Geo. A. Roope
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NEW

HOMŒOPATHIC

PHARMACOPŒIA & POSOLOGY;

OR THE

MODE OF PREPARING HOMOEOPATHIC MEDICINES,

AND THE

ADMINISTRATION OF DOSES.

COMPILED AND TRANSLATED FROM THE GERMAN WORKS OF

BUCHNER AND GRUNER,

AND THE FRENCH WORK OF

JAHR.

With Original Contributions

BY

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PREFACE.

The work which we here offer to the public, contains all the new remedies, also every thing interesting and useful which is contained in the various pharmacopœias now used by homœopathic physicians, especially those of *Gruner*, *Jahr*, and *Buchner*. ***Gruner's*** work is arranged in alphabetical order, whereas ***Buchner*** classes the medicinal substances which we now use in our school, or which we may use at some future day, under the three great heads of Animal, Vegetable, and Mineral Kingdoms, adopting suitable subdivisions for each head. ***Jahr's*** arrangement is a modification of ***Buchner's;*** but, ***Buchner's*** being more strictly scientific, we have preserved it in the main, excepting some very slight modifications. From ***Gruner*** we have transferred into our work the method which he pursues in preparing our medicines. In all cases where ***Gruner's*** and ***Buchner's*** or ***Gruner's, Jahr's***, and ***Hahnemann's*** methods differ, the reader will find all of them explained, it being left to his judgment to select either for his preparations.

CHS. J. HEMPEL.

New-York, March, 1850.

GENERAL VIEW

OF SUBSTANCES TREATED OF IN THIS WORK,

With indication of the attenuation of the most used of each medicine and of the method (dry or humid) by which each one is ordinarily prepared.

Note 1.—The letter *a.* placed at the end of the name of a medicine, indicates that it is prepared *immediately* with ALCOHOL; the letters *tr.*, on the other hand, indicate that the *three* first attenuations of a medicine are made by TRITURATION with sugar of milk. As to those wich are followed by the two signs *tr.* and *a.*, they are such as may be prepared either the one way or the other, but preferably by TRITURATION. Finally, the letters *aq.* indicate that the first attenuation is made with PURE WATER, the second with *diluted alcohol*, and that it is not until the *third* that we make use of alcohol undiluted.

Note 2.—The asterisk (*) placed before a name, indicates the medicines which, in default of being yet experimented with, do not form a part of the *Materia Medica*, though they are treated of in the Pharmacopœias. The substances preceded by a *small zero* (°), are those which are NOT *medicines* properly so called, but which we have nevertheless thought proper to treat of in this work.

Note 3.—The *cipher*, placed at the end of the name of medicines, indicates the attenuation most generally used by Hahnemann and his disciples; those substances which have no cipher appended to them, are medicines the proper dose of which is not yet ascertained. 0 stands for *tincture*.

* Absinthium. *a.*
* Aceti acidum. *aq.*
° Acetum.
Acidum benzoicum. *aq.*
" fluoricum. *aq.*
" oxalicum. *aq.*
Aconitum Napellus. *a.* 0, 6, 18, 30.
Actæa spicata. *a.*
° Adeps suilla.
° Æther sulfuricus.
Æthusa Cynapium. *a.*
Agaricus muscarius. *a.* 0, 6, 24, 30.

Agnus castus. *a.* 0, 9, 18.
* Albumen. *tr.*
° Alcool.
* Allium sativum. *a.*
Aloës gummi. *tr. a.* 0.
Alumina. *tr.* 30.
Ambra grisea. *tr.* 3, 6.
* Ammoniacum gummi. *tr.*
Ammonium carbonicum. *tr.* 3, 18.
*Ammonium causticum. *aq.*
Ammonium muriaticum. *tr.* 12.
Anacardium orientale. *tr. a.* 30.
Angustura. *tr. a.*
Antimonium crudum, *tr.* 3, 12.
* Antimonium metallicum, *tr.*
°Aqua destillata.
* Aquilegia vulgaris. *a.*
* Archangelica officinalis. *a.*
Argentum foliatum. *tr.* 3, 6.
*Argentum nitricum. *aq.*
*Aristolochia Clematitis. *a.*
*Armoracia officinalis. *a.*
Arnica montana. *a.* 0, 6, 12.
Arsenicum album. *a. tr.* 3, 18, 30.
* Arsenicum citrinum. *tr.*
* Arsenicum metallicum. *tr.*
* Arsenicum rubrum. *tr.*
Artemisia vulgaris. *a.*
Arum maculatum. *a.*
Asa fœtida. *a.* 9.
Asarum europæum. *a.* 12.
* Asparagus officinalis. *a.*
* Atriplex olida. *a.*
Aurum foliatum. *tr.* 3, 12.
* Aurum fulminans. *a.*
Aurum muriaticum. *a.*
* Barbus. *tr.*
* Baryta acetica. *aq.*
Baryta carbonica. *tr.* 3, 18.
* Baryta caustica. *a.*
Baryta muriatica. 0, 3, 18.
Belladonna. *a.* 0, 12. 30.
Berberis vulgaris. *a.* 30.
Bismuthum. *tr.* 3, 30.
* Bismuthum metallicum. *tr.*
* Boletus Satanas. *tr.*
Borax veneta. *tr.* 3, 30.
Bovista. *tr.* 30.
* Bromium. *a.*
Brucea anti-dysenterica. *tr. a.*
Bryonia alba. *a.* 12.
* Cahinca. *a.*
Caladium seguinum. *a.* 30.
* Calcarea acetica. *aq.*
Calcarea carbonica. *tr.* 3. 30.
* Calcarea caustica. *aq.*
* Calcarea muriatica. *aq.*
Calcarea phosphorica. *tr.*
* Calcarea sulfurica. *tr.*
* Calendula officinalis. *a.*
Camphora. *a.* 0.
* Cancer fluviatilis. *a.*
* Cancrorum oculi. *tr.*
Cannabis sativa. *a.* 0, 3, 12.
Cantharis. *a.* 0, 3, 12.
Capsicum annuum. *a.* 9.
Carbo animalis. *tr.* 15.
Carbo vegetabilis. *tr.* 3, 15.
Cascarilla. *tr. a.*
Castoreum. *a.* 30.
Causticum. *a.* 30.
° Cera, Ceratum, Cereoli.
Chamomilla vulgaris. *a.* 12.
Chelidonium majus. *a.* 0.
* Chenopodium glaucum. *a.*
China. *tr. a.* 0, 9, 30.
Cicuta virosa. *a.* 30.
Cimex lectularius. *a.*
Cina. *a.* 9.
Cinnabaris. *tr.* 9.
Cinnamomum. *tr. a.*
Cistus canadensis. *a.* 15.
Clematis erecta. *a.* 9.
Coccionella septempunctat. *a.* 3.
Cocculus. *a.* 12.
Coffea cruda. *tr. a.* 9.
Colchicum autumnale. *a.* 15.
Colocynthis. *a.* 30.
* Conchæ. *tr.* 30.
Conium maculatum. *a.* 30.
Convolvulus arvensis. *a.*
Copaivæ balsamum. *a.* 0, 3.
Corallium rubrum. *tr.* 3, 30.
Crocus sativus. *a.* 6.
* Crotalus horridus. *tr.* 30.
Croton tiglium. *tr. a.*
Cubebæ. *tr. a.*
* Cuprum aceticum. *aq.*
° Cuprum carbonicum, *tr.*
Cuprum metallicum. *tr.* 3. 30.
* Cuprum sulfuricum. *tr.*
Cyclamen europæum. *a.* 3.

Nitri spiritus dulcis.
Nux juglans. *a.*
Nux moschata. *tr.* 3, 12, 30.
Nux vomica. *tr. a.* 15.
* Œnanthe crocata. *tr. a.* 6.
Oleander. *tr. a.* 6.
Oleum animale. *tr.* 30.
Oleum jecoris morrhuæ. *tr. a.*
° Oleum olivarum.
Oniscus Asellus. *tr. a.*
* Ononis spinosa. *a.*
Opium. *tr. a.* 0, 6.
* Osmium. *tr.*
* Ovi membrana. *tr.*
* Hadus avium. *a.*
Pæonia officinalis. *a.* 3.
Paris quadrifolia. *a.* 9.
Petroleum. *tr.* 18. 30.
Petroselinum. *a.* 0, 3.
Phellandrium aquaticum. *tr. a.* 6.
Phosphorus. *tr.* 3, 30.
Phosphori acidum. *aq.* 3.
* Pichurim. *tr. a.*
Pinus sylvestris. *a.* 18.
Platina. *tr.* 3, 6.
* Plumbum aceticum. *tr.*
Plumbum metallicum. *tr.* 3, 12.
Podophyllum peltatum. *a.*
Prunus spinosa. *a.* 3.
Pulsatilla nigricans. *a.* 12.
Ranunculus bulbosus. *a.* 12.
Ranunculus sceleratus. *a.* 12.
Raphanus. *a.*
Ratanhia. *tr. a.* 30.
Rhabarbarum. *a.* 9.
Rhododendrum chrysanthum. *a.* 18.
Rhus radicans. *a.*
Rhus toxicodendron. *a.* 30.
Rhus vernix. *a.* 30.
* Rosmarinus officinalis. *a.*
Ruta graveolens. *a.* 12.
Sabadilla. *a.* 30.
Sabina. *a.* 24.
° Saccharum lactis.
° Saccharum sacchari.
Sambucus nigra. *a.* 3.
Sanguinaria canadensis. *a.* 3.
Sapo domesticus. *a.*
* Sassafras. *a.*
Sassaparilla. *tr. a.* 12.
Secale cornutum. 0, 3.
* Sedum acre. *a.*
Selenium. *tr.* 30.
Senega. *tr. a.* 9.
Senna. *a.* 6.
Sepiæ succus. *tr.* 30.
* Serpentaria. *tr. a.*
* Serpyllum. *a.*
Silicea. *tr.* 30.
Solanum mammosum. *a.* 15.
Solanum nigrum. *a.* 15.
Spigelia. *tr. a.* 0, 3, 30.
Spongia tosta. *a.* 3.
Squilla maritima. *a.* 18.
Stannum. *tr.* 6.
Staphysagria. *a.* 30.
Stramonium. *a.* 12.
Strontiana carbonica. *tr.* 30.
* Strontiana caustica. *a.*
Sulfur. *tr.* 1, 3, 30. *a.* 0.
* Sulfur alcoolisatum. *a.*
Sulfuris acidum. *aq.* 3.
Symphytum. *a.*
Tabacum. *a.* 6.
Tanacetum vulgare. *a.*
Taraxacum. *a.* 3.
Tartarus emeticus. *tr.* 3, 12.
Tartari acidum. *a.*
Taxus baccata. *a.*
Terebinthinæ oleum. *a.*
Teucrium mar. ver. *a.* 9.
Thea sinensis s. cæsarea. *a.* 3.
Theridion curassavicum. *a.* 30.
Thuya occidentalis. *a.* 0, 3, 12.
Tongo. *tr. a.*
Triosteum perfoliatum. *a.*
Tussilago pet. *a.*
* Ulmus campestris. *a.*
Urtica urens. *a.*
Uva ursi. *a.*
Valeriana officinalis. *a.* 12.
Veratrum album. *a.* 12.
Verbascum Thapsus. *a.* 3.
* Verbena officinalis. *a.*
Vinca minor. *a.*
° Vinum.
Viola odorata. *a.* 9.
Viola tricolor. *a.* 9.
Zincum metallicum. *tr.* 30.
Zincum sulfuricum. *tr.*
Zingiber officinalis. *a.*
° Zoo-magnetismus.

PHARMACOPŒIA.

PART I.

CONTAINING THE GENERAL RULES.

§ 1. PREFATORY REMARKS.

The adequate and perfectly reliable preparation of the remedial agents is of the utmost importance to physicians of every school, but more particularly to homœopathic physicians on account of the minuteness of the doses with which they operate.

It is, therefore, indispensable, that every one who undertakes to prepare homœopathic medicines, should be thoroughly acquainted with the demands of the homœopathic healing art; for, without this knowledge, it is impossible that we should be able to prepare the homœopathic remedial agents in the true spirit and in conformity with the rules of that science.

After premising these remarks, which we recommend to the consideration of pharmaceutists, we will now furnish a brief description of the utensils and the operations intervening in, and required for the preparation of homœopathic remedial agents.

The utensils used by homœopathic pharmaceutists are the same as those that are found in every well arranged pharmacy, except that they require to be used with more care.

§ 2. HOMŒOPATHIC LABORATORIES.

The room in which homœopathic medicines are prepared, including the pounding, cutting, triturating, &c., should be dry, airy, light, and protected from the rays of the sun, as well as from smoke, dampness, dust, and all emanations that might vitiate the air of the room.

§ 3. UTENSILS.

In this room all the utensils used for the preparation of homœopathic medicines should be kept, especially the mortars, glass-vessels, corks, balances, spoons, spatulæ, &c. Copper and brass vessels should be avoided; if a mortar of metal should have to be used on account of the hardness of some substances, it should be an iron one, which is to be perfectly smooth on the inner surface, and should be kept polished constantly; except such iron mortars, those which are made of white marble and provided with hard wooden pestles, are generally sufficient; for the triturations, unglazed porcelain mortars should be used; mortars made of serpentaria are too soft.

The knife which is used for cutting fresh roots and herbs, should be well polished and free from rust; for rust decomposes a great many vegetable juices instantaneously. The boards and blocks upon which the plants are cut, should be cleansed immediately after being used.

The vegetable juices should be expressed in vegetable bags or cloths, using a separate piece of cloth for each plant; the smell, taste and colour of the plant adhere to the cloth, and cannot be removed by washing.

A press may be used to express the juice, taking care, however, to employ a porcelain, stone, or, in the case of tinctures, tin press-plate.

All vials, no matter for what use they are destined, have to be rinsed in hot and then in cold water; the water is then allowed to run down, after which the vials are dried in a hot oven. The same rule applies to the jars in which the medicines are to be preserved.

All vials should be closed with corks; they are to be selected with great care: all hard, porous and dark-coloured corks being rejected. It is not well to soak them in boiling water, since this gives them an irregular shape and a dingy colour. As soon as the corks shrink or become soft, new corks should at once be chosen. Vials containing liquids that affect the corks, should be closed with glass stoppers.

We will here repeat what we said above in speaking of iron vessels, that all the utensils used in a homœopathic laboratory have to be kept perfectly clean. After triturating drugs for a long time, part of the triturated substance will adhere to the two sides of the mortar so firmly, that it cannot be washed off; it will, therefore, be necessary to wash the mortar with fine sand, and afterwards to dry it in a hot oven for the purpose of removing the odour which might have remained behind. After the trituration of acids, the adhering particles should first be acted upon by some suitable acid.

§ 4. MECHANICAL OPERATIONS.

Having briefly spoken of the utensils, we will now describe the various mechanical operations occurring in a homœopathic laboratory, reserving to ourselves the right of supplying omissions on more particular occasions.

It is the business of the pharmaceutist to transform crude drugs into remedial agents, which shall contain the medicinal powers inherent in the original drug, in such a state of development as will secure, in the best possible manner, their ready and complete action upon the human organism. Such agents will either appear in a dry or liquid form. All substances which, in their natural condition, are insoluble, have to undergo a previous preparation, by means of which their utmost solubility in some liquid vehicle is secured. This previous preparation is Hahnemann's process of trituration.

§ 5. TRITURATIONS.

According to Hahnemann, the triturating process should be carried on in the manner described in the first volume of the Chronic Diseases. For the convenience of the reader, we will transcribe Hahnemann's remarks entire.

"All those homœopathic drugs which constitute the pure materia medica,* are prepared in the manner pointed out below; the following anti-psorics come under this remark:† silica, barita carbonica, calcarea carbonica, natrum carbonicum, ammonium carbonicum, magnesia carbonica, carbo vegetabilis, carbo animalis, graphites, sulphur, antimonium crudum, antimonium, gold, platina, iron, zinc, copper, silver, tin. Lumps of these metals, not the

* Vegetable substances which can only be had dry, are triturated in the same way. The millionth trituration may then be dissolved, like all the other substances, either in water or alcohol. In this state they may be preserved much better and longer than the common tinctures, which easily spoil. Of the juiceless *vegetable* substances, oleander, thuja, mezereum, you may take one grain and a half, the fresh leaves, bark, roots, &c., and convert them into the millionth trituration, with three times one hundred grains of sugar of milk. Of this trituration you take one grain, and carry it through the vials, obtaining in this way any degree of potency that may be desired. Shake each vial twice, first carrying the arm up, then down. The same process of trituration may be resorted to in regard to the recently obtained medicinal juices. Squeeze the juice out of the substance, triturate one drop of it with the necessary quantity of sugar of milk to obtain the millionth trituration. Of this you take one grain, dissolve it in an equal proportion of water and alcohol, and then carry a drop of this mixture through the series of the twenty-seven vials, obtaining in this way the degree of potency that is desired. By triturating the juice first, the medicinal virtues of the drug are better developed than by simply mixing the juice with the alcohol by means of two shakes. I know this from experience.

† Phosphorus, which so easily oxydizes in the open air, is dynamized in the same manner, and may be dissolved in either liquid. There are some precautionary rules to be observed, which will be pointed out below.

foil, are rubbed upon a hard, fine hone under water, or sometimes under alcohol, for ex.: iron. Of these pulverized substances, you take one grain; mercury may be used in the liquid state; of petroleum, you take one drop instead of one grain. Pour this grain into an unglazed porcelain mortar. Then you take thirty-three grains of sugar of milk, and mix them with the drug by triturating the mass with some force for about six minutes by means of a porcelain pestle; before you triturate, stir the mass for a little while with a spatula. Having triturated the mass, you stir it again for about four minutes, scraping up that part which covers the bottom of the porcelain mortar, and also that which adheres to the pestle;* then you triturate again with great force for six minutes, without, however, adding anything new. This mass you scrape up again, for four minutes, add another thirty-three grains of sugar of milk, stir the new compound for a moment with the spatula, then triturate it for six minutes with the pestle, scrape it up for four minutes, triturate again with great force for six minutes, scrape the mass up again for four minutes, then add the last thirty-three grains of sugar of milk, and with this last added portion proceed as with the two former. This powder you enclose in a well-corked glass, and mark it with the name of the substance, and the figure $\overline{100}$, to show that this is the one hundredth potency of the substance.†

* When the process of trituration is completed, mortar, pestle, and spatula, are to be repeatedly immersed in boiling water, being carefully wiped and dried after every immersion. The mortar, pestle, and spatula, may then be exposed to a red-hot heat. This will suffice to satisfy even the most anxious minds that no atom of the medicinal substance has remained adhering to either mortar, pestle, or spatula.

† The preparation of the one hundredth potency of phosphorus by pulverization requires some modifications. First you take one hundred grains of sugar of milk, and, by means of fifteen drops of water, you make them into a sort of paste in the mortar. Then you cut one grain of phosphorus into twelve pieces, kneading them into a paste by means of the moistened pestle, together with the one hundred grains of sugar

In order to prepare the degree $\overline{10000}$, you take one grain of the degree $\overline{100}$, and add to it thirty-three grains of sugar of milk. Stir up this mass for a moment with the spatula. Then triturate it for six minutes, stir it up for four minutes, triturate again for six minutes, and then stir up again for four. After this you add the second thirty-three grains of sugar of milk, proceed then as before; afterwards add the last thirty-three grains of sugar of milk, stir up and triturate again as before, and enclose the mass in a well-corked vial marked $\overline{10000}$.

To prepare the degree $\overline{1000000}$ or $\overline{1}$, you take one grain of the degree $\overline{10000}$, and go through the processes of stirring and triturating in the same way as before, employing upwards of an hour for the preparation of each different potency.

For the sake of establishing a sort of uniformity in preparing homœopathic remedies, and especially the anti-psorics, I never carry the process of trituration above the millionth degree. From this degree I derive the dilutions in their various degrees of potency.

For the process of trituration a certain force should be employed; not too much, however, to cause the mass to adhere too tenaciously to the mortar to be scraped up in the space of four minutes.

From the millionth degree of trituration the dilu-

of milk, the portions of the mass which remain adhering to the pestle being scraped off again while the process of kneading is carried on. In this way the phosphorus molecules may be triturated during the first two periods of six minutes each, into invisible atoms, without a spark being elicited. During the third period of six minutes, the mass being sufficiently pulverized, the kneading may be replaced by trituration. During the next eighteen minutes the process of trituration is carried on with moderate force, the mass being scraped up every six minutes; this scraping can be easily accomplished on account of the mass being but slightly adherent either to the mortar or the pestle. After the sixth trituration the powder shines but feebly in the open air, and has but little smell. It is then enclosed in well corked vials, and marked Phosphorus $\overline{100}$. The next two degrees of potency, $\overline{10000}$ and $\overline{1}$, are prepared in the same way as those of the other dry medicinal substances.

tions* in the various degrees may be obtained by dissolving these triturated substances in alcohol or water. Chemistry is not acquainted with the fact that all substances, after having been triturated up to the millionth degree, can be dissolved either in alcohol or water.

Sugar of milk cannot be dissolved in pure alcohol; this is the reason why the first dilution should be composed of one half water, and one half alcohol.*

To one grain of the millionth trituration you add fifty drops of distilled water, and turn the vial several times around its axis. By this means the sugar of milk becomes dissolved. Then you add fifty drops of good alcohol,† and shake the vial twice, first carrying the arm up and then down. Only two thirds of the vial ought to be filled with the solution.‡

This vial is then marked with the name of the medicine, and the number $\overline{100\ \text{I}}$. Of this solution you take one drop, and mix it with 99 or 100 drops of pure alcohol, shaking the vial twice after it has been corked. This vial is marked $\overline{10000\ \text{I}}$. Of this solution you again take one drop, mixing it with 99 or 100 drops of pure alcohol. Then shake the vial twice, and mark it $\overline{10000\ \text{I}}$. Of this potency you again take a drop, and mix it with 99 or 100 drops of pure alcohol, shaking this third vial twice, and marking it $\overline{\text{II}}$. In the same way you continue the preparation and marking of the higher potencies $\overline{100\ \text{II}}$, $\overline{10000\ \text{II}}$, $\overline{\text{III}}$.§ The intermediate vials are put in perpendicular

* In the beginning of my practice I gave a small portion of a grain of the millionth trituration at a dose. But the uncertainty of this mode of exhibiting the remedy, led me to the discovery of preparing the dilutions, and to the use of the globules, any definite number of which may be moistened with the dissolved drug. Homœopathy being based upon a law of nature, it should avoid and exclnde all uncertainties.

† These quantities are measured by means of vials which contain exactly fifty drops. It would be too tedious to count fifty drops of water, especially when the water does not flow easily out of the vial.

‡ It is well to provide the vial with a mark stating the number of shakes, and the date when the solution was prepared.

§ Frequent observation has convinced me that it is better to shake the boxes, and are kept in the dark in order not to be affected by the light of day. In practice, only the full vials are used.

The shaking being accomplished by means of moderate strokes with the arm, it is expedient that the vials should be large enough to have only two thirds of their volume filled with the hundred drops.

Vials that have contained one medicine, ought never to be used for any other, even if they should have been previously rinsed with great care."

The details of the mode of trituration proposed by Hahnemann have been somewhat modified by our pharmaceutists. Though it is acknowledged by all that trituration is the best mode of developing the medicinal powers of the drug, and that the triturating process should be conducted with the greatest care, order and regularity; yet it has not been deemed necessary to observe the details in the very same manner as they have been proposed by Hahnemann. It has not been deemed derogatory to the scientific character of homœopathy to modify the number of minutes which Hahnemann prescribes for the various details of the process, or to increase the number of shakes in preparing the dilutions. Grüner, for instance, who is one of the most distinguished pharmaceutists of our school, adopts the following mode of preparing the triturations and dilutions:

"Weigh carefully a portion of the drug, add to it an equal portion in weight of powdered sugar of milk (using the coarser kind for firm or tenacious substances), and triturate both the sugar and the drug in a

vials twice only, in order to develop the medicinal virtue of the drug just enough to affect the disease in a proper manner. By shaking the vial ten times, as I was in the habit of doing, the proportion between the progressively developed intensity of action of the medicinal properties of the drug and the degree of the potency, was destroyed in favour of the former. The object of the dynamizing process is to develop the intensity of action of the medicinal properties of the drug, at the same time as that action is reduced to a milder tone. Two shakes are sufficient to establish the true proportion between these two effects.

mortar of sufficient capacity, until both have been transformed into a homogeneous mass as respects colour and fineness. At intervals, the substance which adheres to the mortar and pestle should be scraped off with a horny, or, if necessary, iron spatula. The homogeneous character of the preparation depends, in a great measure, upon the strict fulfilment of this condition.

It is impossible to limit the duration of this first process by a general rule. This depends upon the greater or lesser degree of solidity of the drug. In every case, however, it should be continued for at least half an hour. There are substances, such as Lycopodium, which require several successive triturations before their particles are entirely broken up, After the first trituration is terminated, and the drug-particles and those of the sugar of milk are sufficiently intermingled, a second portion of sugar of milk. being equal to three times the quantity of the former, is added, and the trituration is continued for another half hour, including the scraping; after which the last portion of sugar, equal to five times the quantity of the first portion, is poured into the mortar, and the triturating process continued until the whole mass presents a perfectly homogeneous compound, even when viewed through a glass. This compound will of course weigh ten times as much as the original drug. It is called the first trituration, and designated by No. 1.

We now take a certain portion of this first trituration, add to it nine times its weight of sugar of milk, and triturate these two substances together for three quarters of an hour in the manner described above, except that a little more sugar of milk may be added the first time than was used in making the first trituration. This second trituration is designated by the figure 2. Of this second trituration we make the third, in the same manner as before.

Before commencing the triturating process, care should be had to dry the vessels, drugs and sugar, as perfectly as possible, and, moreover, to divide hard and tenacious substances as finely as can be. As regards the dividing of the metals, this process will be indicated more in detail in speaking of the different metals. Hones should not be used. Salts and precipitat s, and the like, should first be reduced to a fine powder. The same observation applies to vegetable substances.

Two different substances should not be triturated side by side, nor should more than 500 grains be undertaken at once. The quantity prepared should not last over a year, and should, therefore, be regulated by the demand.

The triturating process may be continued as far as possible. Hahnemann closes it with the third trituration, continuing the dynamizing process in a liquid form. We know by experience, that these higher dynamizations in the liquid form are perfectly efficacious."

§ 6. DYNAMIZATIONS.

It is contended by some that the original drug contains a spiritual agent which is the truly curative power of the drug, and is developed or set free by the triturating and shaking processes. Others contend that the development of the curative powers of a drug is a purely mechanical thing, and that the mechanical breaking up of the constituent particles of the drug constitutes that development. By the former, these successive developments of the original substance are called *dynamizations*, or *potentizations* ; by the latter, *attenuations*. These different opinions lead to important practical results. Those who believe in the doctrine of dynamization, feel bound, under certain circumstances, to continue the dynamizing process up to the 30th, and even 8000th *potency*, as they term it, or attenuation; whereas those who reject this doctrine, seldom employ homœopathic preparations beyond the third trituration or dilution. The homœopathic pharmaceutist has nothing to do with these theories ; his business is to furnish preparations as they are demanded by physicians, and to employ every possible care in making them.

§ 7. DILUTIONS OR LIQUID DYNAMIZATIONS.*

Two-thirds of a vial are filled with one part of the third trituration and nine parts of distilled water, and shaken together at an ordinary temperature until the triturated substance is completely solved by the liquid. This dilution is marked 4. It should be borne in mind, that this dilution should only be prepared for present use; the inssoluble medicinal particles contained in the liquid, gradually sink to the bottom; and although the mixture can apparently be restored by renewed shaking, yet its curative qualities are probably more or less altered.

The fifth dilution is prepared of the fourth, by mixing up one part of the fourth with nine parts of dilute alcohol (see: Alcohol). For all successive dynamizations or dilutions, strong alcohol is used in the proportions above indicated.

§ 8. ARRANGEMENT AND NUMBERING OF THE VIALS.

Before commencing the attenuations, as many vials, containing about one or two drachms, should be prepared, as dynamizations or attenuations are required; they should be corked, and the names of the medicines and the potences marked on the corks. Labels, exhibiting these names and potences, should likewise be pasted on the vials. Afterwards, each vial should be filled with 90, or, if sufficiently large, with 180 drops of alcohol. Into the vial marked with the lowest number, 10, or, if the vial should contain 180 drops of alcohol, 20 drops of the medicine should then be dropped, and a few vigorous shakes given to the vial.

From this first vial we fill ten or twenty drops into the next following, and prepare the next dynami-

* See the preceding chapter.

zation in a similar manner by shaking the vial. And so on through the whole series.

The proportion of 10 to 100 has been substituted by a great many homœopathic physicians for the old centesimal scale adopted by Hahnemann. According to this scale, the proportion of sugar of milk or alcohol to the medicinal substance is as 1 to 100. Otherwise the attenuating or dynamizing process is carried on in the same manner as for the decimal scale, 1 to 10.

§ 9. SOLUTION OF SALTS, OILS, &C.

Soluble salts, ethereal oils, and similar substances, instead of being triturated, are dissolved from the first. By triturating them, their constituent elements would be partially disunited, and a great many exercise a decomposing influence upon sugar of milk, which first manifests itself at the termination of the triturating process, and continues in the vial containing the medicine, as may be inferred from the sourish smell emanating from such preparations after the lapse of months.

Salts are dissolved in pure water, ethereal oils in the strongest kind of alcohol. With a few exceptions, the decimal scale may be preserved, mixing one part of the drug with nine parts of water or alcohol. Salts which cannot be dissolved in this proportion, are dissolved in the proportion of 5 to 95, this preparation being marked with a fraction, the proportional relation of the drug to the vehicle, in this case $\frac{1}{20}$. To obtain the first dilution, we take 20 parts of the above preparation and mix them with 80 parts of alcohol; the second and all successive dilutions are formed in the proportion of 1 to 10.

In general, in order to obtain the first dilution of any tincture, we proceed in this way: Take as many drops of the tincture, as are equal to the denominator of the fraction marked on the label, and add to them as many drops of alcohol as will be equal to the difference between the above mentioned denominator and the number 100. Mix them by shaking the vial 15 or 20 times by means of vigorous strokes of the arm, and mark this dilution 1. Then continue the dynamizing process either in the proportion of 1 to 100, or 1 to 10.

The following precautionary rules should be observed in preparing these solutions of salts, &c.

§ 10. PRECAUTIONARY RULES.

1. The solutions should be prepared at an ordinary temperature, and the room where they are kept should not be subject to variations of temperature, so that either the crystallization by cold or the condensation by warmth might be guarded against.
2. In order to prevent any possible decomposition, the solutions should not be exposed to the light of day.
3. The liquid should only be used as long as it remains perfectly clear and transparent; it should be thrown away as soon as it becomes dim, or flocks, borders or crystals show themselves.
4. Only corks of the best quality should be used, since corks used for solutions decay more readily than corks used for the alcoholic attenuations.
5. To form the second dilution of such solutions, dilute alcohol should be used; from the third dilution upwards the strongest kind of alcohol may be employed.

To these rules we will add those which require to be observed in preparing the dilutions of essences and tinctures. The preparation of the essences and tinctures themselves will be described hereafter.

§ 11. ATTENUATION OF TINCTURES.

1. Tinctures which have been prepared from *dry* plants by means of *strong* alcohol, require to be diluted with the same kind of alcohol, according to the decimal scale. On the contrary,

2. Tinctures which had been prepared with *dilute* alcohol, and essences in the first, and sometimes even in the second potence, require to be diluted with dilute alcohol, in order that they might be obtained clear and without sediment, which always deteriorates the preparation.

Having premised these general rules, we will now describe the mode of preparing tinctures from plants, which varies according to their constituent particles and chemical composition.

§ 12. PREPARATION OF THE TINCTURES.

We will arrange all the plants from which tinctures are prepared, in three classes, corresponding to the different modes adopted for the preparation of tinctures; by this means we shall, moreover, be enabled to avoid unnecessary repetitions in the second part of this work: for all we shall have to do, will be to refer to the class to which the plant we are speaking of, belongs.

FIRST CLASS.

To the first class belong all barks, roots, seeds, leaves, &c., which are preserved and prepared in a dry state. These substances should first be reduced to a coarse powder, after which they are mixed with alcohol in the proportion of 1 to 10, and, for a fortnight, kept in a glass-jar which is to be closed with wet bladder, being vigorously shaken once a day.

To obtain a strong tincture from substances which are not very soluble in alcohol, we should first triturate them, dry, for about one hour, and then transform them into a fine paste by adding a little alcohol.

This proceeding should be carried on at the usual temperature; nor should the tincture be exposed to the decomposing agency of the solar rays.

After the lapse of a fortnight, the liquid should be separated from its substratum by the ordinary means, pressure, and, having allowed it to settle for 24 hours, it is filtered through white blotting paper, and then kept for use.

The strength of the alcohol used in the preparation of the tinctures must correspond to the nature of the plant. Strong alcohol of from 70 to 80 per cent. should be used for some, dilute alcohol for others.

The general rules, however, laid down above, remain unaltered in every case. The degree of strength of the alcohol to be used, will be separately indicated for each plant, and, if any particular rules should have to be observed, they will likewise be mentioned in their appropriate places.

Tinctures from fresh plants are prepared differently from those of dry ones. We adopt two different modes of preparation, agreeably to the greater or lesser quantity of juice which the plants contain.

SECOND CLASS.

All those plants or portions of them, the juice of which can be obtained in a sufficient quantity by squeezing it out by means of a good press, constitute the *second class.** This altogether mechanical pressure being insufficient to obtain all the efficacious constituents of the plant, especially the volatile and resinous parts: it is indispensable to subject the residue to the action of strong alcohol, for which purpose we take a quantity of alcohol equal in weight to that of the obtained juice, and *no more*, even if the residue should not even be covered by the alcohol. In the meanwhile the vegetable juice which was obtained in the first instance, is kept in a lightly-guarded glass-vessel in a cool cellar. After the lapse of from one to three days, before, however, the juice has had time to ferment or become decomposed, the residue is

* Before pressing out the juice, the plant should first be cut in small small pieces, and then pounded in a stone-mortar; otherwise the expression of the juice would be exceedingly imperfect.

again subjected to pressure, and the tincture thus obtained will contain the larger portion of the extractable matter, as may be inferred from the taste, smell and colour of the tincture, and is then mixed with the juice obtained by the first pressure. This mixture having been allowed to settle for several days, it is then filtered and kept for use.

Tinctures obtained in this way, are termed *essences*, in contradistinction to the tinctures obtained from *dry* plants.

THIRD CLASS.

Many plants, even when fresh, contain so little juice that only a very small quantity can be obtained even by the most persevering efforts. These form the *third class*. They are first cut in small pieces, after which we add *double* their quantity of strong alcohol in weight, and then proceed as with the tinctures of the first class.*

A similar proceeding has to be adopted with such plants as, by their external appearance, might seem to belong to the second class, but the juice of which is so thick that it cannot be extracted by mere pressure.

The tinctures belonging to either of these three classes, should always be clear and without sediment. If a sediment should form in two or three months, which is the case with many essences, the liquid has to be filtered a second time.

§ 13. SELECTION OF THE PLANTS.

In the selection of plants, we should be guided by the following general rules:

It is scarcely necessary to remark, that drugs of the best quality only should be used for our preparations.

* Let it be understood, that, in speaking of the preparation of essences or tinctures, we always use *strong* alcohol, from 70 to 80 per cent., unless the strength of the alcohol should be specially indicated.

Nevertheless, a selection may be made even if the drugs should appear ever so good externally. We sometimes get pieces of rhubarb which seem very sound externally, but are mouldy and worm-eaten within; or seeds may appear perfectly sound, if judged by their colour and shape, and yet be powerless and altered within; not to speak of the admixture of heterogeneous particles.

Pharmaceutists should never forget, that the efficacy of the small doses with which the homœopathic physician operates, depends in a great measure upon the purity and genuine power of the original substance, and that it is, therefore, their highest duty to select every drug, even to the minutest portion, with the greatest care. Besides this does not require as much time as would seem, owing to the small quantities of medicine which are used in homœopathic practice.

§ 14. SELECTION OF FRESH PLANTS.

In selecting fresh plants, the following points should be considered:

a) As a general rule, the plants which grow wild are preferable to those that are cultivated in gardens, even if we can only obtain them dry, provided no volatile particles get lost by the drying.*

b) Regard should be had to the place where the plants grow, for the locality has considerable influence on the development of their medicinal virtues; the luxuriant, tall and juicy appearance of a plant, is no guarantee for its possessing the highest quantity of medicinal virtue; nor should plants which prefer a

* Foreign plants may be ordered as follows: They should be cut in small pieces at the place where they grow, and then be covered with an equal quantity of alcohol in weight, or with double that quantity, according as the greater or lesser quantity of the juice may require. By means of a press, a very powerful tincture may be obtained from plants thus digested.

dry soil and much sun, be gathered from a damp and shady locality; or vice versa.

c) None but sound and regularly formed plants should be used; all distorted, half dried, decayed or otherwise injured plants should be rejected; nor should plants be used which, through old age, have acquired a woody consistence.

d) The plants should be kept clean, that is to say, free from mud, &c. They ought never to be washed, especially the roots; it is by far better to beat or brush the dirt off. It is likewise important that

e) The plants should not be inhabited by insects whose bodies or chrysalides might get into the essence or tincture.

f) Plants should not be gathered during the early morning-dew, nor immediately after a shower; nor should they be carried about during the excessive heat of the day, or be closely packed.

g) It is a matter of course, that one variety of plants should not be confounded with another; plants gathered by paid persons, should be subjected to the most careful examination, lest heterogeneous substances should remain admixed to the plant we wish to prepare for use.

Whatever drugs may hereafter be introduced into our Materia Medica, they will have to be prepared by one of the above described modes. Let us now pass over to an examination of the vehicles by means of which the attenuations are prepared. These vehicles are: alcohol, water, sugar of milk, and, when used, they should be just as pure as the medicinal substances themselves.

§ 15. ALCOHOL.

Alcohol (*spiritus vini, spiritus vini alcoholisatus,* spirits of wine, alcoholized spirits of wine) is always the product of art, and is formed every time that sugar comes in contact with a fermentable matter in water, and at a suitable temperature; the alcohol is developed in the course of fermentation, which, after this phenomenon, has been termed *spirituous* or *alcoholic.* Alcohol may be obtained from a great number of vegetable substances, such as wine, beer, cider, malt, dregs of grapes, sugar-cane juice, germinating cerealia, pounded cherries, molasses, juice of carrots or beets, potatoes, honey, &c.

Alcohol is always the same, no matter from what substance it is obtained, except that we have to employ means more or less complicated to obtain it pure. In every case it contains more or less water, and very often is mixed either with acetic acid, or a small proportion of prussic acid or empyreumatic oil, &c., according to the substances from which it has been extracted. Alcohol which comes from the laboratories of chemists or pharmaceutists, and is obtained from the residue of some chemical preparation, such as the resin of jalap, is the least suitable. Nor should we employ alcohol extracted from potatoes, since it contains a large quantity of empyreumatic oil, which cannot be entirely removed even by means of the chloride of lime or pulverized charcoal. Even in the alcohol prepared from rye or wheat this oil is often found; but in this case it is sufficient to mingle the spirit with a suitable quantity of pure olive-oil, and to shake it from time to time for several days; in this way the empyreumatic oil combines with the olive-oil, and floats on the surface of the alcohol, whence it may easily be removed.

Pure and perfectly anhydrous alcohol is a colourless liquid, remarkably fluid, of a sweet and penetrating odour, a burning and pungent flavour; when rubbed between the hands, it should not lather, nor emit any foreign odour. Its specific weight is much less than that of water, in which it dissolves perfectly and in all proportions, with disengagement of heat. When exposed to the air, it partially evaporates, and the remainder loses its power by becoming saturated with the moisture of the atmosphere, for which it has a very strong affinity. Alcohol burns with a flame which is white at the centre and blue at the edges, and leaves no residue. It dissolves a great many substances, such as phosphorus and sulphur (both in small quantities), the fixed alkalies, balsams, resins, camphor, sugar, volatile oils, extractive matter, &c.

Acids are strikingly affected by alcohol; some are simply dissolved by it, others are transformed by it into ether.

Perfectly pure alcohol has a specific gravity of 0,791. It then does not contain a trace of water, in other words, is perfectly anhydrous, and marks by the alcoholmeter 100 degrees of force. However, alcohol of this strength is never used. There is always more or less water mixed with the alcohol of the shops, or with that which is used in medicine. According to the proportions with which water is mixed with it, we generally distinguish four kinds of alcohol, viz: 1) The *alcohol of commerce*, this being the weakest quality; specific gravity 0,910 or 0,920. 2) *Rectified spirits of wine, dilute alcohol*, obtained by mixing equal parts of water and strong alcohol; specific gravity 0,890 to 0,900, and degree of concentration 60°. 3) *Best rectified spirits of wine*, or *strong alcohol:* specific gravity 0,830 to 0,840, and degree of concentration 75 to 80°. 4) *Absolute alcohol:* specific gravity 0,810 to 0,820, and degree of concentration from 96 to 100°.

§ 16. RECTIFICATION OF SPIRITS OF WINE.

Brandy, unless it should have a strength of 60°, should first be raised to this degree of strength by means of a careful rectification over recently burnt and coarsely pulverized charcoal, taking care to separate the part which passes over at the end, and which contains the largest amount of brandy, from that which passed over first. This being done, seven-eighths of large glass-globes are filled with it, introducing at the same time a suitable quantity, say, the

16th part of recently burnt and at the same time coarsely pulverized charcoal. In a few weeks, during which period the globes are to be agitated several times, the alcohol is separated from the powder by rapid filtration, and then well stirred up in a carefully closed alembic, with the 12th part of ordinary, skimmed cow's-milk. The distillation can then be carried on according to the usual rules. Two conditions, however, require to be fulfilled, in order to secure the obtention of a superior product.

The *first* is, to cause the vapours of the alcohol to pass through a layer of fresh, coarsely pulverized charcoal, which is to be arranged in the alembic above the level of the liquid, by means of the following contrivance, and which, at the same time, prevents the too rapid passage of the vapours. A perforated tin-disk of the size of the inner periphery of the alembic, which is to be divided in the middle and united again by means of hinges, is introduced into the alembic, resting upon four short supporters which are soldered to the sides of the alembic at the required elevation. A layer of charcoal-powder, of from 1½ to 2 inches in height, is spread upon this disk.

The *second* condition is the peculiar shape of the helm, which should be rather narrow and elongated, so as to secure the repulsion of a large quantity of the ascending vapours, and the passage only of those which have the least specific gravity.

A second distillation of the alcohol thus obtained will only be necessary, if, at a normal temperature, the alcoholometer should range below 70°, and the brandy which was used for the first distillation, was of an inferior quality. This point has to be decided by the taste, and still more by the smell of the alcoholic vapours rising from a warm hand. Alcohol thus obtained contains about 75 to 80 per cent., and can be used for attenuations as well as for the preparation of tinctures. We will term it *strong* alcohol.

§ 17. DILUTE ALCOHOL.

Dilute alcohol is obtained by mixing equal parts in volume of strong alcohol and water. This is used for the preparation of various kinds of tinctures, and the first attenuation of essences. The weaker alcohol which passes over towards the close of the distillation, should never be used in the place of dilute alcohol, as its smell and taste are never quite pure. Dilute alcohol is, in every case, to be obtained by the direct mixture of equal parts of alcohol and water.

§ 18. ABSOLUTE ALCOHOL, OR ALCOHOL FORTIUS.

To obtain the strongest kind of alcohol, which is required for the solution of volatile oils, phosphorus, sulphur, and some other substances, we resort to the following simple method of evaporation recommended by Sœmmering.

After having carefully cleansed the bladder, we blow it up through a glass-tube attached to it, and suspend it in the air to dry. Having dried it, we paint it over with a thin coat of fishglue, and then dry it a second time. We then fill $\frac{7}{8}$ths of the bladder with alcohol of at least 70°, close the glass-tube by means of a small piece of fine wet bladder, and suspend it over a stove by means of a thread tied round the tube, at a temperature of from 30° to 40° R. This temperature should vary as little as possible. In about 8 or 10 days the water, contained in the alcohol has so completely evaporated through the bladder, that the strength of the alcohol has risen to 95°, or even more, and may rise still more if the process of evaporation be continued. Alcohol obtained in this way looks a little turbid or coloured, or, when taken out of the bladder, has a sweetish smell, like sugar ; it has therefore to be distilled over recently burnt charcoal before it is fit for use.

§ 19. WATER.

Among all the vehicles used in homœopathy there is not one that is more free from medicinal virtue, properly so called, than pure water; but, on the other hand, nothing is more rare than to find this fluid in nature in a perfectly pure condition. Under whatever form water presents itself, it is more or less charged with foreign matters, such as gas, salts, earths, &c. The purest quality of water is rain-water, which, as well as distilled water, has neither odour, nor taste, nor colour; besides the atmospheric air contained in this water, there is but a small portion of fixed matters; only after a storm, we find, occasionally, a trace of nitric acid combined with ammonia. The water of springs and wells constantly contain many kinds of neutral salts, earths, and muriatic compounds. As to the waters of rivers, lakes, and ponds, in inhabited countries, it can scarcely ever be used for homœopathic purposes, excepting, however, such water as we use in New-York, and known as the Croton.

Homœopathy uses water for three different purposes, viz.: 1. for the chemical operations, which the purification of many primitive substances requires; 2. for the preparation of some of the attenuations; and 3. for the administration of medicines in the form of watery solutions. For the last of these uses, we may use river- or spring-water well filtered; for the chemical operations, rain-water procured during a calm, answers in all cases; but for the preparation of the attenuations, we must have the purest water we can possibly obtain. The distilled water, which is found in common pharmacies, is not suitable; for even if it has not been distilled in copper, or other metallic vessels, it is always to be feared that it is impregnated with foreign matters, derived from substances which, perhaps, but a short time previously, had been distilled in the same apparatus, and the remaining particles of which are not sufficiently removed by the means of cleansing resorted to by common pharmaceutists.

A perfectly pure water must either be prepared by the homœopathic physician or a conscientious homœopathic pharmaceutist. The most suitable water to distil is rain-water, if we take care, as we have above remarked, not to procure that which falls during a storm, or when the sun shines. We must not, even in an ordinary rain, gather the first rain that falls, since this contains the impurities suspended in the air ; it is only after rain has fallen four or six hours that we are able to gather the water in its purest condition. Still this water contains a certain quantity of carbonic acid, and hence, before submitting it to distillation, we will do well to boil it in a porcelain vase and let it cool.

The water which is used for the purpose of solving medicinal substances, should be perfectly free from salt, clay, or metallic particles, which are found in well-water. Snow- and rain-water, though purer than well-water, yet frequently contain a little earth, dust, soot, &c., and should not be used without being filtered.

To obtain a perfectly pure water, it should be distilled in vessels of porcelain or glass, taking care, in order to free the retort from all medicinal odours, to distil over a few pounds rather hot, and to throw them away as long as a little acetate of lead will render the product turbid. When the liquid in the retort is diminished two-thirds, the distillation must cease. The purity of the distilled water should be tested by means of appropriate chemical re-agents. It should be observed, that the fire under the apparatus has to be increased gradually, and that the neck of the retort has to be kept at a moderate temperature, by means of wet cloths, so that the vapour, in passing, may not dissolve even a trace of silex or alkali from the sides of the vessel.

The distilled water should be put into bottles or new jars of yellow glass, which have first to be carefully cleansed with part of the same water, and which should be kept in a cool place.

§ 20. ETHER.

Sulphuric ether, or, simply, ether (*æther sulphuricus, spiritus sulphurico-ethereus*) is a light, volatile, odorous and inflammable liquid. Like the other *hydratic* ethers, as the *phosphoric, arsenic* ethers, &c., it is composed of two volumes of bicarbonated hydrogen gas, and one volume of vapour of water, so that it may be considered either as alcohol deprived of a certain proportion of the elements of water, or as a hydrate of bicarbonated hydrogen. Recently prepared, it is neither alkaline nor acid; and when burnt, it shows no trace of sulphuric acid, an evident proof that the sulphur does not enter into its composition. It dissolves in ten times its weight of water, but with alcohol and all the essential oils it unites in all proportions. The fixed oils also, the strong acids, balsams, several kinds of resins, phosphorus, sulphur, bromine, and many hydrochloric salts, are perfectly soluble in ether. It is obtained by mixing concentrated sulphuric acid and alcohol, and distilling the mixture in a sand-bath. (See Mitscherlich's Chemistry, VOL. I, p. 97.)

In homœopathy, we are not acquainted with any ethereal preparation, except phosphorus, which some have proposed to substitute for the alcoholic preparation of this substance. This substitution of ethereal tinctures for alcoholic tinctures, not only for phosphorus, but also for many other substances, may not be unsuitable.

Ether, such as it is found in our shops, under the name of rectified ether, contains a little alcohol, of which it is freed by shaking it for a short time with double its volume of water, and when it is separated from the water, pour it on quick lime, with which it should be shaken at intervals for some days. In afterwards distilling this mixture, until there remains in the retort about two-thirds, the third which has passed into the recipient is perfectly pure ether. Often, however, we find it adulterated with a quantity of sulphuric acid, or other acids. The adulteration with water is known by the watery fluid which remains upon exposing, at a mean temperature, a small portion of ether to evaporation. The presence of sulphuric acid betrays itself by its disagreeable odour, and that of other acids by their reddening the tincture of lacmus. Finally, to preserve ether free from all deterioration, it should be put into little bottles, the mouths of which terminate in points, so that they may be hermetically sealed by the flame of a spirit lamp. Ether which has been deteriorated by the action of the air or light, is less volatile, of an acrid and burning taste, and miscible with water in all proportions.

By shaking together equal portions of ether and distilled water, we obtain a milky mixture, which, if left undisturbed, will gradually separate into its component parts, ether and water. If more than one eighth part of its volume gets lost, this is a proof that it was mixed with alcohol.

§ 21. SUGAR OF MILK.

Sugar of milk is the *third* vehicle used in homœopathy. It is an essential constituent of milk, and is obtained by inspissating and crystallizing the whey. The sugar of milk of the shops is more or less mixed up with dust, wood, soot, &c., sometimes mouldy or yellowish, and has a musty smell and an unpleasant taste.

To free the sugar of milk from all heterogeneous particles, we reduce it to a coarse powder, and dissolve it by boiling it in double its quantity of distilled water. While yet boiling hot, we filter it through white blotting paper which is spread over a new filtering-cloth, into an earthen vessel of sufficient size, and which should contain as much strong alcohol as we had used water for the solution of the sugar of milk. As soon as these two liquids come in contact with each other, the sugar of milk is precipitated in the shape of pointed crystals, which accumulate at the bottom, or adhere to the sides of the vessel. After the filtering, and before setting the vessel aside for cooling, it is advisable to stir the liquid well with a clean stick, in order to secure a more perfect intermingling of the particles. The whole process should be carried on at the lowest possible temperature which facilitates the precipitation of the sugar of milk.

After the lapse of a few days, the liquid which floats over the sugar of milk is poured off* slowly, and the sugar, having been detached from the sides and bottom of the vessel, is washed once or twice with distilled water, after which it is spread in thin layers on clean paper over sieves, and carefully dried. It is then pulverized as finely as possible in an iron mortar, which, however, requires to be perfectly clean, free from odour, smooth and polished. As a matter of course, the sieve which is used for the sugar of milk should be a very fine one, and not be used for other purposes.

The sugar should be kept in a dry and airy place, in well closed glass or wooden jars.

§ 22. GLOBULES.

These are made by confectioners, and are composed of sugar and starch; they can be had of various sizes, from that of a millet-seed to that of buck-shot. The whitest, driest and hardest should be selected for medicinal use; they should all be of equal size, and not mixed with sugar-dust.

After having moistened the globules with the medicine, in some suitable vial, we turn them out on paper with raised edges, and agitate them until they cease to adhere one to the other. Should we afterwards wish

* The alcohol which is contained in this liquid, can be distilled out again, if carefully done, and is as good as before, though weaker.

to put them into the same bottle in which we had moistened them, we should take care to dry it also before making use of it. The complete desiccation of the globules, before bottling them, is absolutely indispensable, since, without that precaution, they fall into powder in a short time, and lose their medicinal virtue.

§ 23. HOW THE MEDICINES ARE TO BE KEPT.

Triturations should be kept in glass-vials with narrow orifices ; they are to be closed with cork-stoppers, and those which contain volatile, strong-smelling substances, should, in addition, be closed with soft, dry bladder. The vials are to be provided with labels indicating the names of the remedies and the potencies, and are to be placed in alphabetical order, in drawers of sufficient depth, each compartment containing the potencies of one remedy.*

Essences and *tinctures* are to be kept in well corked and well covered two or three ounce vials, in separate drawers. If necessary, large jars may be filled with the liquid, which should likewise be kept separately.

The various preparations, triturations, as well as essences or tinctures, should be well guarded against the light of day. Bismuth, the mercurial preparations, phosphorus, hepar sulphuris, &c., require moreover to be kept in vials covered with black paper, or with a preparation of copal and incandescent soot. This varnish, if well dried in a hot oven, is not only very durable, but can easily be renewed.†

The dilutions of the respective remedies should likewise be kept separately from each other, in half ounce vials of a cylindrical shape, each vial being carefully labelled. The proper way would be to arrange draw-

* Triturations and dilutions should never be kept in the same drawer.

† The bottom and neck of the vial should not be covered, so that one may be able to see whether the vial is clean inside.

ers or boxes in compartments, assigning a compartment to each particular series of dilutions, and again subdividing the compartments by means of l tle pieces of pasteboard, so that each vial of the same series would likewise be separated from its neighbour.

Not only should the vials be labelled, but the names of the remedies and the potencies should likewise be marked on the corks.

§ 24. OF THE DISPENSATION OF HOMŒOPATHIC MEDICINES.

If a trituration be prescribed, we mix the desired portion with a sufficient quantity of sugar of milk, in an unglazed mortar, proceeding gradually as in making the triturations themselves. To mix a drop of medicine with sugar of milk, we use mortars that are glazed within, for this reason, that the moistened mass adheres but slightly, and the mixing is completed without much trouble.

If we wish to prescribe pellets, we first prep are as many little heaps of sugar of milk as we wish to prescribe powders, and then add to each heap the prescribed number of globules, after which we close the paper. Should we wish the pellets to act more promptly and with more energy, we first dissolve them in a spoonful of water, and then either swallow the liquid at once, or else we dissolve the pellets in a larger quantity of water, and take a table- or teaspoonful every two or three hours, as the case may be.

A third mode of administration is to make the patient smell the medicine. For this purpose we put a single globule, impregnated with the prescribed attenuation, in a vial such as we make use of to preserve the saturated globules, and we insert the vial uncorked in one of the nostrils of the patient, who inspires the emanations proceeding from the globule. To increase the effects of olfaction, Hahnemann has lately preferred dissolving the globule in equal parts of alcohol and water, in a vial capable of holding about

150 drops; having shaken the mixture some seconds, the patient smells of it. By this process the powers of the globule are more developed, and the surface which is acted upon by the medicinal emanations is much larger.

In homœopathic prescriptions, we generally make use of the same abbreviations as those which are found in the Repertories. In the formulæ, we usually designate the number of required globules by a cipher, placed like the numerator of a fraction above the cipher indicating the degree of attenuation. Thus, Aurum $\frac{3}{15}$ means three globules of the 15th attenuation of Aurum. Others indicate the number of globules by points; above all, the Germans, who then mark the attenuation by a Roman cipher, as for example: Aurum V•••, or, Aurum V○○○, which, in each case, means, Aurum 15th, three globules. Others, especially in prescribing drops or grains, write as follows: Aurum 15th gtt ij, or, gr. ij, &c., which means Aurum 15th, two drops or two grains. To indicate the quantity of sugar of milk that is to be added to the medicine, we write, below the line mentioning the medicine, *pulv. sacch. lact.*, q. s., if this quantity should not exceed two or three grains; otherwise, if we wish to add more, we indicate the quantity by grains, &c. The same remarks apply to the water in which we would dissolve the dose, and which we generally indicate thus: *Aq. dest.* unc. 4 or 6, &c.

If desirable, we add to the medicinal powders a few powders of sugar of milk without medicine, and indicate, on the same line which contains the name of the medicine, the numbers of the powders containing the medicine, and under this in another line, the numbers of the powders containing the sugar of milk alone. For example: if we wish to give the patient six powders, three with, and the other three without medicine, we would write, in case the powders should have to be taken alternately:

Aurum $\frac{3}{15}$. Nos. 1. 3. 5.
Pulv. sacch. lact. q. s. Nos. 2. 4. 6.

Or else, if the three first of these powders contain the medicine:

Aurum $\frac{3}{15}$. Nos. 1. 2. 3.
Pulv. sacch. lact. q. s. Nos. 4. 5. 6.

Another still more simple way consists in placing the numbers of the powders containing the sugar of milk, behind those which contain the medicine, and separate them from the latter by the following sign, (#), as for example:

Aurum 3/15. Nos. 1. 3. 5. # 2. 4. 6.;

or:

Aurum 3/15. Nos. 1. 2. 3. # 4. 5. 6.

§ 25. OF THE DENOMINATION OF HOMŒOPATHIC ATTENUATIONS.

We have said, in former chapters, that unattenuated alcoholic preparations are termed *essences* or *tinctures*. As regards attenuations, the French simply designate them by the names of their numbers, viz.; 1st, 2d, 3d, &c., applying this denomination exclusively to preparations made in the proportion of 1 to 100. Of the preparations made according to the decimal scale, every other preparation only is termed 1st, 2d, 3d, &c. The fraction of the primitive drop in each attenuation can easily be ascertained, since all the denominators of these fractions increase as the powers of 100. In the first attenuation each drop contains the 100th part of the primitive drop; in the second, the 100^2 or the 10,000th; in the third, the 100^3 or the 1,000,000th part, &c., so that in the 30th each drop will contain the 100^{30} or $100{,}000^{10}$ part of the primitive drop.

Preparations made according to the decimal scale, might likewise be termed 1st, 2d, 3d, &c., in successive order, provided it is stated on the label and cork that the decimal scale has been followed; thus: 1st attenuation (dec.), 2d (dec.), &c.

The Germans frequently adopt the method of designating the attenuations by the fraction which each one contains of the primitive drop ; they say, for instance : *millionth, billionth, trillionth,* &c., as far as *decillionth,* meaning by the millionth attenuation that it contains the one-millionth part of the primitive drop. But in speaking of the billionth attenuation, the Germans do not mean the same thing as we do in America ; for by a billion the Germans understand a million multiplied by itself, and so by a trillion they understand a billion multiplied by itself, and so forth ; hence the billionth attenuation, in our language, would contain three times three ciphers, whereas in the German it is meant to contain four times three ciphers.

Every third attenuation is designated, in Germany, by a Roman cipher, each additional unit in the Roman cipher corresponding to three ordinary ciphers.

The following is a complete table of designations used in Germany, for the attenuations made in the proportion of 1 to 100.

Mother tinctures. θ

First attenuation	= 1	=	100	= hundredth.
Second "	= 2	=	10,000	= ten thousandths.
Third "	= 3	=	I	= *millionths.*
Fourth "	= 4	=	100 I	= hundred millionths.
Fifth "	= 5	=	10,000 I	= ten thousand millionths.
Sixth "	= 6	=	II	= *billionths.*
Seventh "	= 7	=	100 II	= hundred billionths.
Eighth "	= 8	=	10,000 II	= ten thousand billionths.
Ninth "	= 9	=	III	= *trillionths.*
Tenth "	= 10	=	100 III	= hundred trillionths.

Eleventh attenuation		= 11 =	10,000 III	= Ten thousand trillionths.
Twelfth	"	= 12 =	IV	= *Quatrillionths.*

And so on:

Fifteenth	"	= 15 =	V	= *Quintillionths.*
Eighteenth	"	= 18 =	VI	= *Sextillionths.*
Twenty-first	"	= 21 =	VII	= *Septillionths.*
Twenty-fourth	"	= 24 =	VIII	= *Octillionths.*
Twenty-seventh	"	= 27 =	IX	= *Nonillionths.*
Thirtieth	"	= 30 =	X	= *Decillionths.*

POSOLOGY.

PART II.

PARTICULAR REMARKS

ON THE

ADMINISTRATION OF HOMŒOPATHIC MEDICINES.

The particular mode in which homœopathic medicines should be administered, has been the subject of a good deal of discussion; but there exists just as great a diversity of opinions on that subject now as when the discussion first commenced. It is impossible to exclusively adopt any of the views about doses for which their respective adherents are contending, without unnecessarily limiting the curative resources offered by the homœopathic Materia Medica. Though the question of doses has been examined in several of our former publications, yet it has never been fully and philosophically discussed. It behooves, therefore, that, in this pharmacopœia, the student of homœopathy should be offered certain rules for the administration of medicines, which will guide him with tolerable safety in particular cases. We will examine these rules under the following heads: 1. *What potencies or attenuations should be principally used?* 2. *In what form should the medicine be given?* 3. *Magnitude of doses.* 4. *Repetition of doses.* 5. *Alternation of medicines.* 6. *At what time of day should the medicine be taken?*

1. *What potencies or attenuations should be principally used?*

Before entering upon the discussion of this subject, we will, for convenience's sake, divide the whole series of potencies now in use, into four classes: *lower*, *middle*, *higher*, and *highest* potencies. The *lower* potencies or preparations range from the original forms of drugs (tinctures, or primitive chemical, vegetable, mineral or metallic substances) up to the 6th attenuation; the *middle* potencies from the sixth to the 30th attenuation; the *higher* potencies from the 30th to the 200th, and the *highest* potencies from the 200th to any attenuation above that number. All these different potencies are used by their respective adherents, and are proclaimed by them as the best and most useful, or rather, only useful preparations. The student of medicine should not allow himself to be beguiled into a passive adherence to any one of these exclusive preferences. His duty and the interests of the sick, require that he should acquaint himself with all the views now existing in the homœopathic ranks, relative to the doses which should be used in particular cases; that he should subject these views to a close and impartial investigation, adopt such of them as agree with his judgment, and reduce them to practice with caution and discrimination. The student of homœopathy should scorn to swear by the words of his master. If this blind allegiance should be required of him by his master, this gentleman makes himself liable to the suspicion of charlatanism and unenlightened intolerance; and, on the other hand, the student who submits to this species of despotism, is entirely unfit to practise the sacred art of healing. The series of potencies is like the gamut in music. A skilful artist may indeed construct a harmony with the various vibrations of the same chord, but what a much more beautiful and perfect harmony he might construct by a proper combination of all the sounds that can be elicited from all the chords of his instrument! This is likewise true in regard to the various attenuations of a homœopathic remedial agent. Either of the four classes into which we have divided the whole series of potencies, may be sufficient, in the hands of an able practitioner, to heal the sick; but the cure will most assuredly be effected more promptly, and will be more thorough and permanent, by selecting from the whole series whatever attenuations may seem, in his independent judgment, to be suitable to the case, than by confining himself, from prejudice or habit, to one or two attenuations in preference to any other. This, however, is not literally true in all cases. It has been remarked by many impartial observers of the effects of the various attenuations of the same substance, that, under certain circumstances, they are all, from the lowest to the highest, appropriate and even absolutely necessary in the treatment of disease. Many a patient has been sacrificed, under homœopathic treatment, by the condemnable routine-habits and prejudices of physicians. How many patients might have been saved from death, if their physicians had dared to give a few drops of the tincture of Aconite, instead of contenting themselves with a pellet of the 30th or 200th attenuation! Cases have come to our knowledge where the patients were left to die, not because they were not given the right remedy, but in consequence of not receiving the appropriate dose, and where, perhaps, a stronger preparation was so clearly and unequivocally indicated, that the delinquent physician would have been declared guilty of malpractice by a tribunal of enlightened and unprejudiced practitioners of his school.

There are homœopathic practitioners who would fain believe that it is immaterial what attenuation we use, provided we select the right remedy. This is a great and even dangerous mistake. We invite the student of homœopathy to reject this doctrine, no matter from what quarter it may come. We are assured that Hahnemann, in his latter days, confined himself exclusively to the 30th or some higher potency. If this be true, it by no means follows that Hahnemann's example should be imitated. We are not informed of the success of his practice; we know, indeed, that his practice was very large, but this is no proof whatever of his treatment having been a successful one in all cases. A physician's practice is scarcely ever proportionate to the real merits of the treatment he pursues; on the contrary, it depends chiefly upon accessary causes, so much so, that many a deserving physician, distinguished by his skill and learning, is scarcely able to get along in the world; whereas an ignorant pretender, who happens to be a bold and intriguing tactician, is looked upon as the leading man of the profession. If a physician succeed, by dint of manœuvring, in spreading among the people the belief that he is the cleverest physician in the place, the deluded people will run to him in preference to any other, though much superior man. Of course, these remarks do not apply to Hahnemann. They are simply intended to show that a large practice is no proof of a physician's superior skill and success, and that, therefore, the large practice which Hahnemann enjoyed in Paris, cannot be adduced as an argument in favour of the exclusive preference, which Hahnemann is said to have given to the higher potencies.

It does not admit of discussion, that the medicine which we prescribe must *correspond* to the disease.

What we mean by this term "*correspond*" is this, that the medicine, in its action upon the healthy organism, must respond to, or be exactly similar to the pathological state; or, in other words, to the disease for which the medicine is given. The disease is, so to say, a problem of which the medicine should be the exact and perfect solution. This, however, it can only be, on condition, that it should be administered to the patient in appropriate proportions and forms. And here, we are naturally led to inquire:

2. *How, or in what form, should the medicine be administered to the patient?*

Much, in this respect, depends upon the patient's taste. There are those who cannot swallow a powder composed of sugar of milk without feeling sick at the stomach. In such a case, it is a matter of course that we should not insist upon the patient taking the medicine in powder-form, but that he should be allowed to take it in such a manner as would not excite any unpleasant sensations in the organism. A good deal depends upon the disease which we are called upon to treat. There are pulmonary diseases which render the use of water exceedingly unpleasant and even distressing; water, in many cases of this kind, excites a most distressing cough, and it would not only be cruel but highly injudicious if we would pertinaciously prescribe watery solutions. In such cases, powders, drops or globules should be resorted to. Other patients cannot swallow cold water without its producing a most unpleasant irritation of the nerves of the stomach, terminating even in vomiting, rush of blood to the head, vertigo, fainting, sweat as from anxiety, and a variety of other distressing symptoms. How unwisely we should act, if, in such cases, we would administer our medicines in water!

The intensity of the disease is another chief consideration by which we should be guided in selecting one mode of administration in preference to any other. It is almost universally admitted by the physicians of our school, that, in all acute diseases, the medicines act better if administered in the shape of a watery solution. If we prescribe tinctures, we dissolve from one to ten and even more drops, as the case may require, in a common tumblerful of water, first dropping the tincture into a perfectly clean and empty tumbler, and then pouring in the water, which should be fresh and as clear as possible, from a certain height, by which means the water will become sufficiently impregnated with the medicinal particles ; or, if we see fit to administer globules, we dissolve 8 or 10 of them in a common tumblerful of water, first allowing them to dissolve at the bottom of the tumbler, and then turning the solution some 15 or 20 times from one tumbler into another backward and forward, taking care to always pour the water from a sufficient height. It is scarcely necessary to remark, that the tumblers should always be covered and as little exposed to heat and light as possible. We may likewise observe, that, in case more than one watery solution should be prescribed at a time, a separate spoon requires to be used for each medicine, and that the spoon should never be left in the solution, but should be placed on the saucer with which the tumbler is covered. Any thing may be used for the purpose of covering the tumbler, provided it does not communicate an unpleasant, heterogeneous taste to the liquid contained in the tumbler, and provided it affords sufficient protection from dust, emanations, odours, or whatever influences might weaken or otherwise deteriorate the medicinal virtues of the solution. If we should wish to administer a trituration in water, we dissolve about one grain of the trituration in the same way as has been described for the globules.

