generally be destroyed; or if it is desirable to keep them they must be purified by exposure to a temperature above 180° Fahr. (this can be done by putting them into hot water, or into an oven, or simply by ironing them with a hot iron), or they may be well fumigated with sulphurous acid gas. This gas can readily be procured by igniting a rag dipped in melted sulphur.

At the Hôpital St. Louis in Paris the treatment is this:—The patient immediately after admission, is thoroughly scrubbed with common soap, from head to foot, for thirty minutes. He then has a warm bath, in which he remains for an hour; during which time he is again scrubbed. On quitting the bath he is well rubbed for half an hour with an ointment composed of three ounces of carbonate of potash, dissolved in three ounces of distilled water; sublimed sulphur, six ounces; and lard, twenty-three ounces. These ingredients are thoroughly mixed together. By this means the acari are killed; and thus the patient may be said to be cured in two hours. In fact, a few more simple baths complete the treatment.

An aggravated form of itch known as Norwegius scabies (scabies crustosa) has been occasionally observed in different parts of Europe. It is only peculiar in its great severity; and in its presenting large scaly crusts, which are composed of epithelial cells, acari and their eggs and excrement, sebaceous matter, and lymph. The parasite is identical with that commonly met with.

8. PHTHIRIASIS

Is the disease induced by lice or pediculi. The human body may be infested with three kinds of lice—viz. the Pediculus corporis vel P. vestimentorum, the P. capitis, and the P. pubis. All are oviparous, the eggs being known as nits; the sexes are distinct; while the young are hatched in five or six days, and in eighteen days are capable of reproduction.

The body or clothes louse is of a dirty white colour, and from one to two lines in length. Its head is irregularly oval, with two antennae, and prominent eyes; the abdomen is thrice as broad as the thorax; and from the latter three legs are developed on each side. This louse seems to live in the clothing, attacking the skin for its nourishment. The irritation which it produces is very great, while the scratching resorted to for relief gives rise to a pruriginous rash.—The head or common louse is smaller than the preceding, and is never found anywhere but on the scalp, where it multiplies abundantly. Its body is flattened and rather transparent; it is of a grey colour, or of a red hue when full of food; and its thorax, one-fourth the length of the abdomen, has three limbs on each side.—The pubic or crab louse attaches itself especially to the hairs about the sexual organs; but it is also found on those of the axillae, and even on the eyebrows. As far as is known, it never invades...
the head or beard. It resembles the other lice save that its body is large and flat, without any defined separation between the thorax and abdomen. It clings to the roots of the hairs, and deposits its nits on these structures.

In some very rare instances there appears to be a constitutional condition favouring the development of pediculi, or at all events of the soil which is congenial to them; so that the statements of old authors “that divers persons have come to their ends, being devoured by lice,” are not so very improbable.

The *pediculus corporis* or vestimenti is perhaps the most important to mention. Generally speaking the pediculus vestimenti, which induces phthiriasis corporis, is found in the folds of the linen worn next the skin in elderly and uncleansy people. It merely finds its way to the skin to get food. It has a proboscis or sucker, and, according to Dr. Tilbury Fox, it produces a peculiar hemorrhagic speck, which is quite characteristic, in its attack upon the skin; and this gentleman describes phthiriasis as consisting of this characteristic lesion with, in addition, the results of irritation and scratching, viz., a puriginous rash, whcams, excoriations, &c. This pruriginous rash is noticed especially about the shoulders, the base of the neck, the back, the legs, and the upper part of the arm’s socket, but if the disease has existed long, all over the body; so that the presence of a pruriginous rash about these parts in old people is at once suggestive of the presence of the pediculus vestimenti. The characteristic lesion is a cup-shaped depression, in the centre of which is a blood crust. It is produced thus:—The pediculus puts its proboscis into a pore, and dilates it in the act of suction. As it withdraws its proboscis a little blood wells up into it, so as to fill the follicle, or rather its dilated orifice, which appears as a circular depression. This disappears, however, in a few days. Phthiriasis is to be cured by giving the patient warm baths, and disinfecting the clothes by heat; for the pediculi live in reality in the clothes and not on the skin. Phthiriasis corporis is in reality the prurigo senilis or hospital prurigo of the older writers.

The presence of lice is easily determined by a careful examination. The irritation produced by these disgusting insects can scarcely be mistaken for that caused by the common Flea (*Pulex americus*, vel *P. irritans*), the bite of which is seen as a dark speck in the centre of an erythematous spot; or for that produced by the Chigoe, or Jigger, or Sand flea (*Pulex penetrans*), which is so annoying to the residents of Guiana and Brazil; or for that originated by the Harvest Bug (*Leptus autumnalis*, vel *Acarus autumnalis*); or for that developed by the stinking Common Bug (*Cimex lectularius*), the bite of which causes a hot and tumid spot having a whitish central point; or for that set up by the Mosquitos and Common Gnats (*Culicopipiens*), the bites of which are so intolerable in warm countries as well as in Lapland.
The Pimple mite (*Steatozoon follicularum*) rarely gives rise to any itching or discomfort. This species of *acarus* has a worm-like form, and a length varying from the fiftieth to the hundredth part of an inch; it inhabits the ducts of the sebaceous glands, and especially those about the ase of the nose; while it is probably to be found in the great majority of persons, only becoming troublesome by excessive increase. In such a case, these parasites may be destroyed by rubbing in calomel, or by washing the affected part with a weak solution of corrosive sublimate.

9. **DRACONTIASIS.**

Dracontiasis [from Δράκων = a serpent] may be described as a singular helminthic disease, produced in the human body by the presence of the Guinea worm.

The Dracunculus medinensis, *Filaria medinensis*, or Guinea worm, has a slender cylindrical body; which is sometimes nearly as thick as a crowquill, and which varies in length from one to ten or twelve feet. The worm is endemic in some parts of Asia and Africa, especially in marshy districts; while persons returning from these countries occasionally bring this nematode helminth back with them. According to Küchenmeister it is probable, that the "fiery serpents" which "bit the people, and much people of Israel died," were *dracunculi*; and if so, then Moses is the first writer who has referred to these worms. At events, it is impossible to doubt that Plutarch describes the dracunculus in the eighth book of his "Symposiacon," where he makes Agatharchides of Cnidos, who probably wrote about B.C. 140, narrate "that the people taken ill on the Red Sea suffered from many strange and unheard of attacks; amongst others, worms, like little snakes, came out upon them, which guawed away their legs and arms, and when touched again retracted themselves, coiled themselves up in the muscles, and there gave rise to the most insupportable pains."

The dracunculus proves very troublesome in the present day, in certain districts. Thus one or more stations (Matoonga, in Bombay, for example) for our troops in India have had to be abandoned solely on account of the extensive presence of the Guinea worm in the tanks and wells.

At present we are chiefly familiar with the adult female dracunculus, which reproduces viviparously; the active embryos being found in stagnant pools, in the soil forming the foundations of artificial reservoirs, as well as in damp mould and mud.

The common seat of the Guinea worm, in the human body, is the subcutaneous connective tissue, and especially that of the extremities. It has very rarely been found in the tongue, but more frequently in the scrotum. In an analysis of 181 cases by Sir James McEgrigor, it appears that the feet and legs were affected in 157. The impregnated worm probably perforates the sweat ducts
of the skin, and thus effects a lodgment. It may give rise to no symptoms for some months; and then the first indication is usually a feeling of irritation in the affected part, where a cord-like ridge can often be felt. There may also be much constitutional disturbance, such as fever, headache, nausea, colic, and debility: though sometimes only local pain is complained of. A kind of boil usually forms, in the centre of which a black point will perhaps be seen; while on the pustule breaking, the head of the worm may protrude. If the latter be injured, a milky fluid may be discharged, which will be found on a microscopic examination to be loaded with minute dracunculi. When the head protrudes, a thread may be placed around it and rolled upon a small stick or piece of bougie; and then day by day the worm is to be gently drawn out, and wound round the stick until the extraction is complete. Where the worm does not protrude, but can be felt as a firm catgut-like swelling under the skin, an incision had better be made so as to expose it; the parasite being at once removed in a loop, or being partially lifted up so as to admit of the insertion of a wedge of wood round which it is to be daily coiled until the whole can be withdrawn without any fracture. According to Dr. Horton, tincture of assafoetida, in doses of thirty drops thrice daily, acts as a poison to this parasite. As such a dose can be taken by the bearer of the worm without any disturbance, no misgivings about the result ought to prevent our giving this drug a fair trial.

With regard to prophylactic measures all individuals travelling in districts where the Guinea worm is found should take care to have the feet well covered; to dry the skin thoroughly after bathing or wading through pools, marshes, &c.; and to avoid lying on the damp ground with any part of the body exposed to the soil. In the native country of the worm English officers suffer very much less frequently than the private soldiers, inasmuch as they do not go about with bare feet and arms.
PART XV.

DISEASES OF THE APPENDAGES OF
THE SKIN, &c.

I. DISEASES OF THE HAIR.

The diseases of the hair which are due to the presence of a parasitic fungus having been already described, it only remains to notice those that arise from general causes. Like other structures, these horny appendages of the skin are affected by the health of the bearer; marked examples of which influence are seen in the production of grey hair from mental anxiety, premature decay, and old age. Numerous diseases also (such as fever, syphilis, phthisis, &c.) produce loss of hair, owing to their interference with the nutrition of the hair bulbs and of the tissues in their immediate neighbourhood. The use of hair dyes often proves very prejudicial; for if they contain nitrate of silver they irritate the scalp and injure the hair follicles, while those made with oxide of lead may possibly give rise to severe colic. Many cases are known where the hair has become quite grey from the effect of depressing circumstances; and yet, when these circumstances have improved, this appendage as it has grown has been developed of the colour natural to the individual.

Every single hair may be supposed to have a life of its own, and hence to pass through the three stages of growth, maturity, and decay. Each one, likewise, seems liable to disease and premature death. But our philosophy fails to teach us why the hairs of certain regions are so much more prone to early decay than those of other parts. Why, for example, should we so frequently find a man of forty with a bald scalp independently of any local disease, while the vigour of the hairs upon his chin, eyebrows, and pubes remains uninterfered with? If this change be due, as some assert, to a diminution of the subcutaneous fat, why are not women affected more frequently? But, in fact, many men are bald whose scalps appear thick, and where the adipose tissue is present in proper quantity. Moreover, it is difficult to give any satisfactory explanation of the fact that in some regions more than others the fall
of the hair is attended with destruction of the follicles. When an eyelash dies and is thrown off, the follicle soon produces a successor; but this is not as constantly the case with regard to the hairs of the scalp. It is, however, very difficult to say from the appearance of a part whether the hair follicles and bulbs have been destroyed or not. No greater degree of baldness can be shown than is present in cases of tinca decalvans, the affected spots being perfectly white and smooth and polished. Yet by proper treatment the follicles can be stimulated so as to produce a new crop of healthy hair. And even in the baldness of old age, when the follicles and bulbs are obliterated, it is possible that a new set may be developed. "We are aware," says Dr. Graves, "that the least highly organized tissues are capable of being reproduced after having been destroyed; now many facts have come under my notice which seem to authorize the conclusion, that when the original stock of bulbs has been destroyed in the scalp, a new stock is frequently developed by the powers of nature, and thus an entirely new crop of hair arises."* As affording presumptive evidence of the soundness of this view Dr. Graves cites the histories of several individuals, who at an advanced age, have had their failing sight completely restored; while he mentions the cases of others, in whom, after the threescore years and ten have been attained, a new set of teeth has been cut.

DISEASES OF THE HAIR.

mentioned brushing, kneading, and friction of the scalp; the occasional application of the liniment of cantharides, diluted in proportion to the effect which it is desirable to produce; with the use of embrocations which irritate without blistering (F. 287). An ointment of iodide of sulphur, or of creasote, or of iodine, or of Peruvian balsam will also be found useful. In addition, the hairs which have not fallen ought to be cut short, those especially which appear withered and split being clipped close to the skin; while the scalp is to be well brushed, care being taken not to injure the new downy hairs (lanugo).

Hirsuties [from *Hiruntus* = hairy], or an augmented growth of hair, is sometimes observed in association with constitutional debility. The hair of the head is often very long, and the eyelashes thick, in strumous and phthisical subjects. Hair, in small quantity, may also be developed about unusual situations (local hypertrichosis), as on the surface of the mucous membrane of the mouth, intestinal canal, bladder, vagina, &c. Women advanced in life, especially perhaps if they have never borne children, frequently have hair developed on the chin and upper lip. Moles, mother's marks, or naevi pilosi [*Pitus* = a hair] consist of dark coloured patches, covered with hair. They are formed by irregular deposits of pigment, with enlargement of the hair follicles and bulbs; the capillary vessels being normal, instead of increased in number and size as in vascular naevi. Pilous naevi are often about the size of a sixpence, but occasionally they are seen of much greater extent. In a case mentioned by Albright, the skin of nearly the whole body was studded with black moles which were covered with dark and thick woolly hair.

Every now and then cases are seen where there is an abnormal superabundance of hair over the whole body (universal hypertrichosis). Julia Pastrana who was to be seen in London a few years since not only had a fine beard, but her whole body was extraordinarily hairy; while her little son seemed about to have as much hair as his mother. Many similar cases have been described and figured by Dr. Beigel in his interesting little work on the structure and diseases of the hair.

A loss of the colour of the hair, or canities [Caunas = grey hair], may depend upon disease or on advanced age, while it will also now and then arise from deep mental emotion. In a few instances partial canities is congenital, one or more patches of the whitest hair being found surrounded by locks of a dark colour. In the Albino the whole of the hair seems deprived of colouring matter. Bichat has particularly noticed the influence of the different passions of the mind upon the internal structure of the hair, its colour being often changed by grief in a short period; and he speaks from personal knowledge, of five or six examples in which
the loss of colour was complete in less than eight days, while in
one instance the hair became almost entirely blanched in a single
night. The cases of Marie Antoinette, Mary Queen of Scots,
Sir Thomas More, &c., are well known to students. In senile
canities the greyness occurs gradually, white hairs being found
amongst those of the ordinary colour; the number of the
former steadily increasing until the latter have been quite sup-
planted. This change often commences in men shortly after the
age of forty.

The hair will sometimes grow in a wrong direction. Thus, the points
of five or six eyelashes (especially those of the upper lid) may pro-
ject on to the surface of the eyeball, giving rise to very considerable
irritation and annoyance. Trichiasis [from Θριξ, τρίχας = the hair]
is to be cured by slowly and steadily removing each eyelash with
broad-pointed and well-grooved forceps, and then dabbing the part
frequently with spirits of wine to destroy the follicle. In dis-
tichiasis [Δις = double + στίχος = a row] the tarsus has a supernu-
merary row of cilia, the points of which irritate the conjunctiva and
cornea, as in trichiasis.

A peculiar disease of the hair known as Plica Polonica [from
Plicα = to twine together], or Trichonosis plica [from Θριξ = the hair
+ νύσος = disease], or Polish Ringworm, is endemic in Poland and
in some parts of Russia and Tartary. It is characterized by con-
siderable tenderness and inflammation of the scalp; the hairs
become swollen and imperfectly formed; while the hair-follicles
secrete a large quantity of viscid reddish-coloured fluid, which glues
the hairs together and unites them into tufts or felt-like masses.
When the disease is of long standing, two cryptogamic plants
(the Tricophyton tonsurans and Tricophyton sporuloides) have
been detected by a minute examination. The real cause, how-
ever, is probably dirt. Sometimes, the matted hairs are loaded
with pediculi. This Polish disease is not confined to the scalp, but
appears apt to involve the hairs on any part of the integument.
The odour from the affected parts is said to be most disgusting.

II. DISEASES OF THE NAILS.

The nails may be described as horny shields, originating in a
fold of the cutis vera, and so placed as to protect the ends of the
fingers and toes. In very rare cases there is a congenital absence
of one or more of these appendages; while equally seldom we find
supernumerary nails, or a nail is developed in an unusual situ-
ation—as on the stump of an amputated finger. Occasionally these
organs are shed with some degree of regularity; a new one being
formed which gradually loosens and throws off the old structure placed above it. The nail may be also cast off in consequence of a whitlow, when the inflammation has commenced near the matrix. As the growth of the nails, both in length and thickness, is regulated by the rate of general nutrition, so during sickness their development is retarded. This point of retardation is generally shown by one or more transverse furrows, owing to the part secreted during illness being thinner than that formed in health; and hence it has been said that the nail presents a sort of register of the state of nutrition during its existence. The furrow is usually most distinct on the thumb nail, and is sometimes even confined to this part. Next in frequency to the thumb nail is that of the index finger. I think also I have seen it more marked on the left than on the right hand; but this I believe to have been an accidental occurrence. A curving of the nails, with clubbing of the last phalanges, has been sometimes observed in phthisis, cyanosis, &c. The thumb nail probably takes about twenty weeks in growing from its root to the free margin.

*In-growing of the nail, or onyxis [from ὄνυξ = a nail or hoof], is a painful condition which not unfrequently occurs on the outer part of the great toes, and which is usually produced by ill-fitting boots. The side of the nail is pressed into the flesh at its margin; the pressure and irritation being increased by walking, so that inflammation and ulceration are soon set up. The ulcer becomes covered with flabby and sensitive granulations, and there is an unhealthy discharge. A cure may often be effected by removing the pressure; by rest, with the leg elevated; and by scraping the side of the nail very thin, softening it by soaking in warm water, and then separating it from the sore with a little pellet of cotton wool carefully inserted under the edge. Where this treatment fails, as it will when the case has been neglected and the fungus granulations are prominent, the offending half of the nail had better be removed. As this operation is very painful, congelation must be employed or the patient should be placed under the influence of chloroform. The blade of a pair of strong sharp-pointed scissors is thrust up under the nail to the matrix, the nail is divided, and the strip is drawn out with the forceps. The subsequent use of water dressing, or of the common red lotion (F. 264) if the granulations are indolent, will quickly heal the sore.*

*Disease of the matrix, or onychia [from ὄνυξ = a nail] consists of a tedious ulceration about the root of the nail. It may arise, as it not very unfrequently does in children, from a depraved state of the constitution; or it is sometimes caused by a mechanical injury —especially by a severe crush or bruise. There is pain and swelling at the root of the nail, and about the surrounding skin; on
pressure, a sanious discharge exudes at the sides; the nail gets raised, is turned upwards, and finally becomes detached so as to expose a foul ulcer; while this ulcer looks glazed and irritable, and often shows a tendency to extend in all directions. Occasionally, the distal phalanx becomes necrosed. When the disease is severe it is often improperly spoken of as onychia maligna. In some cases of syphilis a peculiar discoloration and crumbling of the nails is observed, with or without ulceration about their roots; the appearances being similar in kind but less pronounced than those seen in psoriasis. Supposing that the nail is merely loose it ought to be removed, so as to allow of the ulcerated surface being dressed with blackwash or red lotion, or nitrate of lead ointment. The patient must be fed well, and should take cod liver oil. In obstinate cases a mixture of arsenic and chlorate of potash and stieel (F. 402) will prove very serviceable. In onychia associated with constitutional syphilis, local fumigation with calomel is deserving of trial; while the red iodide of mercury (F. 54) may be administered internally.

A peculiar condition termed psoriasis of the nails has been met with every now and then. In many instances it appears to be the consequence of an old syphilitic taint. The nails first become discoloured, thickened, and rough; then they get raised and assume the appearance of a coarse scab; while at last they crack, and crumble away, and separate at their roots, leaving an unhealthy fissure. Arsenic (F. 52) is the only remedy which exerts any influence upon this chronic affection. Where there is a history of syphilis, Donovan’s triple solution (F. 51) should be employed. Local remedies are usually of little service. The application of a mixture of equal parts of the calomel and creasote ointments might perhaps assist the cure.

Favus of the nails [technically known by the uncouth term "onychomycosis," from ὄνυχα = a nail + μύκης = a fungus] is a disease which once in a way attacks individuals affected with tinea favosa. The irritation of the scalp causes the sufferer to scratch it; and thus the parasitic fungus (the Achorion Schönleinii) gets transferred beneath the nail, where it finds a fitting soil for developing roots and germinating. As the yellow favus material increases, so the nail gradually increases in thickness; ultimately becoming perforated by the fungus. When such perforation has occurred a cure can be effected by the free use of a corrosive sublimate lotion. Where, however, the case is seen prior to this occurrence, the most projecting part of the nail should be scraped with a piece of glass so as to form an opening through which the parasiticide lotion can soak.

Where the nail has been cracked or injured prior to the parasite getting attached to it, the tubes and spores of the fungus may
penetrate the structure of the nail through this injured part, and so become developed until they reach the root. The nail may then loosen and be thrown off; or it will split up and cast off thickened layers of unhealthy structure.

Produced like favus unguium, we sometimes meet with another variety of parasitic onychia, viz., ringworm of the nails; in which these structures are rendered brittle and apt to split longitudinally. The parasite (the Trichophyton tonsurans) must be exterminated as in the preceding instance.

_Hypertrophy of the nails_ can scarcely be called a disease. It is often met with in bedridden persons, as the consequence of neglect. The nail of the great toe may thus attain an extravagant length and thickness; while by curving inwards, and pressing into the flesh of the foot, it will produce much pain and inconvenience. A nail altered in this manner can usually be easily removed. It is only necessary to grasp it firmly with the ordinary dressing forceps, and then with a little tact evulsion will quickly be accomplished.

III. WARTS, CORNS, AND HORMS.

_Warts_, or _vegetations_, or _verruce_ [from _Ferruca_ = a wart], consist of collections of hypertrophied cutaneous papillae; each papilla being separate and merely covered with thin cuticle, or a bundle of papillae being bound together by an excess of dry and hard scaly epithelium. Both varieties are equally common. Warts may occur singly or in groups; they are especially frequent in children and young people; the hands and fingers are their most common seats, though they may be met with on the scalp and on the face and on other parts of the body (see vol. 1 p. 325); and they may be caused by anything which irritates the skin, particularly if there be any hereditary tendency to them. The warty growths which form upon the face in elderly people, those which are produced by soot on the scrotum of chimney-sweeps, and those which rarely occur on old cicatrices, are forms of epithelial cancer. The secretion from simple warts is probably non-contagious; while there is no reason for believing in the popular theory that the blood from a wart will produce a similar growth wherever it is applied. Attention to cleanliness and the employment of some caustic, will generally cure the common warts. Nitrate of silver, glacial acetic acid, the acid solution of nitrate of mercury, may be applied on two or three occasions; or the growth can easily be snipped off with a pair of curved scissors, and the wound dressed for a day or two with any simple astringent lotion. The hypertrophied and condensed masses of epidermis which
are known as corns are produced upon prominent parts of the body by pressure. Thus they are most frequently met with on the toes owing to the irritation of badly made boots, or on the soles of the feet; while they also occasionally form on the elbows and knees, or on the extremities of the fingers in those who play upon stringed instruments. Some corns are more painful than others; the annoyance and suffering being often considerable when the callosity is seated on the projection of a deformed toe. Where there is acute bending of the phalanges from extreme contraction of the flexor tendon, a prominent site is offered on which a corn frequently grows; and I have known so much suffering thus produced that the patient has willingly submitted to amputation of the toe, after finding that the subcutaneous division of the tendon has been useless. The pain arises not so much from the pressure of the hardened epidermis, as from the prolongation of one or more of its fibres (commonly known as the roots) into the true skin.

Soft corns are formed between the toes, and more frequently on the outer side of the fourth than on any other toe. They are kept soft or spongy by the warm exhalations from the sweat glands of the adjoining tissues. Occasionally, an irritable wart is mistaken for a soft corn.

Corns can only be cured by the removal of the pressure which produces them. The boots or shoes must be made with thin upper leathers (particularly avoiding patent leather), and so shaped as to fit the foot properly. The socks ought also to be fine and light, and not unnecessarily loose. Then the sufferer must regularly attend to his feet, carefully cutting each corn with a sharp knife about every fourteen days; it being better to soak the feet in warm water for some fifteen minutes previously, than to try and shave away the hard tissue. In some cases a small piece of amadou plaster, with a hole punched out of its centre, may be applied with advantage. Should suppuration take place beneath a corn the foot ought to be well bathed, and the pus early let out by a small puncture.

A bunion consists of an enlargement and a thickening of a bursa,—generally of that one situated over the metatarsal joint of the great toe. It may be, but not necessarily, accompanied by distortion of the articulation. Occasionally the bursa suppurates, a fistulous opening being very commonly left after the evacuation of the pus. A very painful bunion is sometimes formed over the instep,—on the scaphoid bone; but it is less frequently met with than it used to be when men punished themselves with tightly-fitting Wellington boots. The only remedy for an ordinary bunion is a boot made so large, that the toes are not crowded together in a bunch. In bad cases, the use of buckskin, or of the material known as "pannus corium" is preferable to common leather.
Horns are made up of condensed and dried layers of epithelium, with or without a core composed of greatly hypertrophied papillae. Their bases are freely supplied with blood. As they increase in size by the continual formation of new layers of epithelium, a tendency to become curved or spiral is usually manifested; so that they may assume the appearance presented by the small horns of the ram. These structures are but seldom met with in the human subject. They are more apt to grow from the scalp than from other districts; although occasionally they are seated on the face or trunk. Frequently a horn can be cleanly separated from its attachment to the skin by a gentle wrench; but where there are firm papillary prolongations into the growth, it may be necessary to make a couple of oval incisions. If the horn arise from the interior of a sebaceous cyst, as it may do on the scalp, the sac should be cleanly dissected out.

IV. BURNS AND SCALDS.

The casualties to be considered under this head vary very much as regards their local and constitutional effects according to the degree and duration of the heat applied, the extent of surface involved, the seat of the mischief, and the strength of the vital powers at the time of the accident. The great depression which follows immediately after the occurrence of an extensive burn will of course be felt more severely by a weak stramous subject, than by one whose constitutional powers have been previously kept up to the standard of health.

The annual mortality from burns and scalds in England is large. During the year 1866, the deaths registered from these causes were males 2533; of which total there were 1327 children under five years of age. These figures are below the average annual deaths for the last eighteen years.

The number of deaths from this accidental and preventable cause it is satisfactory to know is steadily decreasing; from 162 deaths to each 1,000,000 of persons living in 1858, they have steadily diminished in frequency, till in 1871 only 116 persons out of 1,000,000 died from this cause.

Burns may be conveniently classified into four groups, according as they give rise to simple inflammation of the skin; to inflammation with separation of the cuticle and the production of blisters; to destruction of the papillary layer of derma or cutis; or to disorganization of the entire skin, possibly with injury to the connective tissue and muscles and other soft parts.

(1) The burn which produces simple inflammation of the skin is characterized by redness of the affected part, slight swelling, and severe smarting pains which last for some hours. It may be
caused by the momentary application of hot water, or of steam, or of the rays of a strong fire, or of the flame from a gas explosion. Unless the extent of surface injured be large, the constitutional disturbance in these cases is slight; while the local effects cease in a few days with desquamation of the cuticle. Even in gas explosions, the mischief sustained by the sufferer is chiefly due to the violence with which he is blown down, and not to the action of the flash of flame.

(2) Inflammation of the skin with the exudation of blisters filled with serum results from a more severe burn. The skin becomes tense and red and swollen; while to relieve these effects there is a spontaneous exudation of serum under the injured part. The vesicles are often large, and the pain is hot and smarting. If the vesicles get broken or rubbed off, the excoriated derma becomes exquisitely sensitive. After a scald the elevated epidermis will often peel off in one piece. Thus, I have seen a child's hand, scalded by a mug of boiling bear being upset over it, throw off the cuticle in one piece—like a glove. With more favourable cases the epidermis only exfoliates subsequently, and the part is restored to health without leaving any mark; but not unfrequently suppuration or superficial ulceration takes place, and a cicatrix is left to show the extent of the mischief. The constitutional symptoms are often severe, the shock to the nervous system being especially felt by delicate children.

(3) Destruction of the papillary or superficial layer of the derma cannot always be distinguished from those cases where the whole thickness of the skin is involved. It may, however at times be recognised by noticing that the cauterized tissue is converted into a greyish or brownish slough; the surface of which although insensible on being slightly touched, becomes very painful if pressure be made on it. Where the heat has been intense, the part exposed to it has at once become converted into a dry and dark-coloured eschar; but where the destroying agent has proved a little less powerful, then an ordinary vesicating gangrenous slough has resulted. Under any circumstances, as the eschar, or the slough, begins to separate from the living tissues, at the end of about four days, severe pain gets established; the only partially destroyed sensitive cutis constituting a very delicate sore surface. The suppuration may be excessive, if the subject have previously been in bad health. After the ulceration has healed, a firm white cicatrix remains as a permanent mark of the accident.

