long been before the profession; but so far they have made but little impression in English-speaking communities. Cayley, of London, has been a warm advocate, but the rigid treatment is not often carried out in English or American institutions. J. C. Wilson, of Philadelphia, and Baruch, of New York, have pleaded for its general introduction into our hospitals. Among the most striking figures are those recently published by Hare, from the Brisbane Hospital, Australia. Under the expectant plan, 1,838 cases—mortality, 14·8 per cent; incomplete bath treatment, 171 cases—mortality, 12·3 per cent; strict bath treatment, 797 cases—mortality, 7 per cent.

The lukewarm bath, gradually cooled, is much more satisfactory in private practice. A bath at from 90° to 80°, and cooled down 10° or 12° by pouring cold water on the patient, will be found very satisfactory. When an insuperable objection to the bath exists, other hydrotherapeutic measures may be taken. The body may be sponged with tepid or cold water every time the temperature rises above 102·5°. If done thoroughly, taking limb by limb first, and then the trunk, occupying from twenty minutes to half an hour in the process, the rectal temperature may be reduced two or even three degrees. In private practice, when the bath is not available, the cold-pack is a good substitute. The patient is wrapped in a sheet wrung out of water at 60° or 65°, and cold water is sprinkled over him with an ordinary watering-pot. This is very efficacious in cases with pronounced nervous symptoms.

Medicinal antipyretics are rarely indicated. Quinine, which was employed so much in former years, has a slight though positive action, but its use has very wisely been restricted. The same may be said of the more recent antipyretics. Personally, I abandoned their employment some years ago. If given, antifebrin is the most suitable in doses of from four to eight grains. The action is prompt, and it is less depressing than antipyrin.

(*d*) **Antiseptic Medication.**—Very laudable endeavors have been made in many quarters to introduce methods of treatment directed toward the destruction of the typhoid bacilli, or the toxic agent which they produce, but so far without success. Good results have been claimed from the carbolic and iodine treatment. Others advocate corrosive sublimate or calomel, β-naphthol, and the salicin preparations. I can testify to the inefficiency of the carbolic acid and iodine and of the β-naphthol. With the mercurial preparations I have no experience. Fortunately for the patients, a majority of these medicines meet one of the two objects which Hippocrates says the physician should always have in view—they do no harm. Recently Burney Yeo has advocated the use of chlorine water and quinine as having a marked antiseptic action.

(*e*) **Treatment of the Special Symptoms.**—The abdominal pain and tympanites are best treated by fomentations or turpentine stupes. The latter, if well applied, give great relief. Sir William Jenner, at his clinic,

used to lay great stress on the advantages of a well-applied turpentine stupe. He directed it to be applied as follows: A flannel roller was placed beneath the patient, and then a double layer of thin flannel, wrung out of hot water, with a few drops of turpentine sprinkled upon it, was applied to the abdomen and covered with the ends of the roller.

The *meteorism* is a difficult and distressing symptom to treat. When the gas is in the large bowel, a tube may be passed or a turpentine enema given. For tympanites, with a dry tongue, turpentine was extensively used by the older Dublin physicians, and it was introduced into this country by the late George B. Wood. Unfortunately it is of very little service in the severer cases, which too often resist all treatment. The routine administration of turpentine in all cases of typhoid fever is a useless practice, for the perpetuation of which, in this generation, H. C. Wood is largely responsible. Stokes protested against it in his day, and very truly said that its use should be limited to the later periods of the disease, when it may sometimes be used with advantage, as Graves directs, in drachm doses every six hours. Sometimes, if beef-juice and albumen-water are substituted for milk, the distention lessens. Charcoal, bismuth, and β-naphthol may be tried.

For the *diarrhœa*, if severe—that is, if there are more than three or four stools daily—a starch and opium enema may be given; or, by the mouth, a combination of bismuth, in large doses, with Dover's powder; or the acid diarrhœa mixture, acetate of lead (grs. 2), dilute acetic acid (♏ 15–20), and acetate of morphia (gr. $\frac{1}{6}$–$\frac{1}{8}$). The stools should be examined to see that the diarrhœa is not aggravated by the presence of curds.

Constipation is present in many cases, and, though I have never seen it do harm, yet it is well every third or fourth day to give an ordinary enema. I have never used the initial dose of calomel, which is so highly recommended by some practitioners. If a laxative is needed during the course of the disease, the Hunyadi-janos or Friedrichshall water may be given.

Hœmorrhage from the bowels is best treated with full doses of acetate of lead and opium. As absolute rest is essential, the greatest care should be taken in the use of the bed-pan. It is perhaps better to allow the patient to pass the motions into the draw sheet. Ice may be freely given, and the amount of food should be restricted for eight or ten hours. If there is a tendency to collapse, stimulants should be given and, if necessary, hypodermic injections of ether. The patient may be spared the usual styptic mixtures with which he is so often drenched. Turpentine is warmly recommended by certain authors.

