

colon, hepatic flexure and a portion of the transverse colon, but not trespassing to a great extent on the part of the transverse colon which contains the omentum. If all of the omentum is removed, as happens in colectomies, in many cases intestinal adhesions of the most severe type subsequently occur, often causing unfortunate sequelae. The cases in which operation was performed were all of an advanced grade and in all there were bands, kinks, adhesions and possibly obstruction, but, if so, of the peculiar silent type with a soft

the proximal colon in constipation, we have grouped together all the cases in which the head of the colon was removed without regard to the pathologic conditions which lead to the operation, and have investigated the effect the operation has had on the evacuation of the large intestine. It was found that nearly all the patients who had been constipated before the operation have been much relieved postoperatively. Yet in but one case has diarrhea been manifested. It would seem a reasonable assumption, therefore, that in physiologic disturbance of the terminal ileum and cecocolon lies the cause in some cases at least of the protean manifestations of intestinal toxemia and constipation, and that the removal of the cecocolon will relieve many of these patients.

Although the operation is a serious one, we have lost no patients operated on for this condition. The number of persons whose condition in our opinion would warrant the risk, however, is comparatively small, and I cannot but deplore the widespread adoption by the medical profession of surgical measures for this or allied conditions while it is in the experimental stage with little evidence to show that the supposed cures are permanent. When one looks back over the fads and fancies in medicine, especially as applied to the so-called neurasthenic group of patients, one may well pause and make haste slowly.

THE REDUNDANT SIGMOID *

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CINCINNATI

THE NORMAL SIGMOID

The sigmoid flexure, more properly called the pelvic colon by the French, the segment of intestine which connects the descending colon with the rectum, is of variable length. In cases in which it was functionally normal, or, in other words, in which it was symptomless, I have seen it as short as 15 cm. (6 inches), and I have encountered it as long as 85 cm. (32 inches), while other observers have found it as long as 108 cm. (42 inches). In a series of sixty-two cases of redundant sigmoid of which I have roentgenographic records, I have not so far had occasion to observe a single instance of sigmoid over 25 cm. (10 inches) in length in

which it was not the seat of either functional or organic disturbance logically attributable to redundancy. I do not assume that sigmoids of more than 25 cm. (10 inches) in length do not exist in which, for most of the time at least, the function of the intestine is exercised without perturbation. Cases of this kind, however, do not come to me for treatment and I, therefore, have no occasion to observe them. From these facts, I am forced to conclude for the present, that while in the adult, the normal sigmoid is from 15 cm. (6 inches) to



Fig. 3.—Result after removal of 10 inches of ileum, appendix, cecum, ascending colon, hepatic flexure and one-fourth of transverse colon. End-to-side ileocolostomy. Running suture closing peritoneum of posterior wall.

abdomen and without muscular hypertrophy of the intestinal wall.

In the cases in which we have made the above mentioned resection, and joined the end of the ileum to the side of the transverse colon, there has usually been a marked improvement in the general condition of the patients, and in 87 per cent. relief from the constipation. In nearly all these patients the appendix had previously been removed, and in a number of them other operations, such as elevation and fixation of the cecum combined with narrowing of its lumen, etc., had been done without relief. To test the question of the effect of eliminating the ileocecal mechanism and removing

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Sixty-Fifth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1914.

25 cm. (10 inches) in length, the question as to what is and what is not a normal sigmoid relates quite as much to physiology as to anatomy.

RELATIONS OF THE SIGMOID

The full surgical significance of the colon, or to put it more broadly, its full clinical significance, cannot be comprehended without due consideration of its relations. It is important at least to remember that, in the male, the sigmoid, when redundant, may lie in contact with the left ureter, the left iliac vessels and the left sacral nerves, the bladder, prostate and rectum; while in the female, it may lie in contact not only with these structures, excluding, of course, the prostate, but also with the vessels in the left broad ligament, with the left fallopian tube and ovary, and with the uterus itself. The pelvic lymphatics on the left side may also be subject to pressure by a redundant sigmoid. The degree to which these structures are influenced by the superimposed weight of the redundant sigmoid is, of course, relative to the redundancy itself, to the incidental development of the

thus briefly stated, indicate at once the great functional importance of the sigmoid and its potentiality as a possible disturber of the peace in the human economy.

SOME PATHOLOGIC STATES OF THE SIGMOID

The disturbances which I shall consider in this connection as being caused by the sigmoid are due to function-disturbing variations from the normal type. Those which I wish more particularly to present to-day are based on observations in cases in which I have operated specifically for conditions within the sigmoid itself, as in the accompanying tabulation.

Redundancy	18	
Neoplasms	5	
Diverticula	2	
Adhesions	4	29
Redundancy and ptosis in connection with similar conditions of the colon.....	43	14
Total		43

This table represents less than 50 per cent. of the cases that have been referred to me for operation, and in which I have demonstrated a sigmoidal factor, the remainder of the cases having been afforded a *modus vivendi* by other means. It likewise represents less than 20 per cent. of the cases in which I have found redundant sigmoid as the concomitant of redundant and, of course, ptotic colon. In fourteen of these colosigmoidal cases, as shown in the table, I have corrected the condition of the sigmoid. The latter operations have been done in my later practice, and since I have become convinced of the important rôle of the redundant sigmoid as a factor in the causation of disease. At the same time, it represents all the cases, eleven in all, in which I have so far operated for neoplasms, diverticula and adhesions that were essentially restricted to the sigmoid. This, I believe, is in a measure an index to the relative frequency of these conditions. I shall, in the present instance, confine my attention to a discussion of the redundant and ptotic colon.

REDUNDANT SIGMOID

The sigmoid is here considered redundant in all instances in which it is in excess of 25 cm. (10 inches) in length, and in which it is the seat of symptoms logically referable to redundancy. There are, of course, no data on which one may estimate the frequency of this condition for the simple reason that symptomless subjects do not submit themselves for examination. There are, however, many variations in the morphology of the redundant sigmoid.

A very constant feature is the redundant mesosigmoid which, in both normal and abnormal subjects, is always relatively short above at the juncture of the

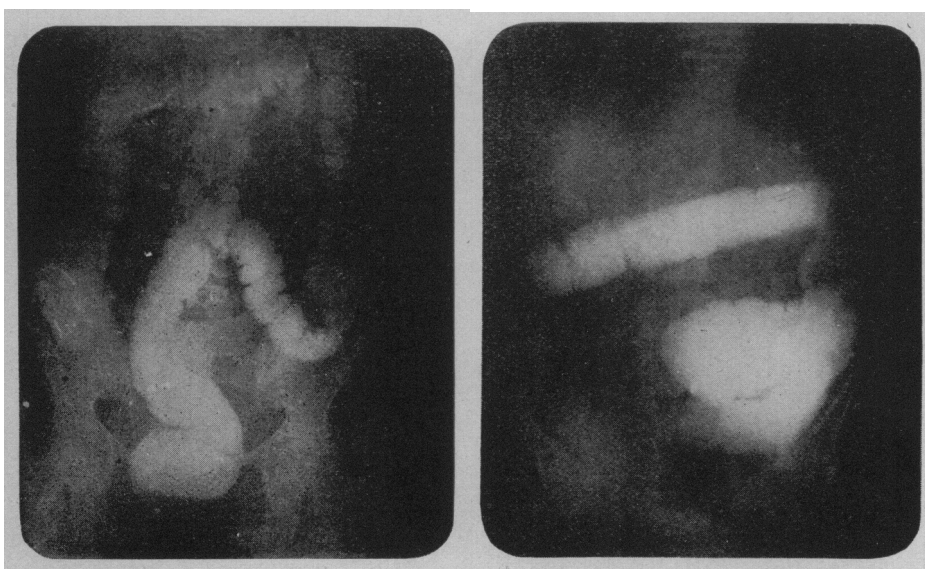


Fig. 1.—In this and the following roentgenograms are illustrated some types of sigmoid as shown by the Roentgen ray. In this illustration is shown very redundant sigmoid which drops above the umbilicus when the patient's shoulders are lowered. (Trendelenburg position).