(4) Disorganization of the entire skin (possibly with destruction of the subcutaneous connective tissue, muscles, fasciae, and other soft structures) takes place when the heat is very great and its application much prolonged. This form is more often produced by the clothes catching fire, or by a fall into a vat of boiling liquid, than in any other way. Lunatics will sometimes voluntarily produce such an amount of mischief; while epileptics may involuntarily
cause it by tumbling upon the open grate. The pain is most excessive during the application of the burning body, but ceases soon afterwards owing to the destruction of the vitality of the part. A black and hard and dry eschar forms (or a soft eschar in scalds) which at the end of three or four days begins to be detached by suppuration: when perfectly separated, a deep ulcer is left behind. This ulcer gradually heals by granulation; but an indelible cicatrix is formed, which has a great tendency subsequently to contract. Indeed, where the whole thickness of the skin has been destroyed it is impossible to prevent subsequent contraction of the cicatrix; though much may now be done by skin-grafting. When the contraction is excessive, considerable deformity is likely to result. Thus, in burns of the neck, the chin may be drawn down to the sternum and fixed there by the tightening of the cicatrix; in burns involving the pectoral muscles, &c., the arm will perhaps be drawn immovably to the side of the trunk; in burns about the face, the most frightful appearances are likely to be caused by the dragging down of the eyelids, lips, &c.

The constitutional symptoms of the last two classes of burns are very important, and of two distinct kinds—viz., primary and secondary. The primary symptoms are due to the shock and pain; as well as to that congestion and irritation of the cranial, thoracic, and abdominal viscera which often follow quickly after the accident. The shock to the nervous system from the agonizing sufferings may even destroy life almost at the onset; but where the patient survives this, the pain can (by exciting the heart, brain, and spinal cord) give rise to dangerous congestion of some of the vital organs. In the one case there will be extreme prostration, stupor or coma, and coldness of the extremities: in the other, restlessness and excessive excitement, terror or delirium, and a high degree of fever. The secondary symptoms accompany the inflammation and suppuration which is set up for the removal of the destroyed tissues. The inflammation when severe produces general fever with symptoms of cerebral or pulmonary congestion; but it is soon followed by exhaustion, which increases the longer the suppurative stage continues. Convulsions or delirium often precede death where there is extreme prostration. Sometimes there is merely complete collapse from which the patient cannot be roused. If there be considerable cerebral congestion death will happen during the state of coma.

The stage of depression has a variable duration; dependent partly on the age and constitution of the patient, partly on the amount of mischief. Attacks of sickness, cough, dyspnoea, diarrhoea, jaundice, &c., are not very uncommon.

Reference has already been made to the opinion that a sloughing ulcer sometimes forms in the upper part of the duodenum within a few days after a severe burn, and doubtless in consequence of it (see p. 126). Sometimes, this ulcer has rapidly proved fatal by
causing haemorrhage, or by setting up an acute attack of general peritonitis in consequence of perforation.

A careful prognosis is necessary. In some instances the shock to the system is so great that the patient never rallies, and dies within twenty-four hours of the accident. With other cases it will perhaps be difficult to persuade the sufferer to go to bed, the injury in his opinion, being insufficient for such great care; and yet at the end of some twelve or eighteen hours he may become comatose, and die in the course of the second day. Where the burn has been caused by the clothes catching fire, a serious result is very often to be apprehended. The terror, excitement, and shock are excessive; while the extent of affected surface is usually great. If the sexual organs be much injured, recovery is a rare event. Supposing the immediate dangers to be escaped, there is still a trying time to be gone through. A fatal termination may be brought about by inflammation of one of the vital organs; or it can happen from the exhaustion produced by pain, inability to take nourishment, excessive suppuration, &c. Now and then, as already mentioned, death has been due to a gastric or duodenal ulcer leading to perforation or haemorrhage.

With regard to the treatment it ought to be recollected, that the two very frequent causes of early death after burns and scalds are shock and exhaustion. The latter, especially, is always aggravated by pain. Hence the first object of the practitioner should be to quiet the nervous system; and this will be better effected by a dose of opium and a glass of negus or hot brandy and water, than in any other way. When the suffering is intense, or when the stomach rejects everything that is taken, then it may be advisable to put the patient under the influence of some anaesthetic (F. 313), and at the same time to inject a dose of morphia and atropine (F. 314) under the skin.

Each practitioner has some favourite local application. One of the best in my opinion is the common carron oil—the officinal linimentum calcis; which should be freely applied, and the parts then covered with a sufficient layer of cotton wool to exclude the atmospheric air. Cotton wool alone, kept in position by a few light turns of a bandage, at times suffices. Some physicians speak highly of the use of flour, thickly dusted over the burnt or scalded skin; and where there are no vesications it is useful. But when the cuticle is raised into blisters, these are apt to burst; and the serum mixing with the flour forms a dirty, irritating paste, which is with difficulty removed. When the vesicles are large, it is better to puncture them with a fine needle to prevent their rupturing; but care must be taken not to remove the elevated cuticle. The patient will generally find it more comfortable to lie between blankets, rather than in sheets; while if the mischief be extensive, a water bed must be used from the first. The importance of not disturbing the first dressings unnecessarily can
BURNS AND SCALDS.

hardly be too strongly enforced; for independently of the suffering which such meddlesome surgery will always give rise to, the admission of the air to the inflamed surface can only increase the mischief. 'When suppuration is setting in, warm light poultices or plain water dressings often give great relief; but if the inflammatory action is severe, cold goulard water lotions are to be preferred.'

At the end of twenty-four or forty-eight hours reaction will be established; and the occurrence of internal congestions will then have to be guarded against. The state of the brain and its membranes, of the lungs and pleura, of the heart and pericardium, as well as of the abdominal viscera and peritoneum must daily be looked to. Simple effervescing salines and mild laxatives are valuable where the reaction is violent, or where there is congestion of any internal organ; and they often suffice to remove all danger. Supposing we have to treat a child under the influence of excessive reaction, great good will arise from inducing copious sweating; and in no way can this be better produced (when the child is irritable and restless, parched and thirsty, and with a hot dry skin) than by taking it out of bed, gently plunging it into a tub of water at 70° Fahr., and then enveloping it immediately in several warm blankets. A copious perspiration will soon break out over the whole body; and this is to be encouraged for several hours by freely giving sweetened water or barley water.

The subsequent management should depend very much upon the condition of the patient. The numerous symptoms must be combated as they arise; but great caution will have to be exercised in the employment of lowering measures. The progress towards recovery is usually tedious: our object must be to make it sure. The disorganized tissues can only be replaced slowly; and when such replacement is going on satisfactorily our chief duties are limited to removing all sources of irritation, and to taking all the steps we can (by using bandages, splints, india-rubber bands, and other mechanical contrivances) for the prevention of future deformity. It is always advisable to try and support the strength during the whole progress of the case by stimulants in moderate quantities, as well as by such nourishing food as can be digested. Chicken panada, soups, strong beef tea thickened with arrowroot, plenty of good milk, and two or three raw eggs daily are unexceptionable remedies. Cod liver oil will often advance the stage of convalescence. At the same time we must take care that the patient does not pass restless nights, but by the use of sedatives give ease and sleep. Even in the case of young children, although they are very susceptible to the influence of opium, yet this drug proves exceedingly beneficial; and when the injury produces great suffering they bear larger doses than in natural disease.

A rather extensive observation of nurses and their habits has shown me a favourite practice of these women which has not
unfrequently led to most disastrous consequences. At the conclusion of the meal known as "tea," the nurse frequently fills the teapot with water; so that when the children complain of thirst in the course of the evening there may be something for them to drink. In allowing the child to quench its thirst, it is not deemed necessary to pour the cold tea into a cup; but the spout is offered to the lips, and a draught is given. This popular habit leads young children to prefer drinking through the spout as often as the opportunity presents itself; while unfortunately they sometimes avail themselves of the nurse's absence to do so when the teapot contains boiling water, or they even experimentalize with the kettle. Most severe scalds of the fauces, glottis, and pharynx have been thus produced; the spasmodic contraction of the constrictor muscles of the pharynx preventing the passage of the fluid further downwards, and so saving the stomach. In the treatment of these cases we must be guided by the principles already laid down: opium, and soothing diluents (such as treacle and water, or mucilage with liquorice, or linseed tea with honey) being especially required, followed if necessary by the bath. When oedema of the glottis arises, relief may perhaps be given by making rather free scarifications; but if suffocation seems to be imminent, laryngotomy or tracheotomy must be quickly performed. Unfortunately the operation does not often succeed, owing to the prostrating effects of the scald upon the system generally.

V. FROSTBITE AND CHILBLAINS.

1. FROSTBITE.

Severe cold when long continued, produces insensibility, arrest of the circulation, and death of the part to which it is applied. Where the whole frame is exposed to intense cold, the vital powers get much depressed. The heart's action gets diminished in frequency, and there is a strong desire for sleep. If this desire be gratified, the sleep soon passes into coma which will end in death. Examples of frost-bite or gelatio [from Gelo = to freeze] are very rarely seen in this country; but the unfortunate children of drunken parents have suffered severely from it, after exposure to the keen night air of winter. The management of such cases consists in gradually restoring the circulation to the affected part; friction with snow or cold water, followed by the cautious use of stimulants, being the best means of effecting this restoration.

2. CHILBLAIN.

A chilblain, or mild degree of frostbite, is the result of a suspension of vitality in a limited portion of the skin from the
action of cold on the nerves and capillaries. The effect of the cold is not felt at first; but as warmth returns to the affected part there is much itching and tingling, and the toe or finger is found on examination to be red and swollen. This condition lasts for several hours or even days, and the part then resumes its healthy condition; or if the morbid action continues, vesication and ulceration take place, and what is called a broken chilblain results. It is essentially a disease of childhood.

The treatment must consist in making gentle attempts to restore the normal circulation and tone of the chilled member by frictions with powdered starch or stimulating liniments. For this purpose the iodine ointment, or the iodide of lead ointment, or the iodine liniment, or the ointment of elemi, or the ointment of resin mixed with an equal quantity of turpentine ointment, or the compound camphor liniment, or the turpentine liniment of the British Pharmacopoeia may be prescribed; or the skin may be painted twice daily with the tincture of iodine. When the chilblain has ulcerated, it must be at first soothed by water dressing or by bread poultices mixed with goulard water; but subsequently (unless it heals kindly) it is often advisable to apply stimulating ointments, such as the ointment of resin mixed with a little turpentine. The constitutional powers will generally be found to be below the normal standard. Hence tonic medicines (especially F. 405) must usually be required, and attention will have to be paid to the digestive organs.

In the way of prevention few remedies are more serviceable than cod liver oil, which should be taken once or twice daily through the whole winter. Warm clothing and nourishing food are of course indispensable. Thin and tight-fitting boots and gloves are to be discarded during the cold months.
APPENDIX OF FORMULÆ.

In prescribing a medicine, attention must be paid to the following points:—Age, Sex, Temperament, Habit, Condition of System, Climate, and Season of the Year. The operation of most drugs is materially influenced by the form in which the medicine is given, the purity of the preparation, the time of day at which the dose is taken, and the condition of the stomach as regards the presence or absence of food. The subsequent formulae are for Adults, unless the contrary is stated. The doses may, except in the case of mercurials and narcotics, be reduced by attention to this table:—

<table>
<thead>
<tr>
<th>Age</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 or gr. 60</td>
</tr>
<tr>
<td>&lt;</td>
<td>1-12th or gr. 5</td>
</tr>
<tr>
<td>2</td>
<td>1-8th or gr. 7</td>
</tr>
<tr>
<td>3</td>
<td>1-6th or gr. 10</td>
</tr>
<tr>
<td>4</td>
<td>1-4th or gr. 15</td>
</tr>
<tr>
<td>7</td>
<td>1-3rd or gr. 20</td>
</tr>
<tr>
<td>14</td>
<td>1-half or gr. 30</td>
</tr>
<tr>
<td>20</td>
<td>2-3rd or gr. 40</td>
</tr>
</tbody>
</table>

Above 21, the full dose.

65, the dose must be diminished in the inverse gradation of the above.

Children bear as large doses of mercury as adults; but they are much more susceptible to the influence of opiates. Consequently, opium must be given in very minute doses to them. Females, also, from their more delicate organisation and greater sensitiveness, require smaller quantities of powerful medicines than males. Thus is particularly the case during the periods of menstruation, pregnancy, and lactation.

The skill of the physician is shown by the administration of the proper remedy, in the proper quantity, at the proper time. A druggist’s apprentice can tell what agents will purge, vomit, or sweat; but a man must be practically conversant with disease to be able rightly to apply his therapeutical resources to the exigences of any particular case. Instead of introducing medicines into the system by the stomach it is often more advisable to do so by the rectum, or by the skin, or by the lungs, or by injection into the areolar tissue. Absorption takes place from the rectum as speedily and surely as from the stomach; and hence purgatives, emetics, narcotics, tonics, and nutrients may be admirably administered as enemata. The skin offers a mechanical impediment to absorption; but still poultices and fomentations, plasters, liniments and ointments, and medicated vapour or water baths are all valuable remedies. If the cuticle be removed by a blister, and the medicine applied to the denuded dermis in its pure state or incorporated with lard or mucilage, its action will be rapid. The system is quickly and thoroughly affected by the inhalation of medicated vapours, or of substances reduced to an impalpable powder. Subcutaneous injections must be employed with great caution; since by this plan none of the medicine is lost, neither is it altered or diluted "by the contents of the stomach, as happens when drugs are taken by the mouth.—In only exceptional cases can there be any advantage in procuring absorption through the conjunctiva, the nasal or pituitary membrane, or the mucous coat of the vagina; but in these exceptional cases the benefit is often very great.—Injection into the
voins is too dangerous to allow of its being practised except as a last resource in grave diseases—such as epidemic choleras, snake-bite, &c.

The practitioner will do well to bear in mind the following rules:—(1) When a disease is progressing favorably towards recovery, it is unwise to interfere with the spontaneous effort at cure by the administration of drugs. The end and aim of treatment is not only to restore health, but to do so safely and speedily and pleasantly.—(2) Where drugs are needed, and there is a choice of remedies, employ that one which will be the least distressing at the time, and subsequently the least injurious to the constitution.—(3) Put the medicine into that form in which it can be most easily taken. When possible, especially with children, cover the disagreeable taste of the draught by syrups, &c.—(4) If there be an idiosyncrasy with respect to any special medicine—such as mercury, arsenic, iodide of potassium, opium, strychnia or nux vomica, quinine, asafetida, turpentine, &c., avoid administering it. That a peculiarity of constitution, causing an extreme susceptibility to the influence of certain drugs and foods and odours sometimes exists, cannot be disputed. It is as certain that it can seldom be safely combated.—(5) Attend to the condition under which the patient will be at the period of the medicine’s action: e.g., it will be worse than useless to give a sudorific to an individual obliged to be in the open air soon after taking it.—(6) Be careful that the various agents in the prescription are not incompatible with each other, unless it be desired to form some new or particular compound. Chemical incompatibility, however, is by no means synonymous with therapeutical inertness; for experience tells us that certain unchemical compounds—perchloride of mercury and tincture of bark, gallic acid and tincture of opium, calomel and compound ipecacuanha powder, &c., are all valuable preparations in curing diseases.—(7) Remember that if a disease be incurable, it may still admit of great alleviation. Hence it is cruel to give up any case; although, at the same time, the patient is not to be deceived by false promises.—(8) Never order, or sanction the use of, a quack medicine; i.e., one the composition of which is kept a secret.—(9) Bearing in mind the weakness of human nature, as well as the prejudices and superstitions which are current, it is not only necessary to give good advice, but pains must be taken so to impress the patient and attendants that the necessary treatment may be thoroughly carried out.

Hope and confidence are no mean remedial agents; and in many chronic diseases at least, the individual who has faith will recover more speedily, castis paribus, than he who is ah of belief.—(10) Simply to prescribe drugs, without regulating the diet and general management of the patient, is to omit a most important duty. In acute diseases plain directions must be given as to the ventilation and warmth of the sick-room, the amount of light, the position of the bed (not to be placed in a corner), the degree of quiet, to be maintained, the avoidance of excitement and whispering, the exclusion of visitors, the cleanliness of the sufferer, and the nature and quantity and times for administration of food. No cooking whatever should be permitted in the sick-room. In cases of long illness, when the patient can be moved without risk, it is often desirable to have two beds in the room—one to be occupied during the day, the other at night. Every precaution must be taken to prevent the spread of infectious disorders. Soiled linen, dirty water, &c. must be immediately removed. And, in all instances, the evacuations ought to be passed in a bedpan or nightsoil containing some disinfectant material (carbolic acid, permanganate of potash, sulphate of iron, &c.)—(11) While it is allowed that the following formulæ may often be employed unaltered with great advantage, yet it is not supposed that they will usually be prescribed with servile exactness; for it should never be forgotten that all medicines of any power have to be adapted to the requirements of the special case under treatment. It has been quaintly but truly observed, that a bundle of ready-made receipts in the hands of the routine practitioner is but a well-equipped quiver on the back of an unskilful archer.—And (12) in watching the restoration of a sick man to health, it is a mistake to attribute the improvement too confidently to the action of the medicine prescribed; for it may not have been taken, or it may not have been absorbed, or its properties may have been destroyed by adulteration, or it may have even proved injurious—recovery occurring in spite of it.

With regard to the manner of writing prescriptions the physician is strongly advised to adopt a clear and distinct style, as well as to give all the directions fully in the English language. Hieroglyphics and illegible scrawls, absurd abbreviations and bad Latin, are more fit for the work of astrologers or fortune-tellers, than for that of scientific men in the present day. Such caligraphic abominations may
impose upon the vulgar; but people of sense merely view them as clocks for ignorance. Looking at the public as a body, there is not the slightest reason why each member of it, when ill, should be kept in ignorance of the nature of the remedies he is asked to take. There is nothing unreasonable in a patient being afraid of mercury, arsenic, opium, &c.; but in nineteen cases out of twenty all fear will be banished by a straightforward explanation of the physician's reasons for prescribing such drugs. Surely he must be either a very credulous or thoughtless individual who will take a nauseous draught, he scarce knows why; to effect, he knows not what. And this being so, ought not medical men to be the last to foster such folly? Complaint is made of the enormous consumption of patent medicines; but if the public be educated blindly to take drugs without any question as to what such medicines consist of and what they are to accomplish, who can wonder that charlatanism thrives? The most formidable opponent to all kinds of medical quackery is the physician who carefully investigates the cases of disease which come before him, and who treats his patients as sensible beings anxious to know something of the nature of their complaints and how they are to be overcome.

The succeeding formulae have been written in accordance with the rules, preparations, &c. of the British Phaeno opus et of 1867. For the sake of convenience they are arranged in twenty-one classes, running thus:

1. Aliments ............................ 603 12. Gargles and Inhalations ............................ 548
2. Alteratives and Resolvents ............... 509 13. Lotions Liniments, Collyria, and Ointments .................. 551

The symbolic formulae employed here and there in these volumes, have been represented according to the new method of notation.

I. ALIMENTS.

Formula I. Extracts and Essence of Beef.

Take one pound of rumpsteak, mince it like sausage meat, and mix it with one pint of cold water. Place it in a pot at the side of the fire to heat very slowly. It may stand two or three hours before it is allowed to simmer, and then let it boil gently for fifteen minutes. Skim and serve. The addition of a small teaspoonful of cream to a teacupful of this beef tea renders it richer and more nourishing. Sometimes it is preferred when thickened with a little flour or arrowroot.

Essence of Beef.—Take one pound of gravy beef free from skin and fat, chop it up as fine as mincemeat, pound it in a mortar with three tablespoonfuls of soft water, and let it soak for two hours. Then put it into a covered earthen jar with a little salt; cementing the edges of the cover with pudding paste, and tying a piece of cloth over the top. Place the jar in a pot half full of boiling water, and keep the pot on the fire for four hours. Strain off (through a coarse sieve, so as to allow the smaller particles of meat to pass) the liquid essence, which will amount to about five or six ounces in quantity. Give two or more teaspoonfuls frequently. In great debility, diptheria, typhus, exhaustion from hemorrhage, &c.

The Extract of Meat Lozenges, as sold by Allen and Hanbury, can sometimes be taken when the stomach is too irritable to retain beef tea. Each lozenge contains half its weight (or about eighteen grains) of pure Extract of Meat made after Leriche's process. This quantity corresponds to the soluble constituents of an ounce.
and a quarter of solid flesh, and will afford the sustaining and restorative effect of soup or beef tea made from that quantity of meat—A good broth may be made by dissolving four of these lozenges in a wineglassful of boiling water, or better still, of home-made beef tea, adding a little salt and pepper to taste.

Excellent meat extracts and concentrated beef tea are also prepared by Brand and Co., and Gillon, which are more trustworthy than domestic preparations, and are often invaluable in emergencies.

**Lieber's Extract of Meat** is a valuable preparation. It is of uniform strength, one pound being the product of thirty-four pounds of pure muscular tissue. This corresponds to about forty-five pounds of butcher's meat (including fat, bones, connective tissue, &c.); so that the carcass of a good ox very seldom yields more than ten pounds of extract. It must not be supposed, however, that the extract is in any way the equivalent of the meat from which it has been obtained, or that it contains all the elements for nutrition. It is rather a stimulant than a food from which tissues can be built up, and may be injurious if relied on exclusively or taken in too large quantity and in a highly concentrated form. One ounce of this extract will make four pints of excellent beef tea; each pint representing the soluble ingredients of rather more than half a pound of beef. Besides mixing the extract with water it will often be advantageous to add it to common beef tea, to vegetable soups, to a mixture of brandy and eggs, or to wine. Sometimes invalids will eat it spread on bread and butter, or on toast, like a potted meat.

### 2. Restorative Soup for Invalids.

Take one pound of newly killed beef or fowl, chop it fine, add eight fluid ounces of soft or distilled water, four or six drops of pure hydrochloric acid, 30 to 60 grs. of common salt, and stir well together. After three hours the whole is to be thrown on a comical hair sieve, and the fluid allowed to pass through with slight pressure. On the flesh residue in the sieve pour slowly two ounces of distilled water, and let it run through while squeezing the meat. There will be thus obtained about ten fluid ounces of cold juice (cold extract of flesh), of a red colour, and possessing a pleasant taste of soup; of which a wineglassful may be taken at pleasure. It must not be warmed (at least, not to a greater extent than can be effected by partially filling a bottle with it, and standing this in hot water); since it is rendered muddy by heat or by alcohol, and deposits a thick conglom of albumen with the colouring matter of blood—if, from any special circumstance (such as a free secretion of gastric juice) it is deemed undesirable to administer an acid, the soup may be well prepared by merely soaking the minced meat in plain distilled water—Children, and even adults, will frequently take the raw meat simply minced or grated, when they are suffering from great debility. One teaspoonful of such meat may be given every three or four hours. If found disagreeable, all unpleasantness can be removed by thoroughly mixing in a mortar two parts of pounded white sugar with one part of meat.

*This modification of Liebig’s formula is very valuable in cases of continued fever, in dysentery, and indeed in all diseases attended with great prostration and weakness of the digestive organs.* When the flavour is thought disagreeable, it may be concealed by the addition of spice, or of a wineglassful of claret to each teacupful of soup.

### 3. Digested Milk and Soluble Meat.

Milk, five ounces; pepsine, five grains; dilute hydrochloric acid, thirty minims. Digest in a water bath at a temperature of 120° F. for two hours, after which neutralize the acid by twelve grains of carbonate of soda, and sweeten with pure sugar.

*Useful for children who are unable to digest milk, and in cases of extreme irritable-ness of stomach.*—SIR WILLIAM JENNER.

**Soluble Meat.**—About two pounds of lean meat, chopped into pieces, are put into a china pan, with a quart of water, containing half a fluid drachm of strong hydrochloric acid. The pan is then put into a copper kettle, perfectly sealed and subjected to maceration for about fifteen hours. The contents are then crushed in a mortar until they constitute an emulsion, and then put back into the kettle again for about fifteen hours. The substance thus obtained must be then completely
neutralized with bicarbonate of soda, and evaporated afterwards to the consistancy of pap. When thus prepared, this soluble meat is generally accepted by patients. Milk and pounded biscuit may, however, be added for the sake of variety, and in order to avoid too great uniformity of food.—Du. MARKEY.

4. Liebig's Food for Infants and Invalids.

Half an ounce of wheaten flour (that called "seconds" is the most suitable), an equal quantity of malt flour, 71 grains of bicarbonate of potash, and an ounce of water, are to be well mixed. Add five ounces of cow's milk, and put the whole on a gentle fire. When the mixture begins to thicken it is to be removed from the fire, stirred for five minutes, heated and stirred again till it becomes quite fluid, and finally made to boil. After separating the brain by passing the mixture through a sieve, it is ready for use.

To save the trouble of weighing, it may be remembered that a tablespoonful (heaped up) of wheaten flour weighs nearly half an ounce, and a heaped dessert-spoonful of malt flour is equal to the same. This soup is as sweet as milk; and after boiling, may be kept for 24 hours without undergoing any change. This is an excellent food for infants who cannot be suckled. It is slightly aperient, so that children under one year of age can seldom take more than two meals of it in the day. Where there is a tendency to diarrhoea, twenty grains of prepared chalk may be substituted for the potash. The proportion of blood-forming and heat-producing elements is the same as in woman's milk (1:3:8); while the quantity of alkali is equivalent to that in human milk.

The solid parts of this food are sold ready mixed in packets, by Mr. Hooper at Pall-Mall East and Grosvenor-street, Mr. Cooper, of 26, Oxford-street, as well as by many other chemists. Barley malt can also be procured from every brewery. It may be ground in a common coffee mill; the coarse powder being passed through a sieve to remove the husks.

5. Eggs, Cream, and Extract of Beef.

Wash two ounces of the best pearl sago until the water poured from it is clear. Then stew the sago in half a pint of water until it is quite tender and very thick: mix with it half a pint of good cream and the yokes of four fresh eggs, and mingle the whole carefully with one quart of good beef tea, which should be boiling. Serve. This nourishing broth is very useful in many cases of lingering convalescence after acute diseases.

6. Mutton or Veal Broth—Beef Tea.

Take of mutton or veal or beef one pound and a half, cold water one quart, a little salt, and rice two ounces. Simmer for four hours, boil for a few minutes, strain and serve. Another excellent plan for making beef tea is as follows:—Take one pound of beef minced very fine, and put it into a common earthenware tureen with a pint and a half of cold water. Stand the pot on the hob, so that it may simmer for at least three hours. About three-quarters of a pint of good beef tea will be thus obtained.

One pound of mutton, one pound of veal, half a chicken (with the bones well-broken), one calf's foot, and two quarts of water. To be stewed down to one quart. To be flavoured with pepper and salt, and taken cold as a jelly, or as a warm broth. The chicken can be omitted if desired.

Beef tea as ordinarily made, and preserved meat juice of all kinds, are palatable but not very nutritive drinks. A pint of fine beef tea contains scarcely a quarter of an ounce of anything but water. Nevertheless, if these fluids are of small value as mere nutrients, perhaps the osmazome and salts they contain may possess the property, like tea and coffee, of diminishing the waste of the tissues. It has been proved that dogs die slowly if fed on bread and gelatine alone; but when greatly reduced by this diet they soon regain flesh and strength if two ounces of mutton tea be daily added to it. Gruel mixed with beef tea is nourishing. It is made thus:—Take two tablespoonfuls of oatmeal with three of cold water, and mix them thoroughly. Then
add a pint of strong boiling beef tea (or of milk); boil for five minutes, stirring well to prevent the oatmeal from burning; and strain through a hair sieve. — An excellent simple restorative during convalescence from acute disease before solid food can be taken.

7. Spruce Beer.

The essence of spruce is prepared by boiling down to concentration the young branches of the Black Spruce Fir (Abies Nigra). Take of this essence half a pint; bruised pimento and ginger, of each four ounces; water three gallons. Boil for five or ten minutes; then strain, and add eleven gallons of warm water, a pint of yeast, and six pints of molasses. Mix, and allow the mixture to ferment for twenty-four hours. It is an admirable antiscorbutic, and is a agreeable and wholesome drink in warm weather. This drink was found very efficacious by Captain Cook. Dr. Robert Barnes suggested that it should be used in the Merchant Service instead of rum, which has no antiscorbutic virtue.

8. Tapioca and Cod Liver.

Boil a quarter of a pound of tapioca till tender, in two quarts of water; drain it in a colander, then put it back in the pan; season with a little salt and pepper, add half a pint of milk, and put over one pound of fresh cod liver cut in small pieces. Set the pan near the fire to simmer slowly for half an hour, or a little more; till the liver is quite cooked. Press on it with a spoon, so as to get as much oil into the tapioca as possible. After taking away the liver, mix the tapioca. If too thick, add a little milk, then boil it a few minutes; stir round, add a little salt and pepper, and serve.—Alexis Soyer. Tapioca thus cooked is nourishing and easily digested.

9. The Bran Loaf.

The formula used by Mr. Camelin, in Diabetes, is as follows:—Take a sufficient quantity (say two or three quarts) of wheat bran, boil it in two successive waters for ten minutes, each time straining it through a sieve, then wash it well with cold water (on the sieve), until the water runs off perfectly clear; squeeze the bran in a cloth as dry as possible, then spread it thinly on a dish, and place it in a slow oven—if put in at night, let it remain until the morning, when, if perfectly dry and crisp, it will be fit for grinding. The bran thus prepared must be ground in a fine mill, and sifted through a wire sieve of sufficient fineness to require the use of a brush to pass it through; that which does not pass at first ought to be ground and sifted again, until the whole is soft and fine.