It sometimes happens that we wish to administer the globules in a dry state. In this case we roll as many globules as we desire the patient to take, upon a perfectly clean piece of white paper, or into a perfectly clean and dry silver spoon, and, by this means, transfer them to the back part of the tongue. Here they should be allowed to dissolve before being swallowed. But, as the tongue is scarcely ever perfectly clean, the best mode of proceeding, in case we should intend to administer the medicine in doses of globules, would be, to dissolve each dose of globules in a spoonful of water, or else to swallow a spoonful of water, and then to place the globules upon the tongue.

If we should have to administer tinctures and water, or sugar of milk does not agree with the patient, the best mode of administration would then be to mix one or more drops of the tincture, as the case may be, with a small teaspoonful of the best powdered white loaf-sugar, and divide this into the required number, say 10 or 12, of powders, which the patient then takes dry on his tongue.

Hahnemann has proposed another mode of administering the homœopathic agent, and that is by olfaction. For this purpose we put one or two globules in a vial of some two or three inches in length and about one-third of an inch in diameter, cork it well, and, if we wish to use it, introduce the orifice of the vial, uncorked, into one of the nostrils of the patient, requesting him at the same time to inhale the emanations arising from the globules by means of several strong inspirations through the nose. This process should be repeated once, or even twice or three times a day. We do, however, not hesitate to confess that we have very little confidence in this mode. Hahnemann was induced to resort to this mode, by the supposed excessive sensitiveness of certain persons to the action of certain medicines, or rather of medicine generally. This sensitiveness, however, did not exist, and, what he supposed to be a medicinal aggravation, was one of the thousand phenomena which characterize a constitutional and therefore habitual state of nervous irritation, known under the popular designations of hysteria, hypochondria, spinal affections, or under the more dogmatic names of infarctus, abdominal congestions, spinal irritation, &c. We mean to show this more fully and conclusively in some future publication. There is no doubt, however, that, in some cases, olfaction may be a useful mode of administering the homœopathic medicine. But, in such a case, it is our belief that the medicine of which the patient is requested to smell, should not be exhibited in the diminutive shape of one or two globules, but in a respectable quantity, say a number of drops of the tincture, or a number of grains of the original substance. Some time ago, for instance, we were called to prescribe for a lady, who was suffering with sick headache. She had been liable to such attacks for years past, and they generally lasted from 36 to 48 hours, and were exceedingly distressing. The symptoms indicated Aconite, of which we left a quarter of an ounce to be used in the present as well as in subsequent attacks. The present attack had just been setting in, and, according to the usual experience of the patient, it ought to have lasted some 30 or 40 hours at least. Shortly after we left, her little son, who was playing by her side, broke the vial, and the mother involuntarily inhaled for a few minutes the emanations of the tincture, after which the headache disappeared quite suddenly. We have since tried this mode of olfaction in subsequent attacks, with 5 or ten drops of the tincture, without the least perceptible benefit. It may readily be admitted that every medicinal subject is surrounded with a distinctive sphere of emanations, but there are substances that are more particularly endowed with a power to affect the olfactory nerves, and these substances it is which, if any, we should administer by olfaction, but in sufficient quantity to preserve the original emanations.

In chronic diseases, Hahnemann has proposed another mode of administration, which is as follows:

We dissolve a few globules, say five or six, in ten tablespoonfuls of filtered water, and of this solution we take one tablespoonful, and mix it with a bottleful of filtered water, which should, at the same time, contain a tablespoonful of the best brandy, and a little pulverized charcoal, the brandy being intended to preserve the water from decomposition, and the charcoal to carry down whatever foul particles might have formed in the liquid. This mixture requires, of course, to be shaken once or twice a day, and should be allowed to settle before it is used. Although the magnitude and repetition of the dose are foreign to this article, yet we will state, in this place, that a tablespoonful of such a solution should, according to Hahnemann's directions, be taken once a day, either in the morning before breakfast, or two or three hours after supper.

Lastly, we will mention another mode which has been resorted to by some, in order not only to dilute the original preparation as much as possible, but at the same time to develop to a greater extent its inherent curative properties. This mode consists in dissolving a drop of the lower preparation, either tincture or trituration, in a tumblerful of water, mix it well by turning the solution a number of times from one tumbler into another, and then take a tablespoonful of this solution, and mix it with another tumblerful of water as before. Of this second solution we may again take a tablespoonful, and mix it with a third tumblerful of water, and so on, through any number of tumblers. The last solution is then administered in tablespoonful doses. In our own practice we seldom go higher than the second solution, from which we derive all the advantages we desire.

We would admonish the homœopathic student not to imitate the ridiculous practices which have crept into the homœopathic school, such as placing a few pellets of the homœopathic medicine into the hands of the patient, in order to communicate to him the medicinal impression through the skin. If such a thing have ever been possible in a single case, which we, however, are disposed to doubt, it is most assuredly an exception among a million, and should never be mentioned as a possible thing for many.

Let us now pass to the *third* subject of our examination:

3. *The magnitude of doses.*

This has been a subject of controversy for years past, and the question is no nearer a settlement now than it was years ago. The most speculative sophisms, relative to the magnitude of doses, have been elevated to the rank of principles, and have either been consecrated by blind routine, or, without having produced the least change in the treatment of disease, have been admired by the unthinking and ignorant as the effusions of genius. With few exceptions, wisdom was scarcely ever consulted in these speculations about doses. And yet, the subject seems to be quite simple, and really does admit of an easy and satisfactory solution. Only be unprejudiced, and desirous of discovering the truth.

At the beginning of his homœopathic practice, Hahnemann was in the habit of using the tinctures and lower triturations. After a while he stumbled upon the doctrine of medicinal aggravations, which he arrived at speculatively rather than by positive experience. This, at least, is quite likely, though we are unable to assert the fact upon positive testimony. He must naturally have been led to the thought, that inasmuch as he prescribed his remedy for a state, to the symptoms of which the action of the medicine upon a healthy person was exactly analogous, the first effect of the remedy must have been to aggravate more or less the symptoms of the disease. And this idea being once fixed in his mind, how could he sufficiently guard himself against the tendency to consider true medicinal aggravations, what was in fact a new development, a different state of the disease? To meet this difficulty, to do away with these medicinal aggravations, and, at the same time, secure the patient the whole benefit of the curative influence of the remedy, Hahnemann hit upon his well known and previously described mode of attenuating the medicine, using alcohol for the liquid, and sugar of milk for the dry attenuations. The discovery that, by means of this process of attenuation, the curative powers of the remedial agent were rendered more active, were, so to say, spiritualized, was made at a later period.

It seems unnecessary to record in this place all the pretended discoveries of the speculative thinkers of our school, respecting the size and repetition of the dose. They are, in most cases, abstractions, more or less ingenuous, to be sure, but nevertheless without the least practical value. We must have rules, of course, by which we might be guided in the selection of either tinctures or potencies, and it is the duty of every homœopathic practitioner to contribute by his own experience to a positive and satisfactory solution of the problem of doses. We do possess even now rules which seem to be sufficient for all practical purposes, and we shall endeavour to explain them to the student of homœopathy, reminding him at the same time of the great latitude which, in spite of all existing rules, is enjoyed by homœopathic physicians as respects the determination of the proper size of the dose in particular cases. And yet, though every practitioner is disposed to arrogate to himself the most perfect liberty of choice, the student of homœopathy will be struck with the harsh and obstinate exclusivism with which the various opinions respecting doses, oppose each other in our school. It is his business to study them all, and afterwards to determine for himself, by careful observation, what course he ought to pursue in this matter. He will find, for example, that some physicians confine themselves to the lower preparations exclusively, others use only the middle potencies ; some again the higher, and others the highest potencies. Physicians who pursue this course, undoubtedly deprive themselves of a great many means of cure, or subject their patients to an unnecessarily prolonged treatment. What course, then, is the student of homœopathy to pursue in the presence of all this confusion? By what rules is he to be guided in the administration of his medicines, and more particularly in the determination of the quantity of medicine he ought to prescribe for his patient? We will tell him what course we pursue ourselves, in conjunction with all the most enlightened and best educated practitioners of our School, leaving it to him either to do likewise, or to modify this course as he may see fit.

The magnitude of the dose must necessarily and does principally depend upon two points :

1) The intensity of the disease, and
2) The greater or lesser willingness on the part of the sick organism to receive the medicinal impression.

Let us subject these conditions to a more particular examination :

That the size of the dose ought to be proportionate to the intensity of the disease, seems to be self-evident. As a general rule, we resort to the lower preparations in the treatment of all diseases that run a rapid course, or which, unless speedily checked, would soon lead to disorganizations, or the complete destruction of tissues. This does not only mean acute diseases, properly speaking, but also chronic diseases of great intensity and affecting the general organism in a dangerous and disorganizing manner. Starting from this position, we prefer the lower preparations:

1) For all acute fevers with or without local inflammations ;

2) For all remittent fevers with local inflammations;

3) For all intermittent fevers and all intermittent diseases of an acute character, such as fever and ague, inflammatory neuralgia, &c.;

4) For all chronic diseases, with tendency to terminate in disorganizations, such as: syphilis, tuberculous and scrofulous swellings, &c.

5) For nervous diseases, which readily terminate in the destruction of parts, or in a permanent derangement of the functional power of the part affected; such as the various forms of acute nervous irritation, spinal irritation, seated or shifting congestions, spasms, convulsions, apoplexy, &c.

6) For actual disorganizations, suppurations, ulcerations, such as blennorrhœa of the lungs, uterus, vagina, phagedenic ulcers, schirrus, enlargements of organs, &c.

As a general rule, it is safe to employ the lower attenuations in the treatment of the aforesaid diseases. We say, as a general rule; for in a number of cases of these very diseases, the middle or higher attenuations may be more conducive to a speedy and permanent cure. It is utterly impossible to furnish rules that will prove safe and invariable guides to the beginning practitioner; in spite of rules, he will soon feel compelled to rely upon his own powers of observation, his own judgment, and to pursue the very opposite course of what was pointed out to him in the books. Physicians who practise in the same families from year to year, enjoy great advantages over the beginning practitioner, as respects the dose which should be prescribed under certain circumstances. They are afforded frequent opportunities of studying the constitution of their patients and the character of the diseases to which the families are most liable, and hence they are better able to judge by the apparent phenomena of the disease to what an extent the internal organism is affected, and how much medicine it will require to make a curative impression on the disease, and whether the same medicine should be continued after this first impression is obtained, or whether another medicine should be substituted for, or given in alternation with it. The beginning practitioner, being deprived of these advantages of steady observation, has to steer his course in respect to doses with great caution, though even in his case the difficulties are by no means overwhelming, provided he enters upon the practice of his profession with a full knowledge of the pharmacodynamic virtues of our drugs, and of the various observations made by reliable practitioners at the bed-side of their patients, regarding the efficacy of the various attenuations of our remedial agents. It being the legitimate right of every practitioner to deduce rules of practice from the clinical observations he is enabled to make, the student of homœopathy must expect to find a good deal of speculative reasoning mixed up with sound practical teaching, and to see one class of practitioners attack the statements of another class, in many cases with a good deal of bitterness of feeling. What is the student of homœopathy to do in the presence of these apparently perplexing circumstances, these contradictory statements and inferences? To the intelligent student there is but one way left, and this is to hear every side, to listen to every opinion, and then to judge for himself and pursue a perfectly independent course.

We have named various classes of diseases for which the lower attenuations seem to be preferable. We would now modify this general proposition, by stating that this preference is by no means absolute.

The beginning practitioner should have some positive rules to set out with in his career; and the general propositions expressed in the preceding paragraph, are intended to subserve this purpose. We have already admitted that these propositions are not *absolutely* true, and the student will soon find, after starting on his own responsibility, that we do not possess a single rule in regard to the administration of drugs that can be implicitly relied upon. This is not only true as respects the magnitude, but also the repetition and alternation of doses. In this present article we confine ourselves to the magnitude of doses.

Let us take an acute disease, pleurisy. We mean the acute form chararacterized by synochal fever, stitches in the side, excessive painfulness to the touch, oppression of breathing, &c.

In many cases one or two doses of the thirtieth potency of *Aconite* will suffice to effect a radical cure; in other cases, on the contrary, the same disease, with apparently the same symptoms, will require repeated doses of the strong tincture, provided we mean to do the patient justice, and cure him according to the principle of Celsus, "*citò, tutè* et *jucundè*." Or, let us take a case of inflammatory rheumatism, for which we will suppose Aconite to be the true remedy. Do we not all know that many severe cases of articular rheumatism have been perfectly cured with the middle potencies of Aconite, in an incredibly short period of time, and that other cases, on the contrary, had to be treated with massive doses of the tincture? As for ourselves, we can answer this question in the affirmative, and we do so answer it with the consciousness of having observed the different effects of our remedy in apparently the same cases with an impartial and truth-loving mind.

Or, let us take another class of diseases, neuralgia. The specific remedy for the various forms of neuralgia, with scarcely an exception, is Aconite, as we shall have abundant opportunities of showing on future occasions. Now what dose shall we give the patient when he requests aid for his boring, jerking, burning, lancinating, screwing, twisting, hard-aching, ticking, or other pain? As we said above, Aconite *is* the specific remedy for this Protean disease, and the only question is as to the quantity which will control the adversary with the best and speediest effect. In one case where the paroxysms had returned every evening for two months in succession, with increasing violence, and were characterized by a sensation as if the malar bone were twisted round and would be torn out with red-hot pincers, we succeeded in affording immediate, complete and permanent relief to the patient, by means of one spoonful of a solution of six globules of the thirtieth attenuation of Aconite in a tumblerful of water. In another case characterized by a sensation as if red-hot daggers were plunged into the deltoid muscle, we had to resort to fomentations of hot brandy and massive doses of the tincture of Aconite; the paroxysms had been increasing in violence for a fortnight past, and for three nights past the patient, a lady, had almost been senseless on account of the pain; she was relieved in about half an hour, and has never had an attack since; it is now two years. In this case we gave the Aconite in three drop doses of the strong tincture every five minutes. These cases are merely mentioned as illustrations, though we might adduce a considerable number of similar cases, all of them corroborative of the fact that, if we mean to do full justice to the patient, we have to determine the dose, in every case, upon its own merits. In other cases of neuralgia the internal use of Aconite seems to be entirely inefficacious. In all such cases we resort to the external application of the remedy. We mix a few drops of the strong tincture, say from 5 to 10, with a spoonful of good brandy, and rub this mixture upon the affected part, every five or ten minutes, until the relief is complete. It is instantaneous in every case, though in some cases the application requires to be renewed several times before the pain is entirely subdued. We have lately treated several highly interesting cases of neuralgia by means of the external application of Aconite. For the benefit of the student, we will mention two of them. In one case the pain was seated in the left supra-orbital nerve. The paroxysm set on about 6 o'clock in the morning, went on increasing until one or two o'clock in the afternoon, and then passed off, leaving the part excessively sore and sensitive, and the patient, a lady of about 30 years, very much distressed and debilitated. The pain, in this case, was agonizing, and the patient was almost stupid while the paroxysm lasted. The strong tincture of Aconite was used in the manner above described, during the paroxysm. This paroxysm ran a much milder and shorter course, and was the last the patient had to endure. The part felt somewhat numb and sensitive for a week or two after the disappearance of the paroxysms, but these symptoms gradually disappeared. The second case presented the following group of symptoms: The patient, a lady of about 35 years, had been afflicted with neuralgia of the left side of the face for about two months past. She had scarcely been able to sleep a wink during that time. The pains were shooting, burning, throbbing, with great soreness of the parts. The whole cheek was affected and the pain extended even into the ear and down the side of the neck. We prescribed a little Aconite in water, to be taken internally. Next morning there seemed to be a little improvement, but so slight that the patient was scarcely willing to own it. We then applied the Aconite externally as above, and that night the patient slept without waking until morning, when the pain had almost entirely disappeared. Next day the patient was entirely free from pain.

We treat a number of cases of nervous toothache. The tooth is generally decayed, and the pain comes on in consequence of walking in the wind, standing in a draught, getting the feet wet, and similar kinds of exposure. In many of these cases when the tooth feels sore to the touch, as if ulcerated, and the gums have a whitish look as if an abscess would form, Mercury is the specific remedy, which we then generally administer low; but in a great many other cases, when the pain is a throbbing, hard-aching, agonizing pain, and the tooth is, generally speaking, not sensitive to the touch, except in cases of purely inflammatory toothache accompanied with synocha or synochus, Aconite is the specific remedy. In some of these cases the strong tincture of Aconite, if used internally, sets the patient almost crazy; in other cases, immediate relief is obtained by introducing into the hollow tooth a little cotton saturated with one or two drops of the strong tincture; other cases again require the middle attenuations of Aconite, or a double diluted solution of one drop of the tincture. It is impossible to do more for the student than to state facts of observation.

In many sections of our country, fever and ague is a prevailing disease. We will suppose Arsenic and Cinchona to be two of the principal specifics for this disorder. We have treated cases with the thirtieth potency of Arsenic to our most perfect satisfaction; whereas, in other cases, we had to use the first trituration. So with Cinchona. We have treated the severest cases with a few pellets of the thirtieth potency of Cinchona, cutting the disease short after the first paroxysm; whereas, in other cases, we had to use the tincture of Cinchona, and, in some cases, even a few grains of Quinine. These are facts of observation which every practitioner is at liberty to doubt, but which are satisfactorily established in our own mind. Now we would ask, if it be true that, under various circumstances, the suitable remedy has to be used in various quantities, what is to become of the poor student who has been taught to confine himself to the use of one portion of our series of attenuations? There is danger whether he confine himself to the exclusive use of the lower or the middle and higher potencies; but, in our opinion, the danger is greater in the latter case. In this matter we can speak from experience, and we advise the beginning practitioner, if he be desirous of saving himself a great many heartburnings and bitter disappointments, to take heed of our warning voice, to cut himself loose from all authority, and to love and practise the good and the true, no matter by what side of our or any other school in medicine it may be offered.

First be sure that you select the right remedy, and then learn to use it. Beginning practitioners are very apt to jump from one remedy to another, because they do not observe any immediate effects from it. This mode of practising is mere guess-work, and is necessarily the result of ignorance. If a physician be not sufficiently acquainted with the Materia Medica, he ought not to set up as a practitioner of medicine, at any rate not on his own responsibility. No physician should prescribe a remedy unless he is positively sure that it is the right one, and, if he be sure of this, it is his duty to use it perseveringly, in various forms and potencies, and to continue its use until it has done all the good that can be expected from it. In a vast number of diseases, a single remedy will be found to be sufficient for a cure; indeed, if the physician be sure of his remedy and use it properly and perseveringly, he will obtain results that could not have been obtained by the usual routine-practice, which sometimes requires the use of half a dozen remedies for the most elementary disease, and boasts of effecting a cure which was entirely owing to the unassisted efforts of nature.

As regards chronic diseases, it is generally supposed that the higher attenuations are preferable to the lower. This is true in many cases, but in others it is not true. The itch has frequently been cured with the higher attenuations of Sulphur, but there are likewise cases that require the use of massive doses of Sulphur, and even the application of the sulphur-ointment. A chancre may have often yielded to the 30th attenuation of Mercury: but it is now an universally admitted fact, that the lower preparations of Mercury are much more reliable in the treatment of the various forms of syphilis than the higher. The lower attenuations are likewise preferable in all chronic diseases that threaten to terminate in the destruction or disorganization of organs, extensive suppurations, ulcerations, congestions, &c. Even in purely nervous diseases, hysteria, hypochondria, mania, &c., it may sometimes be necessary to resort to the lower attenuations. It is not only proper, but useful and frequently even necessary to commence the treatment of these diseases with the middle or higher attenuations; but if the same medicine should have to be used for a long time in succession, it may become necessary to use the lower preparations, though it may sometimes be of advantage to the patient that the use of the higher preparations of the same substance should occasionally be resumed. In some cases it is useful to use the lower and higher attenuations of the same remedy in alternation. We are unable to assign any positive reasons for this mode of administration, except that we have observed beneficial effects to arise from it in many cases. In chronic eruptions, not syphilitic, the middle or higher attenuations may be resorted to first, to be afterwards followed by the lower, if necessary. In a case of phagedenic ulcers of the forehead and face, which broke out shortly after vaccination and had probably been caused by impure matter, a complete cure was effected in three days by two pellets of the 800th potency of Arsenic. The cure would probably have been effected just as well by the first trituration; but inasmuch as it is important that we should ascertain as nearly as possible the limit beyond which the attenuated drug would cease to act, it is perfectly proper that we should select chronic cases for such experiments, provided we can do so without injuring the patient or unnecessarily protracting the treatment.

It is therefore idle to say that of such a substance we had better use the lower, and of another substance the higher attenuations. This would not even be true in regard to substances that possess more inherent power than others: for we are very often obliged to use the lowest preparations of Arsenic or Aconite, whereas a few globules of the thirtieth potency of Chamomile will sometimes relieve the patient as by a charm. Because a remedy is naturally more poisonous than another, it does not follow that we must administer it, on that account, in smaller doses. On the contrary, it is not unreasonable to suppose that the more powerful the drug is in its crude state, the weaker will be, proportionally, the attenuations; and vice versa, the weaker the drug in its crude form, the more powerful will be, proportionally, the attenuations. So that we may expect more intense effects from the higher attenuations of Lycopodium, Coffea, Chamomilla, and the like, than from the lower preparations of these substances; and, on the other hand, more intense effects from the lower preparations of Arsenic, Nux vomica, Aconite, and the like, than from the higher attenuations of these agents. Be this as it may, we are obliged to admit that all these general rules are based upon speculation, and very unsafe guides in practice. After all, the safest mode of practice is to treat every case independently of any other, and to prescribe such a dose of the appropriate remedy as will make a curative impression upon the disease. That there must be a proportionate amount of willingness in the patient's organism to receive this impression, admits of no doubt. We will examine this point very briefly.

Persons who have never taken homœopathic medicines are generally more easily impressed by them than others who have already been under homœopathic treatment. This is particularly true in regard to inflammatory diseases, where, after a protracted allœopathic treatment, a single dose of Aconite will sometimes relieve the patient as by enchantment. This remark applies likewise to organs that are acted upon for the first time by a certain medicine, though the same medicine might have been given to the same patient for diseases affecting other organs For instance, the patient may have taken so much Mercury, even in homœopathic doses, for certain affections of the liver, that this organ refuses to receive any further impression from that agent; but supposing he should be attacked with sore throat, and, for the first time, should take Mercury for this affection, provided, of course, that Mercury is the specific remedy: the action of the medicine will be speedily perceived by the diseased part. So with every other medicine.

Affections of the larger nervous trunks require, as a general rule, to be treated with massive doses of the specific remedy. These trunks do not seem to be as easily impressed by medicine as other portions of the nervous system, from which we may infer, as has indeed been verified by observation, that the more central the diseased nervous mass, the more delicate should be the medicinal influence which is brought to bear upon it, of course within certain limits; and, on the other hand, the more distant the diseased nerves from the central portions of the nervous system, the more massive should be the dose. This is certainly true as a general proposition, so much so, that the more external portions of the nervous system require very often to be acted upon by means of a suitable external application of the appropriate remedial agent. This fact has been abundantly verified in neuralgia, and in a variety of cutaneous affections, such as itch, sycosis, syphilis; even the poultices which we apply to inflammatory tumours, abscesses, &c., may be regarded as fit illustrations of our general proposition.

Hahnemann and his first disciples were possessed of a sacred horror against all external applications. He would only allow of the external use of Thuja in sycosis, and, in cutaneous affections generally, he advised to rub a weak dilution of the specific remedy upon those parts of the skin which were free from the eruption. But why should not remedies, if applied directly to the diseased spot, act more speedily than in this round-about way? If it be at all true that, under certain circumstances, the remedies should be applied externally, then it must be true, *à fortiori*, that their curative influence is perceived the more speedily and thoroughly, the more exactly they are applied to the diseased spot. The whole question, therefore, turns on this single point: Is it at all proper that remedies should be applied externally? This question might be answered by another question: Why should not remedies, under certain circumstances, act from without inwards just as well as from within outwards, or even more expeditiously and thoroughly? The inmost vital process is undoubtedly carried on from within outwards; but the vital forces are likewise affected by external influences, either pleasantly or unpleasantly. These external influences stimulate the vital forces into action; without them life would become extinct, and why should not a medicinal substance be, in certain conditions of the organism, the most appropriate stimulus for its harmonious activity, or rather for the restoration of that harmony? The rule for the external application of remedies in larger quantities seems to be quite simple: if the external morbid phenomena should have been evolved from within, the remedy should be administered internally, though it may be perfectly proper, in some cases, to combine the external and internal use of the same medicine; and in all cases where the external phenomena are not strictly evolved from within, but where the general organism is involved sympathetically in consequence of the local disturbance, the external or local application of the remedy is not only proper, but sometimes even necessary.

Physicians are sometimes called upon to relieve their patients of drug-symptoms. Large doses of Mercury, for instance, may have disorganized the mucous membranes, and a group of symptoms may have developed themselves which may indicate Mercury as their specific remedy. Or we will state the case in this way: Supposing Mercury is the specific remedy for the ailments to which a certain individual is constitutionally liable, and supposing this individual had been poisoned by massive doses of that drug, what dose of Mercury should be given in case the original ailments should again make their appearance, and Mercury should be indicated as before? Undoubtedly the middle or higher attenuations. We would advise the middle attenuations, for the higher attenuations of Mercury seem ineffectual. This remark does not only apply to Mercury, but to every other drug. It has even been proposed and successfully tried in some cases, to combat drug-symptoms by the higher preparations of the substance which had produced the drug-disease We may here remark incidentally, that by drug-symptoms we do not understand the symptoms caused by actual poisoning, but the dynamic morbid state, or even the pathological disorganizations which may have remained in the organism after the immediately poisonous effects of the drug had been subdued; such as: a constitutional disposition to ptyalism, congestion and ulceration of the mucous membranes, &c., produced by the abuse of Mercury; or a disposition to stupor, delirium and convulsions, by Opium; or emaciation and atrophy by the abuse of Iodine; or a state of debility, general nervous derangement, a sensation of gnawing or emptiness at the pit of the stomach, or even delirium tremens, caused by the abuse of alcoholic drinks. All such dynamic diseases produced by the abuse of drugs require to be treated by small doses, or rather the middle attenuations of the very substance which caused the disease, provided always that we see at all fit to employ them as the curative agents in the case before us.

After all this reasoning, if we were asked to lay down positive rules for the magnitude of doses, we would be obliged to confess to our inability to do so. However, we will help the student along to the best of our power, and therefore propose the following rules for his first guidance:

1) Use the lower preparations in all diseases which depend upon an acute irritation of the capillary nerves, such as acute fevers with or without local inflammations.

2) In all chronic diseases with tendency to disorganizations, especially in syphilis, sycosis, malignant leucorrhœa, extensive suppurations and ulcerations.

3) In all nervous diseases, with tendency to disorganizations, such as spasms, convulsions, &c.

4) In acute congestions, congestion of the brain, and the thoracic and abdominal viscera.

5) In all acute diseases which run a rapid course, and are disposed to terminate fatally, such as: cholera, carditis, gastritis, apoplexy, &c.

6) In a great many cases where the same medicine has to be continued for a long time, it may be desirable to give the medicine in gradually increased doses.

Use the middle and higher attenuations:

1) In all diseases which remain as sequelæ to acute affections.

2) In chronic eruptions without tendency to disorganizations.

3) In purely nervous affections, such as vertigo, hysteria, hypochondria, without tendency to disorganizations.

4) In all cases where a certain medicine had been used to excess, and where the same medicine is again indicated by the symptoms.

5) In all cases of disease of the more central portions of the nervous system, such as typhus cerebralis, delirium tremens, &c.

6) In a great many cases where the diseased part is for the first time acted upon by the homœopathic agent.

These rules admit of a great many exceptions. We therefore advise the student to apply them with care and discretion, and now enter upon an examination of the fourth subject of our essay,

The repetition of the dose.

This subject is so intimately connected with the former, that a great many of the suggestions which we have offered in our examination of the magnitude of doses, likewise apply to their repetition. In the early period of homœopathy, it was thought proper by Hahnemann and his disciples to give but one dose, and to watch its effects before administering a second dose of the same medicine. This method, however, has been abandoned by most homœopaths, and the most arbitrary diversity has been substituted in the place of this uniformity. It would be impossible to watch the effects of a single dose in every case; physicians who have a large practice to attend to, could not do their patients justice, if this rule were a fundamental principle in the homœopathic treatment of disease; the practice of homœopathy would become impossible, except upon a very limited scale. It is indeed unnecessary to apprehend all the dreadful consequences which, according to the speculative geniuses of our school, must result from an untimely repetition of the dose: if the remedy prescribed should be the truly curative agent in the case, and the first dose should produce an improvement in the state of the patient, it need not be feared that a second or third dose will destroy the good effects of the former, as has been wrongly supposed by some writers. The great point is, in the first place, to select the proper remedy, and, if it be administered in a proper dose, the repetition thereof can easily be regulated. A little practice will suffice to an intelligent beginner to work out for himself a certain mode of prescribing; until this point is reached, he may avail himself of the following general suggestions in reference to the repetition of doses:

1) In acute fevers, with or without local inflammations, repeat the dose every hour, or at farthest every two hours.

2) In chronic diseases with tendency to disorganizations, especially in syphilis, sycosis and malignant leucorrhœa, repeat the dose three times a day.

3) In extensive or deep-seated suppurations and ulcerations, repeat the dose three times a day; if, however, the suppurative process should have developed itself out of a phlegmonous inflammation of the part, it may be expedient to repeat the appropriate remedy every two hours at least.

4) In acute spasms and convulsions the remedy may be repeated every ten or fifteen minutes; when the spasms recur at intervals of weeks or months, the specific remedy may be repeated every morning or evening, or even twice or three times a day.

5) In acute congestions, such as congestion of the brain, lungs, liver, or any other organ, the remedy should be repeated every hour.

6) In cholera, carditis, gastritis, apoplexy, or any other acute disease, which runs a rapid course and is disposed to terminate fatally, the medicine may be repeated every five, ten, or fifteen minutes.

7) In the sequelæ of acute affections, the medicine may be repeated three or four times a day.

8) In chronic eruptions, give the medicine once or twice a day.

9) In nervous affections, without tendency to disorganizations, such as vertigo, hysteria, hypochondria, local spasms, &c., give the medicine three or four times a day.

10) In acute diseases of the higher portions of the nervous system, the medicine may be repeated every half hour, or every hour, or even two hours, according as the symptoms are more or less threatening. In simple typhus cerebralis, for instance, or in meningitis, in delirium tremens, or even in acute hydrocephalus, we would advise to give the medicine every two hours; though we are persuaded that an hourly repetition of the dose would not do any injury to the patient.

If a decided improvement should have been obtained, the medicine may then be continued at longer intervals, until the patient is able to do without any.

This is a suitable opportunity of warning the student and the beginning practitioner against an error which is but too frequently committed by the practitioners of our school. We allude, not to the too frequent repetition of the same medicine, but to the unnecessary change of medicines in treating a case. There are practitioners who use ten, fifteen different medicines in a case where an intelligent physician, one who is thoroughly acquainted with his Materia Medica, would effect a cure in a much easier and more expeditious way by means of one or two remedies. This kind of treatment is either the result of ignorance or of a want of faith in the efficacy of our remedies. There are diseases where it is necessary to employ different remedies, but there is scarcely a disease, even the higher forms of typhus, which cannot be effectually controlled by at most three or four remedies. In many diseases, where the books advise the use of several remedies, one single remedy is frequently sufficient to a cure. Thus in regard to inflammatory diseases, with or without local inflammations, we are advised to commence the treatment with Aconite, and to change this medicine for Bryonia, Belladonna, or some other remedy, as soon as the synocha is subdued, and a state of synochus has taken its place. Now this is all wrong. If a medicine have produced a decided improvement in the symptoms, that is, if the symptoms remain the same, but are less intense, or if only some of them have disappeared and others remain with the same degree of intensity, the original medicine which caused this modification of the primitive group, should be continued by all means, for this reason: that such a modification of the original disease is not an evolution of a new group of symptoms, but simply a reduction of the former symptoms to a lesser degree of intensity. Let us suppose a case of inflammatory rheumatism, with a full and bounding pulse, high fever, pains in the joints and bones, swelling and inflammation of certain parts, or any of the other manifold symptoms which characterize this disease. Of course we would prescribe Aconite, and after using three or four doses of this medicine, we will suppose that the fever has not only abated, but has been entirely subdued, the pains in the joints and bones are less, and the inflammation is considerably reduced. This change in the symptoms does not constitute a new group requiring a different remedy; on the contrary, the same remedy is still indicated, and, if continued, will speedily remove the remaining symptoms. As a general rule, the books do not distinguish between a reduction of the original symptoms to a lesser degree of intensity, and the evolution of a new or different group of symptoms constituting a different phasis or stage of the original disease, and requiring a different treatment. In the higher forms of typhus, for instance, groups of symptoms will sometimes develop themselves, which are pathologically distinct from each other, and which therefore make it incumbent upon the practitioner to change the medicine. As there is a reduction of the original symptoms to a lesser degree of intensity, so there may be an increase of these symptoms to a higher degree of intensity.

Supposing a patient had undergone allœopathic treatment for phlegmonous inflammation, or for such a species of inflammation as we would prescribe Aconite for in our practice, Aconite would still be indicated as corresponding with the original disease. The increase of symptoms would not constitute a new group pathologically distinct from the original group; it would simply be the original disease elevated to a higher degree of intensity, but absolutely identical in a pathological point of view, and therefore requiring the same treatment that would have been instituted from the commencement.

It is of the utmost importance that the student of homœopathy should have these facts impressed upon his mind. An incredible amount of injury is inflicted upon the sick by the random sort of prescribing that a great many practitioners resort to, and which, if universally practised, would be a death-blow to our art and a disgrace to our profession.

On the alternation of medicines.

The allœopathic custom of combining several medicines in one preparation, is not admitted in homœopathic practice. It may happen, however, that two medicines are indicated at the same time, though such a thing must necessarily be very rare. If this should be the case, the medicines are given in alternation, first one dose of one, then, at a suitable interval, a dose of the second, then again a dose of the former, and so forth, until it may be deemed desirable to institute a change of treatment. Sometimes two doses of one medicine may be given in succession, then one dose of the second medicine, then again two doses of the former, and so on, until the treatment requires to be changed.

Physicians who prescribe upon proper principles, and with a full knowledge of the nature of the symptoms, will scarcely ever deem it necessary to prescribe two different remedies at the same time. The custom of alternating two different remedies, has had its origin in a one-sided view of the nature of disease. If the symptoms of a disease were viewed as they ought to be, as the phenomenal manifestation of an internal state, and if their pathological connection and dependence upon each other were properly known, it would most probably never be necessary to prescribe two remedies at the same time. It is only when symptoms are viewed superficially, without reference to their internal unity, that it seems as though they were disconnected and required more than one remedy at a time. The method, adopted by many practitioners, of selecting a remedy, is, to take a record of the symptoms according to a certain plan, and then to select from among the remedies which constitute our Materia Medica, one that has as nearly as possible the same symptoms, and, if one remedy do not suffice, they will select another one besides, in order to be sure that the symptoms of the disease are, as they term it, "covered" by the remedies. This mode of selecting a remedy, refers exclusively to the subjective symptoms, the individual sensations of pain which are experienced by the patient; it does not take cognizance of the pathological state of which these subjective sensations of pain are the mere external characteristics.

Let us suppose a case, for the sake of elucidating our views. We are not acquainted with any difference in the organic structure of the nerves, and yet their functions differ greatly from each other. This difference is owing to the difference existing between the tissues over which the nerves are distributed. If the eye were not constructed as it is, the optic nerve would not enable us to see ; or if the nose were not constructed as it is, the olfactory nerve would not enable us to smell. There is no essential difference between the olfactory and the optic nerves, but there is an essential difference between the structural organization of the nose and that of the eye. Or, let us take the pneumo-gastric nerve, which is both a nerve of sensation and motion. It is a nerve of sensation simply because it supplies the lining membrane of the respiratory and digestive passages, and it becomes a nerve of motion when it supplies the muscles and muscular coats of the same canals. The pneumo-gastric nerve supplies branches, on the one hand, to the larynx, the lungs, and the heart; and, on the other, to the pharynx, the œsophagus, the stomach, and the solar plenus. These different parts could not fulfil their organic functions without the assistance or vitality which they derive from that nerve. The branches of the nerve are essentially the same ; the functional differences reside in the structural organization of the parts over which the branches are distributed.

These facts, which are well established in anatomy, lead to important practical results in the treatment of disease. Let us suppose, for example, a diseased condition of the pneumo-gastric nerve, an acute irritation of this nerve, or, to use the modern phrase, a case of neurosis, in which the various branches of the pneumo-gastric nerve are principally involved: Such a pathological state would necessarily be characterized by the most diversified symptoms, symptoms which would apparently be disconnected, and yet would constitute one identical group ; for the irritation would be the same in every branch of the nerve, but the symptoms characterizing the irritation would differ according as the structural organization of the part affected would differ from that of another part. We might have dryness, soreness and heat in the larynx, with constant tickling, disposition to cough and hawk; stricture across the chest, or oppression and soreness of the chest; aching pain or weight in the region of the heart, or palpitation of the heart; loss of appetite, and coated tongue, nausea, oppression of the stomach, sensitiveness and fullness or bloatedness in the region and pit of the stomach, or a hard aching pain in the pit of the stomach; or sensation as of a cold stone in the pit of the stomach; soreness of the bowels, looseness or constipation; and a variety of other symptoms, which it is needless to mention. If this or a similar group of apparently disconnected symptoms should occur in practice, the first thing that a physician would have to do, would be to trace the internal pathological connection of the symptoms; in this way he would find out that they constitute an unitary group characterizing a certain irritation of the various branches of the pneumo-gastric nerve, and that the remedy which is to be prescribed for this group, must be one that will affect the pneumo-gastric nerve in a similar manner, though this similarity does not necessarily imply an exact reproduction, in our provings upon the healthy organism, of the various symptoms constituting the natural group.

Suppose now a physician were to prescribe for such a group as we have described, without considering the symptoms in their totality as phenomenal signs of an identical pathological state, which, after all, is the true and essential disease, what will be the consequence? The consequence will necessarily be, that he will endeavour to find a remedy which has the same or similar phenomenal signs in our Materia Medica, and, if one remedy be not sufficient, he will select two, and, if need be, three remedies, to "cover," as it is termed, all the symptoms. It will be perceived, that this mode of selecting a remedy leaves all the essential features of the disease out of consideration, and necessarily leads the physician to this vicious mode of alternately using several remedies at a time.

We can scarcely conceive of a case where the alternate use of several remedies at a time is required by the state of the patient. We will except the case where a particular pathological state develops, or rather excites, a pre-existing constitutional irritation. In syphilis, for instance, we may require to employ, together with the specific remedy, an appropriate medicine for the constitutional derangement which the particular malady may have excited. So in measles, scarlatina, and the like. All these diseases may excite a peculiar state of nervous irritation to which the patient was constitutionally exposed, but which had remained subdued or latent previous to the breaking out of the particular malady. Bilious fever, measles, scarlatina, variola, and various other diseases, may be treated in such a manner that the patient, although the particular disease has disappeared, is left deaf or blind. Such sequelæ would be prevented if the particular disease were appropriately treated with the specific remedy, and a suitable remedy were at the same time administered to subdue the constitutional irritation which was roused by the disease, and which but too frequently lead to such disastrous consequences as the loss of a special sense, or the permanent derangement of some other organic function. Nevertheless, although this view of the case seems to be plausible enough, yet it is liable to this objection : that, if the truly specific remedy be selected for the particular disease, this specific remedy will likewise prove the best remedy for the constitutional irritation. If this irritation should manifest itself in spite of our treatment, we would consider it as a proof that the best possible or the truly specific remedy had not been selected for the particular malady. If, in prescribing Belladonna for scarlet-fever, a state of nervous irritation should develop itself, for which Belladonna was not indicated as the specific remedy, we would, as a general rule at least, doubt the specific adaptation of Belladonna to this particular case of scarlatina. And so in any other case. We admit, however, that cases of this kind may turn up where it may be desirable to resort to the simultaneous use, in alternation, of course, of two remedies, one for the particular disease, and the other for the constitutional irritation. These cases are, however, very few, and we would therefore advise the beginning practitioner, not to indulge in this alternate use of two medicines without due reflection and discretion.

At what time of day should the medicines be taken?

Very little remains to be said on this subject. The fact is, that scarcely anything can be said on this subject, for this reason, that it is not stated in our Materia Medica, at what hour of the day the medicines were taken, and how many hours elapsed before they developed their pathogenetic effects. It is supposed that some medicines act better if taken in the morning, others if taken in the evening before retiring. Mercury and Nux vomica, for instance, are supposed to act better if taken in the evening, Pulsatilla if taken in the morning. Rules like these are of very little use, were it only for this reason, that they could only be applied to half a dozen remedies, and that even these would constitute exceptions in a number of cases. In acute cases, it is a matter of course, that the medicine has to be administered on the spot, on account of the urgency of the case; and as regards chronic cases, if the medicine be otherwise indicated by the symptoms, it will prove serviceable, no matter at what hour of the day it is administered. Hahnemann himself never bound himself to any hour; he administered Mercury in the morning as well as in the evening, and always with success, provided the medicine was specifically indicated.

In paroxysmal diseases it may perhaps be expedient to administer the medicine immediately after the paroxysm. In fever and ague, for instance, we prefer giving the medicine as soon as the sweating stage has set in. Some follow the same rule in the treatment of periodical asthma, or periodical spasms and convulsions. In periodically recurring neuralgic affections we likewise administer the medicine immediately after the paroxysm; but if the pain should be too agonizing, and the intervals between the attacks very irregular, we do not hesitate to employ the proper remedy during the attack.

The old school forbids the administration of medicines during the menstrual period. As regards old school medicines, this regulation is very proper, for these medicines are given in such massive doses, that they derange the whole organism, and might, on this account, violently interfere with the process of menstruation. Homœopathic medicines, on the contrary, do not interfere with any of the organic functions of the organism; these medicines are strictly curative, and their curative action is exercised in a direct manner, without the least detriment to any of the functions that do not require the interference of art. There is therefore no reason why homœopathic medicines should not be administered during as well as between the catamenial periods.

SPECIAL PHARMACOPŒIA.

PART III.

The following arrangement, from Jahr's Pharmacopœia, has been deemed of sufficient interest to be transcribed into this work.

ON THE PREPARATION AND MODE OF OBTAINING EACH MEDICINE IN PARTICULAR.

CHAPTER I.

GENERAL VIEW OF THE SUBSTANCES WHICH COMPOSE THE HOMŒOPATHIC PHARMACY.

Of Homœopathic Medicines in General.

HOMŒOPATHY employs, generally, as medicines, the same simple substances as the old school, and in like manner obtains them from the three kingdoms of nature. But, as homœopathic pharmaceutics is governed neither by chemistry nor natural history, but by *pharmacodynamics*, (the medicinal power of drugs,) and as, in accordance with the principles of this doctrine, no remedial substance can be admitted into the Materia Medica without having been previously studied in its *pure* effects upon the healthy organism, it is very natural that the homœopathic pharmacopœia should not be so rich in remedial agents as that of the old school. Those, the effects of which upon the healthy organism are known, amount to about two hundred, and from this number at least one fifth might be deducted, if we were disposed to be very rigorous, and only to admit those of which the pathogenetic symptoms are recorded in full. Nevertheless, as it may be useful to be acquainted with all those substances which have been examined by homœopathic physicians, we have determined to mention them all in this pharmacopœia, and have added even those whose names only have been mentioned in the annals of our science.

Hence in the following chapters there will be found the description of more than three hundred substances from the three kingdoms of nature, whilst in our Symptomen-Codex but about two hundred and sixty are mentioned; *but all those which are not described in our Codex, are remedies of which the name only is known, and which cannot be prescribed without having been studied (as to the effects) on the human system in a healthy state.* It is true, that if, in the pharmacopœia, we once pass the limits pointed out by the *pure Materia Medica*, there is no reason why we should not go further, and take not only all the substances found in the Materia Medica of the old school, but also all those which the inexhaustible resources of nature may furnish us. Hence we have often deplored the tendency shown by our school to register every year more than ten new remedies in its pharmaceutic code, frequently without studying either of them; and with all our pains in endeavouring to ascertain the principle on which one name was registered in preference to another, we have been able to discover nothing but mere *caprice.*

If we cast a rapid glance over the genera and families whence the remedies of which we make use are derived, it will appear very evident that we are far from having even all the most efficacious substances, and that, if we wished to give a description of all those which deserve to be studied, it would almost be necessary to write a dictionary of Natural History. It has, therefore, appeared to be the most simple plan, to give a general view, as well of the substances whose effects have been studied, as of those which have been *proposed* only in the homœopathic pharmacopœias, in order that every one, on seeing the deficiencies shown by this view, may easily draw his own inferences as to what remains to be done. As for the description of the substances, we go no further than to give those which have been, thus far, mentioned in the writings of our school; in treating, in each division, those whose pathogenetic effects are not entirely unknown, and also those of which, at this time, we know nothing but the names, and the pathogenetic descriptions of which it would be in vain to look for in the whole homœopathic bibliography.

1. *Animal Substances.*

The remedies heretofore taken from the animal kingdom by homœopathy, are much less numerous than those derived from the other kingdoms of nature. Among the ancients, physicians preferred directing their attention to this kingdom, either because it more nearly approaches the human species, or because the good or evil which might be caused by animals more strongly excited their curiosity. The number of animal substances submitted to experimentation is thus far limited to certain *entire* insects, and to some parts extracted from the bodies of certain other animals, as well as to some excretory products, such as *musk*, *castoreum*, &c. Thus the animal substances used in homœopathy, may be divided into three classes, viz. 1st. *Entire Animals;* 2d. *Animal Matters;* 3d. *Animal Concretions and Zoophytes.*

The *animal substances* used in homœopathy, are *twenty-six* in number, viz.:

1. ANIMALS, experimented on: *Aranea diadema, Cantharides, Coccionella septempunctata, Theridion curassavicum;*—proposed for experiment: *Cancer astacus, Formica, Meloë majalis, Melolontha vulgaris, Oniscus asellus.*

2. ANIMAL MATTER, experimented on: *Ambra grisea, Barbus, Crotalus, Lachesis, Mephitis, Moschus, Oleum animale, Sepia;*—proposed for experiment: *Album ovi, Membrana ovi, Oleum jecoris morrhuæ.*

3. Animal Concretions and Zoophytes, experimented on: *Conchæ*, (Calcarea,) *Corallium rubrum*, *Spongia marina* ;—proposed for experiment: *Cancerum oculi.*

2. *Vegetable Substances.*

The plants belonging to the homœopathic pharmacopœia, are, as those of the old school, taken from nearly all the classes of the vegetable kingdom. The different plants mentioned in the homœopathic pharmacopœias amount to about 150 ; but of this number the pathogenetic effects of scarcely 100 are well known; and there are more than 30 whose physiological effects are not indicated in our Materia Medica, and consequently, their names only are mentioned. In the general view which we propose to give, we shall enumerate the plants according to the natural families of Jussieu, and shall place between parentheses those whose powers are not known to the Materia Medica. Among these last, several have, nevertheless, been quoted in our Symptomen-Codex, though we could only give their names; these are they which, though placed between parentheses, are subsequently found printed like the others, in italic type ; whilst those of whose effects we have as yet no knowledge, are printed in Roman letters.

Among the 50 first natural families of Jussieu, the homœopathic pharmacopœia reckons from 70 to 80 remedies, viz.:

I. Class.—Fungi: *Agaricus musc.*, (Boletus satanas,) *Bovista* ; — Musci : *Lycopodium* ; — Filices : (*Filix masc.*)

II. Class.—Aroideæ : *Arum maculatum*, *Caladium seguin* ;—Gramineæ : (Lolium temulentum,) *Secale cornutum.*)

III. Class.—Asparagi : (Asparagus,) *Paris quadr.*, (Sassafras,) sarsaparilla ;—Jungi : *Colchicum*, (Juncus pilos.,) *Sabadilla*, *veratrum* ;—Asphodeleæ : (Allium sativ., (*Aloës*,) Squilla marit. ;—Iris : *Crocus sativ.*

IV. and V. Class.—CANNÆ: *Zingiber;*—ARISTOLOCHIÆ: (Aristolochia.) *Asarum* europ., (Serpentaria.)

VI. Class.—THYMELEÆ: Daphne indica, Mezereum; —LAURI: *Camphora,* (Cinnamomum,) *Nux moschata,* (Aichurim;—POLIGONEÆ: *Rhabarbarum;*—ATRIPLICES: (Atriplex olida.) (Chenopodium.)

VIII. Class.—LYSIMACHIÆ: *Cyclame neurop.*, Menyanthes; PEDICULARES: *Euphrasia, Ratanhia, Senega;* —JASMINEÆ: (Olea europæa;)—VITICES: *Agnus castus,* (Verbena;)—LABIATÆ: *Lamium album,* (Rosmarinus offic.,) (Thymus,) *Teucrium*; SCROPHULARIÆ: *Digitalis, Gratiola;*—SOLANEÆ: *Belladonna, Capsicum, Dulcamara, Hyoscyamus, Solanum nigrum, Solan. mammos., Stramonium, Tabacum, Verbascum;* — CONVOLVULI: (*Convolvulus arvens..*) (Jalappa;)—GENTIANÆ: *Spigelia;*—APOCINEÆ: *Ignatia, Nux vomic., Oleander,* (Vincetoxicum.)

IX. Class.—RHODODENDRA: *Ledum palustre,* Rhododendron;—ERICÆ: *Uva Ursi. Alinea.* X. Class.—CHICURACEÆ: *Lactuca viros., Taraxacum;*—CORYMBIFERÆ: *Arnica,* (*Artemisia vulg.*) (*Calendula,*) *Chamomilla, Cina, Millefolium, Tanacetum vulg.*

Among the other six classes of the natural families of Jussieu, the homœopathic pharmacopœia counts almost as many remedies as in the preceding, viz.:

XI. Class.—DIPSACEÆ: *Valeriana;*—RUBIACEÆ: (cahinca,) *China, Coffea, Ipecacuanha;* — CAPRIFOLIA: *Sambucus.*

XII. Class. — ARALIÆ: *Ginseng*; — UMBELIFERÆ: *Ætnusa,* (Ammoniacum gummi,) (Archangelica,) *Assafœtid, Cicuta, Conium,* Heracleum, (Œnanthe crocata,) (*Petroselinum,*) *Phellandrium, Vinca minor.*

XIII. Class.—RANUNCULACEÆ: *Aconitum,* (*Actæa spicata,*) (Aquileja,) *Clematis, Helleborus nig., Pæonia, Pulsatilla, Ranunculus bulb., Ranunculus sceler., Staphysagria;*—PAPAVERACEÆ: *Chelidonium, Opium, Sanguinaria canad.;* CRUCIFERÆ: (Cochlearia;)—HYPERICA: *Hypericum perforatum;* AURANTIA: (*Citron,*) *Rhea cesaræa*; CAPPARIDES: Drosera; MAGNOLIÆ;

(*Anisum stellatum* ;)—MENISPERMA: *Cocculus* ;—BERBERIDES: *Berberis* ;—CISTI: *Cistus canad.*, *Viola odorata*, *Viola tricol.* ;—RUTÆ: (*Dictammnus*,) *Guajacum*, *Ruta*.

XIV. Class.—SEMPERVIVÆ: (Sedum acre ;)—MYRTI: *Eugenia*, *Granatum* ; — ROSACEÆ: (*Fragaria vesc.*,) *Laurocerasus*, (Prunus padus,) *Prunus spinosa* ;—LEGUMINOSÆ: *Copaivæ Balsam*, (Genista,) *Hæmatoxilum campech.*, *Indigo*, (Ononis,) *Senna*, *Tongo* ;—TEREBINTHACEÆ: *Anacardium*, *Brucea dysent.*, *Rhus toxic.*, *Rhus vernix* ;—RHAMNI: *Eronymus* europ.

XV. Class.—EUPHORBIÆ: *Cascarilla*, *Croton tiglium*, *Euphorbium*, *Jatropha* ; CUCURBITACEÆ: *Bryonia*, *Colocynthis* ;—URTICÆ: *Cannabis*, (*Cubebæ*,) (Lupulus,) (Urtica urens ;) — AMENTACEÆ: (Ulmus campestr. ;) —CONIFERÆ: *Sabina*, *Taxus baccata*. *Therebinthina*, *Thuja*.

3. *Inorganic Substances and Chemical Products.*

The *mineral* substances and *chemical* products which belong to the homœopathic pharmacopœia, are found, as in that of the old school, among the *non-metallic* bodies, the *acids*, the *alkalies*, the *earths*, the *metals*, and the compounds of the latter. The number of these substances acknowledged by homœopathy, amounts in all to 100, sixty of which have been studied on the healthy subject, whilst the other forty are only mentioned in the pharmacopœia. We intend to notice them, making use of the Latin names under which these substances are known in the writings of our school, and which differ but little from those generally in use. In adopting, for the exposition of the pathogenetic symptoms in the Materia Medica, the alphabetic order of remedies, it has been found most convenient to unite as much as possible all products derived from the same base ; instead, therefore, of writing, as usual, *acidum nitricum*, *acidum phosphoricum*, &c., we have preferred *nitri acidum*, *phosphori acidum*, &c., in order to place the first of these remedies near *nitre*, and the other near *phosphorus*. In like manner with the names *murias barytæ*, *carbonas barytæ*, &c., in place of which we have preferred *baryta muriatica*, *baryta carboniça*, &c., in order to be enabled, in the alphabetical order of the Materia Medica and the repertories, to place or arrange them near each other ; and so on, with all the names of this kind.

The remedies which are found among the *non-metallic* bodies, the *acids* and the *alkalies*, are in all 30, the pathogenetic effects of 15 only being known, viz. : —

1. Non-metallic bodies, studied : *Carbo animalis*, *Carbo vegetabilis*, *Graphites*, *Iodium*, *Kreasotum*, *Hepar-sulfuris*, *Petroleum*, *Phosphorus*, *Selenium*, *Sulfur* ; proposed for study : *Alcohol sulfuris*, *Bromium*, *Natrum sulfuratum*, (sulphuret of soda.)

2. Acids, studied : *Muriatis acidum*, *Nitri acidum*, *Phosphori acidum*, *Sulfuri acidum*, *Tartari acidum* ; proposed for study : *Aceti acidum*, *Hydrocyani acidum*, *Molybdæni acidum*.

3. Ethers, proposed for study : *Nitri spiritus dulcis*.

4. Alkalies, studied : *Causticum* ; proposed for study : *Kali causticum*, *Natoum causticum*, *Ammonium causticum* ; *Calcarea caustica*, *Baryta caustica*, *Strontiana caustica*, (*Sapo domesticus*.)

The *earths* and the *earthy and alkaline salts* thus far admitted in homœopathy, amount in all to *twenty-five*, twenty-two of which have been studied on the healthy human system, viz. :

1. Earths, studied : *Alumina*, *Silicea*.

2. Carbonates, studied : *Ammonium carbonicum*, *Baryta carbonica*, *Calcarea carbonica*, *Kali carbonicum*, *Magnesia carbonica*, *Natrum carbonicum*, *Strontiana carbonica*.

3. Nitrates ; studied : *Kali nitricum*, *Natrum nitricum*.

4, Chlorates, studied : *Kali chloricum*.

5. Sulphates, studied : *Magnesia sulfurica*, *Natrum sulfuricum* ; proposed for study : *Calcarea sulfurica*, (*Gypsum*.)

6. Borates, studied: *Borax.*

7. Acetates: *Baryta acetica, Calcarea acetica.* (In general, carbonates of substances are preferred to their acetates.)

8. Hydrochlorates, studied: *Ammonium muriaticum, Baryta muriatica, Magnesia muriatica, Natrum muriaticum;* proposed for study: *Calcarea muriatica.*

9. Hydriodates, studied: *Kali hydriodicum.*

10. Phosphates, studied: *Calcarea phosphorata.*

Among the *metals* and their compounds, *forty-two* in all are found in the homœopathic pharmacopœia, *eighteen* of which have been studied as regards their pure effects, viz.:

1. Perfect Metals, studied: *Argentum, Aurum, Platina;* proposed for study: *Argentum nitricum, Aurum fulminans, Aurum muriaticum.*

2. Metals of the second order, studied: *Mercurius vivus et solubilis, Mercurius corrosivus, Mercurius sulphuratus ruber,* (Cinnabaris,) *Niccolum;* proposed for study: *Mercurius dulcis, Mercurius præcipitatus ruber, Mercurius acetatus, Mercurius præcipitatus albus, Osmium.*

3. Metals of the third order, studied: *Manganum aceticum;* proposed for study: *Manganum metallicum.*

4. Metals of the fourth order, studied: *Cuprum metallicum, Ferrum aceticum, Ferrum magneticum, Ferrum metallicum;* proposed for study: *Cuprum carbonicum, Cuprum sulfuricum, Cuprum aceticum, Ferrum muriaticum, Ferrum oxydat. hydrat.*

5. Metals of the fifth order, studied: *Antimonium crudum, Bismuthum nitricum, Plumbum, Stannum, Tartarus stibiatus, Zincum;* proposed for study: *Antimonium metallicum, Bismuthum metallicum, Plumbum aceticum, Zincum sulfuricum.*

6. Metals of the sixth order, studied: *Arsenicum;* proposed for study: *Arsenicum metallicum, Arsenicum citrinum,* (*auri pigmentum.*) *Arsenicum rubrum, Molybdænum.*

CHAPTER II.

ANIMAL KINGDOM.

OF THE PREPARATION OF ANIMAL SUBSTANCES.

A) *Entire animals.*

1. DIADEMA, *Aranea diadema, Epeira diadema ;* Fr., Araignée porte-croix, Araignée diadème, Araignée à croix papule; Ger., *Kreuzspinne ;* Eng., Diadem spider.

This spider is found all over Europe, in stables, on old walls, &c., is distinguished by its ovoid body, often as large as a small nut, and a longitudinal line on the back, composed of yellow and white points, and traversed by three other similar lines. In order to prepare this spider for homœopathic use, Dr. Gross recommends a puncture to be made in the belly of the living insect, and to collect on 100 grains of sugar of milk the serosity that flows out, and to make the *three* first attenuations by *trituration.* According to Dr. Hering, however, the preferable way is to macerate the whole insect in Alcohol, and at the end of some months prepare the alcoholic attenuation. The web which, according to Sadillot, is composed of a substance soluble in water, of a resinous and a sweetish-bitter substance, &c., is used to arrest the bleeding of small wounds, leech-bites, &c.

Antidote : Mercury.

2. CANCER ASTACUS, *Astacus fluviatilis ;* river-crab.

The common crab is a decapodous crustacea which inhabits, in Europe, the borders of streams, small rivers, and even of lakes and ponds, where it keeps in holes and under stones.

Its body is oblong, generally cylindrical ; the tail broad and long, covered with transverse scales, and furnished with swimming scales on the sides and at the extremity, turning in under themselves. The fore-part of the body terminates in a short point jutting out between the eyes. It has ten claws, the two fore-claws terminating in strong and dentated pinchers. Any member of its body, when destroyed or mutilated, is easily regenerated. The crabs change their calcareous coat every year, and at that time are found in their stomachs two hard, calcareous bodies, called crab's eyes, which are intended to furnish the proper material towards the reproduction of the new coat. The female carries under her reverted tail, first her eggs, then her young, until they attain a certain size. River-crabs are the best.

According to Caspari's directions, we mash them alive, in a stone-mortar, to a fine paste, pour on it double its volume of Alcohol, express the juice, and preserve it for use. (Arch. I, 2. p. 14.)

Antidote: Aron. diadem., in one case.

3. CANTHARIS, *Cantharis vesicatoria, Meloë vesicatorius, Lytta vesicatoria;* Fr., Cantharide, Cantharide des boutiques; Ger., *Kantharide, Spanische Fliege;* Eng., Cantharides, Spanish Fly.

This fly of the middle and south of Europe, appears in the months of May and June, especially on the white poplar, privet, ash, elder and lilac, &c. It is a coleopterous insect, about half an inch long, of a golden yellow-green; head inclined, almost cordiform; antennæ filiform, of twelve joints, black; antennulæ equally filiform, the posterior swollen at the extremity; eyes large, of a deep brown; mouth with an upper lip and two bifid jaws; body elongated, almost round and cylindric; two wings; elytræ soft, demicylindric, marked with longitudinal streaks; head and feet full of whitish hairs; the odour is sweetish, nauseous; taste very acrid, almost caustic; the larvæ of these insects have a yellowish-white body, formed of three rings, six short feet, rounded head, two short filiform antennæ, two jaws and four feelers. They live in the ground, feed on roots, there undergo their metamorphosis, and do not come out till they are perfect insects. The best preparation for homœopathic purposes, consists in crushing the *large female flies*, and making the *three* first attenuations by *trituration:* the mother tincture may be prepared by means of 20 parts of alcohol, in which we may digest eight days the powder of cantharides. Before powdering these insects, we must assure ourselves that they are neither worm-eaten nor pulverulent, but fresh, very dry, whole and smooth; the small ones are not near so good as the larger.

Antidote: Camphor. Coffee aggravates the symptoms.

4. Coccionella seu coccinella septempunctata, *Chrysomela septempunctata*, L.; Fr., Coccinelle, Bête à dieu; Bête du bon dieu; Ger., *Sonnenkäfer, Johanniskäfer, Frauenkäfer, Himmelskuh, Sommerkälbchen;* Eng., Lady-bird, Lady-cow.

This hemispherical scarabæus lives in the hedges, on wheat, in the meadows, and on umbelliferous plants. It is a small coleopterous insect of the size of a pea, black body, elytræ red, and marked with seven black points. When touched, it draws in its feet, looks like dead, and exudes in the tarsal joints a viscid, fetid, black juice. During life, this insect contains an acrid, volatile substance, of the odour of opium, which is lost when dried, so that it is important to crush them while still living, after which we pour on the crushed mass 20 parts of alcohol, and decant the liquid at the end of 8 days.

5. Formicarum spiritus. *Formica rufa;* Fr., Fourmi, Fourmi rouge; Ger., *Ameise, rothe* or *Waldameise;* Engl., ant, red ant.

The ants are hymenopterous insects of the family of heterogynes. Their characters are: a flattened, rust-coloured chest; black head; a big, oval abdomen, attached to the corslet by a pedicle which bears a small scale or vertical knot; antennæ filiform and broken; antennulæ of unequal size; mandibles strong; tongue truncated, concave, short. There are male, female and neuter ants. The two former, when fully developed, have four long, white, transparent wings; they leave the hills, fly in the air and there couple; the males die shortly after, the females return to the hills. Only few of them are admitted, which lay eggs and are taken care of by the neuters as among the bees. The females and neuters have, at the extremity of their abdomen, two glands, by means of which they secrete a peculiar liquor which is acid, and which, on a fine delicate skin, creates itching and eruptions.

For homœopathic purposes we gather the ants by placing a stick covered with honey near the hill, or else by burying a bottle with a narrow neck and honey at the bottom inside in the hill as far as the neck; when this bottle is filled with ants, we take it out, pour the ants into a new bottle, cover them with three times their volume of alcohol, and decant the liquid at the end of six or eight days.

The *spirit of ants, formicarum spiritus*, is acrid and pungent, and has an acid, smarting taste. (Hyg. V. 449.)

6. Meloë majalis et proscarabæus; Fr., Ver de maiet proscarabée; Ger., *Rother und schwarzblauer Maiwurm;* Eng., Oil-beetle.*

These two insects belong to the genus meloë. The latter is without wings, an inch or an inch and an half long, and about as big as a finger. It is soft, with the head bent downwards as that of the cantharis, antennæ moniliform, of twelve joints, corslet almost rounded, and flexible, punctuated elytræ

* They must not be confounded with the common may-beetle (scarabæus melolantha).

which cover scarcely one half of the oval abdomen. The colour of the head, feet and abdomen, verges on the reddish. The fore-feet have five, the hind-feet four joints.

The meloë majalis is the smaller of the two; its body is coppery-red, or bronze-black; the elytræ are black-green, and the back is furnished with red incisions.

The two kinds have a disagreeable odour, and emit, when seized, an acrid, yellowish humour, staining the fingers, and smelling something like the violet, of a sweetish taste at first, then acrid and caustic, and causing an itching and eruptions (blisters) on the skin.

These insects are found all over Europe in the spring, on the grass, low plants, on dry meadows and sunny hills. They have to be gathered with great care, so that the juice which they emit should not get lost, and they should at once be placed in the vessel in which they are to be kept. We prepare them in the same way as crabs. (Hyg. IV. 346.)

7. ONISCUS ASELLUS; Millepeda; Fr., Cloporte ordinaire, millepied; Ger., *Kellerassel, Kellerwurm, Tausendbein;* Eng., Common wood-louse.

This little animal is from three to six lines long; it has 14 feet, four antennæ, of which two are short, and almost entirely concealed; the others cetaceous, bent, having five or six joints; its body is oval, covered with many crustaceous pieces, transverse, sub-imbricated, and provided at the extremity with two short and very simple appendages, The colour is gray, more or less deep, verging on the blue or brown, with yellowish streaks or spots. The oniscus is found in cellars, under stones, in humid places, and seems to shun the light; when touched, it rolls up in a heap; the taste is sweetish, nauseous; the odour disagreeable, ammoniacal.

The three first attenuations are prepared by trituration; the tincture by 20 parts of alcohol (Arch. IV., 1, and XVII., 2).*

8. Theridion curassavicum: Fr., Araignée noire du Curaçoa; Ger., *Feuerspinnchen;* Eng., Black spider of Curaçoa.

This little black spider, which is known by its terrible poison, is often found at Curaçoa, where the negroes call it aranja; its body is of the size of a cherry-stone, with a black chest; the feet are likewise black and covered with short and stiff hairs; it is distinguished by three points of a lively, orange-red, placed at the back part of the body, and the largest of which, above the anus, is of the size of a pin's head. The youngest are of a beautiful velvet-black, marked with several white lines, composed of drop-like points from before backwards; their feet are transparent, brownish, as is the case with most young spiders. The females are marked with similar stripes, but larger and disposed in cross-form, of a yellow colour; the middle stripe terminates in the spot above the anus. On their bellies they all have a square, yellow spot, which is notched on the edges, and occupies nearly the whole extent of the belly.

We put the whole spider in alcohol, macerating it for weeks and even months, and then decant the clear liquor, which is the mother-tincture. (Arch. XIV., 1.)

B) *Animal substances.*

1. Album ovi.

The white of egg is of a gelatinous appearance, and contains nitrogen. It is a white, semitransparent, viscous fluid, enclosing the yolk, and surrounded and traversed by a thin, fibrous membrane, and furnished with numerous vessels; it is inodorous, insipid, mis-

* The oniscus asellus should not be confounded with the oniscus armadillo, L., which has several feet and no bifid tail

cible with water, coagulable by heat, alcohol, ether, strong acids, and tannin. According to Bostock, 100 parts of the white of eggs contain 80 parts of water, 4,5 non-coagulable matter, 15,5 albumen, and some slight traces of soda, sulphur, sulphate and muriate of soda, phosphate of lime, and benzoic acid. Put into alcohol, it loses almost all its water, and coagulates, the alcohol at the same time dissolving its mucus and soda.

For homœopathic purposes, we use the fresh white of eggs, and make the three first attenuations by trituration.