Fig. 2.—(Trendelenburg position) showing large sigmoidal loop which drops heavily on the pelvic organs when the patient is in the upright posture.

mesosigmoid and, still more incidentally, to the amount of sigmoidal content.

THE FUNCTION OF THE SIGMOID

It is probably true that, in the normal person, the sigmoid is chiefly a conduit for the less rapid transit of the intestinal content from the colon to the rectum. In other words, in the healthy subject, it is after periodic and more or less rhythmic evacuation generally relatively free from fecal content. At the same time, it must not be forgotten that the sigmoid is provided with an active absorbent apparatus whose ostia connect with the chyloferous apparatus in the mesosigmoid, which in turn connects with the larger chyloferous vessels in the mesocolon. It is furthermore to be remembered that the sigmoid is the habitat of an abundant flora. In addition to this, especially in cases of fecal stasis, are to be found the usual toxins that result from bacterial decomposition. These facts,

sigmoid with the descending colon, and, below, at its juncture with the rectum. It is always relatively long, sometimes very long, occasionally as much as 25 cm. (10 inches) in the interval between these two points.

THE DIAGNOSIS OF REDUNDANT SIGMOID

The diagnosis of redundant sigmoid is based on a very variable symptomatology. Probably the most constant symptom is constipation, with more or less colicky pains. These colicky pains are more liable to precede than to attend efforts at defecation, although they may be experienced at both times. The constipation is liable to alternate with diarrhea, especially in cases of so-called mucous colitis with a large proportion of mucous content in the stools. There are generally more or less pressure-symptoms in these cases. Pain referable to pressure on the sacral plexus, generally more marked on the left side, but often present on both sides, is generally present. Cystic irritation, generally without mucus in the urine, is rather a frequent complaint. In men, there is often discomfort distinctly referable to the prostate and obviously resulting from pressure on that gland. In women, there is generally marked tenderness in the ovarian regions, especially on the left side. This may be due to pressure not only on the ovary itself, but also on the vessels and nerves within the broad ligament.

Pain at the more fixed points of the colon, namely, the hepatic and splenic flexures, is frequently present, because of the frequency with which the redundant and ptotic colon is a concomitant of the redundant and ptotic sigmoid. Pain just under the margins of the ribs in the left upper quadrant is especially significant of angulation and consequent retardation at the splenic flexure.

In many of these cases, hemorrhoids, due both to pressure and to straining at stool, exist as a distinct complication. One important fact that I have observed as a very constant feature in the several hundred cases that I have examined is that pain referable to the redundant and overloaded sigmoid is generally relieved when the sigmoid is emptied, and that it remains relieved as long as it remains empty.

Physical examination generally reveals dullness in the left lower quadrant. This is sometimes associated with fulness which, in extreme cases, is suggestive of a new growth. There is very liable to be an abnormal increase of resonance over the colonic areas which, it should be remembered in these cases, owing to generally equally redundant colon, are to be found entirely in the lower zone of the abdomen. Female patients should be examined in the erect posture, by digital exploration of the vagina, when pressure, sometimes with a mass, may be detected above the pelvic diaphragm. I have found examination by the proctoscope and sigmoidoscope not only annoying to the patient, but also of negative value as means of diagnosis in these cases.

ROENTGEN EXAMINATION FOR REDUNDANT COLON

The conclusive method of examination is, of course, by the Roentgen ray. It is important in this connection to state that these pictures should always be made by an expert, and that to give an adequate conception of the case, certain cardinal rules should be observed namely: (1) The large bowel, clear to the cecum, should be emptied; (2) the barium solution should be used in quantity sufficient to fill the large bowel clear to the cecum; (3) pictures should be made with the patient in the erect, the recumbent and the extreme Trendelenburg posture; (4) the patient should then be given not less than 8 ounces of the barium solution by mouth; (5) pictures of the stomach should then be taken with patient in various positions; (6) pictures, especially with the patient in the Trendelenburg position, should then be taken beginning about fifteen hours after ingestion of the solution, and at shorter intervals thereafter, until all the barium has passed into the rectum; (7) time observations of stomach clearance and of food transit are best made



Fig. 3.—A very large sigmoidal loop associated with cecum mobile and ptotic colon (erect posture).

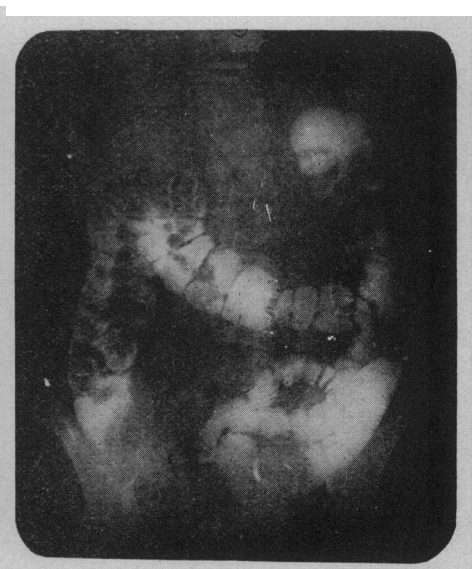


Fig. 4.—Figure-of-eight sigmoid (Trendelenburg position).

after incorporating barium with an ordinary meal.

These rules, adopted by Dr. Sidney Lange, who has made practically all of my Roentgen-ray examinations, have yielded results which in no instance have failed of confirmation at the subsequent operation.

LOCAL SEQUELAE OF REDUNDANT SIGMOID

Local sequelae of the redundant and ptotic sigmoid are various and may be classified as (1) those that relate to the sigmoid itself, and (2) those that relate to adjacent organs and structures.

1. Among those that relate to the sigmoid itself is inflammation. In practically all of my cases, there has been a history of sigmoiditis sometimes present at the time of examination, but more generally with a history of previous attacks, characterized by mucous diarrhea. This is due not only to mechanical interference with the blood circulation, but especially to mechanical retardation of the fecal current with a consequent elaboration of the toxins of bacterial origin. In certain instances, the follicular infection becomes so pronounced that the endothelium is

broken down, granulation tissue is thrown out and more or less distinct areas of ulceration are developed. Secondary to these changes and as a necessary incident to their recovery, is the formation of bands of scar tissue which, in turn, become sources of irritation. These changes are most liable to occur at the juncture of the sigmoid with the rectum. The fact that it is precisely at this point that cancer is most liable to occur, and the well-known relation of this disease to persistent irritation, certainly comprise a substantial reason why the underlying causative condition should not be allowed to continue. It should be remembered, too, that when the endothelium is once broken down, atriaria are thereby formed for the convenient introduction of other infections.

