Nocturnal seminal losses may be reduced in frequency by the use of lupuline, of which the best preparation for this purpose is the oleo-resin. *Chordee* is said to be prevented by the use of lupuline, but the author has been quite disappointed in his attempts to relieve this state by this remedy.

A hop poultice or bag is a domestic remedy for *internal pains* and *inflammation*, especially of the abdominal organs. A quantity of hops is sewed into a muslin bag, dipped in hot water, and then laid over the affected region. It forms a light fomentation, which owes its virtues rather to the heat and moisture than to the anodyne qualities of the hops.

Lactucarium.—Lactucarium. The concrete milk-juice of *Lactuca virosa* Linné (Nat. Ord. *Compositæ*). (U. S. P.) Dose, gr. v—℥ j.

Extractum Lactucarii Fluidum.—Fluid extract of lactucarium. Dose, ℥ ss—℈ ss, or more.

Composition.—Lactucarium contains several organic substances and eight to ten per cent of inorganic matter. It yields about fifty-eight per cent of *lactucerine* or *lactucone*, an inodorous, tasteless neutral substance, a crystallizable bitter principle, *lactucine*, and *lactucic acid*.

Physiological Action, and Therapy.—The soporific quality of lettuce is known to all who eat this vegetable. Notwithstanding this universal experience, careful experiments have shown that lactucarium possesses a very feeble hypnotic quality, if it be not entirely inert. It is only used as a substitute for opium and its alkaloids when these disagree. The sirup of lactucarium is prescribed to relieve cough, but it is better employed as a vehicle for more powerful agents of the class of expectorants.

Bromides.—*Ammonii Bromidum.* Bromide of ammonium. *Bromure d'ammonium*, Fr.; *Bromammonium*, Ger. Colorless, transparent, prismatic crystals, or a white, granular salt, becoming yellow on long exposure to air, odorless, having a pungent, saline taste, and a neutral reaction. Soluble in 1·5 part of water and in 150 parts of alcohol at 60° Fahr.; in 0·7 part of boiling water. Dose, gr. x—℥ ss, or more, well diluted.

Calcii Bromidum.—Bromide of calcium. A white, granular salt, very deliquescent, odorless, having a pungent, saline, and bitter taste, and a neutral reaction. Soluble in 0·7 part of water and in 1 part of alcohol. Dose, ʒ j—℥ ij.

Camphora Monobromata.—(For description, see article Camphora.)

Ethyl Bromide.—(For description, see article Æther.)

Lithii Bromidum.—Bromide of lithium. A white, granular salt, very deliquescent, odorless, having a very sharp, somewhat bitter taste, and a neutral reaction. Very soluble in water and in alcohol. Dose, gr. v—ʒ ij.

Potassii Bromidum.—Bromide of potassium. *Bromure de potassium*, Fr.; *Bromkalium*, Ger. Colorless, translucent, cubical crystals, permanent in dry air, odorless, having a pungent, saline taste, and a neutral reaction. Soluble in 1·6 part of water and in 200 parts of alcohol at 60° Fahr. Dose, ʒ j—℥ ij.

Sodii Bromidum.—Bromide of sodium. Small, colorless, or white monoclinic crystals, or a crystalline powder, permanent in dry air, odorless, saline taste and neutral reaction. Soluble in 12 parts of water and 13 parts of alcohol. Dose, ʒ j—℥ ij. (U. S. P.)

Antagonists and Incompatibles.—Acids, acidulous and metallic salts are incompatible with bromides of ammonium and potassium, and nitrous ether with the former. The physiological actions of the bromides are antagonized by cold, digitalis, belladonna, ergot, and other agents which energize the vaso-motor nervous system.

Synergists.—Opium, chloral, and remedies belonging to the same group, promote the action of the bromides on the brain; and aconite, veratrum viride, gelsemium, etc., increase the depressing effect of the bromides on the circulatory system.

