access to the general circulation, and "bacteria are found outside the area of inflammation."

Pus contains active phagocytes. Leukocytes outside the vessel wall actively destroy bacteria, but when in the blood-stream have but little such power.¹ The toxins that accumulate in the pus also destroy bacteria. It is interesting to note that Traub and Lister observed that "blood to which putrefying matter was added had within certain limits the power of remaining sweet," and decided that it had definite bactericidal properties. It is a common observation that bacteria gradually lessen in an abscess. The presence of pus means auto-vaccination. It is suggestive that in certain cases at least it may be better treatment to use autovaccines rather than autogenous or stock vaccines. The damage from pus in wounds is quite generally overestimated. The presence of pus is not an invariable indication for immediate operation. The pus often does less damage than the treatment which is quite generally employed in removing it.

INFECTION IN CASES OF VAGINAL SECTION

This occasionally results, especially in cases in which there has been an extensive operation. If there is much retention of wound secretion, contamination from vaginal bacteria is almost certain to result and produce infection.

Prophylactic treatment is important, especially in regard to strict asepsis and care to avoid retention of wound secretion. The ligation of all bleeding points and the use of a minimum amount of sutures and unnecessary strangulation of tissue lessen the dangers of infection. I have also abandoned much postoperative treatment of such wounds. The treatment usually employed in such cases is to elevate the head of the bed and to apply hot moist dressings over the vulva. The principle of the treatment is the same as in infected abdominal wounds.

RESULTS

I described² this treatment before the Chicago Medical Society in 1907, after an experience of two or three years. This treatment has been continued since then and has been modified somewhat by gradual employment of less surgical interference.

I have never had any experience with too early superficial closure of infected abdominal wounds when treated with moist dressings. Sinuses will occasionally close on the surface for a short time before complete union results, but will reopen spontaneously without disturbance. The same is true of fistulas.

The special advantages of this treatment are:

1. The patient is but little disturbed mentally or injured physically.
2. The wounds heal quickly as there is little surface for repair.
3. The strength of the wound is relatively not much impaired in the absence of much sloughing.
4. The danger of secondary contamination is minimized.

104 South Michigan Boulevard.

1. Adami: Principles of Pathology, i, 431.

2. Watkins, Thomas J.: Care of Suppurative Wounds Following Abdominal Section, Ill. Med. Jour., September, 1907.

A Golden Rule.—The first rule, then, for a good style is that the author should have something to say; nay, that is in itself almost all that is necessary.—Schopenhauer.

REPORT OF A CASE OF QUININ POISONING

ELIZABETH C. UNDERHILL, M.D., SOUTH HADLEY, MASS.

The patient, S. A. B., a woman, aged 20, American, a student, two days before the illness reported below, had a mild attack of enterocolitis due apparently to some irritating food she had eaten. Half an ounce of castor oil was prescribed and had the desired effect, and in twenty-four hours recovery seemed complete.

At 1 p. m., November 17, one day after recovery from this illness, I was summoned to see the patient, with the message that her former illness had returned. I found her in a state of stupor, answering questions very slowly, or indicating her answer with a grunt. She denied having taken any medicine of any kind since the dose of castor oil. The tongue was extended on request, in about half a minute, very slightly and very slowly. When I endeavored to take the temperature by mouth, she bit off the bulb in a convulsive way, but apparently was not conscious of this act. The pulse at this time was 100, full, and of good quality; the temperature, rectal, was 99.6, and the respiration, 22, of normal character. The stupor continued to grow more profound for about two hours, and then the patient gradually began to emerge from it. From time to time, during this period, she would complain of her head, but we could obtain no definite information as to the nature of the sensations. The pupils were normal at this time, and reacted to light and accommodation. Knee- and ankle-reflexes were unobtainable. The urine was clear, amber and slightly acid; specific gravity was 1.025; there was no sugar and a moderate amount of albumin, ascertained later to be 1.5 per cent. None was present three days later.