2. Among the intrapelvic disturbances induced in adjacent organs and structures by the redundant sigmoid are chiefly those which may be attributable to pressure. I have already called the attention of this Section to the influence of this pressure in causing uterine displacements and functional disorders of the ovaries characterized by pain, especially at the men-

strual period.¹ I have already referred in this paper to the effect of this pressure in inducing irritation of the bladder in both sexes and of the prostate in the male. The influence of this condition in causing hemorrhoids and their sequelae is so generally recognized and is so manifest that its further discussion is not required in this connection.

proposition only because it represents the etiologic factor now most generally overlooked by both the general practitioner and the surgeon. It may, therefore, be said at the outset that the remote or systemic results of redundant colon are effected through two distinct avenues of influence: first, the circulations; and second, the nervous system. It is obvious, from what has already been said, that toxins elaborated from the abundant bacteria, as the result of fecal stasis, first reach the system through the ordinary channels of absorption. A little later, when the endothelium is broken down, these toxins and other infectious elements may find a short cut into the blood-current. In these ways, one or both, the blood becomes the effective final carrier and distributor of agencies that deleteriously influence not only metabolism, but specifically the processes of hematogenesis.

While this is going on, we have to reckon with the element of pain. It takes violent muscular effort on the part of the large bowel to force hardened fecal masses around sharp corners. This means pain, sharp colicky pain, and persistent pain means unhappiness while it lasts, and more or less exhaustion of the centers when it is over. The pressure exerted on other organs, such as the ovaries, the fallopian tubes, the bladder, the prostate, the rectum, causes pain, and this pain, too, is registered on centers already hypersensitized by toxic agents carried to them by the blood.

Then, following in the wake of this unhappy state, are other changes of more serious significance. With the infection thus reaching the circulatory current, we have established what is now recognized as the underlying pathology of rheumatism, gout, arthritis and arteriosclerosis—a relationship that was pointed out by Glénard thirty years ago under the general term of "arthritis." We trace the process a little farther and find these toxins, together with toxic products of metabolism, carried to the great emunctories for elimination. These organs, in turn, become the seat of infection and of secondary changes, such as are manifested in chronic interstitial nephritis and in chronic interstitial hepatitis with their end histories of cirrhosis—a process likewise recognized by Glénard and designated by him under the general term of "hepatism." In other words, a survey of the systemic consequences of the infection, or the subinfection, or the intoxication originating in the large intestine, forces on us what the late lamented Forchheimer designated as "a new viewpoint in medicine."

SECONDARY SYSTEMIC SEQUELAE

There are certain conditions which do not comprise distinct links in the chain of events as defined by Glénard, which are materially influenced, if not determined, by colosigmoidal redundancies and consequent stasis. They are, for the most part, conditions resulting from entirely independent causes, generally

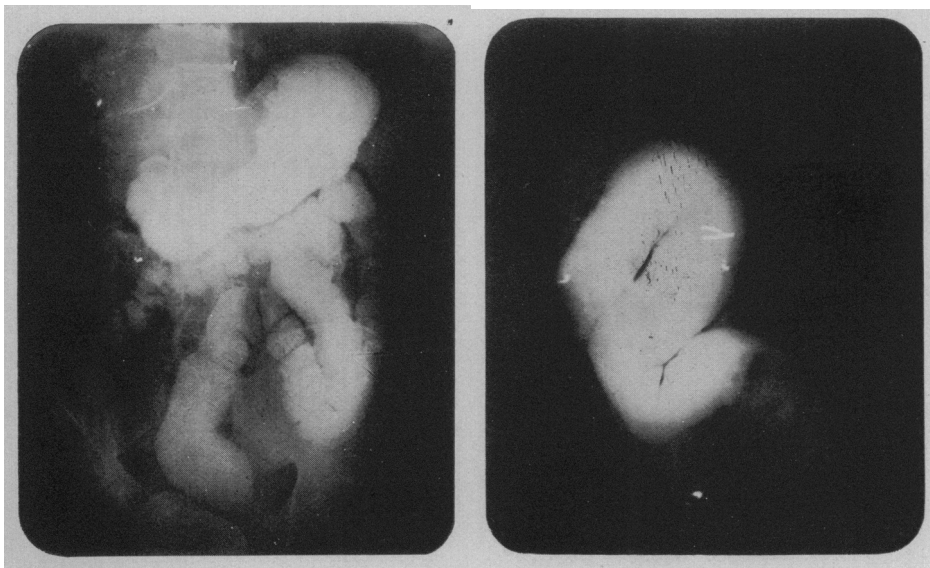


Fig. 5.—A redundant letter S sigmoid was the source of pressure on the prostate (recumbent posture).

Fig. 6.—An enormous sigmoidal redundancy with hypertrophy but without corresponding condition in the colon (upright position).

SYSTEMIC SEQUELAE OF REDUNDANT SIGMOID

It is, however, with the remote or systemic consequences of the redundant sigmoid that the general practitioner has his most baffling contention. These induced systemic states, so far as they relate to the sigmoid, are less confusing if they are recognized as being most generally equally attributable to colonic origin. In other words, redundancy and consequent ptosis of the sigmoid and the colon occur so generally together that both must be taken into account in the estimation of their systemic consequences. I am, however, to-day emphasizing the sigmoid end of the

1. Reed, Charles A. L.: Constipation and Headache in Women, THE JOURNAL A. M. A., Aug. 3, 1912, p. 354.

infectious, which are obviously logically and inevitably influenced for the worse by the toxemias and the nerve perturbations incident to the conditions just enumerated. Let me make a few illustrative citations:

An eminent lawyer, after three years' confinement in a sanatorium for simple melancholia, was referred to me by Dr. Herman H. Hoppe of Cincinnati; restoration of the sigmoid and colon by my fixation methods resulted in his return to a large practice within two months after operation.

A merchant referred to me by Dr. J. W. Hall of Chicago had been a neurasthenic for years, was mentally depressed and had interstitial nephritis (a link in the Glénard chain); an ileosigmoidostomy resulted in his complete restoration to health, including disappearance of his kidney complication, and in a realization of efficiency beyond his original standard.

A physician had been compelled to abandon his practice because of persistent pain, including a chronic prostatitis; an anastomotic operation, excluding both the colon and the upper loops of the redundant sigmoid, resulted in a cure of the prostate, the disappearance of all neuropsychic phenomena and the resumption of a large practice.

A young woman who had been for a time in the Ohio Tuberculosis Hospital at Mount Vernon, was referred to me by Dr. — of Loveland; a fixation operation resulted in the complete restoration of her nutrition and the ability to throw off any remaining tuberculous infection.

Cases of diabetes mellitus have shown marked improvement following restoration of normal conditions within the large bowel. Rheumatism bears such a demonstrable relationship to infections of intestinal origin, that cardiac complications of rheumatic origin must be reckoned among the remote sequelae of such infection.

The situation may be summarized by the statement that any systemic or even local disease that is deleteriously influenced by impaired nutrition must necessarily have an important sequent relationship to coexisting redundancy of the sigmoid and colon. In other words, this condition of the elementary back must take its position among the local infections and must be treated accordingly.

TREATMENT OF REDUNDANT SIGMOID

The question of treatment is to be solved only in recognition of the demonstrated pathology of redundancy and ptosis and in the light of the clinical conditions presented in each individual case. Thus, if the obstipation is not difficult to overcome, or at least to mitigate, certain lines of palliative treatment may be adopted with temporary advantage, but, of course, with no hope or prospect of ultimate cure. If, on the other hand, the obstipation is persistent and, especially, if either local or systemic sequelae, or both, have developed, nothing short of surgical intervention can bring the slightest hope of permanent relief. This brings us to the contemplation of (1) palliative and (2) curative treatment.

