastinum; a deviation of the œsophagus, caused by abnormal structure and function of the muscle called broncho-pleuro-œsophageus; a permanent contraction of the circular muscular fibres, with consecutive fibrous degeneration, or more probably, a hypertrophy of those fibres; a new formation of connective tissue under the mucous membrane, with cirrhosis from low inflammation (Rokitansky's *annular induration of the cardia*); or, finally, the cicatrization of an ulcer in the cardiac region of the stomach. The only thing certain was, that the obstacle was less than two inches from the stomach, and that possibly the cardia itself was contracted. The girl had fallen into a condition of the utmost prostration, and had quite abandoned all hope of life, till she heard of the former operation, when she was so urgent to be operated on that it seemed necessary to gratify her, though otherwise Signor Loreta would have been glad to await the definite issue of that case. The operation was exactly like the former, and was followed, like it, on the fourth day afterwards, by the same disturbances of circulation and respiration. The symptoms were exactly the same, and lasted just the same time. She recovered completely in twenty days; but the recovery might be said to date from the very day of the operation, on which day, equally to her surprise and delight, she swallowed a considerable quantity (200 grammes = about 7 ounces) of liquid. From that time, her spirits began to return, and she continued from that time to take both liquid and solid food easily. At the date of the paper (three months after the operation), she took food of all kinds with perfect ease, and was quite well. No instrument had been passed by the mouth.

Professor Loreta points out, however, that although there was the best reason to hope for permanent cure, he had not the same confidence in these cases of instrumental dilatation as in those of digital dilatation of the pylorus; since, in the latter, the surgeon's fingers experience a peculiar sensation, which shows him when the muscular fibres have been so far stretched as to have entirely lost their tonicity and power of resilience, in which condition they must necessarily go through a process of fatty degeneration, followed by reproduction. This sensation being of course absent in the case of mechanical dilatation, the effects obtained may be only partial and transitory, the tissue being, in some parts only, imperfectly distended, may recontract and reproduce the stricture. In the first case (that of Bertini), in order to obviate any such recontraction, an elastic bougie had been introduced daily so as to complete the dilatation which the instrumental divulsion had commenced. In such cases, it may also be possible to effect instrumental dilatation from the mouth; and Professor Loreta describes a dilator which he has had constructed for this purpose, and which can also be converted into an œsophagotome, or instrument for incising a stricture in the œsophagus.

The conclusions to which Professor Loreta comes are as follows.

1. Instrumental dilatation of the œsophagus, through a wound in the stomach, seems much preferable to gastrostomy, since the former effects a radical cure, while the latter leaves the stricture uncured, and the patient is in a hardly better condition than he was before, in consequence of the troubles connected with the gastric fistula.

2. Operations on the stomach are of good prognosis, judging both by the results of the other operations, and by the recovery of Bertini, a patient already suffering under pulmonary consumption.

3. May it be possible to substitute electrolysis for dilatation?

After the reading of his paper, Professor Loreta exhibited to the Society two patients—one, Erminia Boschi, aged 26, the second of the two patients whose cases are here related. (The first patient, Luigi Bertini, was unable to attend, being confined to bed with his cough.) She was well nourished, and her face plump, rosy, and animated; her power of deglutition perfect, and her health quite re-established. The other, Elettra Lombardi, aged 21, was still suffering from œsophageal stricture. She was weak, melancholy, pallid, and could hardly swallow—exactly in Boschi's condition before operation. She was operated on shortly afterwards, and recovered completely. Professor Loreta has also operated with equal success in a fourth case, as have two other Italian surgeons; Dr. A. Catani, of Florence, in the case of

a lady 34 years old, whom Professor Loreta saw, seven months after operation, in perfect health; and Dr. G. Frattina, of Brescia, on a man, of whom the only record is that the operation was successful.

I ought possibly to apologise for bringing under notice a subject on which I have no personal experience. My excuse must be that the subject is a very interesting and important one; and, as far as I have been able to ascertain, is very little known in this country. If subsequent experience of these operations should be favourable, it must be obvious how great an advance will have been made in what we now call "peritoneal surgery;" and how we shall be able to hold out hope, not only of relief, but even complete restoration to health, in circumstances which are at present entirely desperate. I have no doubt that Professor Loreta's operations will very soon be tested by English surgeons. I have been told that the dilatation of the pylorus has been performed by Billroth, but am not aware that he has published anything on the subject.

FURTHER REPORT OF A CASE OF NON-MALIGNANT CONstriction OF THE PYLORUS: USE OF THE SIPHON-TUBE THROUGH FIVE YEARS.

By JAMES RUSSELL, M.D., F.R.C.P.,
Formerly Physician to the Birmingham General Hospital.

IN the BRITISH MEDICAL JOURNAL, February, 1881, I reported a case in which washing out the stomach, for the purpose of relieving the effect of constriction of the pylorus, was practised under circumstances of a character unusually favourable for illustrating the beneficial action of that method of treatment. I refer to the case again at the present time, because I am able to report the present condition of the patient, a man now aged 55.