Physiological Actions.—The taste of a bromide is bitter and saline. In a short time after it is swallowed, the characteristic taste returns to the mouth, owing to the outward diffusion of a portion of that administered. The tactile sense of the fauces, as also the muscular movements in the act of swallowing, are diminished by long-continued use of the bromides.

Sixty grains of the bromide of potassium or sodium, and a less quantity of the ammonium salt, will in some persons produce slight nausea and diarrhœa; in others, a sense of coolness in the epigastric region; but in many, provided the salt is properly diluted, no effect on the stomach. Gastric catarrh is undoubtedly one of the evil results which may follow the protracted administration of the bromides in considerable doses.

These are diffusible substances, and hence pass quickly into the blood. When large doses are administered, it is probable that no inconsiderable portion escapes absorption, for they can be detected in the intestinal mucus and in the fæces.

Very obvious effects on the action of the heart, on the respiration, and on the animal temperature, are produced by the bromides if administered in considerable quantity. These functions are depressed, but the depression is much less evident as to temperature; hence, in order to determine this result, most careful observations are necessary. The author has ascertained that two drachms of bromide of potassium will lower the temperature in a healthy adult from one fifth to one half a degree; the respirations from two to five, and the pulse from ten to

twenty beats per minute. These effects are more pronounced in animals, as ascertained by the administration of lethal doses. In man the number of the cardiac pulsations is not only reduced, but their force is diminished, and the tension of the arterial system is lowered.

A transient excitement, intoxication, giddiness, in some persons an anxious mental state, are produced by one or several large doses. As a rule, slight somnolence, and sounder and more refreshing sleep result, provided no disturbing element intervenes. The pupil is not affected in its size and sensibility to luminous impressions in an adult man by a dose of one hundred and twenty grains. When long continued, the hypnotic effect is much more pronounced, and a constant drowsiness is experienced. The sensibility to pain, but especially the sensibility to tactile impressions, is lowered by the bromides at all accessible points of the mucous membrane, and of the skin—notably of the plantar surfaces of the hand and foot. The diminution of the sensibility of the mucous membranes is in part due to a local action of the salt as it is being eliminated.

Motility is impaired by the long-continued use of the bromides in man, and in animals paralysis of the muscles ensues. If injected into the tissues of a limb, paralysis of motion and sensibility begins in that member. In man the impaired motility is probably due to other factors as well as to the action of the bromides on the muscular tissue, viz., to the cutaneous anæsthesia, and to an anæmia of the co-ordinating centers, in consequence of which their functional power is lowered.

A very notable effect of the bromides—chiefly bromide of potassium—is the diminution of the sexual feeling and of the power of erections produced by it. This fact has been established by abundant clinical evidence. The result is not, however, produced with equal facility in all cases, and considerable doses are necessary in any case.

Prolonged administration of the bromides develops a peculiar state, to which the term *bromism* is applied. This condition of chronic poisoning differs from the effects of a few medicinal doses in the extent and intensity, but not in the character, of the symptoms. The following were the symptoms of bromism, as observed in an epileptic boy, to whom two drachms of the bromide of potassium had been administered daily for a month: extreme pallor and anæmia, dilated pupils, acne on face, forehead, and shoulders; a fetid, bromine breath; slow and feeble action of the heart; breathlessness, and quickened pulse on slight exertion; cool hands and feet; a general subjective sense of coldness; movements in walking tremulous and uncertain; diminution of the tactile sensibility of both cutaneous and mucous surfaces; fauces dry, and the reflex movements sluggish; swallowing somewhat difficult; antaphrodisia and complete relaxation of the genitals; mind weak, manifested in silly conduct and unmeaning laughter.

Various mental symptoms are in some subjects produced by the long-continued use of the bromides. Weakness of mind, without perversion of intellection, is a very constant result of the continued use of large doses. Headache, confusion of mind, and a sort of intoxication, had long ago been observed to follow the use of the bromide of potassium in even moderate doses (Puche). A form of mental derangement, with hallucinations of a melancholic character, has been observed by Hammond and others, and in a few instances a pleasurable intoxication, with exalted ideas, has been produced.

