रसजलनिधि:

द्वितीयखण्डम्

मुखोपाध्यायोपाधिकेन
सिद्धवैय-श्रीभृदेव देवशार्मणा रसाचार्येण
एम. ए. इत्युपनामचारिणा विरचितः

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वाराणसी

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PREFACE

Little did I think at the time I set to myself the gigantic task of compiling, in 10 volumes, a book which has already been considered to be the most systematic and comprehensive treatise on the almost best, abstruse, and little known science of Hindu chemistry, that it would be received by the educated public with anything like enthusiasm. My diffidence on this direction was due, no doubt, to a strange but much evinced mentality, developed by a great majority of the present day Indians who are in the habit condemning much of the social and cultural achievements of their forefathers without even taking the trouble of examining them critically, so much so that everything which is unknown and un-intelligible of these people is denounced as dogmatic, unscientific, and superstitious. But fortunately for me, facts have relieved my expectation, at least partially. The encouragement which I have been receiving from the really educated and patriotic section of the Indian public, irrespective of caste, creed, or community, has elicited in me a faint ray of hope that time may come when my countrymen will turn their eyes inwards and try to revive the ancient Indian culture, not only in the departments of language, philosophy, religion, mathematics, and social, socio-religious, and socio-political laws which have already received some mention, but also in the departments of material Sciences including the science of medicine, which, even in its degraded and much neglected condition, human claim an incomparable superiority to all other systems of medicine known to the world. It is indeed
very gratifying to note that the first volume of Rasa-jala-nidhi has met with much appreciation not only in India, but also in foreign countries.

It is a pity that no Indian University has hither to given any attention to the study of Indian Chemistry and Indian medicine which are more important than the other branches of Indian culture. It is very difficult to foresee whether any of our Universities will ever come to realize the importance of the branches of ancient Indian culture, but, if men like Sir Chimanlal Setalvad, the present Vice-Chancellor of the Bombay university, continue to be at the help of University affairs in India, time may come when my dream of the resurrection of the moribund India sciences may be fulfilled.

Whatever that may be, the publication of any work involves immense commercial possibilities. It is a matter of common knowledge that a great many of the allopathic drugs are prepared from Indian herbs, the properties of which the allopaths came to learn from the Indian books on herbal medicines but unfortunately, the allopaths have not yet had the opportunity of knowing that by far the greater portion of the literature on Indian medicines is still a terra incognita not only to them but to many of the practitioners of Indian medicine themselves.

Of the innumerable metallic medicines prescribed in books on Indian Chemistry, Rasa-sinduram or ordinary sulphide of mercury, wrongly called "makara-dhwaja" which is prepared out of sulphur and mercury which has digested gold, i.e. swallowed some gold without any increase in its original weight so much so that the gold, thus swallowed can by no
means be separated from the swallowing mercury. Vide, pages 76 to 99, 105-116 and 134-135, vol. 1), is the only one that has been brought to the knowledge of the allopaths who have found it very efficacious as a general tonic. This medicine is now being prepared by some foreign chemists and used extensively by the Indian Allopaths. My publication will afford these and other chemists an opportunity of preparing many other metallic drugs, a lot of which are much more efficacious than Rasa-sinduram which is only one of the common-places of metallic preparations prescribed in books on Indian chemistry. This may open up a new avenue of commercial intercourse between India and the rest of the world leading to the revival of Indian Chemistry in foreign countries at least, if not in India itself. Let truth triumph, no matter how, when, and where.

Prof. Arthur Becket Lamb of the Harvard university has kindly suggested to me the desirability of pointing out the ancient sources of information on which my compilation is based. This is a point to which I had given a careful consideration at the time I put the work in hand. The difficulty which stands in the way of my accepting the suggestion is peculiar to the manner in which Indian Chemistry has been transmitted on the subject, hitherto discovered, claims originality: the author of every one of these books says that he is only a compiler, and there is nothing to disbelieve him, because all of these books have much in common with one another. It is manifestly evident that all of them drew on a common mass of materials transmitted by preceptors to disciples from
time out of memory. All that the ancient Hindus really cared for was knowledge without a scrupulous enquiry as to when and by whom a particular truth was discovered. There is another reason why I found the task of assigning sources of my information almost impossible. The existing books are so much wanting in method, so fragmentary, incomplete, and so full of mistakes made by generations of scribes that I had to correct the ancient texts to a great extent and to supply the missing links from the materials I collected from my preceptor who has got his own manuscript notes on the whole science, so much so that much of the language used in these volumes is my own composition, although the materials supplied are by no means of modern origin—they have been handed down to us by our remotest fore-fathers through generations of chemists most of whom have hitherto been ascetics retiring into the forests. It will be evident to a careful student of Hindu chemistry that the verses quoted in the texts and those composed by myself have been so intermingled with one another that it is practically impossible to give references to works laid under contribution, in every case. Such being the case, all that is possible for me is to furnish my readers with a list of books and manuscripts consulted, and this I propose to do after I have completed the compilation of all the volumes.

