

3482
XVIIth International Congress of Medicine
London: 1913



History of Medicine



Terra Sigillata, a Famous Medica-
ment of Ancient Times

BY

C. J. S. THOMPSON

LONDON

HENRY FROWDE
OXFORD UNIVERSITY PRESS

HODDER & STOUGHTON
WARWICK SQUARE, E.C.

1914





R.
17 sept. 24

Paris 15 Sept. 1924

Che Monsieur Fottier

J'ai acquis dernièrement
quelques pastilles de terre sigillée,
et me souvenant de vos
érudites explications lorsque
nous avons visité la collection
de Louvre lors du 2^e Congrès
d'histoire de la Médecine j'ai
le plaisir de vous en adresser et
offrir une des vieilles timbrées (elles
sont toutes pareilles.) et on en
lit très bien "Terra Sigillata"

Je profite de cette occasion
pour vous demander un petit
retour si possible : j'ai dans mes
collections un vieux dieu

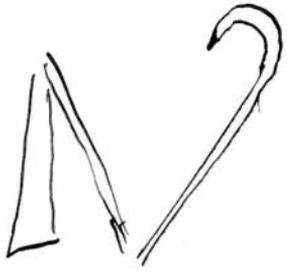
Mon adresse : A. S. Pratt maître de la
société d'histoire de la Pharmacie —
102 av. de la Terrasse - Paris 17^e

Le ventre est
plus plat !



Hauteur 20 cm.

Largeur aux bras
des 6 cm.



instrument.

en bronze tout verdissé
et que je crois Égyptien de
temps des Pharaons !

Pardiez - vous aviez la gentillesse
de me faire savoir quel est
ce beau jeune homme,
comment il se nomme et
à quoi il pouvait servir -
De face dans ses bras
il tient deux instruments :



Une hache ou un fouet
et un crochet -

Je vous en remercie
d'avance et vous prie
d'agréer l'expression de ma considération
la plus distinguée. *A. Batt*

R.
22 Janvier 1921

THE WELLCOME HISTORICAL MEDICAL MUSEUM

AN INTERNATIONAL COLLECTION ILLUSTRATING THE HISTORY OF MEDICINE AND THE ALLIED SCIENCES



Founded by
Henry D. Wellcome—British, Donor USA

Telephone—"MAYFAIR 3461"

Telegrams—"BIBLIOTHEC. WELLCOME. LONDON"

54A, WIGMORE ST.

LONDON, W. 1

S. G. B. THOMPSON M.B.E.
CURATOR.

January 19th, 1921.

Monsieur E. Pottier,
Musée du Louvre,
Paris.

Dear Sir,

At the request of Dr. Bouret, I have pleasure in enclosing you a copy of my work on the History of Terra Sigillata that I trust you will find interesting.

I remember being introduced to you and paying you a visit at the Louvre some nine or ten years ago, when you were good enough to show me that most interesting Greek vase that you had then acquired, which depicted some figures of medical interest, which, together with your notes, have been very valuable for the study of medical history.

I trust you are well, and with kind regards,

I am,
Sincerely yours,

To M. E. Potter
with compliments from the Author
Jan 27/21

[Tuesday Afternoon, August 12]

SECTION XXIII
HISTORY OF MEDICINE

INDEPENDENT PAPER

TERRA SIGILLATA, A FAMOUS MEDICAMENT OF
ANCIENT TIMES

By C. J. S. THOMPSON M.B.E

AMONG the medicaments famous in ancient times, but now almost forgotten, Terra Sigillata, or the sacred Sealed Earth from the Island of Lemnos, held an important place. It is especially interesting as it forms a direct link with Greek medicine, and survived until the middle of the nineteenth century. From about 100 B.C. until the end of the eighteenth century it enjoyed a great reputation, and was renowned throughout Europe for its remarkable properties. There is no record of its discoverer, but that it was in use in medicine before the time of Dioscorides, 40 B.C., is evident from the allusion to it in his work on *Materia Medica*. 'Lemnian earth,' he states, 'is found in certain caves of the Island of Lemnos in some marshy land. The best quality is here selected and then mixed with goats' blood. The inhabitants of the Island of Lemnos make the earth into lozenges, which they seal with the impression of a goat and call them goats' seals (Fig. 1). It is an antidote against deadly poisons. If it be taken before the poison, it promotes vomiting and expels it. Against stings and bites of all poisonous animals it is also efficacious, and is beneficial in the treatment of dysentery.'



