should owe their medicinal powers to the same elementary principle, viz. *Veratria*; and as some practitioners are still addicted to its use, the Committee agreed to let it remain.

ULMI CORTEX. L.E.D. (Ulmus Campestris).

Elm Bark.

Qualities. *Odour*, none; *Taste*, slightly bitter and mucilaginous. Chemical Composition. Gum, extractive, gallic acid, and super-tartrate of potass. Solubility. Water is its appropriate solvent. Med. Uses. It has been commended in herpetic eruptions, but in the hands of Dr. Willan and others it has not proved successful; it is one of those articles that might be discarded from our Parmacopœia with much propriety. Officinal Prep. *Decoct: Ulmi.* L.D.

UNGUENTA. L.E.D. *Ointments.*

These are unctuous substances analogous to *Cerates* except in consistence, which is much less firm, and scarcely exceeds that of butter: formerly ointments were numerous and complicated in their composition, and surgeons adapted with much technical formality different ointments to answer different indications: this practice howver has undergone a very judicious reform, and it is now well understood that *in general* all that is required in an ointment is a suitable tenacity and consistence, to keep the parts to which if may be applied soft and easy, and at the same time to exclude from them the atmospheric air; in some cases, however, these simple compositions are made the *vehicles* of more active remedies, as in the following preparations, *viz.*

Unguentum Cantharidis. L. *As the active ingredient in this ointment is derived from an infusion of the Cantharides, it is extremely* mild, and frequently inefficacious. The *ceratum cantharidis* furnishes a more certain application.

Unguentum Elemi Compositum. L The elemi and turpentine in this ointment, render it stimulant and digestive.

Unguentum Hydrargyri Fortius. L. The precise nature* of this compound does not appear to have been known until the late researches† of Mr. Donovan, (*Annals of Philosophy, November*, 1819,) which promise to lead to a more uniform, efficacious, and economical mode of preparing it; for they ‡ shew that in the officinal ointment, the

* According to the experiments of M. Vogel, (Annales de Chimie, t. lxiv. p. 220) this ointment is nothing more than metallic mercury mixed with grease, the division of which has been carried to such an extent as to impart a blackish colour to the mixture.

† It is to be hoped that a quantity of the ointment will be prepared according to these views, and be submitted to a more extended series of experiments. The oxide may be procured by decomposing Calomel by a solution of pure potass, or by pouring a solution of the nitrate of mercury into a caustic alkaline solution; this oxide should be at first triturated with a little lard, in the cold, to make the penetration complete, taking care that the lard be quite free from common salt, or else Calomel will be the ultimate result: the mixture is then to be submitted to the action of heat, and it is very important to attend to the necessary temperature, for at 212° the oxide and lard will not unite, at 600° the oxide will be decomposed and the mercury volatilized, at 500° and 400° the oxide is partially decomposed, some red oxide being formed and mercury reduced; the proper temperature is between 300° and 320°, at which it should be maintained for an hour, and the ointment should be stirred until cold.

‡ Four ounces, troy, of mercurial ointment, prepared six months before, were kept

cury exists in two different conditions,—in the state of metal, *mechanically mixed*, as asserted by Vogel, and in that of an oxide, *chemically combined* with the lard, and that the medicinal activity of the ointment exclusively resides in this latter portion, the presence of metallic mercury not only being useless but injurious, by obstructing the absorption of the active compound of the oxide. Mr. Donovan accordingly formed a direct chemical combination, by continually agitating together lard and black oxide of mercury at the temperature of 350° *Fah:* for two hours. At the end of the process it appeared that every ounce of lard had dissolved, and combined with 21 grains of oxide; and from the trials which have been made respecting its activity, it would seem to be as efficient as the officinal ointment, and moreover that it may be introduced by inunction in one third of the time. The investigation is highly important, for it not only offers the means of preparing a mercurial ointment more œconomically, but one more active and manageable, and less liable to that want of uniformity in strength, which must always attend a preparation in which so much labour is required for its completion; for independent of that variation in strength which will arise from imperfect triture, it is by no means an uncommon practice to use chemical means, which are not admissible, to facilitate the process, such as the addition of *Sulphur*, which is found to abridge very considerably the labour requisite for the extinction of the mercury, but it converts a portion of the metal into a *Sulphuret*, and diminishes the power of the unguent. There is however a method of facilitating the process, which is not liable to any apparent objection, but the theory of its operation is obscure; it consists in adding to the half-prepared ointment a portion of that which has been long kept; which appears to act as a *leaven* to the whole mass.