The pallor and anæmia of bromism are due to several causes: to the diminished action of the heart; slowness of the capillary circulation, and consequent interference in the metamorphosis of tissue; derangement of digestion and assimilation in consequence of gastric catarrh; and diminished blood-supply to the cerebro-spinal axis. The disorders of voluntary movement, the uncertain gait, the apparent defects of co-ordination, are variously explained; but, they are doubtless made up of several factors, of which the cutaneous anæsthesia is the most influential. The bromides possess the power to destroy or impair the irritability of the motor and sensory nerves, and the contractility of muscle, and to these effects must be attributed in part the disorders of voluntary movement noted above.

It is very obvious that the bromides depress certain organic functions: they diminish the action of the heart, lower the animal temperature, and lessen the blood-supply to various organs. These results can only be accomplished by a sedative influence on the sympathetic system. Some very accurate observers have maintained that in this action lies all of the physiological power of the bromides (Reynolds, Amory).

Effects of the Bromides compared.—There is a general correspondence in the actions of the different bromides. As respects their influence on the pulse, body-heat, and respiration, the author's comparative experiments have demonstrated that these agents stand to each other in the following order: bromide of sodium, bromide of lithium, bromide of potassium, bromide of ammonium. Very notable differences exist between the bromide of ammonium and the others, due, undoubtedly, to the character of the base.

The author's experiments on animals further demonstrated the following: bromide of potassium possesses the most toxic power, and bromide of sodium the least. The bromide of lithium is first, the bromide of sodium second, and the bromide of potassium third, in hypnotic power. As respects the influence of these agents severally on the reflex faculty of the spinal cord, it may be stated that none of them possess the power to abolish the reflex faculty except when administered in sufficient quantity to produce lethal effects. Considered from this point of view, the bromides may be grouped as fol-

lows : bromide of ammonium, bromide of potassium, bromide of lithium, bromide of sodium.

The elimination of the bromides takes place through the mucous membrane of fauces, intestinal canal, and bronchi, through the skin, but chiefly by the kidneys. The rate of elimination varies, but is usually slow, several days being occupied in its diffusion outwardly from the blood.

THERAPY.—In some kinds of *vomiting* the bromides are most serviceable. The form of vomiting, to the treatment of which they are adapted, is that of cerebral origin ; e. g., *the vomiting of cerebral congestion, sea-sickness, the vomiting of pregnancy*, etc. They are contraindicated in all cases of vomiting due to primary gastric disturbance.

Remarkable improvement not unfrequently results from the use of bromide of potassium in *cholera infantum*. It is difficult to define the precise conditions under which this agent is successful ; but, according to the author's observation, it is useless, if not injurious, when defective alimentation is the cause of the attacks, and is serviceable just in proportion to the degree in which an irritable state of the nervous system dominates the gastro-enteric disturbance. When the cause of the attacks is heat, or reflex irritation of the fifth pair, as in teething, or cerebral congestion, very excellent results are obtained from the use of the bromide of potassium. ℞ Potassii bromidi, ʒ ij ; syrup. simplicis, ℥ ss ; aquæ menthæ pip., ℥ jss. M. Sig.: *A teaspoonful every hour or two.* The author has had excellent results from the use of the bromides in the *flatulent colic*, the *restlessness*, and *crying fits*, of infants. ℞ Potassii bromidi, ʒ j ; ol. anisi, ♏ ij ; mucil. acaciæ, aquæ menthæ pip., āā ℥ j. M. Sig. : *A teaspoonful every half-hour until relief is experienced.*

Increased action of the heart (hyperkinesis) due to irritation of the sympathetic, as, for example, such as occurs in exophthalmic goitre, is calmed by the bromides. The irregular and too frequent action of the heart, occurring in hysterical subjects of plethoric constitution, is generally relieved in the same way ; but the bromides are contraindicated in all cases dependent on anæmia. Disturbed action (overaction) of the heart, with cerebral hyperæmia, is frequently most advantageously treated by a combination of digitalis and a bromide : ℞ Inf. digitalis, ℥ iv ; potassii bromidi, ℥ ss—℥ j. M. Sig. : *A tablespoonful morning and evening.*