2. Membrana ovi, membrane of the ovum.

The white pellicle (chorion), which is situated between the shell and the white, is dried and then triturated. Bute macerated it in alcohol, together with the shell. It is used for excoriations, wounds, and superficial ulcers; the surface which is turned towards the white is applied to the wound, after which it is gently and evenly pressed to the wound by means of a soft and fine cloth; as soon as it is dry, it adheres without a bandage. (*Arch.* XVI. 3, and *Hygea.*)

3. Ambra grisea seu ambrosiaca, *Ambra vera* seu *maritima;* Fr., Ambre gris; Ger., *Grauer ambra;* Eng., Ambergris.

This substance, which Cartheussen and Neumann looked upon as bitumen, and Bergmann as a gum-resin, was a long time considered by others as a sort of camphor, a submarine fungus, an altered mixture of wax and honey, an excremental product of the crocodile or of certain birds, &c. At present, almost all the savans agree that it is the product of the intestines of certain whales, and consider it a biliary concretion. This product is gathered floating on the waves or cast on the coasts of India, Africa, and even of France. The most esteemed is that from the coasts of Sumatra and Madagascar. Ambergris, such as it comes to us, is usually in balls more or less large, opaque, rough to the touch, formed of concentric layers, friable, lighter than water, spongy, of a grayish-brown without, traversed within by black or yellowish-red veins, and full of whitish specks, that give out a strong odour; often it comes in shapeless masses, very large, in which are found the jaw-bones of the *sepia otop.* and of the *sepia moscata* L., and which are frequently covered with a black crust of a bituminous odour; the taste of it is flat; when rubbed or heated, it emits a strong agreeable odour, like that of benzoë; its consistence is that of wax; it softens under the fingers, is fusible and almost completely volatile in the fire; when approached by a candle, it promptly inflames, and burns with a vivid light. The more the alcohol is diluted, the less amber enters in solution; ether dissolves it completely, and if this solution be treated with alcohol, a white precipitate takes place, resembling wax, which is *ambrine.* The clearness of this product often causes it to be adulterated, either with meal or with the excrements of certain birds, or else it is artificially manufactured with benzoin, storax and laudanum; but in all these cases there is not the same fusibility and volatility as when pure. Those who would make new experiments on the pathogeness of this substance, may prepare it in solution in ether; but such as wish to base their practice on the experiments of Hahnemann, must in every case make the *three* first attenuations by *trituration*, the fourth by equal parts of alcohol and water, and the rest with alcohol.

Antidotes: Camph., Nux vom.; less frequently *Puls.*

4. Axungia porci; *Adeps suilla;* Fr., Graisse, graisse de porc, axonge ou sain-doux; Ger., *Fett, Schweinefett;* Eng., Hog's lard, axonge.

We transcribe this article from Jahr's Pharmacopœia:

The use which homœopathy makes of the soft fat of animals is very restricted. The majority of homœopaths never make the least use of it in any case, and those who do use it use pig's fat (*axungia porci, adeps suilla*), united with wax, to preserve denuded surfaces from the contact of the air, or else alone, putting it on their hands in cases of delivery of women. Even for these purposes, others prefer olive oil. However that may be, fat should always be preferred to almond oil, or goose grease, which some physicians are in the habit of employing; above all, it should be fresh and good. In all animal fats, but especially in that of the pig, there is developed, when spoiled, a strong poison, which frequently produces by absorption the most lamentable effects. Good axonge, purified and suitably prepared, should be white, solid, clotted, very fusible, and of a feeble but peculiar odour, and of a sweetish, agreeable, fatty taste, neither bitter, nor acrid, nor empyreumatic. We obtain this fat from the pig (sus scrofa, L.) which contains it in large quantities about the kidneys, epiploon, &c.; when taken from these parts, it must be freed from the blood, fibres, &c., which it contains, by fusion and filtration. In 100 parts of pure fat, there are 62 parts of elaine and 38 stearine, proportions, however, which are susceptible of variations. Finally, pork fat, like most other fat, is soluble in ether, but very little in alcohol, and not at all in water; it divides or extinguishes mercury, and dissolves sulphur as well as phosphorus. When strongly heated, in contact with air, it decomposes, emits a white and pungent smoke, takes on a colour more or less deep, and inflames. Submitted to distillation, it gives a little water, carbonic acid gas, acetic and sebacic acid, much carburetted hydrogen gas, a great quantity of fat matter becomes more soft and fluid, and at last, a very little spongy charcoal, easily incinerated. In treating it with an alkali or a metallic oxyde, we obtain, besides the sebacic acid which distillation produces, yet two others, one of which is margaric acid, the other oleic acid, and both of which are equally found in all kinds of fat. Finally, the qualities which pork fat has yet in common with the other kinds of fat, are such that hydrogen, boron, nitrogen, charcoal, exercise no action upon it ; exposed to the air, it becomes rancid, by absorbing oxygen, and at times by developing sebacic acid.

5. Castoreum ; Fr., Castoreum ; Ger., *Bibergeil ;* Eng., Castor.

The castor (*castor fiber*) lives in the north of Asia and America, as well as in several countries of Europe, such as Poland, Russia, &c. It is very rare at present in Germany and France. The castor is the secreted product of the preputial glands of the animal, placed longitudinally under the skin of the abdomen, of both male and female, between the root of the tail and the posterior parts of the thighs, behind the pelvis. It is a soft substance, of syrupy consistence, of a dirty yellow, having a strong odour, and an acrid biting taste ; it easily mingles with the saliva and adheres to the teeth. In its natural state, the castor is constantly found traversed by membranous partitions ; in the dry state, it is brown and easily friable ; the pouches which contain it are two, one above the other ; the uppermost is the smallest ; they are united by a common excretory duct, and both adhere to the kind of pouch in which they are placed, and which is common to the genital parts and the anus of the animal. It is these two pouches still united by their excretory duct, that we find in commerce under the name of *castor*, though, rigorously speaking, this name is only due to the resinous substance which they contain. We distinguish in commerce two kinds: 1st. *Siberian castor*, the most used of all. 2d. *English* or *Canadian castor*, less esteemed ; *Siberian castor*, generally dried in the smoke, after putting it in pigs' bladders, comes to us in little bags, heavy, round below, pointed at the top, almost conical, gibbous, of a deep brown, surrounded on the outside with a kind of membranous envelop, traversed within by more dense membranes, between the layers of which the castor, properly so called, is found ; the odour of this kind is strong enough, slightly bitter, biting, aromatic. The *English* or *Canadian castor* comes to us in small pyriform or elliptical bags, membranous and very black ; it is drier, stiffer, more friable and of a clearer colour than the *Siberian ;* its odour and taste are less striking and less disagreeable, sometimes even with the odour of ammoniac ; castor is one of those substances which the industry of these days adulterates most frequently ; we often find sand, lead, or other metallic matters, so as to augment the weight ; in other cases we have galbanum, gum ammoniac, and even wax. In England, they even manufacture it out and out, which consists frequently of a mixture of dried blood, gum and honey, put into the gall-bladders of the sheep or calf, but which is always of a finer appearance than the true castor. These adulterations and imitations are easily detected, inasmuch as this kind of castor is of more feeble odour, without partitions in the interior, of a resinous hue, strong, and entirely soluble in alcohol. The good and true castor should be dry, of a very perceptible odour, and enclosed in bags which have never been opened. Heat, humidity and the air easily alter this substance, so that we must preserve it with care. For homœopathic use, we prepare the castor, in mingling one part of this substance with ten of alcohol, digesting it 8 days, taking care to shake it occasionally. At the end of this time, we decant the clear liquid and preserve it under the name of *mother tincture of castor.*

Antidotes : Camphor and *Opium.*

6. CERA; Fr., Cire; Ger., *Wachs;* Engl., Wax.—CERATRUM; Fr., Cérat; Ger., *Wachssalbe;* Eng., Cerate.—CEREOLI; Fr., Bougies; Ger., *Kerzchen;* Engl., Bougies.—CHARTA CERATA; Fr., Papier ciré; Ger., *Wachspapier;* Eng., Wax-paper.

Wax is used in homœopathy, to seal hermetically, bottles which contain very volatile substances, as also to prepare an ointment, to make bougies, and a kind of wax-paper to envelop bottles when sent to a distance. It holds a middle rank between vegetable and animal products. We obtain it by separating the honey from it by expression, after which we melt it in hot water, to purify it still more; it is then called *crude wax;* it is yellow, and of an aromatic honey-smell and taste, ductile, variable in quality; in commerce, it is sometimes adulterated with lard, the fecula of potatoes, or artificially coloured; in the first case, it is greasy to the touch; and in the second, there is a residue when dissolved in spirits of turpentine; honey gives it its yellow colour; its natural colour is white, and when yellow, it is purified by the prolonged action of water, air and light; and when run into moulds, we find it in commerce under the name of *white wax* or wax in cakes (*cera alba seu in tabulis*). In this state wax is an insipid substance, of a pleasant odour, but weak, dry, friable, insoluble in water, soluble, when cold, in the fixed oils, and, when hot, in the essential oils, as also, but in small proportions, in alcohol and ether; its gravity is 0.960, to 0,966, fusible at a heat of 60 to 68°, inflammable and volatilizable. Like all the fat substances, it is formed of two different principles, *cerine* and *myricine*, and contains a little free margaric acid. With the fixed oils it forms cerates; potash and soda convert it into soap. Submitted to distillation, it gives out water, acetic acid, a large amount of odorous oil, and a concrete oil, to which we give the name of *butter of wax*, and which, when rectified, furnishes what was formerly called *oil of wax.* Wax, or at any rate a similar substance, is found in the vegetable kingdom, exuding from various trees in different parts of the world; it is also to be seen, in a pulverized state, on fruit, as raisins, prunes, oranges, &c., as also on the bark of the root of ipecacuanha; on the leaves of trees, forming a sort of varnish; in lac; in the green fecula of many plants, especially in that of the cabbage. In homœopathy, we use the wax of bees, well cleaned and blanched and purified. We first make an ointment with it, to dress ulcers and even denuded surfaces. For this purpose, we dissolve the wax in hot water, then mix it with equal parts of olive oil, allowing it to cool; we preserve it under the name of *pure cerate* (*ceratum Galeni*); that found in the shops is always scented with rose-water, and should never be used by the homœopathic physician; that having *opium* or sugar of lead, &c., in it, should also be discarded. As to *bougies*, (*cereoli*,) homœopathy cannot set them aside altogether, though it never need make so free a use of them as those who know no method of treating strictures of the urethra except cauterization. We prepare them by rolling linen cloth impregnated with wax into small cylindrical forms; but it is more advantageous to make them out of cat-gut. For this purpose we take a cord and stretch it between two pieces of wood, and rub it with pumice-stone, in order to cleanse it of all the small filaments which adhere to it. We then warm, over a spirit-lamp, a mixture of 6 parts of yellow wax and one part of olive oil, of which we pour a part on a piece of cloth, with which we rub the cord gently, taking care to rub it sufficiently to prevent the wax from getting cold and the cloth from becoming stiff; by this means we obtain bougies sufficiently large and even. Finally, to procure *cerated paper*, (*charta cerata*), which serves to envelop the medicines sent to a distance, we prepare it by pouring the wax on a piece of paper, placed on a warm stone, and by spreading it in a uniform manner by means of a dry sponge.

7. Cyprinus barbus; Fr., Barbeau; Ger., *Barbe;* Eng., Barbel.

This fish lives in the clear running waters of Asia and the south of Europe, and is frequently caught in those of France. It is distinguished by the four feelers on the upper jaw to which it owes its name. The body is commonly covered with a viscous mucus; its flesh is white, tender, and tastes the more agreeably the older the fish is, but is of difficult digestion to weak stomachs. The eggs are considered poisonous, and contain an acrid and bitter substance. For homœopathic purposes we take two grains of the fresh eggs of a large adult barbel, from which we prepare the three first attenuations by trituration.

8. Ichthyocolla, colla piscium; Fr., Ichthyocolle, colle de poisson; Ger., *Hausenblase;* Eng., Ichthyocolla, fish-glue.

Fish-glue is originally prepared from the swimming bladder of fish of the genus *accipenser*, the huso, sturgeon, also of the *silurus glanis*. The former are found in the European seas, the Wolga, Nile, &c. We obtain it either by boiling the bladder, and then allowing it to cool down to thin membranes, or by taking out the internal shining membrane, rolling it up, and drying it. It comes to us in tablets, or else in cylinders of the thickness of the finger, white or whitish-yellow, more or less transparent, dry, coriaceous, inodorous, and of a slimy, insipid taste. The best kind comes from Moscow; it is whitish, translucid like dry horn, perfectly inodorous, and consists of thin membranes. That of Hungary comes in masses of double the size of that of Moscow; it is yellow and not at all transparent. Another kind, which has a brownish colour, is obtained by boiling the bones, fins, intestines, &c., of other large sea - and sweet-water fish.

Water dissolves the glue, forming a solid, tenacious, transparent jelly, which is insoluble in anhydrous alcohol.

It is used to give lustre to silk, to clarify wine, make the English courtplaster, &c.

9. Lachesis, *Trigonocephalus lachesis ;* Fr., Trigonocephale à losanges, (venin dentaire du trigonocephale à losanges ;) Ger., *Lachesis Schlangengift ;* Eng., Lance-headed viper.

Snake poison is procured from the poison-bags which are found in the upper jaw of these reptiles. In the Homœopathic Archives, published by Dr. Stapf, and also in the Bibliothèque de Genève, we find Dr. Hering's account of the means which he employed to obtain from a living trigonocephalus a drop of its poison. This consisted in pressing with the finger the poison-bag, and collecting a drop of the poison from the extremity of the tooth on the sugar of milk, and preparing the *three* first attenuations by *trituration.* The lachesis or trigonocephalus inhabits the hot countries of South America ; it attains a length of upwards of 7 feet, and its poison-fangs have nearly one inch in length ; the skin is of a reddish-brown, marked along the back with large rhomboidal spots of a blackish-brown, each of which encloses two spots of the colour of the body. The poison resembles saliva, only it is less viscous, but limpid, inodorous, and without any marked taste, the colour being somewhat greenish ; at the extremity of the fang, it easily forms into drops, and falls without threading ; but on the tongue it produces a slight astringent sensation ; exposed to the air, it soon concretes into a dry yellow mass, which, for a long time, preserves its poisonous qualities. The poïson of all these serpents has this peculiarity, that it may be swallowed without inconvenience, whilst, introduced into a wound, or injected in a vein, it produces the most dreadful accidents, and generally death.

Antidotes : Ac. phosph.. Bell., Merc., Nux vom.

10. Moschus ; *Moschus moschiferus ;* Fr., Musk ; Ger., *Moschus, Bisam ;* Eng., Musk.

This substance comes from a mammiferous ruminating animal of the deer kind, which inhabits the high mountains of the East, Siberia, China, Thibet, &c. The part which contains the musk, consists of a hairy bag, from two to three inches long, placed under the belly of the old male, near the sexual parts, behind the navel ; this membranous bag, thin and dry, contains a fat and black humour, of a slightly bitterish taste, of a peculiar, strong, penetrating odour, and which is the true musk ; these bags of musk come to us in leaden boxes, or in cases of wood, lined with lead. We distinguish two kinds in commerce: 1st. *Tonquin* or *Eastern* musk, (the Thibet musk of the Germans,) coming from the kingdom of Tonquin or Thibet. This is the best, and comes to us in bags of the size of a pigeon's egg, more or less rounded, covered with reddish, bristle-shaped hairs, moderately filled, and containing from 200 to 300 grains of musk; it looks like coagulated blood, and consists of small lumps of a deep brown, soft and unctuous to the touch, slightly moist, and often mingled with hairs and traversed by membranous shreds which shine like mother of pearl. 2d. The second sort is the *Siberian* or *Kabardin* musk, coming from Siberia; it is in elongated bags, pointed at one end, sometimes worm-eaten, covered with a thick skin, long hairs, whitish, silvery, traversed by membranes, and of a weak odour, very disagreeable, somewhat like the sweat of the horse. Musk is frequently found adulterated with sand, lead, iron, and other heavy substances; some bags are opened and other matters introduced, and even altogether filled with artificial musk; this may be discovered by the section of the bags and their closure by stitching; they also present places deprived of hair. The true and veritable musk, when rubbed on paper with water, should not present to the touch sandy points, and should have a colour of a yellowish tinge. Musk out of the bag is almost always adulterated, and is not proper for medicinal use. For homœopathic purposes, we take the Tonquin musk, of which we make the *three* first attenuations by *trituration.* Should we wish the tincture of this substance, we digest it with 20 parts of dilute alcohol.

Antidote: Camphor.

11. OLEUM JECORIS ASELLI SEU MORRHUÆ; Fr., Huile de morrue; Ger., *Leberthran, Stockfisch-Leberthran;* Eng., Cod-liver oil.

Cod-liver oil is a greasy, liquid substance, which is obtained from the liver of several kinds of codfish, *morrhua, callarias, molva,* &c., chiefly on the coasts of France, England and Norway, by exposing the liver to the heat of the sun, or by putrefaction. Hence there are two kinds of this oil; that which is obtained by exposure to the sun, is thick, of a fine golden-yellow, of a sweet odour, sweet, oily taste, and a specific gravity of 0,921. This kind comes from Norway, and is called the *white* oil. The second sort, which is called the *brown* oil, and is obtained by putrefaction and by boiling the liver, is more turbid, of a deep brown colour, disagreeable, nauseous odour, and of an acrid, slightly bitter taste. It dissolves in ether and absolute alcohol; it imparts to distilled water, if shaken with it, a straw-colour; exposed to the air, it becomes dry. For homœopathic purposes, we use the white oil, which, according to modern investigations, contains bromine and iodine. The first three attenuations are made by *trituration.*

12. SACCHARUM LACTIS, sugar of milk, (see Part I.)

13. Sepiæ succus, sepia officinalis; Fr., Seiche ordinaire, encre de seiche; Ger., *Tintenfish, Sepiensaft;* Eng., inky juice of the cuttle-fish.

This is an excretory liquor, contained in a bag in the abdomen of the *Sepia octopoda*, and is known under the name of *cuttle-fish ink*, or *drawing sepia.* It is blackish-brown, and is used by these animals to darken the water when they wish to catch their prey or escape from their pursuers.

The sepia is a cephalopodous mollusc, without an external shell, from one to two feet long, soft, gelatinous, of a brown colour, verging on the red, and spotted black; its body is rounded, elliptical, and enclosed in a sac furnished with a fleshy fin on both sides, along its whole length. The head is separated from the body by a neck, is salient and round, and provided with salient eyes of a lively red. The mouth is surrounded by ten arms which are pedunculated, very large, and furnished with suckers.

The ink-bag is found separate from the liver, and deeper in the abdominal cavity; its external duct ends in a kind of funnel, and opens near that part of the neck where the anus of the animal is situated. In the back is found an oval-oblong, moveable bone, somewhat convex, cretaceous and spongy. This fish lays a multitude of eggs of the size of peas, which adhere to stems like the grains of grapes, and are called *sea-grapes* (uvæ marinæ.)

It comes to us from the Mediterranean, enclosed in its bag, in which it has been dried. An artificial sepia is sold for drawing, which contains gum and other substances, and should not be used in homœopathy. We make the three first attenuations by trituration.

Antidotes: Acon., Antim., Tart. emet., Spir. nitr. dulc., vegetable acids.

14. Mephitis putorius, *Viverra putorius;* Fr., Putois mofette, Putois ou mofette d'Amérique, Conépate; Ger., *Nordamerikanisches Stinkthier;* Eng., Skunk, Polecat.

The polecat is a quadruped of the family of martins, inhabiting the United States; it is of the size of a martin, with round head; snout elongated, three-rowed moustaches on the upper jaw, a dry nose, and the neck a little marked. Its coat is black, but it has a white streak along the back from the back to the tail, and two others on each side parallel to the first; the posterior part of its body is larger than that of the martin; its tail is as if cropped, and furnished with long hairs, and nearly all white; the under part of the body is whitish; the forepart of the feet elongated and fortified with five strong nails; near to the anus, there is, as in all the genus viverra, a pouch where follicular glands deposit an unctuous matter of such an infectious and insupportable odour, that at the approach of the animal, at the moment when he squirts his liquor, the respiration is stifled, and asphyxia seems near at hand. This liquor is nearly puriform, of a deep-yellow colour, and of an alliaceous smell. We make the *three* first attenuations by *trituration.*

15. Oleum animale æthereum, Oleum Dippelii, Oleum animale Dippelii, Oleum pyro-animale depuratum, Oleum cornu rectificatum, Oleum cornu cervi rectificatum; Fr., Huile animale étherée, huile de Dippel; Ger., *Ætherisches Thieröl, Thieröl-Æther, Hirschhorngeist;* Eng., Æthereal animal oil, or Dippel's animal oil.

We obtain this oil by distilling dry stag's horn, bone, ivory, or any other animal matter, even hair, silk, wool, &c. The fetid oil thus obtained is again submitted to repeated and slow distillations at a temperature of about 60°. For every new distillation a fresh vessel is used, and four times its volume of water first added to the oil. The distillation is repeated until we obtain a perfectly colourless oil. In this state, it is a limpid fluid, of a specific gravity of 0,75, inflammable, of a disagreeable, penetrating odour, and a taste which is at first acrid, then bitter and cooling. It is very volatile, and usually white; but when exposed to the light, it becomes yellow, then brownish, at last of a blackish-brown, and at the same time thicker; it can be mixed with alcohol and ether in every proportion; with water in a small quantity. To test the purity of the oil, we let a drop fall on white paper, and then expose it to the air; if the oil is pure, not a spot remains. To test the presence of any vegetable essential oil, as turpentine, &c., we mix it with double its volume of alcohol, shaking the mixture well, and then filter it through blotting-paper moistened with alcohol; the animal oil remains behind, whilst the alcohol passes through, carrying with it the vegetable oil. To preserve the oil from the influence of the air and light, which changes its colour and consistence, it is necessary to keep it in black bottles, furnished with ground glass stoppers, and covered with carefully tied prepared bladder. The inverted bottles should be placed in water, a little beyond their orifices. There is now sold a kind of *oleum animale Dipp.* which is clear and colourless, and remains unchanged by the light or air. This oil is, perhaps, not reliable.

The dilutions are prepared with alcohol fortius.

16. Carbo animalis; Fr., Charbon animal; Ger., *Thierkohle;* Eng., Animal charcoal.

Animal charcoal has been used by a great many of the older physicians. It is an ingredient of the well known remedy for cancer, "*Jean de St. Côme de Baseilhac.*"

According to Weise, the best mode of obtaining animal charcoal is to take a piece of veal with the ribs (the bones should form only one-third of the whole weight), cut it in moderately small pieces, and then roast it in a coffee-roaster over a sufficiently brisk fire, turning the roaster all the time, until the inflammable air begins to appear in the shape of small flames, which show themselves round the roaster; after which the roasting is to be continued for a quarter of an hour; if the roasting were continued until the inflammable air ceases to appear, the preparation would lose all its efficacy, and it produces a smell from the mouth as of foul eggs.

To prepare this substance for homœopathic purposes, place a thick piece of oxhide on burning coal, and let it burn until the flame ceases; then place the burning charcoal quickly between two slabs of stone, or in a well-closed crucible, in order to extinguish it immediately; for if it should be allowed to burn exposed to the air, the greater portion of it would be destroyed.

Besides the animal matter, oxhide contains a certain quantity of tannin, which, when burnt, leaves, according to Proust, carbonate of potash. Animal charcoal retains less of the form of the carbonized body than vegetable charcoal; it is less inflammable, its interstices are more considerable; frequently it has a more sensible metallic lustre, gives out carbonic acid, and takes up another element in the place.

The powder should be kept in well corked glasses.

We prepare the triturations from the recently burnt coal.

Antidote: Camphor.

C. *Animal Concretions and Zoophytes.*

1. Conchæ; *Testæ ostreæ.*

The common oyster is a shell which is bivalve and almost round. One of the valves is flattened, and with an even border; the other is marked with prominences like the tiles on a roof. Oysters exist on the sandy or rocky beach of seas, forming beds, or attached to rocks, roots, &c., or perfectly free. The shells are composed of a calcareous substance. According to Roger, 100 parts of oyster-shell contain 95,18 of carbonate of lime, 1,88 of phosphate of lime, 0,40 of silex, and 0,45 of animal matter. When calcined, they are changed almost entirely into carbonate of lime or quicklime, according to the degree of heat which was employed.

In homœopathy we do not use the whole shell, but only the white part enclosed between the lamellæ. We term this substance, when prepared, *Calcarea carbonica.* (See this substance).

2. Lapides, seu Oculi cancrorum; Fr., Yeux d'écrevisse; Ger., *Krebsaugen;* Eng., Crab's-eyes.

These are natural calcareous concretions, which are at first of a milky consistence, and afterwards become indurated. They are found in the stomach of this animal at the time when it changes its coat. They are circular bodies, convex on one side, flat on the other, concave towards the centre, smooth, hard, rose-coloured or white, formed by layers, inodorous, and of an earthy taste. According to Dulk, 100 parts contain 63,16 parts of carbonate of lime, 17,30 phosphate of lime, 11,43 animal matter soluble in water, with some traces of sodium and chlorate of sodium; 4,33 of animal matter insoluble in water; 1,33 of phosphate of magnesia; 1,41 of soda. We obtain them from Astrachan, Moldavia, Poland, where the crabs are pounded and allowed to decay, and the flesh is afterwards washed off with water. Artificial crab's-eyes are composed of chalk, glue, ichthyocolla, and are not formed by layers; dissolved in nitric acid, they leave no membranous, gelatinous residue; they adhere firmly to the tongue, and, placed in hot water, they fall to powder. In homœopathy, the natural crab's-eyes are prepared by trituration.

3. Corallium rubrum, *Isis nobilis ;* Fr., Corail rouge; Ger., *Rothe Koralle ;* Eng., Red coral.

Red coral (Corallia rubra) is the calcareous covering of certain polypi which inhabit the Mediterranean, especially on the coast of Africa and in the Greek Archipelago, where they stick fast, by a broad disk-shaped foot, to the submarine rocks. By their form and structure, corals resemble a bush deprived of its leaves, or else they form, by the agglomeration of a great many individuals, a kind of rock of great extent. The trunk is rounded, or a little compressed, of the thickness of about an inch at its base, furnished irregularly with lateral branches, each one of which terminates in a rounded knot; this knot is the true living part of the polypus; it is covered by a soft and marrowy pellicle, and serves as the habitation of a great number of worms, which all belong to the order of Zoophytes, and which are united by a substance common to them all. In taking off this pellicle which covers the knot, we find the stony, cellular axis, consisting of concentric layers, deposited one after the other by these animals. The coral is torn off the rocks by fishermen and divers, and caught by means of nets and instruments arranged for that purpose. For homœopathic use, we take the small pieces, which are striated without, branchy, and often covered with a white calcareous substance. The *three* first attenuations are made by *trituration.*

4. Spongia marina tosta ; Fr., Éponge maritime torrifiée ; Ger., *Gebrannter Meerschwamm ;* Eng., Burnt sponge.

This is looked upon by many naturalists as the skeleton of a polymorphus polypus, whilst others regard it as an entirely vegetable substance inhabited by certain polypi. The sponge is an informal mass, tenacious, rough, elastic, porous, sometimes branchy, covered with a gelatinous mucus, and composed of thin fibres which anastomose with each other; it is generally brownish or yellowish, rounded, flat below, convex above; it is frequently found in the Mediterranean and Red Sea, attached to rocks.

In homœopathy, we use the ordinary sponge, of common size, as is sold by druggists, free from all stony concretions. To prepare it, we cut it in pieces, put it into a roaster, and turn this over burning charcoal, until the pieces become brown and can be pulverized without much trouble. This pulverized sponge is of a black-brown colour, empyreumatic odour, a disagreeable, salt taste. It easily attracts the humidity of the air, and, when boiled in water, furnishes a yellow decoction emitting a scarcely perceptible smell of sulphuretted hydrogen.

We prepare the tincture according to the rule laid down for Class 1st. It ought to have a strong taste and smell of Iodine.

Antidote: Camphor.

CHAPTER III.

VEGETABLE KINGDOM,

AND THE MEDICINES WHICH WE DERIVE FROM IT.

Vegetable medicines are either whole plants or parts, or products of plants, and may be classified as follows, according as we employ either the whole, or part of the plant.

1. Entire plants.
2. Leaves, blossoms, stems.
3. Barks and wood.
4. Roots.

5. Fruits and seeds.
6. Resins and balsams.
7. Fungi (herpes, moss).
8. Vegetable products obtained
    a) by chemical processes.
    b) by fermentation.
    c) by combustion.

1. *Entire plants.*

1. Allium sativum; Fr., Ail; Ger., *Knoblauch;* Eng., Garlic.—*Liliaceæ.*

Garlic is originally from the Levant and middle of Europe, but is cultivated almost every where in kitchen gardens; it grows also spontaneously.

The root is round, of a pungent, insupportable and diffusible odour; it consists of many oblong, pointed bulbs, set one in another, and covered by three envelops. The stem is from 2 to 3 feet high, round, furnished with leaves to the middle. The leaves are disposed in two rows, linear, furrowed, pointed, oblong, of a blue-green, and glabrous.

We gather the whole plant in May and June, and after having stripped the single parts of their skins, we prepare, according to Class 2d, an essence of a yellow colour.

2. Aquilegia vulgaris; Fr., Ancolie vulgaire; Ger., *Ackelei;* Eng., Columbine.—*Ranunculaceæ.*

This plant grows in almost every country of Europe, in woods, woody low grounds, forests, and on the sides of mountains. The perennial root is branchy, of a deep brown without, white within; the stem is from one to three feet high, thin, branchy, somewhat downy, reddish; the leaves are biternate, of a blue-green beneath, of a deeper colour above, incised, indented. The folioles are petiolate, round, rhomboidal or ovoid; the flowers at the edges of the stem and branches are pendant, blue or brown, rarely rosy, disposed in corymbs, provided with reflected cornets. The seeds are oval oblong, small, of a shining-black, tasting first sweetish, then bitter.

We gather the entire plant at the period of blossoming.

Antidotes: Camph., Ignat.

3. ARNICA MONTANA; Fr., Arnique des montagnes; Ger., *Bergwohlverleih;* Eng., Mountain arnica, Leopard's bane.—*Corymbiferæ.*

This plant inhabits the high mountains of middle Europe, and airy mountain-pasturages. The arnica which grows on a mossy soil, is not proper for homœopathic use.

The root is of the size of a goose-quill, almost vertical, as if bit off, of a coffee-brown externally, and a dingy white internally, provided with fine fibres which start from the sides of the root, and possess a pungent taste like that of alum. The stem is from one to one and a half foot high, erect, rounded, shaggy, downy, simple or branchy; the branches are opposite, shaggy, downy; the leaves sessile, with even margins, shaggy, oval, the upper surface being of a dark and the lower of a pale green; those which are near the root, are disposed in circles, four by four. The flowers are large, radiated, of a beautiful yellow. The flowers are often soiled by the eggs of the musca Arnicæ, of which they have to be cleaned before using them.

We gather the plant when in flower, from May till July, and use the root, which is the most important part, the leaves near the root, and the flowers. From two parts of the root, one part of the leaves, and one part flowers, we prepare a tincture of a saturated brownish-yellow colour, according to Class 3d.

Antidotes: Camph., Ipec. Wine aggravates the symptoms.

The *Arnica-plaster* is prepared in the following manner: One ounce of the best ichthyocolla is soaked in water, cut in fine pieces, and dissolved by boiling it with a sufficient quantity of water. After being reduced by evaporation to four ounces, it is then mixed with a warm infusion of the root of Arnica, and spread on taffetas of a yard in width until one fourth of the whole mass remains; to this we add one ounce of the tincture of Arnica, and spread the whole of it on the taffetas. The plaster made of flesh-coloured taffetas has a darker colour than the simple adhesive plaster, and, when moistened, smells very strongly of Arnica.

4. Artemisia vulgaris; Fr., Armoise commun; Ger., *Gemeiner Beifuss;* Eng., Mugwort.—*Corymbiferæ.*

This plant is found all over Europe, where it grows along the highways, barren places, among rubbish, in fields and their borders, along ditches, &c. It is a perennial plant, of an agreeable odour, and an aromatic, bitter taste.

The root is cylindric, crooked, divided at the upper part in several long branches, and at the lower furnished with a number of long fibres, and a little rugged along its whole length. It is said to attain all its power in the month of November. The stem is erect, glabrous, branchy, indented, rough, from 4 to 6 feet high; the leaves are large, winged, pinnatifid, white and downy beneath; the flowers are numerous, small, in corymbs, of a rusty-yellow, calix imbricated, a little hairy. Should not be confounded with the *Artem. campestris* L.

The root should be dug in November, in dry weather. We do not wash it, but beat the dust off, dry and pulverize it. A tincture of a yellow-brown colour and little taste is prepared from it, according to Class 1st.

5. Artemisia Absinthium; Fr., Absinthe; Ger., *Wermuth, bitterer Beifuss;* Eng., Wormwood.—*Corymbiferæ.*

This plant, originally from Greece, grows at present all over Europe, in dry, sunny, stony places.

The root is oblique and hairy; the stem erect, quadrangular, striated, somewhat downy, branchy, from 2 to 4 feet high, with numerous leaves, of a greenish ash-gray colour on the upper, and a silver-gray colour on the lower surface; the flowers are tubular. The whole plant has, in the fresh state, a strong aromatic, pungent, disagreeable odour, and a very bitter taste. We gather the entire plant when in flower, (July or August,) and prepare it according to Class 1st.

6. Asarum Europæum; Fr., Asaret, cabaret d'Europe, oreille d'homme; Ger., *Haselwurz;* Eng., Asarabacca.—*Aristolochiæ.*

This plant grows in the whole of Northern Europe, in shady woods, and among under-wood. The root is rampant, filamentous, brown, of a strong aromatic smell resembling that of Valerian, and a nauseous acrid, somewhat bitter taste; the stems are short, shaggy, somewhat inclined, and terminate in two leaves which are attached to pedicles of from 3 to 4 inches long, kidney-shaped, with even margins, of a shining dark-green on the upper, and a grayish-green on the lower side, sometimes slightly covered by hairs, and traversed by veins disposed in the form of a net; the flowers spring up from the point of partition of the leaves; it has a short pedicle, is shaggy on the outer side, green-red, and of a dark purple-red within.

The root should be dug in March and April during the period of flowering; it has an unpleasant smell resembling that of pepper and valerian, and we prepare from it a dark-brown tincture of strong odour and an acrid taste, according to Class 3d.

Antidotes: Camphor and the *vegetable acids.*

7. Atriplex olida, *Chenopodium olidum* seu *vulvaria;* Fr., Arroche fétide, anserine (patte d'oie) fétide, vulvaire; Ger., *Stinkender Gänsefuss;* Eng., Stinking goosefoot.—*Atriplices.*

This plant, which is different from the atriplex sativa, grows in the south of Europe, in uncultivated spots, at the foot of walls, &c. The root is annual; the stem recumbent, branchy; leaves pedunculate, rhomboidal, entire, of a gray-green, the lower side covered with a powder resembling meal; flowers glomerated, panicled; seeds lentil-shaped, of a shining black. The entire plant emits an offensive smell, resembling that of putrid herring-brine, and has a repulsive, salt taste. The plant is gathered in the flowering season, and used *entire* for the mother-tincture.

Antidote: Camphor.

8. Atropa belladonna; Fr., Belladonne, morelle furieuse; Ger., *Wolf's-Kirsche, Tollkraut;* Eng., Deadly night-shade.—*Solaneæ.*

This perennial plant grows almost all over Europe, in forests, cleared woods, hilly regions, on the borders of forests.

The root is cylindrical, of a middling thickness, slightly ligneous, bent like a knee, rounded, brownish-yellow on the outside, whitish within, succulent, of a stupefying smell, and a nauseous, sweetish taste; it transforms the natural saliva into froth. The stem is erect, round, from 3 to 5 feet high, of a reddish-brown, striated, branching off into three parts; the leaves, which are attached by short foot-stalks to the stem, are in pairs of unequal size, longer at the root and shorter higher up, oval, pointed at both extremities, entire, pretty smooth, of a dusky green colour on their upper surface, and paler beneath. The flowers, which are supported upon solitary peduncles and rise from the axils of the leaves, are about an inch long, of a dingy green-yellow, with brownish veins, violet at the forepart; the fruit is a roundish berry, with a longitudinal furrow on each side, at first green, afterwards red, ultimately of a deep-purple colour, bearing considerable resemblance to the black cherry, except that it has a nauseous, slightly sweetish taste; it contains numerous seeds in two distinct cells, and has a sweetish, violet-coloured juice.

Before the period of flowering, in the months of June or July, we gather the leaves, especially those near the root and the lower pedunculated leaves, from which we prepare, according to Class 2d, an essence of a saturated yellow-brown colour, narcotic smell, and a nauseating taste.

Antidotes: Op., Hyos., Puls., Vinum, Hep. sulph., Camphor.—To counteract the berries, strong coffee should be used.

9. CALENDULA OFFICINALIS; Fr., Souci, souci des jardins, soleil; Ger., *Ringelblume, gemeine Ringelblume;* Eng., Common Marigold.—*Radiatæ.*

This annual plant, originally from the south of Europe, is now cultivated in all our gardens. The root is of a pale-yellow, cylindric, hairy; the stem erect, angular, hairy, branchy, from 6 to 12 inches high; leaves inversely oval, or lanceolate, spatula-shaped, entire or slightly sinuous, alternate, sessile, somewhat fleshy and downy: flowers large, of a yellow-red, broad, solitary, terminal, of a disagreeable, slightly aromatic odour, and a sourish, slimy, bitter taste. In sultry weather, sparks similar to electric sparks have been seen issuing from these flowers; the seeds are curved, muricated, the inner seeds subulate, the outer boat-shaped, with a furrow on the back.

We gather the plant when in flower, towards the end of July, and prepare an essence from the flowers, buds and young leaves, according to Class 2d.

10. Chamomilla, *Matricaria chamomilla, Chamomilla vulgaris;* Fr., Chamomille commun; Ger., *Feldkamille;* Eng., Common chamomile.—*Corymbiferæ.*

This annual plant grows in uncultivated fields, among wheat and corn, especially in sandy regions, all over Europe.

From the fibrous root shoot up several stems, erect, striated, ramose, naked, from one to two feet long; the leaves are sparse, the lower double, the upper single, pinnated and dark-green; the flowers are numerous, white, with yellow disk, and in corymbs; calyx hemispherical, imbricated, scariose; the receptacle naked and conical; the stems are swollen at the top, the covering scales tiled, blunt, green, skinny at the margin, whitish or brownish.

The common chamomile is frequently confounded with the Roman chamomile, from which it is distinguished by its perennial stalk, its chaffy receptacle, its hollow peduncles, the green scales of the calyx, and by its rays being mostly turned in.

From the flowering plant we prepare, according to Class 3d, a greenish-brown tincture, possessing in a high degree the taste and smell of the plant.

Antidotes: Acon., Camph., Cocc., Coff., Ign., Nux v., Puls.

11. Chenopodium glaucum; Fr., Ansérine glauque, patte d'oie verdâtre; Ger., *Graue Melde, graugrüner Gänsefuss;* Eng., Oak-leaved goose-foot.—*Atriplices.*

This plant grows most frequently in villages, outskirts of towns, on farms, about dunghills, and in places where their drainage accumulates. It has a branchy stem, of about a foot high, generally recumbent, and often marked with streaks of a beautiful red or whitish-green; the leaves are oblong, obtuse, with a few indentations, gray or bluish-green on the upper, and whitish on the lower surface. The glomerated flowers are enclosed in branchy spikes, and shoot up from the axillæ of the leaves and the extremity of the stem. The plant flowers from July till fall; we prepare from it a tincture.

12. DROSERA ROTUNDIFOLIA, *Rorella;* Fr., Drosère à feuilles rondes, rosée du soleil; Ger., *Sonnenthau;* Eng., Sundew—*Capparideæ.*

This plant grows on turfy ground, thickly covered with short moss, in the north of Europe, Bavaria, in northern Asia and America. The perennial root is thin, of a deep brown; stem erect, thin, glabrous, rough, from 2 to 8 inches high, and, previous to flowering, rolled upon itself at the summit. The leaves have long peduncles, are circular or transversely oval, disposed in a circle, somewhat juicy and breaking easily, of a pale-green on the lower surface, and on the upper surface covered with many red hairs which are provided, at their extremities, with purple-red follicles, which, when exposed to the sun, exude a clear, slimy juice. The flowers, alternate, on short peduncles, white, open during dry, fine weather for a moment about noon.

From the whole plant, including the flowers, we prepare in July and August, a tincture, according to Class 3d., of a saturated, yellow-red-brown colour, without much taste, and without any smell. It should be carefully guarded from the light of the sun.

Antidote: Camphor.

13. EUPHRASIA OFFICINALIS; Fr., Euphraise officinale; Ger., *Augentrost;* Eng., Eye-bright,—*Pediculareæ.*

This annual little plant grows in the meadows, on the borders of forests, all over Europe. We have many varieties of it. The principal or the best-known variety is found on humid meadows, and is the variety used in homœopathy. The root is very small, hairy; the stem rounded, downy, from 5 to 12 inches high, ramose at the base, and sometimes simple; leaves alternate, sessile, oval, obtuse, glabrous, thick, sharp-toothed ; flowers axillary, in a terminal spike ; calyx cylindric, four-leaved ; corolla white, labiated, lobed ; capsule double, oval, oblong ; anthers two-horned, spinous at the base, on one of the lobes. We gather the entire plant when in flowers, in July and August, principally from meagre, sunny places, and prepare a tincture from it, excepting the root, according to Class 3d, of a dark-yellow brown colour, and weak herby smell.

Antidotes : Camphor and *Bell.*

14. Polypodium Filix mas ; *Aspidium filix mas ;* Fr., Fougère mâle ; Ger., *Männliches Farrenkraut ;* Eng., Male fern.—*Filices.*

This beautiful fern grows all over Europe, in Asia and America, in shady woods, hedges, by old walls.

It has a perennial, horizontal root, a foot long and from two to three inches thick, from which numerous annual fronds or leaves arise, forming tufts from one foot to four feet in height. These rudimentary leaves are of a greenish-black externally, and covered with rust-coloured scales, pulpy internally, of a greenish-white, bitterish, acrid taste, and a nauseous, mouldy or mossy odour ; between them the thin filaments of the root grow out from above downwards ; the frond is oval, lanceolate, acute, pinnate, and of a bright-green colour ; the leaves are deeply divided into lobes of an oval shape, crenate at the edges, and gradually diminish from the base of the pinna to the apex ; the fructification is in small dots, 8 by 8, or 10 by 10, on the back of each lobe, in two rows, of a beautiful brown colour at the period of maturity. The plant is easily confounded with the arthyrium filix fœmina, which in some countries grows still more frequently than the male fern, but whose root is ascending and shorter than that of the male fern ; it also turns black when dried, whereas the root of the male fern becomes brown.

We gather the plant in the summer-months. That which grows on stony declivities, towards the north, is considered the most efficacious. Of the recently dug root we take the inner marrow, and we likewise take the youngest rudimentary leaves which are neither withered nor gangrened, of a bright-green colour, a strong, sweetish-offensive smell and similar taste, which afterwards becomes bitterish-acerb and slightly astringent. Both are stripped of their brown epidermis, after which we prepare, according to Class 2d, with alcohol fortius, an essence of a dark-brown colour.

15. FRAGARIA VESCA; Fr., Fraisier vulgaire; Ger., *Gemeine Erdbeere;* Eng., Wood-strawberry.—*Rosaceæ.*

This perennial plant grows in woods, meadows, fields, and hills, over the whole of Europe and a great portion of America. The root is brown, horizontal, with long, creeping sprouts that take root again; stem erect, round, hairy, of the length of a finger and more; leaves ternate, plicated, petiolated, downy on the upper surface and hairy on the lower; flowers white, inodorous; berry oval, red, of a delicious odour and exquisite taste.

We prepare the tincture from the plant when in flower.

16. GRATIOLA OFFICINALIS; Fr., Gratiole des boutiques; Ger., *Gnadenkraut, wilder Aurin;* Eng., Hedge hyssop.—*Scrofulariæ.*

This annual plant inhabits the wet meadows, borders of ponds and ditches, the bed of rivers, and the borders of lakes, all over the south and temperate part of Europe.

The root is rampant, horizontal, white, hairy; stem erect, quadrangular, a foot high, articular; leaves opposite, sessile, lanceolate, saw-like, glabrous, of a bright-green, the lower leaves being marked with five, the upper with three nerves; flowers axillary, solitary, pedunculated, of a reddish-white; the plant has scarcely any odour, but a repugnant, bitter, acrid taste. The seeds are numerous, small, oblong.

We gather the plant in May, previous to its flowering, and prepare from it an essence according to Class 2d, of a saturated green-brown colour and a very bitter taste.

17. Hypericum perforatum, *Fuga demonum, herba St. Johannis, herba solis;* Fr., Millepertuis, chasse diable, herbe St. Jean; Ger., *Johanniskraut, Hexenkraut, Hartheu, Konradskraut.—Hypericinæ.*

This is a common plant, in fields, along hedges, roads, &c. Stem two-edged, erect, from one to two feet high; leaves sessile, oval, lanceolate, marked with lines, and a great many transparent points which look like perforations; the edges of the leaves are rolled back; flowers in panicles, with short pedicles, star-shaped, yellow, with black dots at the edges, calyx five-lobed, with five long, straight petals; stamina numerous, united in three fasces: the fruit forms four capsules, with three valves, brown-red, shining like resin.

We gather the plant in August, soon after it has done flowering, and prepare from it* a tincture according to Class 3d, of a dark purple-red colour, and a slightly balsamic odour.

18. Lactuca virosa, *Herba lactucæ fœtidæ,* seu *Intybi angusti;* Fr., Laitue vireuse; Ger., *Giftlattich;* Eng., Strong-scented lettuce.—*Chicoraceæ.*

This perennial plant inhabits the South of Europe, and grows on hills, ramparts, waste places, heaps of rubbish, along hedges and walls, and is also cultivated in gardens.

* According to Gruner, the tincture should be prepared from the seed-capsules.

Its stem is from 3 to 4 feet high, erect, rounded, of a gray-green, at first filled with marrow, afterwards tubular, prickly near the base, above smooth, and divided into branches, marked here and there with blood-red spots, and containing a white milk. The leaves are horizontal, sessile, clasping half of the stem, with fine or very sharp indentations, prickly at the lower part of the mid-rib ; the upper leaves are sagittal lanceolate, undivided, the lower large, oblong, not indented, but the margins somewhat broken ; the flowers are small, of a pale-yellow colour, disposed in panicles, at the extremity of the branches and stems. The fruit is black. The plant has a very offensive and pungent smell and a bitter taste, and contains in all its parts a white, milky juice, smarting on the tongue, and with a bitter taste.

We gather the plant when flowering, in July or August, and with the exception of the older, woody portions of the shaft, we prepare from it, according to Class 2d, an essence of a yellow-brownish colour.*

Antidotes : Vegetable acids, and *coffee.*

19. Lolium temulentum ; Fr., Ivraie des blés ; Ger., *Taumellolch, Tollkorn, Taumelkorn ;* Engl., Bearded darnel.—*Gramineæ.*

The darnel grows among wheat, chiefly among oats and barley, in rainy seasons. The annual root is thready, without leaves, the stem is erect, strong, stiff, glabrous ; leaves linear, broad, with sharp edges ; spike long, many-flowered ; the leaflets alternate, close over each other, imparting to the upper portion of the stem an appearance as if twisted to and fro ; the calyx of the uppermost leaflet has two valves, the corol-valves are twice as small as the calyx, the outer valve is provided with a long,

* *Lactucarium* is the white, rather thick milky juice which is obtained by incising the plant, and dries when exposed to the air, forming scales or lumps of a yellow-brownish colour.

straight, stiff beard. The seeds are poisonous, and have a stupefying odour and acrid taste.

We gather the plant in August, when the seeds are ripe, and prepare from it, according to Class 3d, a tincture without odour, of a greenish-brown-yellow colour.

20. ONOXIS SPINOSA; Fr., Bugrane, arrête-boeuf; Ger., *Dornige Hauhechel;* Eng., Common rest-harrow.—*Leguminosæ.*

This perennial vegetable is found all over Europe, where it grows in uncultivated fields, dry pasturages, along roads, hedges, &c.

The root is as thick as the finger, branchy, dipping into the ground two feet and upwards, of a reddish-brown externally, and whitish internally, of a sweetish-slimy and somewhat acrid-bitter taste; stem recumbent below, erect above, round, ligneous, branchy, spiny; leaves petiolate, sparse, ovoid, serrated, hairy on both sides, the lower ternate, the upper single; flowers solitary, axillary, with short peduncles, of a pale purpurine colour or with rosy veins.

We gather the plant before flowering, and, according to Class 3d, prepare a tincture from it of a red-brown colour.*

21. PARIS QUADRIFOLIA; Fr., Parisette à quatre feuilles, raisin de renard, étrange-loup; Ger., *Vierblätterige Einbeere;* Eng., True-love.—*Asparagi.*

This plant grows all over Europe, in wet woods, thickets, in plains as well as on mountains.

The root is perennial, vertical, rampant, rounded, jointed, fleshy, whitish. Stem erect, single, round, unifloral, a foot high, herbaceous; leaves at the top of the stem, with short peduncles, broad-elliptical or oval, pointed, entire, glabrous, disposed as a cross,

* According to Gruner, the tincture is to be prepared from the root alone.

shining beneath, veined, with sharp edges and three or four nerves; calyx four-leaved, of a greenish-yellow; peduncle from one to two inches long, and furrowed; flower of a yellowish-green; berry dark-blue, shining, slightly quadrangular. The fresh leaves and berries have a disagreeable and narcotic odour; the root has a pungent odour and a nauseous taste.

We gather the plant when in flower, from April till June, and, according to Class 2d, prepare from it an essence of a brown-yellow colour, and a bitterish taste.

Antidotes: Coffee and *Camphor.*

22. Petroselinum sativum; Fr., Persil; Ger., *Petersilie;* Eng., Parsley-root.—*Umbelliferæ.*

Parsley grows wild in the Levant, Greece, Sardinia, Sicily, and is cultivated in all our gardens.

The biennial root is spindle-shaped, whitish, fleshy, from which shoot up stems of from 2 to 4 feet high, glabrous, striated, with long and thin branches; the leaves at the root are compound, pinnated internaries, with smooth and three-lobed leaflets, notched at the margin; in the cauline leaves the segments of the leaflets are linear and entire; the flowers are small, pale-yellow, and disposed in terminal compound umbels, with a general involucre of one or two leaves and partial ones composed of 6 or 8 leaflets; flower of a greenish-yellow; seeds small, ovate, flat on one side, convex on the other, of a bluish-green colour, marked with five longitudinal ridges; they have a strong, aromatic odour and taste.

We gather the plant in August, when the seeds are ripe, and prepare, according to Class 1st, a tincture of a pale green colour.*

* According to Gruner, the tincture is to be prepared from the *seeds* alone.

23. Pulsatilla nigricans seu pratensis, *Anemone pratensis;* Fr., Pulsatilla noirâtre, anémone des prés, coque lourde; Ger., *Wiesen-Pulsatille, Küchenschelle;* Eng., Pulsatilla, meadow-anemone, wind-flower.—*Ranunculaceæ.*

This perennial plant grows in sandy pasture-grounds, on hills and sunny declivities, in Germany, France, Denmark, Sweden, Russia and Turkey.

Root ligneous, deep, spindle-shaped, thick; stem simple, erect, rounded, from 3 to 5 inches high; the leaves, which are but imperfectly developed before the period of flowering, are radical, petiolate, bipinnatifid; at the top of the shaft is the bell-shaped, black-violet-brown flower, with the folioles bent at the point; the flower hangs slightly over during the flowering-period. The involucre of the flower is composed of three leaflets with a number of linear lancet-shaped indentations which first are close under the flower, but afterwards a little removed from it in consequence of the peduncle growing longer; the whole plant is covered with many white, soft, silky hairs, and has a woolly, soft appearance. It is inodorous, but when squeezed, gives out a pungent vapour which frequently draws tears from the eyes. It should not be confounded with the common pulsatilla, anemone pulsatilla. This plant grows on dry and sterile land, and flowers in the spring alone; whereas the black-coloured pulsatilla flowers a second time in August and September. The pulsatilla nigricans is much more hairy than the anemone, has a much more shaggy shaft, which is bent at the top, and it is also distinguished from it by its flower, which is hanging, almost twice as small as that of the anemone, much darker, with the petals bent back at the top, whereas the petals of the anemone are straight.

We gather the flowering plant, without the root, in the month of April, and prepare from it, according to Class 3d, a tincture of a light greenish-brown colour and a burning taste.

Antidotes: Vinegar, Camphor, Coffee, Nux vom., Ign.

24. Ranunculus bulbosus; Fr., Renoncule bulbeuse; Ger., *Knolliger Hahnenfuss;* Eng., Bulbous crow-foot, butter-cups.—*Ranunculaceæ.*

This perennial plant grows in meadows, pasturages, along roads, and in the woods, all over Europe and North-America.

It has a bulbous, filamentous, white root, which sends up annually several erect, round, tubular, shaggy, branching stems, from 9 to 18 inches high, many-flowered, and covered with whitish, soft hairs. Leaves radical, the lower ones with long peduncles, the upper ones sessile and clasping part of the stem, leaves ternate, trifid, the upper ones sessile, digitate, with rough hairs; flowers bright-yellow, solitary, glossy, upon furrowed, angular peduncles, at the end of the stem; leaflets of the calyx shaggy without, yellow within, reflexed as far as the middle, or bent downwards against the flower-stalk; the petals are obcordate and arranged so as to represent a small cup in shape; at the inside of the claw of each petal is a small cavity which is covered with a minute wedge-shaped emarginate scale; the fruit consists of numerous naked seeds collected in a spherical head; stems, leaves, peduncles and calyx are hairy.

We gather the entire plant in June, while flowering; we then first prepare a tincture from the herb according to Class 2d, and then from the root according to Class 3d, and mix the tinctures thus obtained, which will produce a tincture of a deep-brown colour.*

Antidotes: Camph., Bryo., Puls., Rhus t.

* According to Gruner, the root alone is used.

25. Ranunculus sceleratus, *Herba sardoa;* Fr., Rénoncule scélerate, herbe sardonique, grenouillette d'eau; Ger., *Gift-Hahnenfuss, Wasser-Eppich;* Eng., Marsh crowfoot, celery-leaved butter-cup.—*Ranunculaceæ.*

This plant grows in ditches, on the banks of rivers, wet meadows, marshy, swampy grounds, &c., in all Europe, Siberia, Egypt, Canada.

Root composed of many whitish, pretty long fibres; stem erect, of the thickness of a finger below, viscous, hollow, branchy, panicled, multifloral, glabrous, shining, green, from one to one and a half foot high; leaves glabrous, succulent, the radical leaves on long peduncles, reniform, tri-lobed, irregularly notched or trifid; lower pedunculated leaves ternate; upper leaves smaller and shorter, composed of three linear entire leaflets; the peduncles of the flowers downy, channelled; calyx reflexed, flowers small, of a pale lemon-yellow; fruits numerous, small, oval or berry-shaped. Blossoms from June to September.

We prepare a tincture according to Class 2d,* of a bright brown-yellow colour and smarting taste.

Antidotes: Pulsatilla; perhaps also *wine* and *coffee.*

26. Sedum acre; Fr., Sedon âcre, poivre de muraille, vermiculaire brûlante, petite joubarbe; Ger., *Schwarzer Mauerpfeffer;* Eng., Biting stone-crop, small houseleek.—*Sempervivæ.*

This small plant grows throughout France and Germany, on old walls, dry hills, rocks, in ditches, &c.

Root weak, hairy, perennial; stems erect, thready, without leaves, supporting erect, flowering and flowerless peduncles, leaves short, oval, thick and fleshy, and, at their broad basis, shaped like the pointed half of an egg, concave on the lower surface; the

* According to Gruner, the root is not used in the preparation of the tincture.

whole plant has an acrid, burning, nauseating taste, which continues a long time.

The *Sedum sexangulare* is distinguished from the former by its longer, cylindrical leaves, which are tasteless and distributed in 6 rows. The *Sedum reflexum* is generally taller, its leaves are cylindrical and awl-shaped, and bent downwards from the stem; it has no taste.

We gather the plant before flowering, in May, and prepare from it, according to Class 2d, an essence of a pale brownish-yellow colour and an acrid taste.

27. Leontodon taraxacum; Fr., Dent de lion; Ger., *Löwenzahn;* Eng., Dandelion.—*Chicoraceæ.*

This perennial plant grows spontaneously in most parts of the world, in grass-plots and pasture-grounds, during the whole of summer. The leaves, which spring immediately from the root, are long, pinnatifid, generally runcinate, the divisions indented, smooth, and of a fine green colour; the flower-stem rises from the midst of the leaves, six or more inches high; it is erect, simple, smooth, naked, hollow, fragile, with a large gold-coloured flower at the end, which closes in the evening and opens again in the morning; calyx smooth and double, with the outer scales bent downwards; the florets are very numerous, ligulate, and toothed at their extremities; the receptacle is convex and punctured; the seed-down is stipitate, and at the period of maturity is disposed in a spherical form, and is so light and feathery, as to be easily borne away by the wind, with the seeds attached. The whole plant contains a milky, soapy juice, of a saltish, bitter taste.

We gather the entire plant, with the root, in April and May, before it begins to flower, especially that which grows on meagre, stony soil, and prepare from it an essence according to Class 2d, of a light yellow-brown colour.

Antidote: Camph.

28. Thymus Serpyllum; Fr., Serpollet; Ger., *Quendel, Feldthymian;* Eng., Wild thyme.—*Labiaceæ.*

This perennial little plant is very common in France and Germany, and grows on sunny hills, pasture-grounds, along roads and ditches.

Root ligneous, branchy; stems some erect, others creeping, downy, thin, ligneous, quadrangular; leaves oblong-oval, glabrous or hairy, on short peduncles, blunt or rounded, dark-green on the upper surface, paler and spotted on the lower, veined; flowers blue-red or reddish-blue in capitate verticils at the end of the stems.

From the flowering plant we prepare a tincture according to Class 2d.

29. Verbena officinalis; Fr. Verveine commune; Ger., *Eisenkraut;* Eng., Common vervain.—*Verbenaceæ.*

Grows in Germany and the south of Europe, in sandy places, along roads, hedges, on heaps of rubbish.—*Verbenaceæ.*

Root deep, fusiform, hairy, ligneous; stem erect, quadrangular, furrowed, from one to two feet high, with decussated branches, leaves opposite, not pedunculated, rugose, scabrous, pinnafid, incised and notched.

Flowers alternate, sessile, of a reddish-white, with short peduncles, forming long spikes, paniculate, at the end of the peduncles and stems; calyx five-lobed, hairy; the small, lilac-coloured flowers have a contracted throat, enclosing the stamina. The whole plant is inodorous, and has a slightly astringent taste.

30. Vinca minor; Fr., Pervenche, petite pervenche; Ger., *Wintergrün, kleines Sinngrün;* Eng., Lesser periwinkle.—*Apocyneæ.*

This small plant grows in all Europe, in dry and shady forests, and among underwood, on the ground, and among stones, and is also cultivated in gardens. —*Apocyneæ.*

Root rampant, with long hairs below; stem recumbent, round, thin, from 6 to 12 inches high, the flower-bearing branches erect; leaves opposite, elliptical, lanceolate, pedunculated, entire, shining, coriaceous, ever-green, flowers solitary, axillary, blue, on long peduncles, infundibuliform.

We gather the herb while flowering, and, according to Class 2d, prepare from it a brown-green essence.

31. VIOLA ODORATA; Fr., Violette de Mars; Ger., *Veilchen, Märzveilchen;* Eng., Sweet violet.—*Violaceæ.*

This is a native of Europe, growing in woods, hedges, gardens, vineyards, and in shady places.

Root ramose, fibrous, creeping, the runners of the root being furnished with fibrous roots; leaflets on long peduncles, roundish, heart-shaped, obtuse, notched, glabrous or downy, flower-stems unifloral, axillary, filiform, erect, glabrous; flowers violet, less frequently of a rose-colour, irregularly entire or glabrous.

We gather the entire plant in March and April, while flowering, and prepare from it, according to Class 2d, an essence of a dark-brown colour, and a slight violet taste, distinctly resembling that of Ipecacuanha.

Antidote: Camphor.

32. VIOLA TRICOLOR, *Jacea;* Fr., Pensée; Ger., *Freisam-Veilchen, Stiefmütterchen;* Eng., Heart's-ease. —*Violaceæ.*

This annual plant grows all over Europe and also on the Alps, in fields, pasture-grounds, along the borders of forests and meadows, and in gardens.

Root hairy, branchy; stem triangular or quadrangular, recumbent, glabrous, with branches erect; leaves having the odour of peach-kernels when rubbed, alternate, pedunculated, more or less downy, the lower ones oval-oblong, the upper ones lanceolate; all the leaves are notched, serrated; flower-stems axillary.

We gather the kinds that bear yellow and blue flowers.

Antidote: Camphor.

2. *Leaves, Flowers, Stems.*

The leaves and herbs should be gathered in dry weather, previous to flowering, after they have attained their full growth; except those plants which flower before the leaves make their appearance. The gathering should neither take place early in the morning when the dew is still on the ground, nor too late in the day, especially in hot summer-days, when the sun has dried up the juice. The leaves should be separated from their stems, and all the wilted or yellow leaves thrown aside; hard and ligneous stems should likewise be thrown away. It may happen, however, especially with Alpine plants, that we do not succeed in finding any without blossoms; in such a case we gather the leaves (and, if necessary, the roots likewise) of those only that are in flower, omitting all those which, from some cause or other, have not yet begun to blossom.

The flowers, for the most part, contain a greater or lesser amount of volatile oils, colouring matter and tannin; they should be gathered in dry weather, not too long after the flowers have expanded, and after the dew had been dried by the rays of the sun. They must be prepared immediately after being gathered.

The stems are cut off after the leaves are grown, or, which is still better, at the commencement of the fall-season, when they contain the largest amount of juice.

a) Leaves and stems of European plants.

1. ACONITUM NAPELLUS; Fr., Aconit napel; Ger., *Eisenhütlein, Mönchskappe, Sturmhut, Wolfswurz;* Eng., Large, blue wolf's bane, monkshood, aconite. —*Ranunculaceæ.*

This plant grows all over Europe, and is even cultivated in gardens. For homœopathic purposes, we use that which grows on the summit of the Alps, in Switzerland, Stiria, on the mountains of Bohemia and Silesia, at a greater elevation above the sea than Veratrum.

The stem of this plant is cylindric, rounded, erect, from 2 to 3 feet high; leaves petiolated, divided into 5 or 6 lobes, palmated; the lobes are wedge-shaped, pinnafid, alternate, dark-green on the upper, and light-green on the lower surface, shining on both sides. Flowers deep-violet, seldom pale-blue or whitish, panicled at the end of the stem; calyx null; two nectaries pedicelled and revolute, short, thick; seeds acute, triangular, rugose on the back.

We gather the wild plant in June and July, when in flower, except the root, and prepare an essence from it according to Class 2d, of a dark brown-yellow colour, a strongly narcotic smell, and a nauseous and slightly bitter taste.*

2. ÆTHUSA CYNAPIUM; Fr., Ciguë des jardins, petite ciguë; Ger., *Gartenschierling;* Eng., Garden-hemlock.—*Umbelliferæ.*

This annual plant is found in most European countries, along hedges, on fields, heaps of rubbish, and in gardens among parsley, &c.

This plant may be confounded with the chervil, parsley, and poisonous hemlock. What distinguishes

* This is according to Buchner and Gruner, but it is now well known that the best part of the plant is the root, from which we prepare the most powerful tincture.

the æthusa and chervil is this, that the leaves of the chervil exhale an agreeable odour when rubbed, whilst those of the garden-hemlock develop a sickening smell; the seeds of the hemlock are globular and striated, those of the chervil elongated; in the æthusa the involucelle exists on one side only, whereas in the chervil it is complete; the parsley is a biannual plant, or even perennial, the æthusa annual; lastly, the leaves of parsley are large and cuneiform, the hemlock-leaves are cut off. From the cicuta virosa it is distinguished by this, that the cicuta virosa is spotted, whereas the æthusa is striated.

We gather the plant when in flower, in June and August, and prepare from it, according to Class 2d, an essence of a light brown-yellow colour and a pretty strong taste and smell.

3. Aristolochia Clematitis; Fr., Aristoloche vulgaire; Ger., *Gemeiner Osterluzei;* Eng., Common birthwort.—*Aristolochiaceæ.*

This perennial plant is found in Germany, France, and Tartary, along hedges, roads, in vineyards, uncultivated fields, &c.

Root rampant, round, jointed, contorted, of a yellowish-brown; stem generally single, erect, slightly contorted, furrowed, pithy within, the lower portion furnished with oblong-oval, brownish scales, from one to three feet high; leaves with long peduncles, obtusely triangular, cordiform, obtuse or indented, of a dark-green on the upper, and a blue-green on the lower surface. Flowers axillary, of a dirty-yellow. The whole plant emits a strong and disagreeable odour, and has a bitter, acrid and balsamic taste.

We gather the herb in June.*

* According to Gruner, we dig up the root in April or September, and prepare from it a tincture according to Class 3d.

4. ASPARAGUS OFFICINALIS ; Fr., Asperge vulgaire ; Ger., *Gewöhnlicher Spargel ;* Eng., Asparagus.—*Asparagi.*

This plant is a native of Europe, and is found in sandy places, near the sea-coast, in meadows, along the borders of forests; it is frequently cultivated in gardens.

The root is composed of a short shaft terminating in a cluster of round, long, white fibres. From this root spring up several herbaceous, round, glabrous stems, near three feet high ; leaves in fascicles, about an inch long, glabrous; flowers small, of a greenish-yellow, solitary and axillary; fruit bacciform, of a scarlet-red, three-celled, with two or three black seeds.

We gather the young shoots (turiones Asparagi), which are used as food, and, according to Class 3d, prepare an essence from them of little smell and taste, and a pale straw-yellow colour.

5. CANNABIS SATIVA ; Fr., Chancre cultivé ; Ger., *Hanf ;* Eng., Hemp.—*Urticeæ.*

Hemp is originally from Persia, according to others from India, and is found wild in all those countries where it is cultivated.

Stem erect, angular, from 3 to 4 feet high, that of the female plant still higher, hairy, almost simple ; leaves stipulate, digitate, the inferior opposite, the superior alternate; leaflets lanceolate, pointed, serrated, those of the male plant of a yellowish, and those of the female plant of a dark green; male flowers in axillary and terminal panicles, of a greenish white, female flowers at the summit of the branches, forming spikes, furnished with a number of leaves. Both the male and female flowers emit a strong, balsamic-narcotic odour, especially in damp evenings.

In May and June, during the period of flowering, we gather the flowering tops and upper leaflets, especially of the female plants, and prepare from them a tincture, according to Class 3d, of a dark green-brown colour and the odour of the flowers.

Antidotes: Camphor.

6. Clematis erecta, *Flammula Jovis;* Fr., Clematite droite; Ger., *Brenn-Waldrebe;* Eng., Upright virgin's bower.—*Ranunculaceæ.*

From the bushy root shoot up annually erect, naked stems, branchy above, from 4 to 7 feet high, of a green and sometimes reddish colour; leaves opposite, pinnated; leaflets oval, lanceolated; flowers white, panicled, at the end of the branches.

From the flowering plant we prepare, according to Class 3d, an essence of a dark blue-green colour and acrid taste.

7. Conium maculatum; Fr., Grande ciguë; Ger., *Gefleckter Schierling;* Eng., Hemlock.—*Umbelliferæ.*

This plant grows in gardens, along roads, hedges, and on fields; it is fond of good, cultivated soil.

The biennial root is cylindrical, white, spindle-shaped; stem herbaceous, branching, from 3 to 6 feet high, round, hollow, smooth, shining, slightly striated and marked with brownish-purple spots; the lower leaves are tripinnate, more than a foot in length, shining, and attached to the joints of the stem by sheathing petioles; the upper are smaller, bipinnate, and inserted at the divisions of the branches; both have channelled footstalks and incised leaflets, of a deep-green on their upper surface, and of a paler green on their lower; the flowers are very small, white, and disposed in compound, terminal umbels; the fruit is roundish, ovate, striated, tuberculous, and disposed of two plano-convex, easily separable seeds, which have on their outer surface five crenated ribs; being rubbed between the fingers, the plant emits a fetid, musky, disagreeable odour: this odour is sufficient to distinguish it from parsley, the odour of which is aromatic; parsley has no spotted stems, nor hollow petioles, nor are the leaves of such a sombre hue; the leaves of parsley are oval, trifid, incised and indented, those of the hemlock oval-oblong or lanceolate, deep pennafid, the lobes incised or serrated.

We gather the plant when it begins to flower, except the flower, and prepare from it, according to Class 2d, an essence of a light brown-green colour, and of an exceedingly offensive, narcotic smell.

Antidotes : Coffea, Spir. nitr. dulc.