Peritonitis.—In a majority of the cases this is an inevitably fatal complication. The only hope lies in restriction of the inflammation. Cases have unquestionably recovered. Morphia should be given subcutaneously. If the peritonitis be due to perforation, the question of

laparotomy may be discussed. If perforation has occurred in the second or third week, it would be useless under the circumstances to attempt to stitch a slit in the intestine; if, on the other hand, it occurs during convalescence, it is only right to give the patient a chance, and the operation should be performed.

Progressive *heart-failure* is one of the most frequent and perhaps one of the most serious of the conditions which the physician has to combat. As in other specific affections, this is in part due to the prolonged action of the fever and in part is a toxic effect. Alcohol is here our mainstay and can be given freely. Strychnine is most useful and may be given hypodermically in full doses. Whether digitalis is indicated in the failing heart of fevers is not yet settled. Personally, I am by no means convinced that it does good. Hypodermic injections of ether may be resorted to, and are sometimes helpful in tiding the patient over a critical period.

The *nervous symptoms* of typhoid fever are best treated by hydrotherapy. One special advantage of this plan is that the restlessness is allayed, the delirium quieted, and sedatives are rarely needed. In the cases which set in early with severe headache, meningeal symptoms and high fever, the cold bath, or in private practice the cold-pack, should be employed. An ice-cap may be placed on the head, and if necessary morphia administered hypodermically. The practice, in such cases, of applying blisters to the nape of the neck and to the extremities is, to paraphrase Huxham's words, an *unwholesome severity*, which should long ago have been discarded by the profession. For the nocturnal restlessness, so distressing in some cases, Dover's powder should be given. As a rule, if a hypnotic is indicated, it is best to give opium in some form. Pulmonary complications should, if severe, receive appropriate treatment.

In protracted cases very special care should be taken to guard against *bed-sores*. Absolute cleanliness and careful drying of the parts after an evacuation should be enjoined. The patient should be turned from side to side and propped with pillows, and the back can then be sponged with spirits. On the first appearance of a sore, the water or air bed should be used.

(*f*) **The Management of Convalescence.**—With the fall of the temperature to normal in the evening, and the disappearance of the other symptoms, the patient enters upon a stage which is often more difficult to manage than the attack itself. Convalescents from typhoid fever frequently cause greater anxiety than patients in the attack. The question of food has to be met at once, as the patient develops a ravenous appetite and clamors for a fuller diet. My custom has been not to allow solid food until the temperature has been normal for ten days. This is, I think, a safe rule, leaning perhaps to the side of extreme caution; but after all with eggs, milk toast, milk puddings, and jellies, the patient can take a fairly varied diet. Many leading practitioners allow solid food to a patient so soon as he desires it. Peabody gives it on the disappearance of the fever; the late Austin Flint was also in favor of giving solid food early; and Naunyn, at the Strasburg Medical Clinic, told me that this was his practice. I had an early lesson in this matter which I have never forgotten. A young lad in the Montreal General Hospital, in whose case I was much interested, passed through a tolerably sharp attack of typhoid fever. Two weeks after the evening temperature had been normal, and only a day or two before his intended discharge, he ate several mutton chops, and within twenty-four hours was in a state of collapse from perforation. A small transverse rent was found at the bottom of an ulcer which was in process of healing. It is not easy to say why solid food, particularly meats, should disagree, but in so many instances an indiscretion in diet is followed by slight fever, the so-called *febris carnis*, that it is in the best interests of the patient to restrict the diet for some time after the fever has fallen. An indiscretion in diet may indeed precipitate a relapse. The patient may be allowed to sit up for a short time about the end of the first week of convalescence, and the period may be prolonged with a gradual return of strength. He should move about slowly, and when the weather is favorable should be in the open air as much as possible. The patient should be guarded at this period against all unnecessary excitement. Emotional disturbance not infrequently is the cause of a recrudescence of the fever. Constipation is not uncommon in convalescence and is best treated by enemata. A protracted diarrhœa, which is usually due to ulceration in the colon, may retard recovery. In such cases the diet should be restricted to milk, and the patient should be confined to bed; large doses of bismuth and astringent injections will prove useful.

The recrudescence of the fever does not require special treatment. The treatment of the relapse is essentially that of the original attack.

Among the dangers of convalescence may be mentioned tuberculosis, which is said by Murchison to be more common after this than after any other fever. There are facts in the literature favoring this view, but it is a rare sequence in this country.

II. TYPHUS FEVER.

Definition.—An acute infectious disease characterised by sudden onset, a maculated rash, marked nervous symptoms, and a termination, usually by crisis, about the end of the second week.

Etiology.—The disease has long been known under the names of hospital fever, spotted fever, jail fever, camp fever, and ship fever. In Germany it is known as *exanthematic* typhus, in contradistinction to *abdominal* typhus.

Typhus is now a rare disease. Sporadic cases occur from time to time in the large centres of population, but epidemics are infrequent. In this