I could show you records of patients alive after twelve years, in spite of the fact that all the lymph nodes on the specimen were involved. There should be no great difference of opinion as to what Dr. Palmer and Dr. Schindler are doing with gastroscopy and what I would advise. I don't want anybody to think I am disagreeing with what they are talking about. They are dealing with acute things and with a lot of patients for the first time; many patients should be examined gastroscopically before they get in our hands and give us a chance to cut them out; I know Dr. Schindler feels some of his patients might be cancerous eventually. I am certain some ulcers diagnosed clinically and gastroscopically simple ulcer will be cancer. I would not be surprised if 15 per cent would ultimately turn out to be cancer.

He said something about the characteristics in the floor of a cancer. The early cancers of the stomach do not show in the floor. When a cancer gets in the floor, or the crater of an ulcer, it is very far advanced and is already in the lymph nodes. The things I am talking about are in the border.

As to my friend, Dr. Friedenwald, I wish all the clinicians in the world were as good a clinician as he is. I often talk about that because so many of the young men today are being taught a lot of laboratory methods and become laboratory clinicians, but after you have seen things for a long while, you become a real clinician, and the changes in the clinical history which he mentioned are certainly very valuable.

I have an idea that early cancer sometimes gets well. Some lions and tigers are relatively benign and quite harmless but I would advise any one who expects to be near one to take along a very high-powered rifle. Expectant treatment in the possible presence of cancer is just about as dangerous as a twenty-two rifle in the presence of lions. I have seen enough small chronic gastric ulcers to make me just as suspicious of cancer as I would be of lions and tigers.

III. The Diagnosis of Colitis Associated With Virus of Lymphogranuloma Venereum by Bowel Antigen*

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More than a decade ago, Frei pointed out that when bubo pus, due to the virus of lymphogranuloma venereum, is diluted 1-5 or 1-10 and inactivated, such an antigen will give a characteristic intradermal reaction in those who have been or are affected with this venereal disease. Such an antigen (inactivated bubo pus due to the virus of lymphogranuloma venereum) has become known as the Frei antigen, and the intradermal reaction to it, the Frei reaction. This immunologic phenomenon is regarded as highly specific.

In many, particularly the males, the disease may terminate as a bubo. In some, especially in women, the virus may descend the pelvic lymphatics and attack the bowel. The tendency is for the bowel process to result in a cicatrizing, fibrosing, stenosing lower rectum with an ulcerative colitis above the stricture. This is the clinical picture as it is usually known; it is the advanced stage of this disease. Not infrequently, however, the clinical picture is not typical: there is the pre-stricture stage and sometimes an ulcerative colitis in the floor. When a cancer gets in the floor, or the crater of an ulcer, it is very far advanced and is already in the lymph nodes. The things I am talking about are in the border.

In an attempt to clarify some of these problems, in 1936 I reported (1) intracutaneous responses comparable to positive Frei reactions, with colonic exudate from chronic ulcerative colitis cases with positive Frei reactions. The successful preparation of these bowel antigens was a fortuitous circumstance, and because of technical difficulties noted elsewhere (1, 3) control antigens were not obtainable. The significance of these cutaneous allergic reactions, paralleling positive reactions with known active Frei antigens, suggested the presence of an inciting agent unlike a toxin, a specific bacterium or foreign protein, probably the virus of lymphogranuloma venereum or viruses within the intestine of man.

In 1937, improvements in technique due principally to the use of Azochloramid (2), an excellent synthetic bactericidal and bacteriostatic chlorine compound, it was possible to report (3) a dependable, although crude, method of antigen preparation. This resulted in a practical intradermal diagnostic method indicating the presence of the virus of lymphogranuloma venereum in the intestine and differentiating colitis associated with that virus.

This communication reports the securing of eight additional "bowel discharge antigens" and two "bowel (rectal) tissue antigens" as well as seven control antigens from various sources. The bowel tissue antigens have not been presented by me before. A distinction is being made here between antigens prepared from blood, mucus, pus, bacteria and intestinal contents, grossly fecal-free, heretofore simply called "bowel antigen" and now designated as "Bowel Discharge Antigen," and seven control antigens prepared from various tissues.
charge Antigen," and those prepared from the bowel substance itself, "Bowel Tissue Antigen." The use of this terminology is suggested not only to differentiate types and sources of bowel antigens but to distinguish them from the Frei antigen (inactivated bubo pus due to the virus of lymphogranuloma venereum) and its antigenic response (Frei reaction).

The data to be submitted further establishes, it is believed, the practicability, utility and importance of the method.