About 4 p. m. the patient began to emerge from her stuporous condition and enter an excitable stage. She tossed about and was restrained with some difficulty. She called for help, for prayer, for divine assistance, etc., and in the intervals would be comparatively quiet. The retching and vomiting continued, with short intervals, until about 2 a. m. At 5 o'clock the patient had become quiet and rational, and on further questioning at this time she stated that she had taken, at 9 o'clock that morning, a bottle of 100 2-grain quinin pills. This statement was verified by finding the empty bottle, and by the druggist's statement that he had sold them to her that morning. She gave as her reason for taking them that she was discouraged over her work, thought she was not keeping it up in a satisfactory manner, and therefore would end her life.

Her condition, from this time on, was perfectly rational. She now began to complain of ringing in her ears and fulness in her head, but these symptoms were not excessive. About 6 p. m. her sight began to be impaired and her pupils to dilate. At 9 p. m. the pupils were dilated as widely as possible, and she could not see—could not distinguish between light and dark.

When the cause of her illness was discovered, an ounce of castor oil was administered, but this was promptly evacuated. A second dose was given in half an hour, which was retained long enough to get a satisfactory result. At 9 p. m. 30 grains of sodium bromid and $\frac{1}{4}$ grain of morphin sulphate were given, but she did not sleep at all.

November 18 the patient vomited a greenish substance once. Soap-suds enema gave good result, with the evacuation of considerable gas. The eye condition remained unchanged. The patient said that she felt all right, but she was greatly worried over her eyes, and showed great remorse for her deed. Ringing and fulness in the ears had disappeared.

November 19 the patient was very alert to sounds and extremely nervous; she was quiet, but tense. The pupils were contracting a little, and she could now dimly distinguish the figure of a person standing by the bed. She had no pain in the eyes or any part of the body and no gastric irritation. During the twenty-four hours 45 grains of sodium bromid and $\frac{1}{4}$ grain of morphin sulphate were given. The patient slept three hours, from 10 p. m. to 1 a. m., and rested quietly the remainder of the night.

November 20 she slept practically all night and retained food well. She could see a little better, especially in the morning, and could distinguish lights through the window, 300 or 400 feet distant. Dilatation of the pupils remained about the same. The hearing was abnormally acute, and sounds disturbed. During the day 60 grains of sodium bromid were given, and at night 10 grains of trional.

November 24 the condition of the eyes had gradually improved, so that now she could distinguish the features of persons standing by the bed and accurately describe articles of clothing which they were wearing.

Ophthalmoscopic examination at this time showed considerable infiltration of the veins of the retina, but no choked disk. The field of vision was markedly constricted so that only objects held directly in front of the eye could be distinguished.

She now passed from under my care and went to a distant place, but I have obtained a report of her case and find that her eyes steadily improved, until at the end of six weeks after taking the quinin they seemed to have regained their normal condition.

The case seemed worth reporting because of the unusually large amount of quinin taken, and the comparative infrequency of cases of this kind.

It seems quite likely to me that some of the pills were evacuated undissolved from the stomach and bowels during the hours she was under no treatment, for she gave a history of vomiting several times.

A SIMPLE AND RELIABLE METHOD OF STAINING SPORES

F. M. HUNTOON, M.D., NEW YORK

Instructor in Bacteriology, Cornell University Medical College

The remarkable resistance of the bacterial spore to the penetration of dyes and other chemical agents has long been of interest to the bacteriologist, and many methods of staining these bodies have been devised.

Most of these methods are complicated, unreliable and especially unsatisfactory in the hands of students, whose limited time does not allow for the many repetitions usually necessary to obtain definite results.

These considerations led to the search for a simple method which would stain spores consistently in the hands of unskilled workers, and as such, be available in the class-room.

Such a method, which has been successfully employed in this laboratory for two years, is here reported.

PREPARATION OF STAIN

Four gm. of acid fuchsin, Grubler, are dissolved in 50 c.c. 2 per cent. watery solution of acetic acid. Two gm. of methylene blue, Grubler, are dissolved in 50 c.c. 2 per cent. watery solution of acetic acid. The two solutions are mixed, shaken and set aside for fifteen minutes. A voluminous precipitate results. The mixture is filtered through a well moistened filter-paper, and the filtrate is employed for staining. (Eosin may be used in place of the acid fuchsin, but does not give as good results.) The reddish purple filtrate will keep for several weeks, but on the appearance of a precipitate should be refiltered.