FIG. 1.

Pliny alludes to this medicament about A.D. 100, and remarks on the high esteem in which it was held. He says, 'It comes after cinnabar in importance. Both the earth and the island on which it is found were well known in antiquity. As a medicine it is much esteemed. If rubbed under the eyes it moderates pain and watering from the same, and prevents the flow from the lachrymal ducts. In cases of hæmorrhage it should

be administered in vinegar. It is used against complaints of the spleen and kidneys, copious menstruation, also against poisons, and wounds caused by serpents.'

Galen, A.D. 131-201, appears to have been greatly interested in this medicament and its mysterious origin, and records in his work on the *Virtues of Simples* that he visited the Isle of Lemnos on two occasions in order to discover the true Lemnian earth, and to learn how it was prepared on the spot. From what he states, even in those early days, Terra Sigillata had achieved a wide reputation and a high commercial value, and attempts were made to substitute for it other earths that were similar in appearance. In his time the Greeks stamped or sealed the earth with a representation of Diana, one of the goddesses associated with healing, and the seal was regarded as sacred. He describes the true Lemnian earth as that which does not stain the hands when touched, as 'rubrica.' 'This earth,' he states, 'comes from Lemnos, the island otherwise called Stalimene, and is found close to a town called Hephestias on the top of a red-stained hill, barren of plants and which has the appearance of having been burnt. Three kinds of it are used—the first, that which is called sacred and which nobody but the priestess may touch; the second, that which might really be called "rubrica" and which is often used by smiths and carpenters; and the third, which has cleansing properties and is used in removing stains from clothes and linen. Having read in Dioscorides and other authors that Lemnian earth was mixed with goats' blood, and that out of the mass that resulted the priestess formed the lozenges called Lemnii, I now ardently desired to see how the earth was mixed and to know the properties of the parts. I was pleased to sail to Lemnos and see the quantity of blood used in that earth. The hill from which the earth is taken has a burnt appearance, not only in colour but also because nothing whatever grows upon it. It was on this hill that during my stay a priestess came one day, and, having spread some barley and corn upon the ground, and having carried out a few other ceremonies customary in that country, she loaded a cart full of that earth. She carried it into the town and began preparing in the open air those well-famed Lemnian seals.' The earth was first treated with water, stirred, and then allowed to settle to free it from impurities. The supernatant liquid was then decanted, and the earth deposited was removed, freed from stones, and dried into a soft mass which was afterwards cut into tablets and stamped with the sacred seal of Diana. The priestess then placed the tablets in the shade, where they were allowed to remain until all moisture had evaporated and they had become hard and dry.

'I thought it right,' continues Galen, 'to inquire whether anyone recollected that earth ever being mixed with goats' blood. But this question was received with derision. I was given a book written in ancient times by one of that country, in which all the virtues and uses of the Lemnian earth are given. I was pleased to experiment with them

and took away with me 20,000 of these seals. The person who gave me the book, and who was one of the most important men of the island, used the medicament for many purposes, such as old ulcers which were slow in healing, and against bites of snakes and other animals. He advised me to administer the earth after and not before poisons. He stated that he had experimented with Terra Sigillata mixed with juniper as an emetic. I have used this in cases where people have been suspected of having eaten cantharides and sea hare, and as soon as they had taken the potion composed of Lemnian earth they vomited everything, so that they escaped the consequences of these poisons although they had eaten of both. I do not know whether the potion made of juniper and Terra Sigillata has the same effects against deadly poisons, but that Hephastian affirmed it for a certainty, so much so that he said it cured those bitten by mad dogs, if taken with watered wine, and if applied externally to the wounded part with some very strong vinegar. He used it also for bites of all kinds of animals, and applied it to the affected part on a leaf, which has the faculty of resisting putrefaction. We have tried it with success for malignant ulcers and plagues hard to cure. Thus when the ulcers are soft the Lemnian earth must be mixed with very strong vinegar and then applied.'

