other purgatives are rejected by the stomach; it is free from taste, and may therefore be given easily to children. When it operates, nausea and torments may be experienced. One grain of coloem at night will act in the morning, and not unfrequently a half-grain will give satisfactory results. A full purgative dose of coloem (five grains) is an excellent vermifugo for the lumbroid worms. It may be given with santonin. At the onset of acute febrile diseases, coloem is a useful purgative; it hastens waste, and causes the elimination of the products by the intestine.

Mercurials were formerly much esteemed in the treatment of acute inflammation, especially of serous membranes. As coloem—the mercurial preparation usually employed—was combined with opium, it was not known to which remedy the good results were due, but the mercurial was considered to have the larger share of merit. It is now admitted that opium was the effective agent. An apparent exception to this statement exists in the case of inflamma, a disease in which the good effects of mercury are most conspicuous; but in this, probably, is always of syphilitic origin, and, in syphilitic inflammation of serous membranes, it is not disputed that mercurials are extremely efficacious. In those days, however, although opium is considered indispensable in peritonitis, pleuritis, pericarditis, etc., mercury is no longer combined with it. No longer is it considered necessary to "touch the gums" in order to cure a serious inflammation, and only the most prejudiced and enlightened practitioners insist in the use of mercurials in these inflammatory affections.

Large doses of coloem—five grains every four hours—are said to be very efficacious in true erysipelas or membranous erysipelas. It is claimed that it always spares and checks the formation of the false membrane. The author is skeptical in regard to the utility of coloem in this affection. There is, however, no doubt as to the value of the yellow subphosphate (mercurial arsenic) as an emetic in this disease. If given early, it is the doubtful statement of Dr. Pordyce Barker, of New York, that a fatal result will most certainly be averted. From two to four grains of the subphosphate may be given as an emetic for a child with erysipelas. Serious results might be produced by this dose if emesis did not so promptly follow. The powder comes up with the contents of the stomach, in from five to fifteen minutes after being swallowed. But little depression follows the emesis produced by turpeth mineral, in which respect it has a decided advantage over sulphate of copper, tartar-emetic, and even ipecacuana. As it is insoluble, this remedy should be rubbed up with sugar and placed on the base of the tongue.

Corrosive sublimate has lately been used with very distinct advantage in the treatment of diphtheria. Its remarkable germicidal property is the motive for its employment, and clinical experience strongly supports the results of experiment. The dose administered in the treatment of diphtheria will range, according to the age of the subject, from ⅛ grain to ¼ grain every four or six hours.

Liebermeister, following the lead of Trandae, Wunderlich, and others, has obtained surprising results from the use of coloem in typhoid fever. By our German confreres this treatment is called the specific treatment of abdominal typhus. It consists in the administration of ten grains of coloem in a single dose the first day, and eight grains a day for three or four days thereafter. It is a curious fact that these large doses of coloem have an antispasmodic effect. According to the statistics of Liebermeister, the "specific" coloem treatment shortens the duration and lessens the mortality from typhoid fever, as compared with the non-specific, expectant, or other plans of medication.

Coloem is one of the numerous remedies used in the treatment of cholera Asiatica. Two methods are pursued: large doses at considerable intervals; small doses frequently repeated. The latter method is nowadays much more usually practiced. In consists in giving every fifteen minutes, half-hour, or hour, the one sixth, one half, or one grain of coloem, combined with opium, chalk, pipe-line, etc. The author, who has had considerable experience in the treatment of cholera, cannot express any degree of confidence in the efficacy of this treatment. Large doses (a scruple to a drachm) sometimes appear to arrest vomiting when other means fail, but there is danger of excessive ptyalism when reaction sets in.