Take of this bran power three ounces troy, three fresh eggs, one ounce and a half of butter, and rather less than half a pint of milk; mix the eggs with part of the milk, and warm the butter with the other portion; then stir the whole well together, adding a little nutmeg and ginger, or any other agreeable spice. Immediately before putting into the oven, stir in first thirty-five grains of sesquicarbonate of soda, and then three drachms of dilute hydrochloric acid. The loaf thus prepared should be baked in a basin (previously well buttered) for about an hour or rather more.

Biscuits may be prepared as above, omitting the soda and hydrochloric acid and part of the milk, and making them of proper consistence for moulding into shape.

If properly baked, the loaves or biscuits will keep several days; but they should always be preserved in a dry place, and not be prepared in too large quantities at a time.

10. White Wine Whey.

To half a point of boiling milk, add one or two wineglassfuls of sherry or Madeira. The curd is to be separated by straining through a fine sieve or piece of muslin. Sweeten the whey with refined sugar.
11. **Caudle.**

Beat up one egg with a wineglassful of sherry, and add it to half a pint of fine hot gruel. Flavour with sugar, nutmeg, and lemon peel. In insomnia with delirium.

Beat up two tablespoonfuls of cream in a pint of thin cold gruel. Add to this one tablespoonful of caraway or noyce nut, and a wineglassful of sherry. Flavour with sugar-candy, and let half a tablespoonful be taken, cold, at intervals.

12. **Ferruginous Chocolate.**

Spanish chocolate 16 oz.; carbonate of iron half an ounce. Divide into one-ounce cakes. One to be dissolved in half a pint of hot milk, and taken night and morning. In anemia, amenorrhea, &c.

13. **Iceland Moss and Quinine Jelly.**

Take of Iceland moss (Cetraria), and Irish moss (Chondrus crispus, Carragheen), each one ounce. Boil slowly for three-quarters of an hour in a pint and a half of milk, strain through muslin, and add three ounces of white sugar dissolved in one ounce of the compound tincture of quinia (equal to eight grains of the salt). A dessertspoonful to be taken frequently in the course of the day. In phthisis, tabes mesenterica, &c.

14. **Lime Water and Milk.**

R. Liquoris Calcium Saccharati, min. 20—90, vel Liquoris Calcium, fl. oz. 1—4; Lactis, fl. oz. 4. Mix. This compound will sometimes be retained when all other food is ejected. As a variety, milk and soda water in equal proportions, may also be ordered. See F. 73.

It may be well to remember that the addition of grs. 15 of Bicarbonate of Soda to the quart of fresh milk not only prevents it from turning sour for several hours, but renders it more digestible.

15. **Artificial Ass's and Goat's Milk.**

Take half an ounce of gelatine, and dissolve it in half a pint of hot barley water. Then add an ounce of refined sugar, and pour into the mixture a pint of good new cow's milk.

Chop an ounce of suet (that of the calf is the best) very fine, tie it lightly in a muslin bag, and boil it slowly in a quart of new milk. Sweeten with white sugar, or a glass of any liqueur. An excellent aliment in some cases of tabes mesenterica, &c., where the unpleasant odour of goat's milk prevents its being taken.

16. **Milk, Flour, and Steel.**

Beat up carefully one tablespoonful of flour, one raw egg, and about twenty grains of the saccharated carbonate of iron, with half a pint of new milk: flavour with nutmeg and white sugar. To be taken for lunch with a biscuit. In the early stages of tuberculosis the Author has found this mixture very valuable.

17. **Brandy and Egg Mixtures.**

Take the whites and yolks of three eggs and beat them up in five ounces of plain water. Add slowly three ounces of brandy, with a little sugar and nutmeg. This form is preferable to that in the British Pharmacopoeia for 1867; which form contains an insufficient quantity of egg, while it is spoilt for sensitive stomachs by the cinnamon water it is mixed with. Two tablespoonfuls should be given every four or six hours. In some cases of great prostration the efficacy of the mixture is
much increased by the addition of one drachm of the tincture of yellow cinchona to each dose.

When the stomach is very irritable the following will often be useful:—Take a tablespoonful of cream and beat it up thoroughly with the white of a new-laid egg. Add slowly to the frothy mixture thus obtained, one tablespoonful of brandy in which a lump of sugar has been dissolved.

Let the white and yolk of an egg be beaten up in a wineglassful of water, with 16 drops of brandy and white sugar. Two eggs thus treated, in the 24 hours will serve for the food of an infant brought up by hand.

18. Bread Jelly.

Take a quantity of the soft part of a loaf, break it up, cover it with boiling water, and allow it to soak for some hours. The water—containing all the noxious matters with which the bread may be adulterated—is then to be strained off completely, and fresh water added; place the mixture on the fire, and allow it to boil for some time until it becomes smooth; the water is then to be pressed out, and the bread on cooling will form a thick jelly. Mix a portion of this with sugared milk and water, for use as it is wanted.—Dr. Churchill. A good food for infants at the time of weaning, for children with acute disease, etc.


Mix together half a pint of Musciago Acacie, Mistura Amygdalae, and pure milk; sweeten with sugar, candied or honey; and add one large tablespoonful of any liqueur. Allow the whole to be taken during the day.—Or, a large pinch of isinglass may be boiled with a tablespoonful of milk, half a dozen bruised almonds, and two or three lumps of sugar. To be taken warm once or twice in the day.

These drinks are very grateful in cases of tonsillitis, ulceration of the pharynx, &c.; also in some cases of debility, with irritability of the stomach, and a tendency to diarrhoea.

20. Indian Sarsaparilla and Barley Water

B. Syrupi Hemidesmi, fl. oz. 2; Glycerini, fl. oz. 1; Decocti Hordei, fl. oz. 9. Mix, and direct one tablespoonful to be taken frequently. An agreeable demulcent, slightly alterative, and diaphoretic mixture. Useful in the eruptive fevers, and for inflammations of the mucous membranes.


An excellent nutritious enema can be made by mixing together from four to eight ounces of strong beef tea, an ounce of cream, and half an ounce of brandy or an ounce and a half of port wine. It may be administered twice or thrice in the course of twenty-four hours. In cases of acute gastritis, carcinoma of the stomach, obstinate vomiting, &c., where it is necessary to avoid giving food by the mouth.

Another form may run thus:—Take four or six ounces of restorative soup prepared without any acid (F. 2), one ounce of cream, two teaspoonfuls of brandy, and either fifteen minims of liquid extract of opium, or ten grains of citrate of iron and quinia.

22. Cod Liver Oil and Bark Enema.

Take four ounces of milk, one ounce of port wine, half an ounce of cod liver oil, two drachms of tincture of yellow cinchona, and twenty minims of liquid extract of opium. Mix. To be administered every twelve hours.

23. Quinine and Solution of Beef Enema.

Take one tablespoonful of brandy, five grains of sulphate of quinia, one teaspoonful of glycerine, two tablespoonfuls of cream, and from four to eight ounces of restorative soup (F. 2). Mix. This enema can be administered every six or eight
hours. Where the rectum is very irritable, or it is necessary to relieve pain, from fifteen to twenty minims of the liquid extract of opium may be advantageously added.

In all nutrient enemata Liebig's extract may be advantageously substituted for domestic beef-tea, the solid particles floating in which are not absorbed. When nutritive enemata are required for any length of time the rectum should be occasionally washed out by a copious injection of warm water to prevent irritation by accumulation and decomposition of unabsorbed residuum.

II. ALTERNATIVES AND RESOLVENTS.


R. Pilulae Hydrargyri Subchloridi Composite, gr. 5; Extracti Opii, gr. ½.
Make a pill, and direct it to be taken every night or night and morning. In disorders dependent on a venereal taint.

25. Calomel and Opium.

R. Hydrargyri Subchloridi, gr. 2; Pulveris Opii, gr. ½; Confectionis Rose Gallicae, sufficient to make a pill. To be taken every four hours. As an alternative, when it is wished to get the system quickly under the influence of mercury.

26. Mercury and Conium, or Quinine.

R. Hydrargyri cum Cretâ, gr. 2; Extracti Conii, gr. 3. Mix, and form a pill to be taken three times a day. In syphilitic tubercular diseases.

R. Hydrargyri cum Cretâ, gr. 1–4; Quiniae Sulphatis, gr. 1; Extracti Gentianæ, gr. 1. Mix, and form a pill, to be taken three times a day. A convenient form of administering mercury in secondary syphilis, and little liable to give rise to troublesome salivation.

27. Perchloride of Mercury, or Corrosive Sublimis.

R. Hydrargyri Perchloridi, gr. 1; Ammonii Chloridi, gr. 5; Extracti Sarsi Liquidi, fl. drs. 12; Decostis Sarsi Composite, ad fl. oz. 12. Mix. Direct.—"Two small tablespoonfuls to be taken three times a day."—In confirmed constitutional syphilis, as well as in some forms of eczema, prurigo, follicular vaginitis, chronic metritis, &c.

R. Hydrargyri Perchloridi, gr. 1; Glycerini, fl. oz. 1; Tincturae Cinchomone Composite, ad fl. oz. 3; Olei Menthae Piperitis, min. 25. Mix. Direct.—"One teaspoonful in a wineglassful of water three times a day." In constitutional syphilis, some forms of haemorrhage, and certain varieties of verigo.

R. Hydrargyri Perchloridi, gr. 1; Extracti Opii, gr. 3–6; Guaiacei Resine, gr. 100; Glycerini, sufficient to make a mass. Divide carefully into twenty-four pills, and order two to be taken three times a day. In some varieties of chronic rheumatism, secondary syphilis, and skin diseases.

28. Mercury, Squilla, and Digitalis.

R. Pilulae Hydrargyri, gr. 3; Digitalis Folis, gr. ½; Pulveris Scillae, gr. 1½.
Mix, and form a pill to be taken twice or three times a day. As an alternative and diuretic, in some cases of dropsy.
29. Bromide of Mercury and Sarsaparilla.

B. Hydargyri Bromidi, gr. ½; Extracti Sarsae Liquidi, fl. drs. 2; Decoeti Sarsae Compositi, fl. drs. 10. Mix. To be taken three times a day. In syphilitic lepra, and oblate secondary syphilitic eruptions.

30. Podophyllum Peltatum, or May-apple.

B. Podophylli Resinae, gr. ½; Pulveris Ipecacuanhae, gr. ½; Extracti Gentianae, gr. 3. Mix. Make a pill, to be taken twice or thrice daily. In syphilis, scrofula, jaundice from suppression, skin diseases, &c. As a simple alternative it is perhaps as valuable as mercury, without poisoning any injurious qualities. One or two grains of quinine may be advantageously added to each pill, where there is general debility. See F. 100.

31. Iodide of Potassium Mixtures.

* * * Potassii Iodidi, gr. 20—30; Tinctura Serpentinae, fl. drs. 3; Mistari-Guaini, ad fl. oz. 8. Mix. One-sixth part to be taken three times a day. Valuable in chronic and gouty rheumatism, in tabes, some forms of neurasthenia, &c.

B. Potassii Iodidi, gr. 30; Potassae Bicarbonatis, gr. 60; Tinctura Hyoscyami, fl. drs. 3; Infusi Cinchona Flava, ad fl. oz. 8. Mix. One sixth part three times a day. In chronic rheumatism with an abundance of lithates in the urine; as well as in some cases of eczema, &c.

* * * Potassii Iodidi, gr. 2; Vini Colchici, min. 15; Tinctura Aconiti, min. 3—8; Infusi Rhei, fl. oz. 1. Make a draught, to be taken three times a day. In acute and suppressed and chronic gout.

B. Potassii Iodidi, gr. 3—5; Spirituum Ammonis Aromatici, min. 40; Tinctura Belladonae, min. 5—15; Tinctura Cinchoniae Composita, fl. drn. 1; Aq. Menthei Piperiti, ad fl. oz. 1½. Make a draught. To be taken three times a day. In some cases of asthma the Author has found remarkable benefit from this formula.

B. Potassii Iodidi, gr. 15—30; Vini Colchici, min. 90; Tinctura Hyoscyami, fl. drs. 6; Magnesiae Sulphatis, gr. 220; Infusi Anthemidis, ad fl. oz. 8. Mix. One sixth part three times a day. In some instances of gout with fever and constipation, and in chronic pleurisy with effusion. Also in cases of lead and mercurial poisoning occurring in gouty subjects.

B. Potassii Iodidi, gr. 60; Tinctura Rhei, fl. oz. 1; Extracti Sarsae Liquidi, fl. oz. 2. Mix. Label.—"A small teaspoonful in a wineglassful of water three times a day." In syphilitic skin diseases, in nodes, and in follicular inflammation of the pharyngeal mucous membrane, &c.

B. Potassii Iodidi, gr. 100—400; Ammonis Carbonatis, gr. 30; Tinctura Aurantii, fl. oz. 3½. Mix. A teaspoonful to be taken three times a day in a wineglass of water, or with two ounces of Decoction of Sarsaparilla. In syphilitic disease of the nervous system or severe forms of tertiary syphilis. Large doses of the Iodide of Potassium are better borne after meals.

B. Potassii Iodidi, gr. 30—120; Glycerini, fl. oz. 1; Tinctura Aconitii, min. 20; Vini Ipecacuanhae, fl. drs. 2; Succi Taraxaci, fl. drs. 6; Decoeti Sarsae Compositi, ad fl. oz. 8. Mix. One sixth part three times a day. In severe gonorheal rheumatism, tertiary syphilis, secondary spreading syphilitic ulcers, bronchocoele, scrofulous sores, aneurism, &c.

B. Potassii Iodidi, gr. 15; Tinctura Assafetidae, min. 90; Tinctura Senega, fl. drs. 3; Syrupi Mori, ad fl. oz. 3. Mix. Label.—"One teaspoonful every two, three, or four hours." For a child about two years old, suffering from croup. Also in cases of infantile pneumonia.
32. Iodide of Iron Mixtures.

B. Ferri Iodidi, gr. 6—18; Glycerini, fl. drs. 12; Infusi Calumba, ad fl. oz. 8. Mix. One sixth part three times a day. In the early stages of tuberculosiis, and in strumous ulcers, where the stomach will not tolerate cod liver oil.

B. Potassii Iodidi, gr. 30; Ferri et Ammonii Citratis, gr. 60; Aqva Deciduata, fl. drs. 2; Glycerini, fl. drs. 6; Olei Menthe Piperite, min. 10; Olei Morrhuae, ad fl. oz. 6. Mix. One tablespoonful after the two chief meals of the day.

B. Potassii Iodidi, gr. 12; Ferri et Quiniec Citratis, gr. 30; Tinctura Acorni, min. 25; Infusi Chiratae, fl. oz. 6. Mix. One sixth part three times a day. In chronic rheumatism with debility, etc.

B. Tincturae Ferri Perchloridie, Tincturae Iodi, aë min. 10; Aqva Camphorae, fl. oz. 1. Make a draught, to be taken three times a day. Useful in strumous affections of the cervical glands, mesenteric disease, and some cutaneous disorders.

B. Syrupi Ferri Iodidi, Extracti Sarsae Liquidi, aë fl. oz. 1. Mix. Direct.—"One teaspoonful in two tablespoonfuls of water three times a day." In chronic rheumatism, old-standing venereal affections, etc.

B. Potassii Iodidi, gr. 3—8; Ferri et Ammonii Citratis, gr. 20; Syrupi Papaveris, fl. drs. 3; Infusi Quassiae, ad fl. oz. 4. Mix. One tablespoonful three times a day. For children with takes mesenterica. Useful also for strumous subjects who have had ascariis.

33. Iodide of Potassium and Mercury.

B. Ammonii Carbonatis, gr. 30; Potassii Iodidi, gr. 20; Tincturae Acorni, min. 30; Tincturae Chloroformi Compositae, fl. drm. 1; Tincturae Cinchonae Flave, fl. drs. 6; Olei Menthe Piperite, ad fl. oz. 8. Mix. Direct.—"One sixth part three times a day, viz. at 8 a.m., 2 p.m., and 7 p.m." At the same time.

B. Hydrargyri Iodidi Viridi, gr. 2; Extracti Opii, gr. 1; Extracti Hyoscyami, gr. 6. Mix, divide into two pills, and order one to be taken every night at 11 o'clock as long as the mixture is continued. Very useful in many forms of constitutional syphilis, with sleepless nights.

34. Mercury and Chalk, with Dover's Powder, &c.

B. Hydrargyri cum Cretà, Pulveris Ipecacuanhae Compositae, aë gr. 5. Mix, and make a powder to be taken every eight or twelve hours. In diarrhoea with unhealthy constipation, and in mild dysentery.

B. Soda Bicarbonatis, Hydrargyri cum Cretà, aë gr. 2; Magnesii Carbonatis, gr. 5. Mix, and make a powder to be taken every other night. An alternative and aperient for children when there is great acidity of the secretions.

B. Hydrargyri cum Cretà, gr. 1—2; Pulv. Rhei, Soda Bicarbonatis, aë gr. 2—4. Mix, and make a powder to be taken every night or every other night. An aperient and aperient for children when the stools are pale, or during feverishness attending dentition, etc.

35. Cyanide of Mercury.

B. Hydrargyri Cyanidi, gr. 1; Extracti Opii, gr. 4; Extracti Conii, gr. 40. Mix thoroughly, divide into sixteen pills, and order one to be taken night and morning. For long-standing syphilitic eruptions, ulcers, sore throats, etc. A lotion or gargle can be used at the same time made with six grains of the Cyanide of Mercury to a pint of water or of infusion of linseed.

36. Tar Pills and Capsules.

B. Picis Liquidae, oz. 1; Pulveris Aromatici, oz. 1. Mix, divide into five-grain pills, and order two or three to be taken three times a day.

Tar Capsules are made, each containing about six grains of tar. Two or three may be taken for each dose, thrice daily. In some chronic skin diseases, eczema, pruritus of the anus, and chronic cutaneous affections.
37. Bromide of Ammonium.

R. Ammonii Bromidi, gr. 12—60; Infusi Auranti, fl. oz. 3. Mix. Direct.—One sixth part to be taken three times a day, an hour before meals. Recommended by Sir G. D. Grn for diseases in which the nervous system is functionally involved,—as epilepsy, &c. It is a valuable absorbent in glandular enlargements, and in excessive corpulency; while it has also a peculiar soothing influence upon the mucous membranes.

R. Ammonii Bromidi, gr. 24; Aqua, fl. oz. 2. Mix. One teaspoonful in a small cup of sweetened tea three times a day. For an infant with hooping cough.

38. Iodide of Ammonium.

R. Ammonii Iodidi, gr. 3—15; Infusi Cinchona Flike, fl. oz. 1—2. Make a draught. To be taken twice or thrice daily before food. Very valuable in strumous enlargement of the absorbent glands. The dose is to be graduated according to the patient's age. At the time this medicine is given internally, an ointment of the iodide of ammonium (gr. 60 to lard oz. 1) should be rubbed into the swellings night and morning.

39. Iodide of Sodium.

R. Sodii Iodidi, gr. 60; Decocti Sarsa Compositi, fl. oz. 3. Mix. One sixth part three times a day. As an antisyphilitic where the iodide of potassium disagrees. Moreover, it will sometimes effect a cure after the latter has failed to be of use.

40. Benzoate of Ammonia.

R. Ammonis Benzoatis, gr. 10—20; Syrupi Auranti, fl. drm. 1; Aqua, ad fl. drs. 12. Mix for a draught, to be taken three times a day. In chronic bronchitis, hepatic congestion with deficient urine, chronic inflammation of the bladder with alkaline urine, and in cases attended with the copious excretion of phosphates.

41. Creasote.

R. Creasoti, min. 20—40; Pulveris Aromatici, gr. 80; Muelaginis Acacie, sufficient to form a mass. Divide into twenty pills, and order one or two to be taken three times a day. In some forms of neuralgia, chronic bronchitis, and obstinate vomiting unconnected with inflammation or organic disease—such as sea-sickness. After taking creasote for a short time, the urine occasionally assumes a dirty or brownish-black colour. Inunction with tar may give rise to the same effect. Under these circumstances, creasote has been obtained from the urine by distillation.

In the officinal Mistura Creasoti the unpleasant flavour is tolerably well disguised by the Spirit of Juniper. Dose of the mixture, fl. oz. 1—2. See F. 90.

42. Bromide of Potassium.

R. Potassii Bromidi, gr. 20—40; Aqua Camphora, fl. oz. 3. Mix for a draught, to be taken every night at bedtime. For insomnia without any apparent cause, epileptic seizures, paroxysmal vertigo and headache, &c.

R. Potassii Bromidi, gr. 60—90; Potassii Iodidi, gr. 12; Potassae Bicarbonatis, gr. 40; Tinctura Auranti, fl. drs. 6; Infusi Auranti Compositi, ad fl. oz. 8. Mix. One sixth part, on an empty stomach, night and morning. The favourite remedy for epilepsy (1865).

R. Potassii Bromidi, gr. 30—60; Tinctura Valerianae Ammoniate, fl. drs. 6; Aqua Camphora, vel Infusi Chirate, ad fl. oz. 8. Mix. One sixth part three times a day. In hysteria, insomnia due to nervous irritability, functional disturbance of the uterine functions, spermatorrhoea from bad habits, &c.

R. Pulveris Guaiaci, gr. 40; Potassii Bromidi, gr. 30; Magnesia Carbonatis,
gr. 60. Mix. Divide into six powders, and order one to be taken three times a day in a little mucilage, or cream, or honey. Useful in cases where it is required to exert a sedative action on the sexual organs.

43. Guaiacum Mixtures.

R. Tinctura Guaiaci Ammoniata, fl. drs. 4; Tinctura Aconiti, min. 30; Mucilaginis Tragacanthae, Aqua Cinnamoni, aæ fl. oz. 4. Mix. Two teaspoonfuls twice or three times a day. In the chronic rheumatism of old and weak people. Also in some skin diseases where there is a stramineous taint.

R. Extracti Opii Liquidi, min. 30; Tinctura Quiniae, fl. drs. 6; Mistura Guaiaci, ad fl. oz. 8. Mix. One sixth part three times a day. In chronic skin diseases. Guaiacum has also been highly extolled in tonsilitis.

R. Sulphuris Sublimati, oz. 2; Potassae Tartratis Acidae, oz. 1; Pulveris Rhei, gr. 120; Guaiaci Resinae, gr. 60; Melliis, lb. 1; Myristici, unum in pulverem reduciti. Mix thoroughly, and order two teaspoonfuls to be taken night and morning until the whole is consumed. This compound was formerly in much repute for the cure of chronic rheumatism; being said to be especially useful in old-standing cases, when the skin is inactive and the intestinal glands, &c., torpid. It was well known under the name of the "Chelsea Pensioner."

R. Tincturae Nucis Vomicae, min. 95; Extracti Cinchonae Flavae Liquidi, min. 30; Mistura Guaiaci, fl. oz. 12. Mix. One eighth part twice a day. In habitual constipation from a sluggish condition of the intestinal walls.

44. Quinine and Ipecacuanha, or Belladonna.

R. Quininae Sulphatis, gr. 8; Pulveris Ipecacuanhae, gr. 24; Pulveris Ipecacuanhae Compositi, gr. 30; Glycerinis, sufficient to form a mass. Divide into sixteen pills, and order two to be taken every three or four hours. In subacute dysentery, occurring in tropical regions. See F. 894.

R. Quininae Sulphatis, gr. 2; Extracti Belladonnae, gr. 1; Extracti Opii, gr. 1—1; Extracti Hyoscymae, gr. 2. Make a pill to be taken every six or eight hours. In neuralgia, severe pruritus of the vulva, carcinoma, &c. See F. 933.

45. Chloride of Calcium, &c.

R. Calcii Chloridii, gr. 200; Tinctura Belladonae, fl. drs. 4; Tinctura Aurantii, grs. 12; Aqua, fl. oz. 1. Mix and label,—"One teaspoonful in a wineglassful of water three times a day,—at 10 a.m., 4 p.m., and bedtime."—In fibroid tumors of the uterus, when they are painful or cause much sense of weight and backache. Also, in bronchocoele, enlargement of cervical glands, scrophula, &c.

R. Calcii Chloridii, gr. 300; Suisci Conii, fl. oz. 3; Glycerini purissimi Tincturae, Cardamoni Compositae, fl. oz. 1. Mix and label,—"One teaspoonful in a wineglassful of water three times a day."

46. Colchicum, &c.

R. Hydrargyri Subchloridi, Extracti Colchici Acetici, Extracti Aloes Barbadosis, Pulveris Ipecacuanhae, aæ gr. 1. Make a pill, to be taken every four hours until the bowels are well acted upon. In gout, with congestion of the liver.

R. Extracti Colchici Acetici, Extracti Aconiti, aæ gr. 1; Pulv. Hydrargyri, gr. 3. Make a pill, to be taken every night at bedtime. In gout, with deficient action of the liver.

R. Potassae Citratis, gr. 120; Vini Colchici, fl. drs. 1—2; Liquoris Morphiæ Hydrochloratis, fl. drm. 1; Aquae Camphoraceae, ad fl. oz. 8. Mix. One sixth part every six hours. In some forms of gout, where there is great restlessness with little constitutional depression.

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APPENDIX OF FORMULÆ.

47. Oxide of Silver.

B. Argenti Oxidi, gr. 1—2; Pulveris Aromatici, gr. 2; Extracti Cannabis Indici, gr. ½; Glycerini, sufficient to make a pill. To be taken three times a day. Of doubtful efficacy in dyspepsia, pyrosis, hemoptysis, menorrhagia, diarrhoea, &c. One third of a grain of Extract of Opium can be added to each pill, if needed.

48. Sulphurous Acid.

B. Acidii Sulphurici, min. 30—fl. drm. 1; Aqua, ad fl. oz. 2. Mix, and make a draught to be taken every two or three or four hours. In ichorhemia, diptheria, malignant scarlet fever, typhus, &c.

B. Soda Sulphithis, gr. 30—60; Infusii Quassiae, fl. oz. ½. Mix, and make a draught to be taken three times a day. Sir William Jenner.—In diseases of the stomach, accompanied by the formation of the sarcinae ventriculi. The patient should eat unfermented bread while taking this medicine.

The Sulphite of Magnesia may be given in doses varying from 20 to 40 grains, dissolved in one or two ounces of water, every two or three or four hours, with the object of neutralizing blood poisons. It is richer in sulphurous acid than the sulphite of soda, is more stable, and has a much more agreeable taste. This salt has been strongly recommended by Dr. Polli, of Milan, in cases of pyrexia, typhus, puerperal fever, hospital gangrene, dissecting wounds, glanders, cholera, &c.

49. Benzoin Acid.

B. Acidii Benzoinici, gr. 3—20; Glycerini, sufficient to form one or more pills. Administered in proper dose, three or four times a day, this remedy is useful in jaundice from suppressed action of the liver and urines. It has also been recommended in some cases of incontinence of urine in children. See F. 246.

50. Turpentine Mixtures.

B. Olei Terebinthinae, fl. oz. 1; Vitellii Unius Ovi; beat together and add gradually Mixture Amygdali, fl. oz. 4; Syrupii Aurantii, fl. oz. 2; Tinctura Lavandulae Compositae, fl. drs. 4; Olei Cinnamomi, gutt. 4. Mix. Two tablespoonfuls to be taken three times a day. Carmichael.—Recommended in itisit where the use of mercury is contra-indicated.

B. Spiritus Ætheris, fl. drs. 2; Olei Terebinthinae, fl. drs. 1¼; Muscaginis Acacii, fl. oz. 3; Aqua Cinnamomi, ad fl. oz. 6. Mix. Direct.—“One-sixth part three times a day.” To prevent the formation of gall-stones, or to aid in dissolving them. The utility of this mixture is doubtful.

B. Olei Terebinthinae, fl. drs. 1¼—3; Syrupii Limonis, fl. drs. 6; Muscaginis Tragacanthae, fl. oz. 3; Aqua, ad fl. oz. 6. Mix, Direct.—“One-sixth part every four or six hours.” Useful in some forms of haematemesis, hemoptysis, epistaxis, purpura hemorrhagica, &c. Its effects must be watched, so that it may be discontinued directly any unpleasant results—such as strangury or severe vomiting—arise. If the symptoms are very urgent the first dose of the turpentine may consist of fl. drs. 4—6, beaten up with musclage; the succeeding doses being according to the formula. In some cases the turpentine may be advantageously given with gallic acid, or the tincture
of the perchloride of iron, or with the acid infusion of roses, or with the dilute nitric acid. A drop of creosote with each dose materially lessens its tendency to cause nausea.

B. Terebinthinae Chrys. gr. 2; Pulveris Rhei. gr. 3; Saponis duri, sufficient to make a pill. To be taken twice a day. See F. 102.

51. Donovan’s Triple Solution.

B. Liquor Hidiatriatis Arsennici et Hydrargyri, min. 20—30; Tinctura Zingiberis, fl. drm. 1; Aqua, fl. oz. 1. Make a draught, to be taken twice a day, directly after meals. Useful in secondary syphilis, psoriasis, &c.

52. Arsenical Mixtures.

B. Liquor Arsenicalis, min. 3; Tinctura Lupuli, min. 30; Infusi Quassiae, fl. oz. 1. Make a draught, to be taken three times a day, directly after meals. Very useful in many obstinate cutaneous diseases. Inague the quantity of arsenic must be trebled. Under any circumstances, the dose should be diminished directly the tongue gets thoroughly coated with a silvery-looking fur, or the conjunctivae become irritable, or diarrhoea sets in, or gastric pain is complained of.