1. Palliative treatment may be relied on, in a certain limited number of cases, to afford a *modus*

vivendi without, however, offering any prospect of eliminating the underlying or causative condition. In many cases I have been able to make patients very comfortable for a considerable length of time, and without operation by a course somewhat as follows:

Postural Treatment with Massage.—The patient is taught to utilize the Trendelenburg posture. This is done by means of an extemporized inclined plane, ordinarily an ironing-board, one end of which is placed on the side of the bed and other end on the floor. The patient lies on this, heels up and head down, the board coming to the nape of the neck. While in this position, which is maintained for a period of from ten to fifteen minutes, two or three times a day, the patient herself massages her abdomen by drawing the viscera toward the diaphragm. It would seem that the downward displacement of certain abdominal organs is a penalty that we pay for assuming the upright posture and that to stand on our heads, or as nearly on our heads as possible, is the logical correction. In carrying out this practice, I have discovered that it has another incidental

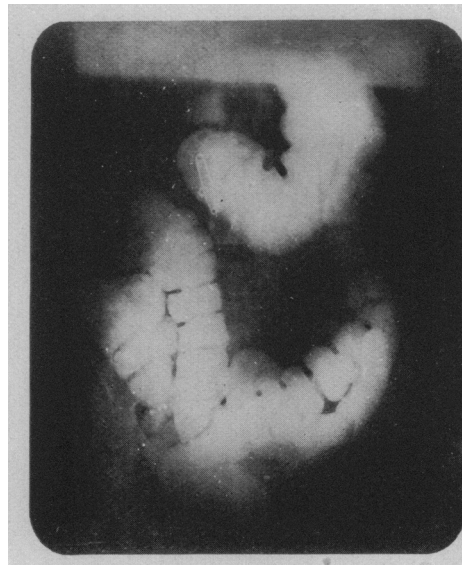


Fig. 7.—Sigmoidal loop with ptotic colon but with stomach in relatively normal position (Trendelenburg position).

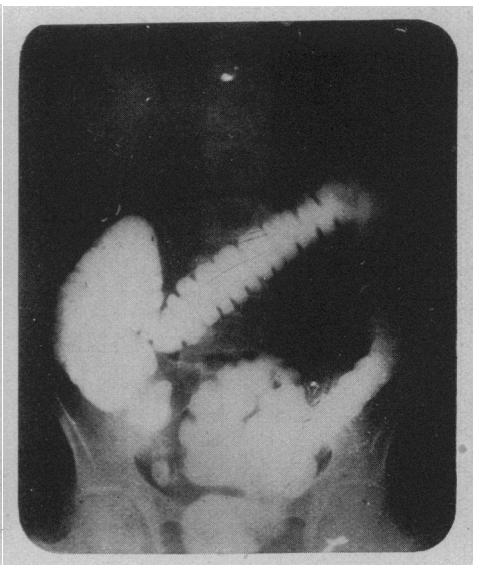


Fig. 8.—Figure-of-eight sigmoid (redundant) complicated with acute angulation of the colon at the hepatic flexure (recumbent position).

advantage, which is, that by gravity it forces the nutrition of the brain and higher centers. When these centers have been depressed, almost exhausted, by pain, both physical and mental, and by toxins transported from the intestines to the brain through the circulation, the condition that they present is essentially that of anemia. This condition is best relieved by having the blood forced into the brain in maximum quantity compatible with health—a principle which may be utilized with advantage in certain neurotic and neuropsychic states that may occur quite independently of the visceral complications that I have been discussing.

Dietetic and Medicinal Treatment.—The diet is looked after by giving laxative foods, especially the grits and fruits. The patient is taught to drink copious draughts of very hot water, from a pint to a quart, immediately on arising, if necessary, repeating the libation before each succeeding meal. This is often all that is required to secure free action of the bowels. When, however, it proves inefficient, I

add to the water a small quantity of some laxative salt of sodium or magnesium, preferably the former. Vichy water, or the salt made therefrom, may be effectively employed in this way. On general principles, however, the less medicine the better. I am employing the petroleum oils with advantage as a mere lubricant of the intestines. Liquid petrolatum, petrolatum, oil of petroleum and paraffin oil are products belonging to this class, and of about equal efficiency.

Mechanical Treatment.—While the postural treatment—including hydropathic—already mentioned may be considered mechanical, I am using the term in a restrictive sense as applied to external appliances, such as belts and braces. It is obvious, from a moment's glance at the anatomy involved, that no such appliance can be effective in preventing the ptosis of a redundant sigmoid. On the contrary, such an attempt to hold up this segment of the bowel can only result in pushing it farther down in the pelvis. So true is this that, for the relief of such cases, it is important that even the incidental pressure of clothing suspended about the waist should be interdicted. Another phase

that to relieve one without relieving the other is to fail in affording ultimate relief to the patient. With this understanding and addressing myself now exclusively to the sigmoidal state, let me say that the surgical expedients which I have found effective are (a) sigmoidopexy, (b) ileosigmoidostomy, (c) cecosigmoidostomy, and (d) resection of the sigmoid, to which may be added, as a measure supplementary to the second procedure, (e) colectomy.

It is unnecessary here to give text-book descriptions of these respective procedures. A few incidental observations may, however, be helpful in leading to a selection of the measure to be employed. This, in all instances, should be based on the actual condition as revealed by exploratory incision, and should not be predicated entirely on Roentgen-ray findings. The roentgenogram reveals much that is important, but it does not reveal many conditions that are of determining value in the selection of the surgical measure to be employed. With respect to sigmoidopexy, much has been said in a more or less academic way about its "potential dangers." I have no doubt but that some

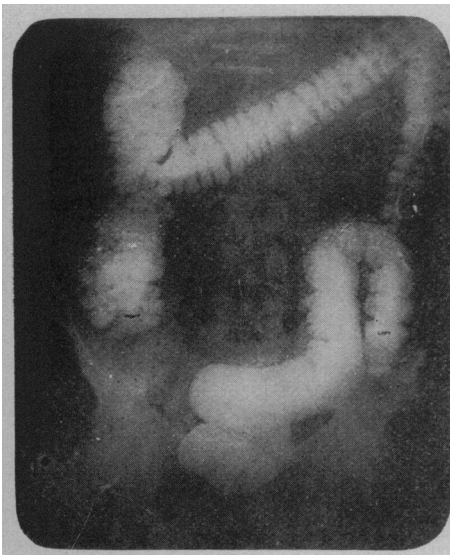


Fig. 9.—Enormous sigmoid loop which was the cause of ovarian dysmenorrhea and other intrapelvic symptoms of pressure (Trendelenburg position).

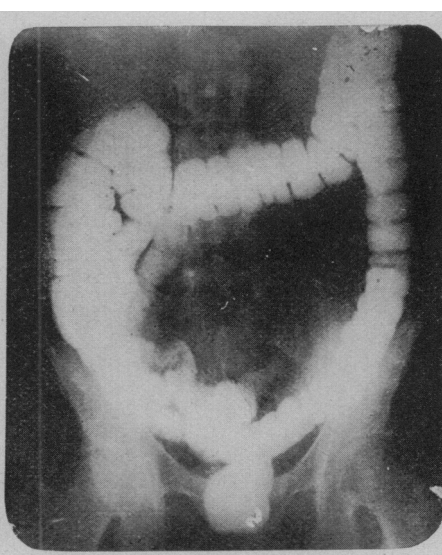


Fig. 10.—Greatly redundant sigmoid lying chiefly in right side of pelvis (Trendelenburg position).