Da Costa has, in several publications, strongly urged the use of the bromide of ammonium in *acute rheumatism*. Doubtless, other bromides (potassium, sodium, lithium) would be as effective, and are certainly much less disagreeable. The author has used the bromide of lithium with considerable apparent success, in *subacute rheumatism*, in *rheumatic gout*, and to remove the *stiffness* and *nodosities of joints* remaining after attacks of the above-named rheumatic affections. The

wakefulness, delirium, and hyperpyrexia, which sometimes complicate rheumatism and gout, are best treated by bromide of lithium, pain being relieved by morphine if necessary.

It has been stated that the bromides, especially bromide of ammonium, diminish the deposition and hasten the retrograde metamorphosis of the fat in *obesity*. Undoubtedly these agents increase waste, but they do so, chiefly, in consequence of a severe gastric catarrh which they set up.

Rabuteau has proposed the use of the bromides as eliminating agents in cases of *mercurial, cupric*, or *saturnine poisoning*. These agents, more efficiently than the iodides, combine with the deposited minerals, convert them into soluble combinations, and thus cause their elimination. The best results are probably obtained by a combination of the bromide and iodide of potassium.

The most important therapeutical applications of the bromides of potassium, sodium, lithium, etc., are in the treatment of *cerebral disorders from overaction*. The bromides acting on the heart slow its movements, and, on the vaso-motor nerves, diminish the intra-cranial blood-supply. The best results are obtained in the treatment of cases in which there is no anæmia on the one hand, or inflammatory reaction on the other ; cases in which the intra-cranial blood-supply is in excess, because the vaso-motor regulating centers are wanting in activity. The most typical representation of this condition is seen in *wakefulness* from cerebral overwork. No clinical fact is more conspicuous than that the bromide of potassium will relieve wakefulness of this kind. The hypnotic action of the bromides is not a certain action like that of chloral, nor like that of morphine under appropriate conditions ; considerable mental excitement and an active cerebral congestion may entirely prevent the hypnotic effect. Wakefulness from mental worry, fatigue, unrest of the peripheral nerves (fidgets), and similar causes, will generally be relieved by the bromides. For this purpose a cumulative action is generally desirable, effected by giving a dose of fifteen grains before each meal, and one of thirty grains on retiring. The manner in which the hypnotic action of the bromides is limited by certain states of the intra-cranial circulation is well exhibited in *delirium tremens*. In the condition of nervous excitement and wakefulness which precedes the delirium, and which is known as "horrors," the action of the bromide is most satisfactory ; it quiets the restlessness and induces sleep. For this purpose considerable doses are necessary—a drachm every four to six hours. When, however, delirium tremens is fully developed, this remedy is much less efficient, and frequently fails altogether to produce sleep. It is more serviceable in the first than in subsequent attacks of horrors, and its utility diminishes as the structural alterations of chronic alcoholismus increase.

In some cases of *maniacal excitement* the bromides produce excellent effects, but they very frequently fail without apparent reason. In *acute mania* accompanied by heat of head, injected conjunctivæ, and restlessness, refreshing sleep may follow the administration of one full dose ; but the remedy fails more frequently than it succeeds. In *puerperal mania* of the sthenic form, with rather quick and full pulse, hot head, and injected conjunctivæ, the author has witnessed excellent results from the use of the bromide of potassium ; but it has rather increased the delusions and the depression when the type of the case was melancholic, with systemic weakness and anæmia. A similar experience has been had in the use of the bromides in *hypochondriasis* and *melancholia*. These forms of mental trouble are most usually accompanied by bodily weakness, and are rather increased by the use of the bromides ; but it occasionally happens that these agents give an amount of relief afforded by no other drug or combination of drugs. It is impossible to indicate, in the present state of our knowledge, the particular cases in which the bromides may be serviceable, but the author ventures to express the opinion that the state of the intra-cranial circulation, which may be ascertained on ophthalmoscopic examination, will furnish the true guide. It need hardly be observed that the bromides are useless when wakefulness is dependent on pain.