B. Liquor Sode Arsenniatis, min. 3—5; Vini Colchici, min. 10; Tinctura Cinchonae Compositae, fl. drm. 1; Tinctura Aconiti, min. 5; Aqua, ad fl. oz. 1. Mix. To be taken three times a day, directly after meals. In some forms of chronic rheumatism, &c.

B. Quinio Sulphatis, gr. 20; Liquor Arsennici Hydrchlorici, min. 90—130; Acidis Sulphurici Aromatici, fl. drs. 2; Syrupi Zingiberis, ad fl oz. 3. Mix. Label, "One teaspoonful in two tablespoonfuls of water directly after breakfast, dinner, and tea."—In severe neuralgia, chorea, chronic rheumatism, asthma, hay fever, and intermittent fever. See F. 381, 390.

B. Liquor Arsenicalis, min. 30; Tinctura Cantharidis, fl. drm. 1; Tinctura Aurantii, fl. drs. 6; Potassii Iodidi, gr. 18—30; Infusi Aurantii, ad fl. oz. 6. Mix. One-sixth part directly after the two chief meals. Valuable in some inconstant cutaneous diseases, as lupus, eczema, psoriasis, &c.

B. Liquor Sode Arseniatis, fl. drs. 1/; Succi Scoparii, fl. oz. 3. Mix. One teaspoonful three times a day, in a winewineglassful of water. In some cases of drench from chronic renal disease.

B. Acidis Arseniosi, gr. 1; Pulveris Zingiberis, gr. 40; Extracti Jalape, gr. 20; Pulveris Tragacanthae Compositi, gr. 30; Confectionis Rose Caninae, gr. 10. Mix very intimately, divide into twenty pills, and order one to be taken three times a day, immediately after meals. In psoriasis, chronic eczema, and other cases where it is desirable to administer arsenic in a solid form.

53. Green Iodide of Mercury.

B. Hydrargyri Iodidi Viride, gr. 12; Extracti Lupuli, gr. 60; Extracti Opii, gr. 2—5. Mix. Divide into twenty-four pills. Silver them, and order one to be taken three or four times in the day.—The green iodide of mercury (Syn. Iodide of Mercury, Hg I) will cure some of the putrescent and tubercular diseases of the skin, as well as certain secondary venereal ulcerations, when all other means fail. See F. 33.

B. Hydrargyri Iodidi Viride, gr. 6; Extracti Conii, gr. 30. Mix. Divide into six pills, and order one to be taken every night at bedtime. In small secondary syphilitic ulcers about the tongue.
54. Red Iodide of Mercury.

B. Hydrargyri Iodidi Rubri, gr. 1—2; Morphiae Hydrochloratis, gr. 1; Extracti Gentianae, ad Extracti Conii, gr. 40. Mix. Divide into twelve pills, and order one to be taken twice a day. Four or six ounces of the Compound Decoction of Sarsaparilla may be taken with each pill, or an ounce of the Guaiac Mixture. Useful in the same cases as demand the green iodide of Mercury. The red iodide (Syn. BIIONIDODE OF MERCURY, Hg I) is, however, less likely to cause gastric irritation.

R. Hydrargyri Perchloridi, gr. 1; Ammonii Chloridi, gr. 30; Potassii Iodidi, gr. 40; Extracti Sarsaparillae, fl. oz. 4; Decocti Sarsaparillae, ad fl. oz. 8. Mix and label. — "One small tablespoonful (or one sixteenth part) in a wineglassful of water three times a day." — This formula gives a convenient extemporaneous mode of exhibiting the red iodide of mercury in a fluid form.

R. Hydrargyri Iodidi Rubri, gr. 3; Potassii Iodidi, gr. 60—120; Spiritus Vini Rectificati, fl. dr. 1; Syrupi Zingiberis, fl. dr. 4; Aque Distillatae, fl. drs. 2. Mix. Label. — "Thirty drops three times a day in a wineglassful of water."

Mr. Langston Parkes says — and the Author can confirm the remark — that this remedy, used in conjunction with the mercurial vapour bath, produces excellent results in some obstinate forms of tuberculous disease of the skin; as well as in secondary venereal ulcerations, proving intractable after the employment of other remedies.

55. Red Iodide of Mercury and Arsenic.

R. Hydrargyri Iodidi Rubri, gr. 1; Potassii Iodidi, gr. 120; Liquoris Arsenicalis, fl. dr. 14; Tinctura Lavandulae Compositae, fl. oz. 2; Spiritus Chloroformi, fl. dr. 4; Aque, ad fl. oz. 12. Mix, and direct. — "One tablespoonful to be taken three times a day, immediately after food." — In pox eruptions, and some intractable squamous and tubercular and ulcerous affections of the skin.

56. Puccoon and Iodide of Arsenic.

R. Sanguinaria Canadensis, gr. 12; Arsenii Iodidi, gr. 2; Extracti Conii, gr. 40. Mix carefully, divide into twenty-four pills, and order one to be taken three times a day. Said to be beneficial in cases of cancer.

57. Chloride of Bromium.

R. Bromidi Chloridi, gr. 3—4; Pulveris Glycyrrhizae, gr. 60. Mix intimately, and divide into twenty pills. One to be taken twice or thrice daily. Recommended by Landolfi in cancer.

58. Bael and Spirit of Chloroform.

R. Extracti Bala Liquidi, fl. oz 2; Spiritus Chloroformi, fl. oz. 1. Mix. Direct. — "One teaspoonful in a cup of barley water three or four times a day." — Has been found useful in diarrhoea and dysentery.

59. Nitrate of Silver.

R. Argenti Nitriti, gr. 1; Extracti Hyoscyami, gr. 3. Make a pill. *To be taken every twelve hours, on an empty stomach, for about ten days. In cases of idiopathic jaundice dependent upon gastro-jejunal disturbance rather than on disease of the liver.
B. Argenti Nitratia, gr. 3—12; Mica panis, gr. 30. Divide into twelve pills, and order one to be taken three times a day. In progressive locomotor ataxy, &c. See F. 419. The gums should be watched, as the gingival mucous membrane becomes discoloured before the skin is affected. There is consequently time to prevent the latter by discontinuing the silver salt.

60. Chloride of Ammonium.

B. Ammonii Chloridi, gr. 80—160; Syrump Hemidesemi, fl. oz. 1; Infusii Gentianas Compositae, ad fl. oz. 8. Mix. Two tablespoonfuls every six hours. In some forms of chronic rheumatism, chronic bronchitis, pleurisy, myalgia, neuralgia, &c.

B. Liquorii Ammonii Acetatis, fl. drs. 2—4; Ammonii Chloridi, gr. 15; Infusii Dulcamarei, fl. oz. 2. Make a draught to be taken every four hours. In some varieties of rheumatism, phlegmasia dolens, thrombosis, &c., where the fibrin of the blood is in excess. The efficacy of this remedy is increased by giving 120 or 200 grains of the Acid Tartrate of Potash (Syn. BITARTRATE OF POTASH) in half a pint of water, early in the morning.

B. Ammonii Chloridi, gr. 20; Extracti Taraxaci, gr. 15; Tincturae Gentianae Compositae, fl. dr. 1; Infusii Senae, ad fl. oz. 2. Make a draught, to be taken twice or thrice daily. In some cases of ascites dependent on cirrhosis, in jaundice, in diminished secretion of bile, &c.

61. Chlorate of Potash.

B. Potassae Chloratiae, gr. 120; Aquae Camphorae, vel Infusii Cinchonae Flaviae, fl. oz. 8. Mix. One-sixth part every four or six hours, with two tablespoonfuls of water. In inflammatory affections of the mouth, &c.

B. Potassae Chloratiae, gr. 90; Spiritus Alchole, fl. drs. 3; Infusii Chiratiae, ad fl. oz. 4. Direct.—"One tablespoonful in a wineglassful of water three times a day." In tonsilitis, glossitis, &c.

B. Potassae Chloratiae, gr. 120. Label—"This powder to be dissolved in one or two pints of lemonade, or of barley water, to form a day's drink." In cases of ophthalmia, fever, blood-poisoning, sloughing of any of the tissues, ovarian disease, &c.

III. ANTACIDS.

62. Carbonate of Magnesia.

B. Magnesiae Carbonatis, gr. 80; Extracti Opii Liquidi, min. 30; Spiritus Alchole, fl. drs. 3; Aquae Menthae Viridis, ad fl. oz. 6. Mix. One-fourth part occasionally. Useful where there is much oppression from flatulence.

B. Magnesiae Carbonatis, Soda Bicarbonatis, &c. gr. 15; Infusii Serpentinariae, fl. drs. 12. Make a draught, to be taken twice or thrice daily. In chronic urticaria.

63. Ammonia and Chireta.

B. Ammoniae Carbonatis, gr. 5; Tincturae Auranti, fl. dr. 1; Infusii Chiratiae, fl. oz. 1; Aquae, ad fl. oz. 2. Make a draught, to be taken night and morning. A good remedy in dyspepsia, with acid eructations and debility.
64. Preparations of Lithia.

B. Lithiae Carbonatis, gr. 3—6; Aquae, fl. oz. 3. Make a draught to be taken twice a day. Dr. Garrod speaks highly of this remedy in cases of the uric acid diathesis and in chronic gout. Where uric acid gravel is being voided, it causes a marked improvement. The carbonate of lithia exists in many of the continental springs—as those of Carlsbad, Marienbad, Kreuznach, Aix-la-Chapelle, Kissingen, Ems, Vichy, Baden-Baden, &c.

B. Lithiae Citratis, gr. 60; Aquae Distillate, fl. drs. 10; Tinctura Cardamomi Composite, fl. drs. 2. Mix and label, "One teaspoonful in a tumblerful of soda water every morning before breakfast." In the gouty diathesis. To ward off attacks.

B. Lithiae Citratis, Magnesiae Carbonatis, ss gr. 10. Make a powder to be taken twice daily. In chronic gout.

65. Bismuth, with Magnesia or Soda.

B. Bismuthi Carbonatis, Magnesiae Carbonatis, ss gr. 10. Make a powder to be taken in half a bottle of soda water three times a day.

B. Bismuthi Subnitritatis, gr. 15; Sodae Bicarbonatis, gr. 12; Pulveris Tragacanthiae Composite, gr. 60. Make a powder to be taken twice or thrice in the twenty-four hours, in a winoglassful of brandy and water.

B. Liquoris Bismuthi et Ammoniae Citratis, fl. drm. 1; Infusii Quassiae, fl. oz. 1. Make a draught to be taken three times a day. One dram of the solution of bismuth is equal to twenty grains of the powder. These preparations are very useful in pyrosis, gastrodynia, acid eructations, nausea and sickness, and many diseases of the stomach, evacuations, &c. See also F. 112.

B. Bismuthi Subnitritatis, gr. 720; Magnesiae Carbonatis, oz. 2; Calcis Carbonatis Precipitati, oz. 3; Sodae Bicarbonatis, gr. 1800; Sacchari Albi, oz. 14; Acaciae Gummi, gr. 220; Muscilaginis Acacis, fl. oz. 1; Aquae Rossae, sufficient to make a mass. Divide into 360 lozenges, and dry them with a moderate heat. Each lozenge contains two grains of subnitrate of bismuth, two and a half grains of magnesia, and five grains of bicarbonate of soda. From one to six lozenges may be taken for dose. These lozenges, under the name of Trochesi Sodae Bicarbonatis et Bismuthis, have been prepared for the Author by Mr. Cooper, 26, Oxford Street, London. They check heartburn and acid eructations better than the officinal bismuth lozenges.

66. Chalk Mixture and Hops.

B. Tinctura Lupuli, fl. drs. 6; Tinctura Cardamomi Composite, fl. drs. 4; Vini Ipecacuanhae, fl. drs. 2; Extracti Opii Liquidi, min. 20; Mixture Cretae, ad fl. oz. 6. Mix. One tablespoonful every three or four hours. In diarrhoea due to acidity of the prima via.

67. Potash and Ammonia.

B. Potassae Bicarbonatis, gr. 190; Spiritus Ammoniae Aromatici, fl. drs. 3; Tinctura Aconiti, min. 30; Infusii Lupuli, ad fl. oz. 8. Mix. One-sixth part three times a day. In gastrodynia.

68. Ammonia, Potash, and Bark.

B. Ammoniae Carbonatis, gr. 30; Potassae Chloratis, gr. 90; Extracti Opii Liquidi, min. 30; Decoci Cucumis Flave, fl. oz. 8. Mix. One-sixth part three times a day. In debility with acid secretions.
ANTISEPTICS.

69. Solution of Potash and Buchu.

B. Liquoris Potasse, min. 10—15; Tincture Hyoscyami, min. 40; Infusi Buchu, fl. drs. 12. Make a draught to be taken three times a day. In catarrh and irritability of the bladder.

70. Soda, Morphia, and Dilute Hydrocyanic Acid.

B. Soda Bicarbonatis, gr. 15; Liquoris Morphiæ Hydrochloratis, min. 15; Acidii Hydrocyanici Diluti, min. 5; Infusi Cascarillae, fl. oz. 1. Make a draught, to be taken immediately. In gastrodynia, dc., after the stomach has been emptied by an emetic. In angina pectoris, immediately after a paroxysm.

71. Potash and Aloes.

B. Potassae Bicarbonatis, oz. ¼; Tincture Chiratae, fl. drs. 2; Decocti Aloes Compositi, fl. oz. 8. Mix. Take one-sixth part early every morning. Inæchronic gout.

72. Bicarbonate of Potash.

B. Potassae Bicarbonatis, gr. 30; Aqua, fl. oz. 2. Make a draught to be taken every two hours. In acute rheumatism. This medicine to be continued until the joints are free from pain. It generally renders the urine alkaline in twenty four hours.

73. Potash and Lime Water.

B. Liquoris Potasse, min. 15—45; Liquoris Calciis Saccharv, min. 20—60. Mix. To be taken in a cupful of beef tea, or of milk, two or three times a day. See F. 14.

IV. ANTISEPTICS.

74. Disinfectants or Deodorants.

The most useful agents are—chloride of lime, quick lime, the carbulates of lime and magnesia, and permanganate of potash. In certain cases the perchloride of iron, sulphate of iron, ammonia, iodine, bromine, nitrate of lead, and chloride of zinc are applicable; or chlorine gas; or sulphurous acid gas (obtained by sprinkling powdered sulphur on a few bright red coals in a shovel, or by burning part of a stick of sulphur in a crucible or in a pipkin), may be employed; or powdered charcoal, or dry earth, can be tried.

No nightsoils or bedpans should be used, especially in hospitals, without their containing the solution of permanganate of potash, or some chloride of lime, or chloride of zinc, or carbolic acid, or half an ounce of tincture of iodine. The first agent has the advantage of not being corrosive; but the last is one of the most efficacious.—To remove quickly any unpleasant smell from the sick room, dried lavender or cascarrilla bark may be burnt; while the door and window must be opened, so as to allow of a free current of pure air.

To disinfect linen and washing apparel they should be soaked in a mixture of two ounces of the solution of permanganate of potash to the gallon of water; being afterwards put into boiling water. Woollens, bedding, or clothing may be thoroughly purified by exposing them for about two hours, in an oven, to a temperature of 220° F.
APPENDIX OF FORMULÆ.

75. Chlorine Gas.

As a fumigating agent, antiseptic, and disinfectant chlorine stands unrivalled. The ingredients for producing it should be contained in a vessel placed in the higher parts of the room, as the gas which is developed will descend by its density, and soon become mixed with the surrounding air. Dr. Faraday adopted the following method at the Millbank Penitentiary:—One part of common salt was intimately mixed with one part of the black or binoxide of manganese, and placed in a shallow earthen pan; two parts of oil of vitriol previously diluted with two parts by measure of water, were then poured over it, and the whole stirred with a stick. Chlorine continued to be liberated from this mixture for four days.

Another plan for causing the free evolution of chlorine gas is the addition of half a pint of hydrochloric acid, mixed with a quarter of a pint of water, to a quarter of a pound of finely powdered black oxide of manganese. Or the gas may be generated by dropping a few grains of chlorate of potash, every now and then, into a glass containing some strong hydrochloric acid. Whichever mode is adopted for producing this disinfectant, it is necessary while employing it that the doors, windows, and chimney of the room be kept carefully closed for some hours.

The Chlorides of Lime and Soda, when exposed to the air, gradually absorb carbonic acid and give off chloride. Hence either of these salts can be used as disinfecting agents. Cloths, dipped in an aqueous solution of chloride of lime, may be hung up in an inhabited room to fumigate it; the quantity of chlorine given off being too small to be mischievous. It was probably in reference to these salts, that Abernethy said of disinfectants,—“they are sometimes very useful, very useful indeed; for they make such an abominable stink that the patient is obliged to have the windows opened.”

76. Solution of Chlorinated Soda.

B. Liquoris* Soda Chlorate, min. 40—120; Extracti Opii Liquidi, min. 30; Aque Carophorae, ad fl. oz. 8. Mix. Two tablespoonfuls three times a day. In gangrene of the lung, low fever, &c. It not only relieves the feter, but acts as an alternative, &c. If necessary, the opium can be omitted.

77. To prepare Chlorine for Internal Administration.

Put sixty grains of finely powdered chlorate of potash in a strong pint bottle, and pour upon them two drachms of strong hydrochloric acid. Close the mouth of the bottle until the violent action ceases, when gently add one ounce of water, and agitate well; add another ounce, again shake, and continue this process until the bottle is full. Afterwards keep the bottle in the dark. The mixture is to be made fresh every day. One or two tablespoonfuls may be taken frequently according to the age. An adult may use the whole pint in the twenty four hours.

The dose of the official Liquor Chlori is from min. 30 to fl. dra. 2 in a wineglassful of water, several times daily. Useful in scarlet fever, typhus, diphtheria, chronic affections of the liver, &c.

78. Permanganate of Potash.

The permanganate of potash is an excellent disinfectant, and is the basis of Condy’s Antiseptic Fluid. The latter is double the strength of the official Liquor Potasse Permanganatis.

From fl. dra. 1—6 of the solution of permanganate of potash in one pint of water, may be applied to all kinds of suppurating sores. The Author has frequently ordered such a lotion with great benefit to destroy the horribly offensive odour of a malignant ulcer; or for the same purpose in suppurating scalds and burns. The solution should be made only of such a strength, as to be borne without any pain.
or even uncleanliness. It must be frequently syringed over the sores, since contact with lint and sponges decomposes it. Linen is stained by it, but the discoloration may be removed by sulphate of iron. As a wash for stinking feet, or for the removal of offensive odours from the hands after handling morbid specimens, &c., the liquor ought to be used in a proportion of one fluid dram to the ounce of distilled water. As an injection in cancer of the uterus, the strength ought not to be greater than half a fluid ounce to one pint of water. To deprive nightshirts of offensive odour, a wise glassful of Cundy’s fluid should be mixed with two pints of fresh or salt water, and put into the pan previous to its use.

79. Chloride of Zinc.

This substance is a most powerful caustic, which has long been used to destroy cancerous and other growths. It has been administered internally—dose, gr. 1, largely diluted—but without any benefit. It forms, however, a valuable disinfectant gargle—gr. 10 to water fl. oz. 8; or in still larger proportions it is a most efficacious antiseptic. Sir W. Burnett’s Disinfecting Fluid consists of gr. 25 of this salt to water fl. dr. m. 1. For use, about one ounce of this solution is added to two pints of water. To disinfect a sick room, a piece of flannel three or four feet square is to be moistened with a solution thus made, and frequently waved through the air. Some of it should also be placed in the close-stools and bedpans.

80. Chlorinated Lime Lozenges.

B. Calcis Chlorate, gr. 60; Sacchari Albi, oz. 4; Amyli, oz. 1; Olei Mentha Piperite, fl. dr. m. 1; Pulveris Tragacanthae Compositi, gr. 120; Aqua Montis Piperite, sufficient to form a mass. To be divided into lozenges of twenty grains each. One may be taken frequently to remove feto of the breath, whether due to mercury or other causes. The officinal TROCHISI POTASSE CHLORATI can also be used for the same purpose.

81. Iodine.

This agent has been recommended for disinfecting and deodorizing purposes by Wynn Williams, Campbell de Morgan, Nunn, and Richardson. Two hundred grains are placed in a common chip box and suspended over the patient’s bed, or they may be put into a cup or saucer on the mantelshelf. If desired, the metal may be at once volatilized and the vapour diffused through the apartment, by placing it on a heated fire shovel or saucer, since the iodine attacks iron. In rooms occupied by small-pox patients the air may be kept free from smell by using iodine in this manner,—probably the strongest proof which could be adduced of the value of this simple and manageable remedy.

B. Tinctura Iodi, fl. drs. 6; Aqua Distillata, ad fl. oz. 8. Mix. Useful as a lotion to unhealthful ulcerations with offensive discharges.

82. Extract of Logwood.

B. Extracti Haematoxyli, oz. 1; Olei Theobromae, Adipsis Benzosti, 88 oz. 4. Mix. This is an excellent disinfectant when applied to malignant sores or suppurating wounds. The remedy is equally efficacious when used as a lotion or poultice. If any hemostatic be needed, the logwood may be combined with tannin or perchloride of iron.

83. Sulphurous Acid and Quinine.

B. Acidis Sulphurosae, fl. drs. 6; Tinctura Aurantii, fl. oz. 1; Tinctura Chloriformis Compositae, min. 90; Quiniae Sulphatis, gr. 12—18; Aqua ad fl. oz. 6. Mix and label,—“One-sixth part, with two tablespoonsfuls of water, every six or eight hours.” In pyemia, erysipelas, glanders, typhus, dissecting wounds, &c.
APPENDIX OF FORMULÆ.

84. Lavender and Camphor.

B. Spiritus Camphorae, min. 20; Spiritus Lavandulae, fl. drm. 1; Mucilaginis Tragacanthae, fl. oz. 7. Make a draught. To be taken every six or eight hours by a nervous attendant in a sick room. Its efficacy may be increased by the occasional addition of a glass of port wine.

V. ANTISPASMODICS.

85. Ether Mixture.

B. Spiritus Ätheris, min. 40—fl. drm. 1; Extracti Opii Liquidi, min. 10—15; Tinctura Castorei, fl. dr. 1; Aqua Menthae Piperitae, ad fl. drs. 12. Make a draught. To be taken occasionally (especially at bedtime) when there are paroxysms of pain from structural disease.

B. Spiritus Ätheris, Spiritus Chloroformi, ad fl. drs. 3; Tinctura Cardamomi Comp. ad fl. dr. 6; Spiritus Myristici, fl. drs. 2; Olei Cori, min. 19; Mucilaginis Tragacanthae, fl. oz. 3; Aque Menthae Piperitae, ad fl. oz. 8. Mix. Two c when there is great oppression from flatulence.

B. Spiritus Ätheris, min. 90; Spiritus Ammoniae Aromatici, fl. drs. 2; Tinctura Belladonnae, min. 30; Tinctura Cantharidis, min. 80; Tinctura Chloroformi Comp. ad fl. oz. 40; Aqua Camphorae, ad fl. oz. 4. Mix. Label,—"Two tablespoonfuls every half-hour until the pain is relieved." In spasmotic diseases, angina pectoris, etc.

86. Ammonia Mixture.

B. Spiritus Ammoniae Aromatici, fl. drm. 1; Acidi Hydrocyanici Diluti, min. 3—5; Syrups Zingiberis, fl. drm. 1; Aqua Carui, ad fl. drs. 12. Make a draught, to be taken twice or thrice a day if there be flatulence or languor. In dyspepsia, or debility with irritable stomach. See F. 67, 68.

B. Tinctura Aesculi, fl. drs. 2; Ammonium Carbonatis, gr. 20; Aqua Camphorae, ad fl. oz. 4. Mix. One or two tablespoonfuls occasionally, when the patient is feeling languid or hysterical.

B. Spiritus Ammoniae Aromatici, min. 30; Magnesii Carbonatis, gr. 20; Spiritus Chloroformi, fl. drm. 1; Aqua Menthae Piperitae, ad fl. drs. 12. Make a draught. To be taken occasionally. In severe colic.

B. Spiritus Ammoniae Aromatici, min. 75; Spiritus Ätheris, fl. drm. 1; Tinctura Belladonnae, min. 12; Acidi Hydrocyanici Diluti, min. 8; Syrups ad fl. oz. 2. Mix. One teaspoonful in the same quantity of water every four hours. For a child two years old with hooping cough.

87. Valerian Draught.

B. Tinctura Valerianae Ammoniaca, min. 40; Infusum Valerianae, fl. oz. 1. Make a draught. To be taken occasionally. In hysteria.

88. Lobelia, Ether, etc.

B. Tinctura Lobeliae Ätherae, fl. drs. 3; Vinæ Liquori Ammoniaci, ad fl. oz. 6. Mix. Two tablespoonfuls every six hours. In the dyspnoea of asthma, when there is vesicular emphyma, mania, fl. drs. 2; Mixture every six hours. In the
89. Assafetida and Chireta.

B. Tinctura Assafetidae, fl. dra. 2; Spiritus Ammonii Aromatici, fl. dra. 3; Tinctura Chirata, fl. dra. 7. Mix. Direct.—“Sixty drops in a wineglassful of water every two or three hours, until the paroxysms cease.” In hysteric.

90. Aconite and Creasote.

B. Tinctura Aconiti, min. 45; Mistura Creasoti, ad fl. oz. 8. Mix. One-sixth part three times a day. In some cases of obstinate sickness, such as occurs during pregnancy and in hysteric. See F. 41.

91. Nitric Acid Mixture.

B. Acidi Nitrici Diluti, fl. dra. 12; Tinctura CardamoniComposite, fl. dra. 3; Syrump, fl. oz. 3½; Aqua, fl. oz. 1. Mix. One or two small teaspoonfuls every two hours. Sir G. D. GIBB stated that nitric acid is a specific in the treatment of hooping cough, curing the disease in from two to fifteen days. He recommends this formula.

92. Sulphate of Zinc and Belladonna.

B. Zinci Sulphatis, gr. 8; Extracti Belladonae, gr. 2; Aqua, fl. oz. 4. Mix. Half an ounce four times a day. DR. FULLER.—For a child, above three years of age with hooping cough. Every other day the strength of the mixture may be augmented in the proportion of one dose. The belladonna, it is said, can be thus gradually increased to doses of five grains without any mischief. See F. 326.

93. Valerianate of Quina.

B. Quinzi Valerianatis, gr. 12–20; Extracti Gentianeae, gr. 40. Divide into twelve pills, silver them, and order one to be taken three times a day. In hysteric, and analogous nervous disorders.

94. Stramonium, Colchicum, and Digitalis.

B. Potassae Citratis, gr. 120; Tinctura Stramonii, fl. drm. 1; Tinctura Colchici Seminis, fl. dra. 2; Infusi Digitalis, fl. oz. 2; Aque Menthe Piperite, ad fl. oz. 8. Mix. One-sixth part three times a day. In irregular gout, with dyspnoea or violent palpitation, and a full pulse.

95. Sumbul and Ether.

B. Sumbuli Radicis, gr. 240; Spiritus Aetheris, fl. oz. 4. Macerate in a stoppered bottle for seven days, and then filter. Dose, min. 20—30. In neuralgia, hysterical fits, &c.
VI. ASTRINGENTS.

96. Rhatany Mixtures.

B. Tinctura Rhei, fl. drs. 3; Infusi Kramerie, fl. oz. 8. Make a mixture, and order one-sixth part to be taken every six or eight hours. *A valuable astringent in common diarrhea.*

B. Extracti Kramerie, gr. 20; Aqua, fl. drs. 12. Make a draught. To be taken three times a day. *In hematuria, passive intestinal hemorrhage, &c.*

B. Potassae Chloratis, gr. 60; Tinctura Kramerie, fl. drs. 6; Aqua, ad fl. oz. 8. Mix. One-sixth part three times a day. *In relaxation of the buccal mucous membrane, elongation of the uvula, sponginess of the gums, &c.*

97. Catechu Mixtures.

B. Tinctura Catechu, fl. drs. 3—6; Pulveris Crete Aromatici, gr. 90; Olei Menthe Piperitae, min. 6; Extracti Opii Liquidi, min. 30; Mistura Cretae, ad fl. oz. 8. Mix. One-sixth part after every relaxed motion. *Efficacies in checking simple diarrhea. In some instances half an ounce of castor oil should be given four hours before commencing this mixture.*

B. Tinctura Catechu, fl. drm. 1; Acidi Sulphurici Aromatici, min. 15; Olei Menthe Piperitae, min. 1; Infusi Catechu, fl. oz. 1. Mix. To be taken two or three times a day.

B. Tinctura Catechu, fl. drs. 3; Spiritus Chloroformi, fl. drs. 6; Extracti Belli Liquidi, fl. drs. 12; Infusi Matricae, ad fl. oz. 6. Mix. Two tablespoonsfuls to be taken three or four times a day. *In chronic diarrhea and dysentery.*

B. Extracti Belli Liquidi, gr. drs. 1—2; Syrupi Gummi Rubri, fl. dr. 1; Aqua, fl. oz. 1. Mix. To be taken three or four times a day. *In chronic dysentery.*

B. Pulveris Catechu Compositi, gr. 30; Pulveris Crete Aromatici cum Opio, gr. 20. Make a powder. To be taken night and morning.