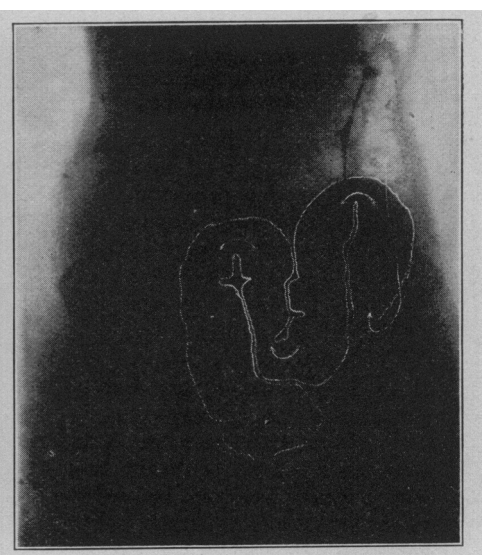


Fig. 11.—Largely redundant sigmoid adherent to anterior abdominal wall (recumbent posture).

of mechanical relief is that by enemas, by which the fecal content is softened, the weight of the redundant bowel lessened, and the consequent pressure diminished.

2. Contrasted with palliative treatment is curative treatment. While such expedients as posture, massage, diet, medicine and lavage may, in certain cases and for a time, bring a measure of relief, it is obvious that neither all nor any of them can in the least remove the underlying redundancy and the consequent ptosis. In other words, they are mere temporary expedients, the tendency of which is indeed to lower the functional efficiency of the bowel and thus ultimately to aggravate the original ill health of the patient. It is obvious that nothing but surgical intervention can be recognized as having curative significance. But, before considering these measures in detail, it is important again to remember what I have tried to keep constantly to the forefront in this essay, namely, that this condition of the sigmoid is generally associated with a corresponding condition of the colon and

embarrassing consequences have been experienced from this operation by some operators, but I am equally as sure that such consequences have been the outcome of defective methods employed. Indeed, I have done some secondary operations for the relief of patients who had been victimized by precisely such defective methods. In one case, a little 2-inch incision had been made through a thick wall, and the sigmoid had been drawn over to the median line and there firmly sutured in such wise as to give it a permanent acute angle. In another case, the fixation had not only caused similar angulation, but had failed to control the kinking due to redundancy. The resulting complications, for which I was not responsible, were obviously due to defective methods, as shown by the fact that these cases were completely relieved when the fixation was properly effected. In this connection, it is important to say that it is a defect of method to stitch the sigmoid itself, or any part of it, to the abdominal wall, but that the unkinking should be effected by stitching not the bowel itself, but the

redundant mesosigmoid to the parietal peritoneum. This is better done by employing the Pfannenstiell, or transverse abdominal incision. If carefully done by this method and if the colon, when involved, has been brought under similarly effective control, and if other impediments to fecal circulation do not exist, the results are eminently satisfactory.

I would not, however, leave the impression that I look on fixation procedures as the ones always to be employed, or even as the operations of choice. On the other hand, in all cases in which correction cannot obviously be thus effected, resection of the sigmoid with lateral anastomosis of the ends, or ileosigmoidostomy, or cecosigmoidostomy with or without resection or removal of the large bowel may well be employed.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRs. EASTMAN, BONIFIELD, MAYO AND REED

DR. M. L. HARRIS, Chicago: The wide-spread study of diseases of the intestinal tract which has taken place recently has led to the recognition of a number of very important facts which are so prominent that they should be crystallized in our minds at this time. The first of these is that while the intestinal tract during its embryologic and postnatal evolution follows a normal type, yet there is no fixed end stage of this evolution. During the evolution a number of membranes are formed which are but temporary and which as a rule disappear, yet many of these are found to persist after birth. These should not be called pathologic in the sense that they give rise to disturbed function, because they do not, unless they directly cause mechanical obstruction. The next fact is that when we have a disturbance in function due to the presence of these bands of membrane which are found congenitally or to those developing subsequently, the changes are invariably due to changes in the intestinal contents, chemical in nature, bacteriologic or dietetic and metabolic in origin. These conditions arising within the intestines cause the changes in the membranes and bands which then produce the symptoms noted. That gravity plays little or no part in the movement of the intestinal contents or in the emptying of the stomach or colon we discovered long ago in our operations on the stomach. The emptying of these parts is purely physiologic and not a physical process. Any surgical operation done on these patients must be directed to some definite and specific condition mechanical in its nature if any benefit is to be derived from that surgical operation *per se*, and after the mechanical condition has been corrected by proper surgical procedure that patient becomes a medical case and must be followed up by medical treatment, dietetic and other means to change the chemical nature of the intestinal contents, whether of bacterial or metabolic origin. If these cases are not so followed up we may expect relapse with redevelopment of these so-called membranes. The next fact is that while there may be certain physical differences in location and conformation of the intestinal tract, it is a physiologic entity; the entire tract is under a governing and regulating mechanism, and the disturbance of one part must cause disturbance in another. It is useless to disregard the intestinal tract as a physiologic entity in these cases.

DR. JOSEPH SAILER, Philadelphia: As an internist my opportunity to study cases of derangement of the large intestines as a rule antedates that of the surgeon. These cases come to the internist in all stages of the disease. If he has wit enough to discover where the trouble is located and persuasion enough to induce the patient to submit to surgical interference he has fulfilled his entire function until, as sometimes happens, at a later date the patient returns for relief from the old symptoms or new ones which may have developed. I urge a greater cooperation between the medical man and the surgeon. I believe it will be generally conceded that abdominal conditions, above all, are the most difficult correctly to diagnose, and, moreover, that in no class

of surgery is the importance of preliminary diagnosis greater. Yet it has been my fate on various occasions to have the surgeon respond to what he probably considered my more or less impertinent attempt to explain my conception of the morbid condition, by the statement that he would see what he found after the abdomen had been opened. The best results will be obtained, however, not when the surgeon accepts the medical man's diagnosis but when he is sufficiently familiar with diagnosis to discuss his cases intelligently with his colleague. Three important conditions are: The importance of considering the possibility of some disturbance in the cecum in all cases of supposed chronic appendicitis. Among these disturbances cecum mobile is not an exceedingly rare condition. In many cases removal of a so-called chronically diseased appendix has failed to relieve the symptoms from which the patients suffer. In one such case, anchoring the cecum secured a restoration to health. 2. Those cases in which there is partial obstruction of the large bowel. This also is, I believe, more common than is supposed and fairly difficult to diagnose. The problem of treatment is complicated by the fact that the patient is rarely willing to submit to an operation and curiously enough it is often difficult to persuade the surgeon to undertake it. Why I do not know, for the relief that an appropriate operation affords is sometimes extraordinary. 3. So-called gastro-intestinal intoxication. There is, unquestionably, a group of more or less vague symptoms associated with chronic, partial invalidism concerning whose cause we are at present at fault. They have been called gout, neurasthenia, lithemia, gastro-intestinal intoxication, disturbance of the ductless glands, sympatheticotonia and vagotonia and of late years ascribed to early disturbance of the sexual psyche. The variety of etiology indicates that an actual demonstrable cause has not as yet been discovered. Therefore, all surgical measures which have to do with combating these cases are necessarily measures undertaken on the basis of an as yet unproved hypothesis. I am inclined to believe that some of the brilliant results of colectomy or short circuiting are due to relief of colonic stasis based on an anatomic factor and not the elimination of an intestinal toxemia.