Some kinds of *neuralgia* are much benefited by the bromides. The congestive form of *migraine*, or sick-headache, is generally quickly dispelled by one or more full doses. The form of *migraine* in which it acts almost as a specific is that characterized by a flushed face, throbbing temples, injected conjunctivæ, eyes intolerant of light. The bromides often give great relief in the fugitive nerve-pain of hysterical women ; but they are quite ineffectual in neuralgia fixed in a nerve, as, for example, in trigeminal neuralgia, sciatica, etc. The bromide of potassium is often quite successful in *ovarian neuralgia*, and in the nervous unrest which grows out of ungratified sexual instinct in men and women.

Very remarkable results have been obtained by the use of large doses of bromide of potassium in *tetanus*. H. C. Wood gives a tabular statement of fifteen cases which he has collected, in which the bromide of potassium was the chief or the only agent used, and of these but two died. No results equal to this have been achieved by any other agent, not even by Calabar bean. In order to succeed with this remedy it must be given in large doses (℥ j every three or four hours). A combination with chloral is also highly effective, but these agents exert a powerfully depressing action on the heart.

Cases of *strychnine-poisoning* have been reported cured by full doses of the bromide of potassium. One case is narrated by Dr. Gillespie in which three grains of strychnine were taken, and the lethal

effects were obviated by one ounce of bromide of potassium in divided doses.

No therapeutical fact is better established than the influence of bromide of potassium over *epilepsy* and *epileptiform seizures*. But the curative power of this agent in epilepsy has numerous limitations. It has been well ascertained that bromide of potassium is most valuable in those cases of epilepsy characterized by frequent and violent convulsive seizures. Epileptiform attacks, dependent on the presence of a tumor or other coarse organic lesion of the brain, are usually suspended by the use of this agent, although the neoplasm is unaffected in its growth and development. It is a curious circumstance that attacks, nocturnal exclusively, are less amenable to the bromide-treatment than those which occur in the daytime.

Cases of the *petit mal*, or epileptoid seizures, in which there is temporary loss of consciousness without convulsion, or with a transient spasm of the facial muscles, etc., are as a rule not so much benefited as are cases of the *grand mal*. Hysterical convulsions (hystero-epilepsy) are benefited by the bromide in the degree in which they partake of the nature of true epilepsy. Simple hysterical convulsions are rarely improved even by a course of this medicine. It has been repeatedly shown, as was first observed by Sir Charles Locock, that the bromides are especially efficacious in cases of epilepsy of sexual origin.

Although the bromide of potassium is less effective in the epilepsy of childhood than of adults, it is an excellent remedy in *infantile convulsions* dependent on reflex irritation. After the removal of the irritation the convulsive attacks may continue, but they can be arrested by the use of the bromides. The cerebral congestion which precedes the convulsive seizure may be relieved by this agent, and the threatened attack averted. The author is convinced that the convulsions which attend tubercular meningitis may be prevented by the bromide, but this agent exerts no curative influence in this fatal malady.

In the present state of our knowledge it is not possible to indicate with any degree of certainty, besides the points mentioned above, the kind of cases in which a successful result may be expected from the bromide treatment. If no improvement be manifest after several weeks of treatment, and if bromism be induced, the case must be regarded as an unfavorable one for this treatment. Brown-Sêquard thinks that the cropping out of an "acne-like eruption on the face, neck, shoulders," etc., is an evidence that the bromide is proving curative, and he even asserts that there is "a positive relation between the intensity of the eruption and the efficacy of the remedy against epilepsy." According to Voisin, the abolition of reflex nausea—ascertained by passing a spoon as far back as the epiglottis, without causing attempts at vomiting—is an indication of the successful action of the remedy. Furthermore, he regards the following physiological effects

as evidence of curative power: "Hypnotic manifestations, general lassitude, an easy and rapid disappearance of reflex nausea, and antaphrodisiac action."