I consider it to be a pleasant duty to express my heart-felt gratitude to Sir Jagadish Chandra Bose, Sir Chiman Lal Setalvad, Vice Chancellor, Bombay University, Dr. Gerald Duce, author of "History of science", Dr. Nagaoka of the Institute of Physical
and Chemical Research. Tokyo, Prof. H. K. Sen of the Calcutta University, Mr. Arthur Edward Wait, Prof. L. M. Dennis of the Cornell University, Prof. A. B. Lamb of the Harvard University, and many other well-known scholars, who have encouraged me by their sympathetic appreciation of my ambitious work.

I am also indebted to Pandit Nritya Gopal Pancharatna, and to Professors Kshitish Ch. Chatterjee M. A. and Satkari Mookerji M. A. of the Deptt. of Sanskrit, Calcutta University, not only for the help they rendered to me in correcting the proof sheets but also for several suggestions received from them. The encouragement which I have received from the following members of the Institute of Hindu Chemistry also deserves mention:—Prof. Ramnarain Kayasth M. Sc. B. Ag. of the Nagpur University, Messrs. Girija Nath Mookerji B. Sc., Asstt. Analyst, Calcutta Corporation, Anindra Nath Chatterji, Sarojnath Bagchi, Ganapati Chakravarty M. A. and Upendra Nath Dutt (who has taken the trouble of compiling the Appendix to the present volume).

41·A Grey Street, Calcutta, BHUDEB MOOKERJI
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CHAPTER III

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Use of Kampilla

Gauripashana (Arsenic Stone)

Purification of arsenic stone

Extraction of essence from gauripashana

Navasara (Ammonium-chloride)

Properties of Navasara

Kapardaka (cowri or marine shells)

Properties of cowry or marine shells

Purification of kapardi (cowri)

Incineration of kapardika or cowri

Shankha (conch shell)

Purification of Shankha

Incineration of Shankha
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ERRATA.

Page 215, line 10. Insert "reduced to ashes" after "hog, etc."

Page 226, line 11. Insert "Purification of Hingula (Cinnabar),"

Page 237. For "Chapter Vi." read "Chapter Iv."

Page 251. Last but one line. For "copper" read "makshikam (pyrites)."

Page 78, line 24. Insert "purification of Bimala."

Page 208, line 26. Insert "purification of kankustham."

Page 259 line 7. Insert "Liquefaction of gold."
रसजलनिधि: ।

द्वितीयखण्डम् ।

मुखोपाध्यायोपाधिकेन
सिद्धवैध श्रीभूदेव देवश्रमंग्णा रसाचार्येन्
एम. ए. इत्युपनामभारिणा विरचितः ।
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आसोदतीशे भुक्षा च शकिं ॥
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सुताय शकिं प्रददासि तुषा
स्यादन्यथा कुञ्ज जड़प्रभावः ॥
रसजगनिधि—ह्वितीय्यांहं सन्त् खीयकार्ये कुरु विश्वधार्मिकी
जीवस्थव कोडृनमस्थतन्त्रः।
त्वदाधितं चालय मां यथाह्मु
आज्ञां वहंस्ते नियंतं चरयम्॥

प्रथमोपन्त्यायः।

व्यधोपरस्ता:।
वज्राघ्रं मान्धिकर्यं विमलंश्च शिलाज्ञुः।
तूचकं सत्यकंव चपलो रसकस्थाः॥
उपरस्ता इसे सन्त्रे विख्याता चित्रितमदेः।
संवाह्यत चश्चेते शुद्धृये मारश्ययं च॥
गन्धाौरिकासीसकंवीतालशिलाज्ञनम्।
कप्तुष्टं च प्रयुज्यन्ते नित्यं पारद्रकर्मिणै॥
कम्पित्वश्च परो गौरीपापायः नवसारकः।
कपरहो वाहिनार्थ गिरिसिन्दूरहिंड़ोः॥
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सेव्यन्ते च रसाभावे तस्मादुपरस्ता: स्मृतः॥
CHAPTER I.

The following are the uparasas:—

Group I—bajra abhra, two kinds of makshikam, bimala, shilajatu, tutthaka, sasyaka, chapala, and rasaka. These are to be collected for purification and incineration.

Group II—gandhaka, gairika, kasisa, kankshi, haritala, manas-shila, anjana, and kankustha. These are used in mercurial operations.

Group III—kampilla, gouripashana, navasara, kapardaka, agnijara, girisindura, hingula, and mriddara-shringaka, and bhunaga.

They are called uparasas, simply because they possess some of the qualities of Rasa or mercury.

अथ अभ्रम्

तत्थ गुणा:

गौरीतेजः परममूतं वातपितिन्द्रयानं।
प्रज्ञावोधि प्रशामित्तं वृष्यमाधुर्यमयम्।
बल्यं सिम्धं रचिदासकृतं दीपनं शीतवीच्यं
तत्तद्योगः सकलगड़हुः व्योम सूतेनदशनिम्॥

Abhram (Mica).

