brought down to twelve or ten per minute, and maintained at this rate as long as the symptoms persist; should it fall below this limit, the interval between two successive doses can be lengthened. The pulse of peritonitis is hard and wiry; under the influence of these full doses of opium it becomes slow, soft, and compressible. The drowsiness of the patient is a symptom that should be watched by the physician himself, and not trusted to either nurse or attendant. It should be a drowsiness from which the patient can be readily roused, and should never be allowed to become a stupor. It is well in connection with this, to bear in mind that the maximum effect of any dose of opium or its derivatives is not obtained until three hours after administration—a safe criterion in deciding the frequency of repetition of our doses. With the patient fairly narcotized, there is slight relaxation of the abdominal muscles, the tympanites becomes less, with corresponding relief from the feeling of tension.

One effect incidental to the use of opium remains to be mentioned, and that is, its influence upon the secretions. It diminishes the saliva and the urine promptly and decidedly; it slightly increases the amount of the perspiration, and thus may aid in counteracting an excessive elevation of temperature. With regard to its use in peritonitis Brunton says that "Opium, by its action on the peripheral terminations of vasomotor nerves, will prevent or diminish the reflex dilatation of the vessels, which the local irritation would otherwise produce; congestion will thus be diminished, and inflammation will be relieved." The action of opium in peritonitis is, therefore, probably twofold: First, it lessens peristalic movements of the intestines, and thus diminishes local irritation; secondly, it lessens reflex activity of the centres through which local irritation causes dilatation of the vessels, and thus it diminishes peritoneal congestion.

The unpleasant effect of opium and its derivatives upon the secretions has led me to combine with it minute doses of a drug at one time very generally used in the management of this disease, but latterly decried on all sides: I refer to a salt of mercury, the mild chloride being the form commonly employed. The physiological effects of mercury and its salts upon the saliva and the urine are directly antagonistic to that of opium, both of these secretions being increased by its use. By combining with our opiate a small quantity of calomel we are frequently enabled to avoid the furred tongue, the dry lips, the pasty and unpleasant taste in the mouth, that so frequently attend the employment of large doses of opium. Nor need there be much fear of ptyalism when the two drugs are combined, as each in a measure counteracts the effects of the other. It is certain that mercury is tolerated better and for a longer time when combined with opium than when given alone.

Upon the urinary secretion the action of the mercurous salt is no less welcome. With the diminution of the secretion and the blunting of sensibility in the bladder, and with the impairment of muscular strength in the wall of this organ from the existing inflammation of its outer tunic, the expulsion of the urine is often effected with the greatest difficulty; at times, indeed, it becomes impossible. It is in relieving these symptoms that calomel often assists, especially when combined with digitalis in small doses.

It seems to me that calomel has yet another virtue that entitles it to particular consideration here, namely, its action upon the intestine and intestinal contents. It cannot longer be gainsaid that mercury and its salts in physiological doses act as cholagogues. As Brunton says in his admirable work upon pharmacology, "The real action of mercury as a cholagogue consists, not in its stimulating the liver to form more bile, but in removing more readily from the body the bile which is already present in excess" It appears to perform the function by stimulating the upper part of the small intestine, and thus causing the evacuation of the bile before time has been allowed for its reabsorption. The reasons for this supposition are: (1) That mercury is so beneficial in bilious disorders; (2) that it does cause the appearance of bile in the stools, for Buchheim has proved by analysis that the green stools which occur after purgation by calomel owe their color to bile; and (3) that in the stools passed after mercurial purgatives, leucin and tyrosin, the products of pancreatic digestion, have been found.

Now we know that one office of the bile is to promote peristalis. If we can assist in regularly transmitting to the lower part of the intestine some of this fluid we counteract by just so much the obstinate constipation that, if too long continued, may in itself constitute a menace to the patient suffering from acute peritonitis. Bile also has a tendency to prevent decomposition of the residual alimentary mass, and it is assisted in this by the presence of mercury, which acts as a disinfectant of the intestinal contents. In peritonitis this tendency to decomposition is greatly assisted by the sluggish movement or inaction of the bowel, by the temporarily increased local temperature, and by the presence of a large amount of inflammatory fluid, and any remedy which can counteract this tendency is useful.

It has been my practice to combine one-tenth of a grain of calomel with each half-grain of morphine, and to continue the administration of both drugs until the bowels are easily moved. This result is generally obtained on the fourth or fifth day, when several stools are apt to follow in quick succession. Should the tendency to diarrhœa become annoying, the calomel is discontinued and the patient given a little of Hope's camphor mixture.

The only contraindication for the use of opium