98. Vegetable Charcoal.

B. Carbonis Ligni, Theriacae, ss. oz. 1. Mix. Direct one teaspoonful to be taken three or four times a day. *In some cases of chronic diarrhea, when the irritation is kept up by fecal fermentation. In fistulous eruptions. The charcoal should be recently prepared. Charcoal biscuits are also useful.*

99. Tannin and Nitric Acid.

B. Acidi Tannici, gr. 30; Acidi Nitrici Diluti, fl. drm. 1; Tinctura Lupuli, fl. drs. 4; Infusi Gentianae, ad fl. oz. 8. Mix. Direct.—“One-sixth part three times a day.”—To restrain secretion in chronic bronchial catarrh, in phthisis when the cavities are large and the walls throw out considerable quantities of putrid matter, in nervous debility, and in most cases where an astringent is required. When a ferruginous tonic is indicated, the above mixture may be given night and morning, and some preparation of steel in the middle of the day.

100. Aromatic Sulphuric Acid and Opium.

B. Acidi Sulphurici Aromatici, fl. drs. 2; Tinctura Camphorae Composite, fl. oz. 1; Aque Cinnamom, ad fl. oz. 8. Mix. Label.—“One-sixth part three times a day, about an hour before each meal.”

B. Tinctura Ferri Perchloridi, min. 15; Acidii Hydrochlorici Diluti, min. 10; Aque Aurantii Floris, fl. drs. 12. Make a draught. To be taken every six hours. *In some cases of epistaxis, hemorrhage from the stomach*, *etc.*

102. *Oil of Turpentine*.

B. Olei Terebinthine, min. 10—20; Mixture Amygdala, fl. oz. 1. Make a draught. To be taken every hour. *In severe hemoptysis, especially where the individual is weak and cachectic.*

B. Olei Terebinthine, min. 10; Tinct. Oblip, min. 10; Muclaginis Acacieae, fl. drs. 4; Aque, ad fl. oz. 1. Make a draught. To be taken every two or three hours. *In hemorrhage from the bowel in enteric fever.*

B. Muclaginis Acacieae, fl. drs. 4; Soda Bicarbonatis, gr. 10; Olei Terebinthine, min. 10; Olei Anethi, min. 1; Aque Destillate, ad fl. drs. 12. Make a draught. To be taken thrice daily. *In passive hematemesis.* *See F. 50.*

103. *Gallic Acid*.

B. Acidi Gallici, gr. 10—15; Aq. Destillata, fl. drs. 12. Make a draught. To be taken every four hours.

B. Acidi Gallici, gr. 4; Extracti Cannabis Indici, gr. 1/2; Confectionis Rosae Gallicae, gr. 1. Make a pill. To be taken every night at bedtime. *To check the night-sweats in phthisis.*

B. Acidi Gallici, gr. 8; Morphia Hydrochlorata, gr. 1/2; Confectionis Rosae Gallicae, sufficient to make two pills. *Label,—* "To be taken every night at bedtime." *To relieve the cough and night-sweats of phthisis.*

B. Glycerini Acidi Gallici, fl. drs. 6—10; Acidii Sulphurici Diluti, fl. drs. 2; Extracti Ergotis Liquidi, fl. drs. 3; Aque Cinnamoni, ad fl. oz. 8. Mix and label,—"One-eighth part every four or six hours." *In uterine hemorrhage, whether due to cancer, polypus, simple ulceration, or a fibroid condition of the walls.*

B. Acidi Gallici, gr. 15—25; Acidii Sulphurici Aromatici, min. 15—20; Tinctura Cinnamoni, fl. drs. 2; Aque Destillata, ad fl. oz. 2. Make a draught. To be taken every four hours until the bleeding ceases. *In profuse hemorhagia, hemoptysis, hematemesis*, *etc.*

B. Acidii Gallici, gr. 12; Pulveris Ipsecuanhae Compositi, gr. 5. Make a powder. To be taken every eight or twelve hours. *A valuable astringent in hemorrhage from the lungs, stomach, intestines, or kidneys.*

104. *Cinnamon Mixtures*.

B. Tincturae Cinnamoni, fl. drs. 6; Acidii Nutricii Diluti, fl. drs. 2. Mix, and label,—"Thirty drops in a wineglassful of water every two hours." *Useful in passive hemorragia from the kidneys, bladder, uterus, etc.*

B. Tincturae Cinnamoni, fl. drs. 2; Spiritus Ammonis Aromatici, fl. drs. 2; Decocti Hematoxyli, ad fl. oz. 6. Mix. One-fourth part after every relaxed motion.

B. Tincturae Cinnamoni, fl. drs. 2; Aq. Cinnamoni, fl. oz. 1. Make a draught. To be taken thrice daily. *In menorrhagia especially, but also in other varieties of passive hemorrhage.* *See a paper by the Author, *Lancet*, 15 October, 1853.*

105. *Mastic and Rhatany*.

B. Tincturae Krameriae, fl. drs. 12; Syrupi Papaveris, fl. drs. 6; Infusi Maties, ad fl. oz. 5. Mix. One tablespoonful every three or four hours. *In the diarrhoea of tubercular phthisis.*
106. Sulphate of Copper and Opium.

B. Cupri Sulphata, Extracti Opii, s.s gr. ¼ ; Extracti Gentianæ, q.s. Make a pill. To be taken three or four times a day. In obstinate diarrhoea.

107. Nitrate of Silver and Opium.

B. Argenti Nitratæ, gr. ½ ; Extracti Opii, gr. 2. Make a pill. To be taken night and morning. In very obstinate diarrhoea where opium agrees with the system. See F. 59.

108. Kino and Logwood.

R. Tincture Kino, fl. dra. 6; Vini Ipecacuanhae, fl. dra. 2; Decocti Hæmatoxyli, ad fl. oz. 8. Mix. One sixth part three times a day. In chronic dysentery, diarrhoea, abundant secretion of mucus from lining membrane of colon and rectum, &c.

109. Cascaria and Squilla.

R. Tincture Scille, fl. dra. 13—2; Acidii Sulphurici Aromatici, fl. drm. 1; Liquoris Morphie Hydrochloratis, min. 30; Infusii Cascarillae, ad fl. oz. 8. Mix. One-sixth part three times a day. In chronic bronchitis with profuse expectoration.

110. Alum and Syrup of Red Poppy.

R. Aluminis, gr. 30; Syrupi Rhœados, fl. dra. 3; Aqua, ad fl. oz. 2. Mix. One teaspoonful every two or three hours. In the catarrh of infants, where the secretion from the bronchial tubes is excessive.

111. Oxide of Zinc.

B. Zincæ Oxidi, gr. 12; Extracti Conii, et Hyoscyami, gr. 18. Make a mass, divide into six pills, and order one to be taken every night at bedtime. For the relief of night sweats in phthisis and other exhausting diseases, there are few remedies more serviceable than the foregoing.

B. Zincæ Oxidi, gr. 2; Morphie Hydrochloratis, gr. ½; Extracti Anthemidis, gr. 3. Make a pill, to be taken night and morning.

112. Preparations of Bismuth.

B. Bismuthi Carbonatis, gr. 60; Syrupi Papaveris, fl. dra. 4; Muclaginis Tragacanthæ, fl. oz. 4; Aqua, ad fl. oz. 8. Mix. One-sixth part every six or eight hours. Useful in checking the diarrhoea of phthisis, typhoid fever, &c.

B. Bismuthi Carbonatis, gr. 80; Pulveris Kino Compositi, gr. 30; Tincture Cinnamomi, fl. dra. 3; Muclaginis Tragacanthæ, fl. oz. 4; Aqua, ad fl. oz. 6. Mix. One-sixth part every four hours.

B. Bismuthi Sulnitritatis, gr. 100. Divide into six powders, and order one to be taken every night at bedtime in a teaspoonful of milk arrowroot with one tablespoonful of brandy. In all cases where the use of bismuth is indicated with a stimulant. See F. 65.

113. Astringent Enemata.

B. Olei Terebinthinae, min. 30; Tincture Kino, fl. dra. 2; Extracti Opii Liquidi, min. 10—25; Muclaginis Amyli, fl. oz. 2. Make an enema. To check the purging in typhoid fever. It may be employed twice or thrice in the twenty-four hours, if necessary.
B. Bismuthi Subnitratia, gr. 20; Tinctura Catechu, fl. drm. 1; Liquoris Morphiæ Hydrochloratis, min. 50; Mucilaginis Amyli, fl. oz. 2. Mix for an enema. To check the purging of phthisis, fever, &c. It may be administered every twelve hours.

114. Chloroform, Opium, and Castor Oil.

B. Chloroformi, min. 6—12; Tinctura Camphorae Composite, fl. drs. 2; Olei Ricini, fl. drs. 3; Mucilaginis Tragacanthae, fl. drs. 3. Make a draught, &c, to be taken immediately. In choleraic diarrhea.

115. Alum and Sulphuric Acid.

B. Alumminis, gr. 100; Syrupi Rhœados, fl. drs. 6; Infus. Ross Acidii, ad fl. oz. 8. Mix. Two tablespoonfuls every six hours. In passive hemorrhage. Also in some cases of lead colic.


B. Ferri Ammonio-Sulphatis, gr. 30—60; Aqво Destillatis, fl. oz. 8. Mix. One-sixth part every six or eight hours. An excellent astringent in some forms of hematemesis, haemoptysis, &c.

B. Aluminis, gr. 90; Ferri Sulphatis, gr. 20; Quinina Sulphatis, gr. 4; Acidii Sulphurici Diluti, fl. drm. 1; Syrupi Limonis, fl. oz. 1; Aqво Destillatis, ad fl. oz. 8. Mix and label,—“One-eighth part to be taken three times a day; after food, in a wineglassful of water.”

117. Lead and Acetic Acid.

B. Plumbi Acetatis, gr. 5—10; Extracti Opii, gr. $\frac{1}{4}$—$\frac{1}{2}$; Confectionis Ross Gallicae, sufficient to make two pills. To be taken every two or three hours, with the following draught:—B. Acidi Acetici Diluti, fl. drs 2; Aqво Cinnamomii, fl. drs. 6. Mix. In severe hemoptysis.—The acetate of lead is inferior to gallic acid as an astringent, unless given in larger doses than are commonly employed. According to the Author’s experience, this lead salts may be prescribed in 3, 10, or even 20 gr. doses, with great advantage, in cases of uterine hemorrhage requiring prompt suppression. As doses of ten grains, repeated every four hours for forty-eight or sixty hours, have given rise to attacks of colic, the Author has not ventured on the large quantities (60 to 180 grs.) recommended by Dr. C. K. Irwin.

118. Cold as a Local Astringent.

The best and cheapest freezing mixture is made with ice and common salt in equal parts. Any of the following, however, will prove useful:

<table>
<thead>
<tr>
<th>MIXTURES</th>
<th>PARTS</th>
<th>THERM. SIZES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride of Ammonium</td>
<td>5</td>
<td>From 50° to 10° Fahr.</td>
</tr>
<tr>
<td>Nitre</td>
<td>5</td>
<td>From 70° to 4° Fahr.</td>
</tr>
<tr>
<td>Water</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Nitrate of Ammonia</td>
<td>1</td>
<td>From 50° to 4° Fahr.</td>
</tr>
<tr>
<td>Water</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Snow</td>
<td>2</td>
<td>From 32° to −4° Fahr.</td>
</tr>
<tr>
<td>Common Salt</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Snow or Ice</td>
<td>12</td>
<td>From 16° to 25° Fahr.</td>
</tr>
<tr>
<td>Common Salt</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Nitrate of Ammonia</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
VII. BATHS.

119. Temperature of Simple Baths.

<table>
<thead>
<tr>
<th>BATH</th>
<th>WATER (°F)</th>
<th>VAPOUR</th>
<th>AIR (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Cold</td>
<td>33° to 65°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cool</td>
<td>65° to 75°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperate</td>
<td>75° to 85°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tepid</td>
<td>85° to 92°</td>
<td>90° to 100°</td>
<td>90° to 100°</td>
</tr>
<tr>
<td>Warm</td>
<td>92° to 98°</td>
<td>100° to 115°</td>
<td>100° to 120°</td>
</tr>
<tr>
<td>Hot</td>
<td>98° to 112°</td>
<td>115° to 140°</td>
<td>120° to 180°</td>
</tr>
</tbody>
</table>

120. Nitro-Hydrochloric Acid Baths.

B. Acidii Nitrici, fl. drs. 12; Acidii Hydrochlorici, fl. oz. 1—3; Aquae Calidae, C. 30. Mix. To be prepared in a wooden bath. The patient should remain in it from ten to twenty minutes. Useful in cases where the liver is inactive,—as in invalids from tropical climates.

B. Acidii Nitrici, fl. drs. 4; Acidii Hydrochlorici, fl. oz. 1; Aquae Calidae, C. 4. Mix. For a footbath. In dyspepsia, with derangement of the liver and constipation. To be used in a wooden or earthenware vessel.

121. Alkaline Bath.

B. Soda Carbonatica, lb. 1; Aquae Ferventiae, C. 30. Mix. In the lithic acid diathesis, chronic squamous diseases of the skin, chronic rheumatism, &c.

122. Conium and Starch Bath.

B. Extracti Conii, oz. 1; Pulveris Amyl, lb. 1; Aquae Ferventiae, C. 30. Mix, for a bath. In certain skin diseases, attended with abundant scurf itches. A simple starch bath without any conium is very soothing to the skin when covered with an irritating rash.

123. Creasote Bath.

B. Creasoti, fl. drs. 3; Glycerini, fl. oz. 4; Aquae Ferventiae, C. 30. Mix. In squamous disease of the skin.

124. Iodine Bath.

B. Iodini, gr. 60; Potassii Iodidi, oz. 4; Liquorice, fl. oz. 2; Aquae Calidae, C. 30. Mix. In scrofula, chronic rheumatism, secondary syphilis, and certain skin diseases.

125. Sulphur Baths.

B. Potassii Sulphuratae, oz. 4; Aquae Calidae, C. 30. Mix. Useful in scabies, lead colic, paralysis from lead, &c.

B. Potassii Sulphuratae, oz. 4; Soda Hyposulphite, oz. 1; Acidii Sulphurici, fl. drs. 1; Aquae Calidae, C. 30. Mix.
126. Iron, or Oak Bark, Baths.

B. Ferri Sulphatis, oz. \(\frac{1}{2}\); Aque, C. 4. Mix. Especially useful for strumous and rickety children.

B. Quercus Contusa, lb. 1; Aque Calidae, O. 2. Mix. Boil for half an hour, and add the strained decoction to three gallons of warm or tepid water. To be used every morning. For delicate children, etc.

127. Salt water Baths.

B. Salis Marini (vulgo, "Bay Salt"), lb. \(\frac{1}{2}\); Aque Tepidae, C. 4. Mix. Make a sponge bath to be used every morning. In general debility, chronic rheumatism, etc. The surface of the body should be thoroughly rubbed with a flesh brush and coarse towels.

B. Salis Marini, lb. 2; Magnesia Sulphatia, oz. 3; Potassii Iodidi, gr. 120; Liquoris Calcis Chloratae, fl. oz. \(\frac{1}{2}\); Aque, C. 30. Mix.

128. Arsenical Baths.

B. Soda Carbonatis, oz. 4; Soda Arseniatis, gr. 20—36; Aque Calidae, C. 30. Mix. In rheumatoid arthritis, skin diseases, etc.

B. Soda Chloridi, oz. 1; Soda Sulphatia, oz. 1; Soda Carbonatis, oz. 2; Soda Arseniatis, gr. 52; Aque Calidae, C. 30. Mix.

B. Potassae Sulphurate, oz. 4; Soda Arseniatis, gr. 30—40; Aque Calidae, C. 30. Mix.

129. Borax Bath.

B. Boracic, oz. 4; Glycerini, fl. oz. 3; Aque Calidae, C. 30. Mix. In some squamous and other irritable diseases of the skin.

130. The Turkish Bath.

The general effect of a hot air bath is to increase the force and rapidity of the circulation, and to induce free perspiration; but if too hot or too prolonged the determination of blood to the skin and lungs becomes so great, that the brain suffers. There is then consequently a lowering of the circulation, with depressed nervous power. A temperature varying from 110° to 165° will usually suffice; while if the perspiration is efficient and continuous, and the sensation agreeable, the patient may remain in the caldarium for from forty to sixty minutes. The bath is always to be taken before a meal—when the stomach is empty.—A Turkish bath is useful in removing local congestions, in clearing the pores and in inducing a healthy condition of the skin and mucous membranes, in eliminating noxious matters from the blood, and in imparting a sense of elasticity and vigour to the system. Hence it may be recommended in dropsy due to renal or hepatic disease, in gout and rheumatism, in many cutaneous affections, in albuminuria, in certain forms of neuralgia, in some cases of obesity, and so on. It is injurious when there is any obstruction to the circulation, or when the heart or vessels are affected with fatty degeneration, or when there are any symptoms of disease of the nervous centres, or when there is a tendency to vertigo or syncope, as well as in advanced life. Women who are pregnant, or who are menstruating, ought not to have recourse to it.

131. Mercurial Vapour Bath.

The patient is seated on a chair, and covered with an oil-cloth lined with flannel which is supported by a proper framework. Under the chair are placed a copper bath containing water, and a metallic plate on which is put from sixty to one hundred and eighty grains of the bisulphuret of mercury, or the same quantity...
of the grey oxide, or of the red oxide of this metal. In syphilitic affections of the
skin, testes, and bones, from five to thirty grains of the green iodide of mercury
may be employed; or a mixture of twenty grains of the green iodide with ninety
grams of the bismuth salt often proves efficacious. Under the bath and plate,
spirit-lamps are lighted. The patient is thus exposed to the influence of three
agents—heat, air, steam, and the vapour of mercury. At the end of five to ten
minutes perspiration commences, which becomes excessive in ten or fifteen minutes
longer. The lamps are now to be extinguished; and when the patient has become
moderately cool, he is to be rubbed dry. He should then drink a cup of warm
decotion of guaiacum or sarsaparilla, and repose for a short time.—Langston
Parker. In constitutional syphilis when mercury is indicated. This method of in-
roducing mercury into the system may also be adopted with benefit in other diseases, in
place of administering the metal by the mouth.

Mr. Henry Lee's mode of proceeding is more simple, and is the one which the
Author has frequently adopted with great success. A convenient apparatus is used,
made by most instrument makers, consisting of a kind of tin case containing a
spirit-lamp. In the centre, over the flame, is a small tin plate, upon which from
fifteen to thirty grains of calomel are placed; while around this is a sort of saucer
filled with boiling water. The lamp having been lighted, the apparatus is placed
under a common cane-bottom chair, upon which the patient sits. He is then
enveloped chair and all, in one or more large blankets; and so he remains well
covered up, for about twenty minutes, when the water and mercury will be found
to have disappeared. About five minutes afterwards he may put on his shirt and
go to bed; but it is better not to use a towel, since it can only be disadvantageous
to wipe off the calomel deposited on the skin.

132. Gelatine Bath.

Take of Gelatine, or Common Glue, lb. 1; dissolve in a little boiling water,
and then add twenty gallons of hot water to form a bath. This bath can oft-times
be made more efficacious by soaking in it one or two pounds of bran confined in a
muslin bag. In eczema, and other irritative cutaneous affections.

133. Mustard Footbath.

B. Pulveris Sinapis, oz. 2—4; Aque Calidae, C. 4. Mix, for a footbath. In
complaints of the head and chest, headache, languid circulation, as well as in some
cases of amenorrhea, &c.

134. Cold Affusion.

The patient is seated in an empty bath, and from four to six buckets of cold
water (about 40° Fahr.) are poured over his head and chest from a height of two or
more feet. He is then quickly dried, and replaced in bed. The colder the water
and the greater the height from which it is poured, the more stimulating the effect.
Affusion, as thus practiced by Dr. Currie, proved very valuable in the treatment of
typhus. It may be resorted to when the temperature of the body is permanently
above its normal (about 98.4° Fahr.) standard, when there is no feeling of chilliness,
when the body is not wholly bathed in sweat, when there is not much irritability of
the nervous system, and when there is great stupor. The effect is to lower the tem-
perature, to lessen the frequency of the pulse and respiration, to render the tongue
moist and soft, to diminish or remove the stupor, to procure sleep, and sometimes
to produce a critical perspiration. Cold affusion can seldom be resorted to with
safety more than once in every twenty-four hours.

When it is desirable to apply a douche-bath to one or more of the joints it is
only necessary to affix two or three yards of large sized india rubber tubing to the
tap of a cistern. The patient must sit in an empty bath, into which the water may
fall as it plays upon the limb. The reaction is greater after the use of hot and cold
douches alternately, than after the employment of water of only one temperature.
135. The Shallow Bath.

The patient sits in a bath some six feet long, with a depth of water (temperature 60° to 80° Fahr.) varying from 8 to 12 inches. The extremities and trunk are well rubbed by an assistant, while water is gently poured over the head. The duration of the bath ought to vary from five minutes to three-quarters of an hour, until the temperature of the body is lowered. The colder the water and the shorter the stay in it, the more stimulating and less sedative will be the effect. This bath is less exciting than the cold affusion, and is chiefly indicated where the latter would be improper, i.e., where there is much nervous irritability. It is also better for women, who can seldom bear the cold affusion.

As a substitute for the shallow bath the dripping-sheet is sometimes used. The patient stands upright in an empty bath, while the attendant, placed at his back, suddenly envelopes him in a sheet dipped in cold water. The surface of the body is rapidly rubbed by the servant’s flat hands for some three minutes, until the bather is in a glow; when a dry sheet is quickly substituted for the wet one, and the rubbing continued. The whole process should be over in five or six minutes.

136. Wet sheet Packing, &c.

The patient is closely enveloped in a sheet which has been dipped in cold or tepid water and well wrung out. Or a long towel is wrung out of tepid water and applied along the whole length of the back, while another, similarly prepared, is laid over the chest and abdomen. In either case the patient is then carefully wrapped in a blanket, covered with three or more blankets, and has a down coverture tucked over all. He should remain thus for 30, 45, or 60 minutes, lying on his side, or in a semi-recumbent position; the duration being timed by the sedative effect produced. The sweating is not generally excessive. But the water, urea, and chloride of sodium of the urine are slightly increased: this increase being considerable when the sheet is continued for four hours. At the conclusion the shallow bath may be used for two or three minutes, as a tonic.

A blanket-bath affords an easy means of inducing sweating. A blanket is wrung out of hot water, and wrapped round the patient. He is to be packed in three or four dry blankets, and allowed to repose for thirty minutes. The surface of the body should then be well rubbed with warm towels, and the patient made comfortable in bed.

The wet compress consists merely of a roll of flannel or calico, dipped in cold water and wrung out, and then applied around the seat of pain. Over this a piece of waterproof cloth is worn. The compress is kept on night and day.

137. The Warm Bath as a Cooling Agent.

The warm bath at a temperature of 95° Fahr. must prove a cooling agent to the body of a fever patient at 100° or 105°. The immersion should continue from fifteen minutes to an hour or longer. Its sedative effects render it valuable where the nervous system is irritable.

The temperature may, however, be lowered to 70° or 65° by the addition of cold water while the patient is in the bath. This has proved effectual in saving life in cases of hyperpyrexia during acute rheumatism, enteric fever, &c. The temperature of the patient must be observed continuously, and when it has fallen to 102°, or therabouts, or when shivering comes on, he must be removed to bed. Enteric fever, moreover, has been extensively treated by baths of low temperature with considerable success.

In cases of delirium tremens with high fever, cold superfusion may be used while the patient is held in the warm bath. From ten to thirty buckets of cold water are to be poured slowly over the head; hot water being continually added to the bath to maintain its heat at 95°. This treatment may frequently be counted upon to produce sound sleep.
138. Acid Sponging.

One part of vinegar is to be added to two or three parts of cold water, and the body well sponged with the mixture. Simple tepid water may sometimes be advantageously used. The patient being weak and unable to move, the sponging must be done by degrees:—i.e. the arms, chest, back, and legs are to be rapidly washed and dried. In many cases of fever, inflammation, scarlatina, &c.

VIII. CATHARTICS AND ANTHELMINTICS.

139. The Common Black Draught.

R. Magnesia Sulphatis, gr. 120; Mannae, gr. 160; Tinctura Semae, fl. drs. 2; Infusii Semae, ad fl. drs. 12. Make a draught. To be taken early in the morning. One ounce and a half of the officinal Compound Mixture of Senna is equivalent to the foregoing.

140. Calomel, Jalap, and Epsom Salts.

R. Hydrargyri Subchloridi, gr. 5; Pulveris Jalapae, gr. 15. Make a powder. To be taken immediately; with the following draught three hours afterwards:

R. Magnesia Sulphatis, gr. 120; Mannae, gr. 60; Tinctura Jalapae, fl. drs. 2; Aquae Carnii, ad fl. drs. 12. Mix. A good active purgative in head affections, &c. as well as at the commencement of many acute diseases.

141. The White Mixture of Hospitals.

R. Magnesia Sulphatis, oz. 12; Magnesia Carbonatis, gr. 120; Aque Menthae Piperitae, fl. oz. 8. Mix. The addition of two fluid drachms of Colchicum wine is sometimes advantageous. One-sixth part early every morning.

142. Epsom Salts and Sulphuric Acid.

R. Magnesia Sulphatis, oz. 2; Acidii Sulphurici Aromatici, min. 90; Tinctura Hyoscyami, fl. drs. 6; Infusii Quassiae, ad fl. oz. 8. Mix. One-sixth part two or three times a day. In painter’s colic, copper colic, &c.

R. Magnesia Sulphatis, oz. 1/2; Infusii Rosei Acidii, fl. oz. 2. Make a draught. To be taken early in the morning. In mild febrile affections with much constipation.

143. Glauber’s Salts and Sulphuric Acid.

R. Sodae Sulphatis, gr. 120; Ferri Sulphatis, gr. 3; Acidii Sulphurici Diluti, min. 15; Tinctura Hyoscyami, min. 40; Infusii Calumbae, fl. oz. 2. Make a draught. To be taken the first thing in the morning. In obstinate constipation with debility. Also in some varieties of haemorrhage where an aperient is needed,—as purpura, haematemesis, &c.

R. Sodae Sulphatis, gr. 240; Acidii Sulphurici Diluti, fl. drm. 1; Infusii Gentianae Compositi, fl. oz. 6. Mix. Three tablespoonsfuls to be taken daily, after luncheon or dinner. In habitual constipation with flatulence.
144. Glauber’s Salts and Taraxacum.

B. Sodae Sulfatis, gr. 120; Succi Taraxaci, fl. dmin. 1; Decocti Taraxaci, fl. oz. 2. Make a draught. To be taken every morning before breakfast. *In constipation with deficient secretion of bile. The taraxacum is a good vehicle for the sulphate of soda, even if it is incapable of influencing the secretion of bile. See F. 148.*

145. Aloes, Senna, and Jalap.

B. Tincturae Sennæ, Tincturae Jalapæ, àa fl. drs. 2; Infusi Sennæ, fl. oz. 2; Decocti Aloes Compositi, ad fl. oz. 8. Mix. Two tablespoonfuls to be taken night and morning.

146. Rhubarb, Gentian, and Senna.

B. Tincturae Rhei, fl. drs. 2; Spiritus Ammonii Aromatici, min. 40; Infusi Gentianae Compositi, Infusi Sennæ, àa fl. drs. 7. Make a draught. To be taken every morning an hour before breakfast. *A mild aperient in gentle dyspepsia.*

147. Nitric Acid, Senna, and Taraxacum.

B. Acidæ Nitricæ Dilutæ, min. 00; Spiritæ Athearum Nitrosi, fl. drs. 2; Succi Taraxaci, fl. drs. 12; Tincturae Sennæ, fl. oz. 4; Infusi Gentianae Compositi, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. *In dyspepsia with debility and constipation. Also in passive hepatic congestion, in amenorrhœa with a loaded liver; &c.*

148. Alkaline Aperients.

B. Decocti Aloes Compositi, Infusi Gentianae Compositi, àa fl. oz. 4; Tincturae Nucis Vomicae, fl. drm. 1; Liquoris Potassæ, fl. drs. 2. Mix. One-sixth part, with two or three tablespoonfuls of water, early every morning. *Useful in bilious headache.*

B. Soda Sulphatis, oz. 1/2; Sode Phosphatis, oz. 1; Syrupi Zingiberis, fl. drs. 6; Aqua ad fl. oz. 8. Mix. Three large tablespoonfuls immediately; the dose to be repeated after two hours, unless the bowels should be freely acted on.

B. Soda Sulphatis, Sulphuris Precipitati, àa oz. 1/2. Mix. Label,—“One teaspoonful in a tablespoonful of milk and water early in the morning.”—In rheumatoid arthritis, chronic rheumatism, sciatica, pruritus, &c.

149. Phosphate of Soda and Aloes.

B. Extracti Rhei, gr. 10; Sode Phosphatis, gr. 60; Decocti Aloes Compositi, fl. drs. 8; Aque Menthae Viridis, ad fl. oz. 2. Make a draught. To be taken occasionally at bedtime. *In some forms of chronic gout, jaundice from gallstones, &c.*

150. Aloes, Senna, and Epsom Salts.

B. Vini Aloes, fl. drs. 2; Infusi Sennæ, fl. drs. 14; Magnesii Sulphatis, gr. 240. Mix. Half of this mixture to be taken about 7 o’clock in the morning, and the remainder two hours after breakfast, if required.

