and in many instances we see the diarrhœa aggravated by persistent overfeeding. When the child's stomach is quieted and the diarrhœa checked there may be a gradual return to the milk diet. The milk should be sterilized, and in institutions and in cities this simple prophylactic measure is of the very first importance and is readily carried out by means of the Arnold steam sterilizer. The milk should be at first freely diluted—four parts of water to one of milk, which is perhaps the preferable way—or it may be peptonized. The stools should be examined daily, as important indications may be obtained from them. Milk-whey and forms of fermented milk are sometimes useful and may be employed when the stomach is very irritable. These general directions as to food also hold good in cholera infantum.

Medicinal Treatment.—The first indication in the dyspeptic diarrhœa of children is to get rid of the decomposing matter in the stomach and intestines. The diarrhœa and vomiting partially effect this, but it may be more thoroughly accomplished, so far as the stomach is concerned, by irrigation. It may seem a harsh procedure in the case of young infants, but in reality, with a large-sized soft-rubber catheter, it is practised without any difficulty. By means of a funnel, lukewarm water is allowed to pass in and out until it comes away quite clear. I can speak in the very warmest manner of the good results obtained by this simple procedure in cases of the most obstinate gastro-intestinal catarrh in children. In most cases the warm water is sufficient. In some hands this method has probably been carried to excess, but that does not detract from its great value in suitable cases. To remove the fermenting substances from the intestines, doses of calomel or gray powder may be administered. The castor oil is equally efficacious, but is more apt to be vomited. Irrigation of the large bowel is useful, and not only thoroughly removes fermenting substances, but cleanses the mucosa. The child should be placed on the back with the hips elevated. A flexible catheter is passed for from six to eight inches and from a pint to two pints of water allowed to flow in from a fountain syringe. A pint will thoroughly irrigate the colon of a child of six months and a quart that of a child of two years. The water may be lukewarm, but when there is high fever ice-cold water may be used. In cases of entero-colitis there may be injections with borax, a drachm to the pint, or dilute nitrate of silver, which may be either given in large injections, as in the adult, or in injections of three or four ounces with three grains of nitrate of silver to the ounce. These often cause very great pain, and it is well in such cases to follow the silver injection with irrigations of salt solution, a drachm to a pint.

We are still without a reliable intestinal antiseptic. Neither naphthalin, salol, resorcin, the salicylates, nor mercury meets the indications. As in the diarrhœa of adults, bismuth in large doses is often very effective, but practitioners are in the habit of giving it in doses which are quite insufficient. To be of any service it must be used in large doses, so that an

infant a year old will take as much as two drachms in the day. The gray powder has long been a favorite in this condition and may be given in half-grain doses every hour. It is perhaps preferable to calomel, which may be used in small doses of from one tenth to one fourth of a grain every hour at the onset of the trouble. The sodium salicylate (in doses of two or three grains every two hours to a child a year old) has been recommended.

In cholera infantum serious symptoms may develop with great rapidity, and here the incessant vomiting and the frequent purging render the administration of remedies extremely difficult. Irrigation of the stomach and large bowel is of great service, and when the fever is high ice-water injections may be used or a graduated bath. As in the acute choleraic diarrhœa of adults, morphia hypodermically is the remedy which gives greatest relief, and in the conditions of extreme vomiting and purging, with restlessness and collapse symptoms, this drug alone commands the situation. A child of one year may be given from $\frac{1}{100}$ to $\frac{1}{80}$ of a grain, to be repeated in an hour, and again if not better. When the vomiting is allayed, attempts may be made to give gray powder in half-grain doses with $\frac{1}{10}$ of Dover's powder. Starch (ʒ ij) and laudanum (♏ij–iij) injections, if retained, are soothing and beneficial. The combination of bismuth with Dover's powder will also be found beneficial. No attempt should be made to give food. Water may be allowed freely, even when ejected at once by vomiting. Small doses of brandy or champagne, frequently repeated and given cold, are sometimes retained. When the collapse is extreme, hypodermic injections of one per cent saline solution may be used as recommended in Asiatic cholera, and hypodermic injections of ether and brandy may be tried. The convalescence requires very careful management, as many cases pass on into the condition of entero-colitis. When the intense symptoms have subsided, the food should be gradually given, beginning with teaspoonful doses of egg albumen or beef-juice. It is best to withhold milk for several days, and when used it should be at first completely peptonized or diluted with gruel. A teaspoonful of raw, scraped meat three or four times a day is often well borne.

II. MISCELLANEOUS AFFECTIONS OF THE BOWELS.

Dilatation of the Colon.—This may be general or localized to the sigmoid flexure.

It occurs not infrequently as a transient condition, and in many cases it has an important influence, inasmuch as the distention may be extreme, pushing up the diaphragm and seriously impairing the action of the heart and lungs. H. Fenwick has called attention to this as occasionally a cause of sudden heart-failure.