8. Digitalis purpurea; Fr., Digitale pourprée; Ger., *Rother Fingerhut, Waldglocke;* Eng., Purple foxglove.—*Scrophulariæ.*

This beautiful plant grows on basalt and porphyry declivities, on fields, in the valleys of Southern Europe, on the mountains of the Rhenish Palatinate, &c., and is frequently cultivated in gardens. The biannual or perennial fibrous root sends forth large tufted leaves, and a single, erect, downy, leafy stem, from two to five feet high, terminating in an elegant spike of purple flowers; the lower leaves are ovate, pointed, about eight inches long and three inches wide, standing upon short, winged footstalks; the upper are alternate, sparse, lanceolate; both the upper and lower leaves are obtusely serrated at their edges, and have wrinkled, velvety surfaces, the upper of which is of a fine deep-green colour, the lower paler and more downy; the flowers are numerous and attached to the upper part of the stem by short peduncles, generally in such a manner as to hang down upon one side; at the base of each peduncle is a floral leaf, which is sessile, ovate, and pointed; the calyx is divided into five segments, the uppermost of which is narrower than the others; the corolla is monopetalous, bellform, swelling on the lower sides, irregularly divided at the margin into short obtuse lobes, and in shape and size bearing some resemblance to the end of the finger of a glove; the mouth of the corolla is guarded by long, soft hairs; its general colour is bright-purple, but sometimes the flowers are whitish; the internal surface is sprinkled with black spots upon a white ground; the filaments are white, curved and surmounted by large, yellow anthers; the style, which is simple, supports a bifid stigma; the seeds are very small, numerous, of a dark colour, and enclosed in a pyramidal, two-celled capsule.

We gather the leaves of the wild flowering plant, on dry days, and, according to Class 2d, prepare from it an essence of a dark brown-green colour, and an offensive, slightly narcotic odour.

Antidotes: Opium, Nux vom., vegetable acids.

9. HERACLEUM SPHONDYLIUM, *Branca ursina;* Fr., Berce, fausse branc-ursine, branc-ursine d'Allemagne; Ger., *Heilkraut, falsche Bärenklau;* Eng., Common cow-parsnip.—*Umbelliferæ.*

This plant is found all over Europe, in meadows, and on the borders of woods. The root is thick, fusiform, branchy, yellowish without, whitish within; stem from 3 to 6 feet high, erect, furrowed, covered with stiff hairs, fistulous, branchy at the top; leaves pinnate and full of asperities; leaflets divided. When young, this plant contains a juice which is sweetish to the taste; when older, the juice becomes acrid, of a bitter taste, and biting; when applied to the skin, the juice causes it to swell, and produces even inflammation and ulcerations.

From the flowering plant we prepare, according to Class 2d, an essence of a light brownish-yellow colour and a nauseous-bitter taste and smell.*

Antidotes: Camphor, vegetable acids.

10. HYOSCYAMUS NIGER; Fr., Jusquiame; Ger., *Bilsenkraut;* Eng., Henbane.—*Solaneæ.*

This plant grows in Germany, in a great part of

* According to Gruner, the essence should be prepared from the root alone.

France, North-America, and Asia, and is chiefly found in gravelly places, waste lands, the vicinity of dwellings, along highways, &c. It is a biennial plant, with a long, tapering, whitish, fleshy, somewhat branching root, bearing considerable resemblance to that of parsley, with which it is sometimes confounded; the stem is erect, round, branching, from one to three feet in height, and thickly furnished with leaves; these are large, oblong, ovate, deeply sinuated, with pointed segments, undulated, soft to the touch, amplexicaule at their base; the upper leaves are generally entire; both the stem and leaves are hairy, viscid, and of a sea-green colour; the flowers form long, one-sided, leafy spikes, at the end of the branches, hanging downwards; they are composed of a calyx, with five pointed divisions, a funnel-shaped corolla, with five unequal, obtuse segments at the border, five stamina inserted into the tube of the corolla, and a pistil with a blunt, round stigma; they are of a dark-yellow colour, beautifully variegated with purple veins; the fruit is a globular, two-celled capsule, covered with a lid, invested with the persistent calyx, and containing numerous, small, irregular, brown or ash-coloured seeds, which are discharged by the horizontal separation of the lid; the whole plant has a rank, offensive smell.

At the period of flowering, we gather the leaves and flowering stems of the plant, and, after removing the ligneous stems, prepare from it, according to Class 2d, an essence of a brown-green colour, possessing in a high degree the odour of the plant.

Antidotes: Camph., Stram., Bell.

11. Ledum palustre; Fr., Ledon des marais, romarin sauvage; Ger., *Sumpfporst, wilder Rosmarin;* Eng., Wild rosemary, marsh-tea.—*Rosaceæ.*

This plant grows in moist, swampy, muddy places in the North of Europe, Silesia, Bohemia, &c., also in France, Asia and America; it is likewise cultivated in gardens. The bush is an evergreen, from 2 to 3 feet high, with 3 or several clustering, rounded branches, covered with a rust-coloured fur; the bark of the stem is ash-coloured; leaves with short peduncles, lance-shaped, rolled back on the edges, hard, glabrous above, green and shining; of a red rust-colour beneath, and downy. In the fresh state the leaves have a strong, resinous, stupefying odour, and a bitter, astringent, nauseous taste; flowers white, sometimes rosy, in spikes or terminal corymbs.

We gather the leaves and flowers during the period of flowering, and prepare from them, according to Class 3d, a tincture of a dark-brown colour, strong odour, and terebinthine taste.

Antidote: Camphor.

12. MENYANTHES TRIFOLIATA, *Trifolium fibrinum;* Fr., Menyanthes, trèfle d'eau; Ger., *Bitterklee, Fieberklee;* Eng., Buckbean, marsh-trefoil.—*Lysimachiæ.*

This plant is a native of Europe and North-America, and grows on the borders of, and in flowing water, in ditches, wet meadows, swamps, &c. Root perennial, long, thick, jointed, filamentous, brown without, and spongy within; stem round, rooting, creeping first, then erect, a foot long; leaves on long peduncles, at the end of the stem, ternate, furnished at their base with sheathing stipules; the leaflets are obovate, entire, or obtusely denticulate, smooth, beautifully green on their upper surface, and paler beneath; the scape or flower-stalk is erect, smooth, round, longer than the leaves, and terminated by a conical raceme of whitish, somewhat rose-coloured flowers; calyx five-parted, corolla funnel-shaped, with a short tube, and a five-cleft, revolute border, covered on the upper side with numerous, long, fleshy fibres; anthers red and sagittate; germ ovate, supporting a slender style which is longer than the stamina, and terminates in a bifid stigma; the fruit is an ovate, two-valved, one-celled capsule containing numerous seeds.

We gather the herb in autumn, dry it quickly, and prepare from it, according to Class 1st, a tincture of a dark green-brown colour and very bitter taste. The medicinal virtues of the dried plant are superior to those of the fresh.

Antidotes : Camphor.

13. Achillea millefolium ; Fr., Millefeuille, herbe au charpentier ; Ger., *Schafgarbe ;* Eng., Milfoil, yarrow.—*Corymbiferæ.*

This plant is found all over Europe, in Western Asia and North America, and grows on meadows, on the borders of fields and roads, in pastures, &c. Its perennial root is oblique, rampant, hairy ; stems numerous, simple, erect, rounded, furrowed, tubulous, downy, from one to two feet high ; leaves downy, radical, pinnatifid, so finely and numerously divided that they are hidden one by the other. The herb of this plant has a balsamic odour, and a bitter, acrid, burning taste ; the flowers are small and in corymbs.

During summer we gather the plant when it begins to flower, and the stem is not yet hard, preferring a sunny, rocky or meagre location ; we prepare, according to Class 2d, an essence of a yellow-brown colour, and bitter taste.

14. Nerium Oleander ; Fr., Laurier rose ; Ger., *Lorbeerrose ;* Eng., Oleander, rosebay.—*Apocyneæ.*

The oleander grows on the borders of rivers and lakes, in southern Europe, Greece, Asia minor, the East Indies, and Africa, as well as on the rocks of Corsica, and is cultivated in our gardens ; roots ligneous, branchy ; stems branchy, dull, 9 to 10 feet high, and several inches thick ; leaves with short petioles, coriaceous, linear-lanceolated, evergreen, having nerves below ; flowers disposed in bouquets, numerous, opening in succession, rosy, or white. All the parts of the plant have an acrid and bitter taste.

We gather the leaves of the flowering plant, and prepare from them, according to Class 3d, a tincture of a dark brown-green colour.

Antidote: Camphor.

15. Laurocerasus, *Prunus laurocerasus;* Fr., Laurier cerise; Ger., *Kirschlorbeer;* Eng., Cherry laurel.—*Rosaceæ.*

This bush grows in Persia, on the Caucasus, in Asia Minor, and in all the Levant; in France, on the lower Rhine and Maine; it can be cultivated in the open ground, and in France it is nearly naturalized. It is an evergreen tree, rising from 4 to 20 feet in height, with long spreading branches, which, as well as the trunk, are covered with a smooth, blackish bark; the leaves, which stand alternately on short, strong footstalks, are oval-oblong, from 5 to 7 inches in length, acute, finely serrated, firm, coriaceous, smooth, beautifully green and shining, with oblique nerves and yellowish glands at the base; the flowers are small, white, strongly odorous, and disposed in simple axillary racemes; the fruit consists of oval drupes, very similar to small black cherries, both in their shape and internal structure. The fresh leaves have an aromatic odour and taste, very like the bitter almond; they contain hydrocyanic acid.

We gather the leaves during the summer-months, and prepare from them, according to Class 3d, a tincture of a saturated black-green colour, and the odour and taste of the bitter almond.

Antidotes: Coff., Camph., Ipec.

16. Padus avium, *Prunus padus;* Fr., Putier, merisier en grappe; Ger., *Ahlkirsche, Elsenbeere;* Eng., Bird-cherry.—*Rosaceæ.*

This plant is a native of the North of Europe and Asia, where it grows in moist woods, on the borders of forests, in valleys, &c. It is from 8 to 30 feet high; leaves oval, elliptic, serrated, somewhat wrinkled, nerved; flowers white, odorous, lateral, in long, hanging bunches; berries globular, black, of the size of a little pea, and of a disagreeable odour.

We gather the bark of the younger branches before the bush begins to flower; it has a stupefying odour, resembling that of bed-bugs and laurocerasus. We prepare from it, according to Class 3d, a tincture of a dark-brown colour and the above described taste and smell.

17. Rosmarinus officinalis; Fr., Romarin officinal; Ger., *Gemeiner Rosmarin;* Eng., Rosemary.—*Labiaceæ.*

Rosemary is an evergreen shrub, 3 or 4 feet high, with an erect stem, with many long, slender ash-coloured branches; leaves numerous, sessile, opposite, more than an inch long, one-sixth of an inch broad, linear, entire, obtuse at the summit, turned backwards at the edges, firm, smooth and green on the upper surface, whitish and somewhat downy beneath; the flowers are pale blue or white, large, in opposite groups at the axills of the leaves, towards the ends of the branches; seeds 4, oblong, naked; the plant grows spontaneously along the Mediterranean, and is cultivated in all our gardens.

From the leaves we prepare a tincture of a yellow-green colour and a balsamic acrid-bitter taste.

18. Rhus toxicodendron, *Sumac venenata*, L.; Fr., Arbre à poison, Sumac vénéneux; Ger., *Gift-sumach;* Eng., Poison oak.—*Terebinthinaceæ.*

This shrub grows in fields, woods, and along fences, all over North-America, and has been introduced into Europe; it is one to three feet high, with leaflets angularly indented; and pubescent beneath; root reddish, branchy; stems erect, bark striated, of a gray-brown, and full of numerous papillæ of a deep-brown; leaves pinnated, long petioles, of a yellowish-green, veined; folioles almost 3 inches long, oval, *incised*, shining, and of a deep colour above, pale-green and *pubescent beneath;* flowers small, of a yellowish-green, in axillary spikes; fruit monosperm, oval, of a whitish-gray, marked with five furrows; the whole plant contains a yellowish-brown, milky juice, which blackens on exposure, and which has a penetrating, nauseous odour; at certain times of the year there forms around the plant an atmosphere, which, according to some authors, extends to the distance of 20 feet, and which is poisonous during all the time the sun is not shining on the tree; the effects produced are erysipelatous inflammations and pustulous eruptions; affections which also arise when we rub the leaves or touch the branches recently cut or broken; we must, therefore, handle this plant with the greatest caution, when in the fresh state. Many authors agree in saying that the *Rhus radicans* has absolutely the same properties as the *Rhus toxicodendron;* but as this assertion, true as to the general facts, is not sufficiently proved as to the details which homœopathy requires, we must be careful not to mistake the two plants; the *Rhus radicans* is distinguished from *Rhus tox.* by its leaves being almost entire and glabrous, whilst those of the last are incised and pubescent beneath, and by its stems being recumbent and creeping, whereas those of the *Rhus tox.* are erect.

We gather the leaves after sunset, on damp, sultry days, selecting shady localities, in May and June, before the period of flowering, and prepare from them, according to Class 3d, a tincture of a dark-yellow colour.

Antidotes: Bry., Coff., Camph., and *Sulph.*

19. Rhus vernix; Fr., Sumach vernicifère; Ger., *Firniss-Sumach;* Eng., Swamp-sumach.—*Terebinthinaceæ.*

This tree is originally from Japan and North-America. It is a beautiful shrub or small tree, from 10 to 15, or even 30 feet high; the bark of the trunk is of a dark-gray, the branches are of a lighter colour; the extreme twigs and petioles are of a beautiful red; leaves pinnate, with 4 or 5 pairs of opposite leaflets, and an odd terminal one; these are oblong or oval, entire or slightly sinuated, accuminate, smooth, and, except the one at the end, nearly sessile; the flowers are diœcious, small, greenish, and arranged in loose axillary panicles; berries small, roundish, and of a greenish white. When cut, there exudes a resinous juice which blackens in the air, and of which the people of China and Japan make a varnish. According to some authors, the atmosphere of this tree is even more poisonous than that of the *Rhus tox.*

We gather and prepare the plant as the previous one.

20. RUTA GRAVEOLENS; Fr., Rue fétide, rue des jardins: Ger., *Stinkende Raute;* Eng., Rue.—*Rutaceæ.*

This is a perennial plant, from 2 to 3 feet high; root ligneous, branchy, vertical; stems numerous, herbaceous, erect, round, branching; leaves doubly pinnate, glaucous, with obovate, sessile, obscurely crenate, somewhat thick and fleshy leaflets; flowers yellow, and disposed in a terminal branched corymb upon subdividing peduncles; calyx persistent, with 4 or 5 acute segments; the corolla consists of 4 or 5 concave petals, somewhat sinuate at the margin; stamina usually ten, sometimes only eight. The odour of the plant is very strong and disagreeable; it has a bitter, nauseous, hot and acrid taste.

We gather the leaves together with the buds while these are yet closed, and prepare from them, according to Class 2d, an essence of a dark-brown colour, and a smell and taste like that of the plant.

Antidote: Camphor.

21. Sabina, *Juniperus Sabina;* Fr., Sabine; Ger., *Sadebaum;* Eng., Savin.—*Coniferæ.*

This shrub grows on the dry mountains of middle Europe, in Provence, Spain, Italy, the ancient country of the Sabines, Greece, Russia, North-America; it is also cultivated in gardens; it is an evergreen, rising from three or four to 15 feet high, with numerous erect, pliant branches, very much subdivided; the bark of the young branches is of a light green, that of the trunk rough, and of a reddish-brown; the leaves, which completely invest the younger branches, are numerous, small, erect, firm, smooth, pointed, of a dark-green colour, glandular in the middle, opposite, and imbricated in four rows; the flowers are male and female on different trees; the fruit is a blackish-purple berry, of an ovoid shape, marked with tubercles, the remains of the calyx and petals, and containing three seeds. We distinguish two varieties of this plant, the *male* and *female* savin. That called *male* is the one which bears fruit, and which should be called *female;* it is smaller than the other; its leaves resemble those of the cypress, being less scattered than those of the female savin. The *Juniperus virginiana,* or common red cedar, is sometimes substituted in the shops for the savin, to which it bears a very close resemblance; the two species, however, differ in their taste and smell; in the *J. virginiana,* moreover, the leaves are sometimes ternate. The tops and leaves of the savin have a strong, disagreeably balsamic odour, and a bitter, acrid taste.

In the month of April we gather the tops of the *younger* branches, and prepare from them, according to Class 3d, a tincture of a saturated dark green-brown colour, and the odour and smell like that of the plant.

Antidote: Camphor.

22. SOLANUM DULCAMARA; Fr., Douce-amère, morelle grimpante; Ger., *Bittersüsser Nachtschatten;* Eng., Bitter-sweet, woody night-shade.—*Solaneæ.*

This perennial plant grows over almost all Europe, in moist places, in ditches, on the borders of rivers, along hedges, &c.; it is a climbing shrub, with a slender, roundish, branching, woody stem, which rises to 6 or 8 feet in height; the leaves are alternate, petiolate, ovate, pointed, veined, soft, smooth, and of a dull green colour; the flowers are disposed in elegant clusters, somewhat analogous to cymes and standing opposite to the leaves; calyx very small, purplish, and divided into five blunt persisting segments; corolla wheel-shaped, with pointed reflected segments, which are of a violet-blue colour, with a darker purple vein running longitudinally through their centre, and two shining, greenish spots at the base of each; filaments very short, and support large, erect, lemon-yellow anthers, which cohere in the form of a cone around the style; the berries are of an oval shape and a bright scarlet colour, and continue to hang in beautiful bunches after the leaves have fallen; the odour of the leaves and stems is somewhat nauseous, and narcotic; their taste is first sweet, then bitter.

In April or October we gather the green stems covered with a gray epidermis, pliant, not ligneous, and prepare from them, according to Class 3d, a tincture of a dark brownish-green colour and bitter-sweet taste.

23. SOLANUM NIGRUM; Fr., Morelle noire; Ger., *Schwarzer Nachtschatten;* Eng., Black or garden-nightshade.—*Solaneæ.*

This annual plant grows all over Europe, in cultivated grounds, on the edges of ditches, at the base of walls, &c. Root thready, branchy, ligneous; stem herbaceous, erect, angular, from one to two feet high; leaves alternate, petiolate, oval, toothed;

flowers in bunches, pedunculated, lateral, white; berries spherical, black; all the plant, especially the berries, are considered poisonous; all the parts of this vegetable have, in a fresh state, an insipid taste, and a narcotic, nauseous odour, which becomes musky when dried.

We gather the ripe berries, not the roots, of the flowering plant (in the later part of summer this plant has buds, flowers, ripe and unripe berries at the same time), and prepare from them, according to Class 2d, a tincture of a dark-brown colour and a narcotic odour and taste.

Antidote: Secale corn.?

24. STAPHYSAGRIA, *Delphinium Staphysagria;* Fr., Staphysaigre, herbe aux pous; Ger., *Stephanskörner, Läusekraut;* Eng., Stavejacre.—*Ranunculaceæ.*

This plant grows in the south of France, Italy, Greece, and in the whole of Southern Europe; it is one or two feet high, with a simple, erect, downy stem, and with palmate, 5 or 7 lobed leaves, supported on hairy footstalks; the flowers are bluish, or purple, in terminal racemes, with pedicles that are twice as long as the flower, and bracteoles inserted at the base of a pedicle; the nectary is four-leaved and shorter than the petals, which are five in number, the uppermost projected backwards, so as to form a spur, which encloses two spurs of the upper leaflets of the nectary; the seeds are contained in straight, oblong capsules; the root is cylindric, perennial, somewhat branchy and hairy below; seeds large, irregularly triangular, wrinkled, externally brown, internally whitish and oily, bitter, acrid, burning, full of little holes, of a blackish-gray; when mashed, it develops a disagreeable odour; taste bitter and very acrid.

Before preparing the tincture from the pulverized seed, it is expedient to free it from its fatty oil by frequently pressing it between blotting paper. The black seeds should not be used, but only the grayish or heavy brown ones. The tincture is of a pale straw-yellow, to be prepared according to Class 1st.

Antidote : Camphor.

25. STRAMONIUM, *Datura stramonium ;* Fr., Stramoine, pomme épineuse ; Ger., *Stechapfel ;* Eng., Thorn-apple.—*Solaneæ.*

The thorn-apple is an annual plant of rank and vigorous growth, usually about 3 feet high, but in a rich soil 6 feet or more ; the root is spindle-shaped, almost vertical, ligneous, fibrous, whitish ; the stem is erect, round, smooth, somewhat shining, simple below, dichotomous above, with numerous spreading branches ; the leaves, which stand on short, round footstalks in the forks of the stem, are 5 or 6 inches long, of an ovate, triangular form, irregularly sinuated and toothed at the edges, unequal at the base, of a dark-green colour on the upper surface, and pale beneath ; the flowers are large, axillary, solitary and peduncled, having a tubular, pentangular, five-toothed calyx, and a funnel-shaped corolla with a long tube, and a waived, plaited border, terminating in five acuminate teeth ; the upper portion of the calyx falls with the deciduous parts of the flower, leaving its base, which becomes reflexed, and remains attached to the fruit, which is a large, fleshy, roundish, ovate, four-valved, four-celled capsule, thickly covered with sharp spines, and containing numerous seeds, attached to a longitudinal receptacle in the centre of each cell ; it opens at the summit. It is doubtful to what country this plant originally belonged ; many European botanists refer it to North-America, while we in return trace it to the old Continent. Nuttall traces it to South-America or Asia. In the United States it is found everywhere, on dung-heaps, road-sides, and commons, &c.

We prepare the tincture, according to Class 1st, from the seeds ; it has a yellow-brownish colour, characterized by a beautiful green reflection ; the absence of this reflection, or the deposition of a brown resinous layer on the sides of the vessel, would indicate that the tincture is old, and has lost a good deal of its medicinal virtues.

Antidotes : Nux vom., Tab., Acet., Succus citr., Berb.

26. TABACUM, *Nicotiana tabacum ;* Fr., Tabac ; Ger., *Tabak ;* Eng., Tobacco.—*Solaneæ.*

This plant, which is originally from South America, is at present cultivated in most parts of Asia and Europe, as well as in the colonies, in Africa, &c. It is an annual plant, with a large, fibrous root, and an erect, round, hairy, viscid stem, which branches near the top, and rises from 3 to 6 feet in height ; the leaves are numerous, alternate, sessile, and somewhat decurrent, very large, ovate-lanceolate, pointed, entire, slightly viscid, and of a pale-green colour ; the lowest are often two feet long and four inches broad ; the flowers are disposed in loose terminal panicles, and are furnished with long, linear, pointed bractes at the divisions of the peduncle ; calyx bell-shaped, hairy, somewhat viscid, and divided at its summit into five pointed segments ; the tube of the corolla is twice as long as the calyx, of a greenish hue, swelling at the top into an oblong cup, and ultimately expanding into a five-lobed, plaited, rose-coloured border ; the whole corolla is very viscid ; the filaments incline to one side, and support oblong anthers ; the pistil consists of an oval germ, a slender style longer than the stamina, and a cleft stigma ; the fruit is an ovate, two-valved, two-celled capsule, containing numerous reniform seeds, opening at the summit ; the odour of the fresh plant is poisonous and fetid ; the taste is bitter, acrid, and nauseous.

From the leaves of the flowering plant we prepare, according to Class 2d, an essence of a brown-green colour and a feebly narcotic odour.

Antidotes : Camph., Ipec., Nux vom.

27. TANACETUM VULGARE; Fr., Tanaisie commune; Ger., *Gemeiner Rainfarn;* Eng., Common tansy.—*Corymbiferæ.*

This is a perennial, herbaceous plant, rising 2 or 3 feet in height; the root is rampant, branchy, hard, fibrous; the stems are strong, erect, obscurely hexagonal, striated, often reddish, branched towards the summit, and furnished with alternate, doubly-pinnatifid leaves, the divisions of which are notched or deeply serrated; the flowers are yellow, and in dense terminal corymbs; each flower is composed of numerous florets, of which those constituting the disk are perfect and five-cleft, those of the ray very few, pistillate, and trifid; the calyx consists of small imbricated, lanceolate leaflets, having a dry scaly margin; the seeds are small, oblong, with 5 or 6 ribs, and crowned by a membranous pappus. Tansy is cultivated in our gardens, and grows wild on the road-sides and old fields, in the United States and Europe; the whole plant has a disagreeable, camphrous odour; its taste is bitter and aromatic.

From the flowers we prepare, according to Class 3d, a tincture of a greenish-yellow colour, and strong taste and odour.

28. TAXUS BACCATA; Fr., If; Ger., *Eibenbaum;* Eng., Yew.—*Coniferæ.*

This tree grows on the mountains of Tyrol, in mountainous and shady forests, in Scotland, Sweden, Prussia, on the Caucasus, and in Siberia.

It often attains an age of several hundred years; its bark is thin, of a deep-brown; the wood is of a brown-red, small-grained, more or less veined, very hard and almost incorruptible; leaves linear, plane, of a blackish-green, perennial; flowers with short peduncles, axillary; fruit berriform, of a lively red; perforated at the top, enclosing a kind of nut which contains a whitish, fleshy and oily kernel, that can be eaten.

In March or April we gather the youngest twigs, and prepare from them, according to Class 3d, a tincture of a dark-brown colour and bitter taste.

29. Thuja occidentalis, *arbor vitæ;* Fr., Thuja du Canada; Ger., *Lebensbaum;* Eng., Tree of life.

This evergreen tree, which is originally from Canada, is much more cultivated in Germany than in France; it is a branchy tree from its root, sometimes rising some 30 feet in height; the branches are flat, compressed, and standing out on all sides; leaves short, evergreen, overlapping like tiles, with obtuse scales, disposed in four ranks; cones terminal, almost smooth, of a brown-yellow; seeds flattened. It is dlstinguished from the thuja of China, inasmuch as, rubbed between the fingers, the leaves of this last develop no aromatic resinous odour, which the thuja of Canada does; moreover, the branches of the thuja of China are ascendant and straight, and not standing out on all sides as those of the other; its strobiles are rough, and the scales of its leaves are pointed.

In May, at the period of flowering, we select the youngest branches, with their blossoms, of a brownish-yellow colour, a balsamic odour, and shining like resin; and, after separating from them the woody ribs by peeling them off, we prepare, according to Class 3d, a tincture of a dark blackish-green colour, and a very strong, not offensive, balsamic odour.

Antidotes: Camphor, and *Nitric acid.*

30. Uva ursi, *Arbutus uva ursi*, *Arctostaphylos officinalis;* Fr., Raisin d'ours, Arbousier, Busserole; Ger., *Bärentraube;* Eng., Bearberry.—*Ericineæ.*

This is a low, evergreen shrub, with trailing stems, the young branches of which rise obliquely upwards for a few inches; the leaves are scattered upon short petioles, obovate, acute at the base, entire, with a rounded margin, thick, coriaceous, smooth, shining, and of a deep green colour on their upper surface, paler, and covered with a net-work of veins beneath; the flowers, which stand on short reflexed peduncles, are collected in small clusters at the ends of the branches; the calyx is small, five-parted, of a reddish colour, and persistent; the corolla is ovate or urceolate, reddish-white, or white with a red lip, transparent at the base, contracted at the mouth, and divided at the margin into five short reflexed segments; stamina ten, with short filaments and bifid anthers; germ round, with a style longer than the stamina, and a simple stigma; the fruit is a small, round, depressed, smooth, glossy, red berry, containing an insipid mealy pulp and five cohering seeds. This shrub inhabits the northern latitudes of Europe, Asia, and America; it prefers a barren soil, gravelly hills, and elevated sandy plains; the leaves are inodorous when fresh, but when dry and powdered acquire an odour not unlike that of hay; their taste is bitterish, strongly astringent, and ultimately sweetish.

The leaves should be gathered in autumn; they contain a good deal of tannin, by which property they can be distinguished from other leaves. The tincture is prepared according to Class 2d.

31. VERBASCUM THAPSUS; Fr., Bouillon blanc, molline, bonhomme; Ger., *Königskerze;* Eng., Mullein.—*Solaneæ.*

This plant grows in northern America, and in northern and middle Europe, along road-sides, waste fields, &c. It is biennial, with an erect, round, hairy stem, which rises from 3 to 6 feet high, and is irregularly beset with large, sessile, oblong or oval, somewhat pointed leaves, indented at the margin, woolly on both sides, and decurrent at the base; the flowers are yellow, and disposed in a long, close, cylindrical, terminal spike.

We gather the blossoms and leaves of the plant, and prepare from them, according to Class 3d, a tincture of a dark yellow-brown colour, and a slightly herbaceous odour, which is entirely deprived of the pleasant smell of the dried flowers.

Antidote: Camphor.

b) Leaves of exotic (non-European) plants.

1. Caladium seguinum, *Arum seguinum;* Fr. Pediveau vénéneux; Ger., *Giftiger Aron;* Eng., Poisonous pediveau, dumb cane caladium.—*Aroïdeæ.*

This plant grows in the neighbourhood of Paramaribo; it is very poisonous. It forms a bush with a round stem, naked, from 5 to 6 feet high, green, milky; leaves ovoid, smooth, pointed, amplexicaule. The juice of this plant leaves an indelible stain on linen, and is so caustic that, if put upon the tongue or in the mouth, it produces swelling, inflammation, and loss of speech.

We prepare an essence from the leaves, according to Class 2d.

Antidotes: Caps., Ign., Merc., Zing.

2. Rhododendron Chrysanthum, *Andromeda Gmelini;* Fr., Rosage à fleurs jaunes, rose de Sibérie, rose de neige de Sibérie; Ger., *Siberische Schneerose;* Eng., Yellow-flowered rhododendron.—*Rosaceæ.*

This plant grows on the high mountains of Siberia, Kamtschatka, &c.; it is a beautiful, evergreen shrub, about a foot high, with spreading branches, and oblong, obtuse, thick leaves, narrowed towards their footstalks, reflexed at the margin, much veined, rugged, and deep-green upon their upper surface, ferruginous or glaucous beneath, and surrounding the branches upon strong petioles; flowers large, yellow, on long peduncles, and arranged in terminal umbels; the corolla is wheel-shaped, with its border divided into five roundish, spreading segments; flower-buds ferruginous, downy; seeds very small; odour of the leaves acrid and nauseous, resembling that of rhubarb; taste bitter and acrid.

We prepare from the leaves, according to Class 1st, a tincture of a dark-brown colour and an astringent taste.

Antidotes: Rhus tox., Camph., Clemat. erect.

Some physicians employ the Rhododendron ferrugineum, which is frequently found on the Alps of southern Germany.

Leaves elliptical, indented at the margin, fringed, paler on the lower surface, dotted as with resin; flower-clusters of a rose colour. (*Hyg.* V., 449.)

3. CASSIA SENNA seu ACUTIFOLIA; Fr., Séné; Ger., *Senesblätter;* Eng., Senna.—*Leguminosæ.*

We distinguish the following kinds: 1. Cassia acutifolia; 2. C. elongata; 3. C. lanceolata; 4. C. obovata; 5. C. ovata. The best Cassia is that which comes from the C. acutifolia, and is known in commerce as the Alexandrinian cassia.

This vegetable is a species of shrub, from 2 to 3 feet high, with a straight, woody, branching, whitish stem; the leaves are pinnate, alternately placed upon the stem, and have at their base two small, narrow, pointed stipules; the leaflets, of which from 4 to 6 pairs belong to each leaf, are almost sessile, oval-lanceolate, acute, oblique at their base, nerved, from half an inch to an inch in length, and of a yellowish-green colour; the flowers are yellow and disposed in axillary spikes; the fruit is a flat, elliptical, obtuse, membranous, smooth, grayish-brown, bivalvular legume, about an inch long and half an inch broad, scarcely, if at all, curved, and divided into 6 or 7 cells, each containing a hard, heart-shaped, ash-coloured seed. The senna of commerce is often mixed with the leaves of the Coriaria myrtifolia, and still more frequently with the oval, entire, whitish and downy leaves of the Cynanchum arguel of Delile.

The leaves which we use, should be entire as much as possible, not old, or having turned yellow by dampness, and should not be mingled with thick peduncles.

From the pure leaves we prepare, according to Class 1st, a tincture of a very dark brown-green colour.

Antidotes : Chamom., Aloës.

4. Spigelia anthelmintica ; Fr., Spigelie anthelmintique, Brinvilliers, Poudre aux vers ; Ger., *Wurmtreibende Spigelia ;* Eng., Pink-root. — *Gentianeæ.*

This annual plant grows in South America, Brazil, Cayenne, the Antilles, &c. Root hairy, blackish on the outside, white within ; stem herbaceous, rounded, upright, fistulous, one to one and a half feet high ; leaves terminal, to the number of four, disposed in form of a cross, oval or lanceolate, entire, glabrous ; flowers simple, forming a thin and elongated spike, white ; seeds, small, black. When fresh, this plant has a poisonous, fetid odour, which, in a close room, may even cause narcotism ; the taste is nauseous and remains a long time on the tongue. It is on account of its deleterious qualities, that, in French, this plant is called *Brinvilliers,* the name of the Marquis Brinvilliers, well known for his numerous acts of poisoning. We prepare from it, according to Class 1st, a tincture of a pale-green colour.

Antidote : Camphor.

5. Teucrium marum verum, Herba Cyriaci seu Cortusæ seu Mari syriaci, Summitates *Mari veri ;* Fr., Germandrée maritime ; Ger., *Katzenkraut ;* Eng., Cat-thyme.—*Labiaceæ.*

This shrub grows in the Levant, and on the Mediterranean, chiefly in Spain, Germany, and in France ; it is also cultivated in gardens ; stem straight, ligneous, branching, glabrous below, downy above ; leaves opposite, petiolated, oval-obtuse, of a clear green ; flowers rosy, at the end of the branches, in the axillæ of the leaves. The whole plant has an aromatic camphorous odour, which is peculiarly agreeable to cats; taste bitter, acrid, and hot.

From the fresh, or the well preserved dry plant, without the root, we prepare, according to Class 3d, a tincture of a green colour and a considerably strong odour and taste.

Antidotes: Camph., Opium.

6. THEA SINENSIS, *Thea viridis cæsarea;* Fr., Thé de Chine, Thé vert impérial; Ger., *Chinesischer Thee, grüner oder Kaiserthee;* Eng., Imperial green tea. —*Aurantia.*

This tree, which, in the natural state, attains a height of near 30 feet, grows in China, Japan, and in general all over the eastern portion of Asia; leaves perennial, coriaceous, thick, glabrous, shining, alternate, oval-oblong, pointed, 2 inches long, 1 broad, serrated, short petioles; flowers white, large, short peduncles, axillary, calyx in five divisions; corolla 3 to 9 petals; capsules globular, with 3 cells, containing each one or two seeds, round, bitter, oily, of the size of a little nut. For domestic use, the *black teas* are the best; but for medical use we prefer the *green.* The *green* as well as the *black* teas are of different kinds; that which we use in homœopathy under the name of *thea cæsarea* is not the *veritable imperial tea,* but the green tea known under the name of *gunpowder tea;* the true *imperial* is never seen in Europe, though all the merchants pretend to sell it; it is reserved for the emperor exclusively, or for the grandees of the celestial empire.

According to Class 1st, we prepare a tincture of a dark green-brown colour.

Antidotes: China, Ferr., Thuj.

c) Blossoms.

1. Lamium album; Fr., Ortie blanche; Ger., *Weiss-bienensaug, weisse Taubnessel;* Eng., Dead nettle. —*Labiaceæ.*

This plant grows in France and Germany, along hedges, highways, ditches, &c., and flowers almost all summer. Root cylindric, ramose, hairy; stem straight, quadrangular, downy, simple; leaves petiolated, cordiform, sharp, serrated, veined below; flowers white, axillary, sessile; verticillæ of from 10 to 20 flowers.

From the flowering plant, we prepare, according to Class 2d, an essence of a brown colour, inodorous, and of very little taste.

2. Crocus sativus; Fr., Safran cultivé; Ger., *Safran;* Eng., Saffron.—*Irideæ.*

The saffron is originally from Greece, Persia, and other oriental countries, and is now cultivated in Austria, France, Italy and Germany. It needs a black earth, somewhat gravelly, light, neither moist nor clayey, and which has not been manured for some time, a year at least. The saffron has a bulb of the size of a small nut; we put the bulbs in the earth to the depth of 10 inches, to preserve them from the frost. One pound of dry saffron requires five pounds of green saffron, and one pound of this last requires more than 100,000 flowers. The only part that is used of the flower are the three stigmas which the pistil bears; they are dried and sold under the name of saffron; these stigmas are of a bright colour, yellowish-red, and a very strong aromatic odour; the saffron is found in commerce in the dry state, and formed in shape of loaves. We distinguish several kinds: 1. *Levant saffron*, the best and dearest of all; 2d. *Austrian saffron*, very pure, and unmixed with the pistils; 3d. *French* or *Italian saffron;* 4th. *English* *saffron;* and last of all, *Spanish saffron*, the least estimated of all; the saffron of commerce is a compound of reddish delicate filaments; if good, it is not mixed with whitish or tangled filaments, which is always an evidence of the presence of pistils and stamina, parts which have none of the virtues of the stigmas; it should be unctuous to the touch, but little friable, of an agreeable odour, a sweetish aromatic taste, and of a yellow colour so intense that the saliva becomes easily coloured, and a very small quantity colours in a very short time much alcohol or water; it is often adulterated with the flowers of *carthamus, calendula, punica granatum*, &c., or even with smoked fibres of beef; we easily recognise the first of these frauds, in pouring water upon it, which swells up the foreign bodies, whilst the second is discovered by the odour which the meat develops when we cast a little on hot coals.

According to Class 1st, we prepare from it a tincture of a deep gold-yellow colour, and possessing in a high degree the odour and taste of saffron.

Antidotes: Aconite, Opium.

3. PRUNUS SPINOSA; Fr., Prunellier, épine noire; Ger., *Schlehdorn, Schwarzdorn;* Eng., Wild plum-tree, sloe-tree.—*Rosaceæ.*

This tree grows in Germany and France, along hedges and borders of forests; it is from 3 to 9 feet high; bark of a blackish-gray; peduncles unifloral, solitary, ternate; flowers white, opening before the leaves; leaves oval-lanceolate, serrated, downy below; fruit small, round, of a blackish-red, hoary at its maturity, of an acrid taste.

In dry weather we gather the flowers when entirely open, and prepare from them, according to Class 3d, a tincture of a dark-yellow colour, and possessing the odour and taste of the flower.

3. *Barks and woods.*

The barks (cortices) contain resin, gum, ethereal oil, and other substances, which sometimes exude after wounding the surface of the bark. The barks of resinous trees are gathered before or during the development of the leaves and blossoms; those of non-resinous plants are gathered late in the fall; the trunks should be from 2 to 4 years old. Spoiled parts of the bark should be thrown away, and the good parts cleansed of the adhering moss or any other heterogeneous things.

The woods (ligna) require to be gathered early in the spring, before the sap begins to rise; the trees or bushes should be neither too young nor too old. Of the resinous woods we select the heaviest pieces, throwing away splinters and all the decayed parts.

a) Barks of European plants.

1. Daphne Mezereum; Fr., Bois de gentil, laureole femelle; Ger., *Seidelbast;* Eng., Mezereon.—*Thymeleæ.*

This is a very hardy shrub, from 3 to 4 feet high, with a branching stem, and a smooth, dark gray bark, easily separable from the wood. The leaves spring from the ends of the branches, are deciduous, sessile, obovate-lanceolate, entire, smooth, of a pale-green, somewhat glaucous beneath, and about two inches long; the flowers appear before the leaves, early in spring, and sometimes bloom even amidst the snow; the leaves are of a pale rose-colour, highly fragrant, and disposed in clusters of 2 or 3 flowers each, forming together a kind of spike at the upper part of the stem and branches; at the base of each cluster are deciduous floral leaves; the fruit is oval, shining, fleshy, of a bright-red colour, and contains a single, round seed; another variety produces white flowers and yellow fruit. The daphne mezereum can easily be distinguished from the daphne gnidium, the flowers of which appear before the leaves; they are disposed in bunches and not naked on the wood like those of the mezereum; they are linear-lanceolate, and its berries are much smaller than those of the mezereum.

We gather the bark early in the spring, before the bush begins to blossom, cut it, while fresh, in as fine pieces as possible, and prepare from it, according to Class 3d, a tincture of a yellow-brownish colour and a burning taste.

Antidotes: Camphor, Merc.

2. Prunus Padus (see: *Leaves, &c.*).

3. Sambucus nigra; Fr., Sureau; Ger., *Hollunder;* Eng., Common European elder.—*Caprifolia.*

This tree is found in the hedges of France, and of a great part of Europe, near villages, &c., and rises to a height of from 18 to 20 feet; the stem is very branchy towards the top, has a rough, whitish bark, and is filled with a rather whitish pith, which is light and spongy; leaves opposite, pinnate; folioles oval, pointed, dentated in two-thirds of their upper extremity; flowers disposed in cymes; calyx five-celled; corolla wheel-shaped, with 5 obtuse and concave lobes; fruit elongated, umbilical, berry-shaped, black; the pulp is of a purplish colour. In homœopathy we employ the second (interior) bark of the young branches, which is without smell, and has at first a sweetish, then a slightly bitter, acrid, nauseous taste; from this bark we prepare, according to Class 3d, a tincture of a brown-green colour, and a strong, offensive smell and taste. This tincture should always be designated as *tinct. corticis Samb.*, whereas the tincture which we simply designate as *tinct. Sambuci*, is prepared from the blossoms and the two adjoining leaves.

Antidotes: Arsen., Camph.

4. Ulmus campestris ; Fr., Orme des champs, ormeau ; Ger., *Gemeine Ulme*, *Rüster ;* Eng., Common elm-tree.—*Amintaceæ.*

This tall tree is found in France and Germany, in forests, villages, towns, along roads, in parks, before castles, &c. ; leaves oval, thick, rough, unequal at their base, serrated ; flowers lateral, almost sessile, glomerated, appearing before the leaves, in spring ; fruit thin, membranous.

The tincture is prepared according to Class 3d.

b) Barks and woods of exotic (non-European) plants.

1. Angustura, *Angustura cortex ;* Fr., Angusture vraie, Ecorce de Bonplandia trifoliata ; Ger., *Angustura-Rinde ;* Eng., Angustura bark.—*Rutaceæ.*

The true Angustura is the bark of a tree of equatorial America, called by Wildenow, Bonplandia trifoliata, and belonging to the genus Galipea. The bark which is sent to us, has, generally, a yellowish-gray colour, like that of the yellow cinchona. We prefer, for homœopathic use, pieces of from 2 to 6 inches long, and one line thick, slightly rolled, and smooth within, dotted without with little white points on a coloured base, and covered with a whitish envelop, spongy, and easily detached. These pieces should show a shining texture when broken, porous, of the colour of cinnamon, of a disagreeable aromatic odour, of an aromatic, bitter, penetrating taste. Reduced to powder, the angustura ought to have a colour like that of rhubarb. The *false angustura*, on the other hand, is always in large, hard, heavy bits, of a dull, white fracture, covered outwardly with a powder of the colour of rust or gold, without aromatic odour, and not succeptible of producing an alcoholic tincture which becomes turbid on the addition of water, which always takes place in that of the true angustura.

We prepare, according to Class 1st, a tincture of a saturated yellow-brown colour, and a slightly aromatic bitter taste.

Antidote: Coffea.

2. Brucea anti-dysenterica; Fr., Brucée; Ger., *Braune Brucea;* Eng., Antidysenteric brucea.—*Terebinthaceæ.*

This bush grows in Abyssinia; leaves pinnated, unpaired, composed of six opposite and serrated folioles, diœcious; calyx in four leaflets; four petals. The bark of this bush resembles that of Angustura, but may be distinguished by the following characteristic differences: 1. The bark of brucea comes in larger pieces, and they have on their upper surface reddish-brown spots, or else of a grayish-white; 2, it is excessively bitter, without aroma.

This bark is not resinous.

According to Class 1st, we prepare from it a yellow tincture possessing the taste of the bark.

Antidote: Coff.

3. Cortex Chinæ, *Cinchona officinalis;* Fr., China; Ger., *Chinarinde;* Eng., Peruvian bark.—*Rubiaceæ.*

The tree whence this bark is obtained, grows in the environs of Loxa, in Peru; and that from which we obtain the royal quinquina, on the high mountains of South America. There are a great many kinds of quinquina, all different in their effects, according as they have been selected from the branches or the trunk of such or such a kind of quinquina tree, as well as according to the age of the tree. The best kinds are the *royal yellow*, from the cinchona angustifolia of Ruiz, or from the lancifolia of Mutis, and the *quinquina loxa* or Peruvian bark, from the cinchona condaminea of Humboldt. The former comes to us in rolled or flat pieces, some of which are covered with the epidermis, others entirely or partially deprived of their epidermis; these pieces differ in size and thickness, from $\frac{1}{4}$ to 1″ in diameter, to from 1 to 5″ in breadth, and from $\frac{1}{4}$ to $\frac{3}{4}$″ in thickness, the difference depending upon the age of the branches and trunks, from which the pieces were gathered. The royal yellow is generally of a reddish-yellow within, fibrous fracture, studded with shining points, and covered with foliated lichens; the loxa comes to us in finer and thinner pieces, more rolled, of a brownish-gray, mingled with white spots without, of a reddish-brown within, brown and smooth fracture, of a musty odour, bitter taste, styptic, and almost balsamic. We procure it enclosed in skins. The good cinchona barks should be of a medium thickness, very dry, of a peculiar odour, perfectly bitter, as free as possible from lichens, of a brownish-red or blackish without, cinnamon-colour or red-yellow within; the fracture of these barks should neither be fibrous nor pulverulent, but smooth and somewhat shining.

We prepare, according to Class 1st, a tincture of a saturated red-brown colour, and a strong, not disagreeably bitter taste.

Antidotes: Ferr., Ipec., Arn., Bell., Verat.

4. Laurus Cinnamomum; Fr., Cinnamome, laurier cannelier, cannelle; Ger., *Zimmt;* Eng., Cinnamon.—*Laurineæ.*

The true cinnamon is the bark of the laurel cinnamon, a tree which grows in the isle of Ceylon, East Indies, as well as in the Islands of Sumatra and Java, and on the coast of Malabar. It attains a height of from 20 to 30 feet; its roots are covered with a bark which has the smell of camphor; its wood is hard, and the inner part without odour; leaves three nerved, oval-oblong, nerves disappearing towards the summit; flowers are small, whitish, disposed in panicles, of an exquisite odour, which is perceived at some distance; berries oval, of a bluish-brown, spotted with white. When the sap is abundant, the bark of this tree is easily peeled off; the exterior bark is rejected, which is thick, gray, rough, the second only is preserved, which is thin; it is cut in pieces and exposed to the sun; it rolls upon itself of the size of a finger, and its colour becomes of a rusty yellow.

The good cinnamon ought to be of an extremely agreeable odour, penetrating, soothing, and of a sweetish taste, slightly heating, with an after taste somewhat pungent, and a little styptic. Should it have a strong taste, acrid, slightly bitter, and resembling the clove-berry, it is a sign that it is of an inferior quality, or even another kind of bark.

We prepare the tincture according to Class 1st.

5. CASCARILLA, *Croton eleutheria;* Fr., Cascarille; Ger., *Cascarilla-Rinde;* Eng., Cascarilla.—*Euphorbiaceæ.*

The bark used in homœopathy under the name of Cascarilla, is not, as has been thought, the bark of *croton cascarilla*, but that of *croton eleutheria;* a bush from 5 to 6 feet in height, and which grows in Peru, Paraguay, the Antilles, and above all, in the Isle of Eleutheria, so that it was formerly called Eleutherian; the stem is branched, and covered with a brown bark, of which the external coat is rough and whitish; the leaves are long, very narrow, somewhat pointed, entire, of a bright-green colour on the upper surface, downy, and of a silvery whiteness on the lower; they are placed alternately on short footstalks; the flowers are small, greenish, and disposed in long, terminal spikes; the bark comes to us in pieces, from 2 to 4 inches long, rolled on itself, solid, friable, moderately thick, whitish-gray, streaked, and covered with a kind of lichen without, of a brownish-gray, and smooth within; fracture red, ligneous, dull, a little aromatic, of a bitter taste, piercing and hot; thrown on coals, this bark burns quickly, emitting a musky odour. The best kind is that whose fracture exhibits resinous, shining particles. We prepare, according to Class 1st, a tincture of a yellow colour and pretty strong taste and odour.

6. Cistus canadensis; Fr., Ciste hélianthème; Ger., *Sonnenröschen;* Eng., Canadian rock-rose.—*Cistineæ.*

This plant grows in the north of the American continent; it is a bush with stipules, semiligneous, recumbent; leaves lanceolate-oblong, slightly hairy, white beneath; calyx very downy, flowers yellow, at the end of the branches, on 3 to 6 thin, hairy peduncles; calices five-lobed, revolute, hairy; petals 5 in number, large, of a beautiful gold-yellow.

7. Hæmatoxilon Campechianum; Fr., Bois de Campêche; Ger., *Campeschenholz;* Eng., Campeachy-logwood.—*Leguminosæ.*

The wood of this tree is much used for black, violet and gray dyes; it is chiefly found in Mexico and on the West India islands, and attains a height of 50 feet. Trunk of the tree crooked, covered with a dark, rough bark; the branches are also crooked, with numerous smaller ramifications which are furnished with sharp spines; the sap-wood is yellowish, but the interior layers are of a deep-red colour; the leaves are alternate, pinnate, composed of 3 or 4 pairs of sessile, nearly obcordate, obliquely nerved leaflets; flowers in axillary spikes or racemes, near the ends of the branches; calyx brownish-purple; petals of a lemon-yellow colour. It comes to us in large sticks, heavy, compact, blackish-brown externally, having an odour like that of the violet, and a sweetish-astringent and afterwards bitterish taste.

We prepare, according to Class 1st, a tincture of a yellow-brown colour and the above mentioned taste.

8. SASSAFRAS, *Laurus sassafras ;* Fr., Sassafras, Laurier-sassafras ; Ger., *Sassafras-Baum ;* Eng., Sassafras.—*Laurineæ.*

This tree grows in America, 30 to 50 feet high, and a trunk about one foot in diameter ; bark of trunk rough, deeply furrowed, and grayish ; that of the extreme branches and twigs smooth, and beautifully green ; leaves alternate, petiolate, downy when young, variable in form and size ; some oval, entire, others lobed, generally three-lobed ; flowers frequently diœcious, small, pale yellowish-green colour, disposed in racemes, springing from the branches below the leaves, with linear bractes at their base ; corolla divided into 6 oblong segments ; male flowers have 9 stamens ; the hermaphrodite, on a different plant, have only 6, with a simple style ; fruit an oval drupe, of the size of a pea ; deep-blue when ripe, on a red pedicle, enlarged at the extremity, like a cup, for its reception. Treated by nitric acid, the wood of sassafras turns red, which may distinguish it from its adulterations ; the infusion and decoction are equally red. For homœopathic purposes, we take a piece of the wood, with all its bark, reduce it to a fine powder, and prepare a ticture according to Class I.

4. *Roots.*

The roots of annual plants should be gathered in the fall, for they soon die after the seeds are ripe ; those of biennial plants should be gathered in the spring, before the stems have grown up ; the roots of perennial plants should be gathered in the second or third year, in the spring or fall, before the roots become ligneous. The roots of trees and bushes are dug up in the spring, while the bark can yet be peeled off. No roots should ever be dug up in the summer, except those of annual plants. Exotic roots should not be mouldy, moist, ligneous or worm-eaten.

a) Roots of European plants.

1. ACTÆA SPICATA, *Chrystophoriana;* Fr., Christophoriane, Herbe St. Christophe; Ger., *Christophs-Kraut;* Eng., Herb Christopher, baneberry.—*Ranunculaceæ.*

This plant grows in thickets and mountain-woods, and is found all over Europe. Its perennial root is black outside, yellow within, spongy, of a disagreeable odour, nauseous taste; stem herbaceous, from 2 to 3 inches in height; leaves pedunculated, brilliant; flowers in long terminal spikes; berries black, soft, ovoid.

2. ARCHANGELICA, *Archangelica officinalis, Angelica Archangelica,* L.; Fr., Angelique, Angelique archangelique; Ger., *Engelwurz;* Eng., Garden angelica.—*Umbelliferæ.*

This plant inhabits the north of Europe and Asia, as well as the mountains of France and middle Germany; in the low countries of the north of Germany it is found near the rivers; root biennial, large, cylindric, wrinkled, hairy, and branchy, of a brown-gray or reddish without, white within, of a strong aromatic odour, agreeable enough, and of a taste at first sweetish and biting, and then bitter; stem herbaceous, rounded, striated, fistulous, branchy, from 4 to 6 inches high; leaves alternate, amplexicaule, bipinnate, with lobed folioles, serrated; flowers terminal, in umbels, yellow, greenish, nearly ephemeral. We use the root of the *wild* plant, not that of the gardens.

3. ARMORACIA, *Armoracia rusticana, Cochlearia armoracia;* Fr., Rainfort, rainfort officinal, grand rainfort, cranson, cran de Bretagne; Ger., *Meerrettig, Gemeiner Meerrettig, Kren;* Eng., Horse-radish.—*Cruciferæ.*

This herbaceous plant grows in wet places, on the sides of ditches and rivers, and above all in the West of France, as well as Germany, &c. Root cylindric, thick as the arm, long, branchy, vertical; yellowish without, whitish within, of an acrid and biting taste; stem upright, branchy on top, 1 to 3 inches high, angular, striated, glabrous, as well as the whole plant; radical leaves, petiolate, large, upright, green, oval-oblong, scolloped; those of the stem small, almost sessile, pinnatifid, lanceolate, linear; flowers small, white, in long terminal bunches; calyx has 4 ovate, deciduous leaves, and the corolla an equal number of obovate petals, twice as long as the calyx, and inserted by narrow claws; the pod is small, elliptical, crowned with the persistent stigma, and divided into two cells, each with 4 or 6 seeds.

We prepare a tincture, according to Class 1st.

4. Arum maculatum; Fr., Aron tacheté, Gouet, Pied de veau; Ger., *Gefleckter Aron, Aronswurzel;* Eng., Wake robin, Cuckoo pint.—*Aroideæ.*

This plant is found all over Europe, in the umbrageous forests and thick and shady woods. The root is tuberous, fleshy, of a brownish-yellow on the outside, and white and feculent within; the leaves are large, radical, hastate, sagittate; lobes deflexed; spadix club-shaped, obtuse, shorter than the spathe; the shaft rising up from the root to a cubit in height, cylindric, channelled, carrying on its summit a single spathe. The berries are of the colour of cochineal, and contain 1, 3, 5 seeds. In the fresh state, this plant has an acrid, biting taste, like that of pepper, and is full of a milky, acrid, and caustic juice.

We prepare a tincture, according to Class 3d.

5. Berberis vulgaris; Fr., Epine vinette; Ger., *Sauerdorn;* Eng., Barberry.—*Berberides.*

This bush grows all over Europe as well as in some parts of Asia and North America. It is a plant with alternate leaves. The calyx is parted beneath by a spine; the flowers come out in bunches from the middle of this six-leaved calyx; 6 petals; 2 glands at their base; style null; two-seeded berry. The root of this plant is branchy, with fibrous bark, of a strong peculiar odour, of a very bitter taste. We use in homœopathy the small branches of the roots, or better still, the bark of the branches of the root of moderate size, because the large roots are too fibrous.

We prepare the tincture according to Class 1st.

6. Bryonia alba; Fr., Bryone blanche; Ger., *Zaunrübe;* Eng., White bryony, wild hops.—*Cucurbitaceæ.*

It is not the *bryonia dioïca* but the *bryonia alba*, of which Hahnemann made use in his experiments; and though in Belgium and in certain parts of Germany the bryonia *dioïca* is more abundant than the bryonia *alba*, it is not so in France, nor in all Germany, where the bryonia *alba* may be found about the hedges, if not in abundance, at any rate as abundantly as the bryonia *dioïca*. The perennial root of this plant is as large as the arm, or at times even as the thigh; it is fleshy, succulent, branchy, of a yellowish-white, circularly wrinkled without, acrid, bitter, disagreeable to the taste, and of a nauseating odour, which, however, disappears by desiccation.

Its climbing stalk rises sometimes to the height of many feet; it is glabrous, creeping, channelled, and armed with spiral creepers; its leaves are alternate, angular, hispid, tuberculous on both sides, rough to the touch, palmated, five-lobed, the middle of which is trifid, elongated; flowers axillary, monœcious, in bunches, the male being supported on very long peduncles, the female larger than the male; calyx five-toothed, sharp; corolla 5 divisions; stamina 5, of which 4 are united 2 and 2 by the filaments and the anthers, the 5th free; berries round, black, (those of *dioïca* red,) polyspermous.

We prepare the alcoholic tincture according to Class 3d; if prepared according to Class 2d, it deposits a copious sediment, even after repeated filtrations.

Antidotes: Camph., Coff., Rhus. t.

7. Chelidonum majus; Fr., Grande chelidoine; Ger., *Schöllkraut, Schwalbenwurz;* Eng., Celandine.—*Papaveraceæ.*

This perennial plant grows all over Germany, as well as in France, in waste places, old walls, hedges, borders of highways, near habitations, &c.; the root is fusiform, of the thickness of a finger, of a reddish-brown without, yellowish within, containing, as well as all parts of the plant, an acrid yellow juice; stem ramose, hairy, one to two feet high; leaves thin, winged, pinnatifid, bluish-green beneath, clear green above; flowers yellow, axillary, or terminal; peduncles in umbels; umbel simple, of 4 or 5 rays; calyx caduceous and two-leaved; corolla of 4 petals; petals ligulate, threads united with the anthers, imitating petals; silique polyspermous, unilocular, linear, thin.

We prepare the tincture according to Class 2d.

8. Cicuta virosa; Fr., Cicutaire vénéneuse, Ciguë d'eau; Ger., *Wasser-Schierling;* Eng., Water-hemlock, cow-bane.—*Umbelliferæ.*

This perennial plant inhabits the borders of ditches and rivulets, swamps, meadows, ponds, lakes, &c., all over Germany, and the north and west of France; the root is thick, white, fleshy, elongated, transparent, full of hairs, and hollow; it contains in its bark a yellow juice; its odour is strong and disagreeable, its taste acrid and caustic; stem straight, from one to two feet high, ramose, fistulous, glabrous, striated; leaves compound, 2 or 3 times winged, with lanceolate, incised leaflets, like the teeth of a saw; umbels loose, naked; involucelles 3 or 5 rayed; flowers white, uniform; fruit ovoid, furrowed with 10 small entire sides.

We prepare an essence according to Class 2d.

9. Colchicum auctumnale; Fr., Colchique, tue chien, Veillotte, safran des près, safran bâtard; Ger., *Herbstzeitlose;* Eng., meadow-saffron.—*Junceæ.*

This perennial plant grows in many districts of Germany, France, and the south of Europe, in meadows, where it flowers in autumn, and announces the beginning of winter. The root forms a bulb of the size of a pigeon's egg; it is furnished with fibrous radicles at its base, round on one side and flat on the other; naturally it is covered with dark coats, of which the external one is brown, the inner shining and of a clear colour; in the fresh state it contains a milky juice of an acrid taste, bitter, and of a disagreeable odour; the flower rises in autumn immediately from a lateral bulb which the bulb of the preceding year has produced, and which has grown during the winter and spring; the flowers are rosy-coloured, with long tubes, disappearing in a few days, and are followed by leaves only in the following spring; the leaves are large, flat, erect, spear-shaped, about 5 inches long, and one inch broad at the base, and come off with the capsules, which are triangular, sessile, three-pointed; the seeds are round, ovoid, wrinkled, of a deep brown.

We prepare a tincture, according to Class 2d; some prefer the seeds to the root.

Antidotes: Nux v., Puls., Bell., Camph.

10. Cyclamen Europæum; Fr., Cyclame, pain de pourceau; Ger., *Erdschiebe, Schweinsbrod;* Eng., Sowbread.—*Lysimachiæ.*

This plant grows in shady places and hilly regions, at the foot of the Alps, in the middle of Europe, in Tartary, &c.; it is also cultivated in gardens. Root thick, flat, orbicular, forming a kind of flat surface, brown without, whitish within; the flat root is furnished with a multitude of long filaments. Leaves radical, pedunculated, rounded, veined, green, brilliant above, of a purple-red beneath, spotted white near the edge; flowers of a fine purple, or white and red; corolla revolute; berries covered with a capsule.

We prepare, according to Class 3d, a tincture of a brownish colour, no smell, and a somewhat acrid-nauseous taste.

Antidote: Puls.?

11. Dictamnus albus; Fr., Dictamne, fraxinelle; Ger., *Diptam-*, *Asch-Specht*, or *Eschenwurzel;* Eng., White fraxinella, bastard dittany.—*Rutaceæ.*

This perennial plant grows in the south of Germany, in Italy, France, Russia, in mountain-woods, and on stony hills. Root elongated, of the thickness of a finger, branchy, succulent, somewhat spongy; stem upright, from 2 to 3 feet high, slightly angular, streaked green, furnished with red, resinous glands, and terminating in a beautiful spike; leaves alternate, shining, pinnated; flowers terminal, in spikes, of a snowy-white or a clear red, with stripes of a deeper colour; seeds ovoid, black. When fresh, the whole plant emits a strong, resinous odour, and exhales a quantity of ethereal oil, which, upon a candle being approached in a dry and hot air, inflames without any injury being done to the plant.

We prepare, according to Class 3d, a tincture of a straw-yellow colour, and possessing in a considerable degree the smell of the plant. Of the larger roots we only use the bark.

12. GENTIANA LUTEA; Ger., *Gelber* or *edler Enzian;* Eng., Gentian.—*Gentianeæ.*

The root which we obtain in the shops, is from 3 to 11 lines long, and from one half to one line thick, with several principal heads, somewhat ramose, cylindrical, thinning off towards the end, bent and contorted, of a dirty, red rust-colour, or a little lighter, a peculiar, nauseous odour, and a penetrating, bitter, long-continuing taste.

We select pieces of the root of a moderate thickness, not worm-eaten or old, and prepare from them, according to Class 1st, a tincture of a yellow-brownish colour and a very bitter taste.

13. HELLEBORUS NIGER; Fr., Hellebore noir; Ger., *Schwarze Niesswurz;* Eng., Black hellebore, christmas-rose.—*Ranunculaceæ.*

This plant grows in the mountain-forests of middle and southern Europe, on the Alps, &c. The root is perennial, knotted, blackish on the outside, white within, and sends off a number of long, simple, dependent fibres, of a brownish-yellow when fresh, but changing to a dark-brown when drying; leaves pedate, of a deep-green colour, standing on long footstalks that spring directly from the root; each leaf is composed of 5 or more leaflets, one terminal and 2 or 3 or 4 on each side, supported on a single, partial petiole; leaflets ovate, lanceolate, smooth, shining, coriaceous, the upper portion being serrated; the flower-stem, which also rises from the root, is from 6 to 8 inches high, round, tapering, reddish towards the base, bearing one or two large pendent, rose-like flowers without calyx, which is supplied by floral leaves; the petals, which are 5 in number, are large, roundish, concave, spreading, and of a white or pale-rose colour, with occasionally a greenish tinge.

The recent root has a rancid, offensive smell, somewhat similar to that of the Senega-root ; its taste is acrid-bitterish.

We dig up the root immediately after the plant has begun to flower, and prepare from it, according to Class 1st, a tincture of a brownish straw-yellow colour and little smell.

Antidotes : Camph., China.

14. JUNCUS PILOSUS, *lucula pilosa ;* Fr., Jonc poilu ; Ger., *Haarige Binse ;* Eng., Hairy rush.—*Junceæ.*

This plant grows all over Europe ; root oblique, with runners ; stems gramineous, erect, simple, thick and smooth ; leaves radical, lanceolate, sharp, furnished at their edges with long, soft, scattered hairs ; flowers in corymbs.

We gather the root of the flowering plant in March or May, and prepare from it, according to Class 3d, a tincture of a light yellow-brown colour.

The *juncus effusus* is abundantly found on moist, marshy meadows, on the borders of ponds and ditches. Root rampant, branchy, furnished on one side with a number of long fibres, dipping into the ground; it resembles grass, the blades from 1 to 2 inches high, has the colour of grass, is very smooth, round, stiff, marrowy within, furnished at the base with yellow or reddish-brown sheaths or scales ; panicle composed of numerous flowers, pedunculated, turned to one side.

The *juncus glomeratus* is distinguished from the former by its finely streaked blades and shorter peduncles. Tincture as above.

15. PÆONIA OFFICINALIS ; Fr., Pivoine officinale ; Ger., *Gichtrose ;* Eng., Peony.—*Ranunculaceæ.*

This perennial plant grows in the forests of Switzerland, Carinthia, Silesia, and is likewise cultivated in gardens. Root oblong, rounded, thick, and provided with brown tubercles disposed like strings of pearls, of an offensive, stupefying smell. Leaves alternate, petiolated, cut short, with oval leaflets, lobed, the lower leaves biternate, the upper ones simply ternate; flowers large, of a fine purple colour.

We gather the root in spring, immediately after the leaves begin to bud, and prepare from it, according to Class 2d, an essence of a beautiful red colour.

16. Raphanus, *radix raphani nigri* s. *hortensis;* Fr., Rainfort; Ger., *Sommer-* or *Winterrettig*; Eng., Radish.—*Cruciferæ.*

The large, rounded, turnip-shaped root, which sometimes weighs several pounds, has a black or black-gray epidermis, a white, compact, very juicy pulp, and a remarkably acrid taste and smell.

Hollow or dry roots should not be used; roots of a moderate size are preferable. We dig up the root in May or June, and prepare from it, according to Class 2d, an essence of a pale-yellow colour and acrid odour. (Compare the article Armoracia.)

17. Valeriana officinalis, *Valeriana minor;* Fr., Valériane officinale, valériane sauvage, petite valériane; Ger., *Baldrian-Wurzel;* Eng., Valerian.—*Dipsaceæ.*

This perennial plant grows almost every where, in marshy low-grounds as well as on dry hills, the latter being preferable.

The perennial root of this plant has a cylindrical white stalk, whence shoot off fibrous, scaly branches, of a white colour within, and brown without. Stem from 2 to 6 feet high, obtusely quadrangular below, furrowed above, fistulous, simple, erect, hairy; leaves opposite, pinnatifid; folioles lanceolate, serrated; flowers reddish (rose-colour), or whitish; terminal or axillary, in panicles composed of infundi biliform little flowers; calyx dentated; corolla of 5 irregular divisions.

If carefully dried, the root has an aromatic, camphorous odour, and a bitter, aromatic taste. The colour of the fresh stalk is of a light-brown or reddish-gray; when dry, the colour is darker, even to a blackish-brown, lighter under the epidermis.

The root from the Alpine regions is the best; we prepare from it, according to Class 1st, a tincture of a reddish-brown colour and strong taste and smell, using *dilute* alcohol for that purpose.

Antidotes: Camph., Coff., Bell., and *Merc.*

18. VERATRUM ALBUM, *Helleborus albus;* Fr., Varaire, veratre blanc; Ger., *Weisse Niesswurz;* Eng., White hellebore.—*Colchiaceæ.*

The white hellebore grows in pasture-lands of the high mountains of France, Bavaria, Tyrol, Stiria, Silesia, Austria, Hungary, &c.

The perennial, short, thick, abruptly terminating root is simple, firm, rugose, brownish without, white within, sending off a number of juicy fibres of the size of a grass-blade; the fresh root has an offensive smell, and a burning-acrid, bitterish taste; the smell and efficacy of the dried root are less than those of the fresh. Stem from 1 to 4 feet high, round, fistulous, almost entirely covered by the sheaths of the leaves, downy above; lower leaves oval, the upper ones oblong, lanceolate, all of them provided with numerous nerves, glabrous on their upper, and downy on their lower surface. Flowers pale-green, disposed in terminal panicles.

From the dry root we prepare, according to Class 1st, a tincture of a yellow-brown colour, and the above described taste.

Antidotes: Acon., Camph., China, Coff., Ipec., Sulph.

b) Roots of exotic (non-European) plants.