Galen describes the difference between Lemnian earth and Armenian bole, and, referring to the latter, states: 'During the spread of a very severe and cruel plague some earth of very cleansing properties was brought to me. It came from Armenia, and was called by the person who gave it me *stone*, and not earth. It crumbles up as lime does, and, like the latter, contains no sand.'

In the Syriac Book of Medicines, recently translated by Dr. Budge, which was probably written about the twelfth century, Terra Sigillata is included as an ingredient in several of the recipes.

Bartholomæus Anglicus, in a MS. written in the thirteenth century, refers to 'A serten veyne of the erthe called Terra Sigillata, which is singularly cold and drie. And Dioscorides calleth it Terra Saracenicā and argentea, and is somedeale white, well smellynge and clere. The chief virtue thereof byndeth and stauncheth. And powder thereof tempred with the whyte of an egge stauncheth bledynge at the nose. And helpeth ayenst swellinge of the fete and ayenst the gowte, if it be layed in a playstre thereto, as it is sayde in Lapidario.'

So great was the demand for the famous Terra Sigillata of Lemnos from the thirteenth to the fourteenth century that many other earths, for which similar properties were claimed, were exploited and recommended in many of the books on medicine of that period. Almost every country in Europe strove to find within its boundaries a source of supply of so valuable and profitable a commodity. Some of these rival medicaments acquired a considerable reputation, one of the most celebrated being Terra Sigillata Strigoniensis, or Strigian earth, which was found in Silesia and for which remarkable properties were claimed.

It was yellow in colour, and when made into tablets was impressed with a seal representing three mountains (Fig. 2). It was also known as *Axungia Solis*, as it was supposed to contain particles of gold, being obtained from a pit in a disused gold mine. The properties of Strigian earth are described in a curious little work by Johannes Montanus, printed in 1585, in which



FIG. 2.

he records various tests which were made of its powers first on animals, and afterwards on a man who had been made to swallow a considerable quantity of corrosive sublimate. The account of the latter test is so interesting that it is perhaps worth quoting in detail. It reads as follows in the quaint language of the time :—

'We Wolfgangus Earle of Hohenloe, Lorde of Langenburg, &c. Do openlie make known unto all men by these my Letters Testimoniall, that there came lately before me at Langenburg, my welbelovd friende Andreas Betholdus of Oschatz, and declared unto mee that he had a most excellent kinde of Terra Sigillata, which was not alonely of great force against sundrie diseases : but also a most undoubted remedy against all manner of venemous poisons, as had beene proved by sundrie witnesses upon a great number of dogges, which made me also desirous to see the triall of it. It happened at the same time, that one called Wendel Thumblardt was by our Lieuutenant of Langenburg for certaine felonies imprisoned, who being examined by our Justices, confessed himself guilty of a great number of robberies : And therefore brought to the barre was condemned to bee hanged. Being yet detained in prison, and coming to his care that there was such a medicine, so soveraigne against sundrie sicknesses, and the most deadly poisons, has made humble request as well by his parents, as by other his friends, of which there were present no small number, desiring for the mercie of God, and respect of his poor life, that being thus condemned, hee might have given unto him the most deadly poison that might be devised, whereby a perfit triall might bee had of the worthines of this medicinable earth. And in this respect, not onely for this pittifull request of his : but also for the commoditie and benefite of all Christendome (if so be the medicine proove answerable to the report), pardoning the offender, we graunted his life upon that condition. Therefore the day of the date of these presents, in the presence of our selfe, and our welbelovd Cosin the Countie George Friderick of Hohenloe, and Lord in Langenburg, and in the presence of all our Nobilitie and Commons, the said patient received a dram and a half of Mercurie Sublimate, mingled with Conserve of Roses, and immediately after it he drank a dram of the Terra Sigillata in olde wine. And albeit the poison did in the judgement of our learned Phisition George Pistor, Doctor in Phisicke, and John Lutzen our Apothecarie, who were both by him all the while, extremely torment and vexe him : yet in the end the medicine prevailing overcame it, whereby the poore wretch was delivered, and being restored to his health was committed to his parents. Whereas

therefore the foresaid Andrew Berthold, hath humbly required to have our Letters Testimoniall for his farther credite, wee have thought good for the furtherance and advancement of the truth, to graunt him these our Letters, signed with our seale Manuell. Given at Langenburg the 25. of Januarie, in the year of our Lord. 1581.'