The most important application of mercury therapeutically is in the treatment of syphilis. It may be regarded as a specific in this disease. The reaction which sets in against its use a few years ago has certainly led to important modifications in the mode and quantity in which mercury should be given; but the fact has been conclusively established that mercury in a certain sense is antitodal to syphilis. As mercury arrests the proliferation of the syphilitic virus in the blood, this agent should be used with the earliest manifestations of the specific character of the infecting sore. Mercury is not indicated in chancreoid, or non-infecting chancre, and should not be used. If the chancre have the characteristic quality of the infecting sore, small doses of one of the mercurial preparations should be begun and continued steadily until all induration has disappeared. The important point is, not to induce ptyalism. It is now conceded that the danger of a relapse will be very much lessened by continuing the mercurial treatment for some time—for several months—after local manifestations have ceased. The ill effects of a mercurial course may be prevented by the use of small doses, by careful attention to hygiene, and by lessening the dose, or discontinuing the remedy entirely, whenever soreness of the jaws can be developed by smartly closing the teeth. By the adoption of these precautions, a mercurial course may be continued without im-
portant interruptions until the period of incubation has entirely passed, and through the so-called secondary or constitutional stage.

Various methods are resorted to for the introduction of mercury into the organism:

1. Inunction.—Before practicing inunction, the patient should take a warm bath, or, at least, wash the part to be operated on with soap and water. From fifteen to thirty grains of mercurial ointment is the quantity required for each inunction. The dose is prescribed certain rules, which should be followed. The ointment should be rubbed in with moderate friction by the palm of the hand: on the first day on the legs; on the second day on the thighs; on the third day on the abdomen and sides of the chest; on the fourth day on the back; on the fifth day on the arms. Mercurial inunctions are not borne equally well by all patients. Some are easily salivated, and others suffer from eczema or erythema. Moreover, the inunction treatment is filthy and troublesome, and it should, therefore, be restricted to those cases in which mercurials are badly borne by the stomach.

2. Iodination.—Various mercurial preparations may be used—the sulphuric, the iodide—but calomel is the best. The apparatus consists of a spirit-lamp, a plate to hold the calomel, surrounded by a shallow vessel containing water, a blanket large enough to cover the patient and the apparatus. The calomel is volatilized by the heat of the lamp, and is deposited, together with the vapor of water, on the skin of the patient. About fifteen minutes is the time required for the bath, and the quantity of calomel used ranges from eight to fifteen grains. The method of fumigation is especially adapted to cases of the constitutional, or secondary, and to the tertiary, with ulcerations, when the state of the patient is such as to forbid the internal administration of mercurials.

3. Hypodermatic Method.—This consists in the introduction under the skin of corrosive chloride, or albuminate of mercury. By hydrarg. chlor. cor., gr. j.; glycercin, 3 j.; aqua destil. 3 j. M. Sig.: Item minus a dose once a day. This method is cleanly, quick in results, and more successful than any other in preventing relapses.

The peptonate of mercury, as advocated by Bamberger, has been much employed lately for the treatment of syphilis by the subcutaneous method; but the albuminate alone, without pepton, is both more effective and less likely to set up local inflammation. The following formula for the preparation of albuminate of mercury, recommended by Gougerats, is probably the best now available for this purpose: Bichloride of mercury, gr. xv.; distilled water, 3 v. To this solution is added five drachms of white of egg, and, after thorough shaking, the mixture is incorporated with the following: Chloride of sodium (common salt), gr. xxx.; distilled water, f 5 iij. This mixture is then well agitated, and afterward filtered, after which sufficient distilled water is added to make the solution up to four fluid ounces. The dose of this solution for hypodermatic injection is from 6 x 5—7 e. When finished, the solution is not clear, but rather semi-transparent; but it remains longer and better in solution than most of these preparations. The peptonate of mercury is not only variable in composition, but easily undergoes change, and is liable to produce violent local irritation. The albuminate prepared as above suggested is readily administered, is not painful, and is rarely followed by unpleasant accidents at the site of the injection. As regards the results of the administration on the progress of the disease, they are remarkable (Gougerats). According to Martinan, the hypodermatic mercurial treatment exercises on syphilis in its various manifestations an action much more effective, more energetic, and more rapid, than any other method hitherto proposed. The subcutaneous areolar tissue of the back is the best place for the injections. The number of them and the quantity of fluid used will depend on the stage of the disease, the severity of the manifestations, and the condition of the patient.