1. CAHINCA seu CAÏNCA, *Cahinca caïnana. Chiococca racemosa;* Fr., Caïnca, Racine de caïnca; Ger., *Kaïnka-Wurzel;* Eng., Cahinca-root.—*Rubiaceæ.*

This shrub grows in Brazil and the Antilles. Stem from 5 to 10 feet high; leaves opposite, oval-pointed, entire; flowers pedunculated, whitish, axillary, in pendant bunches; fruit berriform, whitish, monospermous; root branchy, of a reddish-brown, consisting of cylindric pieces, from 1½ to 2 feet long, and of the thickness of a goose-quill or finger; it is fibrous, marked all along with furrows of a deep colour, covered with brown bark, annular, thin, fleshy; epidermis of a dirty white. Beneath this fleshy part is found a white wood, which is the axis of the root. The epidermis of the bark is of a resinous aspect when broken, of disagreeable taste, bitter, a little acrid and slightly astringent, producing a roughness in the throat; the woody part has neither taste nor odour. The odour of the root is acrid, volatile, disagreeable, somewhat like that of valerian.

We prepare from the bark of the root, according to Class 1st, a tincture of a light brownish-yellow colour.

2. CONVOLVULUS, *Jalappa,* s. *Ipomœa jalappa, Ipomœa macrorrhiza;* Fr., Jalap; Ger., *Trichter-Winde;* Eng., Jalap.—*Convolvulaceæ.*

This creeper grows in the environs of Mexico, Vera Cruz, in Florida, and Carolina. The tuber either comes whole or divided longitudinally into two parts, or in transverse circular slices; the entire tubers are irregularly roundish, or ovate and pointed or pear-shaped, usually much smaller than the first, and marked with circular and vertical incisions, made to facilitate their drying; in this state the root is preferred, as it is less apt to be defective, and is more easily distinguished from the adulterations than when sliced; the tuber is heavy, compact, hard, brittle, with a shining, undulated fracture, exhibiting numerous resinous points, distinctly visible with the microscope; it is externally brown and wrinkled, internally of a grayish colour, diversified by concentric darker circles, in which the matter is denser and harder than in the intervening spaces; the odour of the root when cut or broken is heavy, sweetish, and rather nauseous; the taste is sweetish, somewhat acrid and disagreeable; it yields its active properties partly to water, partly to alcohol, and completely to dilute alcohol. For homœopathic purposes we must not use the light pieces, of a clear brown outside, whitish or pale-gray within, nor those which are not shiny, nor striated, spongy, worm-eaten, nor too friable.

We prepare a tincture, according to Class 1st, from the heaviest and most resinous pieces, which have to be dried with care, and then finely pulverized. It has a brownish, straw-yellow colour.

3. GINSENG, *Panax quinquefolium;* Fr., Ginseng, Panax à cinq feuilles; Ger., *Ginseng, fünfblätterige Kraftwurzel;* Eng., Ginseng.—*Araliaceæ.*

This plant is a native of America, China, Tartary, &c., where it is a panacea for all ills. Root fleshy, somewhat spindle-shaped, from 1 to 3 inches long, about as thick as the little finger, terminated by several slender fibres; when dried, it is yellowish-white and wrinkled externally; within is a hard, central portion, surrounded by a soft, whitish bark; a feeble odour and sweet taste, slightly aromatic, resembling liquorice-root; stem smooth, round, one foot high, divided at the summit into 3 leaf-stalks, each of which supports a compound leaf, consisting of 5, or more rarely of 3 or 7 petioled, oblong, obovate, acuminate, serrate leaflets; the flowers are polygamous, small, greenish, and arranged in a simple umbel, supported by a peduncle; calyx five-toothed; corolla five-petalled; fruit, kidney-shaped scarlet berries, crowned with the styles and calyx, and containing 2 or 3 seeds. Besides the kind we have just described, and which should *alone* be used in homœopathy, there are many others, which are sold for the true ginseng, and which it will be necessary to distinguish.

According to Gruner, the Chinese root is not sent to Europe, and the symptoms of ginseng must therefore have been obtained from the Sium sisorum Willd., which comes to us mixed with the Senega.

We prepare a tincture according to Class 1st.

4. Ipecacuanha, *Cephaëlis ipecacuanha;* Fr., Ipecacuanha; Ger., *Brechwurzel;* Eng., Ipecacuanha.—*Rubiaceæ.*

We distinguish in commerce three sorts of ipecacuanha, to wit: 1st. Ipecac. *black* or *striated*, obtained from the *psychotria emetica.* 2d. Ipecac., *white* or *undulating*, obtained from the *Richardsonia scabra* of Brazil, and from the *viola ipecac.*, L. 3d. Ipecac., *gray*, coming from the *cephaelis ipecac.* It is this last that we employ in homœopathy; it comes from Brazil also, where the plant which furnishes this root, grows in shady places of the provinces of Pernambuco and of Bahia, at Mariana as well as on the Antilles; it is a small shrubby plant with a root from 4 to 6 inches long, about as thick as a goose-quill, marked with annular rugæ, simple or somewhat branched, descending obliquely into the ground, and here and there sending forth slender fibrils; the stem is 2 or 3 feet long; but being partly under ground, and often procumbent at the base, usually rises less than a foot in height; it is slender; in the lower portion leafless, smooth, brown, or ash-coloured and knotted, with radicles frequently proceeding from the knots; near the summit pubescent, green, and furnished with leaves seldom exceeding 6 in number; these are opposite, petiolate, oblong, obovate, acute, entire, from 3 to 4 inches long, from 1 to 2 broad, darkish-green and somewhat rough on their upper surface, pale, downy and veined on the lower; at the base of each pair of leaves are deciduous stipules, amplexicaule, membranous at their base, and separated above into numerous bristle-like divisions; the flowers are very small, white, and collected to the number of 8, 12, or more, each accompanied with a green bracte, into a semi-globular head, supported upon a round, solitary, axillary footstalk, and embraced by a monophyllous involucre, deeply divided into 4, sometimes 5 or 6 obovate, pointed segments; the fruit is an ovate, obtuse berry, which is at first purple, but becomes almost black when ripe, and contains 2 small, plano-convex seeds; the interior of the root is resinous, white, and traversed by a white line; the whole root has a feeble but disagreeable odour, and a mucilaginous, slightly bitter and nauseous taste.

The root of the *Richardsonia scabra* (*white ipecac.*) is longer, softer, and more flexible; the epidermis of it is of a clearer gray; the rings less near, and deeper; the fracture less resinous; the tatse not at all bitter.

For homœopathic use, we employ, as above said, the *cephaëlis ipecac.* or *gray ipecac.* The whitish or yellowish roots which are found mixed with this sort, should be rejected, as well as those which are spongy, and also such as have no rings.

We prepare a tincture from it, according to Class 1st, of a light-brown colour.

5. Œnanthe crocata; Fr., Œnanthe safrané; Ger., *Safran-Dolde;* Eng., Hemlock water dropwort.—*Umbelliferæ.*

This plant is natural to France, Spain, where it grows in marshes, watery meadows, and along rivulets. Stem erect, from 18 to 30 feet high, cylindric, fistulous, containing a yellow juice; leaves twice or thrice pinnated, large, of a deep green, with folioles oval-cuneiform; umbels of pretty long rays, from 12 to 30 in number; flowers white; seeds oval, oblong, terminated by persistent styles. The root of this plant, the only part we use in homœopathy, consists of many hinge-like branches, of the size of a beet, containing a white, milky juice, becoming yellow on exposure; the taste is sweetish, which is the reason of the frequent poisonings by this plant; it is the most dangerous vegetable we know; a bit of the root, about the size of a cherry, causes death in a few hours.

We gather the roots of the flowering plant in June or August, and prepare from them, according to Class 2d, an essence of a yellow-green colour; from the dry root we prepare a tincture according to Class 1st.

6. PUNICA GRANATUM; Fr., Grenadier; Ger., *Granatenbaum;* Eng., Pomegranate.—*Myrtaceæ.*

This tree is a native of the southern parts of Asia, Africa, America, and Europe, and is also cultivated in the botanic gardens of northern Europe.

It is from 15 to 18 feet high; leaves lanceolate, opposite and alternate, flowers of a bright red; fruit globular, surmounted by the calyx, coriaceous, succulent and fleshy; seeds numerous, reddish-blue, shining, and of a purple-red on the upper surface.

The best bark comes to us from the East-Indies; it is also obtained from France and Italy; it comes to us in irregular, flat or rolled-up pieces of different sizes. Only the outer bark of the root is used in medicine. It is of a brown-yellow colour, friable, covered with a fine, pale-brown epidermis, now and then with a greenish tinge, inodorous, with a rather bitter taste when chewed; it tinges the saliva yellow and is slightly astringent. With water it leaves a yellow trace on paper, which is transformed into a rose-colour by acids, into brown by alcalies, and into blue by the sulphate of iron.

The tincture of the dry root should be prepared according to Class 1st.

7. RATANHIA, *Krameria triandria ;* Fr., Ratanhia de Perou, kramer à trois etamines ; Ger., *Ratanhia ;* Eng., Rhatany root.—*Poligaleæ.*

This bush was first discovered by Ruiz in 1779 ; it grows on the sides of the Andes, in Peru and Quito, principally in Huamaco.

The root is composed of a branchy stalk of different size, from 4 to 8 lines long, and a few inches thick, from the sides and the lower parts of which shoot up round branches and numerous fibres of a few lines in thickness ; they are contorted, and are sometimes bent in the shape of a knee. It is ligneous, of a dark blue-red and cracked externally, and of a reddish-yellow internally, with a dark-red bark ; the branches of the root have an earthy odour and an acerb, astringent, slightly bitter taste, tinging the saliva dark-red.

We select the middle branches which are still completely covered by the substance of the bark, and prepare from them, according to Class 1st, a tincture of a saturated brown-red colour and an astringent taste.

8. RHEUM, *Rhabarbarum ;* Fr., Rhubarbe ; Ger., *Rhabarber ;* Eng., Rhubarb.—*Polygoneæ.*

This root is a native of middle and northern Asia. The best kind of rhubarb is obtained from two varieties growing on the mountains of China and on the Himalaya mountains, the *Rheum palmatum,* with palmated leaves and a large spike of white flowers, and the *Rheum Emodi* or *australe Don.,* likewise with large, round, downy leaves, and spikes of red flowers. Inferior kinds are obtained from the *Rheum Rhaponti-*

cum, compactum, undulatum, L., growing in Russian Tartary. This kind is, however, considered by some superior to the former.

The root is short, annular, light, spongy, of a saffron colour, with rose-coloured spots, a peculiar aromatic, nauseous smell, and a bitter, astringent, somewhat disagreeable taste; to the saliva it imparts a saffron colour without becoming viscid or glutinous.

The Russian root comes to us in flat, or in roundish, cylindrical angular pieces with wide foramina; these pieces are of different sizes and moderate weight. The yellow pulverulent covering arises from the pieces being rubbed against each other during the transport; on removing it, a brownish-yellow surface traversed by white, retiform veins, is exhibited; on cutting the root, it exhibits a bright brownish colour, with white and red spots, crystalline and resinous, shining; when chewed it makes a noise like sand, imparts a strong, yellow tinge to the saliva, and has a disagreeably acerb, bitter taste.

We select the heaviest pieces of a homogeneous colour, and prepare from them, according to Class 1st, with *dilute* alcohol, a tincture of a saturated dark yellow colour, and the well-known rhubarb-taste.

9. SASSAPARILLA, *radix Sassaparillæ* s. *Sarsaparillæ* s. *Salsaparillæ* s. *Sarsæ;* Fr., Salsapareille; Ger., *Sassaparilla;* Eng., Sarsaparilla.—*Asparagi.*

The best pharmaceutists consider the subsequently named varieties as the best. *Smilacin*, the efficient agent of Sarsaparilla, is principally found in these varieties, namely, in their ligneous portion and the epidermis.

1. Sarsaparilla from Honduras.
2. Sarsaparilla from Veracruz or Caraccas.
3. Sarsaparilla from Lisbon, Brazil, or Peru.

The roots should be mealy internally, of a yellowish-white, not friable nor worm-eaten, but compact and easily split longitudinally. The root is inodorous and has only an earthy smell when tied up in bundles, it has a slimy, somewhat bitterish, scraping taste. Roots with a too thick, partially detached bark, prominently marked with wrinkles, and of a light, yellowish leather-coloured epidermis, should be rejected.

We prepare, according to Class 1st, a tincture of a pale-yellow colour, but without either taste or smell.

Antidote: Camphor. Vinegar seems to increase the symptoms.

10. SCILLA MARITIMA, *Radices Scillæ* s. *Squillæ rubræ* s. *Pancratii veri* s. *Ornithogali, Cepa marina;* Fr., Scille maritime; Ger., *Meerzwiebel;* Eng., Squills, sea-onion.—*Asphodeli, liliaceæ.*

The true squilla maritima grows near the sandy beach of the Mediterranean; it is a perennial plant, of which we use only the bulbs covered with red membranes. We obtain them either fresh or dry, generally, however, in the latter form.

The whole bulb weighs about several pounds, is covered externally with membranous, red-brown, transparent scales, beneath which we find the thick, fleshy, succulent scales, which are at first of a pale violet, and afterwards, towards the middle, of a white colour. From the pretty broad base come off, in a circle, numerous, thick, round, long fibres, and at the opposite point we observe the green germ. The dried bulbs come to us in whole scales, or split once and singly detached, still more frequently in narrow segments of several inches in length, half an inch in breadth and a few lines in thickness. They are yellowish-white, generally pliable and tenacious, horny, and imbibe humidity from the air very readily. They are inodorous, and have an offensive, nauseous, bitter taste.

Since these bulbs do not contain any volatile substance, and the fresh bulbs are apt to deteriorate much more readily than the dried ones, it is advisable to use the latter in preference to the former. We select bulbs of a very white colour and fleshy consistence, not the brown or even half-roasted bulbs, nor the thin, coloured, membranous, inefficient scales; cut them in small pieces, and then prepare them with *dilute* alcohol, according to Class 1st. The tincture thus obtained is of a pale straw colour, lighter than a tincture from the fresh bulb, but equally efficacious.

Antidote: Camphor.

11. SENEGA, *poligala Senega;* Fr., Poligala de Virginie, sénéga; Ger., *Senega-Wurzel;* Eng., Seneca snake-root.—*Pediculareæ.*

This plant is a native of North America, Virginia, Pennsylvania, Maryland, and Canada. Its perennial root is of the size of a goose-quill or thicker, generally less, branchy, contorted, interlaced, from 2 to 6 lines long, with a knotty head of half a line in thickness, from which the branches shoot up. Externally it is of a gray-brownish-yellowish colour, longitudinally rugose, frequently rugged, rough; when cut, it shines like resin, is of a yellowish-white internally, fragile, ligneous, of an offensive rancid smell, and an extremely nauseous taste, exciting the saliva, and leaving a scraping sensation in the throat; the pulverized root causes sneezing.

We prepare, according to Class 1st, a tincture of a pale-yellow colour.

Antidotes: Arn., Bry., Bell., Camph.

12. ARISTOLOCHIA SERPENTARIA; Fr., Serpentaire de Virginie, aristoloche serpentaire; Ger., *Virginische Schlangenwurzel, Virginische Osterluzei;* Eng., Virginia snake-root.—*Aristolochiæ.*

This plant is found on the mountains and in the shady woods of Virginia, Carolina, and South America.

The root is composed of a short, thin, cylindrical, contorted stalk, furnished with thin, pliable, frequently closely interlaced fibres of from 1 to 4 lines long, of a dark gray-brown colour, and lighter internally. It has a strong smell, similar to that of Camphor or Valerian; taste aromatic, pungent-bitterish.

The tincture should be prepared according to Class 1st; it has a pale yellow-brown colour and strong smell.

13. Zingiber officinale, *Ammomum Zingiber;* Fr., Gingembre; Ger., *Ingwer;* Eng., Ginger.—*Cannæ.*

This plant is a native of the East Indies, and is moreover cultivated in the West Indies and in tropical America.

Root rampant, consisting of a thick stalk which is divided like a hand, into flat, rugged, fleshy tubers of from 1 to 3 inches long and almost an inch in thickness, of a dirty-yellow colour, and an aromatic smell and acrid taste.

The tubers are furnished with single fibres. From the root arise herbaceous, glabrous stems with narrow, acuminated, glabrous leaves; flower-shaft short, oval, obtuse; flowers yellowish-white. In commerce there are two kinds of zingiber, one white, the other black, a difference which arises simply from the more or less accurate method of drying the root. In homœopathy we use the roots that come by the way of Malabar and Bengal, light-coloured, compact, heavy, of a strong smell and burning taste. Roots of an entirely white colour should not be used, as this whiteness is probably the result of bleaching.

We prepare, according to Class 1st, a tincture of a yellow colour and a strong smell and taste.

2. *Fruit and seeds.*

Fruit (fructus) and berries (baccæ) are not, generally speaking, gathered until they are ripe ; some are gathered unripe because they then contain the largest amount of medicinal power. The fruits which we obtain fresh, should be carefully cleansed of all unripe, decayed or worm-eaten pieces, after which they are prepared according to one of the three Classes mentioned above.

The seeds have to be gathered when completely ripe, but before they fall off. Some of the seeds are used with, others without their capsules. Oily seeds easily become rancid.

a) *Seeds of European plants.*

1. Evonymus europæus ; Fr., Fusain, bonnet de prêtre ; Ger., *Spindelbaum, Pfaffenhütchen ;* Eng., Spindle-tree.—*Rhamnaceæ.*

This bush grows all over Europe, in hedges and woods, and sometimes rises to the size of a tree. Leaves lanceolate, indented, small, of a pale green, with four petals, supported on dichotomous stems, in panicles. The fleshy capsule, which is generally four-celled, and of a rose-colour when ripe, contains 4 roundish seeds of a saffron-colour, disagreeable smell and bitter taste.

From the ripe seeds and their capsules (in Oct.) we prepare, according to Class 3d, a tincture of a saffron-colour and no taste.

2. Humulus lupulus ; Fr., Houblon : Ger., *Hopfen ;* Eng., Hops.—*Urticeæ.*

This well-known plant grows in hedges, where it forms a perennial root, sending up numerous annual, angular, rough, flexible stems, which twine around neighbouring objects in a spiral direction, from left to right, and climb to a great height; leaves opposite, standing upon long footstalks; smaller sometimes cordate, larger 8 or 5 lobes; all are serrate, of a deep green colour on the upper surface, and, together with the petioles, extremely rough, with minute prickles; at the base of the footstalks are 2 or 4 smooth, ovate, reflexed stipules; flowers numerous, axillary, and furnished with bractes; male flowers yellowish-white, arranged in panicles; the females, which grow on a separate plant, are pale green, and disposed in solitary, peduncled aments, composed of membranous scales, ovate, acute, and tubular at the base; each scale bears a roundish, compressed germ, and two styles, with long, filiform stigmas; the aments are converted into ovate, membranous cones or strobiles, the scales of which contain each, at their base, two small seeds, surrounded by a yellow, granular, resinous powder. For homœopathic purposes we use the female flower-buds of the plant, gathered at the beginning of September, and prepare from them, according to Class 3d, a tincture of a dark brown-red colour, and an aromatic bitter taste.

3. Pheliandrium aquaticum; Fr., Phellandre aquatique, Ciguë aquatique, Fenouil d'eau; Ger., *Wasserfenchel;* Eng., Water hemlock.—*Umbelliferæ.*

This biennial plant grows in almost all the swamps and aquatic spots of Europe; root horizontal, crooked, oblique, resembling a turnip; stem from 2 to 6 feet high, fistulous, striated, thick, light, branchy, glabrous; leaves tripinnate, petiolated, glabrous, compound, with short peduncles and equal rays; involucre null or of one foliole; involucelle of 6 or 8 folioles; flowers white, with 5 cordiform petals; fruit ovoid, oblong, slightly compressed, flattened on one side and convex on the other, glabrous, resembling the seeds of anise, striated or furrowed, and turned over by the teeth of the calyx. When at maturity, these grains are larger, of a stronger odour, and greenish-yellow; the odour is pungent, disagreeable, and acrid; the taste aromatic and nauseous. We must not confound these seeds with those of the *Sium latifolium*, the grains of which are smaller, more striated, of a deeper colour, crooked, of an odour and taste altogether different.

We prepare, according to Class 1st, a tincture of a light brown colour, and the taste and odour of the seeds.

4. Secale cornutum, *Clavus secalinum;* Fr., Ergot; Ger., *Mutterkorn, Bockshorn;* Eng., Ergot, spurred rye.

This morbid alteration of the seed-bud of rye (and several other cerealia) has been attributed to various causes.

According to Decandolle, who calls it *Sclerotium clavus*, this alteration is caused by a fungus which prevents the development of the grain from the commencement, and grows up in its stead. This opinion is supported by the circumstances attending the appearance and growth of the morbid grain; it occurs principally in fertile years when hot weather frequently alternates with warm rain. It is seated between the awns as a cylindrical, somewhat curved, angular body, longitudinally rugose, and frequently resembling the fenugreek, from one half to one inch long, of a deep brown-violet without, and a yellow-white, and sometimes a violet-white within, viscid, having an offensive, rancid smell like a fungus, and a flat, sweetish taste.

From the fresh grains, which should be gathered before the corn is ripe, we prepare, according to Class 3d, a tincture of a dark hyacinth-red colour.

Triturations are inadmissible, for it is a well known fact that triturated secale will soon spoil, and the sooner, the fresher it was prepared.

Antidotes; Camphor, and *Solan. nigr.*

5. Agnus castus, *Vitex agnus castus ;* Fr., Gattillier commun ; Ger., *Keusch-Lamm ;* Eng., Chaste tree. —*Gattiliers* or *Verbenaceæ.*

This plant derives its name of *agnus castus*, (chaste lamb,) from the circumstance of the Greek ladies covering their beds with the leaves of it, during the absence of their husbands, to prevent any impure ideas. It is a bush which, on account of its beautiful leaves, is cultivated in our gardens, but which grows naturally along the basin of the Mediterranean, in Provence, in Greece, on sandy spots, and at the foot of rocks. It often attains a height of from 3 to 6 feet, and is very branchy ; the leaves are five digitated folioles, lanceolated ; flowers a great many, in long spikes, very apparent, of a violet-blue ; berries dry, divisions monosperm, resembling the pepper in grain.

We prepare of the leaves and flowers, or better still, of the berries, provided they can be had fresh, a tincture, according to Class 3d, of a dark brown-green colour and strong smell.

b) Fruits and seeds of exotic (non-European) plants.

1. Anacardium orientale, *Semecarpus anacarpus ;* Fr., Anacarde, Fève de Malac ; Ger., *Elephanten-Laus, Malakka-Nuss ;* Eng., Malacca bean.—*Terebinthinaceæ.*

This tree with gray bark is found in the Indies, where it grows in old forests. The fruit it bears is enclosed in a spongy receptacle. It is surrounded by two envelopes, between which is found an acrid, caustic, black fluid. It is of this *fluid* (not of the whole part, as the homœopathic pharmacopœias say) that, according to Hahnemann, we ought to make the preparation ; they are the effects of the *fluid*, not of the fruit that Hahnemann has published. We prepare, according to Class 1st, a tincture of a saturated brown colour, without smell, and of an acrid, burning taste.

Antidote : Camphor.

2. Illicium anisatum ; Fr., Anis ètoilé, Anis de la Chine, Badiane ; Ger., *Anis, Stern-Anis ;* Eng., Star anise seed.—*Magnoliaceæ.*

The vegetable which furnishes the anise seed, grows in China, in Japan, the Philippines, &c. It is a bush something like the laurel, with aromatic bark, yellow axillary flowers, calyx of 6 leaves, 27 petals, many two-valved capsules, monosperm, disposed around ; fruit star-shaped, formed by the assemblage of 6 or 8 capsules, oval, compressed, uni-valve, close at the base and open above, containing each one seed, shining, oval and flattened. This fruit has an aromatic odour, intense and agreeable, and an acrid, bitter, hot and piercing taste.

We prepare, according to Class 1st, a tincture of a light straw-yellow colour.

3. Capsicum annuum ; Fr., Piment, Poivre long ou poivre de Cayenne ; Ger., *Spanischer Pfeffer ;* Eng., Cayenne pepper.—*Solaneæ.*

This annual plant is originally from the East Indies, but it is also found in South America, in the West Indies, in the isles of the Pacific Ocean, in the interior of Africa, &c. It may be raised any where abundantly : the stem is thick, roundish, smooth, and branching, rises to 2 or 3 feet in height, and supports ovate, pointed, smooth, entire leaves, which are placed without regular order on long foot-stalks ; the flowers are solitary, white, and stand on long peduncles at the axills of the leaves ; the calyx is persistent, tubular, and five-cleft ; the corolla monopetalous and wheel-shaped, with the limb divided into 5 spreading, pointed, and plaited segments ; the filaments short, tapering, and furnished with oblong anthers; the germen ovate, supporting a slender style, which is longer than the filaments, and terminates in a blue stigma; the fruit is a pendulous, pod-like berry, light, smooth, and shining, of a bright scarlet, orange, or sometimes yellow colour, with 2 or 3 cells, containing a dry, loose pulp, and numerous flat, kidney-shaped, whitish seeds.

For homœopathic use, we take the capsules of the native, not cultivated plant, cut them with scissors in narrow stripes, and prepare, according to Class 1st, a red tincture, without smell and of a burning taste.

Antidotes: Camph., China.

4. CINA, *Artemisia contra, Semen contra;* Fr., Armoise d'Alep (non de Judée); Ger., *Zwittersamen, Wurmsamen;* Eng., Worm-seed.—*Corymbiferæ.*

The opinion which attributes the seed known under the name of *semen contra*, to the worm-seed of Judea, is all but generally adopted. We distinguish in commerce two kinds: the semen contra of *Aleppo*, or of the *Levant*, and the semen contra of *Judea* and *Barbary*. According to the botanist, Nees van Esembeck, the first of these kinds comes from the *artemisia contra*, whilst the other, the semen contra of the Indies, comes from the *artemisia conglomerata*, that is to say, the wormwood of Judea. According to Kunze, it is the *artemisia santonica palmata* and *odoratissima* which furnish this seed; whilst according to Sanders, it comes from a kind of *chenopodium*. The best kind is that which comes from Aleppo or the Levant; it is greener than the other; all the parts are glabrous, its flowers rather large, its odour more free, more aromatic; it is less mixed with foreign matters, dust, small sticks, &c.; its fragments not broken.

We prepare, according to Class 1st, a tincture of a dark yellow-green colour, and a peculiar, unpleasantly aromatic smell and bitterish taste.

5. Cocculus, *Menispermum cocculus;* Fr., Coque de Levant; Ger., *Kockelskörner;* Eng., Cocculus indicus.—*Menispermeæ.*

The plant from which we gather these fruits, is a kind of bush which grows in the East Indies, in Egypt, on the coast of Malabar, and in the isles of Ceylon, Java and Celebes, on rocks and stones, and on the shores of the sea; its fruits come to us in a dry state; they are inodorous, spherical, reniform, of a black or brown-gray, of the size of a small pea, wrinkled, resembling laurel berries. They are surrounded with two barks, of which the first is hard, ligneous, dull, and the second, white and still harder, enclosing a white almond which has an acrid, caustic and bitter taste, whilst the barks are almost insipid.

For homœopathic uses we powder the almond with the barks, and prepare, according to Class 1st, a tincture of a brownish straw-yellow colour, which, at a temperature below the freezing point, deposits margaric acid on the sides of the vessel, in the shape of wart-shaped little lumps. By filtering the liquid in the cold, we free it from the acid without injury to the preparation.

Antidotes: Camph., and *Nux vom.*

6. Coffea arabica, *Coffea cruda;* Fr., Café moka, Café cru; Ger., *Roher Kaffee;* Eng., Mocha coffee. —*Rubiaceæ.*

The tree which bears this well known fruit, is originally from Arabia Felix and Ethiopia, where it attains a height of 20 or 30 feet, but it is now cultivated in equatorial America and in many European countries with perfect success. The fruit of this tree is a berry, which, green at first, becomes afterwards red, and at last almost black; in each berry are found two hard grains, enveloped with a kind of paper-like membrane, and forming each one a demi-ovoid; these grains are the well known seeds known under the name of *crude coffee*. We particularly distinguish 4 kinds: 1st. Mocha coffee, so called from the town of Mocha, in Arabia. This is the best quality, and is distinguished by its small grains, very fragrant, yellow, rounded, coming from monospermous fruit. 2d. Bourbon coffee, in grains more elongated, but generally also rounded, having, however, less odour than those of Mocha. 3d. Java coffee, which has a rusty-yellow colour. 4. Martinique coffee, the least estimated.

Having been well dried at a moderate temperature, we powder it finely, and prepare from it, according to Class 1st, a tincture of a yellow-brown colour, using *dilute alcohol*.

Antidotes: Acon., Cham., Ign., Nux vom., Puls.

7. COLOCYNTHIS, *Cucumis colocynthis;* Fr., Coloquinte; Ger., *Koloquinte;* Eng., Bitter cucumber, Colocynth.—*Cucurbitaceæ.*

The colocynth is a species of cucumber originally from Japan, which now grows at the Cape of Good Hope, in Arabia, Syria, the isles of the Archipelago and southern Spain. The fusiform root of this plant gives birth to stems which trail upon the ground, or rise upon neighbouring bodies, to which they attach themselves by their numerous tendrils; leaves of a triangular shape, many-cleft, variously sinuated, obtuse, hairy, of a fine green colour on the upper surface, rough and pale on the lower, and standing alternately upon long petioles; flowers solitary and yellow, appearing singly at the axills of the leaves; fruit a globular berry or pepo, of the size of a small orange, yellow and smooth when ripe, containing within a hard coriaceous rind, a white, spongy, medullary matter, enclosing numerous ovate, compressed, white seeds; the pulp of this fruit is cellular, spongy, light, white, almost inodorous, but of an excessive bitterness. We receive this fruit, deprived of its rind, from Aleppo and Alexandria; the white, dry and light fruit is the best; often also we meet with, under the name of colocynth, the fruit of another cucurbitaceous plant of the size of a small apple, but these fruits are rounder and lighter than the true cucumbers; their outer rind adheres strongly to the dried pulp, and is very fragile; the taste of this pulp is also very bitter, but the bitterness is much less intense than that of the colocynth.

To prepare this last for homœopathic purposes, we powder the marrow of the fruit without the seeds, and prepare from it, according to Class 1st, a tincture of a dark straw-yellow colour, and a very bitter taste.

Antidotes: Camph., Caust., Cham., Coff., Staph.

8. CROTON TILLII seu TIGLII, *Semen Cataputiæ minoris, nuces catharticæ americanæ;* Ger., *Purgir-Körner, Granatill-Körner;* Eng., Croton-oil.—*Euphorbiaceæ.*

The seeds which are sent us from India, are oval-oblong, obtuse at both ends, from 3 to 4 lines long, and from 2 to $2\frac{1}{2}$ lines thick, furnished with a somewhat projecting suture; beneath the thin, brownish-yellow, somewhat dark-spotted, brittle shell, we find a yellowish-white, inodorous kernel, which has at first a mild-oily taste that shortly after becomes burning-acrid, and causing a violent scraping in the throat.

We prepare, according to Class 1st, a tincture of a brown-yellowish colour and burning taste. If we wish to obtain the fat oil instead of the tincture, we have to dissolve it in 10 times its amount of alcohol fortius. The triturations soon become rancid.

9. Cubebæ, *Baccæ* seu *semen Cubebarum, piper caudatum ;* Fr., Cubèbes ; Ger., *Kubeben, Stiel-, Schwanz-,* or *Kubeben-Pfeffer ;* Eng., Cubebs.—*Urticeæ.*

Cubebs are the unripe berries of a bush that is a native of the East Indies. They are globular and provided with peduncles. They are of the size of ordinary peas, covered with a black-brown shell that encloses a kernel of a homogeneous colour ; the shell has a pleasant, aromatic smell, but little taste ; the kernel has a bitterish, acrid taste, like pepper. The peduncle cannot be broken off without injuring the shell.

We prepare, according to Class 1st, a tincture of a light-brown colour, possessing the taste and smell of the berries.

The heavier and smoother the berries, the better they are.

10. Dipterix odorata Willd., *Fabæ de Tonco* seu *Tongo* seu *de Tonca* seu *Tunca ;* Ger., *Tonko-* or *Tonga-Bohne ;* Eng., Tongo-bean.—*Leguminosæ.*

Of the two varieties, which are offered by druggists, we prefer those from Holland. They are oblong, straight, or sometimes somewhat curved, from 1 to 1½ lines long, and 2 to 4 lines thick, flat, shining like grease, brownish-black, containing beneath the thin shell a light brown, mealy, two-lobed kernel, between which we sometimes discover, in older beans, the substance called Cumarin or Tonko-Camphor, resembling the crystals of benzoic acid. The smell of these beans is similar to that of the flowers of clover ; the taste is aromatic, acrid-bitterish.

We prepare, according to Class 1st, a tincture of a straw-yellow colour.

Antidote : Acetum.

11. Eugenia jambos s. *jambosa;* Fr., Jambos, Jame rosade; Ger., *Jambus-Myrthe;* Eng., Malabar plum-tree, or rose-apple.—*Myrtaceæ.*

This beautiful tree is a native of the Indies and the warm countries of America; it is never without flowers or fruit, and attains a height of 20 to 40 feet; the bark of the trunk is of a reddish-brown, that of the branches cracked but smooth; leaves alternate, entire, lancinated, veined, and full of points, in length 6 to 8 lines, of a deep green above, of a pale green below; peduncles terminal, ramose, multifloral; flowers large, of a dull yellow; fruit almost spherical, of the size of a medium pair, of a fine pale yellow, approaching to the rose; seeds monosperous, with 4 angles, and enveloped in a thin pellicle; the fruit is eaten, but the seeds, and above all the envelop, are considered poisonous; the root of this tree is, it is said, one of the most violent poisons.

According to Dr. Hering, the tincture should be prepared from the fresh seeds.

12. Jatropha curcas; Fr., Médicinier, gros pignon de Jude, figue infernale, ricin d'Amérique; Ger., *Schwarze Brechnuss, grosse Purgirnuss, Höllenfeige;* Eng., Purging nuts, Barbadoes nuts, infernal fig.—*Euphorbiaceæ.*

We obtain the seeds of this plant from Cuba, the Antilles and South America; they are black-brown, dotted with light brown stripes and points, from 7 to 10 lines long, and $3\frac{1}{2}$ to 4 lines in breadth, and almost of the same thickness; the shell encloses a whitish, almond-like kernel, at first of a mild, and afterwards an acrid, scraping taste.

The tincture is prepared according to Class 1st.

Antidotes: Oleum crotonis, and *Camphor*.

13. Ignatia amara, *Strychnos Ignatii ;* Fr., Fève St. Ignace ; Ger., *Bittere Fiebernuss ;* Eng., Bean of St. Ignatius.—*Apocyneæ.*

This species of *strychnos* forms a sort of vine, the leaves of which are ovoid and shining ; it grows from the Philippine isles as far as Cochin China ; the fruit is of the size of a melon, and contains 20 to 24 seeds. The seeds (*beans of St. Ignatius*) are of the size of a large almond, and a little more than an inch long, irregular, angular, hard and stone-like, glabrous, inodorous, and semi-transparent ; on the outside they are of a blackish-gray or clear-brown, striated, downy ; inside they are of a brown-yellow, and somewhat shining ; they have a somewhat disagreeable, musky odour, and an excessively bitter taste ; the best are the largest, heaviest, and those which have not been opened. In commerce this fruit is actually extremely rare, and the majority of druggists sell impudently the grains of *nux vomica* for those of the bean of St. Ignatius. Those of the nux vomica are of a greenish-gray, very flat, having the form of a coat-button, whilst those of the St. Ignatius' bean are of a blackish- or brownish-gray, of the form of an almond, and angular.

We scrape the bean in very thin, pliable stripes, then dry them at a moderate temperature (over warm water for instance), reduce them to a fine powder in a mortar, and prepare a tincture of a pale straw-yellow colour and bitter taste.

Antidotes : Arn., Camph., Cocc., Coff., Nux vom., Acetum.

14. Lycopodium clavatum, *Lycopodium pollen;* Fr., Lycopode, Pied de loup; Ger., *Bärlapp-Samen, Streupulver, Hexenmehl ;* Eng., Club-moss, wolf's-claw.—*Lycopodineæ.*

The plant which furnishes the powder known under the name of *lycopodium*, or vegetable sulphur, is a species of moss which grows in Europe, above all in Finland and Russia, in stony and hilly places, covered with wood; we gather the powder from the spike of the plant by roasting and beating it towards the end of summer; the stem of this plant is creeping, filiform, ramose, from 3 to 4 feet long; the recumbent branches are sterile, the upright ones fertile; leaves rounded within, lance-shaped, entire, or toothed, nerveless, ending in a white point, filiform; spikes straight, cylindric, 2 to 3 inches long, formed of scales arranged like tiles; capsules reniform, yellow, axillary, unilocular, with 2 valves, containing seeds which form the lycopodium of commerce. It is a powder extremely fine, of a pale yellow, unctuous to the touch, inodorous, insipid, adhering to the finger, inmiscible in water, on which it floats inflammable and very light; it is often adulterated with the pollen of the pine, sawdust, fecula, powdered chalk and lime, or other powders coloured yellow by gamboge. In this last case, the fraud may be detected by the red tint which a solution of potash gives to the lycopodium, and as to those with other powders, we recognise them, inasmuch as when put on water these powders become impregnated with it, and sink, whilst the lycopodium floats; the powder of chalk, and that of lime, sink at once, and betray themselves still more evidently by the effervescence which they produce with acids; the adulterations with the pollen of the pine, or that of the fir, are discovered by the resinous odour which these substances exhale when rubbed between the hands; the presence of fecula may be detected by iodine. We make the *three* first attenuations by *trituration*.

Antidotes : Camph., Puls.

15. NUX MOSCHATA, *Myristica moschata;* Fr., Noix muscade, Muscadier; Ger., *Muskat-Nuss;* Eng., Nutmeg.—*Laurineæ* (*Myristiceæ*).

The nutmeg tree grows in the isles of Banda, Amboyna, the Moluccas, and is cultivated in many tropical climates; it bears much resemblance to the pear-tree; it rises to the height of 20 or 30 feet; the bark is of a deep gray-green, glabrous; branches strong, hanging; leaves attenuate, oblong, lanceolate, entire, aromatic; fruit hanging, of the size of a hen's egg, coming to maturity nine months after the flowering; this fruit is of a blackish-brown, and composed of 3 parts by order of superposition, to wit: 1st. the *pulp*, exterior coat, of a rosy-white, thready; 2d., the *arillas*, or *mace*, second coat, consisting of a sort of reticulated copolc, viscous, thin; of an aromatic odour, and an acrid, balsamic taste; 3d., the *nut*, which is formed of two parts, the *shell* and the *kernel*. The shell is smooth, grayish, hard, firm, furrowed; the kernel or *nutmeg*, properly so called, is ovoid, flattened at the two ends, of the size of a pigeon's egg, veined and marbled, of a woody consistence, and oleaginous. The fruit is gathered three times a year; the gathering of March is the best; that of July is the most abundant, and that of November the least abundant of all.

For homœopathic use we choose the small nuts, obtuse on both sides, which are fresh, heavy, and exude a yellowish, fragrant oil when pricked; they must not be worm-eaten, and not break to pieces when cut.

We prepare a yellow tincture, according to Class 1st.

Antidotes: Camphor, caroway.

16. Nux vomica, *Strychnos nux vomica;* Fr., Noix vomique; Ger., *Brechnuss, Krähenauge;* Eng., Vomit-nut.—*Apocineæ.*

The nux grows in the East Indies, in the island of Ceylon, on the coasts of Coromandel, Malabar, &c. The tree is of a moderate size, with numerous strong branches, covered with a smooth, dark, gray bark; the young branches are long, flexuous, very smooth, dark green, and furnished with oval, roundish, entire, smooth and shining leaves, having 3 or 4 ribs, and placed opposite to each other on short footstalks; the flowers are small, white, funnel-shaped, and disposed in terminal corymbs; the fruit is a round berry, as large as an orange, covered with a smooth, yellow, or orange-coloured, hard, fragile rind, and containing numerous seeds imbedded in a juicy pulp; the seeds are flat, circular, about $\frac{2}{3}$ of an inch in diameter, and 2 or 3 lines in thickness, generally somewhat curved, with a depression on one side, and a corresponding prominence on the other; they are thickly covered with fine, silky, shining, ash-coloured, or yellowish-gray hairs, attached to a thin, fragile coating, which closely invests the interior nucleus or kernel; this is very hard, horny, usually whitish, and semi-transparent, sometimes dark-coloured and opaque, and of very difficult pulverization; they are destitute of odour, but have an acrid, very bitter taste, which is much stronger in the kernel than in the investing membrane.

We first scrape the nut in thin slices, dry them at a moderate temperature, after which they are easily reduced to a fine powder, from which we prepare a tincture according to Class 1st, of a straw-yellow colour and bitter taste.

Antidotes: Camph., Coff., Cocc., Acon., Cham., Ign., Puls., Vinum.

17. Oleum olivarum; Fr., Huile d'olive; Ger., *Baumöl;* Eng., Olive-oil.

This oil is used in homœopathy as an antidote in some cases of poisoning, and also for the preparation of a cerate. We obtain it by expression from the fruit of the olive-tree, (Olea Europæa, L.,) originally of the family Jasmineæ, Juss., and Decandria monogynia, L., originally from Africa, but at present growing spontaneously in France, Spain, Italy, &c. It is an evergreen; leaves opposite, very rarely alternate, green above, shining and silvery beneath, bitter, aromatic, and somewhat tartish to the taste; it grows slowly, lives for ages, and sometimes attains a size of 6 feet in diameter; its wood is very heavy, hard, granulated, veined, yellowish; its bark is grayish, split, wrinkled, inodorous and bitter; the little white flowers are axillary, in bunches; its fruit, the *olive*, is oval oblong, of a deep green, or blackish, and contains, in a tartish flesh, a very hard seed; it is from this fruit that we extract the *olive-oil;* the best is obtained from fruit scarcely ripe; there is then but little bitterness, but when too ripe this is the case. Olive oil is of a whitish or straw-yellow colour, or greenish, according to the degree of maturity of the fruit from which it has been extracted; the good quality is whitish, unctuous, but little soluble in alcohol, very soluble in ether, of a feeble odour, of a sweetish and agreeable taste, concreting in a cold of 8° to 10° above zero, inflammable with a clear flame. In commerce it is often adulterated with the oil of poppy, linseed, rapeseed, &c.; a fraud which may be detected by its greater weight, and by its less easy concretion in the cold, or when shaken in a bottle half full, it becomes frothy or filled with bubbles. Exposed to the air, it easily becomes rancid; but properly secured, it may be kept pure for years.

Compare: CERA.

18. PICHURIM, *Laurus pichurim;* Fr., Laurier Pichurim, Noix de Para; Ger., *Pichurim-Bohne;* Eng., Pichurim bean laurel.—*Laurineæ.*

This vegetable grows in South America. In commerce we find two kinds. 1st. The larger kind (fabæ pichurim majores). 2d. The smaller (fabæ pichurim minores). The first are the best; these are composed of two lobes, of a very marked aromatic odour, convex on one side, flat on the other, oblong-oval, 1 to 2 inches long, by 6 to 12 lines broad, obtuse at both ends, of an acrid and slightly peppery taste; the concave side of the bean is a little cracked, of a blackish-brown; the other side is smooth, of a clearer colour, marked by a longitudinal furrow; the inside is reddish-yellow, full of darker points.

We prepare, according to Class 1st, a tincture of a light brownish-yellow colour.

19. Sabadilla, *Semen sabadillæ* s. *sabatigliæ* s. *cebadillæ, hordeum causticum;* Ger., *Sabatill-Körner, Läuse-Samen, Laus-Körner.* — *Veratreæ* (*Colchiaceæ*).

The bulb is furnished with numerous fibres, and is surrounded with brown, membranous scales; from the bulb shoot up glabrous, linear, acuminate, entire leaves of 4 inches long and 3 lines broad, carinated on their posterior surface, and somewhat furrowed. Stem herbaceous, simple, glabrous, almost leafless. The flowers form a simple cluster, or with a few branches only, at the end of the stem; the larger portion of the flowers are male flowers, and fall off, after which the pedunculated flowers turn to one side. Capsules oblong, three-crested, three-horned, three-celled, each cell containing 2 seeds, elongated, black, a little wrinkled, pointed at the ends, flat on one side and convex at the other, somewhat curved, 2 to 3 lines long, whitish within, hard, inodorous, and of an exceedingly acrid, burning, and durable taste; the taste of the capsules is very bitter.

For homœopathic use, we take the *seeds with their capsules,* and prepare, according to Class 1st, an inodorous tincture of a brown-yellow colour.

Antidotes: Camphor, Puls.

20. Solanum mammosum; Ger., *Zitzenförmiger* or *warzenartiger Nachtschatten.*—*Solaneæ.*

This bush is a native of Virginia, Barbadoes, Carolina, the West Indies and Antilles, and grows in hedges and on cultivated places.

Stem herbaceous, furnished with prickles and long hairs, erect, branchy, from 3 to 4 feet high; leaves large, generally more broad than long, cordiform, irregularly-angular, lobed, shaggy on both sides, with yellow nerves on the lower surface, the mid-rib furnished with dark-yellow prickles; flowers scattered, panicled, of a pale-gray; berries macuniform, yellow.

From the berries we prepare an essence according to Class 2d.

21. Delphinium Staphysagria. (See: Staphysagria.)

6. *Resins and Balsams.*

Resins (resinæ) are the ethereal oils of several trees and bushes, which have become inspissated by the access of air, or dried balsams of various shades of colour, from white to dark red-brown, of a peculiar aromatic resinous taste, and generally of an aromatic odour, imparted to them by the adhering ethereal oils. From trees the resins flow spontaneously after an incision is made; from bushes they are extracted by means of alcohol, or they are obtained by expression or boiling. Resins are soluble in alcohol (except caoutchouc) and ether, but completely insoluble in water. A few resins only crystallize; most of them have no definite shape, are transparent, and of various colours. They are without taste or smell, and whatever taste or smell they have, is derived from the admixture of the heterogeneous substances.

Most resins are hard, of vitreous fracture, and in the cold, are easily reduced to powder.

Gum-resins, generally from the family of the umbelliferæ, are naturally composed of mucilaginous and resinous parts, and are not entirely soluble either in water or alcohol. In some plants the gum-resins form the sap which is obtained by expression from the fresh plants, or by making incisions in the living ones. Gum-resins are softer than the real resins; by means of alcohol we only succeed in extracting the resinous constituents; mixed with water they form a milky solution. They are most completely dissolved in vinegar. Most gum-resins are furnished in the shape of dry, firm masses of a strong smell and taste.

Balsams (balsama) are combustible liquids of greater or lesser fluidity, viscous, soluble in alcohol, insoluble in water, of strong smell and aromatic, resinous taste; when distilled, they furnish ethereal oil, and the residue is resinous. They flow out as a thin juice, either spontaneously or after incisions are made in the plant, gradually inspissate in the open air; or they are obtained from various parts of the plant by boiling the latter with water.

The resins and gum-resins of whose action on the human organism we are more particularly acquainted, are the following:

1. ALOËS, *Gummi* s. *succus aloës, aloës succotrina* s. *soccotarina* s. *lucida;* Fr., Aloès; Ger., *Aloë;* Eng., Aloës.—*Liliaceæ.*

This is the dried juice of the plant, of a bright-shining, yellow-greenish-black appearance, and of a red-brown if seen towards the light in thin pieces, of a brittle fracture like that of a shell, feeble myrtle-like odour, and an excessively bitter, lasting taste. We prepare a tincture, according to Class 1st, with strong alcohol, of a dark red-brown colour, and possessing in a high degree the colour and taste of the aloës.

2. AMMONIACUM, *Gummi ammoniacum;* Fr., Gomme ammoniaque; Ger., *Ammoniak, Armenisches Gummi;* Eng., Gum ammoniac.—*Umbelliferæ.*

Gum ammoniac is a green resinous substance, which flows from an umbelliferous tree, a native of

Africa, and of some parts of the East Indies. According to the account of Fontanier, it flows in grains more or less large ; it is collected about June, and sent to us. In commerce we distinguish two kinds: 1st. *Gum ammoniac pure*, or *amygdaloid*, which is in small, round, agglomerated grains, of a dull reddish-yellow, shining and greasy in its fracture, not transparent, whitish within, odour strong, taste acrid, bitter, and disagreeable, partly soluble in water, with which it forms a milky mixture, half soluble in alcohol ; 2d. *Gum ammoniac impure*, in *lumps*, in masses more or less large, of a dirty yellow colour, mingled with the refuse of seeds, earths, sand, &c. ; of a feeble, balsamic odour; of a bitter, resinous, and acrid taste, softening between the fingers, puffing up on coals, when it crepitates, blackens, and emits an alliaceous smell. It dissolves in ether, and only in small quantity in vinegar and alcohol.

The *three* first attenuations are made by *trituration*, or we prepare a tincture with strong alcohol.

3. Gummi gutti seu *guttæ* s. *gambæ* s. *gambogiæ*, *gutta gamba* s. *gambogia ;* Ger., *Gummigutt*, *Gummigutti*, *Gutti ;* Eng., Gamboge.—*Guttiferæ*.

This drug comes to us in dense masses, either cylindrical, from 1 to 3″ in diameter, and 12″ in length, or in irregular lumps of several pounds in weight, of a dirty green-yellow surface, and bearing impressions of leaves. The shell-like fracture is of a shining brown-yellow, the drug leaves a light-yellow trace on paper, and, if applied with water, the line is of a shining gold-yellow. Little taste at first, afterwards scraping ; no smell.

The tincture is prepared according to Class 1st ; it is of a gold-yellow colour.

4. Asafœtida, *Ferula asafœtida;* Fr., Gomme resine de ferule; Ger., *Stinkasand Teufelsdreck;* Eng., Asafœtida.—*Umbelliferæ.*

The substance which we use under this name is the gum-resin of the *ferula asafœtida*, a perennial plant which is found in Persia, Media, Lybia, Syria, and even in India. To obtain the gum, which the ancients already knew under the name of *succus cyrenaicus*, we cut the root of the plant, and let the juice run out, which at first is white, but which becomes yellow on exposure, and concretes into a substance composed of rusty-coloured, irregular pieces, more or less large, mixed with pieces of a white colour, of a very strong and very fetid alliaceous odour, and acrid taste. In commerce we distinguish three kinds of asafœtida, viz: 1st. Asafœtida in grains, (*asafœtida in granis,*) which is in small pieces of a yellowish- or brownish-red, a little unctuous to the touch, and of a shining colour on fracture; 2d. Asafœtida in tears, *asafœtida amygdaloides,*) the most abundant sort, and consisting of grains agglomerated, or in a brownish mass mixed with white morsels, like to broken almonds; 3. Rock asafœtida, (*asafœtida petræa,*) consisting of pieces of a yellowish-white with little white shiny points.

For homœopathic use, we prefer the *first* of these 3 kinds, the asafœtida in grains, and we prepare a tincture according to Class 1st, of a saturated brown-red colour.

Antidotes: Camphor, China, Caust., Electric., Puls.

5. Euphorbium officinale; Fr., Euphorbe officinale; Ger., *Wolfsmilch, Euphorbien-Harz;* Eng., Euphorbium spurge.—*Euphorbiaceæ.*

This gum-resin is extracted from several kinds of euphorbia growing in the warm regions of Africa, chiefly at the Cape, along Mount Atlas, &c. In the fresh state, it is a milky juice which flows out in abundance on incision ; it comes to us in irregular pieces or in rounded tears, about the size of a pea or larger, often forked and perforated with one or two small conical holes, produced by the prickles of the plant, around which the juice has concreted, and which sometimes remain in the holes ; the masses are occasionally large and mixed with impurities, the surface is dull and smooth, bearing some resemblance to that of tragacanth ; consistence somewhat friable, light yellowish-red ; odour scarcely perceptible ; taste at first slight, but afterwards excessively acrid and burning ; colour of the powder yellowish ; triturated with water, it renders it milky and is partially dissolved ; alcohol dissolves a large portion, forming a yellow tincture, which becomes milky on the addition of water. We must be careful in making the powder, as it is very acrid ; we should place a band over the eyes and nose, &c. It burns with a bright white flame, emitting an agreeable odour.

According to Class 1st, we prepare a tincture of a brownish-yellow colour and a burning taste.

Antidotes : Camph., lemon-juice.

6. Guaiacum officinale ; Fr., Gaïac, Gayac ; Ger., *Guajak-Harz* ; Eng., Guaiacum, gum resin.—*Rutaceæ.*

The plant from which we receive the gum resin, known under the name of *gum guaiacum*, is a large and beautiful tree which grows in South America, especially at St. Domingo, Jamaica, Brazil, &c. The wood and bark of this tree are found in commerce in large pieces, irregular, hard, but fragile ; the bark is compact, gray outside, spotted, resinous, and apparently greasy ; the wood is of a sweetish-bitter, acrid, burning taste, and generally inodorous, but when burnt, giving out an aromatic smoke ; the inner part of this wood is of a deep-green colour, and contains much resin ; the outer part is more yellow, lighter, and less resinous. It is from this wood we obtain by decoction the *resin of guiac*, but we also obtain it in a direct way, in the country itself, where it oozes from the tree, either naturally or in consequence of incisions made in it ; it comes to us in masses, hard, large, irregular, semi-transparent, of a deep brown or green outside, of a bluish-green, and full of white and brown spots inside, with a waving and shining fracture, and of a specific weight of 1.205 to 1.228. It is without odour, but of a slightly bitter taste, which pricks the tongue a little ; it is very friable, and affords a powder of a grayish-white, which, on exposure to the air, soon becomes green. It is soluble in alcohol, and but slightly in water. It is at times adulterated with the resin of the pine tree, but on throwing a little of this resin on the fire, the smell of turpentine will soon discover this mixture. Often, also, it is mixed with colophony, which is revealed by caustic potash, which forms a clear solution, whilst the resin of guaiac is pure, and a troubled one when there is any colophony present.

We prepare a tincture of a dark-brown colour, according to Class 1st.

7. Jalappæ magisterium ; Fr., Resine de Jalap, Magistère de jalap ; Ger., *Jalappenharz ;* Eng., Resin of Jalap.—*Convolvulaceæ.*

Jalap root (see description) contains in its substance the tenth part of its weight of resin, which may be extracted by alcohol, in digesting the root in this liquid, mingling afterwards the tincture with water, and submitting the whole to distillation. The resin of jalap is of a dull and yellow-green colour without, fracture of a brown-yellow, shining but little, opaque, friable, of an acrid, bitter taste. When warmed or rubbed, it exhales the odour of the root ; in alcohol it dissolves easily ; this resin is frequently adulterated with charcoal or powdered jalap, with the resin of the pine, of guaicum, of white agaric, &c.; the adulteration with these resins is easily detected, inasmuch as oil of turpentine dissolves them, whilst it leaves the resin of jalap undissolved.

8. Opium, *Papaver somniferum;* Fr., Opium, Pavot somnifère; Ger., *Opium, Mohnsaft;* Eng., Opium, White poppy.—*Papaveraceæ.*

The white poppy is an annual plant, with a round, smooth, erect, glaucous, often branching stem, rising 2 or 3 feet in height, and sometimes attaining 5 or even 6 feet in favourable situations; the leaves are large, variously lobed and toothed, and alternately disposed upon the stem, which they closely embrace; flowers terminal, very large, and of a white or silver-gray colour, with a tinge of violet at the base; calyx smooth, two-leaved, which fall when the petals expand; these are usually four in number; the germen, which is smooth and globular, supports a radiated stigma, and is surrounded by numerous short and slender filaments, with erect, oblong, compressed anthers; the capsule is smooth and glaucous, of a rounded shape, from 2 to 4 inches in diameter, somewhat flattened at top and bottom, and crowned with the persistent stigma, the diverging segments of which are arranged in a circle upon the summit; it contains numerous minute white seeds, which, when perfectly ripe, escape through small openings beneath the stigma; all parts of the poppy are said to contain a white, opaque, narcotic juice; it most abounds in the capsule, and there the virtues of the plant most reside. Opium is the dried juice of these capsules, and comes to us in brown cakes of a greasy, shining appearance and bitter taste, acrid and narcotic, and of a strong odour, which becomes weaker when older. We find in commerce five kinds: 1st. *Red opium,* from Constantinople; it is in flat cakes, weighing from one half to two pounds and an half, reddish without and within, of a rank odour, but not so strong as the *black opium ;* 2d. *Black opium,* from Smyrna; 3d. *Brown opium,* from Egypt; 4th. *Indian opium,* a variety of the black; 5th. *Opium in tears,* from Persia; 6th. *Yellow opium,* from Greece. The strongest of these is the *black,* from Smyrna, and the kind we use in homœopathic preparations; it comes to us in large round cakes, of a black colour, of a strong, rank odour, enveloped in leaves of the poppy, and sprinkled with the seeds of the *Rumex patientia ;* in the finer parcels the colour internally is of a light brown; in the inferior it is darker; a peculiarity of this kind is, that when cut into and then torn, numerous minute shining tears are observable, bearing some resemblance to small seeds, but readily distinguishable by pressure between the fingers; they are formed from the drops of juice. As to the other kinds, they are much more rare, and but seldom found in commerce.

We make the *three* first attenuations by *trituration,* or we prepare a tincture with dilute alcohol, according to Class 1st.

Antidotes : Acidum mur., Camph., Coff. Ipec.

b) Liquid resins or natural balsams.

1. Copaiva balsamum s. *Copahu ;* Ger., *Kopaiva-* or *Copaiv-Balsam, Copahu, Copabu-Balsam, weisser Peru-Balsam ;* Eng., Balsam of Copaiva.—*Leguminosæ.*

The copaiva-tree, *copaivera officinalis Jacq.,* is a native of Brazil and the neighbouring countries, and is likewise cultivated on the Antilles.

The Brazilian balsam is the best. It is not too thick or tenacious, of an oily consistence, pale-yellow, very clear; it has an aromatic but not offensive smell, and at first a mild, oily, but afterwards an acrid, bitterish taste.

We dissolve it in strong alcohol. The solution must be quite clear, and of a pale straw-yellow colour.

2. Terebinthinæ oleum; *spiritus* s. *essentia terebinthinæ gallicæ;* Ger., *Terpenthin-Spiritus, Terpenthingeist, Terpenthinöl;* Fr., Huile de térébenthine; Eng., Spirits of turpentine.—*Coniferæ.*

All the varieties of pine furnish the thick balsam which is well known under the name of turpentine; it is of different purity and quality; the volatile oil is manufactured by distilling the turpentine with water. This oil is clear as water, has a scarcely perceptible yellow appearance, is very fluid, of a peculiar penetrating odour, and a burning taste.

For medical use we take the best French oil, and slowly distil it over water, in a glass-retort; it is then perfectly white, has a less pungent smell, but is much more volatile than before. It has to be guarded from the light in small vials, otherwise it soon becomes again resinous, coloured, and acquires an offensive smell.

It is prepared in the same way as the oleum animale. Both the oleum animale and the oleum terebinthinæ being exceedingly volatile, it is self-evident that they cannot be triturated without losing their virtue.*

* The following method has been proposed to purify turpentine. Mix 8 parts of turpentine with one part of alcohol 0,80, shake them well together, and let the mixture stand quietly; in a few minutes the oil sinks to the bottom of the vessel, and the alcohol, which contains the resinous portion of the oil in solution, can be poured off. This washing should be repeated 3 or 4 times, after which, according to Nimmo, the oil is quite pure, and, according to Vanquelin, contains about one-fifth of alcohol which is attracted by the water without the mixture becoming milky on being shaken. This seems to be a very good method to obtain a small quantity of pure turpentine.

7. *Fungi.*

The fungi are principally gathered in the latter part of summer; they have to be carefully cleaned of worms, and of all other injurious or heterogeneous substances. Fungi generally contain a crystalline fat, a semi-fluid oil of a buttery consistence, vegetable albumen, a saccharine matter, two kinds of nitrogeneous matter, one of which is soluble in water and in alcohol, the other in water only, salts of potash and ammoniac, various kinds of acid, such as: fungic acid, boletic acid, phosphoric acid, acetic acid, the parenchymatous structure of the fungus, and water.

1. Agaricus muscarius; Ger., *Fliegenschwamm, Fliegenpilz;* Eng., Bug agaric.—*Fungi.*

This fungus grows from August to October, in Europe, Asia, and America, and is found in pine and birch forests.

Upon first coming out of the ground, it is oval and enclosed in a soft, fleshy envelop; the young stem is short and thick, bulbous at the base, generally hollow when old, from 4 to 6 inches long, the part above the middle being provided with a white, membranous ring; the cap is at first eminently vaulted, afterwards it becomes flatter, is of a scarlet-red, furnished with yellowish-white scales which are sometimes wanting, with a white border, or a border with brown-yellow stripes; pulp yellowish, or white, or reddish, the lamellæ radiate from the middle to the margin; it has an offensive smell and a burning-acrid taste.

For medicinal purposes, we select the younger fungi, the stem of which is not hollow, cleanse them of the adhering earth by scraping it off, remove the epidermis from the stem and cap, and reduce the whole to a paste, from which we prepare, according to Class

2d, an essence of a reddish-yellowish colour, and possessing the taste and colour of the fungus.

Antidotes: Camphor, Coffee, Wine, and *Puls.*

2. BOLETUS SATANAS; Ger., *Satan'spilz;* Eng., Satan's fungus.—*Fungi.*

It is found in forests, in summer and fall. Cap thick, dense, of a pale yellow; orifice of the little tubes dark-red; stem big, dark-red, the upper portion furnished with bars.

According to Phœbus, it is a variety of the *boletus luridus Schäff.*

3. LYCOPERDON BOVISTA; *bovista officinalis;* Ger., *Bovist, Kugelschwamm, Staubschwamm, Wolfsrauch, Bubonfist;* Eng., Lycoperdon, puckfist, puff ball.—*Fungi.*

This fungus is found in almost all Europe, especially at the commencement of fall, on pasture-grounds, and dry meadows. It is almost globular, gradually terminating at the base in a big, folded stem. It is from one line to one inch in diameter; when young, it is white, afterwards dirty-yellow, and finally changing to a dark-brown colour. The inside is at first white and succulent, afterwards greenish and pappy, lastly brown and dry as dust. It has an offensive smell, and an insipid, mouldy taste.

We gather the fungus when perfectly ripe, and prepare from it, according to Class 1st, a tincture of a brown colour and very little taste. Triturations can only be made from the mouldy dust; the envelop cannot be pulverized.

Antidote: Camphor.

8. *Vegetable products,*

Obtained: *a*) by chemical operations.
b) by fermentation.
c) by combustion.

1. Saccharum officinarum ; Fr., Sucre ; Ger., *Zucker ;* Eng., Sugar.—*Gramineæ.*

The sugar-cane grows in the tropical regions of either hemisphere, especially in the East and West Indies, and on several South-sea islands.

The juice of the ripe stems having been pressed out, it is mixed up with a little lime for the purpose of removing the vegetable glue, after which it is boiled and allowed to cool, when the sugar crystallizes, and is known under the name of cassonade.

This first sugar is refined in the mother-country, but more frequently in Europe ; the clarified juice is inspissated, and loaf-sugar made out of it. It has a very sweet taste, and can be dissolved in water, and also in alcohol, in indefinite proportions.

2. Acetum ; Fr., Vinaigre ; Ger., *Essig ;* Eng., Vinegar.

Vinegar is obtained by exposing wine or some other alcoholic fluid to the access of air, and the influence of warmth ; the fluid gradually becomes turbid and warmer than the surrounding atmosphere. Finally the liquid becomes clear again, and has a sour smell and taste. When distilled, it gives off acetic acid diluted with water. The principal constituent of vinegar is acetic acid, which is derived from the alcohol contained in the wine.

In medicine we use the following kinds of vinegar :

a) *Common vinegar*, obtained by the sour fermentation of various substances, such as : Wine, beer, fruit, beets. Wine-vinegar is the best kind of vinegar. Vinegar can be mixed with water and alcohol in every proportion.

b) *Distilled vinegar*, obtained by distilling wine-vinegar with one-sixteenth of its weight of pulverized charcoal ; the distillation is to be continued from a retort until the acid which passes over looks clear and colourless.

c) *Acetic acid.*

We use *vinegar* as an antidote.

3. INDIGOFERA TINCTORIA L., *color indicus;* Fr., Indigo; Ger., *Indigo;* Eng., Indigo.—*Leguminosæ* (*Papilionaceæ.*)

This plant, which forms an erect, branchy bush, covered with a short, white down, grows in the East Indies, wild, in large quantity.

The valuable dye-stuff is contained in the epidermis of the leaves, and is obtained by means of a peculiar process of fermentation. It comes to us in loose, light, dry lumps of a few cubic inches, or in irregular pieces of a deep dark-blue, with a fiery, coppery, scintillating lustre, and strongly adhering to the fingers; it has a shelly fracture, and has neither taste nor colour. It floats on water, is insoluble both in water and alcohol, but is completely soluble in concentrated sulphuric acid, and volatilizes by exposure to heat.

We prepare *triturations.*

4. VINUM; Fr., Wine; Ger., *Wein;* Eng., Wine.

Wine is obtained from the juice of grapes by subjecting it to fermentation at a temperature of from 15° to 18° R.

We employ wine as an antidote, and sometimes as a stimulant.

5. SPIRITUS VINI; Fr., Esprit de vin; Ger., *Weingeist;* Eng., Spirits of wine.

In the treatment of burns, several physicians employ the spirits of wine warm. We warm it in a cup which is to be placed on a stove, and until this gets warm, we heat some in another cup by setting fire to it. With this warmed alcohol the burnt parts are moistened, which is to be continued as long as an aggravation of the pain is experienced after the application. It can likewise be employed for large burns by dipping clean linen rags into the spirit, and keeping them constantly moist when applied. The application is not well possible when half the body is burnt, and deep wounds have been caused by the burn; nor can it be applied to burns in the neighbourhood of the eye and of other delicate organs. It is of very little use after cold water had been applied.

Linen rags moistened with spirits of wine, are an excellent application to bedsores; or the spirits may be used as a wash.

6. LAURUS CAMPHORA L., *gummi camphoræ, camphora chinensis* s. *japonica, camfor, caphura, cafur, canfer;* Fr., Camphore; Ger., *Kampher, Kamphor, Kamfer, Kapher;* Eng., Camphor.—*Laurineæ.*

This tree is a native of China, Japan, and Cochin-china; the Chinese call it Tchange. It is an evergreen, the bark of the trunk uneven, gray-brown. From this tree we obtain the Chinese or Japanese camphor. There is another much rarer and finer sort obtained in the islands of Sumatra or Bornea, from the *Nyobalanus camphora Caleb.* The branches of this tree crack spontaneously, and an oil flows from these cracks, which, when exposed to the air, acquires the consistence of camphor. This kind of camphor is said to be clear as glass, somewhat less unctuous to the touch, less volatile, and of a stronger smell.

Camphor comes to us in disks of from 1 to 2 pounds weight; they are globular below, and generally perforated in the middle, of a shining, crystalline appearance. It has a peculiar, exceedingly penetrating smell, and a somewhat acrid, warming, aromatic-balsamic, afterwards cooling and bitterish taste; when chewed, it feels to the teeth like wax; it is unctuous to the touch, white, friable, tenacious, of granulary fracture, crystallizing in white, transparent octaedra, or hexaedra; by the addition of a few drops of alcohol, ether or oil, it may be reduced to a fine powder, and possesses a specific weight of 0,996; it volatilizes in the open air, is easily inflammable, and burns with a profusely smoking flame, without leaving a corbonaceous residue; it is easily soluble in ether, alcohol, fat, and ethereal oils, not so soluble in vinegar, and least in water.

We prepare a solution with strong alcohol in the proportion of 1 to 10, which is to be regarded as the first attenuation. It ought to be quite colourless and of a strong smell and taste.

Antidotes: Opium, Spir. nitr. dulc.

7. Carbo vegetabilis; Fr., Charbon végétal; Ger., *Holzkohle, Pflanzenkohle, vegetabilische Kohle;* Eng., Vegetable charcoal.