DR. JOHN H. GIBBON, Philadelphia: The question of colonic stasis has not been settled. We do not know what causes the conditions we encounter when we operate in these cases. I believe also that we do not know—we may think we know—that the symptoms are the result of the conditions which we find. There are few here who cannot remember that patients who suffered very much as these patients we now describe as suffering from colonic stasis, were relieved by other means. The fixing of floating kidneys cured many; the removal of the appendix cured many; the removal of the coccyx has cured many. Now to pass out of the realm of surgery, there are other means less radical that have cured many; mechanical, mental and religious treatment. I believe, then, that colonic surgery has not yet found its proper place. Mr. Lane has forged ahead into a new field fired with the enthusiasm of a pioneer. He has developed a wonderful technic, but I feel that those who attempt to follow him will sooner or later have to make some apology, because Mr. Lane—and I think no more honest man lives than Mr. Lane—in discussing one of his cases of colectomy in which the patient suffered from obstruction due to adhesions, said "Why, if it were not for the postoperative adhesions and obstruction which these patients develop, this operation would be as simple as circumcision." Now it is not as simple as circumcision, and it is our business to recognize the fact that it is not. We have heard of the wonderful results obtained in properly selected cases; the difficult thing is to select the case that will give the good result. A great many things in surgery are easily done that ought not to be done. We have heard of the good results of ileosigmoidostomy. I wish we might hear of all the ileosigmoidostomies that have been done in America—that we might consider why there have been bad results and failures. Let us be honest; we are trying to get to the bottom of this. Two small boys were looking at the poster of a circus and they saw an elephant standing on his trunk, and one boy said, "Do you

believe an elephant can stand on his trunk?" "Yes," said the other boy, "there ain't nothing an 'elephant' can't do." Now, gentlemen, there are very few things that a surgeon can't do in an abdomen, but just as it is disastrous for the elephant to try to stand on his trunk, so I think it is disastrous very often, certainly for the inexperienced, to attempt to do what is possible, but what is plainly not indicated. Now I hope that those of us who undertake colonic surgery, will beforehand, read the papers of Dr. Eastman and Dr. Mayo presented here to-day. Of course, I am speaking from the clinical, not the scientific, point of view. If we follow the paper Dr. Eastman gives us we shall see that the last word has not been written. He has shown us that we can make a big stoma in the cecum and attach the cecum to the rectum and that still the colon will not drain. Then how on earth can this operation result in the wonderful cures that we hear about?

DR. JOHN B. DEEVER, Philadelphia: I wish to question the etiology, the cause and effect. No doubt some of these cases of so-called intestinal auto-intoxication are prenatal but not all. I believe the majority are due to pathologic conditions, and we surgeons must determine that pathology. I believe that the surgeon's chief mission is to remove pathologic conditions. The oftener I open an abdomen the less familiar I am with the indications for ileosigmoidostomy or colectomy. Doctors frequently ask me how often I do these operations, and I say, rarely. I believe many a person walks the streets with a peritonitis. It does not give sufficient distress to call the doctor. I have many times seen a driver of a cart come into the German Hospital with an appendiceal abscess and ask for something because he had a little pain, but he had been working just the same. If a man can work with an abscess of that kind the same can be said of a man with a mild grade of peritonitis. After organization of the inflammatory exudate is complete we have bands and membranes, but in the majority of these instances I believe there has been a previous inflammation. The Roentgen ray I think more often misleads the surgeon in connection with the intestinal canal, unless the work is done by a most expert man. I do not operate on Roentgen-ray findings alone. They may influence me to open an abdomen, but if I do not find the lesion I close the abdomen. I think on general principles it is a vicious practice to stitch fast organs which are movable, which too often leaves the last state worse than the first. I have the highest regard for Mr. Lane—all of us who know him love him; he has a charming personality and is a master mechanic; but I do not believe all that he teaches, and I am fearful that his teaching has a bad influence on the younger members of the profession. I would raise my voice with others against too much operating under these conditions. Dr. Janeway, one of the master diagnosticians of the world, was asked to discuss the subject. He said, "Gentlemen, I never made a diagnosis of intestinal auto-intoxication in my life."

DR. HUGO O. PANTZER, Indianapolis: I would agree with the statement of Dr. Mayo that we may not expect in the life of one individual to be able to divert the racial course pursued through thousands of years, without having economic disturbances to follow in that individual. Constipation, no doubt, is basic to many of the pericolic adhesions found in these cases. The scientific and convincing work of Dr. Hertzler is in pertinent evidence. There is no more potent factor in producing habitual constipation than the misconstruction, by profession and laity alike, of the edict that the bowels shall move daily, to mean that one bowel movement daily is sufficient. There is not an animal, except man, but defecates regularly with every taking of food and several times more daily. It is the inconvenience of complying with this natural demand that has in turn led the human being to formulate the quasi-statutory edict to Nature that she shall move at one set hour daily and no more. Every individual who does not defecate three or more times daily, must in our sense, be regarded as constipated. Once we have applied the natural rule to the human family and with one fell stroke you have eliminated the most potent cause of colic stasis! And, also, you have added to each individual life a daily increase of freshness and vigor and endurance, and an increase of years, which will amount to anywhere

from 10 to 25 per cent. for each individual. A phase of pericecal pathology commonly not adequately considered is that whenever the appendix is found in retrocecal position there exists not only more or less contraction of the appendix and adjacent ileum, but also a contraction, adhesion and upward displacement of the posterior wall of the cecum. The filling of the cecum under these conditions soon leads to sagging of the entire anterior portion of the cecum. This makes it impossible for the circular muscular fibers to exert themselves normally. The circular muscular fibers which posteriorly are high and fixed, in their anterior portion are often several inches lower, and no longer opposite, and their function is more or less annulled. The fullest release of the postcecal and pericecal adhesions and membranes alone will suffice to give relief here. Commonly such relief is not considered by the average operator. In my estimation, the condition is commonly mistaken for the prolapse of the entire cecum. Where there is one real cecal prolapse of Wilms, there are twenty-five of the anterior wall. None but he who carefully dissects the adhesions and membranes can establish the truth of this observation. This has been my practice for over twenty years, as my case records can establish, and I wish here to state emphatically that I as yet have not found a case in which short-circuiting of the bowel seemed necessary or warrantable.

DR. ROSALIE SLAUGHTER MORTON, New York City: It seems to me as a gynecologist that the greatest advance to be made in the next few years will come from a consideration of the pelvic contents in relation to intestinal conditions. Congestion causing dysmenorrhea, which has previously been difficult to treat satisfactorily, has been often due to intestinal stasis and ptosis and to auto-intoxication producing anemia, lowered muscle and nerve tone. Displacements are often caused by pressure of the sigmoid when it has an abnormally long mesentery, and in many cases we find the uterus displaced downward from the constant pressure of the prolapsed cecum or transverse colon. One of the difficulties in diagnosing dysmenorrhea due to congestion is the variability which results from varying conditions of the intestinal contents, and when examined under ether there are no evidences of congestion because the preparation for the anesthetic necessitates the giving of a cathartic and enema which thoroughly evacuates the bowel, producing temporarily a condition which is not the usual one of the patient. In some necropsies we look in vain for the cause of baffling symptoms, because in the moment of death the venous capillaries empty and evidence of congestion disappears. Valuable aid in diagnosis results from the use of bismuth by mouth and in enemas and roentgenograms made every day for a week with the patient in a different position, the patient not remaining in the hospital under abnormal conditions but continuing active in her ordinary occupation. The importance of being able to examine the abdomen thoroughly at the time of a gynecologic operation to see whether there are any intestinal adhesions or angulations, led me to devise a simple instrument, a one-piece abdominal speculum. By introducing the blade through the ordinary low 2 inch incision one can survey the entire abdomen. The handle allows room for the abdominal wall and dressings and keeps the assistant's hand out of the way. By lifting the instrument one can easily find the appendix if it is in its normal position, and if not, by gently turning the wall-lifter, it may be located as high as the hepatic flexure which can easily be seen as well as the gall-bladder. By further turning, the transverse colon, stomach, splenic flexure, descending colon, sigmoid and various portions of the ileum may be inspected easily and without handling. Any lesions of the gall-bladder or constricting bands may be corrected under the present anesthesia, ptosis may be noted for correction, by raising the foot of the bed or other postural treatment during convalescence, thus avoiding complications which often have more effect on efficiency than the gynecologic conditions themselves, as the latter may, in many instances, be considered secondary.