Certain cases of epilepsy, in which the bromide of potassium fails to afford relief, are greatly benefited by strychnine. From this circumstance it has been concluded that the former agent is most serviceable in cases in which a condition of hyperæmia of the brain exists, and that the latter agent produces the best effects when a condition of cerebral anæmia is present.

Various important considerations are connected with the administration of the bromides in epilepsy. The daily dose required varies from half a drachm to four drachms, the limit of the quantity administered being determined by the effect produced. The occurrence of bromism and the arrest of the seizures are the evidences that a sufficient quantity has been introduced into the organism. According to the author's experience, forty grains of the bromide, dissolved in water and given before each meal, or three times a day, and if required a double dose at bedtime, is an amount of the medicine which it is rarely necessary to exceed. When the convulsive attacks have ceased, a single dose of sixty grains at bedtime will generally suffice; but this result must not be interpreted too favorably, and the remedy discontinued, for an immense experience has now demonstrated that security against a return of the attacks can only be attained by a continuance of the remedy for two or more years after all indications of epilepsy have disappeared. After the continuous use nightly of the remedy for a year, the dose may be so far diminished as to give it on alternate nights. Should the attacks recur after temporary cessation, larger doses are required as a rule.

The long-continued use of the bromide of potassium may produce very serious symptoms of bromism. The remedy must then be greatly reduced in amount or be discontinued, and tonics and restoratives administered until the organism recovers its tone. When there is much susceptibility to the action of the bromides, it is generally better to prescribe the bromide of sodium. This salt is equally effective in epilepsy, while it is much less depressing in its effects. It is not unfrequently desirable to administer iron during a course of bromides. The author has had excellent results from the following: ℞ Potassii bromidi, ʒ j; ferri bromidi, gr. vj; aquæ, ʒ vj. M. Sig.: *A tablespoonful three times a day.* Echeverria has made the observation that taking strong coffee with the meals hinders the development of bromism. The troublesome and very disfiguring acne may be, in part at least, prevented by the conjoined administration of arsenic (three to five drops of liq. potassii arsenitis). Brown-Séquard, with that fondness for complex combinations which he has always exhibited, recommends the following formula for epilepsy: ℞ Potassii bromidi, ʒ j; ammonii bromidi, ʒ ijss; potassii iodidi, ʒ j; potassii bicarb., ℈ij; infus. calumbæ, ʒ vj. M. Sig.: *A teaspoonful before each meal, and three teaspoonfuls at bedtime.* There is probably no advantage in this combination, and it is execrable as regards taste. It is true sometimes better results are obtained from a combination of bromides than from the bromide of potassium alone. It is always advisable to combine the iodide of potassium with the bromides, when there is reason to suspect syphilitic cerebral lesions, or when degenerate changes may appear to be taking place.

Vaso-motor disturbances, elsewhere than intra-cranial, are relieved by the bromides. "Such symptoms are, for example, sudden numbness, coldness, deadness, or pricking sensations in one or more limbs; sudden distressing but indefinable feelings in the epigastrium, abdomen, or hypogastrium; or sensations akin to rigor, with much anxiety and palpitation, or 'fluttering,' of the heart. In such cases it may be observed that the local circulation is interfered with; that, for example, the pulse in one arm becomes faltering, irregular in force and rhythm, occasionally intermitting, while that in the other arm may remain unaltered, and the beat of the heart may maintain its normal character."

The *painful flushings of the face, and the sense of fullness in the head*, which occur so frequently at the climacteric period in women, may often be removed by the bromides.

Certain of the *respiratory neuroses* are greatly relieved by the bromides. *Laryngismus stridulus*, when present, may be suspended by the prompt use of full doses, and the tendency to frequent recurrence of the attacks obviated by the steady and continued use of moderate doses of this remedy. It may be combined with chloral: ℞ Potassii bromidi, ʒ ij; chloral. hydratis, ʒ ss; syrup. tolu., ℥ ss; aquæ, ℥ jss. M. Sig.: *A teaspoonful every half-hour.* The bromides greatly relieve the spasmodic element of *whooping-cough*, but they do not appear to shorten the duration of the disease. A combination such as given above, for a child of two years, may be prescribed in whooping-cough during the spasmodic stage, and in proportionally larger quantity for older children.