We select the firmest pieces of beech- or birch-charcoal, of middle weight, and divested of their bark, clearly showing the texture of the wood, and allowing us to infer, from a certain bright lustre, that the carbonizing process was perfect. These pieces, after being divided in lumps of the size of a fist, are again made red-hot, and then speedily extinguished in an earthen vessel provided with a well fitting cover; having been allowed to cool, and the ashes which may have formed having been blown off, the pieces are pulverized very finely, and the powder is kept in closed vessels in a dry place. The powder of vegetable charcoal is blacker than that of animal charcoal, and, in the light of the sun, has a scintillating appearance, even when ever so fine. It is without smell or taste.

It is prepared like animal charcoal.

Antidotes: Camph., Coff., Ars.

CHAPTER IV.

MINERAL KINGDOM.

Formerly mineral substances were divided into earths, salts, metals, and combustible minerals. According to the new division, we have metallic and non-metallic minerals (metals, metalloids, and a-metallic or non-metallic bodies). The minerals which we employ in homœopathy, are generally subjected to chemical manipulations, in order to obtain them pure, free from all heterogeneous substances. We will first treat of a-metallic or non-metallic bodies; then of the acids, alkalies, earths, salts; and lastly, of the metals and their compounds. To the first and the last in this list belong all those chemically simple substances which we have as yet been unable to reduce to simpler forms, either by physical or chemical means, and which by their union, if effected in the requisite proportions, reproduce the substances of which they are the constituent elements.

A-metallic and combustible substances.

1. Bromium; Fr. Bromine; Ger., *Brom;* Eng., Bromine.

We take sea-water or the mother-brine of salt-sources, and, by means of evaporation, down to one-third, and crystallization, we free it from the salt and the free muriatic acid contained in it. As long as a precipitate forms, we add sulphuric acid, in order to free the solution from lime. With from six to nine pounds (of the original quantity) we mix, in a retort with a short neck and a carefully fitting glass-helm, one ounce of finely powdered manganese, and two ounces of sulphuric acid, which should be diluted with two ounces of water; we boil this mixture, after all the interstices had been previously stopped in the most careful manner. To the beak of the helm we attach a glass-tube which is to be directed into a tubulated receiver, where it should rest on red-hot chloride of calcium. As soon as brown vapours cease to develop themselves, the work is done, and is to be discontinued at once. With a suitable receiver, such as: a tubulated retort, the rectification of bromine can be accomplished directly as soon as the receiver is separated from the alembic, and the tubulus is well closed.

The rectification of bromine requires to be conducted with great care. We have to guard against the noxious vapours of bromine, the distillation has to be conducted slowly and at a moderate temperature, and the receiver should be kept as cool as possible. The best plan is to conduct the whole operation in the open air, and with the mouth bandaged.

Bromine is a liquid of a dark brown-red colour; in thick layers it is not transparent; in thin layers it is transparent, of a beautiful fiery red; it has a suffocating odour, resembling that of chlorine, and irritating the eyes a good deal. It has to be kept in vials with glass-stoppers, in a cool place.

We prepare the attenuations with strong alcohol.

2. GRAPHITES, PLUMBAGO, *percarburet of iron;* Fr., Graphite, plombagine, percarburet de fer; Ger., *Graphit, Reissblei;* Eng., Graphite, plumbago, black-lead, carburet of iron.

Pure graphite is a mineral carbon containing ten parts of carbon to one of iron. It is occasionally found in mines; those of England and Passau are regarded as the best. A species of artificial graphite is formed in high furnaces, during the smelting of iron. It is a gray, blackish, shining substance, unctuous to the touch, insipid, inodorous, and used for pencils, called lead-pencils.

To prepare graphite for medical use, it must be boiled for an hour in a sufficient quantity of rain-water, after which the fluid is to be decanted and the graphite to be digested in a solution of equal parts of sulphuric and hydrochloric acids, diluted with twice their volume of water. After repeatedly stirring the mixture for 24 hours, decant the fluid, wash the residue with rain-water, and dry it.

Graphite thus prepared, should be prepared still further as follows: Take small portions of the graphite, and mix them with coarsely powdered sugar of milk and a sufficient quantity of water to reduce the whole to a thickly paste by rubbing down the mixture without cessation in a mortar of some size. This rubbing is to be continued until the water has evaporated and the mass begins to form little lumps. Boiling-hot water is then poured over the whole, in order to dissolve the sugar of milk and to separate the coarser from the finer particles of graphite. This graphite is washed repeatedly, dried, and employed for the triturations.

Antidotes: Ars., Nux v., Vinum.

3. Iodium, *Iodina;* Fr., Iöde; Ger., *Iod, Iode, Iodin;* Eng., Iodine.

This combustible, simple, non-metallic body derives its name from the beautiful violet colour of its vapour. This substance is found in a variety of marine plants, in most of the sponges, molluscs, polypi, &c.

Iodine appears in the form of thin, scaly laminæ, of a black-gray, with a metallic lustre, but very little tenacity. Its bluish colour is somewhat like that of sublimed arsenic or plumbago, and its odour approaches that of chlorine. It has an acrid, acerb, astringent, pungent taste, which continues on the tongue for a long while. Iodine is perfectly soluble in 10 parts of strong alcohol. This first solution has a dark red-brown, scarcely transparent colour, and leaves a brown-yellow stain on the skin. Triturations are unavailable, and even the above solution has to be prepared fresh for use, and should be kept in vials with glass-stoppers.

The iodine of commerce is generally damp, and adulterated with other substances, such as graphite, sulphuret of antimony, &c. To purify it, we add an equal quantity of iron-filings, and sublime it over a spirit-lamp.

Antidotes: China, Coffee, Camphor.

4. KREASOTUM; Fr., Kréasote; Ger., *Kreasot;* Eng., Kreasote.

This substance is found in different kinds of tar, in the smoke of wood, in empyreumatic acetic acid, &c. Dr. *Reichenbach*, of Blansko, has obtained it from vinegar of wood; but the proportion of kreasote furnished by this liquid is but inconsiderable. The body which furnishes it most abundantly is the *tar of the beech tree.* For this purpose this tar is distilled, the oil obtained is rectified; at first it produces *eupion*, and afterwards a kind of *kreasote,* which falls to the bottom when dropped into water. By changing the receiver, these two last fluids are easily separated, the last of which, the kreasote, is taken, the acetic acid which renders it impure is removed by means of carbonate of potassa, after which the acetate of potassa is separated by water, the kreasote, which floats in masses on the water, is collected and dissolved in the lixivium of potassa, which at the same time separates a portion of *eupion.* This last substance being separated, the lixivium is saturated with sulphuric acid, in order to isolate the *kreasote.* The kreasote obtained is to be dissolved afresh in the lixivium of potassa, and the process is to be repeated until the kreasote no longer contains any trace of eupion. Pure and perfectly anhydrous kreasote is a colourless, transparent fluid, slightly oleaginous, and strongly reflecting the light; a little greasy to the touch, of a penetrating smell, an acrid, caustic taste, with a sweetish after-taste, not showing either acid or alkaline properties, evaporating easily, and perfectly soluble in alcohol nnd ether.

Cozzi prepares it in the following manner: Tar is heated in a retort with a helm, and the product of the distillation is received in a cylinder which is half filled with water. At the bottom of the substance which passes over, we find impure kreasote. This substance is saturated with sulphuric acid diluted with half its quantity of water. The kreasote now rises to the surface in the shape of an oleaginous, black substance, and is passed by the application of heat through a boiling mixture of acid and water, after which it is exposed to the air for 3 days. The liquid which has become darker, is now distilled again from a retort heated by a spirit-lamp, and the substance which passes over, is subjected a few times to the same treatment, until the kreasote appears quite pure.

Antidote: Mercurius?

5. Petroleum, *Oleum petræ, Naphtha montana;* Fr., Huile de pétrole; Ger., *Bergöl, Steinöl;* Eng., Petroleum, Barbadoes tar.

This substance, which exudes from the earth through the fissures of rocks, and which is found floating on the water, most frequently occurs in Asia, particularly in Persia, and in Europe, principally in Italy, near Modena, as also in the South of France, in Switzerland, Bavaria, and Hungary. There are four sorts, viz, 1st. Black petroleum, (*Oleum petræ nigrum.*) a substance of a dark brown colour, thick, viscous, insupportably fetid, and liable to concrete in the air; 2d. Red petroleum, (*Ol. petr. rubrum,*) of a yellowish-red, more fluid than the preceding, of an empyreumatic smell, and subject to thicken in the air; 3d. White petroleum, (*Ol. petr. album,*) of yellow-wine or honey-colour, leaving a residuum, and giving out a bituminous smell when burned; 4th. Mountain naphtha, (*Naphtha montana,*) the finest kind, perfectly limpid, colourless, very fluid, volatile, very inflammable, and of an aromatic smell.

In homœopathy we use the third kind, the *white petroleum.* It should be very fluid and of a very clear yellow, which shows that it is not adulterated with the fixed vegetable oils. But, for greater certainty, it may be tested by mixing it with sulphuric acid; this acid does not act on it, but converts the fixed oils which may be mixed with it, into a kind of sulphuret. Another test, still more simple, consists in letting fall a few drops of it on very white paper; if the petroleum is pure, these drops evaporate in a free and warm atmosphere without leaving the slightest trace of grease. To ascertain that it is not adulterated with oil of turpentine or any other vegetable essential oil, mix it with an equal quantity of spirits of wine; shake the mixture, then by filtering through filtering-paper which has previously been moistened with spirits of wine, the pure petroleum is obtained, which remains on the paper, whilst the spirits of wine, combined with the other oil, pass through the filter.

For some time past, there has been found in commerce a clear yellow essential oil, which is derived from pit coal, and which, when used to adulterate petroleum, is not detected by those marks which show the presence of oil of turpentine. This oil does not, like oil of turpentine, redden test-paper, nor does it inflame when mixed with a compound of sulphuric and fuming nitric acid; but what serves to detect its presence is, that it has a peculiar, empyreumatic, penetrating, and very disagreeable smell, which repeated rectifications with water even will not suffice to destroy. We dissolve it in strong alcohol.

Antidotes: Cannabis, and *Nux vom.*

6. PHOSPHORUS; Fr., Phosphore; Ger., *Phosphor;* Eng., Phosphorus.

This substance, well known by its property of retaining the rays of light, never occurs native, but, united with oxygen, exists in the blood, flesh, brain, teeth, and many species of grain: in the mineral kingdom it is found as phosphate of lime in the mountains of Estremadura, &c. In a state of perfect purity, it is transparent, colourless, or of a yellowish-white, solid, ductile, crystallizable, inflammable, insoluble in water, but slightly so in ether and alcohol. To purify phosphorus so as to render it suitable for homœopathic use, it is sufficient to remelt it frequently under water, or to press it, under hot water, through closely woven cloth, or to distil it in a glass retort, the beak of which is plunged into a receiver full of water. If the phosphorus is of a red colour, it will be sufficient to put it into water to which nitric acid has been added, and to heat the water until it boils. The adulteration of phosphorus by sulphur is detected by its greater hardness and deep colour.

As for the attenuations of this substance, there are *three* modes of making them, viz: 1. By *trituration* with sugar of milk, explained by Hahnemann; 2. By *sulphuric ether*, for the first attenuation; 3. By alcohol alone. To make the first attenuation of phosphorus by means of ether, take one hundred drops of well rectified sulphuric ether, and introduce into it one grain of phosphorus in small pieces. This should be done in a cool place, and in a well stopped bottle. The solution being effected, after shaking the bottle, take two drops, which are to be mixed with one hundred drops of alcohol, which give the *second* attenuation. The others are all made with alcohol, in the usual manner. But, as it has not been proved that sulphuric ether does not affect the virtues of the medicine with which it is mixed, the preparation with pure alcohol should be preferred.

Dr. Stapf used the following method: Mix, in a bottle, 5 grains of purified phosphorus, with 500 drops of anhydrous alcohol; place the bottle, slightly corked, in a vessel filled with hot water, to melt the contents. That being done, cork the bottle tightly, shake until the solution is entirely cold, when the phosphorus will be found divided in a large number of small globules. Close the bottle hermetically, tie a prepared bladder over the cork, place it in a cool and dark place, and shake it as often as possible. At the end of some weeks, or still better, of some months, the alcohol will be found completely saturated with phosphorus. This preparation should be kept in a dark vial; it is colourless, develops, when powdered on the hand, vapours of phosphorus, and, if shaken with water, becomes milky. It must not redden the tincture of lacmus.

Antidotes: Camph., Coff., Nux vom., Vinum.

Phosphori acidum, *acidum phosphoricum;* Fr., Acide phosphorique; Ger., *Phosphorsäure;* Eng., Phosphoric acid.

Phosphoric acid is found in the three kingdoms of nature, most frequently in the animal kingdom, and almost always combined with bases.

The best modes of obtaining phosphoric acid, are: 1st, from bones; 2d, by treating phosphorus with nitric acid.

1st: Place in a porcelain vessel one pound of calcined and well powdered bones, pour on them a pound of concentrated sulphuric acid, let the whole stand for 24 hours, stirring it frequently with a glass spatula; then add 2 pounds of concentrated alcohol, mix all together, and put it into a cloth bag, which submit to the action of a press. The fluid being thus expressed, let it stand for 2 days to clarify. Then decant the clear portion, inspissate it over the fire in a porcelain vessel, and fuse it by raising it to a red heat. The product is the phosphoric acid desired; it should be perfectly transparent, and clear as crystal. Take it while still hot, break it in pieces, and place it in a well stopped bottle to prevent the contact of the air from causing it to deliquesce. The first attenuation is made with distilled water, the second with a mixture of equal parts of alcohol and water, and only with the *third* we begin to use common alcohol.

2d: Introduce a portion of phosphorus into a retort, cover it with 13 parts of nitric acid of the strength of 1,20; place the whole in an iron cup with sand, and apply the gentle flame of a spirit-lamp. First, colourless vapours will rise, smelling of phosphoretted hydrogen; then come the red fumes of nitrous acid. After the nitric acid has ceased to act, and the phosphorus is all dissolved, the liquid is to be allowed to evaporate in a porcelain cup. When about 8 parts of the liquid are still left, the cup suddenly fills with red vapours, which continue as long as phosphorous acid and nitric acid are left behind. When the red vapours cease to form, we add another quantity of nitric acid, and continue adding small portions of nitric acid until the red vapours cease to appear, and the whole of the phosphorus is oxydized. To complete the removal of every trace of acid, we require to heat the phosphoric acid as long as there is the least smell of nitric acid, or as long as we discover a trace of it by dipping into the preparation a little glass stick moistened with caustic ammonia. If stronger nitric acid should be employed for the oxydation of phosphorus than the one above mentioned, the phosphorus has to be added gradually, in small pieces, lest it should inflame. Phosphoric acid prepared from the phosphorus of the shops, generally contains arsenious acid, from which it is freed by the following process. Add a little water, and pass a current of sulphuretted hydrogen through it. The arsenious acid will now make its appearance in the shape of sulphuret of arsenic. The liquid is now allowed to stand for several days in a lightly covered capacious glass, in a moderate temperature, which, after this period, is raised to 50° R., by which means the sulphuret of arsenic is completely separated from the liquid, and every trace of sulphuretted hydrogen likewise removed.*

The liquid is now filtered a last time, and allowed to evaporate over a moderate fire down to the specific gravity of 1,15. This liquid will be found to contain one-fifth of dry, nitreous acid.

It is to be kept in vials with glass-stoppers.

Attenuations as above.

Antidotes: Camph., Coff., Sulph., Rhus t.

* If the third attenuation, which is to be prepared with strong alcohol, should become turbid, this would arise from the presence of a small portion of siliceous acid; in this case, before we continue the attenuating process, the 3d attenuation has to be allowed to stand until the acid has sunk to the bottom; the clear liquid requires to be filtered again, before we can use it for the remaining attenuations.

7. SELENIUM; Fr., Selenium; Ger., *Selen;* Eng., Selenium.

This very remarkable substance, discovered by Berzelius in 1817, is rarely found, and always combined with other metals, such as lead, copper, cobalt, bismuth, mercury, silver, &c. It is thus found in Norway, Sweden, Transylvania, and some parts of the Hartz. It has also been found in the magnesia of commerce. This metal is solid at the ordinary temperature, of a deep lead-gray, of a blood-red brilliancy at the edges, brittle, very fusible, volatile, acidifiable, and of a specific gravity of 4.31. When finely pulverized, it forms a scarlet-red powder, and has neither taste nor smell.

For homœopathic use, take metallic selenium, which is easily reduced to powder by simple trituration. The three first attenuations are made by *trituration.*

Antidotes: Ign., Puls.

8. SULFUR S. SULPHUR; Fr., Soufre; Ger., *Schwefel;* Eng., Sulphur, Brimstone.

Sulphur is found in nature in considerable abundance, either native, as in the vicinity of many volcanos, or combined with various metals, composing the sulfurets called *pyrites;* with hydrogen in sulphurous waters, or with oxygen as sulphurous or sulphuric acids, and with these acids forming sulphates. Lastly, it is found in many organic substances, such as the flowers of the elder, the linden, in carmine, mustard, anise, in leguminous plants, white of egg, and hair. On the large scale, sulphur is procured from pyrites by simple distillation, or from native sulphur; obtained in either way, it is in *two* distinct forms, viz: 1st, *cylinders* or *rolls*, the shades of which vary, according to their purity; 2d, in fine *powder*, known as *flowers of sulphur* or *sublimed sulphur.* This last, which alone is used in homœopathy, is obtained by mixing equal parts of *roll* sulphur and white sand, this is introduced into a glass retort, and distilled in a sand-bath. The *flowers of sulphur* thus prepared contain generally a little sulphuric acid, which is removed by frequent washings in pure water, and drying on blotting-paper; after which they are known in commerce under the name of *washed flowers of sulphur*. For homœopathic purposes, however, these washed flowers of sulphur are not sufficiently pure, on which account, before using them, they should be washed afresh with alcohol to free them completely from the least trace of sulphuric acid which might adhere to them. Flowers of sulphur frequently, also, contain arsenic, which is known by their orange-yellow colour, as well as by their alliaceous odour when thrown on burning coals. Occasionally, selenium may be present in sulphur, in which case it will be of a dirty-yellow. When pure, sulphur is of a canary-yellow, insoluble in water, but soluble in 200 times its weight of alcohol. In its natural state, it occurs generally crystallized, or in amorphous masses with a shining fracture, and so brittle as to break in the hand. When strongly heated it is volatilized, and inflames on the contact of air. To prepare the attenuations, take *washed flowers of sulphur*, which wash afresh in alcohol; then if you wish to obtain *triturated sulphur* (*sulfur trituratum*), make the *three* first attenuations by *trituration*. The tincture of sulphur (*tinctura sulfuris* s. *spiritus vini sulfuratus*) is obtained by mixing together in a small bottle one hundred drops of the best alcohol with 5 grains of flowers of sulphur washed, (and purified by a fresh washing with alcohol,) this bottle after being corked is slightly shaken; then, at the end of 24 hours, the clear liquid is decanted into another bottle, and kept under the name of *Tincture of Sulphur*. One drop of this preparation mixed with 10 drops of alcohol, will form the second attenuation, and so on of the rest.

SULFURIS ACIDUM, *Acidum sulfuricum* s. *sulfuris*, *acidum vitrioli;* Fr., Acide sulphurique, Acide vitriolique; Ger., *Schwefelsaurer Vitriol;* Eng., sulphuric acid, vitriolic acid, oil of vitriol.

This acid is found in nature, sometimes in a free state, but usually combined with water. It has, however, been also found in the form of small acicular crystals, in many grottos of volcanic mountains; it constitutes an important ingredient, together with muriatic acid, in the so-called *sour springs*, in North America. But it is principally as combined with bases that this acid abounds in nature. When entirely anhydrous, it is in white, opaque crystals, like amianthus, volatile at the ordinary temperature, susceptible of uniting with the hydrogen of the atmosphere, and of forming vapours with it. In commerce there are two kinds of this acid, viz.: 1. *The sulfuric acid of Nordhausen, or of Saxony*, a brownish liquid, *fuming*, and almost completely anhydrous. 2. *English sulfuric acid*, which is obtained by the combustion of sulphur in vast leaden chambers. This last is not fuming, it is less concentrated than that of Nordhausen. For homœopathic purposes, we use the first of these, the *sulphuric acid of Nordhausen*, known under the name of fuming sulphuric or vitriolic acid; but before using it, it is indispensable to subject it to a fresh distillation. For this purpose, introduce it into a glass retort heated in a sand-bath; the first product which passes into the receiver, is perfectly anhydrous sulphuric acid, and as soon as this has passed over in the form of white vapours, the ebullition of the acid ceases. Then the receiver must be changed, and the real distillation carried on by carefully increasing the heat of the fire: it is to be continued until only the tenth part of all acid used remains in the retort. The product of this distillation is pure concentrated sulphuric acid, which combines with water under whatever form it may be presented to it. The *first* attenuation is made with *distilled water;* the *second* with aqueous alcohol; and it is only with the *third* that we can begin to use strong alcohol. Pure sulphuric acid is perfectly colourless and inodorous, and of the specific gravity of 1.840.

The dangerous ebullition of the acid is prevented by introducing a platina-wire of a spiral shape into the retort; the operation is much facilitated by constantly adding a fresh supply of red-hot coal, and arranging it round the sides of the retort, rather than placing it underneath. The neck of the retort should be situated as low as possible.

Antidotes: Nux vom., Puls.

SULFUR ALCOOLISATUM, *Alcool sulfuris Lampadii*, *Carboretum sulfuris*, *Carbonium sulfuratum;* Fr., Soufre alcoolisé, Alcool de soufre, Soufre carboné; Ger., *Schwefel-Alcohol;* Eng., Carburet of sulphur.

We obtain this compound of carbon and sulphur by the distillation of sulphuret of iron with carbon, or by passing the vapour of sulphur through a porcelain tube filled with burning coals. Carburet of sulphur is a colourless, transparent fluid, of an acrid taste, and a fetid and penetrating smell; it is very volatile, insoluble in water, but very soluble in alcohol. The attenuations should be made with alcohol.

HEPAR SULFURIS CALCAREUM; *Calcarea sulfureta*, *Sulfuretum calcis;* Fr., Foie de soufre calcaire, Sulfure de chaux; Ger., *Kalkartige Schwefelleber*, *Kalkschwefel;* Eng., Sulphuret of lime.

This substance is a combination of sulphur with *calcium*, known since the close of the last century, and produced in 1768 by *Canton*. It may be economically obtained by decomposing, at a high temperature, sulphate of lime by carbon. For homœopathic purposes it is procured by direct combination of oyster-shells with sulphur. For this purpose, a mixture of equal parts of the calcareous substance situated between the laminæ of the oyster-shells, finely pulverized, and well washed, and purified flowers of sulphur, are kept at a white heat for ten minutes, after which they are preserved in a well stopped bottle. Sulphuret of lime is a yellow or reddish mass, porous, friable, and very slightly soluble in water, with which it gives a *hydrosulphuret*. The *three* first attenuations are made by *trituration*. It should be kept in vials covered with black paper.

Antidotes: Veg. ac., Bell., Puls.

NATRUM SULFURATUM, *Sulfuretum sodæ;* Fr., Soude sulfurée, Sulfure de soude; Ger., *Schwefel-Natrum;* Eng., Sulphuret of soda.

To prepare this sulphuret, take equal parts of sulphur and sub-carbonate of soda, fuse them together at a gentle heat in a covered crucible until the mass no longer effervesces, after which pulverize the mass while still hot, and put it into well stopped bottles. The *three* first attenuations should be made by *trituration*.

ACIDS.

All acids (organic as well as inorganic, perfect as well as imperfect, solid, fluid, and aëriform) are, generally speaking, compound bodies, which, with a base, form a salt; the property of forming salts when combined with a base, is common to all acids; but not all acids taste sour, nor do all acids discolour vegetable juices. Acids are either organic or inorganic. Organic acids contain both oxygen and hydrogen, except oxalic acid, which does not contain hydrogen; inorganic acids contain either oxygen or hydrogen. Acids have great affinity to water, alkalies, alkaline earths, and metallic oxydes; acids which contain little or no water, are called concentrated, and, when they do contain water, dilute acids. The water of dilute acids should not be confounded with the water with which every acid can be diluted at libitum, and which can be removed again by the application of heat. Acids, generally, have a sourish taste, are almost all of them soluble in water, redden the tincture of lacmus, except silicic acid. Acids should be kept in glass vials provided with ground glass-stoppers.

Mineral acids.

1. ACIDUM MOLYBDÆNI, see MOLYBDÆNUM.

2. MURIATIS ACIDUM, *Acidum muriaticum* s. *hydrochloricum;* Fr., Acide muriatique ou hydrochlorique; Ger., *Salzsäure;* Eng., Muriatic acid.

This acid is rarely found in a free state in nature; it occurs, combined with water, in the neighbourhood of volcanoes, and combined with sodium in the three kingdoms of nature. To obtain it artificially, disti together, in a retort sufficiently large, 6 pounds of common salt, and 8 pounds of concentrated sulphuric acid, with 4 pounds of water, causing the gas to pass into a receiver containing 4 pounds of distilled water, in order to condense it. If the product of this distillation is of a yellow colour, or contains sulphuric acid, precipitate it by chloride of barium, and distil it afresh, or rectify it by re-distilling it with half a pound of common salt; the coloured portion which first passes into the receiver is to be rejected; that which comes over afterwards is pure hydrochloric acid, which is to be kept in bottles with ground glass stoppers. The hydrochloric acid of commerce is never pure; it contains, nearly always, sulphuric acid, chloride of iron, sulphurous acid, and even arsenic; when pure and in a fluid state, this acid is colourless, limpid, and of a pungent smell and very acrid taste; it does not freeze, nor diffuse fumes like concentrated acid. Placed in contact with organic substances, it destroys them, and combined with alcohol, it forms a kind of ether, so that the *three* first attenuations cannot be made with either sugar of milk or alcohol. The *first*, therefore, is made with distilled water; the *second*, with a mixture of equal parts of alcohol and water, and we begin to use common alcohol only with the *third*.

3. Acidum nitricum, see Nitrum.

4. Spiritus nitri dulcis, see Nitrum.

5. Acidum phosphoricum, see Phosphorus.

6. Acidum sulphuricum, see Sulphur.

Vegetable acids.

1. Acidum tartaricum, see Tartarus emeticus.

2. Acetum acidum, *Acidum aceticum;* Fr., Acide acetique; Ger., *Essigsäure;* Eng., Acetic acid.

This acid has been found only in the animal or vegetable kingdoms, where it occurs in great abundance, either in a free state, as in the gums, &c., or as a salt combined with lime, potassa, alumine, or magnesia. It is obtained by distilling in a sand-bath to dryness 64 ounces of crystallized acetate of lead, with 18 ounces of sulphuric acid diluted with 6 ounces of water, and rectifying the product with 2 ounces of manganese in case the product should be rendered impure by sulphuric acid; or with one ounce of acetate of potassa, if it should contain lead. Acetic acid is liquid, colourless, of a lively and penetrating, but agreeable smell; of a hot and pungent taste, volatile, inflammable, and strongly attractive of water, on which account it must be kept in bottles hermetically closed. It unites with water in all proportions, and dissolves in alcohol, with which it forms an ether. The attenuations, therefore, must be made like those of sulphuric, nitric, and muriatic acids. It dissolves camphor and ethereal oils, resins, gum-resins, and balsams.

Animal acids.

1. Hydrocyani acidum; *Acidum hydrocyanicum;* Fr., Acide prussique; Ger., *Blausäure;* Eng., Hydrocyanic acid, Prussic acid.

This acid has only been found in the animal and vegetable kingdoms. It occurs ready-formed in many plants, such as the lauro-cerasus, the peach tree, the apricot tree, the wild plum tree, &c. For homœopathic use, the acid prepared according to *Schrader's* method has been generally adopted. According to this author, prussic acid is obtained by introducing one ounce of prussiate of potassa, well pulverized, into a glass retort, the extremity of the neck of which is placed in a receiver containing one ounce of alcohol of 26°, and cooled with ice. That being done, pour on the salt a mixture of two ounces of phosphoric acid of a specific gravity of 1.13, and 3 ounces of spirits of wine of 26°, and heat the retort as long as anything passes over into the receiver. When the product is cold, mix it well with so much spirits of wine of 26° as that the whole shall make 6 ounces, and keep it in small bottles hermetically closed. Concentrated prussic acid is an inodorous, slightly acid, and very volatile fluid. Exposed to the air, it evaporates, and absorbs so much caloric that the remainder congeals. It is of a lively and suffocating smell, which, when the acid is very dilute, resembles that of bitter almonds or laurocerasus. The taste is first cooling, then acrid, and finally burning.

The attenuations of this acid must be made with strong alcohol, and kept in bottles hermetically closed; they have to be frequently renewed, as this acid is very liable to be decomposed.

Antidote: Liquor ammonii caustici.

2. Acidum formicarum, see Formicarum spiritus.

Alkalies.

Alkalies are compound bodies, consisting of oxygen and a metallic base, and have a great affinity for acids, combined with which they lose their alkaline properties, and form powerful basic salts. They are never found pure in nature, but always combined with acids; if freed from these acids by chemical means, they become caustic, or pure alkalies. They are easily soluble in water, possess a peculiar, burning-acrid taste, and a lixivial odour. The earths and metals which are dissolved in acids, are, with few exceptions, precipitated again by alkalies, unless the precipitated substance is dissolved again by the neutral salt, or by the excess of alkali. With sulphur they form sulphurets. The metallic bases of alkalies have a metallic lustre, are white as silver, turn speedily bluish in the open air, are soft as wax, and lighter than water; in the open air and in water they become oxydized instantaneously.

1. Kali causticum, *Potassa caustica;* Fr., Potasse caustique, potasse; Ger., *Gewächs-Laugensalz, kaustisches Kali;* Eng., Potassa, caustic potassa.

Potash derives its name from the fact that it constitutes a part of all vegetable substances except those which grow near the sea-shore, in a soil impregnated with the muriate and carbonate of soda. It is likewise found in a number of mineral substances, in the nitrate of potash, silicate of potash, and even in animal bodies. Potash is obtained by the incineration of plants in the open air, lixiviating the product, and evaporating the lye to dryness. The potash of commerce is never pure, but contains, besides several accidental impurities, various salts, especially the sulphate and muriate of potassa.

Caustic potash, which we use for various preparations, is colourless or yellowish, of a peculiar smell, and a burning, corrosive taste. The mass which is obtained by evaporation, is white, brittle, exceedingly caustic, deliquesces in the open air, is soluble in alcohol, and, when dissolved, attacks glass unless much diluted.

Caustic potash may be prepared in the following manner: In a silver or well polished iron kettle dissolve 3 parts of the carbonate of potash with 12 times their volume of water, add gradually 2 parts of caustic lime, and boil the mixture until lime-water ceases to be made turbid, when a little of the boiling mixture is passed into it through a filter. The whole is then filtered through a bag of bleached linen, the residue in the kettle is washed with hot water, filtered, the mixed liquids are poured back into the kettle, which had previously been cleansed, and the quantity is reduced by boiling until it is equal to three times the volume of the carbonate of potash originally employed. Then pour the liquid into another vessel, close this well, allow the liquid to settle, and finally pour it back into the kettle, boil it again over a brisk fire until the mass becomes inspissated, and, on cooling, assumes a consistent form. This mass is then carefully melted in a silver crucible, in order to remove every trace of the water of crystallization, after which it is to be poured upon a well polished metallic sheet, and, while warm, put up in warmed vials.

Anthrakokali is a solution of anthracite in caustic potash. Dissolve one part of carbonate of potash in 10 or 12 parts of boiling water; to the boiling solution add as much hydrated lime as is required to separate the carbonic acid from the potash; as soon as this is accomplished, the liquid ceases to be agitated by an acid, nor is it made turbid by limewater. Filter the liquid as quickly as possible, and evaporate it over a fire until it ceases to foam, when it flows like oil, with a smooth surface. Mix 7 ounces of the caustic potash thus prepared with 5 ounces of finely powdered anthracite, remove the vessel from the fire, and grind the mixture with a warmed pestle until a homogeneous black powder is obtained. Fill this powder in warmed glass-vials, guard it well against the access of air, and keep it in a dry place.

The *lithanthrakokali sulphuratum* is obtained in a similar way, after first adding to the quantity of anthracite to be prepared, one-tenth part of pure sulphur, and mixing the two to a fine powder by trituration.

Anthrakokali is a black, delicate, colouring powder of a somewhat alkaline, acrid taste, causes a burning sensation on the tongue, has no taste, or else a taste like soot, imbibes humidity from the atmospheric air, does not deliquesce, loses the imbibed humidity in dry air, together with the alkaline taste; after imbibing humidity, the particles adhere to each other. Five to ten grains of the preparation readily dissolve in an ounce of distilled water, the solution having a blackish-brown colour which must remain even after the solution had been standing a good while and the tasteless powder had settled, so that only thin layers of the liquid are transparent. By these qualities we test the excellence of the preparation.

We prepare triturations, which, however, should always be made in dry air and in a warmed mortar, and should be kept in well closed vials.

Sapo domesticus s. sebaceus; Fr., Savon; Ger., *Seife;* Eng., Soap.

This is a combination of fat with potash and soda, which is soluble in water, and foams.

For medicinal purposes we use the castile-soap. It is applied to burns, dissolving it first in alcohol, and it is used in cases of poisoning by arsenic.

2. Natrum causticum, *Soda caustica;* Fr., Soude caustique; Ger., *Kaustisches Natrum;* Eng., Caustic soda.

Natrum is found in large quantities in the mineral kingdom, either free or combined with other substances; it has also been termed mineral alkali. It is found in the free state in the natrum-lakes of Egypt, and in many lakes of Hungary; it is likewise found in warmer climates, in the state of efflorescence, on the bottom of dried-up marshes; all we have to do is to collect this soda, wash it, and free it from all earthy particles. It is also found combined with muriatic acid in various kinds of salt, sea-salt, rock-salt, &c., and with sulphuric acid in the sulphate of soda. We likewise obtain it from the ashes of several marine plants (Varec, Kelp). Natrum is found in large quantities in the animal kingdom. After the lye is cleared by filtration, the soda is deposited in the shape of crystals.

Caustic natrum may be prepared as follows: Dissolve one part of crystallized carbonate of soda in eight parts of water, boil this solution with one-fourth of pulverized caustic lime, and then proceed as in the case of caustic potash.

Caustic soda is soluble in water, and also in alcohol.

3. AMMONIUM CAUSTICUM; Fr., Ammoniaque liquide; Ger., *Wässeriges Ammonium;* Eng., Water of ammonia, Solution of Ammonia.

Ammonia, known under the name of *volatile alkali*, is found in the three kingdoms of nature, although not always formed; but it is formed whenever, during the putrefaction and fermentation of animal and vegetable matter, nascent hydrogen and nitrogen are in contact and exposed to the air. This alkali also occurs, but combined with sulphuric or hydrochloric acid, in certain lakes and many volcanic products, as likewise in the vegetable kingdom, in the flowers and fruits of numerous plants, particularly the *tetradynamiæ.* It is a colourless, transparent gas, of an acrid and caustic taste. It is very soluble in water, which combines with it in all proportions, and which, when it has absorbed the third of its weight of it, that is to say, when completely saturated with this gas, takes the name of *Water of Ammonia.* This fluid has all the physical properties of *gaseous* ammonia, except the form.

For homœopathic purposes, *concentrated water of ammonia*, that is, the *completely saturated* preparation, is used, the attenuations of which are made with alcohol.

Liquid ammonia may be prepared as follows: To a portion of caustic lime add one-third in weight of pure water, reducing it to a very fine powder, which is to be separated from the remaining stones by means of a filter. Add to this powder, in an iron or earthen retort, as much of pulverized sal ammoniac as is equal in quantity to the quicklime used, and mix both powders as perfectly as possible by gradually adding a sufficient quantity of water to form the whole mass into moist balls. Into the mouth of the retort we introduce, through a perforated cork, a bent glass-tube, which requires to be secured to the retort by means of a good cement, with which all the interstices should be carefully closed. The external long branch of the tube is to go to the bottom of a flask placed in a dish with distilled water; the access of air to the interior of the flask is likewise to be prevented by carefully closing the interstices with the above mentioned cement. Before dipping the flask into the water, it is expedient to let it pass through a small intermediate vessel with lime-milk, in order to absorb the carbonate of ammonium or the sal ammoniac which might likewise pass into the receiver.

By means of a careful application of heat, the work progresses rapidly and safely, and is terminated as soon as ammoniacal gas ceases to develop itself. The distillate, when weighing three times as much as the sal ammoniac originally used, has a specific gravity of 0,970. It must be colourless, clear, free from all empyreumatic odour, free from lime, and should be preserved in well closed vials.

The first attenuation is prepared with water, in the proportion of 1 to 10; for the other attenuations we use alcohol.

Alkaline earths.

The alkaline earths are likewise oxydes of metalloids, consisting of oxygen and metalloids. In nature they are always found combined with acids, most frequently with carbonic acid; they are soluble in water, attract carbonic acid from the atmosphere, and form pretty powerful basic salts; they have a sharp smell and taste. In water they form insoluble combinations with carbonic acid, which, however, can be dissolved by an excess of carbonic acid.

1. CALCARIA.

This earth is found in every kingdom of nature, always in combination with acids, especially carbonic, sulphuric and phosphoric acid; it is also found in combination with silica. Pure calcaria is white, and feels light, though it has a specific gravity of 2,3. It is not fusible, and has an acrid, caustic taste like lye, and almost smells like it when water is poured upon the earth. It has a great affinity for water, &c. Further particulars will be furnished elsewhere. Pure calcaria is not used in medicine; besides the compound of calcaria with acids, we use the following preparations:

2. CAUSTICUM; Fr., Causticum; Ger., *Ætzstoff*, *Ætzstoff-Tinctur;* Eng., Caustic.

Take about 2 pounds of lime recently burnt, and after having steeped it for a minute in distilled water, place it in a dry bowl, where, after the development of much heat and vapour, it soon falls into powder. Two ounces of this powder, mixed in a porcelain mortar, with an equal quantity of bi-sulphate of potassa, previously fused at a high heat, form, with two ounces of boiling water, a thick mass, which is to be placed in the alembic. It is then distilled until entirely desiccated. The product of the distillation, weighing about an ounce and an half, which has the transparency of water, contains the *causticum* in a state of concentration. Its taste is extremely astringent, and produces a sensation of burning in the throat. This liquid congeals, like water, at a very low temperature; it much accelerates the putrefaction of animal substances plunged in it. Hydrochlorate of baryta does not detect in it the presence of sulphuric acid, nor does the oxalate of ammonia that of any trace of lime.

Ten drops of this fluid mixed with 90 drops of spirit of wine, give the first attenuation; the subsequent attenuations are made like those of all tinctures.

Formerly, Hahnemann prepared the

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in the following manner:

Take the *acrid tincture of antimony*, the strongest is blood-red, saturate it with concentrated nitric acid until it begins to redden litmus paper; or, having taken the strong tincture of antimony, recently prepared, pour into it, drop by drop, sulphuric acid, (containing 100 drops of water to 150 of acid,) until it begins to act on the blue test paper; the slight excess of acid is destroyed by means of a little quicklime. Another preparation, analogous to this, but a little less powerful, is obtained by treating *caustic potassa* by alcohol, which, in like manner, is freed from potassa by sulphuric acid.

There is still another which is prepared with slaked lime, on which the very strongest alcohol is poured, and which is afterwards neutralized by sulphuric acid. Although less coloured, and not so powerful as the second, it produces, nevertheless, the same medicinal effects when given in stronger doses.

SPIRITUS CALCAREÆ CAUSTICÆ.

An ounce of quick lime is introduced in a previously warmed glass-vessel, and 5 ounces of water poured over it. The vessel is well corked and left to cool, after which the lime will be found transformed into a fine powder, to which 5 ounces of pure alcohol are added. After several days, during which the mixture is frequently shaken, the liquid is filled in small vials and well guarded against the access of air. (*Koch*, on INFLUENZA.)

2. BARYTA.

This earth is principally found in sulphate of barytes which contains, moreover, a small portion of strontian; it is likewise found, although much less frequently, in witherite, and, in combination with silica, in staurolite.

Baryta is most easily obtained by dissolving the muriate of barytes in distilled water, and precipitating the solution with carbonate of potash, afterwards washing and drying the precipitate. In this way, we obtain the carbonate of baryta, which we then mix with from 6 to 10 parts of vegetable charcoal, form it into a ball by means of gum, and place it in a crucible, in which it is surrounded with pulverized coal, cover it with a smaller crucible, and then expose it to the heat of a pair of good bellows in a furnace. The earth which is thus obtained, is of a grayish-white colour, easily friable, anhydrous, of a caustic taste, effervesces with acids, develops heat by the addition of water, and is soluble in this liquid in considerable quantity. Boiling water dissolves a still larger quantity of baryta; on cooling, it is precipitated from this solution in the shape of feathery or hexaedral prismatic crystals.

Caustic baryta is obtained by the following process: Mix in a crucible 4½ parts of pulverized sulphate of barytes, and one part of lampblack, and expose the mass to the heat of a furnace until it has a grayish-white appearance. Then let it cool, place it in an iron pan, pour upon it 8 times its quantity of water, boil it, and add copper-filings until sulphuretted hydrogen ceases to be developed when acetic acid is poured upon a drop of the boiling mass. Filter the liquid while yet boiling hot, into a warmed bottle, which is to be well closed and put aside. The residue on the filter is principally a demi-sulphuret of copper.

From the filtered alkaline liquid, caustic baryta is precipitated during the process of cooling in the shape of prismatic crystals; the water of crystallization is removed by heat. The crystals are placed upon a filter, and dried. The liquid passing through the filter is water of barytes, which still contains $\frac{1}{24}$ of crystallized caustic baryta.

3. Strontian.

This earth derives its name from *Strontion* in England, where it was first discovered in combination with carbonic acid, in the shape of a fossile (strontianite). Strontian occurs very rarely in nature, and has the same relation to baryta, as soda to potash. It is obtained pure and caustic in the same manner as baryta; it is lighter than this earth, has a less astringent, caustic taste, but a stronger taste than calcaria. Boiling water dissolves half of its weight, &c.

Earths proper.

The earths proper consist of metalloids and oxygen. They do not become caustic by burning, are insoluble in water, are not fusible per sé; they are friable, without taste or odour. They are found very frequently in nature.

1. Magnesia calcinata s. pura; Fr., Magnesie calcinée; Ger., *Gebrannte Magnesia;* Eng., Calcined magnesia.

Pure magnesia is not found in nature, but it occurs, combined with carbonic acid, in magnesite; with silicic acid in meerschaum, serpentine, &c.; with nitric acid in bittern, or the mother-water of salt-works, &c. It is also a component part of many animal and vegetable matters. Calcined magnesia is obtained by calcining sub-carbonate of magnesia, until it no longer effervesces with weak hydrochloric acid. It is a substance more or less caustic, according to its degree of calcination, slightly alkaline, white, pulverulent, almost insipid, and insoluble in water. Exposed to the air, it is easily transformed into sub-carbonate, on which account, the bottles in which it is kept should have ground-glass stoppers. The magnesia of commerce is sometimes adulterated with quicklime, or carbonate of lime; in the first of these cases, it becomes heated with the contact of air, and colours corrosive sublimate yellow when triturated with it; if, on the contrary, it contains sub-carbonate of lime, it effervesces with liquids.

2. Alumina, *Aluminum oxydatum*, *Argilla pura;* Fr., Alun, argile; Ger., *Thonerde*, *Alaunerde;* Eng., Alumine.

After silex, alumine is one of the most widely disseminated substances in nature, and is found almost pure in the sapphire, in corundum, and in adamantine spar. Combined with acids, such as the phosphoric, the sulphuric, &c., it forms *wavellite* and aluminite, but in general it is found combined with other earths, or metallic oxides, in clays, schists, &c. It is extracted from alum, which is a supersulphate of alumine and potassa or ammonia, by pouring an excess of ammonia into a slightly concentrated solution of this salt; the precipitate which is formed, being carefully washed and dried, is *pure alumine*. It is a white powder, very fine, soft to the touch, tasteless, infusible, it adheres to the tongue, forms a paste with water without dissolving in it, and, in general, absorbs water with avidity.

According to *Hartlaub* and *Trinks*, alumina is best prepared as follows: Dissolve common alum in boiling water; crystallize it several times in succession, in order to free it from the oxide of iron. If perfectly freed from the iron, it forms a clear solution with caustic potash, without any residue; whereas, if some more iron be present, it will deposit yellow flocks. This purified alum is dissolved in boiling water, and the solution is mixed with a solution of carbonate of potash as long as a precipitate continues to form, after which carbonate of potash is added in excess, with which the solution is slightly saturated. The precipitate is then separated from the solution by means of blotting-paper, washed several times in succession, and dissolved in pure nitric acid. If the solution should not be quite clear, it is filtered, and the alumina is precipitated by means of the carbonate of ammonium. In order to free this precipitated alumina from all saline particles, it should be repeatedly washed with distilled water, slightly pressed between several sheets of blotting-paper, and dried at the air.

Of this powder we prepare triturations.

3. Silicea pura; Fr., Silice; Ger., *Kieselerde;* Eng., Silex.

This earth is found in nature in considerable masses, either pure, as in rock-crystal, or combined with various oxides; quartz, the sandstones, the pyrites, and in a great measure the agates, the opals, &c., consist nearly altogether of it. To obtain this earth pure, take half an ounce of rock-crystal, which reduce into fragments by frequently heating it red hot, and instantly plunging it into cold water; or if rock-crystal cannot be procured, take the same quantity of white and pure sand, which must be washed in distilled vinegar; mix either one or the other with 2 ounces of effloresced sub-carbonate of soda, and melt the whole in an iron crucible until all effervescence ceases and it becomes clear; after which, pour it on a flat piece of marble. The result will be a crystalline glass, which, after cooling, is to be put in a vessel, with four times its weight of distilled water, then covered with paper. The solution will soon take place, and the siliceous earth will fall to the bottom of the vessel, whilst the supernatant will contain nothing but pure soda. To cause a more rapid precipitation of the silex, which is in a state of such minute division, a little alcohol may be added to the water. The precipitate being entirely formed, it is to be collected on filtering-paper, and pressed between many sheets of it, after which it is to be exposed to the air, in a warm place. The silex thus obtained is a fine, white powder, harsh to the touch, gritting between the teeth, and without taste or smell. The *three* first attenuations are made by *trituration*.

Antidotes: Camph., Hepar s.

Vegetable basic salts (*alkaloïds.*)

There is a class of bodies in the vegetable kingdom which possess the properties of basic salts, and are sometimes termed "Vegetable alkalies." *Morphin* was discovered by *Sertürner* in 1816; *Pelletier* and *Caventon* discovered similar substances in the varieties of Strychnos, in the Veratrum album, and the Peruvian bark. They are generally found in plants, in the form of salts, in combination with vegetable acids, sometimes with an acid which is peculiar to the plant, and are most easily obtained from a watery infusion of the plant, saturated with a free acid; the liquid having been reduced by evaporation, the alkaloids can be precipitated with potash or by boiling the liquid with the hydrate of some earth, especially manganese. Most alkaloids are very little soluble in water; vegetable colouring matters precipitated together with the alkaloids, are removed partly by means of a weak solution of potash, partly by means of cold or tepid alcohol, &c.*

1. Morphium purum.

Cut 1 ounce of the best Opium into small pieces, boil it with 6 or 8 times its quantity of distilled water, and repeat this 2 or 3 times. The extracts which are obtained in this way, are put together and reduced by evaporation, until their specific gravity is 1,020 or 1,030, after which they are mixed with a solution of 1 drachm of the bicarbonate of potash in ½ ounce of water; the liquid is filtered after the lapse of 24 hours, then heated until it boils, and set aside for 48 hours. The morphium which is found deposited after this period, is dissolved in 8 times its quantity of distilled water, to which a few drops of dilute sulphuric acid had been added; with this solution we mix 1 ounce of strong alcohol, digest it with a little animal charcoal, filter the liquid, and saturate the filtered liquid with caustic ammonia until the alkaline reaction has distinctly set in. In a few days, the crystals of morphium will make their appearance; they may be collected on a filter, and washed with distilled water. In case the morphium should not be quite white, we dissolve it again in water and alcohol, digest it with animal charcoal, and repeat the filtering and crystallizing processes as described above. The solution of morphium which is to be purified by means of animal charcoal, should be very much acidulated, since animal charcoal partly absorbs acids. The morphium which is thus obtained is quite free from narcotin, which is always present if a solution of morphium in muriatic acid becomes turbid by the addition of carbonate of pot-

* Compare *Berzelius* VI., p. 2 6.

ash. The crystals of morphium form white, shining, transparent, rectangular, truncated columns, air-proof, inodorous, of bitter taste.

We prepare triturations.

MORPHIUM ACETICUM; *Acetas morphii* s. *morphicus;* Acetate of morphium.

We obtain this substance by dissolving the pure morphium in concentrated vinegar until the solution is perfectly saturated, after which we reduce the solution by evaporation at a slightly raised temperature, previously adding a slight excess of acid. The crystals form clusters of delicate, prismatic needles, of a yellowish-white colour and the odour of vinegar.

In a similar manner we obtain other salts of morphium by means of other pure acids.

We prepare triturations.

The alkaloids obtained from the Peruvian bark are distinguished by their intense cinchona-taste, and the crystals of these alkaloids shine like mother-of-pearl. Many are soluble in water, and some of them in alcohol and ether. The soluble ones are precipitated by oxalic, vinous, and gallic acid, and by their salts.

2. CHININUM SULPHURICUM, *Sulphas quinicus;* Sulphate of quinine.

It is prepared upon a large scale, *a*) as *basic quinine,* which, after perfect evaporation, crystallizes in the shape of narrow, elongated, somewhat pliable needles, shining like mother-of-pearl, or in the shape of scales. It is scarcely soluble in cold water, but readily so in boiling water; it is likewise easily soluble in alcohol, but not easily in ether. When heated, it melts soon, and looks like molten wax; when heated very much, it assumes a beautiful red appearance, and finally burns without leaving a residue. It easily crumbles in a warm and dry place; *b*) as *neutral quinine*, the crystals of which are colourless, transparent, rectangular, quadrilateral prisms; it reddens lacmus-paper, but does not taste sour. It dissolves in 11 parts of water of 12° R.; it readily dissolves in alcohol, but very little in anhydrous alcohol. It crumbles by exposure to the air, and by so doing loses, according to *Baup*, 24,66 p. c. water.

The sulphate of quinine of the shops is frequently adulterated with the sugar of manna, gypsum, magnesia, alumina, boracic acid, sulphate of ammonium, sugar, sugar of milk, starch-fecule, gum, stearine, sulphate of cinchonine, and salicine. According to *Duflos*, the purity of the sulphate of quinine is established by the following facts: it burns without a residue when heated in a platina spoon over a spirit lamp; a solution of quinine in concentrated sulphuric acid is perfectly colourless; and if we pour liquid caustic potash upon it, not the least odour of ammoniacum is perceived. (Salicine turns red by pouring concentrated sulphuric acid upon it, whereas quinine forms a perfectly colourless solution with that acid. *Hom. Zeitg*. XIII., 363.—*Journal für Arzneimittel*, No. II.)

Cinchonium sulphuricum.

This substance is obtained while making the quinine; its crystals are the first to be deposited from the extracts of the different kinds of Peruvian bark (the brown rather than the yellow varieties), both of which contain at the same time the cinchonine and the quinine, while the quinine remains in the mother-lye.

The basic sulphate of cinchonine is obtained by boiling considerably diluted sulphuric acid with an excess of pure cinchonine, and then filtering the solution while yet boiling-hot. During the process of cooling, the salt is deposited in white, transparent, rectangular columns. Its relation to concentrated sulphuric acid is the same as to the sulphate of quinine, and it acts in the same way as quinine when exposed to the heat of a spirit-lamp.

We prepare triturations.

3. PHOSPHATE of quinine forms acicular crystals, colourless, transparent, shining somewhat like mother-of-pearl. It is sparingly soluble in water, but readily so in alcohol. (Arch. IX., 3.)

4. VERATRINE; it has an acrid and burning, but not bitter taste. It is inodorous, but the dust of veratrine causes a violent sneezing; it is soluble in alcohol, but very little soluble in ether. (*Hom. Gazette*, IV., 48.)

5. SALICINE forms colourless, pyramidal crystals, or scales, has a very bitter, aromatic taste, melts in a warm temperature, dissolves in cold, but more readily in hot water, in alcohol, not in ether, &c. (Hyg. V, 45, and 146.)

6. STRYCHNINUM; Strychnine.

This alkaloïd is found in the nux vomica, the Ignatius' bean, the spurious angustura-bark, and probably in other varieties of the family strychnos (generally in company with brucine). It is obtained in the following manner:

A certain quantity of pulverized nux vomica is repeatedly extracted with from 4 to 5 times its quantity of alcohol of 60 to 70 p. c., the different extracts are mixed together, and slightly acidulated with muriatic acid; the alcohol is then removed by distillation, the watery residue is poured off from the resinous parts, after which a saturated watery solution of the bicarbonate of potash is added to a slight excess. The mixture is then filtered, and to the filtered mixture we add as much liquid caustic ammonia as we had before added of a solution of potash. The whole is left standing for 48 or more hours, the residue is collected in a filter, dried, and an extract is formed, in a few hours, with 4 times its quantity of anhydrous alcohol, during which period it has to be shaken several times. This operation is repeated after pouring off the first portion of alcohol. The undissolved residue is collected in a filter, dried, and repeatedly boiled with water until the decoction, after cooling, ceases to be coloured brownish-red by the addition of a few drops of the most concentrated nitric acid, which change of colour indicates the presence of brucine. The undissolved remaining strychnine is again dissolved in dilute alcohol, filtered, and crystallized by slow evaporation. The crystals are small, white, quadrilateral columns, terminating in obtuse points.

STRYCHNINUM NITRICUM; the nitrate of strychnine.

We dissolve the crystals of pure strychnine in very much diluted nitric acid, filter the solution, and evaporate it at a very slightly increased temperature. The crystals are in clusters, white, pliable, shining like silk. They are soluble in water and dilute alcohol.

STRYCHNINUM SULPHURICUM.

This is prepared in the same manner as the previous salt, with pure, dilute sulphuric acid, and has the same properties.

We prepare triturations from all these different varieties of strychnine.

Salts.

By salt we generally understand a compound of some base (metallic oxyde, alkali, earth) with an acid. There are two kinds of salts, *amphid-salts* and *haloid-salts;* the former are either oxygen- or sulphur-salts; the oxygen-salts being the more numerous, consisting of an oxygen-acid and a base. We distinguish them into neutral, acid, and basic salts. A salt is neutral which does not manifest in its action on vegetable colours, acid or alkaline properties, and consists generally of one equivalent of acid united to one equivalent of base, this last containing one equivalent of oxygen. In the acid salts the acid prevails over the base; basic salts are those in which there is present more than one equivalent of base for each equivalent of acid.

Haloid salts consist of a simple body of the chlorine family united with a metal, as chloride of sodium, iodide of potassium, &c. The *sulphur-salts* are analogous to the oxygen-salts, except that the sulphur takes the place of the oxygen. *Double salts* are formed by the union of two simple salts.

The true neutral salts have, for bases, either suboxides or protoxides. The quantity of acid with which metallic oxides are disposed to unite in their most neutral salts, is subject to a remarkable proportion, being one equivalent for each atom of oxygen which the base contains. Salts in which this law is observed to hold, are generally described as neutral, even though their action on vegetable colours may indicate a preponderance of acid.

Salts which form in the water, unite chemically with a certain quantity of water, upon which their colour and form depend (water of crystallization); some salts lose this water by exposure to a dry air, and crumble. Salts are either soluble in water, and then form crystals of a peculiar salt taste, or else they are insoluble and not crystallizable in powder, and tasteless.

a) *Oxygen-salts.*

Carbonates.

These salts are decomposed more readily than any other; their common properties are the following: they are decomposed by most acids with effervescence, giving out carbonic acid gas; when exposed to a red heat they lose their carbonic acid (except the carbonates of potash); the carbonates of potash likewise lose their carbonic acid when heated in tubes and the vapours of water acting upon them. If mixed with pulverized coal and made red-hot, they give out a large quantity of carbonic oxide gas.

1. Ammonium carbonicum, *Carbonas* (*sub*) *ammonii; Sal volatile anglicanum;* Fr., Ammoniaque carbonaté, Sous-carbonate d'ammoniaque, Alcali volatil concret, Sel volatil d'Angleterre; Ger., *Flüchtiges Laugensalz;* Eng., Carbonate of ammonia.

Formerly this salt was procured from animal substances submitted to the action of fire; but when obtained in this manner, it is rendered impure by an oily matter which discolours it, and furnishes but very variable preparations, charged with the animal oil of Dippel, and sometimes even with hydrocyanic acid, which necessarily modify its properties. This salt is obtained pure by the distillation of a mixture of muriate of ammonia, of sub-carbonate of lime, of potash, or of soda. For this purpose, triturate together one-half ounce of sal-ammoniac, and the same quantity of crystallized carbonate of soda; introduce this mixture into a vial not closely corked, and which is placed in a sand-bath up to the level of the mixture. The action of the fire having sublimed the carbonate of ammonia into the upper part of the vial, it is to be broken, in order to remove the salt.

This salt is white, of a fibrous appearance, of the same smell and taste as liquid ammonia, very soluble in cold water, partially decomposed by hot water, very volatile, even at the ordinary temperature; it is decomposed by the alkalies, and effervesces with acids. It should be carefully guarded against light and moisture; we prepare from it a watery solution in the proportion of 1 to 10, from which the alcoholic attenuations are prepared as usual.

Antidotes: Camph., Calc. sulph.

2. Baryta carbonica, *Carbonas (sub) barytæ;* Fr., Baryte carbonatée, sous-carbonate de baryte; Ger., *Baryt, Schwererde;* Eng., Carbonate of barytes.

Carbonate of barytes is but rarely found native; thus far it has only been discovered in England, in Siberia, and in Styria, where it occurs massive, and differs visibly from *heavy spar* (sulphate of barytes) in dissolving completely in nitric acid.

For homœopathic use, it is prepared in the following manner:

Crystallized chloride of barium, well pulverized, is to be boiled for 2 minutes with 6 parts of alcohol, in order to free it from the chloride of strontium, which might be mixed with it; the powder is then to be dissolved in 6 parts of boiling distilled water, and precipitated by carbonate of ammonia; the precipitate is to be repeatedly washed with distilled water, and then dried. We prepare triturations.

This salt is a delicate, white powder, without smell or taste, soluble in muriatic, nitric, and acetic acids, with which it effervesces.

Antidote: Camphor.

3. Calcarea carbonica, *Carbonas* (*sub*) *calcis;* Fr., Chaux carbonatée, Sous-carbonate de chaux; Ger., *Kalkerde, Kohlensaure Kalkerde;* Eng., Carbonate of lime, chalk.

The sub-carbonate of lime is met with in great abundance in nature; more or less pure, it constitutes the marbles, chalk, a species of alabaster, limestone, various stalactites, &c. It is found dissolved in small quantities, in many gaseous mineral waters, in well waters, &c.; it forms, in part, the basis of the skeletons of animals, of coral, of the nacre of pearl, of egg-shells, of the shells of Mollusca, of various concretions, &c., in which it often occurs associated with phosphate of magnesia and animal matter. For homœopathic use, we take the sub-carbonate of lime derived from the animal kingdom, and particularly that furnished by *the shell of the oyster*. For this purpose we bruise a somewhat thick and well cleaned oyster-shell, and take 10 grains of the snow-white, calcareous substance which is found between the two surfaces; this is to be triturated with 100 grains of sugar of milk, after which two successive triturations are to be made, before dissolving them and making the remaining attenuations with alcohol. The carbonate of lime thus obtained, it is not, in fact, rigorously pure; but as a medicine, it is to be preferred to all other preparations, inasmuch as this is the one that has been experimented on under the name of sub-carbonate of lime.

Grüner recommends the following mode of obtaining pure carbonate of lime:

Boil oystershells in water for half an hour, then brush every single shell in order to remove all the impurities which might still adhere to it, and spread them in a furnace with a good draught of air, upon red-hot coal, layer by layer, placing between each 2 layers of the shells a layer of dead coal; then make the whole pile red-hot by means of the blower, and maintain this heat until a piece of shell, when taken out, looks perfectly white and can be reduced to a fine powder without trouble. The whole is now removed with great caution, so that the shells are not mixed up with coal or ashes; they are placed in a flat cup, and exposed to the open air until the lime has absorbed a sufficient quantity of carbonic acid, which will take more or less time according to the quantity to be prepared. If, by pouring a little dilute acid upon pulverized lime, we are satisfied that all the quicklime is removed, the whole mass is placed in a mortar, reduced to a fine powder, and sifted through a piece of fine linen, in order to separate all the coarser particles. We thus obtain a dazzling-white, exceedingly porous, inodorous powder, which requires to be prepared with great care.

Calcarea caustica s. pura; *Calx; Calcium oxydatum, Oxydum calcicum;* Fr., Chaux caustique ou vive; Ger., *Gebrannter Kalk;* Eng., Quicklime, Pure lime.

Oyster-shells are treated in the same way as described in the previous article, except that the red heat is kept up more vigorously, and long enough to expel every trace of carbonic acid, in order to test which, we have to try a piece of shell from every layer. After which they are immediately triturated in a mortar, sifted through linen, and kept for use in hermetically closed bottles.

For medicinal use we prepare, according to Class 1st, a tincture with *dilute* alcohol. This tincture (*spiritus calcareæ causticæ*) is to be carefully guarded against the access of air, and prepared fresh as soon as we discover the least trace of carbonic acid in it.

The common mode of preparing it, is as follows: Introduce one ounce of quicklime into a heated bottle, pour over it 50 ounces of water; cork the bottle, and let it stand till cold. Then shake the bottle and add to the mixture 50 ounces of concentrated alcohol. After several days, during which the bottle is frequently to be shaken, decant the fluid into small vials which are to be closed hermetically. This tincture is of a pale straw-yellow colour, caustic taste, and calcareous odour.

4. KALI CARBONICUM, *Carbonas* (*sub*) *potassæ; Sal tartari;* Fr., Potasse carbonatée, Sous-carbonate de potasse, Sel de tartre; Ger., *Kali, kohlensaures Kali, Gewächs-Laugensalz;* Eng., Carbonate of potassa, sub-carbonate of potassa.

Sub-carbonate of potassa is found in the ashes of all vegetables, except those which grow on the sea-shore, and is obtained either by igniting tartar, by the deflagration of nitre with carbon, or by heating to a red heat sulphate of potassa with carbon, iron, and sub-carbonate of lime. It is procured in the large way by lixiviating wood-ashes, and evaporating the product to complete dryness. In order to destroy the foreign substances that might be associated with potash thus obtained, the whole is calcined in furnaces built for the purpose, until the product acquires a whitish colour. There is also in commerce a sub-carbonate of potash, which is obtained by the incineration of the residue of the grapes after the wine is expressed; this is much purer than common potash, and is almost entirely soluble in water. To obtain sub-carbonate of potassa, such as is used in homœopathy, moisten with a little water 4 drachms of cream of tartar, (super-tartrate of potassa,) so as to form a ball, which is to be wrapped in paper, and suffered to dry; it is afterwards heated red-hot on burning coals. This operation finished, place the ball in a porcelain saucer, covering it with a cloth, carry it into a cellar, where it is to be left to absorb moisture from the air for fifteen days. By this means the potassa is separated from the lime, so that it contains no portion of it.

Another mode of obtaining this salt is as follows: Mix carefully one portion of finely pulverized, pure crystallized saltpetre with 2 portions of finely pulverized purified cremor tartari; detonate the mixture in a well polished, heated iron crucible, lixiviate the black mass thus obtained with distilled water, filter the liquid, and evaporate it in a porcelain cup, until a dry powder remains. Expose this powder to the open air, in order that it should deliquesce, and all the lime which might have got into the preparation through the cream of tartar, should be removed. After the lapse of a few weeks, we add water to separate this carbonate of lime, filter the liquid, dry it again, and keep it in well closed bottles. It is a perfectly white powder, and easily and completely soluble in a little water. The first and second attenuations are made with water, the third with dilute alcohol.

Antidotes: Camph., Coff., Spir. nitr. dulc.

5. MAGNESIA CARBONICA, *Carbonas (sub) magnesiæ;* Fr., Magnesie carbonatée, Carbonate (sous) de magnesie; Ger., *Bittererde, Talkerde, Kohlensaure Talkerde;* Eng., Carbonate of magnesia.

This salt frequently occurs native, but more usually in the form of a white, earthy mass, than crystallized. It is prepared artificially by decomposing the sulphate of magnesia, dissolved in water by means of a solution of sub-carbonate of potassa, collecting and washing the precipitate. The greater the purity of the sulphate of magnesia and of the carbonate of potassa, the weaker the dilutions; the more care taken in the washings, and the more rapid the drying, the lighter, whiter, and more valuable in commerce is the magnesia obtained. The best is that which comes from

England. This salt, usually in large cubic masses, of a dead white, is soft to the touch, insipid and inodorous, adheres strongly to the tongue, effervesces with acids; fire decomposes it, pure water does not dissolve it, but in carbonated water it dissolves almost entirely. It is often adulterated by carbonate of lime, which is detected by the insoluble residuum left on dissolving it in weak sulphuric acid. To prepare the magnesia used in homœopathy, take 10 parts of the whitest and lightest, which triturate with 90 parts of sugar of milk.

Antidotes: Calc., Natr. mur.

6. NATRUM CARBONICUM, *Carbonas (sub) sodæ;* Fr., Soude carbonatée, Sous-carbonate de soude; Ger., *Mineralisches Laugensalz;* Eng., Carbonate of soda.

This salt is found native; it abounds in Egypt, in a valley called the *Natron-Lakes*, and is crystallized in these lakes by natural evaporation; it is also the basis of the waters of Vichy and other thermal waters, and is found in the plants growing on the maritime coasts of France. It is prepared on a large scale in Egypt, Spain, and France, by the incineration of the plants which grow on the sea-shore; these ashes are sold under the name of *artificial soda;* they are of a blackish colour, and contain all those impurities found in ordinary ashes, such as various sulphates, muriate of soda, carbon, and silex. The *Spanish*, or *Alicant barilla*, is considered the best; the most impure is the *Kelp;* it contains iodide of soda. There is another kind which comes from Hungary, and is purer than any other; it is found in that country at the bottom of lakes which have been dried up by the heat of the sun. It is also prepared by heating sulphate of soda, charcoal, and lime, to a red heat, and lixiviating the product. For homœopathic use, we take rough carbonate of soda, which is purified by submitting it to a fresh crystallization. For this purpose, this salt is first washed, dissolved by heat, and the solution suffered to cool, taking care to stir it from time to time with a spatula, to prevent the formation of regular crystals. The crystallized salt is then placed in a funnel, the end of which is closed with a little cotton, and when the adherent moisture has run off, it is to be wet from time to time with a fresh quantity of distilled water, observing that the last has drained off before more is added. When the water which drains off is no longer clouded by the addition of nitrate of silver, after having been saturated with nitric acid, it will be unnecessary to continue the washing, as the salt remaining in the funnel will be pure sub-carbonate of soda. This salt, when pure, has a cooling, slightly alkaline taste; on exposure to the air, it effloresces; it is insoluble in alcohol, but dissolves in twice its weight of cold water. The *three* first attenuations are made by trituration, or we may prepare an aqueous solution in the proportion of 1 : 10.

Antidote: Camphor.

7. Strontiana carbonica, *Carbonas Strontianæ;* Fr., Strontiane carbonatée, Carbonate de Strontiane; Ger., *Strontian-Erde, Kohlensaurer Strontian;* Eng., Carbonate of Strontian.

