

these observations are confirmed, this drug will be a formidable rival to digitalis on account of the facility of its hypodermic administration. During its employment the urine reduces Fehling's solution, but it does not respond to other tests for glucose.

#### 24. Coronilline.

The physiological effects of this alkaloid have been studied by Maranaldi (*Rif. Med.*, June 24, 1898). Although the drug in dogs diminishes the frequency of the heart-beats, with increase of their power, it does not appear to be destined to attain any clinical importance as a cardiac tonic, since when given by the mouth it is split up by the action of hydrochloric acid in the stomach, while it is extremely irritating when given hypodermically.

### VI.—RESPIRATORY SYSTEM.

#### 25. Creosotal.

After summarising actions of creosotal and of guaiacol, Edmond Schaumier (*Lancet*, Jan. 22, 1898) gives a description of creosotal, which he considers destined to supersede creosote in the treatment of tuberculosis. He finds that, like creosote, it increases the appetite, diminishes cough, facilitates the nutrition, and stimulates the increase in weight. Its advantages over creosote are that it can be used indefinitely without causing any gastro-intestinal troubles. He employs it either in the form of capsules of  $7\frac{1}{2}$  grains, or in drachm doses, which may be given with jam or in wafers. He prefers its administration in a pure state, but says that it may be also given in the form of a solution with oil, in emulsion with yolk of egg or mucilage of acacia, or mixed with a little claret or hot milk. As it is largely eliminated in the urine, he thinks that it can, with advantage, be used like salol as an antiseptic of the urinary canal. The only contra-indications which he mentions are fever and diarrhœa. In the paper referred to he also states that he has employed other derivatives of creosote, such as oleocreosote, benzoate of creosote, and phosphate of guaiacol, but he expresses a preference for creosotal.

**26. Guaiacolate of piperidine** has recently been employed by several observers (*Brit. Med. Journ.*, July 16, 1898) in the treatment of phthisis, and the general conclusions arrived at are that the drug is safe, that it is well borne by the stomach, that it causes no unpleasant after effects, and that there was some improvement in the general condition while under its influence.

#### 27. Geosote.

Geosote is the valerianate of guaiacol, and this is closely related to eosote, the valerianate of creosote. This remedy has

been employed by Rieck (*Brit. Med. Journ.*, May 7, 1898), who describes it as a yellow, oily liquid, soluble with difficulty in water, but readily soluble in alcohol, ether, chloroform, and benzol. It is said to be of particular value when subcutaneously injected; internally it can be given in capsules containing three grains. As much as fifteen of these have apparently been taken at a sitting without any ill effect. Rieck finds that it checks increased secretion from all mucous membranes, and at the same time retards its putrefaction. He also thinks that it is of considerable value in tuberculous cases, where he says it causes diminution of the tuberculous process and encapsulation of its products without producing a general reaction. Similar benefits are said to have attended its use for tuberculous glands in the neck.

#### 28. Cinnamic acid in the treatment of tuberculosis.

This drug has been given hypodermically, commencing with doses of two minims, and the dose has been increased until one gramme has been given. The immediate result of the injection is severe burning pain, which speedily passes away. It is stated that after this treatment has been continued for two to four weeks there is increase in weight and a diminution of cough and of expectoration (*Journ. de Méd. de Paris*, Dec. 5, 1897). The unpleasantness of this treatment may be gathered from the statement that great constancy and patience are required on the part of the doctor and the patient.

#### 29. Sterilised olive oil with guaiacol and iodoform in tuberculosis.

Breton, of Dijon (*Journ. des Praticiens*, Dec. 19, 1897) speaks favourably of the results of treating pulmonary tuberculosis with injections consisting of sterilised olive oil with guaiacol and iodoform in the following proportions:—

Iodoform	...	...	...	...	...	...	15 gr.
Guaiacol	...	...	...	...	...	...	75 gr.
Sterilised Olive Oil	...	...	...	...	...	...	3 oz.

He employs from one to one drachm and a half of this, and the injections are made into the loose connective tissues of the back, shoulder, or thigh. In rare instances some diarrhœa followed, together with a scarlatiniform eruption of an irritating character, which lasted some eight or nine days. Under this treatment Breton found that there was amelioration of all pulmonary symptoms and a general increase in weight.

**30. Peronine**, the hydrochlorate of benzylic ether of morphine has been employed as a substitute for codeine, and is credited with especial power in allaying the cough of phthisis, chronic bronchitis,



and whooping-cough (*Revue de la Suisse Rom.*, June 20, 1898). From the experimental side, Mayor concludes that the drug is a cardiac poison, and that it possesses very feeble narcotic properties.