DR. J. W. LONG, Greensboro, N. C.: The pathogenesis of this subject as well as the proper management of these cases may be best understood by remembering the embryology

of the alimentary canal. At one time during fetal evolution, most of the intestine, the whole alimentary canal, in fact, is in the enlarged umbilical cord outside of the abdominal cavity. When the colon returns to the abdominal cavity the fetal colon is situated in the left side of the abdomen. As the alimentary tract develops the cecal head is projected, as it were, across the celom, beneath the stomach and liver. Now, while this evolution is going on, there is another important process, namely, fusion and absorption of certain layers of peritoneum taking place. Should fusion of the peritoneum in this region of the abdomen occur too early, the cecum is caught as it rests beneath the liver and we have the high cecum and an undescended colon. This explains those rare cases in which the appendix is found in the kidney fossa above and behind the colon. On the other hand, should fusion fail to take place in whole or in part, the cecum descends below its normal situation in the iliac fossa and may even be found in the pelvis lying on the bladder. As a result of the failure of fusion to anchor the cecum in its normal location we have cecum mobile, dilated cecum, ptosis, thinned walls, infection, and local coloperitonitis, with the formation of pseudoperitoneal cauls of the colon, or Jackson's membrane, Lane's kinks, and intestinal stasis. In other words embryology helps to explain pathology.

DR. FRANK C. YEOMANS, New York: On Feb. 10, 1911, at the New York Polyclinic Hospital I operated on a woman, aged 48, for constipation due to stricture of the descending colon. I found the sigmoid very large, at least 3 inches in diameter and 24 inches long. I united the cecum to the sigmoid by a broad lateral anastomosis thus deliberately performing a cecosigmoidostomy. The patient has been perfectly well since the operation. I reported this case with two others in the *American Journal of Surgery*, January, 1913, with the conclusion that when practicable, that is, when the cecum and the sigmoid can be approximated without undue tension, cecosigmoidostomy (a) is a safe operation, easy of execution; (b) establishes drainage of the entire colon, there being no blind ends left for collection of feces, fermentation and intoxication, the *bête noire* of ileosigmoidostomy; (c) observes the surgical principle of draining the colon at its most dependent points, a principle correct both in theory and in practice; (d) anchors and drains the cecum mobile of Wilms; (e) anchors and drains chronic volvulus of the sigmoid or a giant sigmoid; (f) cures permanently constipation due to mechanical obstruction (obstipation) at any point in the colon from cecum to apex of sigmoid. In THE JOURNAL A.M.A., March 7, 1914, Dr. Eastman in an article entitled, "An Anatomic and Physiologic Method of Short-Circuiting the Colon" advises that "the caput coli be anastomosed freely to the rectum at the lowest point possible without traction." I presume that he had not looked up the literature or failed to notice my earlier article, published fourteen months before, on "Ceco-Sigmoidostomy; an Operation for Short-Circuiting the Colon." Now Dr. Eastman terms this operation caput coli-rectum anastomosis, but Dr. Reed, correctly I think, calls it cecosigmoidostomy. The rectum proper begins opposite the third sacral vertebra. I have measured carefully the various portions of the colon and observed their respective positions in 100 cadavers to determine the proportion of cases in which anastomosis is feasible. I found that, anatomically, the cecum can very seldom be approximated to the rectum proper, hence, cecorectostomy is not practicable. The cecum and sigmoid can be approximated, however, in over 70 per cent. of cases. Of course, the anastomosis is made at the lowest point possible on the sigmoid without undue traction. I wish to draw attention to the fact that caput coli-rectum anastomosis is but an impracticable attempt to do a low cecosigmoidostomy. I described a successful method of performing cecosigmoidostomy one and one-half years ago.

DR. ROBERT T. MORRIS, New York: To think of this subject as a whole we must think at a target. The authors this morning have given us the opportunity. In thinking at a target we must choose a bull's eye fact: the fact that these patients belong to a class which needed to have its ancestry short-circuited by one or two generations. That means that the surgeon is nothing but a therapeutic resource. These cases are

medical first, last and all the time, and we are not to think that we are dealing with the class of patients whose trouble is to be ended by the surgeon. The dog through bad habits of his master has arrived at his master's culture. Consequently he has the same stasis, the same arthritides that the rest of us have. We are dealing with about the same diseases in the dog as in man, among those which are frequently colonic in origin. Dr. Eastman spoke of the *bacillus adhesiformis*. This would mean a bacillus in the shape of an adhesion. There is no such bacillus. In many of these cases we see striking results, from operation sometimes, but it is for the good diagnostician to work out the class of case in which the operation of short-circuiting should be performed. For instance, I had a patient with spasmodic asthma who had not lain down for four years. Whenever the colon was flushed the attacks of asthma were very much lessened. On the basis of this reasoning and the facts elicited in the laboratory, I short-circuited the bowel and the patient has not had any spasmodic asthma since.

DR. THOMAS S. CULLEN, Baltimore: In a study of many subperitoneal pedunculated myomata I have been greatly interested in following the behavior of the omentum, in those cases in which it became adherent to the myoma. As the pedicle of the myoma became more attenuated and the blood-supply from the uterus diminished the omentum would gradually make up the deficiency by sending in vessels to the now partially parasitic tumor. The omental fat would gradually disappear until finally the omentum was represented only as a bunch of large vessels which passed from the vicinity of the transverse colon to the tumor. Nearly twenty years ago Dr. Preston, of Hampsted, Md., saw a patient suffering, as he thought, from gall-stones. She went into a state of collapse and he diagnosed rupture of the gall-bladder. The consultant laughed at him and said it could not be so. She recovered, and fifteen years later when I opened the abdomen on account of further gall-bladder symptoms I at once saw six or eight typical gall-stones lying outside the gall-bladder covered by a transparent layer of adhesions. They were as clearly seen as is a glacé nut through the coating of candy. Nature had sealed them over perfectly without leaving any tags of adhesions adherent to surrounding structures. Dr. Marcy speaks of the increased meat-eating in England and the coincident increase of cancer. I recently asked Dr. Hirst of the Severance Hospital, Korea, what was the most common disease in Korea. He said they had more empyemas than anything else. I said "How about appendicitis?" He said "We have had five cases in ten years." They have a large hospital where Dr. O. R. Avison and he are doing the surgery. Every one of these five cases of appendicitis was in a foreigner, so that appendicitis in Korea is a negligible quantity, and as you know, the Koreans have little or no meat to eat.

DR. JEROME M. LYNCH, New York: I hardly ever attend a meeting of any surgical society that some one or two men do not condemn Mr. Lane. If the rule laid down by Mr. Lane is followed there will not be so much occasion to criticize his method. These cases have been treated by physicians and by surgeons and what is the result? The patients have gone to osteopaths, Christian Scientists and a lot of other quacks. If you would short-circuit these cases you would not have the unsatisfactory results that are reported. Every one of ten patients we have so operated on has gained in weight. In a girl 18 years of age with hemorrhagic colitis, there was a gain of 30 pounds. If you put the patient on a meat diet the stool will be liquid when it reaches the cecum. In over 200 experiments we have demonstrated this. If you give a carbohydrate diet it becomes solid. In a great many cases solid feces come from the ileac opening; often the ileum takes on the function of the colon and the feces are thrown into the colon and cannot be removed by flushing or any other means than short-circuiting.