151. Jalap and Senna.

B. Tincturae Sennæ, fl. oz. 1; Tincturae Jalapæ, fl. drs. 2; Vini Colei bicii, fl. drm. 1; Aque Pimientae, fl. oz. 2. Mix. Label,—“Half of this draught immediately, and the remainder in six hours, if necessary.”

B. Pulveris Jalapæ Compositi, gr. 30—60; Syrupi Sennæ, fl. drm. 1; Aque Camphoræ, fl. drs. 16. Make a draught. To be taken early every morning. *In dropsy.*
R. Jalape Resina, gr. 3; Extracti Hyoscyami, gr. 2. Mix into a pill, to be taken at bedtime. An ounce and a half of the compound mixture of Senna should be administered on the following morning. In dropsy and in hepatic disease where an active purgative is needed.

152. Saline Purgative.

R. Vini Antimontali, fl. drm. 1; Magnesii Sulphatis, gr. 160; Liquoris Ammoniaci Acetatis, fl. drs. 12; Syrups Papaveris, fl. drs. 6; Aquae Camphorae, ad fl. oz. 8. Mix. One-sixth part two or three times in the twenty-four hours. Simple fever with constipation. In hepatic congestion, etc.

153. Sulphur and Magnesia.

R. Magnesii Carbonatis, gr. 20; Sulphuris Precipitati, gr. 25; Sodae Carboniatis, gr. 10; Pulveris Zingiberis, gr. 3. Make a powder. To be taken early in the morning in a tumblerful of milk. A valuable aperient for delicate females subject to rheumatism. Also in prurigo, and some other skin diseases.

154. Steel and Aloes.

R. Ferri Sulphatis Granulata, gr. 2; Pilulae Aloes et Myrrhae, gr. 3. Make a pill, to be taken thrice daily after meals. In amenorrhoea, chlorosis, hysteria with constipation and debility, etc. See F. 421.

155. Pepsine and Aloes.

R. Pepsinis Porci, gr. 39; Extracti Aloes Barbasciatis, gr. 4 8; Glycoerini, sufficient to make a mass. Divide into eight pills, and order one to be taken every day at dinner. To prevent them from adhering to each other, these pills should either be silvered or coated with lycopodium—the delicate and tasteless powder contained in the spores of Lycopodium solago and Lycopodium clavatum. Valuable in gastric and duodenal dyspepsia, some diseases of the rectum, certain forms of suppressed menstruation, etc.

R. Extracti Aloes, gr. 1; Extracti Belladonnae, gr. 3. Make a pill to be taken daily after dinner or supper.

156. Aloes and Galbanum.

R. Pilulae Aloes et Myrrhae, Pilulae Assafetidae Compositae, 55 gr. 5. Make two pills. To be taken night and morning. In hysteria with attacks of flatulent colic, and in some forms of amenorrhoea with constipation.

157. Elaterium, or Wild Cucumber.

R. Liquoris Ammoniaci Acetatis, fl. drs. 9; Spiritus Ethereus Nitrosi, fl. drs. 4; Elaterii, gr. 1; Syrups Zingiberis, fl. drs. 3. Mix. Direct.—"Two small teaspoonfuls in a wineglassful of water every two hours, until the bowels are freely acted on." In the early stages of acute dropsy with albuminuria.

R. Elaterii, gr. 14; Pulveris Capsici, gr. 9; Hydargyri Subchloridi, gr. 12; Extracti Hyoscyami, gr. 18. Make a mass, divide into twelve pills, and order two to be taken for a dose. If a very active purgative is required, the quantity of elaterium may be doubled. The capsicum prevents the nausea which this drug often produces.

R. Elaterii, gr. 1; Digitalis Folium, gr. 2 4; Extracti Gentianae, gr. 12. Divide into four pills, and order one to be taken every night. In dropsical effusions, and where it is desirable to produce copious watery stools.
158. Gamboge and Galbanum.

B. Pilula Cambogiae Composite, Pilula Asafoetidae Composite, a& gr. 5. Make two pills. To be taken every night at bedtime. A good drastic hydroxygic cathartic, acting chiefly upon the small intestines.

159. Calomel and Jalap, &c.

B. Hydrargyri Subchloridi, gr. 2—3; Pulveris Scammonii Compositi, gr. 4; Pulveris Aromatici, gr. 5. Mix, for a powder to be taken at bedtime. A valuable purgative in the cerebral affections of children: also in cases of threadworm.

B. Hydrargyri Subchloridi, gr. 2; Extracti Jalapae, gr. 8. Make into two pills, and order them to be taken at bedtime. In cerebral affections, &c.

B. Hydrargyri Subchloridi, gr. 5; Pulveris Jalapae Compositi, gr. 20—10. Make a powder, to be taken every night at bedtime. A good hydroxygic cathartic. The calomel increases the effect of the jalap and aird tartrate of potash (cream of tartar).

B. Hydrargyri Subchloridi, gr. 2; Pulveris Rhei, gr. 20; Jalapae Resine, gr. 2; Pulveris Zingiberis, gr. 2. Mix. To be taken as a bolus, in a little water paper, at bedtime.

160. Podophyllum Peltatum, or May-apple.

B. Podophylli Resine, gr. 1; Pulveris Rhei, gr. 5; Extracti Hyoscyami, gr. 3. Make two pills. To be taken every night at bedtime. As a purgative in jaundice from suppression, in torpid liver, and in dropsy from cardiac or renal or hepatic disease. Podophyllin produces copious bilious stools; but it is rather uncertain, and is apt to gripes unless combined with henbane.

B. Podophylli Resine, gr. 6; Pulveris Zingiberis, gr. 20; Jalapae Resine, gr. 10; Digitalis Folie, gr. 3; Extracti Hyoscyami, gr. 14. Make a mass, divide into twelve pills, and order two to be taken every other night at bedtime. As a drastic purgative in dropsy. See F: 30.

161. Ammonia and Rhubarb.

B. Spiritus Ammonis Aromatici, fl. dra. 4; Tinctura Rhei, fl. oz. 2; Infusio Rhei, ad fl. oz. 8. Mix. One-sixth part to be taken night and morning.

162. Gentian, Ether, and Rhubarb.

B. Tinctura Rhei, fl. oz. 1; Tinctura Gentianae Compositae, fl. oz. 2; Spiritus Ammonis Aromatici, Spiritus Etheris, a& fl. dra. 4; Aqua Pimenta, fl. oz. 4. Mix. Two tablespoonfuls to be taken occasionally. In cases of colic, flatulence, nausea or dysuria, where a warm stomachic aperient is needed.

163. Hellebori and Colchicum.

B. Tinctura Hellebori (Phar. Lond. 1851), min. 30; Vini Colchici, min. 25; Tinctura Rhei, fl. dra. 2; Aqua Camphorae, ad fl. oz. 2. Make a draught. To be taken occasionally early in the morning. Useful in gout, chronic rheumatism, &c.

104. Castor Oil.

B. Olei Ricini, fl. dra. 2—4. To be taken occasionally about 11 A.M. The taste of castor oil is entirely destroyed by mixing it with a teacupful of well salted and peppered beef tea.

B. Mucilaginis Tragacanthae, fl. oz. 2; Aqua Cinnamomi, fl. oz. 3; Olei Ricini, fl. dra. 12; Tinctura Rhei, Syrupi Aurantii, a& fl. dra. 6; Tinctura Opii, min. 30. Mix. One-eighth part every three hours. In dysentery, when there are scybala in the rectum. Also when an aperient with a sedative is indicated.
APPENDIX OF FORMULÆ. | CLASS VIII.

165. Rhubarb and Magnesia, or Soda.

B. Magnesia Carbonatis, gr. 120; Pulveris Rhei, gr. 60; Vini Ipecacuanhae, fl. drs. 2; Pulveris Aromatici, gr. 40; Aqua Mentheae Piperiteæ, fl. oz. 8. Mix. Three tablespoonfuls to be taken every morning.

B. Pulveris Rhei, Sodae Bicarbonatæ, s. gr. 20; Infusi Rhei, fl. oz. 1. Make a draught. To be taken early in the morning, with two or three tablespoonfuls of water, twice or thrice a week. For gouty and rheumatic subjects.

The official Pulvis Rheum Compositus, in doses of 20 to 120 grains, is a valuable mild aperient where the intestinal secretions are deranged or diminished in quantity. It is commonly known as Gregory’s powder.

166. Epsom Salts and Sulphate of Iron.

B. Magnesia Sulphatis, gr. 120; Ferri Sulphatis, gr. 4; Acidi Sulphurici Diluti, min. 15; Extracti Quassiae, gr. 20; Aqua Fomentiæ, fl. oz. 2. Make a draught. To be taken early in the morning. In constipation with general debility.

167. Colocynth and Tartarated Antimony.

B. Pilulæ Colocynthidis et Hyoscyami, gr. 56; Antimoni Tartarati, gr. 4. Divide into twelve pills, and order one to be taken every night at bedtime. A valuable purgative in the cerebral congestions of strong subjects.

168. Croton Oil.

B. Olei Crotonis, min. 1—2; Olei Caryophylli, min. 2; Mice Panis, sufficient to make a pill. ‘To be taken immediately, and repeated in two hours if necessary.

B. Olei Crotonis, min. 2; Olei Theobromæ, gr. 30. Make a suppository. To be introduced into the rectum early in the morning—about 5 A.M.

B. O. Crotonis, min. 1—2; Pilulæ Colocynthidis Compositæ, gr. 30; Pilulæ Asafoetidis, Compositæ, gr. 60. Make a mass, divide into eighteen pills, and order three to be taken every night at bedtime. In cases of sciatica, obstinate neuralgia, &c. with constipation.

169. Seidlitz Powder.

B. Sodae Bicarbonatæ, gr. 40; Sodae Tartaratae, gr. 120. Mix, and make an effervescing draught with thirty-seven grains of Tartaric or Citric Acid dissolved in a tumblerful of water.

The official Effervescing Citro-Tartrate of Soda, in doses of a couple of teaspoonfuls, in a small tumblerful of cold or tepid water, is a very agreeable and mild aperient.

170. Purified Ox Bile.

B. Ammonis Carbonatis, gr. 34; Fellis Bovini Purificati, gr. 36. Make a mass, divide into twelve pills, silver them, and order one to be taken three hours after each of the principal meals. In dyspepsia with nausea, constipation and a deposit of urates in the urine.

B. Jalape Binae, gr. 6—18; Fellis Bovini Purificati, gr. 24; Olei Carni, min. 10; Pilulæ Asafoetidis, Compositæ, gr. 18. Make a mass, divide into twelve pills, and order two to be taken every night two hours after supper. To prevent an accumulation of fæces, when the large intestines are torpid. Also where there is a deficiency of bile.

B. Pilulæ Colocynthidis et Hyoscyami, Fellis Bovini Purificati, Extracti Lupuli, s. gr. 20. Make a mass, divide into twelve pills, silver them, and order
one to be taken every day three hours after dinner. In constipation with flatulence and imperfect digestion of the food.

B. Magnesia Carbonatis, gr. 30; Tinctura Jalape, fl. drs. 2; Tinctura Senne, fl. oz. 1; Felis Bovini Purificati, gr. 30; Aquae Camphora, ad fl. oz. 4. Mix, and label.—“Half of this mixture immediately, and the remainder in three hours if necessary.”—A valuable purgative when the rectum is blocked up by hardened feces.

Capsules containing pig’s bile, evaporated to dryness, have been prepared according to the directions of Dr. Harley. Each capsule contains five grains of prepared bile, equal to one hundred grains of liquid bile fresh from the gall bladder. Two or three are to be taken for a dose, about two hours after a meal; when stomachal digestion being nearly completed, the chyme is ready to pass into the duodenum. The capsules imbibe moisture in the stomach, and then, in their soft swollen condition, generally get ruptured as they pass through the pylorus. In this way the bile is mingled with the chyme at the same time that the intermixture happens in the healthy organism. In jaundice from long-continued obstruction. Also in some forms of duodenal dyspepsia arising from sedentary habits.

171. Rhubarb, Mercury, and Hemyne.

B. Pilulae Hydargyri (vel Hydargyri cum Cretâ), Pilulae Rhei Composite, Extracti Hyoscyami, âg gr. 20. Mix, divide into twelve pills, and order two to be taken occasionally at bedtime.—Where a stronger purgative is required the compound colocynth may be substituted for the compound rhubarb pill.

172. Sulphate of Manganese.

B. Manganësii Sulphatis, gr. 180; Vini Colchici, min. 15; Infusi Senne, Infusi Gentianae Compositi, âg fl. oz. 1. Make a draught, to be taken early in the morning. In gouty or rheumatic habits, with a deficient secretion of bile.

173. Colocynth and Assafatida.

B. Pilulae Colocynthidis et Hyoscyami, Pilulae Assafatidae Compositae, âg gr. 5. Mix into two pills. To be taken occasionally at bedtime. In constipation with flatulence. A valuable purgative for hypochondriasis.

174. Gamboge, Aloes, and Blue Pill.

B. Pilulae Cambogiae Compositae, gr. 5; Pilulae Hydargyri, gr. 3. Make two pills. To be taken night and morning. In dropsy from cardiac or hepatic disease where a drastic purgative is required.

175. Extract of Nux Vomica.

B. Extracti Nucis Vomicae, gr. 3; Pulveris Ipecacuanhe, gr. 6; Pilulae Rhei Composite, vel Pilulae Aloes et Assafatidae, gr. 40. Make a mass, divide into twelve pills, and order two to be taken every alternate night at bedtime. In habitual constipation from atony of the coats of the bowel, with deficient secretion of intestinal mucus.

B. Extracti Nucis Vomicae, gr. 2; Extracti Aloes Barbadensis, gr. 6; Extracti Rhei, gr. 20. Mix and divide into six pills. One to be taken every day at dinner. In torpor of the colon, some diseases of the rectum, &c.

B. Extracti Hyoscyami, gr. 40; Pilulae Colocynthidis Compositae, vel Jalapae Resinæ, gr. 20; Extracti Nucis Vomicae, gr. 3. Mix, and divide into twelve pills. One pill to be taken every night. In habitual constipation. They may be continued for about ten days. See F, 378, 387, and 409.
176. Rhubarb and Magnesia for Infants.

R. Pulveris Rhei, gr. 15; Magnesie Carbonatis, gr. 60; Aque Anethi, fl. drs. 12. Mix, and order one teaspoonful to be taken every two hours until the bowels are freely acted on.

177. Sulphate of Zinc and Nux Vomica.

R. Zinci Sulphatis, gr. 24; Extracti Nucis Vomicae, gr. 2; Extracti Anthemidia, gr. 30. Mix, divide into twelve pills, and order one to be taken three times a day. For habitual constipation, after the bowels have been cleared out with a purgative of calomel and colocynth. The pills should be taken immediately after meals, for two or three weeks. They ought to be discontinued gradually.

178. Quinine and Rhubarb.

R. Quinina Sulphatis, gr. 2; Extracti Lupuli, gr. 5; Pilulae Rhei Composite, gr. 3. Mix into two pills, and order them to be taken every day at dinner. Useful in some forms of dyspepsia, with want of tone.

179. Ipecacuanha, Rhubarb, and Oxide of Silver.

R. Pulveris Ipecacuanhae, gr. 1; Pulveris Rhei, gr. 3; Argenti Oxidi, gr. 1; Confectionis Rosae Caninae, sufficient to form a pill. A good dinner pill where there is uneasiness and oppression after meals, the result of slow digestion.

180. Steel, Glauber’s Salts, &c.

R. Ferri Sulphatis Granulatae, gr. 10; Sodae Sulphatis, Magnesie Sulphatis, aq. oz. 1; Sodii Chloridi, gr. 120; Aq. 0. 1. Mix. Four tablespoonfuls in a tumblerful of warm water early in the morning. A rough imitation of the Cheltenham Waters. Useful in debility with constipation.

181. Steel, Glauber’s Salts, and Soda.

the Vichy Waters. In some forms of chronic gout, &c.

R. Sodae Sulphatis, gr. 120—240; Sodae Carbonatis, gr. 20; Sodii Chloridi, gr. 15; Crete Preparatae, gr. 10; Ferri Carbonatis Saccharatae, gr. 15. Make a powder, and direct it to be taken early in the morning in half a pint of water. A & imitation of the Carlsbad Waters.

182. Kamela, as an Anthelmintic.

R. Pulveris Kameliae, gr. 60—180; Vel Tinctura Kamelae, fl. drs. 2; Syrupi Aurantii, fl. drs. 2; Mucilaginis Tragacanthae, fl. drs. 12; Aque, ad fl. oz. 3. Make a draught. To be taken early in the morning. A purgative should be administered six hours afterwards. Kamela is an orange-red resinous substance found adhering to the capsules of the Rottlera tinctoria, and is imported from India. Strongly recommended in tapeworm.

183. Turpentine, as an Anthelmintic.

R. Olei Ricini, fl. drs. 4; Olei Terebinthini, fl. drs. 3; Mucilaginis Tragacanthae, fl. drs. 4; Syrupi Zingiberis, fl. drms. 1; Aque, fl. drs. 4. Make a draught, to be taken early in the morning. In tapeworm, &c.
184. Kousso, as an Anthelmintic.

B. Cusso, in pulvere, gr. 240; Mellis Depurati, sufficient to make an electuary. Label—"Half of this electuary to be taken early in the morning, and the remainder six hours afterwards." In tape-worm.

The official Infusum Cusso may also be taken in the same way, in doses of fl. oz. 4—8.

185. Santonin, as an Anthelmintic.

B. Santonini, gr. 2—6; Sacchari Lactis, gr. 15. Make a powder. To be taken early in the morning, suspended in a tablespoonful of warm. The patient ought to have fasted for twelve hours previously. The dose may be repeated daily for eight or ten days, if necessary; and its exhibition should be followed at the end of six hours by the administration of an ounce of the Compound Decoction of Aloes. A specific for the ascaris lumbricoides. Less useful for the tenia sordida and oxyure vermicularis. The patient should be warned that after a few doses the sight sometimes becomes perverted, so that objects seem to acquire a blue or yellow or some other colour. One-third of a grain of the resin of podophyllum added occasionally to the dose of santonin appears to increase its efficacy.

186. Pomegranate, as an Anthelmintic.

B. Spiritus Ætheris, min. 30—80; Decocti Granati Radicis, fl. oz. 1—2. Make a draught. To be taken every three hours until four doses have been used.

B. Granati Radicis Corticis, gr. 180; Pulveris Sabaddille, gr. 6; Pulveris Aromatici, gr. 60. Mix, and divide into six powders. One to be taken every two hours until the whole is consumed. More active than the preceding. A saline purgative should be given after the last dose.

187. Male Fern, as an Anthelmintic.

B. Extracti Filicis Liquidi, min. 20—40; Syrupi Zingiberis, fl. dra. 2; Mucilaginis Tragacanthi, fl. oz. 2; Aque, ad fl. oz. 4. Make a draught. To be taken early in the morning; only liquid nourishment having been allowed the previous day. Four hours afterwards a purgative dose of castor oil or compound decoction of aloes should be administered. Especially useful for destroying tape-worms.

188. Simple Enemata.

B. Sodii Chloridi, oz. 1; Decocti Hordei, fl. oz. 12. Mix, to form an Enema. In simple constipation, to destroy ophryides, &c.

B. Olei Olive, fl. oz. 6—8. To be warmed and then injected into the rectum. It should be retained for twelve or eighteen hours. Very useful in structural disease of the large bowel, impaction of hardened feces, &c.

B. Olei Olive, fl. dra. 12; Magnesia Sulphatis, gr. 220; Decocti Hordei, ad fl. oz. 12. Mix, for an Enema. The official Enema Magnesia Sulphatis contains one ounce of Epsom salts and one ounce of olive oil, to fifteen ounces of fluid starch.

B. Saponis Mollis, oz. 1; Aque Calide, fl. oz. 12. Mix, for an enema.

189. Castor Oil and Rue Enema.

B. Olei Ruteæ, min. 6; Olei Ricini, fl. oz. 1; Tinctura Assafoetidae, fl. dra. 2; Decocti Avenae, fl. oz. 7. Mix. Exceedingly useful in flatulent colic.
190. Castor Oil and Turpentine Enema.

B. Olei Ricini, fl. drs. 12; Olei Terebinthinae, fl. drs. 4; Tinctura Aasafotidae, fl. drs. 2; Decocti Avenae, ad fl. oz. 12. Mix. In obstinate constipation. It should be thrown up into the bowels by means of a long tube like that of the stomach-pump.

191. Croton Oil Enema.

B. Olei Crotonis, min. 6; Olei Ricini, fl. oz. 1; Olei Terebinthinae, fl. drs. 2; Decocti Hordei, ad fl. oz. 6. Mix. In obstinate constipation. It should be retained for three or four hours, if possible.

192. Steel and Aloes Enema.

B. Tincturae Ferri Perchloridi, fl. drs. 1–3; Extracti Quassie, gr. 5; Extracti Aloes Barbadensis, gr. 2; Infusi Quassie, fl. oz. 8. Mix. To destroy asyurides. It has often seemed advantageous to the Author to administer a dose of calomel and scambulny at the same time.

193. Tobacco Enema.

B. Tabaci Communis, gr. 15; Aquae Bullisatis, fl. oz. 8. Mix. To be employed cautiously in some exceptional cases of strangulated hernia, obstinate constipation, &c.

194. Purgative Electuaries.

B. Confectionis Senne, Potassae Tartratis Acidi, Extracti Taraxaci, ad oz. 1. Mix. One teaspoonful to be taken occasionally, an hour before breakfast. In constipation with inactive liver, or haemorrhoids.

B. Confectionis Piperis, Syrupi Senne, Confectionis Sulphuris, ad oz. 1; Pulveris Jalapae, gr. 30. Mix. One teaspoonful every morning. In constipation with chronic rheumatism.

B. Confectionis Sulphuris, oz. 2; Extracti Taraxaci, oz. 1. Mix and label.—“One teaspoonful daily before breakfast.” In many diseases of the rectum.

B. Confectionis Senne, oz. 2; Confectionis Scammonii, Syrupi Zingiberis, ad oz. 1; Ferri Carbonatis Saccharatae, gr. 220. Mix. One teaspoonful early every morning. In some forms of constipation and want of tone.

IX. CAUSTICS AND COUNTER-IRRITANTS.

195. Acid Solution of Nitrate of Mercury.

B. Liquoris Hydriargyri Nitritis Acidi, fl. drs. 2; Pulveris Tragacanthae Compositi, sufficient to make a mass. To be applied as a paste over the surface to be destroyed. Instead, it is sometimes better to apply the caustic fluid itself for certain cases of cancer or lupus. The solution may also be carefully used to sloughing ulcers, boils, small warts, &c. It is to be very lightly painted on by means of a glass brush, or a glass rod.

196. Chromic Acid.

B. Acidii Chromici, gr. 60; Aquae, fl. drs. 4. Mix. To destroy warts, small growths of epithelial cancer, &c.
197. Chloride of Zinc, &c.

B. Bromii Chloridi, Zinci Chloridi, Aurii Chloridi, Antimonii Chloridi, of each equal parts. Mix into a paste of sufficient thickness with flour or powdered liquorice. To destroy carcinous growths. Commonly known as Landolfo’s paste.

B. Sanguinaria Canadensis, oz. ½—1; Zinci Chloridi, oz. ½—2; Aque, fl. oz. 12; Farina, sufficient to make a paste. Mix. The paste thus formed should have the consistence of treacle. This is the caustic which was employed by Dr. Fell.

B. Zinci Chloridi, gr. 30—60; Farina, gr. 120; Aque Destillate, sufficient to form a mass. To be applied over the diseased surface. Or it may be made into sticks or flèches, and kept dried ready for use. An effectual method of removing a carcinous tumour is to introduce a portion of such a stick into an incision made in the mass.

198. Supersulphate of Zinc.

Take half a fluid ounce of sulphuric acid, and saturate it with sulphate of zinc, previously dried and powdered. Sir J. Y. Simpson recommended that this caustic should be used by dipping a pen in it, and then drawing lines across the tumour, so as to cut through the skin in a few minutes. The lines thus made are to be filled with the paste; renewing the scratching and caustic every day or two. In this way, five or eight days may suffice for the removal of a good sized tumour. By this combination also we can penetrate deeply without hardening the parts, and without fear of producing haemorrhage.—This is a very valuable caustic, and has been found particularly useful by the Author for the removal of carcinous tumours of the breast, &c. The pain which it produces will be best mitigated by employing the subcutaneous injection of morphia (F. 314) at each application.

199. Arsenical Mucilage.

B. Acidii Arseniosi, Pulveris Acaciae, 15 oz. 1; Aque, fl. drs. 5. Mix. The late Dr. W. Marsden spoke highly of this caustic in epithelium; but the Author has had no experience with it, inasmuch as he prefers less dangerous applications. If employed, however, the affected part should be painted over with the mixture night and morning; taking care rigorously to limit the application to the diseased parts, and not to let it extend over more than one superficial inch at a time. As the part sloughs, its separation is to be aided by bread and water poultices; while after all the disease has been got rid of in consequence of the repeated applications of the mucilage, a ointment poultice is to be applied during the night, and a weak black wash (calomel gr. 60 to line water one pint) during the day until the part is healed.

200. Lime and Arsenic Powder.

B. Calcis recentis, oz. ½; Arsenici Sulphureti Flavi, gr. 20; Pulv. Amyli, gr. 180. Mix. to form a powder. To be used very cautiously as a depilatory powder. The application is not free from danger.

201. Red Oxide of Mercury Powder.

B. Hydrargyri Oxidi Rubri, Aluminis, Æ gr. 60. Make a powder. To be sprinkled over exuberant and spongy granulations.

202. Carbonate of Copper Ointment.

B. Cupri Carbonatis, gr. 60; Adipis Preparati, oz. ½. Mix. to form an ointment. DEVEREUX.—In chronic eczema and impetigo of the scalp where stimulating applications are required.
203. Dupuytren’s Arsenic and Calomel Powder.

B. Acidi Arsenici, gr. 12; Hydrargyi Subchloridi, oz. 1. Mix. In ulcerated lupus. Must be very cautiously used.

204. Vienna Caustic.

B. Potassae Causticae, Calcis, a a oz. 1. Mix thoroughly. This paste is diluted with alcohol, and applied with a spatula over a small surface. It is identical with the Potassa cura calce of the London Pharmacopoeia—1836.

205. Iodine Paint.

B. Iodini, gr. 40; Potassii Iodidi, gr. 30; Spiritus Vini Rectificati, fl. oz. 1. Mix. To be applied with a camel’s hair pencil. Very useful in many chronic pains, &c.

B. Iodini, Potassii Iodidi, a a grs. 20; Collodii, fl. oz. 1. Mix.

B. Iodini, gr. 120; Olei Petroleum Albi, fl. oz. 1. Mix. To be applied with a firm brush. Very useful in ringworm; two or three applications, at intervals of eight or ten days, will frequently effect a cure.

The official Linimentum Iodi may also be used, but it must be diluted with from one to three parts of spirit or glycerine or tincture of aconite.

206. Bromine and Iodine.

B. Bromi, min. 5; Iodi, gr. 10; Tinctura Iodi, fl. oz. 1. Mix very cautiously so as to avoid all risk of an explosion. To be employed to cancerous and violent ulcers.

207. Croton Oil Liniment.

B. Olei Crotonis, min. 30; Olei Oliveæ, fl. drs. 2. Mix, for a liniment. To produce rubefaction and a pustular eruption, where counter-irritation is required for the relief of diseases of internal organs. The official liniment is only 1 part to 7, and is scarcely strong enough.

208. Blistering and Epispastic Papers.

These papers of M. Albespereyre have long been used in this country with great advantage, though they are less appreciated than in France.

They consist of—an epispastic paper for dressing blisters; a dulcifying paper for issues, causing neither smell nor pain; and blisters formed of an adhesive cloth without a plaster.

The Epispastic Paper, for dressing blisters, is prepared of four degrees of strength, under the designation of No. 1 feeble, No. 1, No. 2, and No. 3. No. 1 feeble possesses the least strength, and is suitable as a dressing for persons of irritable temperament, and for children. No. 1 has rather more salve spread upon it, and is adapted for patients whose blisters have risen well. No. 2 is employed for those whose blisters do not draw sufficiently, and require stimulating. Whilst No. 3 possesses a still stronger power, and is used only in cases where the blister has a tendency to dry up. They all maintain an abundant discharge, without pain or heat; prevent the formation of false membranes; produce no irritation of the urinary passages; and cause no disagreeable smell.

The blisters—applied by the adhesive black side—readily adhere to the skin, producing vesication in a few hours (twelve at the utmost); and, if necessary, the same piece put on four or five times always gives rise to the blistering effect. They are, however, less required by British practitioners than they were prior to 1867, because there is now an excellent official CHAKTA EPISPASTICA.
X. DIAPHORETICS AND DIURETICS.