Besides the preparations above mentioned, other solutions of corrosive chloride have been proposed. Mathès recommends the following: Bichloride of mercury, gr. xv.; chloride of sodium, gr. xxx.; distilled water, f 5 iij. Make a solution. Mathès had observed the action of this during two years at Auspitz's polyclinic. The usual dose was a Praz sympathetic—fifteen to twenty minutes—every two days. No irritation is produced beyond some tumefaction, and, in general, twenty to thirty injections suffice to effect a cure.

Recently, Liebreich has brought forward the formamide of mercury as the most suitable preparation for the hypodermatic method. It is neutral in reaction, readily soluble in water, and does not coagulate albumen.

4. Internal.—This method, in the nature of things, must be most frequently resorted to. Various mercurial preparations are used by different syphilographers. The Recidor school prefer the green iodide; Sigmund, mercurial-ointment inunctions; Forster, the yellow iodide; Berkeley Hill, the red iodide; Tillyiou, the cyanide; Bamberger advises mercurial pill, the green iodide, the bichloride, according to circumstances, but his preference is for the use of calomel by fumigation. That preparation of mercury is to be preferred which best agrees with the patient, is the rule.

The indications for the use of iodine preparations have already been stated, but it may be useful, now, to place in juxtaposition the comparative utility of mercury and iodine: mercury for the primary infecting sore; mercury for the afections of the skin, especially muscular.
and popular exanthemata; iodine for the tertiary symptoms; guaiacum; tabecular syphilis; serpiginous ulcers; affections of the bones and periostium, and nervous diseases.

Hydrosyphilum crena creta is usually preferred for the treatment of syphilis. Mr. Marshall recommends the twenty-per-cent.

**Local Uses of Mercury.** Recent experimental investigations on the action and comparative germicidal properties of the various anti-septics have shown the superiority of corrosive sublimate over all others; hence it has come to be largely used in the dressing of wounds, and as a local application to specific ulcerations, etc. The acid nitrate of mercury is one of the best remedies for the destruction of chancroid. It should be applied with a glass rod after the surface of the sore has been well cleansed. It is now conceded that destruction of an ulcer is caused by the application of corrosive sublimate.

**Sphyilotic Infections and Vegetations.** The genitals are amenable to the same treatment. Balsams and ulcerated ulcerations are best treated by "black wash" (calomel, eight grains—lime-water, one ounce), or "yellow-wash" (one grain of corrosive sublimate to an ounce or two of lime-water). The surface of the sore may be kept wet with these lotions.

Ricord's treatment of condylomata consists in washing them with a solution of chlorinated soda, and then dusting them with calomel.

Mercurial applications are of very great service in cutaneous affections. The following ointment is very serviceable in lice, vermin, and parasites:

- **Hydrg. iod.** 3; j.
- **Glycerin.** 5; s.
- **Vitri.** 2; j.
- **Adipis.** 3; j.
- **Vitri.** 2; j.
- **S.** 2; j.
- **Aquae.** 5; vj.
- **For pityrias.** 3; j.
- **For obesius.** 5; j.

**Lotions** of corrosive sublimate are much employed in the treatment of parasitic skin-affections. The stronger ones must be used with caution. For that parasitic affection of the skin, pityrias, there is no lotion.
so effective as a strong solution of corrosive sublimate—3 j—\(\frac{1}{2}\) of rose-water. It need hardly be observed that these solutions require very careful handling. Less than necessary will fail, and application to an abraded surface will induce toxic symptoms.

**Arnulf.—Gold.** Or. Fr.; Gold, Ger.

**Auri Chloridum.**—Chloride of gold. (Not official.) Needle-shaped prisms of a beautiful yellow color, deliquescent, freely soluble in water. Dose, gr. \(\frac{1}{2}\)—gr. \(\frac{1}{4}\).

**Auri et Solii Chloridum.**—Chloride of gold and sodium. An orange-colored salt, crystallizing in four-sided prisms, soluble in water.

Dose, gr. \(\frac{1}{4}\)—gr. \(\frac{1}{4}\).