DR. HENRY O. MARCY, Boston: With reference to the Roentgen ray, several of my friends in Boston made a careful study of a large number of normal subjects and found the situation of the intestines in no two cases alike. In one of the hospitals in Boston the surgeons thought they found a stone in the kidney and asked the very distinguished expert to make

the roentgenogram. There, perfectly distinct, was the object, round, well defined and in the location of the kidney believed to be the organ discovered. They operated, but no stone was found. When the expert operator was asked to explain the picture he said, "I thought surely you would know that was the button on his drawers." It depends very largely on "the man behind the gun." I recall a discussion some years ago in the Section on Surgery when a Texan said, "Operations for appendicitis are often resorted to when not required. First give sweet oil in large doses" and the young surgeons in the audience showed their disapproval in a very marked manner. He said in closing one thing that is worth remembering—"it will grease the intestines." Then I told this illustrative story: Patrick had a pain in his right side; the doctor told him to go to the hospital and have his appendix removed, and to take a hundred dollars with him, it would cost that. On the way to the hospital he met a friend. "Oh, Pat," said the friend, "them fellows are always wanting to operate; just go to the apothecary and get twenty-five cents worth of castor oil, and I will come in in the morning and see how you are." In the morning, to his friend's inquiry Pat replied, "Jimmie, financially, I am \$99.75 ahead, physically I am running behind."

DR. J. R. EASTMAN, Indianapolis: I am not the author of the term *Bacillus adhaesiformis* very justly objected to by Dr. Morris. I referred in my paper to a bacillus which I said Dr. Bassler, an associate of Dr. Morris, thus designated. Dr. Yeomans said that for anatomic reasons, it is impossible to anastomose the caput coli and the rectum. That is true under anatomic conditions. We do not operate, however, under normal conditions. The operation is indicated only in severe ptosis and in serious cases of colonic stasis. It requires perhaps a reckless degree of hardihood for me to differ with a man of the experience of Dr. Reed, but I must take issue with him as to one of his statements. I think the internist would grow very excited over his remark that no case of colon stasis of serious character can ever be permanently cured by non-surgical means. In a certain percentage of cases we can by the use of simple means like exercise and the vegetarian diet with petrolatum to anoint and lubricate the intestine, relieve the colitis, and when the colitis is relieved the pericolicitis will likely also be relieved and consequently the stasis is overcome. It is not simply a matter of lubricating the intestine but of correcting the colitis which frequently causes ptosis and stasis and pericolic adhesions of all kinds. It can hardly be said at this time that every serious case of stasis is a case for surgery.

DR. CHARLES L. BONIFIELD, Cincinnati: I cannot agree with Dr. Deaver that the Roentgen ray is of no account. He must have a poor roentgenoscopist. The German language is of no account to one who cannot read it. The roentgenogram can be depended on by the one who can read it, and if a man makes a series taking about four a day it throws much light on these cases of ptosis. It is particularly valuable in showing how rapidly the small intestine, the cecum and the sigmoid flexure empty themselves. As I remarked before there are degrees of this condition. The cases in which I believe we must operate are those in which the disease has progressed until the large intestine has elongated, and in which its convolutions are scarcely discernible. My old teacher used, in constipation, to prescribe full doses of ergot, and I have found that is a very good drug in the early stages of relaxation of the bowel.

DR. WILLIAM J. MAYO, Rochester, Minn.: Surgery of the colon is still in the stage of case-reporting. We have to go through that period. We must be wary of the promoter in surgery as we are of one who tries to sell an oil well. Promoters are as necessary as a drag behind a wagon to keep it from going too fast; but, we must beware of them, because if we accept their teachings, we are going to overdo things. There is something in the question of the large bowel. It may be too long and too big. If we could only say to certain patients that they have too much bowel and that if they continue to live on a meat diet they will not live as long as on a vegetable diet, because Nature has created them vegetable feeders, we might do good if we were sure it were true.

If some one would take up the question of our ability to handle various foods much trouble might be avoided. It has been shown that the ordinary man takes two or three times as much meat as he can efficiently care for. Consequently, putrefaction and stasis may occur in the large bowel. Over 60 per cent. of all water we take is absorbed by the large bowel. The danger to all the human family from their inability to absorb all fluids taken is from the development of acid bacteria. The mouth should be alkaline, but when we have an infection in it, the acid-borne bacteria may be carried down from the mouth, and become, possibly, a factor in gastric ulcer and duodenal ulcer. The question is not one of local development but of bacterial infection, the bacteria of chronic and acute conditions going to the liver through the portal circulation.

DR. C. A. L. REED, Cincinnati: One of the speakers, a Philadelphia man, said that his opportunity to study this question was generally postoperative. Dr. Deaver also of Philadelphia, has informed us that the last state of these cases was generally worse than the first. The cumulative evidence forces me to conclude that gastro-intestinal surgery in and about Philadelphia must be in a very unsatisfactory state. Let me suggest to those men that they may with profit journey to Cincinnati, where they will find a hospital clinic in which such results are not demonstrable, but in which we will show a primary mortality that is practically nil, with an ultimate functional recovery of better than 85 per cent. Dr. Gibbon alluded to the fact that the profession is very much given to fads. I believe, in a sense, this is true. History, however, will show that every distinct advance in surgical progress has come by virtue of the residuum of truth which has come out of a surgical fad. Therefore, we may look forward with confidence to the ultimate results of this surgery, which is to-day more or less developmental, and as Dr. Mayo said, is yet in the case-reporting stage. Dr. Morris has stated that the rôle of the surgeon is a therapeutic one. If, by this expression, he means helpful or ameliorative, I do not know that any other attitude was ever assumed by the surgeon. He has stated, however, that the condition of these patients is not ended by what the surgeon does. As a sweeping fact, this is a totally unwarranted statement. These patients, many of them, the majority of them, in my hands more than 85 per cent. of them, recover, stay well, and by the results demonstrate the law of cause and effect between the colonic or sigmoidal states, or other intestinal conditions and the general ill health. I do not care one rap about the minutiae of intermediate pathology, although I do not wish to discourage my laboratory friends in their efforts to find out the whole truth and all of its details, however infinitesimal and unimportant. I am afraid Dr. Eastman was just a little inattentive to my exact phraseology. I did not state that intestinal stasis was never relieved except by surgical means. On the contrary, I know that I often relieve it without operative means. What I did say was that, in intestinal redundancy and intestinal ptosis, cure was never secured by other than surgical means. I stand distinctly by that assertion. An elongated, redundant colon and a sigmoid in similar condition were never made less by any medical treatment. An elongated, redundant mesosigmoid was never made shorter except by appropriate surgery. It is impossible. I would just as soon attempt to reduce a dislocated elbow with a dose of Epsom salts as try to overcome one of these conditions I have just described by any sort of medicine.

Obligations of Health.—We are to feel that health is fundamental and inalienable, that it imposes sacred obligations, calls us to willing service, becomes the object of our constant concern, makes us ashamed of inefficiency, stupidity and graft, because they mean disease, raises us to a new level of brotherhood, of citizenship, of sonship to a common Father and of joint parental responsibility to the heritors of a racial stock whose full inheritance consists, not merely of the germ plasm of a fortuitous set of parents, but of all that we jointly bestow upon the generation to which they belong.—Edward T. Devine in the *Survey*.