Agricola has a reference to the tablets of Lemnian earth brought from Constantinople in 1530, which he describes as being of a yellowish colour and stamped with Turkish characters. 'The Turks,' he says, 'held it to be the only remedy for plague, using it as the Arabs used Armenian bole.'



FIG. 3.

Another variety of Terra Sigillata emanated from Malta. This was a white earth of a chalky nature which was made into large, thin disks of various shapes bearing the impress of St. Paul and the serpent, as it was considered particularly efficacious in cases of snake-bite (Fig. 3). Among other earths of a similar nature, mention should be made of Terra Samia from the Island of Samos ; Terra Sicula, from Sicily ; Terra



FIG. 4.

Portugallica, found in Portugal, which bore the impress of a rose ; Terra Chia and Terra Cymolia, which were both white earths and considered of great value ; and Terra Lignicensis, which was impressed with an eagle (Fig. 7). The latter was also called Axungia Lunae, as it was excavated in the neighbourhood of a silver mine and was supposed to contain a small proportion of that metal. Earths for which similar properties were claimed were also found in Bohemia, in Griffenstein, Velden, Blois and Laubach (Fig. 6). An account of the latter has been left by Geilfus.

In Italy, Terra Sigillata was prepared in several districts and known as Sessana, Toccarese, Oreana and Florentina, the latter being stamped with the arms of the Medici family (Fig. 4). They were all famous as antidotes against poison, and consequently in great demand in Italy during the fifteenth and sixteenth centuries.

An earth excavated in the vicinity of Jerusalem, called Terra Sigillata Hierosolymitanæ, was also highly esteemed. It was white and either bore the impress of a crucifix, the symbol of the Jesuit fathers, a figure of the Madonna, or the head of Christ. Valentin states that he possessed two specimens of these tablets among his rarities, one of which bore the impress of a crucifix and many crosses and was known as 'Mary's milk.' This earth was found in a cave near Bethlehem in which the Virgin Mary was supposed to have hidden with her child, and these tablets were recommended to promote lacteal secretion (Fig. 5).



FIG. 5.

A Terra Sigillata was prepared also in England, and, according to Berlu, there were two varieties, a red and a white, but he gives no description of the impress or seal. It is little wonder that Wirtzung, writing in 1598 on the subject, says: 'Of more than twentie things be these Trociskes made. Wherefore we do leave them to the apothecaries. They be very much used, for most they be forcible against spitting of blood if the same be given with the water of Knotgrasse. They be also good against the bleeding at the nose if the same be annoynted on the forehead, likewise for the bleeding of the pyles.'

Although so many recognised varieties of Terra Sigillata were known and used in the sixteenth century, a large number of false earths were also sold, and Thevet, writing in 1554, states: 'The Jews adulterate it considerably when they sell it to people who have no knowledge of it.'

About the year 1553, Pierre Belon, following the example of Galen, paid a visit to the Isle of Lemnos with the express object of obtaining information as to the collection of the famous sacred earth. He states that the hill from which it was taken was in the neighbourhood of Kotchino. Here on the hillside he found two fountains, of which the

one on the right side of the ascent was perennial, while that on the left dried up in summer. No trees grew upon it except a carob, an elder and a willow, which overhung the perennial spring. The earth, he found, was dug from the upper part of the hill, and the ceremony took place on one day of the year only, namely on the sixth day of August, in the presence of the Turkish governor of the island and a large concourse of people. It commenced with a Mass which was said by the Greek priests and monks in a little chapel at the foot of the hill, and on the conclusion of this they mounted the declivity, and the soil leading to the particular vein of earth was removed. The entrance was so deep that from fifty to sixty men were required to clear it. When the true medicinal earth was reached the monks filled a number of sacks with it and handed it to the Turkish authorities, after which the soil which had been removed was again replaced. The greater part of the earth was dispatched to the Sultan at Constantinople, but some was sold to merchants on the spot, while those who took part in the digging were allowed to carry off a small quantity for their own private use. In no case, however, was anyone