209. Nitre and Ipecacuanha.

R. Potassae Nitratis, gr. 60; Vini Ipecacuanhae, fl. drs. 2; Syrupi Hemidesmi, fl. oz. 1; Decocti Hordei, ad O. 1. Mix. One small tea-cupful to be taken every two or three hours. In severe catarrh with sore throat.

210. Antimony and Opium.

R. Vini Antimoniale, fl. drs. 1—2; Liquoris Ammoniae Acetatis, fl. drs. 12; Extracti Opii Liquidi, min. 30; Aqua Camphora, ad fl. oz. 8. Mix. One-sixth part three times a day. Each fluid drachm of the wine contains one-quarter of a grain of antimony.

211. Citrate of Potash and Ammonia.

R. Potassae Citratis, gr. 120; Liquoris Ammoniae Acetatis, fl. drs. 18; Spiritus Ammoniae Aromatici, fl. drs. 3; Tinctura Aconiti, min. 30; Aqua, ad fl. oz. 8. Mix. One-sixth part every four or six hours. In pneumonia, and many other acute inflammations. Sometimes it is preferable to give only the Solution of Acetate of Ammonia diluted with water (two or three fluid drachms to two ounces).

212. Ether and Ammonia.

R. Potassae Nitratis, gr. 30—60; Spiritus Etheris Nitrosi, fl. drs. 3; Liquoris Ammoniae Acetatis, fl. drs. 12; Aqua Camphora, ad fl. oz. 8. Mix. One-sixth part three or four times a day. In the early stage of many febrile and inflammatory disorders.

R. Ammoniae Carbonatis, gr. 10—30; Spiritus Chloroformi, fl. drs. 3; Vini Coelicoli, min. 30; Liquoris Ammoniae Acetatis, fl. drs. 20; Mucilaginis Tragacanthae, fl. oz. 4; Aqua, ad fl. oz. 8. Mix. One-sixth part every four hours. Valuable in some forms of pneumonia, gouty inflammation, &c.

213. Dover’s Powder and Antimony, &c.

R. Pulveris Ipecacuanhae Compositi, gr. 5; Antimonii Tartarati, gr. ½. Mix, and make a powder to be taken every six hours.

R. Pulveris Opii, Pulveris Ipecacuanhae, &c. gr. 1; Potassae Nitratis, gr. 8. Make a powder, to be taken every night at bedtime. An improvement on the ordinary Dover’s powder.

214. Senega and Quina.

R. Tincturae Guaiaci Ammoniatae, fl. drs. 3—6; Mucilaginis Tragacanthae, fl. oz. 3. Mix thoroughly together, and then add,—Infusi Senega, ad fl. oz. 8. Three tablespoonfuls to be taken thrice daily. Useful in the latter stages of bronchitis, tonsilitis, &c. The action is chiorhotic, diuretic, stimulant, and expectorant.

R. Tincturae Guaiaci Ammoniatae, fl. drs. 2; Vitelli Ovi, 1. Beat thoroughly together, and then add,—Misture Amygdalae, fl. oz. 4. Direct, one half to be taken twice a day. In chronic rheumatism.

R. Ammonium Benzoatis, fl. oz. 60—120; Syrupis Hemidesmi, fl. oz. 1; Spiritus Juniperi, fl. drs. 6; Aque, ad fl. oz. 8. Mix. One-sixth part three times a day. 
As a diuretic in dropsy and gout. In cases where the urine is loaded with phosphates. Also in catarrhal inflammation of the bladder with alkaline urine.

216. Ipecacuanha and Syrup of Poppies.

R. Vini Ipecacuanhae, fl. drs. 2; Syrupi Papaveris, fl. drs. 3; Mucilaginis Tragacanthae, fl. oz. 1; Aque, ad fl. oz. 3. Mix. One teaspoonful every two or three hours. An infantile cough mixture.

217. Antimonium and Ipecacuanha.

R. Vini Antimoniale, min. 75; Vini Ipecacuanhae, fl. drs. 2; Syrupi Rhoeados, fl. drs. 3; Liquoris Ammonii Acetatis, fl. drs. 2; Aque, ad fl. oz. 6. Mix. A small tablespoonful every two hours. A depressant mixture for children two or three years of age.

218. Ipecacuanha and Syrup of Poppies.

R. Vini Ipecacuanhae, fl. drs. 2; Syrupi Papaveris, fl. drs. 3; Liquoris Ammonii Acetatis, fl. drs. 4; Spiritus Ætheris Nitrosi, fl. drm. 1; Aque, ad fl. oz. 2. Mix. One teaspoonful every two or three hours. In the early stage of infantile fever, severe catarrh, bronchitis, and pneumonic.

219. Squills, Digitalis, Broom, &c.

R. Potassae Acetatis, gr. 120; Syrupi Scillæ, fl. drs. 6; Spiritus Ætheris Nitrosi, fl. drs. 3; Tinctura Digitalis, min. 30—fl. drm. 1; Succi Scoparii, fl. drs. 6; Aque, ad fl. oz. 3. Mix. One-sixth part every six or eight hours. As a diuretic in dropsy dependent upon disease of the heart, liver, or peritoneum.

R. Tinctura Scillæ, fl. dr. 2; Tinctura Camphoris Composite, fl. drs. 4; Liquoris Ammonii Acetatis, fl. drs. 12; Decocit Scoparii, ad fl. oz. 8. Mix. One-sixth part three times a day. Diuretic and diaphoretic. In dropse unaccompanied by inflammation, and not due to renal disease.

R. Spiritus Juniperi, fl. drs. 4; Potassæ Tartratis Acideæ, oz. 1; Decociti Scoparii, ad fl. oz. 12. Mix. One-sixth part three times a day. Diuretic and laxative.

R. Pulveris Scillæ, gr. 6; Digitalis Folieæ, gr. 8—12; Pilleæ Hydargyri, gr. 30. Make a mass, divide into twelve pills, and order one to be taken night and morning with a wineglassful of the Decocit Scoparii. See F. 224.

R. Liquoris Potassæ, fl. drs. 1—2; Spiritus Ætheris Nitrosi, fl. drs. 6; Tinctura Crici, fl. drs. 3; Infusi Digitalis, fl. drs. 12; Syrupi, fl. drs. 6; Aque, ad fl. oz. 8. Mix. One-sixth part three times a day. A valuable diuretic in some forms of cardiac and hepatic dropsy.

220. Copaiba Resin.

R. Rosinæ Copaiba, gr. 90; Spiritus Vini Rectificati, fl. drs. 2; Spiritus Chloroformii, fl. drm. 1; Mixture Acacieæ, fl. oz. 1; Aque, ad fl. oz. 6. Mix. One-sixth part three times a day. As a diuretic in aescites.

221. Nitre, Juniper, and Ether.

R. Potassæ Nitrosi, gr. 60; Spiritus Juniperi, fl. drs. 1—2; Spiritus Ætheris Nitrosi, fl. drs. 3; Decociti Chimaphili (Phar. Lond. 1851), ad fl. oz. 8. Mix. One-sixth part every six hours. A tonic and stimulating diuretic. In scrofula, atomic dropsy, catarrhal inflammation of the bladder, and some skin diseases.
222. Buchu, and Cream of Tartar.

R. Potassae Tartratis Acide, gr. 160; Infusi Buchu, fl. oz. 3. Mix. One-sixth part three times a day. Diuretic and laxative. In irritable conditions of the bladder, owing to excess of uric acid in the urine. Also in chronic rheumatism, dropsy, and some cutaneous diseases.

223. Buchu, Borax, and Pareira.

R. Boracis, gr. 40; Tincturæ Buchu, fl. drs. 6; Extracti Pareira Liquidi, fl. drs. 6; Decocti Pareira, ad fl. oz. 8. Mix. One-sixth part every six or eight hours. In chronic catarrh of the bladder, calculous affections, &c.

224. Digitalis, Squills, &c.

R. Potassae Citratis, gr. 200; Tincturæ Scillæ, fl. drs. 2; Vini Colchici, fl. drs. 13; Liquoris Ammonis Acetatis, fl. drs. 12; Infusi Digitalis, fl. oz. 3; Aquæ Menthe Liperite, ad fl. oz. 6. Mix. One-sixth part three times a day. Diuretic and sedative. In some forms of dropsy with disease of the mitral valve.

R. Digitalis Folie, Pulveris Squilli, ad gr. 12; Extracti Taraxaci, gr. 36. Make a dose, divide into twelve pills, and order one to be taken twice a day. Valuable as a diuretic in mitral, but injurious in aortic, disease. See p. 219.

225. Urea.

R. Ureæ, gr. 5–15; Syrupi Aurantii, fl. drm. 1; Aquæ, fl. oz. 2. Make a draught, to be taken every six hours. Recommended by the Author as a diuretic in dropsy due to cardiac disease. See Medical Times and Gazette, 8 May, 1852.

226. Cantharides and Nitrous Ether.

R. Tincturæ Cantharidis, fl. drs. 1–2; Spirituæ Etheris Nitrosi, fl. drs. 3; Spirituæ Juniperi, fl. drs. 4; Syrupi Zingiberis, fl. drs. 6; Aquæ, ad fl. oz. 8. Mix. One sixth part three times a day. May be cautiously tried in some cases of suppression of urine. Also in some skin diseases.

227. Taraxacum and Nitric Acid.

R. Acidī Nitrici Diluti, fl. drm. 1; Succi Taraxaci, fl. drs. 6; Decocti Taraxaci, ad fl. oz. 8. Mix. One-sixth part three times a day. Laxative, alterative, and diuretic. Especially useful in disease of the liver unaccompanied by inflammation.

228. Cream of Tartar and Taraxacum.

R. Potassae Tartratis Acide, oz. 1; Extracti Taraxaci, gr. 30; Decocti Taraxaci, fl. oz. 8. Mix. One-sixth part three times a day. In jaundice independent of hepatitis or obstruction of the duct of the gall bladder.

229. Oil of Juniper.

R. Olei Juniperi, min. 20; Syrupi Limonius, fl. drs. 6; Mucilaginis Acacie, fl. oz. 4; Aquæ, ad fl. oz. 12. Mix. One-sixth part every six or eight hours. The oil of juniper has not only a diuretic action, but it is also a diaphoretic and an emmenagogue and a cathartic. In too large doses it may cause inflammation of the bladder.
230. Conium, Digitalis, and Calomel.

B. Digitalis Folie, Hydrargyri Subchloridi, æq. gr. 5; Extracti Comii, gr. 60. Make a mass, divide into fifteen pills, and order one to be taken three times a day. As a sedative and diuretic in dropsy from cardiac disease.

XI. EMETICS AND EXPECTORANTS.

231. Depressing Emetics.

B. Antimonii Tartarati, gr. 1—2; Vini Ippecacuanhae, fl. dra. 2; Aqua, ad fl. oz. 2. Make a draught, to be taken immediately. Its action should be aided by the free administration of warm water.

B. Antimonii Tartarati, gr. 1; Pulveris Ippecacuanhae, gr. 20. Make a powder. To be taken in honey or cream, or as a bolus in wafer paper.

B. Vini Ippecacuanhae, fl. oz. 1. To be taken when it is desired to induce vomiting. For children one fluid drachm, in tea or sweetened water, will generally

B. Chloride of Apomorphia, in doses of gr. ¼ by the mouth, or of gr. 1/2 injected subcutaneously, is a prompt and unfailing emetic.

232. Stimulant Emetics.

B. Pulveris Sinapis, oz. ¼; Aqua, fl. oz. 3. Make a draught. To be taken immediately.

B. Cupri Sulphatis, gr. 10; Aqua, fl. oz. 3. Make an emetic draught.

B. Zincii Sulphatis, gr. 20—40; Aqua, fl. oz. 3. Mix.

233. A Warm Emetic.

B. Pulveris Ippecacuanhae, Ammonio Carbonatis, æq. gr. 20; Tinctura Lavandule Compositae, fl. drm. 1; Aqua, fl. oz. 2. Make a draught. After taking it a tumblerful of infusion of Chamomile Flowers (Infusion Anthemidis) should be drunk. Suggested by a formula of Dr. Drummond's. In the incipient stages of fever, erysipelas, &c.

234. Tartar Emetic Mixture.

B. Antimonii Tartarati, gr. 2; Syrupi Rhoeados, Aqua, æq. fl. dra. 4. Mix and label,—"One teaspoonful every two hours, in a wineglassful of water, until there is nausea."—As a depressant to the circulating and nervous systems.

235. Ammonia and Senega.

B. Ammonio Carbonatis, gr. 30; Spiritus Ætheris, fl. dra. 3; Tinctura Scillæ, fl. dra. 2; Tinctura Camphori Compositæ, fl. dra. 2—4; Tinctura Lavandule Compositae, fl. dra. 6; Infusi Senega, ad fl. oz. 8. Mix. Two tablespoonsfuls every four hours. In the chronic bronchitis of old people.
EMETICS AND EXPECTORANTS.

R. Spiritus Ammonis Aromatici, fl. drs. 4; Spiritus Armoracis Compositi, min. 60; Tinctura Senega, fl. drs. 6; Aqvae Camphorae, ad fl. oz. 8. Mix. One-sixth part every six hours. A valuable stimulating expectorant in some cases of chronic bronchitis.

R. Ammonia Carbonatis, gr. 12; Vini Ipecacuanhae, min. 40; Tinctura Senega, fl. drs. 2; Syrupi Rhodod, fl. drs. 3; Aqvae, ad fl. oz. 3. Mix. One dessertspoonful every two or three hours. An excellent stimulating expectorant for young children recovering from croup. In hooping cough, where the bronchi are loaded with mucus.

236. Squills, Nitric Acid, and Bark or Steel.

R. Syrupi Scille, fl. drs. 6; Acidi Nitrici Diluti, fl. drm. 1; Tincture Hyoscymani, fl. drs. 3—6; Spiritus Chloroformi, fl. drs. 2; Infusi-Unchonae Flave, ad fl. oz. 8. Mix. One-sixth part twice or thrice daily. In chronic catarrh with debility and restlessness.

R. Syrupi Scille, fl. drs. 6; Tinctura Ferris Muriatis, fl. drm. 1; Tinctura Camphorae Compositae, fl. drs. 3—6; Spiritus Chloroformi, fl. dr. 1; Aqvae, ad fl. oz. 6. Mix. One-sixth part three times a day. In chronic catarrh with debility. Sometimes 5 or 10 drops of Oleum Terebinthinae may be added with advantage.

237. Ammoniacum and Opium.

R. Tinctura Scille, fl. drs. 2; Extracti Opii Liquidii, min. 20—30; Syrupi Tolonian, fl. drs. 6; Mixture Ammoniaci, ad fl. oz. 6. Mix. One-sixth part three times a day. A sedative and expectorant mixture in the chronic bronchitis of elderly people.

238. Sarsaparilla and Squilla.

R. Extracti Sarsae Liquidae, Syrupi Scille, as fl. drs. 12. Mix, and label,—

"One teaspoonful in a teacupful of barley water frequently during the day." An agreeable domino-cut and expectorant in inflammation of the mucous membranes about the throat and air passages.

239. Squills, Ammonia, and Morphia.

R. Syrupi Scille, fl. drs. 6; Spiritus Ammonis Aromatici, fl. drs. 3; Liquores Morphi Hydriachloris, fl. drm. 1 (equivalent to half a grain of the salt); Infusi Serpentariae, ad fl. oz. 8. Mix. One-sixth part twice or thrice a day. In chronic catarrh.

240. Antimony and Ether.

R. Vini Antimonialae, fl. drs. 1½; Spiritus Ætherae, fl. drs. 3; Maculaginis Tragacanthæ, fl. oz. 3; Aqvae, ad fl. oz. 6. Mix. One-sixth part every four hours. The quantity of antimonial wine should be doubled when it is desirable to induce a feeling of nausea.

241. Ipecacuanha and Indian Sarsaparilla.

R. Vini Ipecacuanhae, fl. drs. 2; Syrupi Hemidesmi, fl. drs. 3; Maculaginis Acacie, fl. oz. 1; Aqvae, ad fl. oz. 2. Mix. One teaspoonful every two hours. For children threatened with an attack of croup or bronchitis.

R. Vini Ipecacuanhae, fl. drs. 2; Syrupi Hemidesmi, fl. oz. 1; Infusi Lini, ad fl. oz. 8. Mix. One-sixth part every four hours. An emollient and expectorant in catarrh.

242. Indian Tobacco and Hemlock.

R. Tinctura Lobelii Ætheræ, fl. drs. 3; Syrupi Papaveris, fl. drs. 6; Tinctura Conti Fructus, fl. drs. 2—4; Mixture Amygdala, ad fl. oz. 6. Mix. One-sixth part every four hours. In spasmodic cough, and some forms of asthma.
243. Squills and Hemlock or Hyoscyamus.

R. Phusls Scille Composite, Extracti Conii, $&$ gr. 30. Make a mass, divide into 12 pills, and order two to be taken every night at bedtime. In chronic catarrh when opium is objectionable.

R. Syrupi Scille, fl. drr. 6; Spiritus Aetheris Nitrosi, Tincturae Hyoscyami, $&$ fl. drr. 3; Infusi Rosei Acidi, ad fl. oz. 8. Mix. One-sixth part every six hours. In influenza, catarrh, &c.

244. Nitrous Ether, Ipecacuanha, and Hemlock.

R. Vini Ipecacuanhae, fl. drr. 1$\frac{1}{2}$; Spiritus Aetheris Nitrosi, fl. drr. 6; Succi Conii, fl. drr. 3; Infusi Senege, ad fl. oz. 8. Mix. One-sixth part every six hours. In chronic bronchitis, when an expectorant and sedative is required.

245. Dulcamara and Stramonium.

R. Tincturæ Scille, fl. drr. 2; Tincturae Stramonii, fl. drr. 1$\frac{1}{2}$; Infusi Dulcamaræ, ad fl. oz. 8. Mix. One-sixth part three times a day. In chronic catarrh and rheumatism, especially where the secretions of the skin and kidneys are deficient.

246. Benzoic Acid and Squills.

R. Acidii Benzoici, gr. 40; Syrupi Scille, Syrupi Rhoeados, $&$ fl. drr. 12. Make a linctus, of which one small teaspoonful is to be ordered to be taken every four hours. In chronic bronchial affections with suppressed action of the liver. See F. 49.

247. Opium and Squills.

R. Syrupi Scille, Syrupi Papaveris, Syrupi Tolutani, Mucilaginis Tragacanthæ, $&$ fl. drr. 4. Make a linctus, of which a teaspoonful is to be directed to be taken frequently.

R. Syrupi Scille, fl. drr. 10; Tincturæ Conii, fl. drr. 2; Tincturae Camphorae Composite, fl. drr. 4. Make a linctus, and order one teaspoonful to be taken when the cough is troublesome. See F. 346, 347.

XII. GARGLES AND INHALATIONS.

248. Hydrochloric Acid Gargle, &c.

R. Acidi Hydrochlorici Diluti, fl. drr. 3; Mellea Depurati, oz. 1; Infusi Rosei Acidi, ad fl. oz. 8. Mix. In tonsillitis after the acute stage, and in relaxed sore throat.

249. Zinc and Rhatany Gargle.

R. Zinci Stiphatis, gr. 20; Syrupi Mori, fl. drr. 4; Glycerrini, fl. oz. 1; Infusi Kramerii, ad fl. oz. 8. Mix. For relaxation of the uvula and fauces.
250. **Borax Gargles.**

B. Boracis, gr. 160; Tincture Myrrhae, fl. oz. 1; Aque, ad fl. oz. 8. Mix. *Useful in aphthæ and ulcerations about the fauces.*

B. Boracis, gr. 120; Glycerini, fl. oz. 1. Mix. To be painted over the gums, tongue, &c., with a camel's-hair pencil. *In aphthæ. It is preferable to the officinal borax honey, as the sugar of the latter favours the formation of fungi.*

B. Boracis, gr. 60; Glycerini, fl. drs. 12; Aque Roseæ, ad fl. oz. 4. Mix. To be painted over the tongue in some forms of ulceration, fissure, &c.

B. Boracis, gr. 180; Syræa Scillæ, fl. drs. 1; Aque, ad fl. oz. 8. Mix. *As a gargle in chronic inflammation of the fauces.*

251. **Tannin Gargle.**

B. Acidi Tannici, gr. 20; Spiritus Vini Gallici, fl. oz. 1; Aque Camphoræ, ad fl. oz. 8. Mix. *The officinal tannic acid lozenges may be used at the same time.*

B. Tincture Myrrhae, fl. drs. 4; Acidii Tannici, gr. 35; Eau de Cologne, fl. drs. 12. Mix. *The gums are to be sponged with this preparation three or four times a day in cases of chronic gingivitis, ulceration, loosening of the teeth, &c.*

252. **Alum Gargles.**

B. Aluminis Exsiccati, gr. 80; Tincture Myrrhae, fl. oz. 1; Aque, ad fl. oz. 8. Mix. *In mercurial satiation, ulceration about the mouth and fauces, &c.*

B. Aluminis Exsiccati, gr. 60; Tincture Capsici, fl. drs. 3; Syrææ Mori, fl. oz. 1; Aque Roseæ, ad fl. oz. 8. Mix. *In hoarseness, sore throat, &c., with relaxation of the uvula or tonsils.*

253. **Opium and Belladonna Gargle.**

B. Tincture Opii, fl. drs. 2; Tincture Belladonnaæ, fl. drs. 3; Aque Camphoræ, ad fl. oz. 8. Mix. *To be used frequently in acute tonsilitis.*

254. **Chlorinated Soda Gargle.**

B. Liquoris Soda Chlorataæ, fl. drs. 6; Aque, ad fl. oz. 8. Mix. *In ulcerated sore throat, pustular satiation, &c. It may also be used as a lotion to foul gangrenous ulcers, as well as to the seat of irritation in prurigo.*

255. **Creasote Gargles.**

B. Creasoti, min. 20; Mucilaginis Tragacanthæ, fl. oz. 3; Aque, ad fl. oz. 8. Mix.

B. Creasoti, min. 20; Tincture Lavandulae Compositæ, Tincture Myrrhae, aæ fl. drs. 4; Syrææ Limonis, fl. drs. 12; Aque, ad fl. oz. 8. Mix. *In chronic inflammation of the throat, dysphonia eericorum, &c.*

256. **Corrosive Sublimate Gargles.**

B. Hydrargyri Perchloridi, gr. 2; Acidii Nitriæ Dilutæ, min. 30; Tincture Myrrhae, fl. oz. 1; Aque Destillatae, ad fl. oz. 8. Mix.

B. Hydrargyri Perchloridi, gr. 3; Glycerini, fl. oz. 1; Extracti Conii, gr. 60; Aque Destillatae, ad fl. oz. 8. Mix. *Useful in syphilitic affections of the tongue and throat. The patient must use one tablespoonful at a time, and should be cautioned against swallowing it.*
APPENDIX OF FORMULÆ. [CLASS XII.

257. Permanganate of Potash Gargle.

B. Liquoris Potassae Permanganatis, fl. oz. 1; Potassse Chloratis, gr. 100; Aque Destillate, ad fl. oz. 8. Mix. In diphtheria, ulceration of fauces, &c.

258. Sulphite of Soda.

B. Soda Sulphitias, gr. 60; Aque Destillate, fl. oz. 1. Mix. To be frequently applied by means of a camel’s-hair pencil to the mucous membrane of the mouth and fauces. In cases of aphthæ.

259. Iodine Inhalation.

B. Tinctura Iodi, min. 30; Aque Calidae, fl. oz. 4. Mix. The vapour is to be cautiously inhaled. In some cases of laryngeal phthisis, diphtheria, &c.

In severe cases a great relief is given by holding a small bottle of Tincture of Iodine under the nose. The warmth of the hand suffices to vaporize the iodine.

260. Turpentine and Creasote Inhalations.

B. Olei Terebinthine, fl. oz. 1; Aque Calidae, ad fl. oz. 6. Mix. In chronic bronchitis with excessive secretion. To be used with a common inhaler.

B. Creasoti, min. 30; Aque Bullientias, fl. oz. 8. Mix. In ozena and other affections of the nostrils, pharynx, &c.

261. Hydrocyanic Acid Inhalations.

B. Acidii Hydrocyanici Diluti, min. 20; Tinctura Hyoscyami, Tinctura Lupuli, &c. fl. oz. 1; Aque Calidae, ad fl. oz. 8. Mix. In phthisis, ulceration of the larynx, &c. Can be used with any common inhaler.

B. Acidii Hydrocyanici Diluti, min. 15; Spiritus Chloriformi, fl. drs. 3–6; Aque Bullientias, fl. oz. 8. Mix. In laryngitis, ozena of the glottis, &c.

262. Atomised Fluids for Inhalation.

The following drugs may be used in the form of spray. The dose mentioned is to be added to one ounce of water:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
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<tbody>
<tr>
<td>Acidum Carabolicum</td>
<td>1 to 2</td>
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<tr>
<td>Acidum Sulphuratum</td>
<td>2 to 8</td>
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<tr>
<td>Acidum Tannicum</td>
<td>3 to 12</td>
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<tr>
<td>Alumen Exsiccatum</td>
<td>3 to 20</td>
</tr>
<tr>
<td>Aqua Lascocerasi</td>
<td>5 to 20</td>
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<tr>
<td>Argenti Nitrici</td>
<td>1 to 3</td>
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<tr>
<td>Borax</td>
<td>5 to 20</td>
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<tr>
<td>Extractum Belladonnae</td>
<td>1 to 1</td>
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<tr>
<td>Extractum Coni</td>
<td>5 to 10</td>
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<tr>
<td>Extractum Cannabis Indii</td>
<td>1 to 1</td>
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<tr>
<td>Extractum Opii</td>
<td>1 to 2</td>
</tr>
<tr>
<td>Ferri Ammonio-Sulphas</td>
<td>3 to 6</td>
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<tr>
<td>Hydargyr Perchloridum</td>
<td>1 to 1</td>
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<tr>
<td>Liquor Aresinae</td>
<td>3 to 8</td>
</tr>
<tr>
<td>Liquor Calosis Saccharis</td>
<td>1 to 4</td>
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</tbody>
</table>

The best instruments for dispersing the finest spray are—Dr. Siegle’s, in which steam is applied as the dispersing medium; a modification of this apparatus; made by Krohn and Sesemann, of 241, Whitechapel Road; Dr. Bergson’s or Dr. Andrew Clarke’s double handball spray producer: Mr. Mauder’s single handball.
Lotions, Liniments, &c.

Atomised medicated fluids may be advantageously used in affections of the lining membrane of the nose, mouth, and fauces. In croup and diphtheria: Syphilitic affections of palate and throat: Laryngitis: Tonsillitis: Extremity of the glottis: Tubercular or syphilitic ulcerations of larynx: Hoarseness and loss of voice: Hooping cough: Asthma: Hemoptysis: Bronchitis: Phthisis. During their application the patient should make deep and long inspirations and expirations. Except in acute cases one application daily will suffice. In addition to the drugs mentioned above, pure glycerine may be used; or olive oil, or even cod liver oil; or plain warm water; or the undiluted sulphurous acid (in diphtheria).

XIII. LOTIONS, LINIMENTS, COLLYRIA, AND OINTMENTS.

263. Hydrocyanic Acid Lotions.

R. Acidi Hydrocyanici Diluti, fl. drs. 3; Plumbi Acetatis, gr. 60; Spiritus Rectificati, fl. oz. 1; Aqua Sambuci, ad fl. oz. 8. Mix. In impetigo, prurigo, &c.

R. Liquoris Potassae, fl. drs. 2; Acidi Hydrocyanici Diluti, fl. drs. 14; Glycerini, fl. oz. 1; Aqua Rosea, ad fl. oz. 8. In some cases of pityriasis.

R. Liquoris Ammoniaci Acetatis, fl. oz. 1; Acidi Hydrocyanici Diluti, fl. drs. 14; Infusi Tabaci (made with sixty grains of Bird’s-eye tobacco), ad fl. oz. 8. Mix. To be sponged twice or thrice daily over the seat of irritation. In pruritus about the anus, vulva, &c.

R. Hydargyri Perchloridi, gr. 3; Acidi Hydrocyanici Diluti, fl. drs. 2; Mixture Amygdalae, ad fl. oz. 8. Mix. To check irritation in prurigo and other skin diseases of limited extent.

264. Astringent Lotions.

R. Glycerini, fl. oz. 1; Liquoris Plumbi Subacetatis, fl. drs. 2; Spiritus Rectificati, fl. drs. 4; Aqua Rosea, ad fl. oz. 8. Mix. In eczema, echyma, pityriasis, &c.

R. Zincii Sulphatis, gr. 16; Spiritus Rosmarini, Tincture Lavandulae Compositae, ad fl. drs. 2; Aqua, ad fl. oz. 8. Mix. The common “Red Lotion” of Hospitals. Very useful for strumous and other ulcers.

R. Potassae Chloratis, gr. 80; Aqua, fl. oz. 8. Mix. For many ill-conditioned ulcers.

R. Acidii Citrici, gr. 120; Aqua, fl. oz. 8. Mix. For cancerous sores. Also as a gargle in cancer of the tongue or tonsil. It relieves pain, and encourages cicatrization.

265. Anodyne Lotions.

R. Tinctura Aconiti, fl. drs. 12; Aqua, ad fl. oz. 4. Mix. In acute superficial pain, hyperesthesia of skin, gout, pruritus, &c.

