

*Plinius Secundus, C*

THE  
NATURAL HISTORY  
OF  
PLINY.

TRANSLATED,  
WITH COPIOUS NOTES AND ILLUSTRATIONS

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cinal properties are similar to those of sulphur, it being naturally astringent, dispersive, contractive, and agglutinating: ignited, it drives away serpents by the smell. Babylonian bitumen is very efficacious, it is said, for the cure of cataract and albugo, as also of leprosy, lichens, and pruriginous affections. Bitumen is employed, too, in the form of a liniment, for gout; and every variety of it is useful for making bandolines for eyelashes that are refractory and impede the sight. Applied topically with nitre,<sup>6</sup> it is curative of tooth-ache, and, taken internally, with wine, it alleviates chronic coughs and difficulty of respiration. It is administered in a similar manner for dysentery, and is very good for arresting looseness of the bowels. Taken internally with vinegar, it dissolves and brings away coagulated blood. It modifies pains also in the loins and joints, and, applied with barley-meal, it forms a peculiar kind of plaster, to which it has given its name.<sup>7</sup> It stanches blood also, heals wounds, and unites the sinews when severed. Bitumen is administered for quartan fevers, in doses of one drachma to an equal quantity of hedyosmos,<sup>8</sup> the whole kneaded up with one obolus of myrrh. The smell of burnt bitumen detects a tendency to epilepsy, and, applied to the nostrils with wine and castoreum,<sup>9</sup> it dispels suffocations of the uterus. Employed as a fumigation, it acts as a check upon precidence of the uterus, and, taken internally with wine, it has the effect of an emmenagogue.

Another use that is made of it, is for coating the inside of copper vessels, it rendering them proof against the action of fire. It has been already<sup>10</sup> stated that bitumen was formerly employed for staining copper and coating statues. It has been used, too, as a substitute for lime; the walls of Babylon, for instance, which are cemented with it. In the smithies they are in the habit of varnishing iron and heads of nails with it, and of using it for many other purposes as well.

CHAP. 52.—ALUMEN, AND THE SEVERAL VARIETIES OF IT;  
THIRTY-EIGHT REMEDIES.

Not less important, or indeed very dissimilar, are the uses

<sup>6</sup> As to the "nitrum" of Pliny, see B. xxxi. c. 46.

<sup>7</sup> "Asphalt plaster," probably.

<sup>8</sup> Or mint. See B. xix. c. 47, and B. xx. c. 53.

<sup>9</sup> See B. xxxii. c. 13.

<sup>10</sup> In B. xxxiv. c. 9.

that are made of alumen;<sup>11</sup> by which name is understood a sort of brine<sup>12</sup> which exudes from the earth. Of this, too, there are several kinds. In Cyprus there is a white alumen, and another kind of a darker colour. The difference, however, in their colour is but trifling in reality, though the uses made of them are very dissimilar; the white liquid alumen being employed for dyeing<sup>13</sup> wool of bright colours, and the black, on the other hand, for giving wool a tawny or a sombre tint. Gold, too, is purified<sup>14</sup> by the agency of black alumen. Every kind of alumen is a compound of slime and water, or in other words, is a liquid product exuding from the earth; the concretion of it commencing in winter, and being completed by the action of the summer sun. That portion of it which is the first matured, is the whitest in appearance.

The countries which produce this substance, are Spain, Ægypt, Armenia, Macedonia, Pontus, Africa,<sup>15</sup> and the islands of Sardinia, Melos, Lipara, and Strongyle:<sup>16</sup> the most esteemed, however, is that of Egypt,<sup>17</sup> the next best being the produce of Melos. Of this last kind there are also two varieties, the liquid alumen, and the solid. Liquid alumen, to be good, should be of a limpid, milky, appearance: when rubbed between the fingers it should be free from grit, and productive of a slight sensation of heat. The name given to it is "phorimon."<sup>18</sup> The mode of detecting whether or not it has been adulterated, is by the application of pomegranate-juice; for if genuine, it will turn black on combining with the juice. The other, or solid alumen, is pale and rough in ap-