The following table exhibits the relative quantity of mercury contained in each of the different ointments directed by the British Pharmacopœiæ, and in that prepared according to the process of Donovan.

One drachm of the Lond:	*stronger ointment* contains of Mercury,	30 grs.
	weaker ointment	10 —
of the Edinb:	*common ointment*	12 —
of the Dub:	*stronger ointment*	30 —
	weaker ointment	20 —
of that prepared according to Donovan		2½ —

Mercurial ointment furnishes the most prompt, and least exceptionable mode of impregnating the system. The external method of administering mercury, says Mr. John Hunter, is always preferable to the internal, because the skin is not nearly so essential to life as the stomach, and therefore is capable in itself of bearing much more than the stomach. The inunction is generally performed by rubbing ℥ss to ℥j on some part of the body where the cuticle is thin, generally on the inside of the thigh, except perhaps in cases of chronic hepatitis, when it is more usually applied to the region of the liver, care being taken that the friction is con-

at 212°, when it separated into two distinct strata, viz. the upper one which was light grey, and extremely active as a medicine, and the under one, which upon being triturated with magnesia, yielded a large proportion of metallic mercury, and which was not found to possess any activity.

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tinued until every particle of the ointment disappears; and for obvious reasons, the operation ought if practicable to be performed by the patient himself. Where it has been an object to saturate the system with mercury as quickly as possible, I have witnessed the advantage of confining, by means of slips of bladder, a drachm of mercurial ointment in each axilla, in addition to the mercurial friction. Camphor, turpentine, and other stimulants, have been sometimes added to the ointment, with a view of promoting its absorption; this however is an erroneous practice, since these acrid ingredients soon produce pustules on the skin, which prevent the continuance of the friction; the warm bath is a more certain and less objectionable *adjuvant*, many practitioners therefore advise the body to be immersed in a warm bath, once and again, before the course is commenced, and to repeat it once or twice a week during its continuance: the length of time to be employed in a course of mercury, and the quantity to be given, are circumstances that must in every case be left to the discretion of the practitioner. Mercury, when introduced into the body, acts as a powerful stimulant, and pervades every part of the system; hence it is the most powerful evacuant belonging to the Materia Medica; from its stimulant operation, exerted directly or indirectly, we are able to explain its utility in the cure of disease, and it may be made to act according to management and circumstances, as a tonic, antispasmodic, diuretic, cathartic, sialogogue, emmenagogue, or alterative, but its most important operation is that displayed in removing the diseases induced by the syphilitic poison, although its *modus operandi* is still buried amongst the many other arcana of physic. The mode of directing and controlling the influence of mercury in the cure of the veneral disease, is now very generally understood, and it is to be hoped that a full confidence in its anti-syphilitic powers is as universally maintained, in spite of the late opinions which tended to depreciate its value and to question its necessity; there is however no advantage to be gained, as was once imagined, by exciting profused salivation. On its next important application, that of curing chronic affections of the liver and dropsy, a remark which has been suggested to me by the results of practice, may not be unacceptable. I think I have generally observed, that when the remedy has been pushed to such an extent as to excite the salivary glands to excessive secretion, the urinary organs cease to participate in its stimulating action, and *vice versa*, for the mouth is rarely affected when the mercury runs off by the kidneys; this may suggest a precaution of some practical moment in the treatment of dropsy, and it will be generally judicious to accompany the administration of this metal with certain diurectics, in order to direct its operation to the kidneys;* and it would seem, that for such an object those diuretic medicines should be preferred that act *primarily* on the organs, as alkalies and their combinations, squill, &c.: the success of such a plan of treatment will also depend greatly upon the exact period at which these remedies are administered; it will for instance be right to wait until the

* Whenever it is our object to direct the mercurial impression to any particular organ, we should if possible rouse its excitability by some specific stimulus. An exception, however, to this doctrine would seem to offer itself in the fact, that children at the period of dentition are not readily salivated: *a priori*, we should have certainly supposed that a predisposition to a flux of saliva, would have produced a contrary effect. As it is, we can only conclude that those organs are not disposed to take on any action that may be incompatible with, or adverse to, that of dentition.