Mechanical obstruction to the natural passage of food from the stomach is so generally of a progressive nature, and often most rapidly progressive, that the period during which this remedy (washing out the stomach) has a chance of exhibiting its beneficial operation is very limited.

In my present case, the obstructing agent, apparently some cicatrix or adhesion, seems to have been stationary during a period of eight years; at least, no evidence of increase in the narrowing of the pyloric orifice has developed itself. As a consequence, the case has been reduced to one simply of retention of food within the stomach, with the result of such changes taking place in the food contained within the viscus, through fermentation of one form or another, that nutrition was so seriously interfered with as to render death by inanition an almost certain and not very remote event.

It does not often happen that we see the effect of pyloric disease, in damaging the nutrition of the body, clearly presented and maintained for so long a time; and seldom that so clear an illustration of the action of the remedy in question, free from complications, is presented. By simply cleansing the contents of the stomach through washing out with warm water, and thereby removing every impurity which could act as a ferment on the fresh food introduced, digestion was restored, and the patient put on flesh with surprising rapidity; and at a later period, by means of the same process, irritative products and fermentive changes were cleared away, severe pain was relieved, and, no doubt, gastritis was averted.

Without noticing the early symptoms caused by the disease which occasioned the pyloric obstruction, I may say that the process of narrowing seemed to have set in between two and three years before the patient came under my care, in the Birmingham General Hospital, in June, 1879. At that time, the stomach was largely dilated and distended, and the patient was suffering under the effects of deficient alimentation, but from no other symptoms of importance. He had lost 54 lbs. in weight. Washing out of the stomach was at once commenced, together with careful adaptation of food, both as regards quality and time of administration; recovery of flesh at once began to take place, and seventy-six days afterwards, when the patient left the hospital, he had recovered 36½ lbs. of his lost weight.

He returned in the following November 34 lbs. lighter, with renewal of his symptoms, in consequence of his having neglected the precautions which he had been directed to observe. Renewal of the treatment again restored the digestive function; he left with improved nutrition, and in the following February (1880) was within 18 lbs. of his normal weight.

The patient had fallen in with the method of treatment by the siphon with perfect readiness, and, after the second day, had performed the operation for himself; on his leaving the hospital, he had been directed to repeat the operation daily. It was his neglect of these

instructions, with his return to ordinary diet, that had occasioned his relapse. He now became obedient, and conducted the cleansing process with regularity daily, or on alternate days, according to circumstances; but he again fell back in May, 1880, and for a time nutrition remained at a low standard. Stricter attention to the washing process was now enforced by the occurrence of severe epigastric pain, which, like the vomiting, was immediately relieved by the use of the siphon; he declared that he could not live without its help.

In May, 1881, when he again presented himself, he was in fair health, and seemed to have nearly recovered his normal state of nutrition; he was washing out every second day, and was taking ordinary diet. In the following May (1882), he was washing out daily, or even twice a day, in order to prevent the occurrence of pain; and, except that he now found it necessary to be particularly careful in his diet, he accounted himself in good health.

In May, 1883, he looked thin and pale; he had intermitted the use of the siphon for a fortnight, but found himself compelled to return to its employment; and his visit was for the purpose of procuring a new tube.

His last visit was in June 1884, the fifth year of his attendance. He washed his stomach every twenty-four hours; he said, "it is the only thing that has saved my life;" he kept the tube always at hand in his office. He had no vomiting, and scarcely any pain. Six months previously, he had weighed 120 lbs. (48 lbs. below his normal). His food consisted of two raw eggs (he could not digest boiled eggs); a quart of milk; a mutton-chop, which he chewed, but spat out the solid remains. He used the siphon generally before his last meal at 6 P.M., the largest meal of the day. His health was good, and he had not had occasion to leave his business for a single day; nevertheless, it will be seen from the report of his diet, compared with that on former occasions, that his digestive force was seriously lessening.

I regret that I cannot make any statement respecting the condition of the stomach as regards dilatation; the disadvantage under which I was placed, in consequence of his making only an occasional brief visit, entirely prevented me from gaining reliable information on this point.

A CASE OF FIBROUS STRICTURE OF THE PYLORUS: ENTEROSTOMY: DEATH.

By G. J. ROBERTSON, M.B., Oldham.

THIS case of fibrous stricture of the pylorus, with dilatation of the stomach, seems worthy of record, from the entire absence, until the disease was far advanced, of symptoms pointing to its true nature, and from the operative treatment conducted with a view to afford relief to the patient. During my attendance, I had the advantage of several consultations with Dr. William Roberts of Manchester.

J. P., aged 47, schoolmaster, was first seen by me on February 1st, 1883. He had been a martyr to indigestion for many years. His chief complaints were, a sensation of fullness and discomfort over the epigastrium, especially after meals; acid eructations; flatulence; constipation; and sleeplessness. It was only after a prolonged fast that he experienced any comfort. These symptoms alternated and varied in severity until within the past six months. Since that time they had persisted and become aggravated, so as to make his life altogether wretched. Without advice, he had come to live almost exclusively on liquid food, and that in very small quantity. He had lost flesh and strength. He had not vomited food for years, had never vomited blood, and was not aware of having ever passed blood by the bowels. He had always been careful and abstemious in his habits, and, with the exception of indigestion, had been free from serious illness.