<sup>11</sup> Beckmann is of opinion that our *alum* was not known to the Greeks or Romans, and that what the latter called "alumen" was green vitriol, or sulphate of the protoxide of iron, in an impure state. *Hist. Inv.* Vol. I. p. 180. *Bahn's Edition.* Dr. Pereira remarks, however, that "there can be little doubt that Pliny was acquainted with our alum, but did not distinguish it from sulphate of iron, for he informs us that one kind of alum was white, and was used for dyeing wool of bright colours." *Materia Medica*, Vol. I. Delafosse identifies the "alumen" of Pliny with double sulphate of alum and iron.

<sup>12</sup> "Salsugo terræ."

<sup>13</sup> See Note 11 above.

<sup>14</sup> For gilding, Hardouin says.

<sup>15</sup> The Roman provinces in Africa, other than Egypt.

<sup>16</sup> Now Strombolo. See B. iii. c. 14.

<sup>17</sup> Herodotus, B. ii., mentions the fact that King Amasis sent the people of Delphi a thousand talents of this substance, as his contribution towards rebuilding their temple.

<sup>18</sup> "Fruitful," or "useful."

pearance, and turns black on the application of nut-galls; for which reason it is known by the name of "paraphoron."<sup>19</sup>

Liquid alumen is naturally astringent, indurative, and corrosive: used in combination with honey, it heals ulcerations of the mouth, pimples, and pruriginous eruptions. The remedy, when thus used, is employed in the bath, the proportions being two parts of honey to one of alumen. It has the effect, also, of checking and dispersing perspiration, and of neutralizing offensive odours of the arm-pits. It is taken too, in the form of pills, for affections of the spleen, and for the purpose of carrying off blood by the urine: incorporated with nitre and melanthium,<sup>20</sup> it is curative of itch-scab.

There is one kind of solid alumen, known to the Greeks as "schiston,"<sup>21</sup> which splits into filaments of a whitish colour; for which reason some have preferred giving it the name of "trichitis."<sup>22</sup> It is produced from the mineral ore known to us as "chalcitis,"<sup>23</sup> from which copper is also produced, it being a sort of exudation from that mineral, coagulated into the form of scum. This kind of alumen is less desiccative than the others, and is not so useful as a check upon bad humours of the body. Used, however, either in the form of a liniment or of an injection, it is highly beneficial to the ears; as also for ulcerations of the mouth, and for tooth-ache, if retained with the saliva in the mouth. It is employed also as a serviceable ingredient in compositions for the eyes, and for the generative organs in either sex. The mode of preparing it is to roast it in crucibles, until it has quite lost its liquid form.

There is another variety of alumen also, of a less active nature, and known as "strongyle;"<sup>24</sup> which is again subdivided into two kinds; the fungous, which easily dissolves in any liquid, and is looked upon as altogether worthless; and the porous, which is full of small holes like a sponge, and in pieces of a globular form, more nearly approaching white alumen in appearance. It has a certain degree, too, of unctuousness, is free from grit, friable, and not apt to blacken the

<sup>19</sup> "Adulterated."

<sup>20</sup> See B. xx. c. 71.

<sup>21</sup> "Split" alum. Probably iron alum, the French *alum de plume*; of a flaky, silky appearance.

<sup>22</sup> "Hairy alum."

<sup>23</sup> See B. xxxiv. cc. 2, 29.

<sup>24</sup> So called, according to Dioscorides, from the "round" form of the pieces.

fingers. This last kind is calcined by itself upon hot coals, unmixed with any other substance, until it is entirely reduced to ashes.