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system is, to a certain degree, under mercurial influence. It is hardly necessary to observe, that if the mercury runs off by the bowels, we shall be deprived of all, or of a great share of, the benefit to be expected. In certain cases, the lymphatic vessels seem to resist the admittance of mercury, and to refuse the conveyance of it to the general circulation: I have already thrown out some vague hints upon the subject, in the first part of this work (p. 160), and I must refer the reader to some farther remarks, which I apprehend bear upon this question under the following article.

Unguentum Oxidi Hydrargyri Cinerei. E. This consists of a mixture of *one part* of grey oxide of mercury, and *three parts* of axunge: it was reasonable to suppose, *a priori*, that, as the whole of the mercury in this ointment is oxidized, its adoption would supersede the necessity of the labour required for the preparation of the common mercurial ointment, and at the same time afford a combination of equal if not superior efficacy; but experience has not justified the conclusion, for it has been found to possess little or no activity; the consideration of it is therefore introduced into this work, not on account of its utility, but as an object upon which I may pause with advantage, to offer those observations which its history is so well calculated to call forth and illustrate. The circumstance which renders this preparation inert, will now receive a satisfactory explanation from the experiments of Mr. Donovan, as related in the preceding article; in short it is a *mechanical mixture*, instead of a *chemical combination*; and I beg again to urge the importance of this distinction, and to offer the present example as a farther illustration of the views I have already submitted upon the subject. By subjecting this ointment for some hours to a heat of 300°, it would without doubt become an active preparation. It is probable that the lymphatics offer less resistance to the ingress of a mineral body into the system when it is presented to them in combination with some animal substance, which must alone be regarded as their peculiar stimulus, and the only matter which they are destined perpetually to receive and convey; for the same physiological reason, the lacteals may probably take up iron with greater readiness when in combination with vegetable matter, than when introduced into the stomach in the more purely mineral form.

Unguentum Hydrargyri Mitius. L. This weaker preparation is sometimes preferred, as it irritates the skin less; it is however principally used as a topical dressing to venereal sores, and as an application to kill vermin on the body.

Unguentum Hydrargyri Nitratis. L.E.D. vulgo *Citrine Ointment*. It is stimulant, detergent, and alterative; when diluted with an equal quantity of simple ointment or almond oil, it may be almost regarded as a specific in ophthalmia tarsi, smeared upon the cilia every night at bedtime.

Unguentum Hydrargyri Nitrico-oxydi. L. An excellent stimulant application, well adapted for giving energy to indolent ulcers. If mixed with any ointment containing resin, it loses its red colour, passing through olive green to black, which depends upon the conversion of the *red* into the *black* oxide of mercury.

Unguentum Hydrargyri Præcipitati Albi. L. Stimulant and detergent. It is said to be very efficacious in certain inveterate forms of the

Itch. With the addition of Carbonate of Potass, it has been much extolled in various cutaneous affections.*

Unguentum Picis Liquidæ. L.E.D. *Tar Ointment.* This ointment has been much extolled for the removal of tetter, and for the cure of tinea capitis.

Unguentum Resinæ Nigræ. L. olim, *Ung. Basilicum*† *nigrum.* Digestive stimulant.

Unguentum Sambuci. L.D. It possesses no advantage over the simple ointment.

Unguentum Sulphuris. L.E.D. This ointment is a mechanical mixture of Lard and Sulphur, although it would appear that a small proportion of the latter exists also in a state of chemical combination. Med. Uses. A specific in the itch. Dr. Bateman proposes a combination, equally efficacious, but which has not the same disagreeable smell; *viz.* "Take of sub-carbonate of potass, *half an ounce;* rose water, *one ounce:* red sulphurate of mercury, *one drachm;* essential oil of Bergamot, *half a fluid-drachm;* sublimed sulphur, hog's lard, of each *eleven ounces.* Mix them." Jasser's Ointment also, as altered in the Prussian Pharmacopœia, is an excellent application in Psora, *vix.* ℞ *Sulphur: Sublim:* ℥ij, *Zinci Sulphat:* ℥ij, *Ol: Lauri, et Axung. q, s, ut fiat Unguentum.*

Unguentum Sulphuris Compositum. L. More stimulating than the simple ointment, from the addition of white hellebore; it is however frequently found to excite too much irritation.

Unguentum Veratri. L.D. It is used for the cure of scabies, but is less certain than the ointment of sulphur.

Unguentum Zinci. L.E.D. Astringent and stimulant; very beneficial in some species of ophthalmia, smeared upon the tarsi, every night.