In Merck's Annual Report for 1897, published in March, 1898, the following contra-indications to the use of peronine are enumerated: profuse sweats, severe headache, nausea, itching of the skin, roughness in the larynx, catarrhal and tuberculous affections of this organ, and bronchitis and other diseases of the lungs in cachectic patients.

**31. The saccharated extract of thymol** has been recommended by Fischer (*Deut. med. Woch.*, July 7, 1898) in the treatment of whooping-cough. A proprietary preparation under the name of "pertussin," is said to consist of one part of thymol and seven of syrup. This substance relieves the tendency to spasmodic cough in several other conditions, such as chronic catarrh of the larynx and bronchi. In some cases in which I have employed it in the treatment of whooping-cough at the Evelina Hospital, the frequency of cough appeared to be diminished during the administration of pertussin, and the number of whoops in the twenty-four hours increased when the administration was discontinued. So many drugs, however, appear to relieve whooping-cough, that without further experience I hesitate to speak more strongly of this remedy.

#### VII.—DIGESTIVE SYSTEM.

##### **32. Amylolytic ferments.**

From a series of chemical and clinical tests of the value of various starch ferments, Wingrave (*Lancet*, May 7, 1898) concludes that taka-diastase is apparently the most powerful and the most reliable, since it is more rapid in its action. He finds that organic acids, such as acetic, butyric, and lactic, retard but do not permanently kill the ferments; that taka-diastase seems to be less influenced by them, and also by tea, coffee and alcohol, than are saliva and malt extracts. And finally, that taka-diastase and malt diastase have, like ptyalin, no action upon cellulose (uncooked starch).

**33. Tannate of orexin** has been employed by Bodenstein (*Wien. med. Presse*, 1898, No. 26), who finds that it is more valuable in functional than in organic diseases of the stomach. He has found it of particular service in the loss of appetite of children, as during convalescence from diphtheria. In adults the best results are obtained in the anorexia of phthisis, and in one case of uræmic vomiting it alleviated this distressing symptom. No untoward complications are mentioned in connection with this drug, which

was administered in doses of  $7\frac{1}{2}$  gr. twice a day two hours before meals.

##### **34. Ox bile in biliary lithiasis.**

Gautier (*Revue Méd. de la Suisse Rom.*, June 20, 1898) claims to have obtained brilliant results from the administration of an extract of bile of which  $1\frac{1}{2}$  to 3 gr. are given in pill or capsules three times a day after meals. It is not, however, a preventive of colic, since although it is claimed that this treatment will prevent the formation of fresh calculi, the patient is subject to colic until the calculi already in the gall-bladder have been passed.

**35. Tenaline**, a preparation from the areca nut, devoid of the toxic principle known as arecoline, has been employed as a vermifuge by Hobday (*Journ. of Comp. Pathol. and Therap.*, Dec., 1897). As it stimulates peristalsis, no purgative is required. Hobday, administering it to animals, employs 1 minim for each pound of body-weight. Usually the only ill effect consisted in vomiting, but on one occasion when it was employed subcutaneously, it appears to have caused the death of the animal within a quarter of an hour.

#### VIII.—GENITO-URINARY SYSTEM.

##### **36. Diuretin.**

Dreschfeld, at the Manchester Therapeutic Society, spoke favourably of the value of diuretin which he had employed in acute Bright's disease, and he had found that it increased the excretion of urine in this condition from 15 to as much as 100 oz. in the twenty-four hours. These benefits were not so readily obtained in post-scarlatinal nephritis. In chronic tubal nephritis he had found that it sometimes succeeded when digitalis failed, while in interstitial nephritis he had found that it might produce toxic symptoms without any compensating beneficial symptoms. He thought that its action depended upon stimulation of the epithelium of the convoluted tubules, and he thought that so far from possessing any direct action upon the heart, the relief to the circulation was secondary to the diuresis. With cirrhosis of the liver, when the symptoms have come on suddenly he found marked benefit from the use of diuretin, while, when the onset was more gradual, very little relief was obtained. Dixon Mann suggested that the depressing effects of diuretin might be due to the presence of salicylate of sodium, and he thought that some soluble form of theobromine might be found of greater value than diuretin.