The best kind of all, however, is that called "melinum,"<sup>26</sup> as coming from the Isle of Melos, as already mentioned; none being more effectual for acting as an astringent, staining black, and indurating, and none assuming a closer consistency. It removes granulations of the eye-lids, and, in a calcined state, is still more efficacious for checking defluxions of the eyes: in this last form, too, it is employed for the cure of pruriginous eruptions on the body. Whether taken internally, or employed externally, it arrests discharges of blood; and if it is applied with vinegar to a part from which the hair has been first removed, it will change into a soft down the hair which replaces it. The leading property of every kind of alumen is its remarkable astringency, to which, in fact, it is indebted for its name<sup>26</sup> with the Greeks. It is for this property that the various kinds are, all of them, so remarkably good for the eyes. In combination with grease, they arrest discharges of blood; and they are employed in a similar manner for checking the spread of putrid ulcers, and for removing sores upon the bodies of infants.

Alumen has a desiccative effect upon dropsical eruptions; and, in combination with pomegranate juice, it removes diseases of the ears, malformed nails, indurations resulting from cicatrization, hangnails, and chilblains. Calcined, with vinegar or nut-galls, in equal proportions, it is curative of phagedænic ulcers; and, in combination with extracted juice of cabbage, of leprosy. Used in the proportion of one part of alumen to two of salt, it arrests the progress of serpiginous eruptions; and an infusion of it in water destroys lice and other parasitical insects that infest the hair. Employed in a similar manner, it is good for burns; and, in combination with the serous<sup>27</sup> part of pitch, for furfureous eruptions on the body. It is used also as an injection for dysentery, and, employed in the form of a gargle, it braces the uvula and tonsillary glands. For all those maladies which we have men-

<sup>26</sup> He has previously said that the most esteemed kind was the Egyptian, that of Melos being the next best.

<sup>26</sup> *Στυπτηρία*, the "styptic."

<sup>27</sup> "Sero picis." Hardouin is of opinion that under this name pissæon is intended. See B. xv. c. 7, B. xxiv. cc. 11, 24, and B. xxv. c. 22.

tioned as being treated with the other kinds of alumen, that imported from Melos, be it understood, is still more efficacious. As to the other uses that are made of it for industrial purposes, such as preparing hides and wool, for example, they have been mentioned already.<sup>28</sup>

CHAP. 53. (16.)—SAMIAN EARTH: THREE REMEDIES.

In succession to these, we shall now have to speak of various other kinds of earth<sup>29</sup> which are made use of in medicine.

Of Samian earth there are two varieties; one known as "collyrium,"<sup>30</sup> the other by the name of "aster."<sup>31</sup> To be in perfection, the first kind should be fresh, remarkably smooth, and glutinous to the tongue; the second being of a more solid consistency, and white. They are both prepared for use by being calcined and then rinsed in water, some persons giving the preference to the first. They are both of them useful for discharges of blood from the mouth, and are employed as an ingredient in plasters of a desiccative nature. They are used also in the preparation of ophthalmic compositions.

CHAP. 54.—THE VARIOUS KINDS OF ERETRIA.

Of eretria, or Eretrian<sup>32</sup> earth, there are also the same number of varieties; one white, and the other of an ashy colour, this last being preferred in medicine. To be good, this earth should be of a soft consistency, and when rubbed upon copper it should leave a violet tint. The virtues of eretria in a medicinal point of view, and the methods of using it, have been already mentioned<sup>33</sup> in our description of the pigments.

CHAP. 55.—THE METHOD OF WASHING EARTHS FOR MEDICINAL PURPOSES.

All these earths—for we will take the present opportunity of mentioning it—are well washed in water, and then dried

<sup>28</sup> At the beginning of this Chapter in part.

<sup>29</sup> Aluminous silicates, as Delafosse remarks, more or less combined with other minerals. Though employed for various purposes in the arts, they are now but little used in medicine.

<sup>30</sup> Probably because it was the more extensively employed of the two, in "collyria," or compositions for the eyes. <sup>31</sup> "Star" earth, apparently

<sup>32</sup> From Eretria, in Eubœa. See B. iv. c. 21.

<sup>33</sup> In Chapter 21 of this Book.