R. Tabaci Communis (Bird’s-eye tobacco), gr. 120; Aqua Bullantis, O. 1. Infuse for an hour, and strain. To be freely used in pruritus of the vulva or anus.

R. Tinctura Belladonae, fl. oz. 1; Spiritus Chloroformi, fl. oz. 2; Aqua Destillata, ad fl. oz. 8. Mix.
APPENDIX OF FORMULÆ. [CLASS XIII.

R. Extracti Belladonnae, gr. 120; Glycerini, fl. oz. 1. Mix. To be painted over the seat of pain in neuralgic diseases, and in limited inflammations. The mixture is to be made of double the strength, if required as an application to the breasts to check the secretion of milk.

266. Alkaline and Anodyne Lotions.

R. Liquoris Morphiae Hydrochloratis, fl. oz. 1 ½; Liquoris Potassae, fl. drs. 2; Glycerini, fl. oz. 1; Aquæ Laurocerasi, fl. oz. 1; Aquæ Sambuci, ad fl. oz. 12. Mix. For the relief of pruriginous affections.

R. Potassae Sulphuratæ, gr. 90; Liquoris Potassae, min. 30; Tinctura Aconiti, fl. drs. 4; Aquæ Destillatae, ad fl. oz. 12. Mix.

267. Acid and Anodyne Lotion.

R. Acidici Acetici, fl. drs. 1 ½; Morphiæ Acetatis, gr. 10; Vini Colchici, fl. oz. 3. Mix. To be applied over the inflamed joint in gout, on a piece of lint covered with gilded silk.

268. Borax or Soda, and Glycerine Lotions.

R. Boracii, gr. 60—120; Glycerini, fl. oz. 1; Aquæ Sambuci, ad fl. oz. 8. Mix. An excellent local palliative in many of the squamous diseases of the skin.

R. Boracii, gr. 200; Morphiæ Hydrochloratis, gr. 10; Glycerini, fl. oz. 1; Aquæ Rose, ad fl. oz. 8. Mix. In obstinate pruritus of the vulva. The parts to be sponged twice or thrice in the twenty-four hours with this lotion, previously washing them with glycerine (or honey) soap and warm water.

R. Soda Carbonatis, gr. 120; Aquæ Sambuci, fl. oz. 7; Glycerini, fl. oz. 1. Mix. To allay the itching attendant on many skin diseases, healing ulcers, &c.

269. Iodine Lotions.

R. Tincturae Iodi, fl. oz. 1; Glycerini, fl. drs. 12; Aquæ Destillatae, ad fl. oz. 8. Mix. For indolent and serofulous ulcers, &c.

R. Linimenti Iodi, fl. drs. 4; Tinctura Aconiti, fl. oz. 1; Aquæ Destillatae, ad fl. oz. 8. Mix. In some cases of chronic peritonitis; chronic pleurisy with effusion; chronic effusions into joints, &c. See F. 81.

270. Creasote or Carbolic Acid, and Glycerine.

R. Creasoti, min. 35; Glycerini, fl. drs. 12; Aquæ, ad fl. oz. 8. Mix, for a lotion. In pyrædia, &c.

R. Acidici Carbolicis, gr. 100; Glycerini, fl. oz. 1; Aquæ, ad fl. oz. 8. Mix, for a lotion. In parasitic and pruriginous affections.

R. Glycerini Acidici Carbolicis, fl. oz. 1; Aquæ, fl. oz. 4. Mix. The affected part to be sponged with this lotion three or four times in the 24 hours. In all parasitic skin diseases.

271. Corrosive Sublimate Lotions.

R. Hydrargyri Perchloridi, gr. 8—16; Aquæ Sambuci, fl. oz. 8. Mix. Useful in time of fevers, and other parasitic skin diseases.

R. Hydrargyri Perchloridi, gr. 10; Ammonii Chloridi, gr. 60; Acidi Hydrocyanici Diluti, min. 100; Liquoris Morphiae Hydrochloratis, fl. oz. 2. Mix. Label.—“One teaspoonful to be added to a wineglassful of water to form a lotion.” In pruritus of the vulva or anus.
B. Hydrargyi Perchloridi, gr. 4; Acidi Nitrici Diluti, min. 30; Spiritus Vini Rectificati, fl. drs. 4; Aequae Sambuci, ad fl. oz. 8. Mix and label.—“To be sponged upon the spots and rough surfaces night and morning.” In chloasma, some forms of acne, &c.

272. Sulphurous Acid and Sulphocyanide Lotion.

B. Acidi Sulphurosii, fl. oz. 2; Aequae Destillatae, fl. oz. 6. Mix. In skin diseases dependent on a parasitic plant.

B. Acidi Sulphurosii, Glycerini, aequ. fl. oz. 1. Mix. In ringworm, furas, and for the destruction of parasitic likenesses. Should be painted over the affected parts.

B. Potassii Sulphocyanidi, gr. 240; Glycerini, fl. oz. 1; Aequae, fl. oz. 7. Mix. In ringworm, &c. To be well rubbed into the diseased patch, after careful washing and drying, and also applied on lint. Dr. Gee.

273. Cold Lotions.

B. Liquoris Ammonii Acetatis, fl. oz. 1; Spiritus Rectificati, fl. oz. 2; Aequae Rosee, ad fl. oz. 8. Mix. As an evaporating lotion in inflammation of the membranes of the brain. To be applied after the scalp has been shaved.

B. Ammonii Chloridi, oz. ½; Spiritus Rectificati, fl. oz. 1; Acidi Acetici Diluti, fl. drs. 12; Aequae, ad fl. oz. 8. Mix.

274. Absorbent Lotions.

B. Zinci Oxidi, gr. 160; Aequae Roseae, ad fl. oz. 8. Mix. Useful in impetigo, eczema, &c.

B. Zinci Oxidi, gr. 160; Mucilaginis Tragacanthae, Aequae Destillatae, ad fl. oz. 4. Mix.

275. Solutions of Aqunica.

B. Tincturae Arnicae, fl. drs. 1—6; Aequae Destillatae, ad fl. oz. 8. Mix. As a lotion in sprains, contusions, and burns.

B. Tincturae Arnicae, fl. drs. 2; Tincturae Belladonnae, fl. oz. 1; Linimenti Saponis, ad fl. oz. 8. Mix, for an embrocation.

276. Mercurial Liniments.

B. Linimenti Hydrargyri, fl. oz. 2; Linimenti Belladonnae, Linimenti Opii, aequ. fl. oz. 1. Mix. In syphilitic tubercles, nodes, &c.

B. Hydrargyri Perchloridi, gr. 6; Acidi Nitrici Diluti, min. 90; Aequae Lauromacerasi, fl. drs. 2; Glycerini, fl. oz. 1; Aequae Destillatae, fl. oz. 8. Mix. To be used every night in cases of chloasma, syphilitic nodes and eruptions, &c.

B. Unguenti Hydrargyri, oz. 1; Glycerini, fl. oz. 1; Iodi, gr. 120; Oeli Olearum, fl. oz. 2. Mix. To be gently rubbed over syphilitic nodes.

277. Rubefacient Liniment.

B. Pulveris Capsici, gr. 30; Olei Macis, min. 30; Linimenti Terebinthinae, fl. oz. 3; Linimenti Camphorae Compositi, ad fl. oz. 8. Mix. As a liniment to the chest in some cases of bronchitis.
278. Stimulating Liniment.

B. Linimenti Saponis, Linimenti Opii, Linimenti Camphoræ Compositi, æq. fl. oz. 1; Tinctura Arnicae, fl. dra. 2. Mix. To be applied round the throat, on a strip of flannel, in subacute tonsilitis, common sore throat, &c.

279. Camphor Liniment and Opium, &c.

B. Linimenti Camphoræ Compositi, fl. oz. 2; Tinctura Opii, Tinctura Belladonnae, æq. fl. dra. 4. Mix. To be rubbed over the scrobiculus cordis to check obstinate nausea and vomiting, pain, &c.

280. Iodide of Potassium Liniment.

B. Potassii Iodidi, vel Ammonii Iodidi, gr. 40; Aqua, fl. dra. 4. Mix, and add—Glycerini, fl. oz. 1. Useful in some glandular enlargements, as well as for dispersing the chalkstones of gout.

281. Belladonna and Aconite Liniment.

B. Linimenti Belladonnae, Linimenti Aconiti, æq. fl. dra. 4; Linimenti Camphoræ Compositi, fl. oz. 3. Mix. The seat of pain to be rubbed with this liniment for ten minutes at bedtime. In pleurodynia, chronic rheumatism, and painful nervous affections.

For the same class of cases a good liniment may be made with one part of belladonna liniment, one of opium liniment, and four of turpentine liniment.

B. Linimenti Belladonnae, fl. dra. 3; Glycerini, fl. dra. 5; Linimenti Saponis, fl. oz. 2. Mix. The spine to be rubbed with this liniment night and morning for five minutes. In hooping cough. May be used for a child five years old.

282. Chloroform, Belladonna, and Aconite Liniment.

B. Linimenti Chloroformi, Linimenti Aconiti, Linimenti Belladonnae, Linimenti Opii, æq. fl. dra. 4; Linimenti Saponis, fl. oz. 2. Mix. To be rubbed into the painful part night and morning. In neuralgic and rheumatic pains of great severity.

283. Cod Liver Oil Embrocations.

B. Olei Mormhusi, fl. dra. 14; Spiritus Ammoniæ Aromatici, fl. oz. 1; Tinctura Opii, fl. dra. 2; Olei Lavandulae, min. 30. Mix. One-half to be well rubbed over the chest and abdomen, night and morning. In phthisis and other cases where the use of cod liver oil is indicated, but where the stomach will not bear it.

B. Olei Mormhusi, fl. oz. 1; Olei Cajuputi, fl. dram. 1. Mix. To be rubbed over the chest at bedtime. The cajuput oil well disguises the smell of this embrocation.

284. Caoutchouc Solution.

Take some thin pieces of India rubber, or of pure gutta percha, and dissolve them in chloroform. A good protective solution. To be painted over superficial exorciations, threatened bed sores, &c.


B. Collodi, fl. oz. 1; Olei Palmarum, min. 20; Anchusæ Radicis, sufficient to give colour.—A good artificial cuticle, which when spread on the skin will not crack, may also be formed by mixing two parts of glycerine with one hundred of
collodion.—The official COLLODIUM FLEXILE consists of one fluid drachm of castor oil, one hundred and twenty grains of Canada balsam, and six fluid ounces of collodion.—Either preparation may be used as a varnish in various cutaneous affections, excoriations, or superficial burns.

B. Colloidi Flexilia, fl. drs. 4; Morphine Acetatis, gr. 5–20. Mix. To be painted over the course of the affected nerve in neuralgia.


B. Glycerini, fl. oz. 1; Pulveris Tragacanthae Compositi, gr. 120; Mellis Depurati, gr. 120; Liquoris Calcis Saccharati, fl. oz. 1¼; Mixture Amygdali, ad fl. oz. 8. Mix. A good bland emulsion in cases of herpes, superficial burns, chapped hands, excoriations, &c.

The official LINIMENTUM CALCIS, consisting of equal parts of olive oil and lime water, is also useful in some of the above-mentioned cases. For chapped hands the GLYCERINE OF STARCH is an excellent preparation.

B. Linimenti Aconiti, fl. drs. 2; Linimenti Calcis, fl. drs. 10. Mix. *In vulgat pruritus.

B. Acidii Carbolici, gr. 60–120; Linimenti Calcis, fl. oz. 8. Mix.* To prevent suppuration in burns, &c.

287. Ammonia and Cantharides, &c.

B. Spiritus Ammonii Aromatici, Spiritus Rosmarini, Glycerini, add fl. oz. 1; Tinctura Cantharidis, fl. drs. 3–6; Aqua Rosea, ad fl. oz. 8. Mix. To be gently brushed into the scalp night and morning, when the hair is falling off after fever or any severe illness.

A more elegant emulsion may be made by adding two fluid drachms of Tincture of Cantharides to two ounces of Eau de Cologne.

B. Balsami Tolutani vel Peruviani, gr. 120; Olei Rosmarini, min. 20; Tinctura Cantharidis, fl. drs. 4; Olei Ricini, fl. oz. 1; Adipis Preparati, oz. 1. Mix. A valuable poultice in cases of baldness following ringworm, pityriasis, or tinea decalvans. It should be brushed into the scalp night and morning.

288. Sulphate of Atropa.

B. Atropis Sulphatis, gr. 1; Aqua Destillata, fl. drs. 4. Mix. Dilatation of the pupil is effected most speedily and is longest maintained by a solution of this kind. A full drop must be placed in the eye by means of a camel’s-hair pencil: the effect will be produced in from fifteen to twenty minutes, and will sometimes continue for seven or eight days.

The official LIQUOR ATROPIS SULPHATIS contains half a grain of the salt in each drachm. It is preferable to the Liquor Atropis for opthalmic purposes; inasmuch as the spirit which is used in the latter to keep the alkaloid in solution causes considerable pain to the eyes when it is applied.

Discs of gelatine impregnated with atropine are prepared according to the instructions of MR. ERNEST HART and MR. STRETFIELD. These discs dissolve and act very efficiently when placed in contact with the moist conjunctiva. A piece, one-fifth of an inch square, contains as much of the Sulphate of Atropine as a drop of the solution of two grains to the ounce of water.

289. Alum Coagulum.

* Take the whites of two eggs and shake them with fragments of alum to form a coagulum. Useful when painted under the eyelids to produce contraction in trichiasis, entropion, &c.
290. Sedative Collyria.

R. Extracti Belladonne, gr. 2—4; vel Extracti Opii, gr. 2—5; vel Morphinæ Hydrochloratis, gr. 1—2; vel Acidii Hydrocyanici Diluti, min. 10; vel Tincturae Aconiti, min. 5—30; Aqua Destillata, fl. oz. 1. Mix.

291. Astringent Collyria.

R. Zinci Sulphatis, gr. 2—4; vel Aluminis Excisati, gr. 1—4; vel Tincturae Arniciæ, min. 5—30; vel Cupri Sulphatis, gr. 1—4; vel Argenti Nitritatis, gr. 1—4; vel Liquoris Plumbi Subacetatis, min. 10; vel Cadmi Sulphatis, gr. 1—3; Aqua Destillata, fl. oz. 1. Mix.

R. Zinci Oxidi, gr. 90; Aqua Roseæ, fl. oz. 8. Mix. For an eye water, to be used night and morning.

292. Iodide of Potassium Collyrium.

R. Potassii Iodidi, gr. 6—8; Aqua Destillata, fl. oz. 1. Mix. To remove stains of nitrate of silver from the conjunctiva.

293. Iodide of Lead Ointments.

R. Plumbi Iodidi, gr. 60; Unguenti Atropini, gr. 60—120 (each ounce contains eight grains of the alkaloid); Unguenti Simplicis, ad oz. 1. Mix. In some malignant inducations.

R. Plumbi Iodidi, gr. 90; Unguenti Cetacei, oz. 1; Linimenti Belladonnae, vel Linimenti Aconiti, fl. drm. 1. Mix. For malignant and painful strumous ulcers.

294. Sulphate of Zinc Ointment.

R. Zinci Sulphatis Excisati, gr. 120; Unguenti Simplicis, oz. 1. Mix. Very useful in some forms of lupus, rodent ulcer, etc. The official Alumen Excisatum may be employed in the same cases.

295. Tar and Citrine Ointment.

R. Unguenti Picis Liquidae, oz. 1 1/2; Unguenti Cetacei, oz. 1; Unguenti Hydargyri Nitritatis, oz. 1/2. Mix. In lepra, psoriasis, chronic eczema, etc.

296. Aconitine Ointments.

R. Unguenti Aconiti, oz. 1/2 (=to grs. 2 of the alkaloid); Unguenti Hydargyri Subchloridi, oz. 1—2. Mix. In some forms of neuralgia.

R. Unguenti Aconiti, gr. 120. In severe neuralgia. A small portion is to be painted over the nerve, but it must not be used where there is the slightest abrasion.

297. Belladonna and Opium.

R. Extracti Belladonnae, Extracti Opii, as gr. 60; Aqua Laurocerasi, fl. drs. 4; Extracti Papaveris, oz. 3. Mix. To be painted over the seat of inflammation in pleurisy, peritonitis, gout, gastric disease, etc. A fomentation flannel, or hot linseed poultice, or wet compress is to be applied; being separated from the extracts by a sheet of tissue paper.

R. Extracti Belladonnae, gr. 120; Extracti Papaveris, oz. 2; Syrups Papaveris, fl. oz. 1. Mix and label.—"To be painted over the seat of pain, which is then to be covered with water dressing or a bread and water poultice. Poison." For inflammation of the absorbents, lymphatic glands, gallstone disease, peritonitis, etc.
298. Mercurial and Belladonna Ointments.

B. Unguenti Hydrargyri, gr. 10; Ungucenti Atropiae, gr. 30. For relieving cases of severe nocturnal pain around the orbit. It is to be rubbed into the temple just before the pain may be expected.

B. Linimenti Belladonnae, fl. drs. 2; Unguenti Hydrargyri Subchloridi, oz. 1. Mix. In syphilitic tubercular diseases.

299. Corrosive Sublimate Ointment.

B. Hydrargyri Perchloridi, gr. 5; Ungucenti Simplicis, oz. 1. Mix. In parasitic diseases of the skin or scalp. Especially useful in ringworm. May be used as a pomatum, with a drop or two of oil of roses to perfume it, in scalp diseases where the presence of a parasitic fungus is feared.

300. Curbolic Acid Ointment.

B. Acidii Carbolicii, gr. 25—40; Ungucenti Zinci, oz. 3. Mix. As a dressing for irritable sores or burns, or skin eruptions with offensive discharge.

301. Creasote and Red Oxide of Mercury.

B. Creasoti, min. 10; Ungucenti Hydrargyri Oxidi Rubri, gr. 120; Ungucenti Simplicis, gr. 360. Mix. In parasitic diseases of the skin, the ulcerations of rupia, &c.

302. Red Iodide of Mercury Ointment.

B. Hydrargyri Iodidi Rubri, gr. 8; Ungucenti Simplicis, oz. 1. Mix. In chronic glandular tumours, a small portion rubbed in every night proves very useful. The ointment is double the strength of the foregoing, and hence it causes pain and blistering.

303. Croton Oil and Lard.

B. Olei Crotonis, min. 15; Adipi Preparati, oz. 4. Mix. One-fourth part to be rubbed into the skin every eight hours, until an abundant pustular eruption is produced. Useful as a counter irritant.

304. Veratria Ointment.

B. Unguenti Veratriae, Ungucenti Cadmi Iodidi, &c oz. 1. Mix. In chronic rheumatism, chronic gout, &c.

305. Diluted Citrine Ointment.

B. Unguenti Hydrargyri Nitratis, gr. 40—120; Ungucenti Cetacei, gr. 240. Mix. As a stimulant and alterative in chronic skin diseases. May be applied to the edges of the eyelids in ophthalmia to prevent their adhering at night.


B. Acidii Hydrocyanici Diluti, fl. drm. 1; Ungucenti Atropiae, gr. 120; Ungucenti Cetacei, oz. 1. Mix. In cutaneous diseases attended with pain and itching.

B. Balsami Peruviani, gr. 60; Ungucenti Cetacei, oz. 1. Mix. In slight excoriations.
APPENDIX OF FORMULÆ.

R. Balsami Peruviani, gr. 60; Unguenti Cetacei, oz. 2; Alkanae Tinctoriae Radicis, gr. 60; Olei Rose (Oleo of Roses), min. 10. Mix. Useful as a lip salve, and as an application to chapped hands and sore nipples.


R. Linimenti Belladonnae, fl. dra. 2; Unguenti Potassii Iodidi, oz. 1. Make an ointment. The Liniment of Aconite may be substituted for the Belladonna, if desired. In painful chronic tumours, neuralgia, &c.

308. Iodine and Cod Liver Oil Ointment.

R. Unguenti Jodi, Olei Morrhuae, 8 fl. dra. 4. Mix. Useful when rubbed upon the throat in bronchocoele; as well as when applied to strumous glands, unspurbing buboes, and the tumid bellies of children with mesenteric disease.

309. Bole Armeniaca and Lead.

R. Boli Armeae Rubae, Plumbi Oxidi Semivitrii, 88 gr. 30; Camphora, gr. 5; Cerei Flavii, 8c. 180; Adipis Preparati, gr. 360. Mix. To be spread on thick linen. Several German physicians speak of this as an efficacious application for preventing and curing bed sores.

310. Compound Sulphur Ointments.

R. Unguenti Cresoati, Unguenti Sulphuriae, 88 oz. 4. Mix. In pityriasis, and some other chronic cutaneous affections.

R. Sulphuris Iodidi, gr. 12; Unguenti Simplicis, oz. 1. Mix. In acne, applied thrice daily. The officinal iodide of sulphur ointment is one-third stronger.

R. Sulphuris Iodidi, gr. 12; Sulphuris Precipitati, gr. 20; Olei Amygdalæ Amare, min. 5; Adipis Preparati, oz. 1. Mix.

R. Unguenti Hydargyræ Ammoniati, gr. 120; Unguenti Sulphuriae, gr. 360. Mix. A good antiparasitic ointment.

311. Bismuth and Morphia Ointment.

R. Bismuthii Subnitratis, oz. 1; Morphiae Acetatis, gr. 6; Adipis Benzoati, oz. 3. Mix. For irritable ulcers and eruptions, piles, &c.

312. Iodide of Cadmium Ointment.

R. Cadmi Iodidi, gr. 60; Adipis Preparati, oz. 1; Linimenti Aconiti, fl. dra. 2. Mix. Superior to iodide of potassium ointment for rubbing into tender and enlarged strumous glands, nodes, &c.

R. Unguenti Cadmi Iodidi, oz. 2; Unguenti Atropiae, oz. 1. Mix. To be rubbed into painful strumous and glandular swellings.
XIV. NARCOTICS AND SEDATIVES.

313. Anaesthetics.

The chief Anaesthetics which have hitherto been used in the practice of medicine are chloroform, ether, and nitrous oxide. As the employment of one or other of these agents is often indicated in calculous nephralgia, gallstone colic, some cases of cancer, neuralgia, maniacal delirium, convulsions, the paroxysmal dyspnoea of infantile laryngismus and diphtheria and croup, as well as in spasmodic diseases generally, a few words on their mode of administration may not be out of place.

The principal advantages of inhalation are these:—That by means of the immense surface offered by the air-cells of the lungs for absorption, a deeper and more rapid effect is induced than it would be safe or easy to effect by other means. At the same time, the digestive functions are less interfered with than when narcotics are given in the ordinary way.

In every form of inhalation (with the exception of the nitrous oxide, ether, and perhaps of the bichloride of methane) the anaesthetic should be freely diluted with common air, and no attempt made to produce rapid narcosis; while the breathing ought to be allowed to go on quietly and naturally. The patient should be tranquil, fearless, and usually in the recumbent posture. If false teeth are worn, they are to be removed; since if there be any struggling, or sickness, or cough, the plate may become separated from the gums and be drawn into the pharynx, or may get to the back of the fauces and produce asphyxia by pressing on the glottis. And then the administrator of the narcotic agent, while watching the respiration and the countenance, had better also keep his finger on the pulse. For if the breathing becomes stertorous, or if it stop, or if it appear difficult and the pupils become widely dilated, or if there is evidence that the circulation is getting weak and failing, the inhalation must be completely suspended; while, if more serious symptoms follow, the body should be gently and gradually turned over to the left side, so as to allow of the region of the heart and the left side of the face resting upon the couch. According to Mr. Baden, this practice has been found very efficient at Guy’s Hospital in removing dangerous symptoms.

Chloroform was introduced into practice by Sir James Y. Simpson, of Edinburgh, in November, 1847. The vapour of this hot, sweet, heavy liquid may be inhaled by individuals of all ages, from infants under one year to persons as old as ninety; and in almost all states of the system. The exceptional cases which preclude its employment, at all events in medical practice, are instances of marked blood poisoning, of far advanced cardiac or pulmonary or cerebral disease, and perhaps of habitual drunkenness. It may be administered from an apparatus such as the late Dr. Snow recommended; but Sir James Simpson always used a simple napkin folded into the shape of a funnel. A crumpled handkerchief in a tumbler forms a convenient inhaler; or a still more convenient inhaler is formed by a piece of lint made into a cone, upon the apex of which the chloroform can be dropped as required. Mr. Clover employs a bag containing an admixture of air and chloroform vapour in definite proportion. But in whatever way it is exhibited care must be taken that it does not come into contact with the lips and nose; since it produces painful excoriations. Chloroform should also be given slowly and cautiously; and it acts best before breakfast, or when the patient’s stomach is empty. If administered immediately after food, sickness is sure to result. According to Dr. Snow, about four cubic inches of vapour, or rather more than five grains of chloroform to each hundred cubic inches of air, is the proportion most suitable for causing insensibility to surgical operations; but according to the Report of the Chloroform Committee of the Royal Medical and Chirurgical Society the proportion of vapour should not exceed three and a half per cent. As a general rule, however, in medical and obstetric cases it need only be used in a more diluted form. —When an overdose has been given, the patient should be made to inhale ether, as it counteracts the depressing action which chloroform exerts on the heart. Or artificial respiration, performed in the manner to be presently described, may be resorted to; the success of which will depend upon the extent to which the heart and the muscles
of respiration have been paralysed by the chloroform. When death occurs, it arises from the failure of the functions of respiration and circulation. Respiration generally ceases and then the heart’s action stops. Dr. Snow gave this anesthetic in 4000 or more cases, with the loss of only one person while inhaling it; and amongst these were patients with heart disease, phthisis, and several who had suffered from apoplexy. It has been computed that during the Crimean war chloroform was administered 40,000 times, death resulting in only one case.

Ether (first used as an anesthetic in September, 1846, by Dr. W. T. G. Morton, of Boston, Massachusetts,) is thought to be a safer agent for inducing narcotism than chloroform; but although it is so, still it must be given with caution. The disadvantages of ether are the longer time and large quantity of the agent required, the struggling excited, and the disagreeable irritation of the throat produced. About one fluid ounce is usually inhaled by an adult in becoming insensible; though not more than half this quantity is absorbed, the remainder being thrown back from the lungs. Some of the disadvantages may be avoided by first inducing insensibility by nitrous oxide and then giving ether to keep it up. An excellent anesthetic for obstetric practice may be made with equal parts of ether and chloroform.

Amylene is made by distilling amylic alcohol (obtained from crude fusel oil, or oil of potato spirit) with chloride of zinc. In the present state of our knowledge, it is not advisable to resort to this agent. Dr. Snow seems to have administered it in 230 cases, and to have had two deaths from it.

In October, 1867, Dr. Richardson recommended the use of the Bichloride of Methylen as a general anesthetic. He did so on these grounds amongst others:—
(1) The sleep produced by it is as deep as that by chloroform, but more natural and agreeable. (2) The second degree of narcotism is shorter than with other anesthetics. (3) When the effects are fully developed, the narcotism is very prolonged and is easily reproduced. (4) The final escape of the bichloride from the organism is rapid: hence the recovery from its influence is sudden. It rarely produces headache, sickness, or any sense of exhaustion. (5) When it destroys life, it does so by equally paralysing the organs of respiration and circulation. (6) It combines with ether and with chloroform in all proportions. And indeed, in its properties generally, it seems to resemble a compound of these two agents.

Dr. Richardson also has shown that by saturating Ether with Chloride of Methyl an anesthetic is formed. The product has, however, the disadvantage of not being a very stable compound; and hence he does not at present recommend its employment.

The Tetrachloride of Carbon has been employed for producing anesthesia during surgical operations, for abolishing the pains of parturition, for the relief of neuralgia and hay fever and toothache, for the induction of sleep, as well as for subduing excessive palpitation of the heart. Dr. Sansom says that amyylene and the tetrachloride of carbon have an analogous action. He does not recommend the latter, where such anesthesia as is necessary for a surgical operation is required; but thinks a mixture of six parts of chloroform and one of tetrachloride may prove valuable. The latter, in its pure state, can be used where it is only necessary to relieve pain without destroying consciousness: to this extent its action is that of a stimulant, anodyne, and hypnotic.

The inhalation of Nitrous Oxide to prevent the pain of surgical operations was suggested by Sir Humphry Davy in 1799, when he ascertained that its respiration produced effects analogous to those caused by drinking fermented liquors—usually a transient intoxication, or violent exhilaration. These effects were shown in popular lectures at the Adelaide Gallery, in London, somewhere about 1840. In 1844, Dr. Colsyn administered it to an American dentist—Horace Wells, and painlessly extracted one of his teeth. The introduction of ether inhalation by Dr. Morton, in 1846, withdrew professional attention from the nitrous oxide. The latter has, however, again been introduced into practice, and is now (1874) being largely employed by dentists. Dr. Colsyn is said to have given it in twenty-eight thousand cases without an accident. The great advantages of this gas over other anesthetics seem to be its safety; the fact that it induces insensibility in from 60 to 180 seconds; that the complete insensibility lasts for about half a minute; while in about a couple of minutes afterwards there is restoration to consciousness without any sickness or faintness. Nitrous oxide is inhaled undiluted with atmospheric air; when used mixed with air it causes a prolonged stage of exhilaration—whence it was known as "laughing gas."