Dilatation of the sigmoid flexure occurs particularly when this portion of the bowel is congenitally very long. In such cases the bowel may be so distended that it occupies the greater part of the abdomen, pushing up the liver and the diaphragm. An acute condition is sometimes caused by a twist in the mesocolon.

There is a chronic form in which the gut reaches an enormous size. The coats may be hypertrophied without evidence of any special organic change in the mucosa. In a specimen which I saw with W. E. Hughes, in Philadelphia, the colon was enormously dilated and held fourteen pints of water, and the sigmoid flexure was four inches in diameter. It was removed from a boy, aged three, who had had obstinate constipation and at the age of two an attack of entero-colitis. At one time he was nineteen days without a passage; on another occasion twenty-four. The abdomen was enormously distended, everywhere tympanitic. The hypertrophy of the bowel-wall was much greater toward the sigmoid flexure than near the cæcum. In the section on Constipation in Infants a case is referred to in which the colon and sigmoid flexure appeared to be dilated.

Infarction of the Bowel.—The mesenteric vessels are terminal arteries, and when blocked by emboli or thrombi the condition of infarction follows in the territory supplied. Probably the occlusion of small vessels does not produce any symptoms and the circulation may be re-established. If the superior mesenteric artery is blocked a serious and fatal condition follows. Three instances have come under my observation. In one, a woman aged fifty-five was seized with nausea and vomiting, which persisted for more than a week. There was pain in the abdomen, tympanites, and toward the close the vomiting was incessant and fæcal. The autopsy showed great congestion, with swelling and infiltration of the jejunum and ileum. The superior mesenteric artery was blocked at its orifice by a firm thrombus. In the second case, a woman aged seventy-five was seized with severe abdominal pain and frequent vomiting. At first there was diarrhœa; subsequently the symptoms pointed to obstruction, with great distention of the abdomen. The post-mortem showed the small bowel, with the exception of the first foot of the jejunum and the last six inches of the ileum, greatly distended and deeply infiltrated with blood. The mesentery was also congested and infiltrated. The superior mesenteric artery contained a firm brownish-yellow clot. There were many recent warty vegetations on the mitral valve. In the third case, a man aged forty was suddenly seized with intense pain in the abdomen, became faint, fell to the ground, and vomited. For a week he had persistent vomiting, severe diarrhœa, tympanites, and great pain in the abdomen. The stools were thin and at times blood-tinged. The autopsy showed an aneurism involving the aorta at the diaphragm. The superior mesenteric artery, half an inch from its origin on the sac, was blocked by a portion of the fibrinous clot of the aneurism. In the horse, infarction of the intestine is extremely common in connection with the verminous aneurisms of the mesenteric arteries and is the usual cause of colic in this animal.

III. APPENDICITIS.

(*Typhlitis and Perityphlitis*).

This is one of the most important of intestinal affections. Unfortunately, much confusion still exists about the forms of inflammation in the cæcal region. Thus there are recognized *typhlitis*, inflammation of the cæcum itself; *perityphlitis*, inflammation of the peritonæum covering the cæcum; *paratyphlitis*, inflammation of the connective tissue behind the cæcum, or, more correctly, as the cæcum is usually covered by a serous membrane, of the connective tissue in the neighborhood of this part of the bowel. The use of the last two terms should be altogether discarded, as the cases are, with rare exceptions, due to disease of the appendix vermiformis, and not to affections of the cæcum.

We have in the cæcal region the following affections:

Typhlitis, inflammation of the cæcum proper—a doubtful and uncertain malady, the pathology of which is unknown, but which clinically is still recognized by authorities. A majority of the cases are unquestionably due to appendix disease.

Appendicitis: (1) Catarrhal; (2) ulcerative; (3) perforative, with the production of abscesses, which may be pericæcal, pelvic, intra-peritoneal, perinephritic, or lumbar, depending on the situation of the vermiform process.

TYPHLITIS.

At present inflammation of any sort, accompanied by pain in the right iliac fossa, is generally thought to be due to disease of the appendix; and, so far as post-mortem statistics indicate, an immense majority of all these cases are due to this cause. Clinically, however, authors still recognize typhlitis (inflammation of the cæcum), associated with lodgment of fæces (*typhlitis stercoralis*) The cases are met with in young persons, in boys more commonly than in girls; the subjects have usually been constipated, or there have been errors in diet. The patient complains of pain in the right iliac fossa; there are constipation, nausea, sometimes vomiting; fever, if present, is usually slight, rarely rising above 101°. There is fulness in the right iliac fossa, the decubitus is dorsal, and the right thigh may be flexed. On pressure there is tenderness, and in many instances a doughy, sausage-shaped tumor in the right flank. The attack lasts for from three days to a week, the pain gradually subsides, the tumor mass disappears, and recovery is complete.

The anatomical condition is unknown, and it is by no means certain that these cases are in reality cæcal. Many are probably due to dis-