**Antagonists and Incompatibles.**—Eggs, albumen, milk, flour, are chemical antidotes. The contents of the stomach should, of course, be evacuated. The principles of treatment are the same as for poisoning by corrosive sublimate.

**Synergists.**—The salts of mercury, especially the corrosive chloride, are very similar in action to the chlorides of gold, and are therefore synergistic.

**Physiological Action.**—The chloride of gold is a caustic in its local action. In toxic doses it excites violent gastro-enteritis, accompanied by such nervous phenomena as cramps, convulsive trembling, insomnia, pruritus, incontinence, etc. In small medicinal doses these auric preparations promote the appetite and the digestive capacity. If long continued, especially if the dose be a full medicinal one, epigastric pain and distress are excited, nausea is induced, and loss of appetite follows. Constipation is usually produced by the preparations of gold, and this, notwithstanding an increased secretion of the intestinal glandular apparatus is one of the results of their administration. These preparations do not probably entirely enter the blood from the stomach, but part passes to the intestinal canal, is there decomposed, and is absorbed as oxides in combination with albumen. This is, however, conjectural. They are readily soluble and are very diffusible substances. What particular influence they exert on the composition and function of the blood is at present quite unknown. A form of fever, known as **auric fever,** is caused by their prolonged administration. This fever is accompanied by profuse sweats, a very abundant flow of urine, and increased salivary secretion. The salivation caused by the preparations of gold differs from the mercurial in that there is no tenderness nor ulceration of the gums.

Peculiar effects on the mental state are produced by the administration of the auric preparations. The functions of the mind become more active, and even excited, and a state of cheerfulness is induced. In men, marked aphrodisiac effects are produced, and the erections are often painful; in women, increased venereal desires and augmentation of the menstrual flow are observed.

The elimination of the auric preparations takes place by the liver, the intestinal canal, but chiefly by the kidneys. The urine assumes a bright-yellow color.

Prolonged administration of medicinal doses induces epigastric heat and oppression, headache, dryness of the throat and mouth, gastro-intestinal irritation, fever.

**Therapy.**—The chloride of gold and sodium in small doses (\(\frac{1}{2}\) grain), three times a day, will relieve nervous dyspepsia. A red and glazed tongue; epigastric pains, increased by taking food, and a tendency to relaxation of the bowels after eating, are indications for the use of this salt. **Catarrh of the duodenum,** catarrh of the bile-ducts, and jaundice dependent thereon, are symptoms which may usually be removed by the salts of gold.

These preparations are employed chiefly in the treatment of **syphilis,** secondary and tertiary. They are indicated in the same cases in which corrosive sublimate is found effective. According to the author's experience, they are especially adapted to old cases in which a protracted mercurial course and the large use of the iodides of potassium have failed to remove long-standing tertiary symptoms. He has found them very serviceable in recurring syphilitic ulcerae of the throat, syphilitic axilla, syphiloma of bones, syphilitic phthisis, etc.

Amenorrhoea, dependent on torpor of the ovaries, may be removed by the persistent use of auric preparations. **Chronic metritis,** with scanty menstruation, is often remarkably benefited by them. **Sterility,** dependent on these states, or due to coldness, is more certainly cured by these agents than by any other merely medicinal means. It is said by Martini that the tendency to habitual abortion may be averted by the use of chloride of gold. This authority has also found that **drop of the ovary** may be sometimes cured by the same agent.

**Decline of the sexual power** in man may be prevented by the use of gold salts, and the following are symptoms which may be removed sometimes by them: *dulva seminalis, weak and insufficiencies, inability for the sexual congress, due to irritability of the sexual organs.* They increase the frequency of the nocturnal losses in those who are suffering from plethora of these organs. Cases that are benefited by the bromide of potassium are increased by the chloride of gold, and *vice versa.*

The author calls especial attention to the use of the salts of gold in **chronic Bright's disease,** granular and fibroid kidney, and the so-called **depressive diseases.** He has observed remarkable improvement to follow the persistent use of the chlorides of gold in these affections. They are best given in pill form, and in small doses, \(\frac{1}{2}\)—\(\frac{1}{4}\) of a grain three times a day. It need hardly be mentioned that these preparations are