##### **37. Sparteine sulphate.**

In considering the treatment of obstinate dropsy, James Tyson (*Therap. Gaz.*, Jan., 1898) alludes to the value of sparteine



sulphate, the active principle of broom. The common broom tea, often employed as an efficient diuretic, is extremely nauseous and the dose is large, but sparteine, its active principle, is a good diuretic. Tyson considers that it has hitherto been given in too small doses, and he recommends that the dose should never be less than a  $\frac{1}{4}$  of a gr. to adults, to the amount of 2 gr. in the twenty-four hours. He has occasionally increased it to 3 or 4 gr. in this period, but he does not push the use of this remedy when no diuresis follows such doses. He has not seen any ill effects from its employment.

### 38. *Apocynum cannabinum*.

The diuretic action of Canadian hemp was referred to at the Montreal meeting of the British Medical Association, and it was then admitted that it might produce severe vomiting and purging. Several writers in the *Therapeutic Gazette* of Oct., 1898, have indicated that this is not a new remedy, and have collected references to it in literature thirty and forty years ago. It is urged, however, that the drug undoubtedly possesses powerful properties, and that it acts as a tonic upon the absorbent system as well as a stimulant to the heart's action. Many of the preparations formerly in use are said to have been extremely nauseous, and this quality is not present in the saturated tincture of the recent root. The benefits resulting from its employment in cases of dropsy do not appear to be dependent upon its cathartic action.

**39. Methylene blue.** The *Therapeutic Gazette* for July, 1898, contains a valuable summary of the range of application of methylene blue, which was formerly known as pyoktanin. It has been employed in a large number of cases of acute gonorrhoeal urethritis by Horwitz, of Philadelphia, who employed two grains two or three times a day, a dose which, however, appeared to cause, in some instances, slight diarrhoea and strangury. There was marked improvement in the course of four or five days. Horwitz believes methylene blue to be a germicide of great value when acute urethritis is due to the presence of gonococci. He thinks it materially shortens the duration and diminishes the tendency to complications. He recommends that a dose of one grain should be given three times a day, and that this should be increased to two grains if the remedy is well borne.

Methylene blue has also been employed in the treatment of diabetes mellitus (*La Méd. Mod.*, Jan. 22, 1898). Two cases of treatment with this remedy have been reported, and in both there was diminution in the daily excretion of urine, while the amount of albumin and of sugar markedly decreased. The methylene blue was given in the form of pills containing two

grains in each. It is mentioned incidentally that this treatment tends to relieve any neuralgic pains.

### 40. *Amyl hydrate and paraldehyde in the treatment of diabetes insipidus.*

Many other drugs having been employed in succession in a case of diabetes insipidus with no particular result, amyl hydrate was employed (*Brit. Med. Journ.*, Sept. 3, 1898) in half-drachm doses at night-time, and the amount given was gradually increased. Under its influence the thirst very greatly diminished, and the specific gravity rose until, when the patient was taking three drachms nightly, the specific gravity was 1010. After using amyl hydrate for a fortnight the patient developed a great craving for it, and accordingly paraldehyde was substituted. During the treatment the patient gained in weight.

### 41. *Piperazine and lysidine.*

The claims of these unofficial remedies for the treatment of gout have been investigated by Luff (*Lancet*, June 11, 1898) from the chemical side, rather than the clinical, and his results are not favourable; and, as his experiments extended to the ordinary alkalies, lithium salts, and sodium salicylates, and his conclusions applied equally to all, they suggest further extended observations. He states that the ordinary alkalies, the lithium salts, piperazine and lysidine, do not exercise any special solvent effect on sodium biurate, and their administration to gouty subjects with the object of removing uratic deposits in the joints and tissues appears to be useless. He further states that sodium salicylate does not exercise any special solvent effect on sodium biurate. Its administration with the object of removing uratic deposits in the joints and tissues appears to be useless, and, moreover, it is apparently contra-indicated in gout on account of its leading to an increased formation of uric acid in the kidneys. This is not the first time that laboratory work has been found in direct conflict with clinical observation. Clearly, there must be an error somewhere—but where?

**42. Stypticin** is said to be a hydrochlorate of cotarnine, an oxidation product of narcotine, and its action has been tried by Ronosse and Walton (*Belge Méd.*, May 19, 1898). They find that it increases peristalsis, and that it increases the force and quickness of the rate of contractions of the gravid uterus independently of any effect upon the blood supply. In arresting hæmorrhage it is, however, less useful than hydrastis, since it is less rapid in its action. On the other hand, it has the advantage of causing more protracted contraction, and can, therefore, be used where more lasting action is desired, as in prolonged hæmorrhage.