FIG. 6.

allowed to sell it until it had been sealed. Belon collected eighteen different kinds of tablets, many of which, he states, bore different impressions. This difference he attributed to the fact that each lord of the Island of Lemnos was said to have a distinct seal. In addition, there was no lack of counterfeiters, who falsified the seal so well that they made it resemble the original. According to the Greeks and Turks of his time, the most ancient seal was about the size of the thumb and consisted of four letters (Fig. 8). He describes the earth as being made into small cakes of various shades and colours, the prevailing tone being a dull red. Some were soft and fatty, others were gritty when chewed and slightly bitter to the taste. He mentions one variety which was red in colour but mottled with spots of white earth, also a counterfeit which was coated with Armenian bole and sealed with two letters entwined. Another kind of seal he found in two shops only in Constantinople: this earth was sold for a higher price than the others and possessed an aromatic smell.

Instructed by the Austrian ambassador, Stefano Albacario, a Spanish physician of the sixteenth century, journeyed to Lemnos to investigate the famous earth, and his account of its collection corresponds with that given by Belon.

The fame of Terra Sigillata appears to have reached its height towards the end of the sixteenth century, when it is recorded that it was in such great request as an antidote to plague, dysentery and other disorders

that ambassadors, on returning from Constantinople to their native countries, were accustomed to take supplies of it with them to present to distinguished men.

In the early part of the seventeenth century the Island of Lemnos fell into the hands of the Venetians, but was regained for the Turks in 1657 by Mohammed Kiuprili, who regarded it as a victory of such importance that he sent a dispatch to Adrianople to inform the Sultan that he had 'won back the island where the sealed earth was found.'

An interesting account of Terra Sigillata was written in the seventeenth century by Pomet, who, in his *History of Drugs*, states: 'The earth most esteemed is in little reddish cakes, the least sandy and the most astringent you can get. It is much used in medicine because of its astringent quality. The Lemnian earth is fatty, clayey, dry, soft and friable, yellow, white or reddish, and astringent to the taste. Choose your sealed earth that is soft to the touch and which will cleave to the tongue. The Turks, who are the present masters of it, mix it with other earths of the



FIG. 7.



FIG. 8.

same nature and, having kneaded them together with water, make them into little round cakes which they seal with the Grand Signor's seal to make them pay duty.'

Charas, another French writer and author of the Royal Pharmacopœia, referring to sealed earths in 1694, says: 'All these earths are fattish and astringent, and are composed more or less of the same substances and have the same taste. The true Lemnian earth is red, which probably accounts for the legend of the mixture of goats' blood.'

Charas claims to have secured a specimen of the true Lemnian Terra Sigillata from which he was able to judge of its properties. He states: 'I have, however, been at a loss in finding any natural smell in the Lemnian Terra Sigillata or in any other, and I do not think it ever existed, unless it had been artificially added by washing it in some aromatic waters.'

Valentin, writing a few years later on the sealed earths of Germany, remarks: 'They are of a fatty, heavy and clayey nature, and are generally shaped into roundish disks, which have an earthy smell, and are red, yellow, brown, or white. Of all the earths Terra Lemnia is the best, and is so highly appreciated that it is considered equivalent to gold.' In his time, about 1704, the tablets were stamped with the Turkish emblem—a half moon with three stars or other Turkish characters. The Sultan considered it of so much importance that they should not be taken out of the country that it was almost impossible to obtain them,

excepting through a consul to whom they were sometimes given. He describes a Terra Sigillata Turcica and a Terra Sigillata Arabica, both of which were impressed with Turkish characters and pinkish, grey or white in colour.