Very efficient preparations may be also constructed by adding together equal weights of lard and narcotic vegetable powders, as those of *Conium, Digitalis, Belladonna,* &c.

The addition of a small quantity of powdered white sugar will frequently prevent ointments becoming rancid.

UVÆ URSI FOLIA. L.E.D. (Arbŭtus Uva Ursi.)

Uva Ursi, Bear-berry, or *Trailing Arbutus.*

Bear's Whortle-berry, Wild Cranberry, &c.

Qualities. *Odour,* slight, resembling that of hyson tea; *Taste,* bitterish, and sub-astringent. Chemical Composition. Tannin, mucilage, gallic acid, extractive, resin, and traces of lime. Solubility. Both water and alcohol extract its virtues. Med. Uses. The ancients employed it on account of its astringency, the moderns however have exhibited it for various diseases, more especially for those affecting the blad-

* The Unguentum Werholfii, so long celebrated on the Continent, was a combination of this kind.

† Basilicon, i. e. the *Royal* Ointment.

Bailey's Itch Ointment. This is a very complicated combination; containing Nitre, Alum, Sulphate of Zinc, and Cinnabar, made into an ointment with Olive oil and Lard, and perfumed with the essential oils of Anise Seeds, Origanum, and Lavender; and coloured with Alkanet root.

The Indians use an ointment in inveterate itch, which is said to prove very successful, and consists of finely powdered Cocculus Indicus mixed with a little warm Castor oil.

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der and urinary organs, and, it would seem, without any theory respecting its *modus operandi*; but it has at length fallen into disrepute, and probably with justice: it occasionally renders the urine of a blackish colour, a fact which is not easily to be explained. When it is administered, the form of powder is preferred, and in doses from ℈j to ʒj. The leaves of the *Vaccinium Vitis Idæa* (Red Whortle-Berry,) are sometimes substituted for those of *Uvæ Ursi*; but they may be easily distinguished; *botanically*, by the net work appearance of their veins above, and by their dots underneath; *chemically*, by their infusion neither precipitating the solution of isinglass, nor that of sulphate of iron.

ZINCI OXYDUM. L.E.D.

Oxide of Zinc.

This is occasionally used internally as a tonic, and may be exhibited in the form of pill. It is however principally employed externally, as a mild but efficient astringent; viz. *Ung: Zinci.* ADULTERATIONS. Dr. Roloff of Magdeburgh has lately discovered the casual presence of *Arsenic** in this oxide; by boiling the substance in distilled water, and assaying the solution with the ammoniaco-nitrate of silver, its presence may be instantly recognised; *Chalk* may be detected by sulphuric acid, exciting an effervescence; and *White Lead*, by its forming an insoluble sulphate of lead. It ought to be volatile.

ZINCI SULPHAS. L.E.D.

Sulphate of Zinc, olim, White Vitriol.

QUALITIES. *Form*, crystals, which are four-sided prisms, terminated by four-sided pyramids; they are slightly efflorescent; *Taste*, styptic, metallic, and slightly acidulous. CHEMICAL COMPOSITION. One proportional of oxide, and one proportional of acid; its crystals contain seven proportionals of water. SOLUBILITY. It is soluble in 2.5 times its weight of water at 60°, and in less than its own weight of boiling water, but is quite insoluble in alcohol. INCOMPATIBLE SUBSTANCES. *Alkalies: earths; hydro-sulphurets; astringent vegetable infusions; Milk.* MED. USES. Tonic, astringent, and, in large doses emetic, (*Form.* 66.) As an emetic it operates directly, and offers therefore a prompt resource in cases of poison, or where an immediate discharge from the stomach is required; it appears to differ from most remedies of this nature, in not proving diaphoretic in smaller doses: in spasmodic† coughs it is administered with the best effects, especially when combined with camphor or myrrh, (*Form.* 59:) in affections of the chest attended with inordinate secretion, I have witnessed much benefit from its exhibition, particularly when presented in the form of lozenge; and, when dissolved in water, in the proportion of grs. ij to f℥j, it forms a useful injection in fluor

* I have been lately informed by a practical chemist, that he has occasionally found his hydrogen, when produced by zinc and dilute acid, to contain a portion of Arseniureted hydrogen; a fact which confirms the assertion of Roloff.

† The various quack remedies advertised for the cure of the hooping cough are either Opiates, or Medicines composed of sulphate of zinc. The nostrum, sold under the name of Anti-per-tussis, contains this metallic salt as its principal ingredient.

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