This remedy has also been employed by **Bakofen** (*Münch. med. Woch.*, April 5, 1898), who speaks, however, in terms of only moderate praise, though he considers that it constitutes an addition to our resources.

**43. Manganese binoxide.** The administration of manganese binoxide for functional ailments of the uterus has been highly recommended by **A. H. Smith** (*Georgia Journ. of Med. and Surg.*, Jan., 1898), who describes its value as a corrective. He says that he has found great benefit from its employment in cases associated with much pain, and he commences its administration about four days before the expected period. He also thinks that it relieves the headaches of a burning character, and also the hot flushes attending the menopause. For this last he administers a pill of two grains at bed-time. Ordinarily, however, he administers two grains three times a day, and as it produces no unpleasant symptoms it may be given in larger quantities and at shorter intervals.

**44. Veratrum viride** having passed out of the Pharmacopœia, it is somewhat interesting to find that its employment in a new direction is already attracting attention. **John Gordon** (*Lancet*, Jan. 15, 1898) gives an account of its employment in a case of puerperal eclampsia, and he describes the drug in some detail, although at the time of publication it was still official. He appears to have used the preparations of the United States Pharmacopœia, and he noted shortly after its administration, lowering of arterial tension, slowing of the pulse rate, and absence of convulsive seizures. The drug was followed, however, by retching and vomiting, and there was much salivation which gave trouble by producing cough. Dr. Gordon summarises the physiological actions of the alkaloids of *Veratrum viride*, and he considers that these actions meet the supposed pathological conditions in puerperal eclampsia, namely, increased arterial tension and cerebro-spinal excitement. Although the patient recovered from puerperal eclampsia, it is noteworthy that the convulsions occurred before delivery, and that they were not repeated after delivery. It is possible, as Dr. Gordon suggests, that the influence of the drug in relaxing muscular tissue was shown by the dilatation of the rigid external os, and that, therefore, it rendered delivery more rapid, but it must be remembered that in the treatment of puerperal eclampsia the rapid emptying of the uterus is usually considered to reduce danger from further convulsions.

#### IX.—CONSTITUTIONAL AND GENERAL.

**45. Therapeutic action of the X rays on tuberculosis.** It may be questioned whether the X rays are, strictly speak-

ing, to be regarded as new remedies, but since therapeutic results have been claimed, and since, undoubtedly, they influence the nutrition, and have formed the subject of several communications at the Congress on Tuberculosis, it may not be out of place to mention here the report at this Congress by **Bergonié** and **Teissier** (*Brit. Med. Journ.*, Aug. 20, 1898). They found that in cutaneous tuberculosis they produced dermatitis of greater or less intensity. When this dermatitis can be limited in intensity and duration the effect in cutaneous tuberculosis is favourable, but this limitation presents considerable difficulties. For tuberculosis of the joints the Report, while admitting the possibility of inducing local inflammation, says that this is of doubtful therapeutic value, and could be obtained by more manageable methods, while for pulmonary tuberculosis, although sometimes abatement of fever and improvement of the general state may follow the use of the X rays, these good effects have not been lasting. On the whole they maintain not only that the disease has not been cured, but that its evolution has not been stopped or even checked; in short, they hold that, up to the present time, the action of the X rays is, if not dangerous, of no therapeutic efficacy whatever.

**46. Chinisol for the antiseptic treatment of tuberculosis.**

Chinisol, which has long been known as a non-irritating antiseptic, was used for tuberculosis by **Cipriani**. He published notes of eight cases (*Allgemeine medicin. Central-Zeitung*, No. 75, 1897). Chinisol was given by the mouth in three cases of tuberculous glands and two of tuberculous caries. When given internally he employed doses of one gramme during the day. Rapid improvement is described as having followed the treatment in all the cases, and the use of this drug does not appear to have been followed by any ill results.

**47. Chelidonium in cancer.**

Numerous recent observers have called attention to the alleged value of the internal administration and subcutaneous injection of extract of chelidonium in cases of cancer, and it is asserted that during this treatment the growths become softer, and that grey fluid and detritus are discharged from the interior (*Vratch*, No. 32, 1897). It must be admitted, however, that some of those who took part in the discussion asserted that the chelidonium acted merely as a caustic, and that the alteration in size was somewhat deceptive since, even when injected in a healthy man, it was found to produce a powerful local reaction, causing inflammatory œdema, which slowly disappeared.