Of the commercial value of Terra Sigillata, the earliest record I have been able to find is that given in a list of drugs in *The Family Physician*, by Gideon Harvey, printed in London in 1678, where the price of Terra Sigillata is given as 1s. 4d. per ounce. In a price-list of the State Apothecaries of Basel, printed in 1701, Terra Sigillata Silicia is quoted at 2 florins 6 pfennig per ounce, and Terra Sigillata Turcica at 3 florins 4 pfennig per ounce. In another price-list of medicines sold by the apothecaries of Florence, dated 1761, Terra Lemnia is quoted at 5 lire per ounce.

Having considered the early history of this interesting medicament, some account of the extraordinary properties attributed to it may be mentioned. By the Greeks, in ancient times, it appears to have been chiefly used as a remedy for the bites and stings of venomous animals, pain and watering of the eyes, hæmorrhage, dysentery, diseases of the spleen and kidneys, and also as an antidote against deadly poisons. By some writers it is recommended in cases of spotted fever, and it was applied externally to promote the healing and prevent the putrefaction of wounds. By others it was frequently prescribed for scabies, gonorrhœa and dysentery.

Terra Sigillata has often been confused with Armenian bole, but there is ample evidence from the time of Galen down to that of Belon that they were two distinct earths, and that the latter was only used as an adulterant of the former.

Terra Sigillata entered into the composition of many important preparations, and was one of the ingredients in the famous treacle of Andromachus. It also formed part of many other preparations, especially the class known as 'alexipharmic powders,' which were largely used and prescribed for fevers, small-pox and pestilential diseases in the sixteenth and seventeenth centuries. Hungary powder, a famous preparation used in dysentery, contained Lemnian earth, syrup of quinces, and plantain water. An electuary was also made from Terra Sigillata in conjunction with syrup of bearberries and conserve of roses. It entered into the composition of a magisterium, and an oil for application to the eyes which was included in many pharmacopœias. It was included in the first edition of the *Pharmacopœia of the Royal College of Physicians of London*, printed in 1618, among the ingredients in the treacle of Andromachus, and throughout the seventeenth and eighteenth centuries appears in most of the official books on medicine in Europe. As late as 1833 it was included in the *Pharmacopœia Universalis* of Jourdan as Terra Sigillata, Terra Lemnia, or Lemnian Bole, and is described as being met with in round, cylindrical, or flat cakes, of a pale rose-colour, and bearing the stamp of some seal. It was also official in the pharmacopœias of Spain, Brunswick, Geneva and Wurtemberg. Probably its last appearance in any important work on pharmacy is in Grey's *Supplement to the Pharmacopœia*, 1848. He

states: 'Terra Lemnia, Terra Sigillata, Lemnian Earth, or Sealed Earth, is a kind of bole originally brought from the Island of Lemnos, and said to have been obtained from a hill where no plant grew. The Turks, who were formerly the principal dealers in it, made it into little flat, circular cakes, which were stamped with the impression of a seal, and the name Terra Sigillata, Sealed Earth, is applied to it in this state.'

Since the middle of the nineteenth century this once famous remedy has dropped out of use in medicine, and is now practically forgotten.

In 1890, Tozer made a pilgrimage to the 'Isle of the Sacred Earth'. He gives us an interesting account of his visit to the site of origin of the ancient medicament. On arriving at the place where it is obtained, near Kotchino, he found the ground everywhere covered with turf, but otherwise devoid of vegetation. He states: 'The cavity from which the "sacred earth" is taken is an insignificant hole about 50 feet in circumference and 10 feet deep, the bottom of which is now entirely filled up with dry stalks of thistles. The "sacred earth" is found at a depth of 3 feet below this'. In the neighbourhood there is, however, another spot which seems to have been excavated, and it is believed that the vein extends for some distance below the soil. The earth, however, is not the same as that which Galen and Belon describe, for while they speak of it as red in colour, the specimens shown to me resembled ordinary clay. Either the original vein has been exhausted or they no longer dig deep enough to reach it. As in Belon's time, it can only be dug on the 6th day of August, and unless this takes place before sunrise all its efficacy is said to be lost. It is also confidently believed in the island that when the ground is opened, the sacred earth wells up of its own accord, but when I questioned a local authority he replied much in the same way as Galen's auditors did to his inquiries about the admixture of goat's blood in the drug.'