He was emaciated to a great degree; his complexion was clear; no cachexia or tint of jaundice. The ordinary signs of dilatation of the stomach were well marked. No tumour nor glandular enlargement could be found after careful and repeated examination; no tenderness on pressure, localised or general. The liver-dulness was normal; the urine contained no albumen; there was no blood in the fæces.

During the next three weeks, he continued to lose strength. On the night of February 23rd, he suddenly vomited at least a quart of sour-smelling fluid, which was so absolutely black as to give rise to the belief that the colour was due to carbon: he had eaten charcoal biscuits a fortnight previously. The subsequent character of the vomit decided that it was owing to the presence of blood. For two or three hours afterwards, he frequently discharged, without effort, mouthfuls of fluid. The relief afforded by the vomiting was slight and transient. After a lapse of five days he had a similar attack, but

less severe, followed by others every night or alternate night. During this time, the state of exhaustion was extreme; on two occasions he appeared to be moribund.

The diagnosis was obscure. The evidence of dilatation was ample, even before cumulative vomiting occurred. The extreme emaciation and exhaustion of the patient, and the persistence of the symptoms in spite of appropriate treatment, excited strong suspicion that it was not simple dilatation. What, then, was the cause of the dilatation? The colour of the blood in the vomit suggested cancer, but the entire absence of the earlier symptoms that usually mark this disease, such as pain, tenderness on pressure, vomiting after food, "coffee-ground" vomit; and the absence of cachexia and of tumour, notwithstanding extreme emaciation, were unfavourable to this view of the case. Supposing the blood to be altered in colour by delay in the stomach, it might arise from an ulcer situated close to the pyloric orifice, but there was nothing in the symptoms that pointed to ulcer. Moreover, at the end of each attack of vomiting, the blood was as black as at the beginning. This fact seemed to denote that the bleeding was capillary—an explanation which left the case as open to doubt as before vomiting occurred. On the whole, the negative character of the symptoms, as referring to cancer and ulcer on the one hand, and the grave and intractable nature of the disease on the other, conducted to the belief that there was non-malignant obstruction at or near the pylorus, to which the dilatation of the stomach was secondary, vomiting some time after meals having been averted by the scrupulous care exercised by the patient, both as to the quantity and quality of his food.

Medicinal and dietetic treatment had failed to bring improvement. It was quite obvious that feeding by mouth and rectum could sustain life but a few days at most; while, in the exhausted state of the patient, excision of the pylorus, even had there been the certainty of obstruction there, seemed a hopeless undertaking, and an exploratory incision was almost sure to be useless, unless that operation could be performed. Under these circumstances, it occurred to me that the small intestine might be secured high up and stitched to the abdominal wall, and an opening made in it, through which food might be introduced temporarily or permanently, as the future might determine. The following considerations appeared to justify the experiment. The operation would make no serious immediate demand upon the patient's strength, either from shock or from hæmorrhage, and the risk of peritonitis would certainly not be greater than in gastrostomy. On its completion, the stomach would still be available for the performance of its functions; and food introduced by the new channel would pass over an extensive digestive tract, and be acted upon by the secretions of the liver and pancreas, as well as by the succus entericus.

It was not easy to decide upon the part of the bowel in which to make the opening. *Cæteris paribus*, the nearer the stomach, the better. Choice had to be made between the commencing portion of the duodenum and the upper part of the jejunum. The former was discarded, from the possibility of its being involved, by inflammatory action or otherwise, in the pyloric disease, because, apart from this, the operation would probably be difficult of performance, and because contiguity of the opening in the bowel to the pylorus would complicate the subsequent operation of excision, should that become necessary. Chiefly from the absence of these objections, and, also, partly because it could be kept in contact with the abdominal wall without dragging, the jejunum was selected. The incision in the abdominal wall was made below the umbilicus, in order to avoid the transverse colon. It was proposed to divide the operation into two stages, as in gastrostomy.

The patient having rallied somewhat, with his full knowledge and consent the operation was performed on March 9th, as follows. An incision, nearly two inches in length, commencing immediately below the umbilicus, was made through the abdominal wall, the omentum was gently drawn to the right side, and the knuckle of bowel presenting withdrawn for inspection. Its characters being noted, the course of the bowel was followed, the left hand withdrawing it while the right replaced it in the abdominal cavity. It was soon my decided opinion, and that of my friends present, that we were proceeding in an upward direction, an opinion which was placed beyond doubt by finding the bowel become fixed in the usual situation of the lower end of the duodenum. The bowel, with its length transverse to the abdominal wound, was attached by means of sutures of fine silk, armed with a straight needle at each end, thus: the bowel being held outside the cavity, eight subperitoneal stitches, half an inch in length, were applied so as to form the overlapping sides of an octagonal space, three-quarters of an inch in diameter, the centre of which was opposite the mesenteric border of the bowel. A stitch was also placed in the