In *spasmodic asthma* very great relief is sometimes afforded by the use of bromides, but these remedies lose their effect very quickly. The best results are obtained from a combination of the bromide with the iodide of potassium: ℞ Potassii bromidi, ʒ j; potassii iodidi, ʒ ss; aquæ, ℥ iv. M. Sig.: *A teaspoonful in sufficient water every half-hour or hour.*

Cough which is merely reflex (stomachal, intestinal, renal, uterine, ovarian) can usually be cured by the bromides. It is said that a gargle of the bromide of potassium will diminish the cough of phthisis. The author has ascertained that it is only occasionally that such a for-

tunate result can be achieved in this way. Such a diminution of the sensibility of the fauces can be produced by a few large doses of the bromide of potassium, that this expedient has been proposed to facilitate laryngoscopy and rhinoscopy.

In certain neuroses of the genito-urinary organs, male and female, excellent results have been obtained by the use of the bromide of potassium. *Abnormal sexual excitement* and *nocturnal seminal emissions* may be checked by this remedy. The condition of plethora is the indication for the bromide. When the sexual organs are much relaxed, the erections feeble, and the seminal fluid watery, especially if there be such a constant stillicidium of semen as to constitute the so-called diurnal losses, the bromide of potassium does harm. The more nearly nocturnal seminal losses approach the physiological type, the more effective the bromides. As they act by diminishing the blood-supply to the erectile organs, it is obvious that they are contraindicated when there is debility, and when the erections are feeble. They prove completely successful when the erections are normal as to character, but teasing and persistent. The various nervous disturbances growing out of unsatisfied sexual desire are quieted by these agents. As a rule, *nymphomania* and *satyriasis* dependent on cerebral lesions are not diminished or prevented by the bromides.

Bromide of potassium, in full doses, has been proposed for the relief of *chordee*. The result is generally disappointing, but occasionally relief is experienced from it. Very large doses (ʒj every four hours) are necessary.

Menorrhagia, dependent on ovarian irritation, is usually promptly arrested by these agents. Sometimes *metrorrhagia*, even when due to a fibroid, is remarkably improved by their use, but success is not invariable.

Various functional nervous disorders associated with, or dependent on, derangements of the sexual system—for example, such as are grouped together under the term *spinal irritation*—are treated with occasional success by the bromides. It is to be noted, however, that a condition of general anæmia or local spinal anæmia, which usually coexists, is a contraindication to the use of these agents. They are useful in proportion to the degree of plethora present.

Local Uses of Bromides.—*Epithelioma of the face* has been cured by applying to the ulcerated surface bromide of potassium in fine powder. A solution, gr. x—gr. xx to an ounce of water, is a useful application for allaying the itching in *pruritus*, *prurigo*, and similar conditions, and the powder dusted over the surface is an effective remedy for *eczema*, *old ulcers*, etc.

Acidum Hydrobromicum Dilutum.—*Diluted hydrobromic acid.* A liquid composed of ten per cent of absolute hydrobromic acid and ninety per cent of water. A clear, colorless liquid, odorless, having a strongly acid taste, and an acid reaction. (U. S. P.) Dose, ♏ xx —ʒij.

Hydrobromic acid has many of the properties of the bromides, and can therefore be substituted for the latter in some cases. In the treatment of epilepsy, the acid is far inferior to the bromides. In *spasmodic cough* it has proved very useful. In *angina pectoris*, or *cardiac irregularities* due to acidity of the stomach, it is highly useful, given before meals. The tinnitus, dizziness, and headache caused by quinine may be largely diminished, if not wholly prevented, by the addition of hydrobromic acid to the solutions containing the former, or by giving the latter some time after. The after-nausea and depression caused by morphine may be obviated by the simultaneous or subsequent administration of hydrobromic acid.

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