The account of the customs observed on the occasion, which continued in full force until five or six years ago, was as follows:—

'On the appointed morning the Governor or his representative proceeded to the spot accompanied by the Mohammedan "khodjas" and the Christian priests, both of whom took part in the ceremony; the former of these offered a lamb as a sacrifice (kourban), of the flesh of which they afterwards partook, while fish was provided for the Christians, who were prohibited from eating meat at that season, owing to its falling in the fast of fourteen days which precedes the festival of the Virgin. According to tradition, sometimes two or three thousand people were present, and as much as seven mules' load of the earth was carried away to be sent to Constantinople. It was then made into pieces of the size of tablets of soap and was stamped with the Government seal. The locality I have mentioned is evidently the same which Belon visited, and probably corresponds to that described by Galen. The resemblances between the ancient and modern customs and beliefs are also very striking. The

sacred character attributed to the earth and the religious auspices under which it was removed, the offerings made on the occasion, the guarantee of genuineness provided by the seal, and the confidence which was placed in its efficacy as a medicine, are features common to the earlier and the later accounts and seem to point to an unbroken tradition. To these one more may be added, which is not the least curious I have mentioned, that the ancient authorities agree in regarding it as an antidote to poison. At the present day small bowls are made on the spot of this material, and are bought by Turks, who believe that a vessel made of this clay neutralises the effect of any poison that is put into it. I purchased several of these from the potter, and each of them is stamped in five places with the Government seal, which bears in Arabic characters the same inscription which Belon mentions as being used in his day, *tinimaktoum*, i.e. sealed earth. This seal, he informed me, was obtained for him from Constantinople twenty years before by an exiled Pasha, who desired that a number of these bowls might be made for him.

'Notwithstanding the long duration of this time-worn belief, it is evident from the neglect into which it has lately fallen that ere long it will be a thing of the past. For several years the Turkish governor has ceased to attend, and, following his example, first the "khodjas" and then the priests absented themselves, and no lamb is now sacrificed. Last year only twelve persons were present. Though the tablets were to be bought in chemists' shops in Kastro at the time of Conze's visit to the island in 1885, I inquired in vain for them, and neither the existing Government nor any persons of the younger generation have heard of this remedy. In the eastern parts of Lemnos, however, it is still in use for fevers and some other disorders, for the women possess nuts of it which they string like the beads of a rosary. These they grate in cases of illness and take a teaspoonful of the powder in water. Not long ago the proprietor of the hillside applied for leave to plough over the spot and sow it with corn, and though for a time this was not allowed by the Government, yet, when the annual celebration has come to an end, the prohibition will safely be ignored, and from that time forward the locality itself will be forgotten.'

The last investigator to visit the site of the famous earth was Hasluck, in 1909. He states he was unable to obtain specimens of it in the capital of the island, but at the pottery below the site he bought bowls of an ill-levigated clay bearing the old inscription *tinimaktoum*. 'The monopoly of the pottery and seal, formerly hereditary in a Turkish family, has lost even this link with the past, and the once priceless antidotal bowls have come down to the very moderate figure of a halfpenny each.'

The importance attached to this remedy in ancient times, and the high esteem in which it was held as a remedy for nearly 2,000 years, led me to the present investigation in the endeavour to ascertain if the remarkable properties attributed to it were real or fictitious.

Some years ago I was fortunate enough to obtain a small sample of the Lemnian Earth of the sixteenth century. On analysis its composition was determined and found to be as follows:—

Silicates	37·23 per cent.
Ferric oxide	4·08 „
Aluminium oxide	13·51 „
Calcium oxide	22·90 „
Magnesia and alkali oxides	1·50 „
Water and carbon dioxide	17·72 „
Moisture as determined by heating at 130°	3·06 „
In 100 parts	

From this it may be judged that the properties of this slightly astringent and absorbent earth have been considerably overestimated, and this no doubt accounts for its disappearance from the pharmacopœias of the present day. We must, therefore, conclude that its virtues, like those of many other ancient remedies, were chiefly due to the mystery surrounding its origin and the superstitions connected with its source.