PROCEDURES

The method of preparing "bowel discharge antigen" under the previous designation of "bowel antigen" has already been described in detail (3). It is reprinted here for completeness.

I. BOWEL DISCHARGE ANTIGEN:

A. Preparation of Patient. Two enemas of physiologic solution of sodium chloride are given, one at bedtime and the other on the following morning a few hours before the rectosigmoidoscopic examination. The purpose is to prevent gross fecal contamination.

B. Securing of Material.

1. Devices employed:
   (a) A rectosigmoidoscope 1 cm. (three-eighths inch) or 1.6 cm. (five-eighths inch) in diameter and 25 cm. (10 inches) in length is employed, depending on the presence and size of the stricture. An instrument smaller than 1 cm. in diameter does not allow adequate vision and satisfactory insertion of the aspirator. This aspirator is of metal and measures 35 cm. by 8 mm. These are sterilized by boiling. A suction apparatus is also needed.
   (b) The receptacle is a glass tube, 15 cm. (6 inches) high by 2.5 cm. (1 inch) in diameter, containing fifteen glass beads. The rubber stopper, glass and rubber connections are sterilized in the autoclave.

2. Method: The material, which is usually mucopurulent, frequently bloody, but grossly free from fecal matter, is aspirated by suction into the glass tube containing beads. The prime object is to secure it undiluted and measurable in order to make accurate antigen dilutions; thus, to 1 cc. of the material, 10 cc. of a diluent (Azochloramid, to be referred to later) is added. This is called a 1 to 10 dilution. In most instances this is not possible, for either there is too little exudate or it is very tenacious, too thick or, sometimes, not visible. Under such circumstances 5 cc. of the diluent is poured through the rectosigmoidoscope and then quickly aspirated.

Aspirated material is vigorously agitated so as to be well mixed and to be broken up into smaller particles.

Whenever dilution in vivo becomes necessary, the subsequent dilutions in vitro in the preparation of antigen become arbitrary, since standardization by weight or volume is impossible; however, the same criteria, to be noted, are employed throughout. Whenever the material is too thick to be readily drawn into a sterile calibrated 10 cc. pipet, it is treated as undiluted and to each cubic centimeter 9 cc. of the diluent is added. It is arbitrarily designated as a 1 in 10 dilution. Material of "medium" consistency is that which can be drawn into a sterile calibrated 10 cc. pipet with facility. Usually, from 3 cc. to 5 cc. of this material is obtained. The diluent is added to make a total volume of 10 cc.

Not infrequently, the aspirated material obtained after the addition of the azochloramid through the rectosigmoidoscope is very thin and translucent, contains little bowel exudate and is mostly diluent. In this case no further dilution is made.

It is to be emphasized that the dilutions are actually higher than indicated, since sodium sulphite and merthiolate—as will be noted—are added.

C. Preparation of Antigen. I have already reported the inability to demonstrate the presence of a reaction-producing substance either in filtered bubo pus, a portion of which when unfiltered produces a positive Frei reaction, or in filtered bowel material. Thus, the problem in the preparation of bowel antigen concerns itself with the destruction of bacteria without disturbance of the antigenic factor and with dilution of the material sufficient to decrease foreign protein, so as not to mask the intradermal reaction, and yet insufficient to eliminate for practical purposes the antigenic factor. Also, heating at 60° C. for two hours on one day and one hour on the following day, even in the presence of the bactericidal and bacteriostatic action of the antigen diluent—azochloramid—will not always result in complete bacterial destruction. A higher temperature at 80° C. for one hour is also employed, since I have learned that the antigenic

### Table I

**Master chart: Bowel and control antigens**

<table>
<thead>
<tr>
<th>TYPE I</th>
<th>TYPE II</th>
<th>TYPE III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREI +: Ulcerative Colitis</td>
<td>FREI -: Ulcerative Colitis without Stricture</td>
</tr>
<tr>
<td>PATIENTS TESTED</td>
<td>With Stricture (1 N $) (5 N $)</td>
<td>Without Stricture (1 N $)</td>
</tr>
<tr>
<td>PATIENTS TESTED</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>10 N</td>
<td>19</td>
<td>52</td>
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<td>8 W</td>
<td>48</td>
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</tr>
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<td>4 W</td>
<td>FREI</td>
<td>FREI</td>
</tr>
<tr>
<td>9 N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Patients</td>
<td>100</td>
<td>17</td>
</tr>
</tbody>
</table>

Note: A 1 to 10 dilution is made, but not infrequently, the aspirated material obtained after the addition of the azochloramid through the rectosigmoidoscope is very thin and translucent, contains little bowel exudate and is mostly diluent. In this case no further dilution is made.