TECHNIC OF STAINING

A rather thick smear is prepared in the usual manner, and fixed by heat.

The film is preferably made from an agar-culture; if broth is employed it is advisable to use a small amount of blood-serum or white of egg to fix the material to the slide.

The film is covered with a generous amount of the dye and steamed vigorously for one minute, stain being added if necessary to prevent drying.

When washed in water, the film appears stained a bright red.

The slide is now dipped a few times in a dilute solution of sodium carbonate (7 or 8 drops of a saturated aqueous solution in a tumblerful of water), and the moment the film turns

blue the action of the alkali must be interrupted by rinsing the preparation in water. The film is now ready to be dried, mounted and examined. The whole procedure takes less than two minutes.

On examination the spores will be found to stain a deep red, and the bodies of the bacteria bright blue, the intensity of the blue stain depending on the length of exposure to the alkali; too long an exposure may cause the spores to stain blue. Old spores, and particularly free spores, stain well, young spores faintly or not at all.

That the exposure to the acetic acid is the essential portion of the method is shown by steaming a film with a 2 per cent. watery solution of acetic acid and re-steaming with a watery solution of any of the usual bacterial dyes. On examination the spores will be found to have taken up the stain, even if as weak a dye as Bismarck brown is employed.

By decolorization with alcohol for a few seconds to remove the stain from the bacterial bodies and then counter-staining with a contrast dye, any combination desired may be produced.

The general application of this method seems to be established by the successful results obtained on the following spore-bearing strains: *Bacillus subtilis*, *B. anthracis*, *B. megaterium*, *B. sporogenes*, *B. lacti morbis*, *B. putrificus*, *B. oedematis maligni*, *B. tetani*, *B. mesentericus*, *B. cereus*, and the bacillus of symptomatic anthrax. A failure must be recorded with the *B. mycoides*, but this strain also proved resistant to all the standard methods.

The advantages claimed for this method are its simplicity and reliability.

It may be of interest to those engaged in teaching to know that this method has been used in class-room work for the past two years and has yielded uniformly reliable results.

A number of the strains employed were obtained from the collection at the American Museum of Natural History, for which I desire to express my thanks to Prof. C. E. A. Winslow.

Boils.—Some time in the early eighties a Dr. Clay of London (in the *Lancet*, if I remember correctly), recommended the use of piperin, the active principle of black pepper, for treatment of furunculosis. Having been from early youth susceptible to this infection myself, I gave the matter unusual attention, with the result that from that time I have treated practically all of my cases with this remedy. Dr. Clay's claim for piperin was a rational one, and will be much more readily understood now than it was thirty years ago. It was that piperin as an intense capillary stimulant brought about increased skin resistance which caused an arrest of development in beginning pustules and subsequent immunization for that period of infection. His method was to administer it in quite large doses at first or until the physiologic effect manifested in an intense burning sensation over the entire body was produced, afterward giving it in smaller doses for a somewhat extended period. In many years of this treatment, I have had no failures except in the aged, or those with special complications. In younger persons it has, as a rule, proved superior to autogenous vaccines. Beginning with from 5 to 10 grains three times a day until the effect mentioned above is produced, I repeat at intervals or use it continuously, as deemed best. Small furuncles often disappear without suppuration, while others become limited in their severity. This procedure is absolutely safe, and annoying symptoms speedily subside when the doses are lessened or discontinued. —JOHN L. DRYER, M.D., Santa Ana, Cal.

Appropriation for the Children's Bureau.—In the annual report of Julia C. Lathrop, chief of the Children's Bureau, giving a summary of the work of the first year's bureau and outlining the plan of future work, an appropriation of about \$165,000 was asked for for the year 1914. To the great disappointment of the chief of the bureau and of persons interested in child welfare, the appropriation committee of the House saw fit to recommend only \$25,000 for the work of the bureau, which seems a ridiculously inadequate sum to carry out the plans of investigation and constructive work prepared by the bureau chief.