This salt is found in nature in a fossil state, and known under the name of *Strontianite*, but it is extremely rare. To procure it suitable for homœopathic use, take sulphate of strontian, known by the name of *poudre des Celestins*, boil it in water for an hour, one part with 3 times its weight of carbonate of potassa, or soda, filter it rapidly, wash the residuum, dissolve it in nitric acid, crystallize it carefully, and lastly, precipitate the salt by sub-carbonate of soda. It may also be obtained, by heating to redness, in a crucible, sulphate of strontian, with one-sixth of its weight of charcoal powder; this will produce sulphuret of strontian (*foie de strontiana,*) which dissolve in boiling water, and afterwards precipitate the salt by means of sub-carbonate of potassa, or the sulphur may be precipitated by nitric acid, and the solution of nitrate of strontian thus obtained, be decomposed. Finally, we may attain the desired result by preparing hydrochlorate of strontian as we prepare hydrochlorate of baryta, and by afterwards decomposing the salt produced by subcarbonate of soda. The first of these three methods is that commonly adopted.

The *three* first attenuations are prepared by *trituration.*

Antidote: Camphor.

Nitrates.

We assign this place to the nitrates, in consequence of the plan we have adopted to arrange the salts agreeably to their greater or lesser liability to decomposition. The nitrates are, all of them, easily soluble in water; by burning them alone, without the admixture of any other substance, they first give off oxygen, then nitrogen; if spread on red-hot coal, they detonate. This detonation takes place with the more readiness and intensity if the nitrates are mixed up with combustible bodies, the base either being set free or left in combination with the new acid produced by the combustion. By pouring concentrated sulphuric acid upon the nitrates, and gently warming the mixture, the red fumes of nitrous acid will show themselves.

8. Nitrum, *Nitras potassæ, Kali nitricum, Sal petræ;* Fr., Nitre, Potasse nitraté, Nitrate de potasse, Salpêtre; Ger., *Salpetersaures Kali, Salpeter;* Eng., Nitrate of potassa, Nitre, Saltpetre.

This saline substance is daily found in stables, cellars, and other places in the vicinity of animal or vegetable putrefaction. Nitrogen, oxygen, and potassa are its component parts, potassa being its base, and nitric acid being formed by the combination of the two others. This salt is found in old walls and rubbish, in various minerals, in the water of some lakes, in certain animal matters, (the wood-louse among others,) and, above all, in many plants. In most cases, this salt is obtained artificially, by lixiviating what are called *saltpetre earths*, and submitting the product to many successive purifications, which give the products known as *rough saltpetre*, &c., and finally what is called *refined saltpetre*, which is judged to be entirely free from the foreign salts which the preceding sorts may still contain. For homœopathic use, however, the nitre requires still to be purified. For this purpose, dissolve it in twice its weight of boiling water, add to this solution a solution of carbonate of potassa, until no longer discoloured; then filter through filtering-paper covered with a layer of charcoal powder of the thickness of a knife-blade, after which evaporate it, and crystallize by exposing it in a cool place. The nitre thus obtained still contains common salt, which is got rid of by dissolving it in an equal weight of boiling water, and stirring it until cold, in order to prevent the formation of regular crystals. When the nitre is thus completely precipitated, it is put into a filter sprinkled with water, the water it contains is suffered to drain off, and it is then dried on blotting-paper. Nitre thus purified and triturated, forms a powder entirely dry and of a dazzling white, whilst that which contains foreign salts, is of a white more or less dirty, and liable to attract moisture from the atmosphere. The *three* first attenuations of this salt are made by *trituration*, or a watery solution may be formed in the usual proportion.

NITRI ACIDUM, *Acidum nitri* s. *nitricum*, *Aqua fortis;* Fr., Acide nitrique, Eau forte; Ger., *Salpetersäure, Scheidewasser;* Eng., Nitric acid, Aqua fortis.

This acid is not found native in a free state, but it exists in all nitrates combined with a base. To obtain this acid as used in homœopathy, pulverize 4 drachms of perfectly pure nitre, introduce this into a small retort coated with clay; add an equal quantity of phosphoric acid of an oily consistence; shake the mixture slightly, expose it to the flame of a spirit-lamp, and pure nitric acid which does not fume, and of a specific gravity of 12,00, will come over. Pure nitric acid is fluid at the ordinary temperature, colourless; exposed to a considerable degree of cold, it congeals; it boils more readily than water, is of an acid and caustic taste, and has a weak and disagreeable smell; it destroys organic matters, and colours them yellow. The attenuations of this acid can neither be made with sugar of milk nor with pure alcohol, with which it forms an ether; the *first* is therefore made with *water*, the *second* with alcohol diluted with twice its volume of water, and it is only with the *third* that we can begin to use common alcohol.

If it should contain muriatic acid, the liquid will be rendered turbid by adding the nitrate of silver; if it contain sulphuric acid, the nitrate of barytes will form a precipitate.

Antidotes: Camph., Con., Hep. s., Mez., Sulph.

NITRI SPIRITUS DULCIS, *Spiritus nitri dulcis, Spiritus ætheris nitratus, Spiritus nitrico-æthereus, Æther nitricus* s. *nitri, Naphtha nitri;* Fr., Esprit de nitre dulcifié, Ether nitrique alcoolisé; Ger., *Versüsster Salpetergeist;* Eng., Spirit of nitrous ether, Sweet spirit of nitre.

The ether used in homœopathy, under the name of *nitric ether*, is not the nitric ether of the moderns, but that which is known by the name of *alcoholized nitric ether*. It is obtained by submitting to distillation a mixture of six parts of alcohol and one of ordinary nitric acid of a specific gravity of 1,30, and rectifying the product by calcined magnesia in order to remove the free acid and a kind of yellow oil it usually contains. Ether thus obtained is kept in well stopped bottles, care being taken to fill them completely, and to tie prepared bladder over the stopper; because ether, when exposed to the air, is very liable to become acid, on account of the nitrous acid which is combined with the alcohol, and which is oxydized by the oxygen of the air, or by attracting the moisture of the air, which causes this acid to become disengaged and to appear in its free state. Alcoholized nitric ether is colourless, perfectly limpid, of a strong and agreeable smell, a sweetish and aromatic taste, miscible in water and alcohol in all proportions; it becomes acid in the air, and evaporates at a low temperature without leaving any residuum. That of commerce is frequently rendered impure by hydrochloric or nitric acid; in this case, by dissolving it in water, and adding some drops of a solution of silver, a precipitate will be obtained. Is used as an antidote of many medicines.

9. Natrum nitricum, *Nitras sodæ;* Fr., Soude nitratée, Nitrate de soude; Ger., *Salpetersaures Natrum;* Eng., Nitrate of soda.

This salt, known under the name of *cubic* or *rhomboid nitre*, is found native in India and in Peru, in the desert of Atacama, where it forms a mine of 40 leagues in extent, and whence it is even introduced into France. In this state, nevertheless, it is not entirely pure; it contains, on the contrary, sulphate of soda, hydrochlorate of soda, and some traces of calcareous salt. It may be prepared artificially, by dissolving sub-carbonate of soda in three parts of hot water, and adding to the solution, while still hot, nitric acid until there is no longer any effervescence, and it does not redden litmus paper. The fluid obtained is then filtered, in order to clarify it, exposed to a moderate heat, and evaporated to the consistence of a syrup, or until it begins to crystallize; after which it is allowed to settle, and kept cold for 2 or 3 days. At the end of that time, the fluid is decanted, the crystals are dried on blotting-paper, and kept in a bottle hermetically closed. The crystals of this salt are usually cubic or rhomboid; the slower the evaporation, the more beautiful the crystals; they dissolve readily in three parts of cold, and in one of hot water, and even in alcohol, but in minute quantities. This salt has a cooling and bitter taste; exposed to the air, it attracts moisture without, however, deliquescing. The *three* first attenuations are prepared by *trituration*, or we prepare a watery solution in the usual proportions.

CHLORATES.

The general properties of the chlorates are as follows: They have a cooling salt taste like the nitrates, from which the chlorates are distinguished by the fact, that, if mixed with combustible substances, they detonate more easily and rapidly, and that, if heated without any previous admixture, they are decomposed more easily, giving off oxygen, and leaving chlorides, not bases, behind; their decomposition by concentrated sulphuric acid takes place with a very distinct noise, and is sometimes accompanied with the development of light and warmth. These salts do not affect vegetable colours, by which they are distinguished from chlorides; nor do they possess any odour of chlorine.

10. KALI CHLORICUM, *Chloras potassæ;* Fr., Potasse muriatée, Chlorate de potasse, Muriate oxygenée de potasse; Ger., *Chlorsaures Kali;* Eng., Chlorate of potassa.

This salt is procured by passing a current of chlorine through a solution of caustic potassa; after several days, the operation is stopped, the shining scales found at the bottom of the vessel are collected, and washed with a little cold water to remove the hydrochlorate of potassa and chloride of potassium they might contain; then, after completely purifying them, they are dissolved in hot water, and suffered to crystallize. This salt must not be confounded with the *chloride of potassa*, nor with that of *potassium.*

It is in rhomboidal plates, of a pearly white, brittle, of a cool, harsh taste, soluble in 15 times its volume of cold water; it is fusible on burning coals, it detonates by a blow, and inflames on contact with sulphuric acid, which causes it to be used for the chemical matches which inflame on being dipped into sulphuric acid. If chlorate of potassa dissolved in distilled water becomes cloudy on the addition of a solution of silver, it shows that it is rendered impure by the chloride of potassium; and if, at a red heat, the residuum exhibits alkaline properties, we may conclude that it contains nitre.

We prepare first a watery solution of $\frac{1}{20}$; the *first* attenuation is made with *dilute*, and the subsequent attenuations with *strong* alcohol.

Antidotes: Bell., Puls.

Phosphates.

1. Calcarea phosphorata s. phosphorica, *Phosphos calcis*; Fr., Chaux phosphatée, Phosphate de chaux; Ger., *Phosphorsaure Kalkerde;* Eng., Phosphate of lime.

We obtain this preparation perfectly pure by decomposing the acetate of calcarea with the phosphate of soda (using one part of the former to one part and a half of the latter); for this purpose we dissolve the two salts, each by itself, in a sufficient quantity of water, and then mix them together. The phosphate of lime which falls down in the shape of a crystalline powder, is carefully washed with pure water, collected on a filter, and dried; it is white and porous.

We prepare triturations.

Sulphates.

Sulphates are distinguished by the following properties: They are insoluble in alcohol, and may, therefore, by means of it, be precipitated out of their watery solutions. The alkaline and earthy sulphates, and the sulphates of metallic oxydes, are generally soluble in water; the sulphates of alkaline earths, on the contrary, are either insoluble in water, or soluble only in very small quantities. The salts which are soluble in water, are recognisable by the addition of a salt of barytes, soluble in water

Dry salts are reduced by mixing them with pulverized coal, and making them red-hot in a crucible; their base remaining as a sulphuret, whereas before it was a sulphate; in such a case, alkaline sulphates leave hepar sulphuris, and, if the heat should be raised very high, the sulphur is expelled from many of them, the base remaining behind pure, &c.

11. Magnesia sulphurica, *Sulfas magnesiæ, Sal anglicanum;* Fr., Magnesie sulfatée, Sulfate de magnesie, Sel d'Epsom; Ger., *Schwefelsaure Talkerde;* Eng., Sulphate of magnesia, Epsom salts.

This salt is frequently found in nature, either in mineral waters, or in the form of crystals, on the Alps, in Switzerland, at Montmartre, &c. It is prepared artificially by the evaporation and distillation of the mother-waters, (*bittern*,) or by various other processes, all of which furnish preparations, more or less impure. The greatest part of the sulphate of magnesia of commerce comes from Epsom, in England, under the name of *Epsom Salts;* the mineral waters of *Seidlitz*, of *Seidschütz*, and of *Egra*, furnish also a large quantity; but the purest is that which is extracted from the earths and stones of the mountain of La Garde, near Genoa; nevertheless, even this last is far from being entirely pure. In general, none of the sulphate of magnesia of commerce is pure, and never can be used in homœopathy without being purified by repeated distillations and crystallizations. In order to separate it from the alkaline or earthy salts with which it may be combined, dissolve it in an equal volume of boiling water, filter the solution while hot, and set it aside to crystallize. If it contains metallic salts, it is purified by heating it to a red heat, or by boiling its aqueous solution with sub-carbonate of magnesia, after which it is to be filtered while still boiling, and set to crystallize.

If *magnesite* (a mineral formed by the sub-carbonate of magnesia) can be procured, it would be better to prepare this salt ourselves. For this purpose, dilute sulphuric acid with 2, 3 parts of its volume of water, add pulverized magnesite as long as there is an excess of acid; in this manner is obtained a mass of crystals, which must be exposed for some time to the influence of the air, to separate the oxide of iron usually found in magnesite. It is then dissolved in water, filtered, and suffered to crystallize afresh.

Magnesia crystallizes from a warm, saturated solution in the shape of smooth, large crystals with 6 sides, whereas the crystals of the shops are elongated and pointed (formed by stirring the lye while the crystals are forming), it has a bitter, cooling salt taste, is easily soluble in water, not in alcohol, and, by exposure to the air, slowly crumbles, forming a white powder.

The magnesia of commerce generally contains the muriate of magnesia, in which case it attracts humidity from the air; sometimes it is mixed with metallic salts. We purify it by dissolving it in double its quantity of hot water, and boiling the solution for some time, after having previously added some carbonate of magnesia; the solution is then filtered and set aside to cool and crystallize. By frequently stirring the solution, the formation of large crystals is prevented, and small, white, pointed needles are formed, which are separated from the mother-lye, washed with a little dilute alcohol, and afterwards speedily dried at a moderately raised temperature.

For medicinal purposes, it is best to form a watery solution in the usual proportions, and to prepare from it the alcoholic attenuations.

The *three* first attenuations are made by *trituration*.

12. NATRUM SULPHURICUM, *Sulfas sodæ, Sal Glauberi;* Fr., Sulfate de soude, Sel de Glauber; Ger., *Schwefelsaures Natrum, Glaubersalz;* Eng., Sulphate of soda, Glauber's salt.

This salt is found tolerably abundant in nature, either in a state of efflorescence, on the surface of rocks, in lands abounding in sea-salt, or in a state of solution in the water of the ocean, in that of various lakes, mineral springs, &c. It occurs in Siberia, Sweden, Italy, and Bohemia. It is not always manufactured directly, but is often obtained as an accessary product in the manufacture of other salts. The sulphate of soda of commerce is never perfectly pure; it often contains sulphate of magnesia, or of copper, and sometimes even of lead. In the first of these cases, potash produces a precipitate, and if it contains copper, ammonia colours it blue, while the lead in it will discolour the water in which the salt is dissolved.

To free it from all these foreign substances, dissolve it in water, crystallize it afresh, and dry it at a moderate heat. This salt, when pure, forms crystals of great beauty, they are channelled hexahedral prisms with dihedral terminations; but, exposed to the air, they fall down into a white powder, known under the name of *sal mirabile delapsum.* This salt is insoluble in alcohol, but it dissolves in 3 parts of water, at the same time absorbing caloric. For homœopathic use, it is taken in crystals; the *three* first attenuations are made by *trituration.*

13. CALCAREA SULPHURICA, *Sulphas calcis;* Fr., Chaux sulfatée, sulfate de chaux; Ger., *Schwefelsaurer Kalk;* Eng., Sulphate of lime.

This salt is found in nature crystallized, and forms, under the names of *Plaster of Paris, Gypsum,* &c.,

entire mountains. It is obtained as an accessory product in extracting phosphoric acid from calcined bones, as well as in preparing tartaric acid. When to a solution of lime in sulphuric, hydrochloric, or nitric acid, the sulphate of an alkaline substance is added, the sulphate soon precipitates, and the less this solution contains of water, the more rapid will be the precipitation, and the more pulverulent the product obtained. The sulphate of lime dissolves in 500 times its weight of water; it is entirely insoluble in alcohol.

The *three* first attenuations must be made by *trituration.*

Borates.

With most earths and metallic oxides, the borates, if fused, form glass of various clearness and colour, tinge a flame green, and, if dissolved in water and treated with sulphuric acid, they precipitate the boracic acid in the shape of crystals which shine like mother-of-pearl.

Borax Veneta, *Boras, Sub-boras, Sodæ, Natrum boracicum;* Fr., Borax, sous-borate de soude, soude boratée; Ger., *Borax, Boraxsaures Natrum;* Eng., Borax, borate of soda.

Crude Borax is known under the name of Tincal, and comes from Asia, either crystallized or in irregular masses, which are usually coated with a greasy or soapy substance. Three kinds of borax are known in commerce, that of India, that of Bengal, and the Chinese. Borax is purified by melting it by means of fire, dissolving it in water, and crystallizing it; this was formerly done at Venice; hence its name, *Borax Veneta.*

Borax is a neutral salt, composed of boracic acid and soda; the soda predominates, and is not completely saturated with the acid. When purified, this salt is in white hexaedral or octahedral prisms, slightly efflorescent, its surface becoming covered with a powdery substance like flour; it dissolves in 12 parts of cold and in 2 parts of hot water, but is insoluble in alcohol.

The *three* first attenuations are effected by *trituration.*

Antidotes: Merc., Camph., Coff.

ACETATES.

Acetates are known by pouring upon them, either when dry, or in a highly concentrated solution, a little sulphuric acid, after which the peculiar odour of acetic acid is at once perceived; we know them likewise by the scarcely soluble crystalline precipitates which are formed by acting upon the acetates with a few drops of the nitrate of silver, or of some mercurial oxide. If the solution be warm, the precipitate is not formed till the solution cools down. When heating the acetates, they give off combustible gases and an empyreumatic oil, and the pure bases remain behind in combination with coal.

1. BARYTA ACETICA, *Acetas barytæ;* Fr., Baryte acétatée, Acetate de baryte; Ger., *Essigsaurer Baryt;* Eng., Acetate of baryta.

This preparation is now no longer used in homœopathy, the *carbonate of baryta* is preferred; it has the same medicinal properties, besides which it has this advantage, that it may be treated by trituration, and thus furnish preparations less subject to alteration.

Dissolve carbonate of baryta in acetic acid, chemically pure, and evaporate the fluid to the point of crystallization. Ten grains of the crystallized salt are dissolved in 90 drops of distilled water, which gives the *first* attenuation; the second is made with æquous alcohol, the rest with common spirits of wine.

The best way to prepare the attenuations is as follows: Prepare, according to the decimal scale, a solution of the acetate of barytes, in one part of strong alcohol and 3 parts of pure water, which solution we will term "liquor barytæ aceticæ." From this solution we prepare the second attenuation with dilute, and all succeeding attenuations with strong alcohol.

2. Calcarea acetica, *Acetas calcis;* Fr., Chaux acétatée, Acetate de chaux; Ger., *Essigsaurer Kalk;* Eng., Acetate of lime.

This preparation is no longer in use; all homœopaths prefer the *carbonate of lime*, which possesses the same properties, and has moreover the advantage, of being more suitable for trituration, and thus furnishing more unalterable preparations.

The following is the mode of making this preparation: Boil oyster-shells for an hour in river-water, then, after having bruised them with a wooden mallet, dissolve them in distilled vinegar; by degrees bring the solution to the boiling point, in a porcelain vessel and leave it in that state till saturated. That being done, filter the liquid, and let it evaporate to one-fifth, also in a porcelain vessel. This substance is of a deep yellow colour, and in time lets fall a brownish mucilaginous substance, the precipitation of which renders it clear. Mixed with alcohol in equal parts, this solution will not become mouldy. The attenuations are all made with alcohol.

Antidote: Camphor.

b) *Haloid salts.*

Muriates.

The muriates which have an alkali or earth for base, are soluble in water and in alcohol, and remain unchanged by combustion. Some obtain an excess of base by combustion, and magnesia and the earths proper lose the greater part of their acid. Rubbed together with manganese, they give off chlorine if a little concentrated sulphuric acid is poured upon the mixture. Anhydrous acids are incapable of removing the muriatic acid from the muriates.

1. Ammonium muriaticum, *Murias* s. *hydrochloras ammonii, Sal ammoniacum ;* Fr., Ammoniaque muriaté, Muriate ou hydrochlorate d'ammoniaque, Sel ammoniaque ; Ger., *Salmiak, Salzsaures Ammonium ;* Eng., Muriate of ammonia, Hydrochlorate of ammonia, Sal ammoniac.

This salt is found in considerable quantities in the neighbourhood of volcanoes, in coal-mines, in lakes, mineral waters, plants, and even in the urine and excrements of certain animals, &c. It is manufactured at Clichy and Grenelle, near Paris, by distilling animal matters, decomposing the sub-carbonate of ammonia they furnish by means of sulphate of lime, and the sulphate of ammonia, which results, by muriate of soda. This process gives a sal ammoniac more or less pure ; but it is sometimes adulterated by muriate of soda, which is easily detected by its decrepitating in the fire ; in other cases it contains also a little oxide of lead, which may be discovered by its non-volatility. Before making use of this salt in homœopathy, it will, therefore, be always necessary to purify and crystallize it, not only to separate from it foreign substances, but because it is more easily triturated when in the form of crystals than sublimed. For this purpose, filtered water is boiled in a porcelain vessel, into which sal ammoniac, sublimed and pulverized, is introduced until complete saturation takes place; this solution, while still in a state of ebullition, is filtered into another vessel of porcelain, which is set in a cool place in order to crystallize. At the end of 24 hours, the liquid is decanted, is immediately made to boil, and the process goes on as before. The crystals obtained are placed on blotting-paper, and well dried in heated air, after which they are kept under the name of *ammonium muriaticum depuratum*. Of this preparation we make three triturations.

Pure muriate of ammonium is perfectly white, dry, and completely neutral; it has an acrid, pungent, saltish taste, accompanied with a sensation of coldness, and forms double feathery, white crystals, which are, properly speaking, composed of small pyramids with 6 surfaces, which neither deliquesce nor crumble in the air, completely volatilize over a fire, and, if thrown upon red-hot coal, impart to the flame a bluish-green tinge. Ammonium is tenacious, heavy, pulverizable; it dissolves in 3 parts of cold and equal parts of boiling water, but is less soluble in alcohol.

The presence of sulphate among the crystals of ammonium is tested by a solution of the muriate of barytes which forms an insoluble precipitate; if iron be present, the ammonium has a more or less yellow colour, and a solution of this impure ammonium is tinged blackish by the tincture of galls.

Instead of the triturations we may prepare a watery solution in the proportion of 1 to 10, from which we afterwards prepare the alcoholic attenuations.

Antidotes: Camph., Coff., Spir. nitr. dulc.

2. Baryta muriatica, *Terra ponderosa salita, Barytes muriaticus, Baryum oxydatum muriaticum, Baryta hydrochlorica, Hydrochloras baryticus, Chloretum baryi cum aqua;* Fr., Baryte muriatée, Hydrochlorate de baryte, Muriate de baryte; Ger., *Salzsaurer Baryt, Salzsaure Schwererde*; Eng., Muriate of barytes, Hydrochlorate of barytes.

Prepare a mixture of 4½ parts of finely pulverized sulphate of barytes, 1 part of lamp-black, and 3 parts of liquefied chloride of calcium; heat this mixture in a Hessian crucible, keeping it over the fire as long as the little flames of carbonic oxide gas rise from the thick-flowing mass, after which the mass is taken out by means of an iron spoon, and left to cool; pulverize it after cooling, add distilled water, then filter and evaporate. Crystals will form which require to be dissolved repeatedly in order to become perfectly pure; they are colourless, transparent, quadrilateral tables of a tolerable specific gravity, air-proof, and of a bitterish-acrid taste.

We prepare the attenuations in the same way as has been described for baryta acetica.

3. Calcarea muriatica, *Murias s. hydrochloras calcis;* Fr., Chaux muriatée, Muriate ou hydrochlorate de chaux; Ger., *Salzsaurer Kalk;* Eng., Chloride of calcium, Muriate of lime.

This salt is found in sea-water, in the bittern or mother-water of saltworks, and is obtained as an accessory product during the preparation of spirit of ammonia, of sub-carbonate of ammonia, &c. It is procured pure by saturating sub-carbonate of lime (prepared oyster-shells) with sulphuric acid. This salt, crystallized, contains 49,13 of water, rapidly attracts moisture from the atmosphere, and readily deliquesces. It is very soluble in water and in alcohol, and all the attenuations should be prepared with the latter.

4. Magnesia muriatica, *Murias s. hydrochloras magnesiæ;* Fr., Magnésie muriatée, Muriate ou hydrochlorate de magnésie; Ger., *Salzsaure Talkerde;* Eng., Muriate of magnesia.

This salt is found in many mineral waters, in some saline waters, and in sea-water which contains 3.50 parts in 30. To obtain this salt suitable for homœopathic purposes, take pure and hot hydrochloric acid, procured by distilling sea-salt with an equal weight of phosphoric acid, (melted by fire, and afterwards fallen down in a state of oleaginous deliquescence), dissolve in it as much magnesia as possible, at 80° R., filter the solution while hot, and evaporate it to dryness at a uniform heat. This salt, which is very deliquescent, must be kept in a corked bottle; it has a very bitter taste, effervesces with acids, is decomposed by heat, and is difficult to crystallize.

The *three* first attenuations are made by *trituration.*

Antidote: Camphor.

5. Natrum muriaticum, *Murias s. hydrochloras sodæ, sal culinare;* Fr., Soude muriatée, Muriate ou hydrochlorate de soude, Sel de Cuisine; Ger., *Salzsaures Natrum, Küchensalz;* Eng., Chloride of sodium, Muriate of soda, Common salt.

This salt is found native and anhydrous, (*sal fossile s. gemmæ,*) in various parts of Europe, as in France, near Vic, &c., either in mines, or forming mountains, as in Spain. It also exists in sea-water, in salt springs, and in many mineral waters. The common salt of commerce always contains a little magnesia, sulphate, and chloride of lime. To free it from these salts, dissolve one part in three parts of boiling distilled water; filter the solution, and let it crystallize at a temperature of 40° R. This salt, which, by its taste, gives a name to what is called *salt*, when pure, is not altered by exposure to the air, is colourless, fusible, and even volatile to a certain degree; it is very soluble in water, particularly when cold; it does not dissolve in alcohol, and sulphuric and nitric acid decompose it.

For homœopathic use, we take the crystals with pyramidal hollows in the sides of the cubes.

The *three* first attenuations are made by *trituration.*

Antidotes: Camph., Nitri spir. dulc.

Iodates.

A solution of hydriodic acid or of a metal produces, with nitrate of silver, a curdy pale-yellow precipitate; iodine imparts a blue colour to starch. They are disposed to become basic, and, as bases, are frequently soluble in water. When rubbed together with manganese and moistened with sulphuric acid, they give off, when warmed, vapours of iodine, whereas the vapours of bromine are of a hyacinth-red colour.

The simplest way to obtain this substance is as follows: Dissolve iodine in caustic potash until the solution is perfectly neutralized, which is known by the solution assuming a light brown-red appearance if an excess of iodine should be added. The mixture is evaporated to dryness in a polished, iron crucible; heated until it deliquesces, kept in that condition for some time but moderately, and then poured off. After cooling, the mass is distilled in double its quantity of distilled water, the solution is filtered and evaporated. The crystals which now form, are colourless, transparent cubes, of an acrid-saltish taste, becoming somewhat moist when exposed to the air, and soluble in less than their own quantity of water.

The watery solution is preferable to the triturations.

KALI HYDRIODICUM, *Hydriodas potassæ ;* Fr., Potasse hydriodique, Hydriodate de potasse ; Ger., *Hydriodsaures Kali ;* Eng., Hydriodate of potassa.

To obtain this preparation, place in contact with each other one part of pure iodine, with 4 parts of water, and ½ part of iron-filings. There is a slight disengagement of heat, and the liquid becomes deep-brown. Heat this last gently until it becomes clear like water. Then filter and boil it, adding pure carbonate of potassa until all the iron is separated. If too much carbonate of potassa has been added, it must be neutralized by a small quantity of pure hydrocyanic acid. *The fluid then consists of hydriodate of potassa,* it is to be filtered and carefully evaporated until crystals are obtained, which are laid aside and dried. When dry, this is no longer hydriodate, but *iodide of potassa ;* nevertheless, even in its dry state, this substance is known by physicians under the name of *hydriodate of potassa.* It is formed of white cubic crystals, of an acrid and pungent taste, like salt, slightly deliquescent, and entirely soluble in water and alcohol. The iodide of potassa of commerce is occasionally adulterated with chloride of potassium, which is detected by the red colour obtained on dissolving one part of this iodide in 12,000 parts of water, to which is added a little solution of platina.

We use in homœopathy not the liquid *hydriodate of potassa,* but the substance in the state of crystals, that is to say, the *iodide,* 10 parts of which are to be treated with 90 parts of sugar of milk.

The *three* first attenuations are made by *trituration.*

Bromates.

Kali hydrobromicum; *Kali* s. *Kalium bromatum* s. *hydro-bromatum, Brometum kalii* s. *kalicum, Bromuretum potassicum;* Eng., Hydrobromate of potash.

It is prepared from pure bromine in the same way as the hydriodate of potash is from iodine. Its crystals are white, transparent cubes, or quadrilateral tables shining like mother-of-pearl; they are air-proof, easily soluble in water, of a pungent-saltish, and at the same time cooling taste.

We first prepare an aqueous solution.

OF THE METALS AND THEIR COMBINATIONS.

Metals are elementary bodies possessed of a peculiar lustre, which is increased by polishing them, or by friction; they are opaque, heavy, dense, flexible, ductile, fusible, and the principal conductors of caloric and electricity; at the ordinary temperature they are solid, except quicksilver, crystallized, or at least capable of crystallization. Most metals are without odour or taste, and all of them are insoluble in water, alcohol or ether. In nature we find them either pure, that is, without combination with some heterogeneous substance, or combined with other metals, or combined with sulphur alone, or sulphur and other metals, or in the form of oxides or salts.

They combine with oxygen in various proportions, in which case they lose their specific gravity, their hardness, ductility, and lustre, and assume an earthy appearance; they likewise combine with sulphur and chlorine. Metals which are easily oxydized, are called ignoble metals; those which resist the action of oxygen, noble metals.

Metals have a great affinity for acids, by which they are dissolved and changed to some kind of coloured liquid; to do this, however, the metals have first to be oxydized. By evaporation and crystallization we obtain, from these solutions, the metallic salts, which are generally coloured and heavy, and, if soluble, possess a styptic taste, by which property they are distinguished from other salts.

Metals combine

1) with oxygen,
2) with metalloids,
3) with each other;
4) they do not combine with oxides unless they themselves had first been oxydized.

1. *Noble metals,*

Which are not easily oxydized, either at a low or high temperature, and the oxides of which are reducible per sè.

1. Platina; Fr., Platine; Ger., *Platina;* Eng., Platina.

This metal, of a silver-white, has as yet only been found in America, Spain, Russia, and the auriferous sands of the Rhine; it usually occurs in the form of small grains, commonly alloyed with other metals, from which it is very difficult to separate it. When pure, this metal is of a rather deeper colour than silver, very ductile, nearly infusible, heavier and more unalterable than any other metal; it is not oxidized in water, nor at any temperature.

To prepare it for homœopathic use, take 20 grains of chemically pure platina, dissolve it in aqua regia, with heat; dilute the solution in a suitable quantity of water, into this plunge a rod of well polished steel, around which the platina will be seen precipitating and forming a crystalline crust. The metal obtained in this way is a spongy mass, iron-gray, without lustre, soft, porous, and of little density. It should be frequently washed in distilled water, and well dried.

According to Rau, pure platina in powder may also be obtained by boiling the chloride with alcohol; the metal is precipitated by this process, and, if carefully washed in distilled water, it forms a preparation entirely suitable.

One grain of the powder obtained by either of these two processes, is used to make the attenuations, if pure platina in leaves sufficiently thin, like those of gold or silver, cannot be procured.

The *three* first attenuations are made by *trituration.*

Antidote: Puls.

Platina muriatica, *Chlorus platinicus ;* Eng., Muriate of platina, Chloride of platina.

Dissolve platina-wire in aqua regia, evaporate it to dryness at a moderate temperature, but so as to prevent decomposition; we obtain a dark brown-red salt, which is to be dissolved in 9 times its quantity of dilute alcohol, and kept for use as *Platina muriatica* 1, from which we prepare the alcoholic attenuations. We keep it in vials with ground glass stoppers.

2. Aurum foliatum, *Aurum purum ;* Fr., Or en feuilles, Or pur; Ger., *Gold, Blattgold ;* Eng., Gold leaf, pure gold.

This perfect metal is most generally found native, sometimes alloyed with other metals, such as silver, iron, lead, sulphur, &c.; it abounds most in South America, Mexico, Peru, Siberia, and Hungary; much of it is found in the form of dust in the sand of rivers, from which it is separated by washing.

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Gold coin is never free from alloy; in order to procure it entirely pure, a piece of gold, first reduced into thin leaves, is to be dissolved in *aqua regia;* this solution is to be evaporated to complete dryness, the dry residuum is to be again dissolved in distilled water, to which a solution of sulphate of iron is to be added, until no further action takes place. In this manner a deep-red precipitate, almost black, is obtained, which, after having been washed in weak muriatic acid and distilled water, gives, when melted, pure gold.

Pure gold is very brilliant, of an orange-yellow colour when in mass, and of an emerald-green when in a state of fusion, or when reduced to very thin leaves, and held up against the light; it is inodorous, insipid, difficult of fusion, crystallizable, soft, very tenacious, malleable in the highest degree, and of a specific gravity of 19.257. Water, air, fire, do not alter it, even when in leaves; but a strong electric discharge transforms it into a purple powder, without, perhaps, changing its chemical properties.

If perfectly pure gold can be obtained in leaves, it is in the most convenient form to make the *three* usual *triturations;* the other attenuations are made by the liquid way.

Antidotes: Asa fœt., Merc., Vinum, Smelling of Camphor.

Aurum muriaticum, *Murias* s. *Deuto-chloretum auri;* Fr., Or muriaté, Muriate or Deuto-chlorure d'or; Ger., *Salzsaures Gold;* Eng., Muriate or Deuto-chloride of gold.

This salt is in small quadrangular prisms or truncated octohedrons, of a beautiful yellow, becoming green when dried *in vacuo,* fusible at a moderate heat, very deliquescent, inodorous, but slightly bitter, styptic, and leaving a metallic after-taste. It is obtained by dissolving one part of pure metallic gold in a mixture composed of 1 part of nitric, and 2 parts of hydrochloric acid, evaporating the solution to dryness at a moderate heat, and dissolving the product afresh in hydrochloric acid. It is soluble in alcohol and in ether. The concentrated solution is saffron-yellow, inclining to red. The great deliquescence of this salt renders its preservation very difficult, and on this account, the old school, in its preparations, directed it to be mixed with common salt, by evaporation, which would not answer for homœopathic preparations. Trituration with sugar of milk has been attempted, but without favourable results. The attenuations should be made with alcohol, the first with dilute alcohol in the proportion of 1 : 10. It should be kept in dark bottles with glass stoppers.

Aurum fulminans; Fr., Or fulminant; Ger., *Knallgold;* Eng., Fulminating gold.

This metallic substance, which at first was obtained by combining oxide of gold with ammonia, is more advantageously prepared by means of pure chloride of gold. It is thus procured by precipitating the chloride by ammonia, after which the precipitate is washed and dried at a moderate temperature. It is a solid, yellow, insipid substance, detonating with violence by friction or a blow, so that the bottles containing it should be covered only with paper. Hence it follows, that it should never be submitted to trituration.

3. Argentum, *Argentum foliatum;* Fr., Argent; Ger., *Silber, Blattsilber;* Eng., Silver, Silver-leaf.

This metal, known from the earliest ages, is found in nature either in the native state, or combined with different substances, such as gold, mercury, iodine, selenium, sulphur, lead, &c. It occurs in France, and in nearly all countries, but principally in Mexico and Peru. That which is found in commerce is generally alloyed with other metals, and chiefly with copper. Pure silver is obtained by dissolving the silver of commerce in muriatic acid, and by heating strongly the product obtained, with carbonate of soda. If silver-leaf of undoubted purity could be obtained, it would be the most convenient for medical use; the thinnest leaves must be chosen, which, when placed between the eye and the light, appear of a beautiful blue, and translucent, and dissolve completely in nitric acid. If the leaves contain copper, the solution will exhibit a bluish tint, which, when too intense, indicates that the silver must be rejected as unsuitable for homœopathic purposes. If the leaves contain lead, it will be detected by adding sulphuric acid to the solution; diluted with 60 parts of water, a white precipitate will be thrown down, which is sulphate of lead.

We first make *three* triturations with sugar of milk; the rest of the attenuations are made in the liquid way.

Antidote: Merc.

ARGENTUM NITRICUM, *Nitras argenti;* Fr., Argent nitraté, Nitrate d'argent; Ger., *Salpetersaures Silber;* Eng., Nitrate of silver.

The salt we indicate by this name, is not the *fused* nitrate of silver, called also *lapis infernalis* or *lunar caustic*, but the *crystallized* nitrate of silver. To obtain this salt, take the purest silver, dissolve it at a moderate heat in twice its weight of pure nitric acid, which gives a perfectly colourless solution if pure silver is used; whereas, if it contain copper, the solution will have a greenish-blue colour. This solution is then evaporated and set to crystallize. When pure, this salt is in colourless, transparent, thin plates, varying in form, of a caustic, styptic and metallic taste; it does not attract humidity from the atmosphere, but is partially decomposed by the light.

It dissolves in equal parts of cold water, and in two parts of boiling alcohol, which nevertheless abandons it, so that it retains but a very small portion of it when cold. Notwithstanding this, it would perhaps be better to make the first solution in boiling alcohol, than to prepare it by triturations with sugar of milk; the solution thus made, would retain sufficient portions to constitute the *first* attenuation, from which the others might be made with cold alcohol, in the usual manner.

According to Gruner, the first solution should be made in water, in the proportion of 5 to 95.

Lapis infernalis is obtained by melting the crystals of the nitrate of silver, which thus lose their water of crystallization. It is in rods of a light-gray colour, dissolves completely in 2 parts of water, forming a limpid, colourless solution. Good *lapis infernalis* is of a white or white-gray colour, a moderately firm cohesion, and exhibits in the recent fracture a perfectly crystalline, radiating starry texture.

Antidote: Salt.

2. *Transition-metals,*

Distinguished from the former by the fact that they become oxydized at a high temperature, though slowly and almost imperceptibly.

1. Niccolum carbonicum; Fr., Nickel carbonaté; Ger., *Kohlensaures Nickel;* Eng., Carbonate of nickel.

Nickel in a metallic state and entirely pure, is white, with a shade of gray; it acts by attraction on the magnetic needle, and may acquire poles; exposed to heat with contact of air, it is converted into a pure green oxide. The substance from which it is usually obtained, is *Kupfernickel*, in which it is found combined with arsenic and iron. It occurs in nature under many forms, and in various combinations. In the mines in different parts of Germany, of France, (at Ste. Marie aux Mines, and at Allemont,) and of England, arsenical nickel usually occurs, which is found coated with oxide of nickel. It frequently accompanies arsenical cobalt. The nickel of commerce is in porous masses, of a dark gray, which are obtained by first preparing, in the wet way, oxide of nickel, which is afterwards reduced by means of a small quantity of pulverized charcoal.

To obtain this metal, as used in homœopathy, dissolve it in dilute nitric acid, and evaporate the solution to dryness; re-dissolve, and again evaporate to dryness, repeating this process 3 or 4 times. Dissolve the product of the last evaporation in liquid caustic ammonia, which must be entirely free from carbonic acid; this may be ascertained by trying whether or not it produces a precipitate by hydrochlorate of lime. The solution is then evaporated to dryness, after which the dry mass is mixed with 2 or 3 times its weight of *black flux*, (a mixture of 2 parts of tartar, and one part of nitre decomposed in a red-hot crucible,) placed in a crucible, and kept in a hot fire for half an hour, or three quarters. From the product thus obtained, the attenuations are made, the *three* first of which are prepared by *trituration*.

2. Osmium; Fr., Osmium; Ger., *Osmium;* Eng., Osmium.

This metal, discovered in 1804, by *Tennant*, is found in the ore of platina, combined with iridium. To obtain it, pulverize in a steel mortar the hard insoluble particles, which remain when platina is dissolved in aqua regia, and which are a compound of osmium and iridium. Wash this powder in hydrochloric acid, add an equal part, by weight, of anhydrous nitre, introduce the mixture into a porcelain retort with a glass-receiver, tubulated, and which, by means of a tube, is in communication with a bottle containing liquid ammonia, in order to be better able to collect and fix all the osmium which is developed. The receiver should be kept cool, and all the interstices carefully stopped. The retort is then brought to a white heat, and the temperature kept up until no more bubbles of gas are formed in the ammonia. The saline mass which remains in the retort, is then dissolved in cold water, and mixed, in a bottle with a ground glass stopper, with aqua regia containing nitric acid in excess. This being done, the mixture is subjected to distillation, taking care not to suffer the osmic acid, which is very volatile, to evaporate. To the solution of osmic acid thus obtained, add hydrochloric acid in excess, and plunge into it a rod of zinc, on which the metallic osmium will soon begin to precipitate. In this state, osmium is black or bluish-black, easily pulverized, infusible, and volatile when in contact with oxygen.

Antidote: Phosphoric acid.

3. MERCURIUS VIVUS, *Hydrargyrum vivum*, *Argentum vivum;* Fr., Mercure vif, Vif argent; Ger., *Mercur*, *Quecksilber;* Eng., Mercury, Quicksilver.

This metal is found in various forms, and in different combinations, either amalgamated with silver, or united with sulphur, as cinnabar, &c.; there are mines of it in Hungary, Transylvania, Russia, Spain, Peru, and the East Indies. In commerce, this metal is often alloyed with lead and bismuth; it is freed from these metals by boiling on its surface an aqueous solution of mercurial nitrate for about an hour, care being taken to renew the water as it evaporates. This solution takes up the lead and the bismuth, and deposits in their place its mercury, which unites with the other. The purest mercury may be obtained by the distillation of artificial cinnabar with iron-filings; sulphuret of iron is formed, and the mercury passes over into the receiver, which should be filled with water. This mercury is then collected on a piece of leather, and, by means of a press, is freed from all humidity. In a state of perfect purity, mercury is of a very brilliant tin-white, without an iridescent pellicle, fluid at the ordinary temperature, and evaporates easily in the air. Placed in a spoon, and heated over the fire, it should not decrepitate, nor leave any residuum on being evaporated; the water in which it is triturated or shaken should remain clear; vinegar, after having been in contact with it, should not acquire a sweetish taste, &c.

The *three* first attenuations are made by *trituration.*

Antidotes: Hepar sulph., Camph., Op., Chin., Elect., Asa fœt., Aur., Rhus tox.

a) MERCURIUS SOLUBILIS HAHNEMANNI GRISEUS, *Hydrargyrum oxydulatum nigrum;* Fr., Mercure soluble de Hahnemann; Ger., *Hahnemann's auflösliches Quecksilber;* Eng., Black oxide of mercury.

This mercurial preparation is neither an *oxide* nor a *protoxide* of mercury, but an *ammoniaco-mercurial subproto* nitrate, which, as it does not keep well, and is very liable to pass to the maximum of oxidation, should be prepared in a very small quantity at a time. Hahnemann himself has long since abandoned this preparation, preferring to it, *in all cases*, that of metallic mercury, which we have mentioned above. Nevertheless, as there are many homœopathic physicians who imagine that metallic mercury is not so efficacious as the uncertain preparation, *black oxide of mercury*, we will point out the method recommended by Hahnemann to obtain it.

Having purified the mercury, as described above, it is dissolved, cold, in common nitric acid, which requires many days; the salt which results is dried on blotting-paper, and triturated in a glass mortar for half an hour, adding $\frac{1}{4}$ of its weight of the best alcohol. The alcohol which has been converted into ether is thrown aside, and the trituration of the mercurial is continued with fresh alcohol, for half an hour each time, until this fluid no longer has the smell of ether. That being done, the alcohol is decanted, and the salt dried on blotting-paper, which is renewed from time to time. Afterwards it is triturated for a quarter of an hour, in a glass mortar, with twice its weight of distilled water; the clear fluid is decanted, the salt is again washed by a second trituration with a fresh quantity of water, the clear fluid is united to the preceding, and thus we have the aqueous solution of all that the saline mass contained of mercurial nitrate really saturated. The residuum is composed of other mercurial salts, of chloride and sulphate. Finally, this aqueous solution precipitates, by caustic ammonia, the so-called *black oxide of mercury*, (*blackish-gray oxidule of mercury*,) the *three* first attenuations of which are made by *trituration*.

Gruner prepares this substance as follows:

Treat 3 parts of pure mercury with 4 parts of pure concentrated nitric acid of a specific gravity of 1,28, which should be first diluted with 6 parts of water, exposing the mixture to a gradually increased heat, until 2 parts of the mercury are dissolved (which can be ascertained by pouring off the liquid, and weighing the undissolved mercury); the hot solution is diluted with 12 parts of distilled water, and, while warm, is filtered into a vessel containing 4 times the quantity of cold, distilled water; the two liquids are carefully mixed, after which a mixture of $1\frac{1}{2}$ parts of caustic ammonia of 0,95 specific gravity and 8 parts of distilled water is to be added by pouring the mixture into the vessel in a thin, uninterrupted stream during which time the mercurial solution should be stirred all the time, in order to effect the mixing up of the two liquids so much more completely. Allow the black precipitate to settle, pour off the supernatant liquid as speedily as possible, mix the precipitate with distilled water, filter and wash it. Then drain it between several layers of blotting-paper, and press it between them by means of heavy stones, after which the powder is to be exposed in the open air, guarding it, however, against the light, and completely excluding all artificial warmth. By this method we obtain a velvet-black, delicate, insipid powder, thoroughly homogeneous as regards its composition, not exhibiting any globules of metallic mercury, and completely volatilizing when exposed to the action of heat. It should be kept in well-closed, black vials, as well as the triturations.

We may observe that the mercury which is contained in the liquid that was poured off the first precipitate, may be precipitated by the addition of caustic ammonia as long as the precipitated mercury continues to exhibit a tile-gray colour; it is dried and set aside until we gradually have collected enough of it to reduce the mercury.

Antidotes : Aur., Bell., Chin., Hep. s., Iod., Acid nitr., Sep., Sulph., &c.

b) Mercurius dulcis, *Hydrargyrum muriaticum mite, Murias* s. *Proto-chloretum mercurii, Calomelas ;* Fr., Mercure doux, Mercure muriaté, ou Protochlorure de mercure, Calomel; Ger., *Versüsstes Quecksilber, Calomel ;* Eng., Mild chloride of mercury, Sub-muriate of mercury, Calomel.

This salt occurs native in the Palatinate and in Spain, under the name of *horn quicksilver*. It is obtained artificially by various methods, which, however, do not all furnish uniform preparations.

For homœopathic use, the following process has been proposed. Moisten 4 parts of corrosive sublimate with a little alcohol, and after trituration in a glass mortar, add 3 parts of metallic mercury, and triturate until the small globules of mercury disappear. Then dry the mixture at a gentle heat, sublime it, triturate the product, sublime it afresh, pulverize it, add alcoholized spirit of wine, and digest it until the corrosive sublimate is completely dissolved. This being done, separate the powder from the alcohol, and dry it. Pure calomel is of a dazzling white, unalterable in the air, volatile in the fire, and almost tasteless.

The *three* first attenuations should be made by *trituration.*

According to *Gruner,* this preparation is most advantageously obtained by dissolving the nitrate of mercury in 16 parts of water, and acting upon it with a solution of 9 parts of water and 1 part of common salt as long as a precipitate continues to form; this should be at once and perfectly washed with pure cold water, and dried at a moderate temperature. Two parts of the dissolved mercury require about one part of common salt to be precipitated.

The calomel, as well as the triturations, should be guarded from the light.

c) Mercurius corrosivus, *Mercurius sublimatus, Deutochloretum hydrargyri, Hydrargyrum corrosivum;* Fr., Sublimé corrosif, Deuto-chlorure de mercure; Ger., *Ætzsublimat, Quecksilberchlorid;* Eng., Corrosive sublimate, Corrosive chloride of mercury.

The most simple mode of obtaining this salt, consists in distilling together to dryness, in a glass retort, 3 parts of pure metallic mercury, and 5 parts of concentrated sulphuric acid; the saline mass which results, is triturated with equal parts of common salt, the whole being afterwards sublimed in a sand-bath. This salt may also be obtained by a very simple method, in the wet way, by dissolving *red precipitate* in hydrochloric acid, and evaporating the solution either to dryness, or for crystallization. Corrosive sublimate is prepared in the large way in laboratories; those of Holland furnish it in boxes of the size of subliming vessels; that of England is in masses of the form of loaves weighing from 12 to 16 pounds each. When obtained by the wet way, this salt appears in elongated prismatic acicular crystals, of a beautiful white, and of great purity; obtained by the dry way, it is in loaf-like masses, of a dead-white in the centre, transparent at the circumference, convex, and polished on the upper side, bristling with crystals on the lower, of a disagreeable metallic taste, dissolving in 16 parts of cold, and in 3 parts of boiling water, in $2\frac{1}{2}$ parts of cold, and $1\frac{1}{2}$ of boiling alcohol, or in 3 parts of ether. Many organic substances, such as oil, fat, *sugar*, *concentrated alcohol*, starch, &c., transform it into *chloride of mercury*, when placed in contact with it; on this account it appears to be improper to treat this salt by triturations with sugar of milk; the *first* attenuation, on the contrary, is made with water, the *second* with aqueous alcohol, and it is only with the *third* that we begin to use common alcohol.

According to *Gruner*, we may dissolve it in distilled water in the proportion of 1 to 19, designating this preparation as $\frac{1}{20}$; the next preparation should be made with dilute alcohol in the proportion of 2 to 8 (numbering this preparation 2), and all subsequent attenuations should be prepared with strong alcohol.

If the corrosive sublimate should contain calomel, this remains behind in the solution, and, by the addition of lime-water, assumes a black colour.

d) Mercurius præcipitatus ruber, *Hydrargyrum oxydatum rubrum;* Fr., Precipité rouge, Oxyde rouge de mercure; Ger., *Rother Præcipitat;* Eng., Red oxide of mercury, Red precipitate.

Dissolve 2 parts of mercury in 3 parts of nitric acid, at first exposing the mixture to a gentle heat, which is to be gradually increased; evaporate the solution to dryness, triturate the residuum with pure mercury till the globules disappear, moistening the powder from time to time with pure water; dry the mass, heat it to redness in an open vessel, until no more red vapours form; after which, reduce the residuum, when cold, to powder by trituration. Red precipitate thus obtained forms a fine powder of a beautiful clear red; it is inodorous, but has a disagreeable, acrid and styptic taste. The action of light renders it darker, and decomposes it; it is scarcely soluble in water and alcohol.

The first *three* attenuations must be made by *trituration.*

Gruner prepares it as follows: The red oxide of the shops, the purity of which should first be tested by the complete volatilization of the mercury in a hot iron spoon, is, in a glass or porcelain mortar, reduced to the finest kind of a powder, by adding an adequate quantity of water. After this, a quantity of distilled water is added, and the whole is boiled for a time in a suitable vessel, stirring the solution all the while. After the solution has stood a little, the water is poured off, and the orange-coloured powder is repeatedly washed until the water which is used for that purpose, ceases to react acid. We then collect it in a filter, dry it in the dark, and keep it in vessels in which it, as well as the triturations, is to be carefully guarded from the light.

e) Mercurius acetatus, *Acetas mercurii, Hydrargyrum acetatum;* Fr., Mercure acétaté, Acetate de mercure; Ger., *Essigsaures Quecksilber;* Eng., Acetate of mercury.

Acetic acid does not act strongly on metallic mercury, but it readily combines with the oxides of that substance. Acetate of mercury is obtained by the solution of deutoxide of mercury in acetic acid, or by the solution of a mixture of acetate of potassa with nitrate of mercury. For this purpose, introduce into a glass retort deutoxide of mercury, or sub-carbonate of mercury; pour upon it 8 parts of distilled water, place the mixture in a sand-bath, and when it commences boiling, add acetic acid until the mercurial oxide is dissolved. That being effected, filter the fluid as quickly as possible, set it aside, and let it crystallize. This salt, when pure, forms white crystals, greasy to the touch, lamellar, and brilliant; it is fixed, becomes black by the combined action of light and humidity, is difficultly soluble in water, and completely insoluble in alcohol.

The *three* first attenuations should be made by *trituration.* But in general, metallic mercury is preferred, and the acetate of mercury is not more used than the other acetates.

f) Mercurius præcipitatus albus, *Hydrargyrum ammoniato-muriaticum;* Fr., Precipité blanc, (des anciens,) Oxy-chlorure ammoniacal de mercure; Ger., *Weisser Præcipitat;* Eng., Ammoniated mercury, White precipitate.

Dissolve together in one pound of hot distilled water, one ounce of corrosive sublimate, and the same quantity of purified sal ammoniac; when the solution is cooled and filtered, add an aqueous solution of subcarbonate of soda, until a white precipitate is formed. which is to be filtered and washed on the filter with cold water, until the water passes from the filter perfectly pure and tasteless; the product is then to be dried by exposing it to a current of air. The same salt may be obtained by a much more simple method, which consists in dissolving corrosive sublimate in 20 parts of cold distilled water, and adding, little by little, with constant stirring, liquid ammonia, until a white pulverized precipitate no longer forms. White precipitate is a powder of a dead-white, of a disagreeable acrid and metallic taste, insoluble in alcohol, and very sparingly soluble in water, by which it is decomposed, if it remains long in contact with it.

The first *three* attenuations should be made by *trituration*.

g) CINNABARIS, *Sulfuretum hydrargyri rubrum, Mercurius sulfuratus ruber;* Fr., Cinnabre, Sulfure rouge de mercure, Mercure sulfuré rouge, Vermillon; Ger., *Zinnober, Schwefel-Quecksilber;* Eng., Cinnabar, Red sulphuret of mercury, Bi-sulphuret of mercury.

This mercurial substance is found native in abundance, particularly in Spain, in Illyria, in Friuli, in Peru, often in amorphous masses, combined with arsenic, but frequently, also, crystallized. It is obtained artificially by submitting to sublimation 6 parts of pure mercury with one part of refined sulphur. The purest native cinnabar comes from China; that of Hungary, also, is very pure.

Artificial cinnabar, which alone is used in homœopathy, is in voluminous masses, of an aciculated appearance, of a violet-gray, but when reduced to powder, of a lively and pure red, without mixture of yellow; it has neither taste nor smell, and is insoluble in water and alcohol. The cinnabar of commerce is frequently adulterated with *minium*, (rouge d'Angleterre,) or other usually fixed substances; but these adulterations are seldom found, except in pulverized cinnabar, whilst that which is in masses is almost always pure. It is, however, better to prepare it for ourselves.

The *three* first attenuations are made by *trituration.*

Antidotes: Sulph., Chin., Op., Nitr. ac.

h) MERCURIUS BIJODATUS; Eng., Iodide, Biniodide of mercury.

This mercurial compound is obtained by precipitating 8 parts of the chloride of mercury with 10 parts of the iodide of potash. Each of these two solutions should be considerably diluted, and an excess of the iodide of potash should be avoided, because, otherwise, part of the precipitate would be dissolved again by the iodide. The fiery scarlet-red precipitate is to be carefully washed, and dried at a moderate temperature; it is insoluble in water, readily fusible, volatile, soluble in alcohol.

We prepare triturations.

i) MERCURIUS NITROSUS, *Nitras hydrargyrosus;* Eng., Nitrate of mercury.

To 20 parts of pure mercury add, in a very flat porcelain cup, a mixture of 9 parts of concentrated nitric acid of 1,2 specific gravity, and 27 parts of distilled water; cover it lightly, and let it stand in a dark and cool place until the white, octahedral crystals of the desired salt cease. From time to time they are taken off the mercury upon whose surface they are floating, after which we wash them speedily with a little alcohol, and then dry them between layers of blotting-paper; this done, they are kept in a well-corked glass-bottle. They are air-proof, and completely soluble in slightly acidulated water. The best way to administer it, is in the form of an aqueous solution, which is to be prepared, in the usual proportions, with water that had been slightly acidulated with a few drops of nitric acid. The solution should be kept in dark vials.

2. *Ignoble metals*

which are easily oxydized in the open air at any temperature, and cannot be restored without intermediate agents.

A) METALS WHICH, BY OXYDATION, ARE NOT CHANGED TO ACIDS:

a) Metals which are only fusible by being constantly kept at a white heat.

MANGANUM METALLICUM, *Manganesium;* Fr., Manganèse; Ger., *Mangan, Braunstein-Metall;* Eng., Manganese, Metallic manganese.

This metal is found in nature in the state of oxide, or combined with sulphur, as a colouring matter in many fossils, or a component part of mineral waters. The pure metal is of a silver-gray, without taste or smell; having a slight metallic lustre, the fracture granular, easily filed and reduced to powder.

The *three* first attenuations of this metal reduced to powder should be prepared by *trituration.*

a) MANGANUM ACETICUM, *Acetas mangani;* Fr., Manganèse acêtatê, Acêtate de manganèse; Ger., *Essigsaurer Braunstein*; Eng., Acetate of manganese.

When this preparation was still used in homœopathy, it was obtained by boiling the carbonate of manganese with distilled vinegar until the acid was completely saturated, and evaporating the solution to a syrupy consistence. The attenuations were all made with alcohol.

b) MANGANUM CARBONICUM, *Manganesium,Carbonas* (*sub*) *mangani;* Fr., Manganèse carbonaté, Sous-carbonate de manganèse ; Ger., *Braunstein ;* Eng., Carbonate of manganese.

Hahnemann mentions the *acetate* of manganese, but homœopathic physicians generally prefer the *carbonate*, the effects of which are the same as those of the acetate, but which possesses the advantage over the latter, that it can be treated by trituration, and thus furnishes preparations less susceptible of alteration.

To obtain the carbonate, triturate well together equal parts in weight of black oxide of manganese and of crystallized sulphate of iron, to which add a little syrup of sugar in order to make the whole into a paste, of which form balls of the size of a hen's egg; these must be heated among burning coals, and kept for some minutes at a white heat. The solution of this mass in distilled or rain-water, contains sulphate of manganese, while the residuum consists of oxide of manganese in excess, mixed with oxide of iron. Introduce into the fluid carbonate of soda, which throws down a white powder; this is to be repeatedly washed and then dried. This powder is *carbonate of manganese;* the *three* first attenuations are to be made by *trituration.*

These various operations should be carried on as rapidly as possible, nor should the vials be any larger than the quantity of the fluids which are to be mixed, requires, on account of the great affinity of manganum for oxygen, which renders it necessary that the action of the air should be excluded as much as possible. The powder should first be drained between several layers of blotting-paper, and the drying should be completed in a warm mortar.

The Acetate of Manganese

Is prepared by dissolving, at a warm temperature, recently made carbonate of manganese in concentrated vinegar, until the solution is completely saturated; the solution is then filtered, and the crystals slowly formed by evaporation. They are colourless rhomboidal prisms, at most of a shining pale-red, air-proof, and readily soluble in water.

We prepare a watery solution in the proportion of 1 to 10.

Antidotes: Coff., Ipec.

b) Metals which are readily fusible at a white heat:

8. Ferrum, *Ferrum metallicum;* Fr., Fer, Fer metallique; Ger., *Eisen, metallisches Eisen;* Eng., Iron, Metallic iron.

This metal is found in the three kingdoms of nature, but it rarely occurs native, and, perhaps, only in aërolites, in a mountain in Missouri, in another in the department of Isere, in France, in the mines of Saxony, in Brazil, in Senegal, and in the island of Bourbon. Metallic iron is solid at the ordinary temperature, of considerable hardness, large-granular, somewhat lamellated, acquiring a sensible odour by friction, of a bluish-gray, very difficultly fusible, the most tenacious of metals, very ductile, but more susceptible of being drawn into wire than of being rolled. The iron of commerce is occasionally mixed with cast iron, which is discovered by the black spots which are formed in treating it with hydrochloric acid, or with sulphuric acid diluted with 3 times its volume of water. Iron, also, frequently contains copper, which is detected by treating it with sulphuric acid and caustic ammonia. For this purpose, dissolve iron in dilute sulphuric acid, as mentioned above; add caustic ammonia in excess, and filter the solution until it appears perfectly limpid, and does not alter by exposure to the air. If it exhibits a strongly bluish tint, and if, when mixed with pure sulphuric acid, it gives a precipitate of copper upon immersing in it a piece of polished iron, we are certain of what it contains. But if, on the contrary, after evaporating the ammoniacal solution to about $\frac{1}{12}$, no trace of a precipitate can be discovered by the same process, the iron may be considered as perfectly free from copper.

To prepare iron for homœopathic use, it is pulverized by means of a good file, which gives *iron-filings*, a powder which every homœopathic physician should prepare for himself, since the iron-filings of commerce are seldom free from other metals.

The *three* first attenuations of this powder are made by *trituration.*

Before triturating the iron, both mortar and pestle, and even the sugar of milk, should be slightly warmed, in order to remove all dampness. The work should be continued without any interruption whatsoever, for this reason, that the oxygen of the air is constantly busy in oxydizing the iron.

Antidotes: Chin., Hep., Ipec., Puls., Veratr., Arsen.

a) Ferrum chloratum s. muriaticum, *Murias* s. *hydrochloras ferri;* Fr., Muriate ou hydrochlorate de fer; Ger., *Salzsaures Eisen;* Eng., Muriate or hydrochlorate of iron.

This salt is obtained by the combination of pure iron-filings with hydrochloric acid; the solution is filtered and evaporated to crystallization. The salt thus obtained is of a beautiful greenish-blue, less green than the sulphate of iron, of a well marked styptic taste, and easily soluble in water and in alcohol.

The *three* first attenuations are made by *trituration.*

To prepare this substance, *Gruner* uses the hydrated oxide of iron, the preparation of which will be found mentioned under the head of "Ferrum aceticum;" this hydrate is dissolved in pure muriatic acid, the liquid is filtered, and a tincture formed in the same manner as is indicated for *Ferrum aceticum.* It has a saturated dark yellow-brown colour, and should be well guarded from the light.

According to *Gruner,* the triturations are inadmissible; it should be administered in the same manner as is mentioned for the acetate of iron.

b) Ferrum aceticum, *Acetas ferri;* Fr., Fer acétaté, Acetate de fer; Ger., *Essigsaures Eisen;* Eng., Acetate of iron.

We may say of this as of all the acetates, it is no longer in use. When this preparation was in use, it was obtained by heating iron wire to a white heat, quenching it in acetic acid, evaporating the solution, and drying the residuum.

The attenuations, as far as the *third,* were made with sugar of milk; but all homœopaths now prefer metallic iron. Those, however, who wish to use the acetate of iron, may prepare it in the following manner: Dissolve one part of the sulphate of iron in 8 times its quantity of distilled water, heat the mixture until it boils, and keep adding small quantities of concentrated nitric acid as long as effervescence takes place. Let the liquid cool, and then add liquid caustic ammonia, wash the precipitate carefully, and collect it on a filter.

Of this fresh hydrated oxide of iron introduce little by little into concentrated vinegar, as much as will dissolve at a moderate temperature. This solution of the acetate of iron should always be reduced to the specific gravity of 1,05, and we should prepare of it either

a) The tincture, by mixing one part of the solution with one part and a half of strong alcohol; or

b) We should dry it in a vapour-bath, and keep the powder in well-corked vials for trituration.

It should be remarked, that the salts of iron, and, of course, the acetate, are easily decomposed. Hence the evaporation to dryness should be conducted with great care, and the attenuations of the tincture should not be prepared beforehand; whenever the tincture is to be used, give it in drop-doses, dissolving every drop fresh in water.

c) Ferrum oxydatum hydratum, *Hydras oxydi ferri, Carbonas* (*sub*) *ferri, Rubigo;* Fr., Oxyde de fer, Oxyde de fer hydraté ou carbonaté, Sous carbonate ou hydrate de fer; Rouille; Ger., *Eisen-Oxyd-Hydrat, kohlensaures Eisen, Rost;* Eng., Carbonate of iron, Rust of iron.

The most simple method of obtaining this salt, is to dissolve in hot water sulphate of iron, filter the solution, and add an aqueous solution of sub-carbonate of soda as long as any precipitate forms; this is to be separated by means of a filter, after which it is to be dried and kept in a well-corked bottle. This salt forms a fine powder, brownish-red, inodorous, and not attracted by the magnet.

According to *Gruner*, both the sulphate of iron and the sub-carbonate of soda should be dissolved in 20 times their volume of boiled water which had been allowed to cool before using it. The precipitate should be washed with the same kind of water, and after having been drained and pressed between layers of blotting-paper, the powder should be tied up in a well-cleaned pig's bladder, and dried at a temperature of 15 to 20° R.

The powder has a brownish-green or gray colour, and should be prepared fresh every year.

The triturations should be prepared with very dry sugar of milk, and in a dry room.

d) Ferrum magneticum, *Ferrum oxydulatum magneticum*, *Lapis magneticus ;* Fr., Fer magnétique, Deutoxide de fer, Pierre d'aimant ; Ger., *Magnetstein*, *Magnetisches Eisenerz ;* Eng., Magnetic oxide of iron, Loadstone.

This is a natural combination of protoxide and peroxide of iron. The loadstone of a black colour is preferred to the brown or reddish. We pulverize it, and prepare the *three* first attenuations by *trituration.*

9. Cuprum, *Cuprum metallicum* ; Fr., Cuivre, Cuivre metallique ; Ger., *Kupfer*, *Metallisches Kupfer ;* Eng., Copper, Metallic copper.

Copper is found in nature in great abundance; sometimes native in different forms, sometimes as an oxide combined with other substances. We have *native-pyritous*, *pyritous-hepatic*, *gray copper*, *sulphuret*, *red oxydule*, *arseniferous oxydule*, *muriate*, *blue carbonate*, *green carbonate*, *arseniate*, &c. It is found native chiefly in North America, and in Siberia. There are also copper mines in Sweden, Norway, Silesia, Bavaria, France, England, Hungary, &c. It is said also to be found in many plants, such as, *Helen.*, *Dulcam.*, and in the ashes of *Quinquina*, of *Coffea*, &c. It is said to be found in the greatest purity in the island of Cyprus, whence its name of κυπρος, copper. Metallic copper is commonly obtained from its sulphuret by successive roastings and the use of charcoal ; the product is known in commerce by the name of *rosettes.* Pure copper is in a solid metal, of an orange-red, very brilliant, harder than gold and silver, more sonorous than all other metals, the most ductile of all, after platina and silver, very malleable, acquiring a very peculiar and disagreeable smell by being rubbed. The best is that which comes from Japan, in the shape of small ingots. To render copper available for homœopathic use, we take one of these ingots, and melt 6 parts of it with 2 of solid nitre, a process by which the metals which might be combined with the copper remain in the scoriæ; we dissolve the copper thus obtained in an acid, and then plunge an iron or zinc rod into the solution; the copper will soon adhere to the rod in the form of a powder.

Another method of obtaining *pure copper in powder*, consists in dissolving 3 parts of perfectly pure sulphate of copper in 8 parts of boiling water, to which 8 parts of honey are added, stirring the whole together, and causing it to boil for half an hour; it is then to be removed from the fire, and a large quantity of cold water added to it, the fluid is to be decanted, the copper reduced to powder is to be placed on a filter, washed, and dried by exposure to a moderate heat. Of the powder obtained by one or other of these methods, take one grain, and triturate it with 100 parts of sugar of milk; the process which consists in grinding copper under water, on a grindstone, in order to obtain the powder, is less likely to give pure preparations.

The *three* first attenuations are made by *trituration.*

Gruner remarks, that the little rods of zinc which are used for the precipitation of the copper, can easily be prepared by casting pure zinc in a mould as is used for the preparation of *lapis infernalis.* While the decomposition of the zinc is going on, the solution requires to be stirred all the time, by means of a wooden or porcelain spatula, in order to cause the black-brown pellicles or scales of copper to fall to the bottom of the vessel; by this means we obtain nothing but fine scales of copper, whereas, without this precaution, the copper would be deposited in thick laminæ which it would be difficult to triturate. After the precipitate has been carefully washed with distilled water, it should then be well shaken, in a well-closed bottle, with a proportionate quantity of recently prepared sulphurous acid, for about 5 or 10 minutes; this will impart to the precipitate the true red-brown copper colour. The sulphurous acid has to be removed by repeated careful washing, and after the precipitate had been collected on a filter, and drained, and pressed between layers of blotting-paper, it should be finally dried by rubbing it in a well-warmed porcelain mortar.