**Krainski** records four cases of malignant disease of the eyelids



and face in which injections were made in the sound tissue bordering upon the new growths. He injected four to eight minims of a mixture of equal parts of extract of chelidonium, sterilised water, and glycerine. Some pain and pyrexia resulted, together with a good deal of swelling around the tumour, and in one case supuration at the seat of puncture. In two of the cases the neoplasms disappeared, but in the other two, although there was distinct improvement, the cases could not be followed up (*Lancet*, Sept. 18, 1898).

**48. Tincture of myrrh** in diphtheria has been recommended, given internally every half-hour or every hour during the day, and every two hours at night (*Allgemeine medicin. Central-Zeitung: Lancet*, Jan. 1, 1898). The solution employed consisted of 4 parts of tincture of myrrh, 8 parts of glycerine, and distilled water up to 200 parts. This solution has also been used in an inhaler or spray when the larynx is affected. In the account, however, no mention is made of bacteriological verification of the diagnosis.

**49. Bromide and iodide of strontium** have been employed for exophthalmic goitre in children by Gillespie (*Brit. Med. Journ.*, Oct. 8, 1898) with exceedingly favourable results. He recommends that the bromide, on account of its deliquescence, should be given in solution rather than in powder. For adults he employs 10 to 30 gr. of the bromide, or 3 to 5 gr. and upwards of the iodide.

**50. Salicylate of methyl applied locally.**

Linossier and Lannois (*Bull. de l'Acad. de Méd.*, March 22, 1898) maintain that the therapeutic action of methyl salicylate, when applied locally, is due to actual cutaneous absorption, and not to the inhalation of the drug through the lungs. They assert that it is saponified in the blood and converted into sodium salicylate, and as an argument in favour of this method of employment they point to the rarity and slightness of toxic effects, vertigo and tinnitus being quite exceptional even after large doses. They recommend that it should be painted on the unbroken skin and covered with several layers of indiarubber. Ordinarily they employ 60 gr. as a dose, but in acute cases two or three times this amount may be given. They think it is of the greatest use in chronic rheumatic affections, but some benefit is claimed also for it in infectious and gouty arthritis, in neuralgia, and even in acute rheumatism.

**51. Carbolic acid in the treatment of anthrax.**

Scott Jackson (*Lancet*, March 5, 1898) describes a case of anthrax treated with carbolic acid, the patient being anaesthetised. Crucial incisions were made through the enlarged glands, and the wounds were swabbed out very freely with pure carbolic acid.

This drug was also given internally. The general condition improved rapidly, and the patient ultimately recovered. In this case no bacteriological examination was used, the diagnosis resting upon the history of the symptoms.

**52. Iodol.**

The employment of a 10 per cent. solution of iodol in collodion has been recommended for erysipelas. This is painted over the affected part, which, if necessary, has been previously shaved, and the application is extended for about an inch beyond the area involved. Some of the iodine is undoubtedly absorbed, since it can be detected in the urine. The beneficial effects of pressure exerted by collodion must not, however, be overlooked.

**53. Artificial immunity by alkaloids.**

Some interesting experiments have been made by Giofreddi (*Archiv. Ital. de Biol.*, t. 28, fasc. 3) in attempting to render dogs immune against vegetable alkaloids, using the same methods as are employed for immunising animals against bacterial toxins. It is, perhaps, rather difficult to understand the practical bearing of these experiments, but none the less the results are suggestive. Thus, with morphine, as might have been expected, the quantity injected was gradually raised until twice the minimum of a fatal dose could be borne without producing more than slight narcosis. The serum obtained from the animal thus immunised appeared to possess antitoxic properties: 10 c.cm. to 20 c.cm. sufficed to neutralise the effect of double the minimum fatal dose of morphine, if injected into a non-immune animal, before or at the same time as the latter. The results are, however, comparable to those obtained by the man who tried to induce his horse to live without food, since after six months, when the dog could bear very large doses of morphine, it died suddenly with fatty degeneration of the left ventricle, analogous to that sometimes met with in morphinomanics. Similar experiments with cocaine and atropine failed entirely.

C.—SERUM THERAPEUTICS.

**54. The oxytuberculin treatment of tuberculosis** has been reported upon by a committee of the faculty of the Cooper Medical College (*Lancet*, Jan. 15, 1898), and the conclusions reached are: (1) Oxytuberculin prevents the growth of tubercle bacilli in veal *bouillon*; (2) a positive therapeutic value has been demonstrated for it in the fifteen cases examined, the more clearly as no other treatment was used; (3) no dangerous or untoward effects have resulted from its use. Although the committee feels justified in certifying these facts to the profession, to the end that oxytuberculin may be thoroughly tested, the limits of its