Antidotes: Cocc., Nux v., Ipec., Hep. s., Bell., China, Merc.

a) Cuprum carbonicum, *Carbonas* (*sub*) *cupri;* Fr., Cuivre carbonaté, Sous-carbonate de cuivre; Ger., *Kohlensaures Kupfer;* Eng., Carbonate of copper.

This salt exists in nature in the form of blue carbonate, malachite, and anhydrous carbonate. It is obtained artificially by precipitating a solution of copper diluted with water, by sub-carbonate of potassa, and washing the precipitate with cold water. This salt is of a magnificent blue, frequently crystallized, but often, also, in earthy masses of a sky-blue, easily pulverized.

The *three* first attenuations should be made by *trituration.*

b) Cuprum sulfuricum, *Sulfas cupri, Vitriolum cupri* s. *cœruleum;* Fr., Cuivre sulfaté, Sulfate de cuivre, Vitriol bleu ou de cuivre; Ger., *Schwefelsaures Kupfer, Kupfervitriol;* Eng., Sulphate of copper, Blue vitriol.

This salt is found in nature, in the galleries of copper mines, or in solution in the waters flowing from mines containing it, whence it is extracted by evaporation. To procure it suitable for medical purposes, heat copper with concentrated sulphuric acid, dissolve the product in water, and let it crystallize. This salt is in large crystals of a beautiful blue colour, of a metallic smell, disagreeable, styptic. When heated, it loses its water of crystallization, and becomes a white powder, which is anhydrous sulphate of copper. The blue vitriol of commerce is almost always rendered impure by iron or zinc, on which account the homœopathic physician should prepare it himself.

The sulphate of copper of the shops generally contains zinc and iron. It is freed from these substances by dissolving the sulphate in 5 times its quantity of water, and inserting into the solution, for several weeks, a stripe of polished copper, the iron gradually falls down as a yellow oxide, the solution is filtered, and the filtered liquid allowed to crystallize. Only the first crystals which form should be used, since the sulphate of zinc which remained behind in the solution, would like crystallize, if we were to wait too long. The crystals of the sulphate of copper must be carefully guarded from the access of air.

The *three* first attenuations should be made by *trituration.*

c) Cuprum aceticum, *Acetas cupri, Ærugo, Viride æris ;* Fr., Cuivre acĕtatĕ, Acĕtate de cuivre, Verdet, Vert-de-gris ; Ger., *Essigsaures Kupfer, Grünspan ;* Eng., Acetate of copper, Verdigris.

This preparation is no longer used in homœopathy, since all are satisfied that metallic copper is superior to it. To obtain acetate of copper, dissolve verdigris in pure acetic acid until the solution is completely saturated, then evaporate the acid slowly and dry the crystals on blotting-paper.

The first attenuation is made with distilled water, the second with aqueous alcohol, and the remainder with strong alcohol.

d) CUPRUM ARSENICOSUM; Eng., Arsenious oxide of copper, Scheele's green.

Boil 3 parts of pulverized white arsenic with 8 parts of caustic potash in 16 parts of water, until the arsenic is deposited in the shape of a powder. Pour this liquid into a hot solution of 8 parts of the sulphate of copper, and 48 parts of water, stirring the mixture all the time; wash the precipitate well, and dry it at a moderate temperature. It is of a pale-green colour.

We prepare triturations.

c) Metals which are readily fusible and not volatile.

10. STANNUM; Fr., Etain; Ger., *Zinn;* Eng., Tin.

This metal, known from the remotest antiquity, is rarely found native, but frequently in the state of an oxide, particularly in the East Indies and England. The purest tin is that which comes from the East Indies; next to it, the English is the best; but it contains a small portion of arsenic, which renders it hard. The tin of commerce is almost always impure; in general, it contains copper, lead, bismuth, and even arsenic; adulterations which are detected by the dull white of this tin when melted, whereas pure tin has the appearance of amalgam. The presence of copper is made known by liquid ammonia; that of bismuth by distilled water, with which the solution of tin in nitric acid should be mixed; that of lead by a solution of sulphate of soda, which should be added to the preceding solution, and by the white precipitate which takes place. The presence of zinc is known by means of a solution of carbonate of potassa, which is to be added to the solution of tin in nitric acid, when freed from the copper and lead: this will give a white precipitate, which, after being dried, will show a yellow colour upon being heated. The presence of arsenic is shown by the yellow precipitate, produced by hydro-sulphuric acid. To free tin from the arsenic it may contain, tin in leaves reduced to fine powder is to be deflagrated with nitre, the product is to be washed and heated to redness on burning coals. Metallic tin thus purified is placed, in order to pulverize it, in a hot mortar, and triturated with very dry and fine common salt; it is then dissolved in distilled water, which leaves the tin in powder as a residuum. This powder is used to make the attenuations, if *pure* tin in thin leaves cannot be procured.

The *three* first attenuations are made by *trituration.*

The best stannum comes from the mines of Saxony and England. In order to test its purity, we melt it at as low a temperature as possible, and then pour it upon a stone-tablet or into some other suitable mould. If perfectly pure, it will exhibit an entirely smooth and shining surface, without showing the least symptoms of crystallization.

To prepare stannum for medicinal purposes, we first melt it and pour it into some deep vessel with pure water; we thus obtain thin folioles which can easily be dissolved.

We weigh a certain quantity of these folioles, and, in some suitable vessel, pour concentrated, pure muriatic acid on them, and dissolve them by applying moderate heat. We may employ for this purpose a polished copper vessel, provided we take care that a little tin should remain undissolved. By continuing to add muriatic acid, we gradually effect the complete solution of the metal. Filter the solution, and then add 100 times as much water as we had originally dissolved of the metal. By introducing sticks of zinc, we effect the galvanic reduction of the metal, observing all the rules which the reader will find stated under PLUMBUM.

Antidote : Puls.

11. PLUMBUM METALLICUM; Fr., Plomb metallique; Ger., *Metallisches Blei ;* Eng., Metallic lead.

Lead rarely occurs native, but it is frequently found as a salt, particularly as a sulphuret, known under the name of *galena*, as a chloride, as a seleniuret, or as a carbonate. It is very common in France, England, Savoy, Spain, and many other countries. It is obtained by smelting galena with iron, but the lead of commerce is usually mixed with copper and iron.

To procure pure lead, dissolve the lead of commerce in nitric acid, dilute the solution properly with water, and plunge into it a rod of zinc, around which the lead soon begins to precipitate and crystallize in the form of a *tree*. Perfectly pure lead may also be obtained by heating to a red heat, in a clay crucible, nitrate of lead, until every trace of nitric acid disappears; after which the oxide is reduced by means of charcoal; or, heat acetate of lead in a glass retort, and shake it until all the lead is precipitated. Pure lead is a bluish-gray metal of little tenacity, soft, easily colouring paper, sufficiently ductile, but not suitable for making wire. It has a specific smell when rubbed, and a slight metallic taste.

To make the attenuations, take the powder produced by the first mentioned process; the *three* first attenuations are made by *trituration.*

To obtain pure lead in form of a powder, the galvanic process of reduction by means of rods of zinc is the most convenient. We dissolve a certain quantity of the crystals of the acetate of lead in 100 times their quantity of distilled water, and lay into from 4 to 6 ounces of this solution, in a porcelain cup, a few polished rods of zinc as described in the article CUPRUM. The decomposition takes place immediately, and continues as long as the reduction of the acetate of lead is not completed. If this process of reduction is to succeed entirely, the following rules should be observed: 1. The leaden crystals which cluster around the rods of zinc should be frequently detached, in order to prevent the formation of thick laminæ which it would be difficult to pulverize; 2, the liquid which now contains acetate of zinc, should be poured off as soon as the reduction ceases, and a fresh solution of the acetate of lead should be added; 3, as soon as the operation is concluded, the precipitate which is a dark-gray, loose, porous mass, though still cohering in lumps, should be washed with hot, distilled water, avoiding every mechanical pressure lest the soft mass should be pressed into firm balls; 4, as soon as the water which is used for washing, flows off quite clear, the precipitate should be collected in a filter, the liquid should be removed by gently pressing the precipitate between the fingers, after which the metal is to be taken out of the filter, and pressed with the hand between several layers of blotting-paper until the metal ceases to adhere to the paper; finally, we gently rub the metal in a warmed porcelain mortar, in order to effect its perfect desiccation.

Antidotes: Alumin., Bell., Electr., Hyosc., Op., Plat., Stram.

a) PLUMBUM ACETICUM, *Acetas plumbi, Saccharum saturni;* Fr., Plomb acêtaté, Acêtate de plomb, Sucre de saturne; Ger., *Essigsaures Blei, Blei-Zucker;* Eng., Acetate of lead, Sugar of lead.

To obtain this preparation, to which indeed metallic lead is now preferred, take *English acetate of lead*, dissolve it in hot distilled water, set it in a warm place that it may crystallize, then evaporate the remaining fluid one-half, and let it crystallize afresh. The crystals have a sourish-sweet smell, a styptic taste, they effloresce slightly in the air, and carbonic acid decomposes them. In the dry state, acetate of lead should possess the qualities mentioned, it should be perfectly white, and soluble in $1\frac{1}{2}$ parts of water and in alcohol. If mixed with nitrate of lead, it is less soluble, not so white, and detonates when placed on burning coals. It is frequently adulterated with acetate of lime. When not well kept, it is yellowish and less soluble.

The *three* first attenuations should be made by *trituration.*

b) PLUMBUM CARBONICUM, *Magisterium plumbi, Cerussa, Carbonas plumbicus ;* Eng., Carbonate of lead.

We obtain this substance by the decomposition of a diluted solution of the pure acetate of lead with the carbonate of soda. The loose, dazzling-white precipitate is carefully washed, collected in a filter, and dried at a moderate temperature. It is a heavy, though loose, very delicate and white powder, of which we prepare triturations.

12. ANTIMONIUM METALLICUM, *Stibium ;* Fr., Antimoine, Antimoine metallique ; Ger., *Spiessglanz ;* Eng., Antimony, Regulus of antimony.

This metal rarely occurs native, but frequently as an oxide, or sulphuretted oxide, and most generally as a sulphuret. It is obtained in the state of regulus by cast iron, which, by means of heat, combines with the sulphur, and leaves the antimony in a metallic state. It is principally in Hungary, Bohemia, Sweden, England, and Spain, that this metal is procured from the mines, and it is exported in cakes, the surface of which exhibits a species of crystallization frequently compared to the leaf of the fern. Antimony is a metal of a silvery-white, with a slight bluish tint, brilliant, harder than tin and lead, crystallizable, fusible, volatile, combustible, of a perceptible taste and smell, very brittle, and easily pulverized.

The *three* first attenuations must be made by *trituration.*

ANTIMONIUM CRUDUM, *Stibium sulfuratum nigrum, Sulfuretum antimonii;* Fr., Sulfure ou Proto-sulfure d'antimoine, Antimoine cru; Ger., *Schwefel-Spiessglanz;* Eng., Crude antimony, Sulphuret of antimony.

This mineral is very common in France; it is found in compact masses, formed of needle-shaped crystals. It is of a dark bluish-gray colour, less brilliant than metallic antimony, but more fusible; specific gravity 4,133 to 4,516. It is easily pulverized, and gives, when pure, a reddish-brown powder, whilst that of commerce has a blackish colour. It is without taste or smell, is insoluble in water, and not volatile, but in a state of powder it oxidizes partially. Its powder is often adulterated with iron; in this case, by heating and detonating it with 3 parts of nitre, a yellowish residue is obtained. It is also frequently mixed with galena, which is discovered by dissolving the powder in 8 parts of nitric and hydrochloric acid, and by treating the residue, well washed, with hydro-sulphuretted water; if the mixture acquires a yellowish-red colour, the powder is pure; if it becomes black, it is mixed with galena. If crude antimony is mixed with oxide of manganese, we obtain, by heating it with nitre, a greenish mass, and there is no detonation; finally, if adulterated with iron containing arsenic, the nitrate of silver will detect it.

In all cases, to make sure of the purity of this metal, it ought not to be taken in the form of powder, but as it is found, in the crude state, and those pieces having the largest and most brilliant laminæ should be selected. The pieces must be pulverized and ground with water on a hard stone, which, after several repetitions, will give a blackish powder, perfectly pure, without smell or taste, and insoluble either in water or alcohol.

The three first attenuations are made by *trituration.*

Pure sulphuret of antimony may be prepared as follows: Mix 13 parts of pure, finely pulverized antimony with 5 parts of washed flowers of sulphur, introduce the mixture, little by little, into a red-hot crucible, melt it, and, after adding half a part of dry kitchen salt, keep it in a melting condition for half an hour. Take the slowly cooling mass out of the crucible; the part of the metal which has remained on the bottom of the crucible and has not yet been changed to a sulphuret, is to be separated from the rest by striking it with a hammer; the sulphuret is then to be pulverized, and afterwards, by means of water, it is to be reduced upon a hone to a perfectly homogeneous powder, from which we prepare the triturations.

Antidotes: Hep, s., Merc.

TARTARUS EMETICUS S. STIBIATUS, *Antimonium tartaricum, Tartras potassii et antimonii;* Fr., Tartre émétique ou stibié, Tartrate antimonié de potasse, Tartrate de potassium et d'antimoine; Ger., *Spiessglanz-Weinstein, Brech-Weinstein;* Eng., Tartrate of antimony and potassa, Tartarized antimony, Emetic tartar.

To obtain this salt, take equal parts of oxide of antimony, (*Stibium oxydatum griseum,*) and pure tartar, pulverized, digest them together for an hour in a porcelain vessel, with equal parts of distilled water, and when the mass reaches the boiling point, add 5 times its weight of boiling distilled water, filter the solution while hot, and let it crystallize. The first crystallization being completed, decant the fluid, and crystallize afresh, and repeat the operation until the crystals are entirely colourless; then triturate all the crystals obtained, dissolve them in 15 times their weight of cold distilled water, filter the solution, crystallize afresh, pulverize the crystals, and put the powder into a well-stopped bottle.

Emetic tartar of commerce contains iron, copper, or sulphuret of antimony, so that for homœopathic use it is necessary to prepare it ourselves. To make the attenuations, first make a thick paste by triturating 100 grains of sugar of milk with 15 drops of distilled water, add 10 grains of pure emetic tartar, and proceed as usual. The two succeeding attenuations are made by *trituration*, without, however, moistening the sugar of milk.

Antidotes: Puls., Ipec., Asa.

TARTARI ACIDUM, *Acidum tartari* s. *tartaricum;* Fr., Acide tartrique ou tartarique; Ger., *Weinstein-Säure;* Eng., Tartaric acid.

Heretofore this acid has been found only in the vegetable kingdom; combined with potassa, it occurs especially in the juice of the grape; with other acids or in a free state, in the root of the dandelion, in the pine-apple, potato, acid cherries, tamarinds, and green mulberries. It is obtained artificially from tartar. To effect this, take carefully purified sub-carbonate of lime, to which add water, and make it boil, then mix with it pure tartar, pulverized as long as the mass continues to effervesce; this will require about 100 parts of tartar to 23 of sub-carbonate of lime. By this operation, the free tartaric acid drives off the carbonic acid, so that the products which are formed contain tartrate of lime, and a neutral salt, which is soluble tartrate of potassa. In order to obtain the tartaric acid, we begin by adding to this solution hydrochlorate of lime, and continue to do so as long as a precipitate of tartrate of lime forms. Lastly, we digest together the two precipitates with diluted sulphuric acid, by which process the tartaric acid separates and crystallizes, when evaporation takes place. This salt, when entirely pure, is in crystals, very acid and very soluble, white, transparent, inodorous, and perfectly dry. If it attracts moisture from the air, it shows that it contains malic, sulphuric, or nitric acids. The presence of sulphuric acid is detected by nitrate of barytes; that of nitric acid by the peculiar smell when tartaric acid containing it is heated; that of metallic salts, by hydro-sulphuric and gallic acids ; that of calcareous salts by the insolubility of these salts in alcohol.

All the attenuations are made with alcohol.

13. Bismuthum metallicum, *Marcasita ;* Fr., Bismuth metallique ; Ger., *Wismuth-Metall;* Eng., Metallic bismuth.

This metal occurs in nature in different states, either native or as an oxide, or combined with sulphur ; it is found in Bohemia, Saxony, France, in Normandy, &c. It is obtained in the large way from its ores, by means of heat ; but the metal thus procured usually contains arsenic, iron, &c. To separate it from these, dissolve it in nitric acid, and precipitate it by means of water. Then dry the precipitate, add *black flux*, and reduce it in a crucible at a low heat. The metal is found at the bottom of the crucible, and may easily be freed from the saline mass which covers it. It is a yellowish-white lamellar brittle metal, but little affected in the air, very fusible, burning with a bluish flame, and easily pulverized.

The *three* first attenuations are to be prepared by *trituration.*

Bismuthum, *Bismuthum nitricum precipitatum, Bismuthi magisterium ;* Fr., Bismuth, Magistère de bismuth, Sous-nitrate de bismuth, Blanc de fard, Blanc d'Espagne ; Ger., *Wismuth, Salpetersaures Wismuth;* Eng., Sub-nitrate of bismuth. White oxyde of bismuth, Magistery of bismuth, Pearl White.

To obtain this salt, dissolve metallic bismuth in a sufficient quantity of nitric acid, pour the solution, drop by drop, into from 50 to 100 times its volume of pure water, taking care to stir it well, and at the end of 2 hours decant carefully the liquid ; add to this last a quantity of water equal to the preceding, but containing some drops of sub-carbonate of potassa, and stir it up well with the salt. That which finally subsides is, after some hours, separated from the supernatant fluid, and thoroughly dried on blotting-paper. The small quantity of sub-carbonate of potassa added to the solution the second time, is intended to free it from any portions of arsenic or antimony it might contain, and which, unless separated by the potassa, would remain combined with the precipitate. Pure sub-nitrate of bismuth is in the form of powder, of a brilliant-white, composed of small nacreous particles, considerably heavy, inodorous, and almost insipid, dissolving in water with great difficulty.

The *three* first attenuations are made by *trituration.*

Gruner prepares this substance in the following manner: Into 4 parts of concentrated nitric acid, which is to be slightly warmed in a capacious glass flask, introduce, little by little, in small quantities, one part of coarsely pulverized metallic bismuth, stopping as soon as a gray precipitate falls down, or as soon as the decomposition of the nitric acid ceases. Decant the liquid, evaporate it in a porcelain cup to $\frac{1}{3}$ of its volume, and set it aside to crystallize. Wash these crystals of the nitrate of bismuth with a little concentrated muriatic acid, then triturate them with 4 times their quantity of hot, distilled water, and then pour the mass, stirring it all the time into a large glass vessel containing 20 times the quantity of the salt. The precipitate is repeatedly washed with pure distilled water until this flows off tasteless. It should then be collected on a filter, drained, and pressed between layers of blotting-paper, and put up, as well as the triturations, in dark vials.

14. Zincum metallicum ; Fr., Zinc ; Ger., *Zink ;* Eng., Zinc.

This metal occurs abundantly in nature, but always in combination either with sulphur, as in *blende* or *pseudo-galena*, with oxygen as in tutty, or with oxygen and silex as in calamine, &c. It is obtained in the large way from calamine, as in France, or from blende, as in England. It is a metal of a bluish-white, very brilliant, of a lamellar fracture, tenacious, difficult to file, but very ductile, brittle, and pulverizable at a temperature of 205° R., and fusible at 360°. When rubbed between the fingers, it communicates to them a peculiar smell and taste ; exposed to the air, it is oxidized and coated with a thin grayish pellicle.

Two kinds of this metal are met with in commerce, viz. : 1st, That from the *East Indies, or China ;* and 2d, That from *Goslar*. These two kinds always contain more or less lead, and frequently in addition, tin, iron, or cadmium. To detect these adulterations, dissolve one part of zinc in 4 parts of pure nitric acid ; if the solution is clear, there is no tin, for its presence would be shown by a white precipitate ; on neutralizing the solution by sub-carbonate of soda, there will be a precipitate of oxide of iron, if it contains iron ; or, on adding hydrocyanite of iron, the iron in the solution will give a white precipitate. Finally, if lead be present, the sulphate of potassa added to the solution will throw down a white precipitate.

To prepare this metal for homœopathic use, rub under water a piece of pure metallic zinc on a fine hone, dry the gray powder thus obtained, and make the *three* first attenuations by *trituration.*

Gruner proposes the following mode of obtaining pure zinc :

Melt a piece of the zinc of commerce with an addition of sulphur, stirring the liquid mass with a wooden spatula as long as scoriæ form on the surface. If the sulphur should burn away on the surface without forming scoriæ, the mass is allowed to cool, and the scoriæ are removed from the pure metal.

Melt this pure metal a second time, and pour the liquid into a heated, polished, iron mortar, after which it can be pulverized; the coarser pieces are separated, and the same proceeding is instituted until a sufficient portion of the powder of zinc is obtained. The powder is then sifted through linen, and used for the triturations.

Antidotes: Camph., Ign., Hep. s.

a) ZINCUM OXYDATUM; *Lana philosophica, Flores zinci, Calx zinci, Zincum album;* Eng., Oxide of zinc.

The best mode of preparing this oxide is as follows: Prepare a solution of the best metallic zinc in dilute sulphuric acid, until completely neutralized. Decant the clear liquid off the undissolved residuum into a wide, open vessel, and introduce into it for some weeks, stripes of rolled zinc, by which means the heterogeneous metals which are mixed up with the solution, are precipitated. Filter the solution at the lapse of this period, and let a current of sulphuretted hydrogen pass through it; if a precipitate should fall down, we filter again, and add a decoction of gall-apple, in order to separate the iron contained in the solution; add the white of an egg, then heat the black liquid until it boils, filter it, and set it aside to crystallize.

Dissolve the crystals in 10 times their quantity of hot, distilled water, and precipitate by adding a solution of pure carbonate of soda. Wash the precipitate, which is loose and of a dazzling white, well; collect it in a filter, dry it, triturate it, and heat it in a porcelain crucible over a moderate fire until the carbonic acid is all removed.

The sulphur-yellow colour which makes its appearance during the heating, scarcely a trace remains after cooling. This oxide of zinc is a loose, light, inodorous, insipid powder, of which we prepare triturations.

b) ZINCUM SULFURICUM, *Sulfas zinci, Vitriolum album s. zinci;* Fr., Sulfate de zinc, Vitriol blanc ou de zinc; Ger., *Schwefelsaures Zink;* Eng., Sulphate of zinc, White vitriol.

This salt, known under the name of *white vitriol,* &c., is manufactured on a large scale near Goslar, in the Hartz, where it also occurs native. It comes to us in masses, having the form of sugar-loaves, or in small crystals like those of Seidlitz salt, with which we should be careful not to confound it. The sulphate of zinc of commerce is seldom pure; it generally contains sulphate of iron, or sulphate of copper. It is freed from these foreign substances by dissolving and crystallizing it afresh, or by precipitating the other metals by means of a rod of zinc plunged into the solution. This salt is crystalline, white, unalterable in the air, very soluble in water, fusible in the fire in its water of crystallization, inodorous, and of a disagreeable taste.

The *three* first attenuations are made by *trituration.*

B) METALS WHICH, BY OXYDATION, FORM ACIDS.

15. ARSENICUM ALBUM, *Acidum arseniosum;* Fr., Arsenic Oxyde blanc d'arsenic, Acide arsenieux; Ger, *Arsenik, Arsenige Säure;* Eng., Arsenious acid, White arsenic.

The substance used in homœopathy under the name of *arsenic,* is *arsenious acid.* This acid is found in nature, but that of commerce, improperly called *arsenic*, is furnished by the ores of arsenical cobalt, from which it is extracted by sublimation. It is found in compact masses, heavy, white or yellowish, usually opaque at the surface, transparent and vitreous internally; exposed to the atmosphere, this opacity increases, and the arsenic at the same time becomes lighter and more soluble; its taste is sweetish, very slight, almost insipid. It is seldom adulterated; still it has been found mixed with chalk. In order to prepare it for homœopathic use, we introduce, agreeably to the old prescriptions of Hahnemann, 1 grain into a somewhat long vial with a narrow neck, with 1 drachm of distilled water; this vial is to be exposed to the flame of a spirit lamp, until the arsenic is dissolved, taking care to add water as it evaporates. An equal quantity of alcohol is then to be added, that is to say, 1 drachm, and the whole to be well mixed; that being done, 1 drop of the preparation is to be added to 1000 drops of a mixture of equal parts of water and alcohol (of 80° to 90°); of this fluid, drop 10 drops into a bottle containing 90 drops of alcohol; this bottle, containing the *second* attenuation, is labelled No. 2; all the succeeding attenuations are made in the usual manner. Of late, Hahnemann has substituted for this process that which is used for all minerals, and agreeably to which it is sufficient to triturate 10 grains of white arsenic with 90 grains of sugar of milk, making thus *three triturations* in succession, and the remaining attenuations by means of alcohol.

Dr. Knorre suggests the following method of pulverizing arsenic: Triturate one grain of arsenic in a mortar, adding a teaspoonful of the strongest alcohol; this proceeding can be accomplished in a few minutes; then mix with this arsenic the fourth part of the sugar of milk which is to be used, pulverizing it previously very finely; triturate the whole together and mix very carefully; this being done, add little by little the rest of the sugar of milk. This proceeding is according to experience; for every painter knows, that, by means of some liquid body, water, for instance, he can speedily change to the finest powder dyes, such as ceruse, cinnabar, chrome-yellow, &c., which, of themselves, are insoluble in water.

Antidotes: Sesquioxide of iron, Ipec., Nux v.

a) Arsenicum citrinum, *Sulfuretum arsenici flavum, Aurum pigmentum;* Fr., Arsenic jaune-citron, Sulfure d'arsenic jaune, Orpiment; Ger., *Rauschgelb, Gelbes Schwefel-Arsen., Operment;* Eng., Orpiment, King's-yellow.

This metallic substance occurs native in Hungary, Servia, and Wallachia, and the Levant. It is tender, slightly flexible, composed of translucid, brilliant laminæ, which sometimes have a bright polish, of a lemon-yellow, verging to green, diffusing on the fire a suffocating smell of garlic and sulphur. It is also obtained by fusing together 61 parts of metallic arsenic and 39 parts of sulphur, and submitting the whole to sublimation; or by passing a current of hydro-sulphuric acid into a watery solution of arsenious acid, or of an arseniated alkali mixed with hydrochloric or any other acid. The sulphuret of arsenic thus prepared takes the name of *false orpiment*, or of *sulphuric oxide of arsenic.*

b) Arsenicum rubrum, *Sulfuretum arsenici rubrum, Rubinus arsenicalis;* Fr., Arsenic rouge, Sulfure d'arsenic rouge, Réalgar; Ger., *Rother Arsenic, Rothes Schwefel-Arsen, Realgar;* Eng., Realgar.

This mineral is found in the craters of many volcanos, where it has been produced by sublimation, particularly at the Solfatara, near Naples, and at Guadaloupe, where it is called red sulphur (soufre rouge). It is seen on the St. Gotthard combined with *dolomite*, or quartz, in many mines, such as those of Nagyag, in Transylvania; it occurs in transparent crystals of different forms, of a scarlet-red. It is obtained artificially by subliming a mixture of native arsenic and sulphurous pyrites; or by fusing together metallic arsenic with orpiment. The product of this operation bears the name of artificial realgar, or that of *artificial red sulphuret of arsenic*. It is of a brown-red, in solid masses, concrete, amorphous, and gives, when triturated, an orange-yellow powder.

c) Arsenicum metallicum, *Arsenicum;* Fr., Arsenic métallique; Ger., *Arsen;* Eng., Metallic arsenic.

This metal occurs native in a lamellar form, under the name of *cobalt ore*, or *fly powder*, or combined with oxygen, as arsenious acid, in the form of acicular crystals, or in the form of sand, and united with other metals. It is obtained by sublimation from arsenical cobalt, and is in lamellar pieces, brittle, of a brilliant steel-gray, very alterable in the air, very volatile, combustible, insipid, and inodorous, but diffusing an alliaceous smell when dried on burning coals. It is easily pulverized; in consequence, however, of its great inflammability, it is necessary to pulverize a very small quantity at a time.

The *three* first attenuations are effected by *trituration.*

16. Molybdænum; Fr., Molybdène; Ger., *Wasserblei;* Eng., Molybdenum.

This metal is found in nature only in the state of a sulphuret. It is of a bluish-gray, hard, brittle, very refractory, almost insoluble, and acidifiable. It is obtained by the reduction of one of its oxides, or by that of molybdic acid with hydrogen. Nitric acid and aqua regia dissolve it, sulphuric acid converts it into a brown mass.

For homœopathic use, the metal in powder must be taken, and the *three* first attenuations are to be made by *trituration.*

MOLYBDÆNI ACIDUM, *Acidum molybdicum;* Fr., Acide molybdique; Ger., *Molybdæn-Säure;* Eng., Molybdic acid.

To obtain this acid, calcine sulphuret of molybdenum at a red heat in an open vessel, and extract the acid by means of caustic ammonia. To free it from this combination, precipitate it by nitric or acetic acid, or expose the compound to a high heat, and wash the acid obtained in water, dry and melt it in a glass vessel or a platina crucible. This is a white, porous, light mass, fusible, volatile, becoming yellow at a high temperature, of a metallic taste, soluble in 570 parts of cold water.

The *three* first attenuations should be made by *trituration.*

SPRING- AND WELL-WATER.

Good water has the following qualities: 1. It is perfectly transparent, limpid, without colour, smell, or taste, and is of a pearly brilliancy when poured out; 2, it does not deposit a sediment; 3, it readily dissolves soap; 4, it is not rendered turbid by the addition of a solution of alkali or silver; it is easily heated over a fire, and cools again as easily. Cold water is now employed for the following objects:

a) As a beverage in all acute and chronic diseases; it is the most natural and simple beverage, but should never be boiled when it is to be used as such, inasmuch as it loses its peculiar properties, and all the volatile constituents escape.

b) As an enema, sometimes with an addition of oil, &c.

c) As an injection; by means of a syringe, it is introduced into certain cavities or canals of the human body.

d) For purposes of washing and general cleanliness, for which cold water cannot be sufficiently recommended.

e) For frictions with flannel, which are particularly useful in the case of nervous and hysteric females.

f) Fomentations, in the case of wounds, contusions, sprains, fractures; to prevent secondary hæmorrhage after injuries or surgical operations; it may be applied to bedsores, in which case a little alcohol should be mixed with it. We distinguish cooling and warming fomentations. The former require to be changed, the latter are left undisturbed, guarded from the access of air.

g) For the purpose of wrapping up the whole body in a wet sheet.

h) For affusions and instillations.

i) As a bath; we have whole baths, half baths, foot- and hand-baths, sitz-baths, plunge-baths, drop-baths, douches, shower-baths, submersions of the whole body or parts of the body.

We distinguish cold, cool, tepid, warm, hot baths.

A cold bath strengthens the body, it stimulates the circulation, promotes the secretions, &c., provided the patient is not too weak; warm and hot baths are, generally speaking, weakening.

Cold water is, as a general rule, preferable to warm, provided it is properly used; if water is to do much good, it should be used all over, externally and internally.

Water can be used as an emetic. Drink first cold, then tepid water, after which the vomiting will take place without difficulty. Water is the best emetic; 1, it is mild, and does not irritate the digestive apparatus; 2, it is cooling, and diminishes the heat which generally prevails in the digestive organs when deranged; 3, it is dissolving; it dissolves the mucus and other substances in the stomach; 4, it is heavy, the dissolved substances float on the water, and can easily be carried off when the stomach contracts; 5, it can be used in large quantities, for it facilitates the vomiting when the stomach is not empty.

MINERAL WATERS.

Mineral waters are either cold, tepid, or hot; in the latter case they are termed *thermæ* (*aquæ thermales.*)

A chemical analysis of these mineral waters is not sufficient to acquaint us with their medicinal properties. These have to be discovered by experimentation upon the living organism. The moment a mineral water is decomposed by chemical action, its essential properties are destroyed, and it ceases to be what nature made it.

Mineral waters, provided their action on the living organism is known, are unquestionably the property of homœopathy. Although composed of a variety of elements, yet they constitute an essential, living unit, the elements of which constantly obey the same law of combination, and, in their combined form, constantly affect the organism in the same unchangeable manner. All compound bodies to which the foregoing remarks apply, may be used as remedial agents by homœopathic physicians, provided they are possessed of medicinal powers.

IMPONDERABILIA.

Electricity.

The following are the different modes of employing electricity:

1. *The electric bath* (balneum electricum); the patient, who is standing or sitting upon the insulating bench, is connected with the electric machine by means of a chain, and the electric fluid is imparted to him in different degrees. If the patient should not be able to leave his bed, this would have to be insulated by providing it with glass feet.

2. *Sparks* (scintillæ); if the parts from which they

are drawn, or into which they are caused to strike, should be very sensitive, we employ, in order to moderate the unpleasant sensation, a pointed conductor, which is enclosed in a glass or ivory tube.

3. *Electric aura* (aura electrica); the electric fluid is communicated by means of points, especially when the organs are very sensitive, The finer the points, the milder the effect; the blunter the points, the stronger the effect.

4. *The Leyden battery*; this mode of communicating electricity, requires a good deal of caution; it is advisible to impart the shock by means of an imperfect conductor, such as a moist hemp-string.

5. *Friction by means of flannel;* one side of the globe of an exciter is covered with flannel, and the affected part is passed near it, either to receive or communicate electricity.

Galvanism.

For medicinal purposes we use a pile composed of from 60 to 100 double-plates soldered together with tin, of from 2 to 3 inches in diameter, and $\frac{1}{6}$ of an inch in thickness; the plates are generally composed of copper and zinc. The pile is constructed upon a frame resting upon glass feet. First, we place upon the frame a plate of zinc, provided with a hole to which we fasten a brass, copper, or iron wire; upon the zinc-plate we put a piece of cloth well moistened with salt-water; then follows a double-plate with the copper below, &c. The last part of the pile is a simple copper-plate with a hook and hole, to which the other wire is attached.

Galvanism is administered in two principal modes:

1. *A continuous galvanic current*, which takes place when the pile remains closed; and

2. *The interrupted action of the pile, or shock*, which takes place when the contact of the affected parts

with the pile is momentarily interrupted and again restored.

We distinguish the following different kinds of galvanic action:

a) *The galvanic bath;* either the affected part is put in a vessel with salt-water, into which one of the poles is introduced and the other pole applied to the affected part not in the liquid; or, both arms or feet are put in two different vessels with salt-water, and a pole is introduced into each.

b) *The firm armatures or casings,* consisting of metallic plates or rods of different sizes, corresponding exactly to the shape of the affected part; they are fastened by means of bandages, and are provided with a small hook to fasten the poles to. For affections of the eyes, we use concave plates; for affections of the ears, we employ rods ending in a little ball.

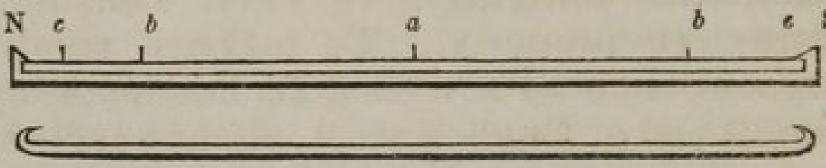
c) *The metallic brush;* the galvanism is communicated to the affected part by means of a plate provided with points.

d) *The moist sponge;* it is fastened to the point of a metallic conductor, and the galvanic current is received through it.

Magnetism.

MAGNES ARTIFICIALIS, *Magnetismus mineralis;* Fr., Aimant artificiel, Magnetisme mineral; Ger., *Künstlicher Magnet, Mineralischer Magnetismus;* Eng., Artificial magnet, Mineral magnetism.

Mineral magnetism is the mass of phenomena which is produced by the magnetic condition, either natural or artificial, of certain metals. We call *magnetic condition,* the faculty, which these metals acquire, naturally or artificially, to attract iron, steel, nickel, and cobalt, and we give the name of *natural magnet* to mineral iron, which especially is in this condition. What is understood by *artificial* magnet, is any piece of metal which acquires the faculty of attracting iron, and has its poles directed towards those of the earth. All bodies, without distinction of the property they possess of conducting electricity and heat, are capable of propagating afar the magnetic polarization; but iron enjoys this peculiarity in a higher degree than any other. Any piece of iron may be rendered as magnetic as a natural magnet, and it is of this metal, or rather of steel, that we generally make use to fabricate *artificial magnets.* The best steel for this purpose is the *English;* next, the *German.* To make these magnets, friction is employed, which consists in rubbing with a sufficiently large magnet, a piece of steel, placed in the direction of the axis of the earth, until it has acquired magnetic properties. But if we have not a magnet to render the steel magnetic, we can still bestow that property on it, by fixing transversely bars of steel bent suitably to form horse-shoe magnets, around the electrical conductors which serve for lightning rods on large edifices. The form given to large artificial magnets, which are used to prepare other magnets, is usually that of a horse-shoe, and often many magnets are united so as to form only one. In every magnet, the magnetic virtue shows itself in preference at the two extremities, called the magnetic *poles.* When we suspend a magnetic bar of steel by a thread, we find one of those poles turn towards the North, the other South, thus distinguished into *North* and *South pole.* In approaching two magnets, one to the other, we find the poles of the same name repulse each other, whilst those of different names attract each other; and so it is, that when we magnetize a bar of steel by friction, the end that has been rubbed with the North pole, will represent the South pole, and vice versâ. When the magnet remains a long time inactive, it easily loses its power; hence there is generally given to it a casing (armature), which consists in a bar of iron, attached to its two poles, and by which is suspended a weight proportional to the strength of the magnet, thus obliging it to exert constantly its whole attractive property. To prepare small artificial magnets, such as are used in homœopathy, we take a small rod of English steel, about 8 inches long, and $1\frac{1}{2}$ or 2 broad, and 6 to 8 lines in thickness; this rod should be tempered, until it becomes elastic and not frangible like glass. In order afterwards to communicate, the most promptly and the most easily possible, to this rod, the greatest magnetic force it is susceptible of acquiring, we must take especial care not to snatch away violently the pole of the magnet with which we have just rubbed it, because, by such a procedure, we should take away, each time, a great part of the force which the rod has received. Hence it is proper to cause the magnet to slip gently on a very thin plate of iron, when it has arrived at the end of the rod, so that its passage from the steel to the plate may be easy and almost imperceptible. But it is still necessary that the plate which covers the two ends of the rod, be continued under it, in order to keep up constantly the magnetic current between the two poles. We must then take a small band of tin plate, of the same length as the steel rod we wish to magnetize, and a few lines longer; we place the steel rod on the plate, and raise the two ends of it, in the form of a hook, above the two extremities of the rod, so that they do not cover it but by about half a line; each of these ends being thus turned up and marked, the one with the letter N (north), the other with the letter S (south), we place horizontally the plate of iron, the extremity N turned towards the north, until the magnetic property of the rod is obtained. As to the rod of steel, we mark it exactly in its middle with chalk or ink; each of these halves is then marked in two places, the first of which is placed at $\frac{2}{3}$ of each half, in counting from the middle towards the extremity, and the second at $\frac{2}{3}$, in counting from the first towards the extremity, as exhibited on the following page.



The rod thus divided and placed in the plate, as related, we communicate to it the magnetic virtues by means of an artificial horse-shoe magnet, strong enough to attract 10 or 12 pounds. To effect this, we place perpendicularly the *south* pole on the middle of the rod, at the point *a*, and we slide it over all the *north* half to the extremity N, whence we bring it back, in describing a considerable arch in the air, to the point *b* on the same side; there we place it anew perpendicularly, and slide it, as in the first manœuvre, to the extremity N; we bring it back, in a similar manner, by describing an arch in the air to the point *c*, on the same side, whence we slide it the last time to the extremity N. When that is accomplished, we take the steel rod out of its plate, which rests immoveable in the same place, and mark with the letter N the extremity of the half which we have just rendered magnetic by the *south* pole of the magnet; it has become the *north* pole. Returning now the rod into its plate, so that its extremity N is under the crotchet S, and its other extremity, which has not yet been magnetized, is under the crotchet N of the plate. The magnetization of this extremity is then made equally in the northern direction of the heavens; only this time it is with the *north* pole of the magnet that we operate, and that we place it successively, and always vertically, on the points *a*, *b*, and *c*, in gliding it each time, beyond the crotchet N, and bringing it back each time, by describing an arch in the air; in this way we produce the *south* pole, which we mark S. By this process, indicated by *Hahnemann*, the rod has acquired as much power as can be communicated to it by six passes. To preserve this power, we surround it with strong thread in screw form, or else we put in a case two magnetic rods of the same form, placed in such a manner that they mutually touch by their opposite poles, and so encased that they cannot move. For a dose, it is sufficient that the patient touch the suitable pole with the end of the finger, one or two minutes, according to circumstances, and for that it is not at all necessary to take the magnet out of its case.

ZOOMAGNETISMUS, *Magnetismus animalis, Mesmerismus;* Fr., Zoomagnetisme, Magnetisme animale, Mesmerisme ; Ger., *Thierischer Magnetismus, Mesmerismus ;* Eng., Animal magnetism, Mesmerism.

Animal magnetism is the aggregate of phenomena produced by the influence of an invisible action of one individual on another, and which consists in placing the nervous system in a condition which, in itself, is not morbid, but on the contrary, exalts the vital forces, and can thus contribute to the cure of diseases. The action of this agent has as yet been principally observed on the human subject, although it is proved that the animals also, and even individuals of the vegetable kingdom, experience its effects. The zoo-magnetic influence of one individual upon another is known under the name of *magnetic manipulation*, because it is generally performed by the imposition of hands, or by easy and slow passes, made with the hands, from the head to the body and extremities, in the course of the nerves. *Mesmer* was the first who called the attention to this agent, which seems to have been known to the ancients; it was lost, however, and revived about 30 years ago, and since has been cultivated at times with much zeal; but so long as superstition was mingled with it, and charlatans took it up, it was abandoned anew, the good with the bad. We generally begin the magnetic manipulations by putting ourselves in communication with the patient, either by the contact of hands, or by the imposition of the hands on the vertex, or simply by inspection, or else by slow passes, directed from the vertex to the knees of the patient, in such a way, that the palm of the hand is directed towards the patient, in the descending pass, and the back of the hand in the ascending movement which succeeds, and to accomplish this last movement, the operator should remove his hands to a distance from the patient whom he is magnetizing. The manipulations may afterwards undergo many modifications, according whether we make the passes with the thumb only, or with the fingers closed or separated, &c. &c.

The intention to do his patient good, should predominate in the mind of the operator, who should himself enjoy the best health possible, so that, instead of appeasing the sufferings of the patient, he may not communicate his own. The hands of the operator should have the natural heat of the body; cold hands act but little, or even not at all. As to the manipulation itself, it should take place in a retired place, calm, tranquil, and not exposed to the noise of every comer; he should, moreover, be endowed with a vital force superior to that of the patient; for otherwise, instead of imparting it to him, he will subtract it; hence the reason why young persons are more appropriate than the aged, and debilitated persons should never undertake to magnetize any one. As to sex, a woman can as well magnetize a man, as a man can a woman, provided she has a stronger vital force than the man. The time most favourable, is the morning, or after mid-day; the most unfavourable is the evening, because at that part of the day patients are generally more excited and more irritable than during any other part. The imposition of hands and ventilation are the weakest degrees in which mesmerism can be applied; after these comes the application of flannel magnetized, which the patient puts on the pit of the stomach, if to combat wakefulness, or on the suffering part, if to calm pain, &c. Water can also be magnetized, and then drank by the patient; and it can even be sent to a distance, provided it be well secured in a bottle, and wrapped in magnetized cotton. All these, however, can only be accomplished by perfectly healthy physicians; for, otherwise, as above related, we should run the risk of increasing instead of appeasing the pains and ailments of the patient.

We have extracted the foregoing remarks on the use of the imponderable agents in the treatment of disease, from Buchner's Pharmacopœia, except the last paragraph on clairvoyance, which is from Jahr's.

We coincide with Jahr and Hahnemann in opinion, that clairvoyance should not be resorted to either to obtain a correct diagnosis of the disease, or to find out the proper remedy for it. We are free to admit, that we believe not only in the possibility, but also in the actual existence of a state of clairvoyance, with this modification, however, that in all cases where such a state exists, it exists as a natural gift or mode of existence, which it is beyond the power of man to create. This view is founded upon opinions which we do not deem it necessary to explain here, but which we, for the present, shall continue to adhere to, for this reason, that we have never witnessed a satisfactory state of artificially excited clairvoyance, although we have been present at a number of exhibitions of clairvoyants, who, in every instance, made a most bungling work of the examination which they were requested to institute into a case. Moreover, a state of clairvoyance is not necessarily a state of truth. A clairvoyant may be in a state of falsehood just as well as any person in a natural state. If a clairvoyant naturally believes in allœopathic compounds, he will prescribe them in the clairvoyant state. Clairvoyance is an exaltation of the original conditions of the natural reason; if this reason be false, how can a state of clairvoyance be true? It will be so much the more false. The revelations of a clairvoyant amount to nothing, except in so far as they are approved of by our reason. Reason, in the end, is the tribunal before which the great and vital questions of diagnosis and treatment have to be decided.

Animal magnetism, applied in moderation, is made use of in homœopathy, but is never employed to put the patient in the state called *somnambulism*, nor for rendering them clairvoyant, so as to indicate themselves the medicines that should be given them. Those are errors which homœopathy rejects, as they merit; and if here and there homœopaths may be found who use animal magnetism in the sense just mentioned, they do so after their own views and opinions, and not according to the principles of our doctrine, which is equally removed from *somnambulism* and the teachings by the *clairvoyant*, as it is from the therapeutic principles of the old school. The only advantage which homœopathy counsels us to draw from the therapeutic agent which constitutes magnetism, is the faculty which it possesses of strengthening the vital forces, or else to calm the patient, to appease the over-excitement of the nervous system, and often thus to arrest the most severe pains, when wisely and suitably administered. (See *Hahnemann's* Organon, on this article.)

APPENDIX.

The first notice of a substance, afterwards called Glonoine, was given by Sobrero, of Paris, in Comptes Rendus, February, 1847. Dr. *C. Hering* had a small quantity of it prepared by a Philadelphia chemist, in December, 1847. In 1848, Dr. *A. Zumbrock*, of Philadelphia, found, after many experiments, a better and easier mode of preparing it than that given by *Sobrero;* viz.: Mix 2 volumes of sulphuric acid of 1.83 specific gravity, and 1 volume of nitric acid of 1.43 specific gravity, in a large vessel; put this vessel in a freezing mixture; after having become perfectly cold, pour into it 2 volumes of Glycerine,* by little and little, constantly stirring it, and avoiding carefully all elevation of temperature. The whitish, honey-like mixture pour into a large quantity of cold water, when the new substance will subside to the

* Glycerine, or Scheele's Sweet, is disengaged when oils and fats are acted on by a solution of caustic alkali or oxide of lead, the latter uniting with the fatty acid, forming soap when alkali has been taken, and lead-plaster when oxide of lead. Glycerine from the manufacture of lead-plaster, is now sold in the drug-stores; it contains, however, a large quantity of lead, which is to be precipitated by sulphuretted hydrogen, and it is then evaporated to the consistence of syrup.

bottom, it being heavier than water. Wash it well with water, so that no trace of acid remains; put it in a wide glass tube, the bottom of which having been drawn out to a point with a small opening; let it stand, the closed small opening downwards, until it has become perfectly clear, some water and a white substance swimming on top of it; then open the small orifice, and let the clear fluid carefully run into a glass-bottle, which is to be closed by a glass stopper. *Sobrero* got rid of the water by dissolving the substance in alcohol and ether, and evaporating over sulphuric acid by means of an air-pump; a costly and tedious way.

It was named by Dr. *C Hering*, "Glonoine," from Gl o, for Oxyd of Glycyl, that is, Glycerine; n o for nitric acid, and the termination ine.

Dr. *Zumbrock* found the specific gravity to be 1.557 at 70° F., soluble in 6,212 parts of alcohol and 780 parts of water.

Glonoine explodes like gun-cotton, with a bright blue flame, leaving red fumes of nitric acid.

Parallele:

Glycerine.	*Glonoïne.*
Colourless, somewhat yellow;	slighly yellow.
Not crystallizing;	the same.
Thick, like syrup;	like olive-oil.
Of a sweet taste;	pungent and aromatic.
No odour;	an aromatic odour.
Solveable in water and alcohol in all proportions;	solveable in 780 parts of water and in 6½ of alcohol.
Not soluble in ether;	soluble in ether.

Acidum benzoicum; Ger., *Benzoe-Blumen;* Eng., Benzoic acid.

This acid should be procured from the gum benzoin. It is obtained either by sublimation or by dissolving the gum in alkaline water, then decomposing the benzoates thus formed, by the addition of an acid, and afterwards purifying the benzoic acid thus precipitated, by washing it with cold water, which dissolves but $\frac{1}{400}$ of its weight of the acid, whilst boiling water dissolves $\frac{1}{20}$. The process of obtaining the benzoic acid by sublimation, is directed by the United States and London Pharmacopœias, and the acid thus procured, is, for various reasons, that which is to be preferred for medicinal use. (*Transactions of the Amer. Institute of Homœopathy.*)

Acidum fluoricum; Ger., *Fluss-spath-Säure;* Eng., Fluoric acid.

This acid is prepared by acting on the mineral called fluor spar, carefully separated from siliceous earth, and reduced to fine powder, with twice its weight of concentrated sulphuric acid. (*Amer. Inst. of Homœop.*)

Acidum oxalicum; Ger., *Kleesäure;* Eng., Oxalic acid.

The excess of acid in the binoxalate of potassa, is neutralized by the carbonate of potassa, and the neutral oxalate is decomposed by the acetate of lead. In consequence of a double decomposition, a precipitate of an oxalate of lead is obtained. This is to be well washed and dried, and decomposed by means of one-third of its weight of strong sulphuric acid, previously diluted with ten times of its weight of water. An insoluble sulphate of lead is formed, and the oxalic acid being liberated, may be made to crystallize by evaporation. The mother waters, by fresh evaporation, furnish fresh portions of crystals, until quite exhausted. By this process, a very pure acid may be obtained.

Its purity may readily be tested by dissolving it in a sufficient quantity of water, adding carbonate of lime cautiously until effervescence ceases, filtering, drying the precipitated oxalate of lime, and observing, that, for every 100 grains of oxalic acid, if pure, there should be a product of about 205 grains of oxalate. As, however, in operating on a small quantity, a slight difference of weight, which might be produced by the presence of tartrate of lime, along with the oxalate in the precipitate, might not be observed, the purity of the acid may be still more satisfactorily ascertained by digesting the supposed oxalate of lime in a solution of tartaric acid, and again drying it. Should any tartrate have been present, it will have been taken up by the acid solution, which will be indicated by the loss of weight in the precipitate. (*Amer. Inst. of Homœopathy.*)

Elaterium, *Momordica elaterium;* Eng., Wild or squirting cucumber; Fr., Concombre sauvage; Ger., *Eselsgurken.—Cucurbitaceæ.*

The elaterium of the shops is sometimes found to be very inferior, if not entirely inert. The active principle of the momordica elaterium resides more particularly in the juice, which is lodged in the centre of the fruit (around the seeds), and which spontaneously subsides from it. (*Amer. Inst. of Homœop.*)

Eupatorium perfoliatum; Ger., *Durchwachsener Wasserdost;* Eng., Bone-set, Thorough-wort, Cross-wort, Ague-weed.—*Corymbiferæ.*

Leaves connate-perfoliate, broadest at the base, oblong serrate, acuminate, rugose, rough, narrow above, tomentose beneath, decussate; the 2 or 3 upper pairs of leaves are sessile; under surface paler than the upper; stem villous, erect, round, from 2 to 4 feet high, and divided towards the top into decussating branches, of a grayish-green colour, but often purplish towards the base. Flowers terminal, white, in fastigiate corymbs on short, hairy peduncles; florets 12 or 14 in number. Anthers deep-blue or black. Seeds black, pappus pilose. Root perennial, grows nearly horizontal. Blooms from the latter end of July to the beginning of November, and grows throughout North America, in meadows and other low grounds, along the course of small streams, &c., generally in small patches, but occasionally covering an acre, or more, of ground.

We prepare an alcoholic tincture from the leaves and flowers of the plant. (*Amer. Institute of Homœopathy.*)

Guaco; Ger., *Guaco-Pflanze, giftwidrige Mekanie;—Compositæ.*

This plant was recommended for Asiatic cholera. Stems long, rounded, contorted, furrowed, of a greenish-gray, scintillating-shining wood, of the thickness of about 2 lines. Leaves sparse, petioled, oval, slightly indented, hairy on the under side; flowers in panicles, on the sides of the younger branches.

We prepare a tincture from the upper and feebler portions of the stems, from the leaves and flowers.

Hæmatoxylon, *Lignum Campechianum;* Ger., *Blauholz, Campechenholz.—Leguminosæ.*

This wood comes to us from Mexico, either in large blocks of a reddish-yellow colour, and a bloody-red within, or in thin chips of some inches long and a few lines thick. It is pretty heavy, dense, has a feeble violet odour, a sweetish, astringent, and afterwards bitterish taste, tinging the saliva violet-red.

We prepare a tincture, according to Class 1st, of a brown-yellow colour.

KALMIA LATIFOLIA; Eng., Mountain-laurel, ivy-bush.—*Rhododendra.*

An evergreen shrub, from 3 to 12 feet high, and grows on shaded rocky hills. Leaves petioled, inserted on the sides and extremities of the branches, scattered, in threes; oval, acute, entire, coriaceous, smooth on both sides, under side the palest; corymbs terminal, siscid and pubescent, simple or compound, with opposite branches, and made up of slender peduncles, supported at base by ovate, acuminate bractes. Flowers rose-red, sometimes white. Flowers in the latter end of May.

We prepare a tincture from the leaves.

LOBELIA INFLATA; Ger., *Aufgeblasene Lobelie;* Eng., Indian tobacco, Emetic-herb.

The Lobelia inflata is a biennial inelegant plant, about one foot, and from that to two feet high. The root is fibrous, yellowish-white, of an acrid taste, resembling that of tobacco. Stem upright, always solitary, angular, leafy, very pubescent, sometimes hirsute, and very much branched about mid-way. Branches axillary, shorter than the stem, which rises from 6 to 10 inches above the top of the highest branches. The leaves are irregularly scattered and alternate, sometimes crowded, oval, generally sessile, with the margins unequally indented with tooth-like serratures. The flowers are numerous, situated on terminal leafy racemes, and supported on short axillary peduncles. The corolla is monopetalous and labiate; the lower lip three, and the upper two-toothed, is of a pale blue colour externally, and delicate violet within. The calyx-leaves are awl-shaped, and the length of the corolla. Seeds numerous, very small, and contained in egg-shaped, inflated capsules, which have given rise to the specific appellation of the plant.—*Barton.*

Samuel Thomson, who considered himself the discoverer of the medical properties of the Lobelia inflata, appears to have watched its growth with an almost paternal affection, and therefore the following extract from his account of the emetic herb, as he terms it, will not be without interest.*

"The emetic herb may be found in the first stages of its growth at all times through the summer, from the bigness of a six cent piece to that of a dollar, and larger, lying flat on the ground, in a round form, like a rose pressed flat, in order to bear the weight of snow which lays on it during the winter, and is subject to be winter-killed, like wheat. In the spring, it looks yellow and pale, like other things suffering from the wet and cold; but when the returning sun spreads forth its enlivening rays upon it, it lifts up its leaves, and shoots forth a stalk to the height of from 12 to 15 inches, with a number of branches, carrying up its leaves with its growth. In July, it puts forth small, pale-blue blossoms, which are followed by small pods, about the size of a white bean, containing numerous very small seeds. This pod is an exact resemblance of the human stomach, having an inlet and an outlet higher than the middle; from the inlet it receives nourishment, and by the outlet discharges the seeds. It comes to maturity about the first of September, when the leaves and pods turn a little yellow; this is the best time to gather it. It is what is called by the botanists, a biennial plant, or only of 2 years existence."

"This plant is common in all parts of this country. Wherever the land is fertile enough to yield support for its inhabitants, it is to be found. It is confined to no soil which is fit for cultivation, from the highest mountains to the lowest valleys. In hot and wet

* New Guide to Health, or Botanic Physician, page 43.

seasons, it is most plenty on dry and warm lands; in hot and dry seasons, on clayey and heavy land. When the season is cold, either wet or dry, it rarely makes its appearance; and if the summer and fall are very dry, the seed does not come up, and, of course, there will be very little to be found the next season. I have been in search of this herb from Boston to Canada, and was not able to collect more than two pounds; and in some seasons, I have not been able to collect any." (*Amer. Inst. of Hom.*)

Lobelia cardinalis; Eng., Scarlet lobelia; Ger., *Rothe Cardinal'sblume;* Fr., La cardinale.

Erect, simple, pubescent; leaves ovate-lanceolate-acuminate, erose-denticulate; raceme subsecund, many-flowered, the organs longer than the corolla. (*Amer. Inst. of Hom.*)

Mercurialis perennis; Ger., *Waldbingelkraut, ausdauerndes Bingelkraut.—Euphorbiaceæ.*

This plant grows in shady mountainous forests, in strong or humid soil; root rampant, with nodose, verticillate-fibrous joints; stem simple, low, leafless at the lower part, leaves on short peduncles, dentated, with short hairs, elliptico-lanceolate.

At the period of flowering, we prepare an essence from the whole plant, including the root, according to Class 2d.

Podophyllum peltatum; Ger., *Schildblätteriger Entenfuss;* Eng., May-apple, Duck's-foot.—*Ranunculaceæ.*

Stem erect, one foot high, two-leaved, one-flowered; leaves peltate, palmate, lobate; lobe cuneate, incised. Blooms in May. Flowers white; fruit mature in the latter end of August, lemon-coloured, of the size of a large plum, and slightly maculated with brownish dots; the pulp to the taste at first is faintly nauseous, but agreeably sub-acid, and much esteemed by many persons. It is said, the pigeons of Carolina are fattened by eating it.

Root perennial, creeping, from 3 to 6 feet in length, about twice the size of a goose quill, of a rich yellowish-brown colour externally, and feeble yellowish-white within. The main root is round and smooth, except that it is interrupted every 3 or 4 inches by knuckled joints, from which grow out numerous light-coloured fibres. One of these joints which mark the successively annual attachments of the stem, is added to the length of the root every year.

The root of the Podophyllum peltatum, according to the chemical analysis made by Dr. *Staples*, contains resin, gum, or mucilage, soluble in cold water, amadin, colouring matter, extractive matter, ligneous fibre, and a minute quantity of an insipid substance soluble in sulphuric ether, from which it crystallizes in minute acicular crystals.

The leaves and root are the parts used in medicine. The leaves emit a strong, narcotic odour, and have a nauseous taste. The root has a fresh nauseous smell and somewhat bitter taste. In popular phrase, the leaves are said to be poisonous, the root medicinal, and the fruit edible. The fruit is aperient.

This plant is emphatically a native, as it is indigenous to North America only, and is found growing luxuriously throughout the boundaries of the United States. It chiefly inhabits rich, loamy woodlands, but is frequently found growing in meadows, near small streams, and other low grounds.

We prepare a tincture from the root and leaves. (*Amer. Inst. of Hom.*)

Sanguinaria canadensis; Eng., Blood-root.—*Papaveraceæ.*

A spring plant, abundant in all hilly countries, from Canada to Florida, wherever there is a rich soil and shade in summer, but avoiding the sea-coast and the high mountainous regions. It blooms as early as April, and the elegance of its leaves and flowers and its graceful growth is so great, peculiar and indescribably beautiful, that no delineation of it has yet appeared sufficiently graceful to those who know it. In appearance somewhat similar to the Hepatica, its leaves are delicate, and of a gray-green, like those of the Celandine, its flowers white and deciduous like those of the poppy, all scarcely higher than a hand. The root is perennial, of the length and thickness of a finger, knotty, fleshy and præmorse. Root, stem and leaves contain a yellowish-red juice, like as the Chelidonium a pure yellow, and the Papaver a white.

The leaves continue their growth after the time of flowering; and when the seeds ripen, have a more common appearance, nearly resembling the Asarum. This is considered the best time to dig the root, which is the only part employed; the leaves, and especially the seeds, being considered poisonous. (*Amer. Inst. of Hom.*)

TRIOSTEUM PERFOLIATUM; Ger., *Breitblätteriger Dreistein;* Eng., Horse-Gentian, Fever-root, Wild ipecac., &c.—*Caprifoliaceæ.*

Leaves large oval, acuminate, abruptly narrowed at the base, connate, sub-pubescent beneath, the two uppermost pairs are small and convoluted till after the inflorescence is past, when they become developed to the full size, and assume a brownish-purple colour. Flowers axillary, sessile and whorled in triplets, 3, 6 or 9 around the stem; blooms in the latter end of May. Corolla reddish purple above, striated below, and pubescent. The berries are ovate, commonly 6 in a whorl, sometimes purple, but generally of an orange colour; they have 3 divisions, each containing one hard seed, and ripen in September.

The plant inhabits rich hilly woodlands, and the edge of cultivated grounds, and grows from 2 to 4 feet high, several stalks arising from the same root. The stems are about ⅜ of an inch in diameter, simple, erect, cylindrical, pubescent, and of a green colour. The root is perennial, contorted, tuberculated or gibbous, of a brownish colour, giving off horizontal branches from 18 inches to 2 feet in length, about the size of a finger in diameter, yellowish externally and whitish internally.

From pharmaceutical experiments, it has been observed that when the plant is treated with water, it yields a larger quantity of active extract than when treated with alcohol, and that the alcoholic extract is perfectly soluble in water. The leaves yield the largest quantity of soluble matter, but that obtained from the root possesses the greatest activity.

Both the leaves and the root of the triosteum are quite bitter to the taste. The root is also nauseous to the taste, and has an odour somewhat resembling ipecacuanha. (*Amer. Instit. of Homœop.*)

URTICA URENS; Ger., *Brenn-nessel;* Eng., Common nettle.—*Urticeæ.*

Leaves small, oval, indented, five-nerved on the under side, of a light-green colour. These characteristics distinguish it from the *Urtica adioïca* (large nettle). It flowers from July to October. We gather the ripe seeds, free them, after drying, from their green envelops, and prepare from the small, smooth grains of a pale yellowish-gray colour, a tincture of a pale yellow-green colour, according to Class 1st.

ATHAMANTA OREOSELINUM; Ger., *Berg-Petersilie;* Eng., Mountain-parsley.

Root perennial, almost simple, yellowish-gray, furnished with a cluster of brown fibres. Stem erect, with fine furrows, glabrous, not very branchy, from 1 to 2 feet high. Radical leaves petioled, large, tripinnate ; leaflets oval, deeply indented, glabrous ; the teeth terminate in white points. Corymbs terminal. Involucrum consists of a number of lanceolate, revolute leaflets. Petals white. The ripe fruit is almost round, flat, with a broad border of a pale yellow. The root smells like carrot ; it has an aromatic bitter taste.

[To page 222.] HEPAR SULFURIS CALCAREUM. — *Gruner* prepares this substance in the following manner : Mix carefully equal parts of pure caustic alkali and pure sulphur, press them down as tightly as possible in an earthen crucible, and, to prevent impurities from getting into the mass, cover it with a layer of moist pulverized chalk of one inch or half an inch in thickness, pressing it down with the finger ; after covering the crucible, expose it to a fire which is to be slight at first, but which is to be increased suddenly as soon as the crucible begins to glow ; keep it for half an hour in this red heat. Then take it out of the fire, let it cool slowly, remove the cover of chalk with great care, take out the contents, which will be found to possess a strong odour of sulphuretted hydrogen gas, reduce them to a homogeneous powder by trituration, and put up this powder with all possible speed in vials which are to be well corked and guarded from the light. Of this powder we prepare the triturations.

DAPHNE INDICA, *Daphne odora ;* Fr., Lauréole de Chine ; Ger., *Indischer Seidelbast ;* Eng., Sweet - scented purge laurel.—*Thymeleæ.*

This plant is a native of China, with oblong-oval, glabrous, alternate leaves ; flowers white, odorous, almost sessile, forming a beautiful, well filled, glomerated bouquet at the end of each branch. We prepare a tincture according to Class 1st, unless we can procure an essence from the recent plant.

GENISTA SCOPARIA; Fr., Genêt à balai; Ger., *Geniste, Ginster, Pfriemenkraut;* Eng., Common broom.—*Leguminosæ.*

This shrub frequents the woods and sandy lands of France and Germany; stem branchy, angular; leaves ternate and solitary; flowers bell-shaped. We use the tender branches, from which we express the juice.

JUGLANS REGIA; Fr., Noyer commun or royal, Noix commune; Ger., *Nussbaum, welsche Nuss;* Eng., English walnut.—*Terebinthinaceæ.*

We separate the shell from the nut, before it is ripe, cut it in pieces, and prepare from it an essence according to Class 2d.

PINUS SYLVESTRIS; Fr., Pin sauvage; Ger., *Gemeine Kiefer;* Eng., Wild pine.—*Coniferæ.*

This tree is common in the forests of northern Europe; it is distinguished by its pyramidal form and its coniform flowers. From the young shoots or buds which we gather in spring, we prepare an essence according to Class 2d.

[To page 269.]—KALI HYDRIODICUM. The last paragraph on this page, under the head of "IODATES," should be read as the continuation of the article "KALI HYDRIODICUM," on page 290.

SYMPHYTUM OFFICINALE; Eng., Comfrey.—*Boracineæ.*

This perennial plant is found all over Europe, in damp ditches, on meadows, along ponds, rivulets. Root large, cylindrical, branchy, from 1 to 2 inches long, several inches thick, fleshy, covered with a black or dark-brown epidermis, white internally, easily broken, inodorous, of slimy consistence. Stem 3 inches high, branchy, angular, hairy; radical leaves elongated, lanceolate, entire; the leaves of the stem sessile, decurrent. Flowers purple-red or white, canuliform, in corymbs, at the end of the stems. We gather the root in fall, and prepare from it a tincture according to Class 2d. It is brown, and has a feeble, earthy smell.

TUSSILAGO PETASITES; Eng., Colt's-foot.—Grows along rivulets and ditches in northern Europe. Flowers canuliform; leaves oblong-cordiform, indented, hairy on the lower surface, lobes inclined towards each other. The whole plant has a penetrating, disagreeable, watery, flat odour; it is a diuretic and sudorific. We prepare from it a tincture.

RANUNCULUS ACRIS; Eng., Crow-foot.—Is found all over Europe; root of the size of a goose-quill, oblique, fibrous; radical leaves palmated, deeply indented; stem erect, branchy; flowers of a beautiful gold-yellow, at the end of the branches, supported upon round, *not furrowed* pedicles. We gather the whole plant while flowering, in May and June, and prepare from it, according to Class 2d, an essence of a brown-yellow colour and acrid taste.

RANUNCULUS FLAMMULA; Eng., Marsh-ranunculus.—Grows on damp meadows, along rivulets and marshes, all over Germany. Root articular, rampant. Leaves alternate, entire or indented, the lower pedunculated, the upper amplexicaule, all of them bald. The small, numerous, yellow flowers, supported on long, round pedicles, grow out from their sides and extremities. We gather the whole plant while flowering, in summer, and prepare from it, according to Class 2d, an essence of a similar colour and taste as those of the preceding variety.

PHYTOLACCA DECANDRA; Eng., Poke.—A description of this plant, and its preparation for medicinal uses, will be furnished in the second volume of the Transactions of the American Institute of Homœopathy, by Dr. Williamson of Philadelphia. In the United States Dispensary the root is principally recommended.

KALI BICHROMICUM; Eng., Bichromate of potash.—The symptoms which we possess of this substance, were evolved from the bichromate of the shops.

CIMEX LECTULARIUS; Eng., Bed-bug.—We crush the insect while alive, and macerate it in alcohol.

INDICES

OF THE LATIN AND ENGLISH NAMES OF THE DIFFERENT SUBSTANCES TREATED OF IN THIS WORK.

☞ In this Index, the words printed in italics are the Latin names which we prefer using in *Homœopathy*.

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INDEX OF ENGLISH NAMES.

Note.—By means of this Index, those who do not recollect the Latin name of any substance will be enabled to find it upon referring to the preceding Index. It was not thought necessary to annex the pages.