Mica is a great increaser of vitality. It removes from the system an abnormal excess of vayu (air) and pitta (animal heat), and does away with waste. It increases retentive faculties, cures diseases, and increases longevity, energy and strength. It soothes
the system, increases appetite, removes phlegm, increases the power of digestion of food, and produces a cooling effect. It cures all sorts of diseases, if administered with suitable anupanam (accompainment). It helps the solidification of mercury.

तत्थ प्रकारः

राजहस्ताद्धस्तादू यत्व समानीतं घनं खानेः।
भवेतः तत्व फलदं परं निःसलं निषफलं खलु॥
पिनाकं नागमण्डूकं वज्रमित्यक्रं मत्म॥
श्वेतादिवर्गीमेदन प्रत्येकं तत्थतुर्विधम॥
पिनाकं पावकोचतं विसुष्टति दलोचयम॥
तत् सेवितं मलं बद्रधा मारयत्तेव मानवम॥
नागाक्रं नागचत् कुष्ठ्यादू ध्यनं पावकसंस्थितम॥
तद्धुषुकं कुर्ते कुष्ठण मण्डलाल्यं न संशयः॥
उत्तम्यलोत्स्तुल्य मण्डलं ध्मातं पतती चाभ्रकम्॥
तत् कुष्ठाद्वसरीरोगसाध्वं शस्त्रतोल्ळयथा॥
वज्राक्रं वहिसवतं निर्मुक्षशेषवेक्षतम॥
देहलोहकरं ततथ सत्यरोगहरं परम॥

_Different kinds of Mica._

The attributes mentioned above are possessed by that mica only which is procured from a mine, having a depth of twelve feet, at least. Mica, procured otherwise, has got no substance, and is therefore useless. There are four kinds of mica, viz. (1) Pinakam, (2) Nagam, (3) Mandukam and (4)
Bajram. Each of these is again subdivided into four different classes, according to their colour (viz. white, red, yellow, and black). If subjected to heat, Pinakam splits itself into pieces, so that its layers are separated from one another. If taken internally, it causes death by an incurable constipation. If subjected to heat, Nagam emits a hissing sound like that of a snake. Taken internally, it gives rise to a kind of leprosy, called mandalam. If subjected to heat, Mandukam leaps up like a frog. Taken internally, it gives rise to stone disease, incurable, except by surgical operations. If subjected to heat, Bajram is freed from all sorts of impurities, and cures all sorts of diseases and strengthens the body, if taken internally, in the prescribed manner.

Mica, again, is of four different kinds, viz, white, red, yellow, and black. White mica is used in processes imparting a white colour to a substance (e.g. in transformation of lead into silver). Red mica is used in imparting a red colour to a metal, Yellow
mica is used in processes imparting a yellow colour to a substance, as for example, in the transformation of base metals into gold.

Although these four different kinds of bajra-mica have been recommended for use in medicines, the black bajra mica is infinitely superior to the other three kinds in efficacy. Only that kind of mica is to be made use of in medicines which is soft, full of layers, coloured, heavy, and is easily capable of being split up into its constituent layers.

सचन्द्रिकम्यं न व्यवहार्यम् ।
सचन्द्रकं च कित्वार्थे व्योम न प्रासयेदृ रसः ।
प्रासिताधानियोज्योऽत्रो लोहे चेव रसायने ॥
निरसचन्द्रिकम् मृतं व्योम सेव्य सन्यंगदेवु च।
सेबितं चन्द्रसंयुक्तं मेहं मन्दानलं चरेत् ॥
येशुकं युक्तिनिर्मुक्तं पत्राभ्रकरसायनम्।
तैरिद्धं कालकूटायं विषं जीवनहेतवे ॥
सत्त्वार्थं मार्गार्थं च योजयेच्छोधिताभ्रकम्।
अन्यथा त्याग्यं छल्ला विकरोत्येव निश्चितम् ॥

_Mica should be deprived of its glaze._

Mica should be deprived of its glaze. Mercury does not swallow the mica which has not been deprived of its natural glaze, and which appears to be dirty. Even if such a mica is swallowed by mercury, it should not be used in medicines, as well as in metallurgical operations. The mica which has been
deprived of its natural glaze (by being incinerated in the manner described below), should be used in all sorts of diseases. Mica, with a glazed surface, if taken internally, gives rise to spermatorrhoea and loss of appetite. Those who recommend the use in medicines, of mica, as it is found in nature, do no better than prescribe the use of kalakuta poison, for the purpose of saving human life. Only that mica, which has been duly purified, should be used for the purpose of extraction of essence as well as for incineration; otherwise, if taken internally, it will give rise to various kinds of disturbances in the system.

अष्ट्र स्वस्थ्य शोधनम्

प्रथमोविचि: ||

प्रतत्तं सत्तवारैश्च निचितं काँतिकेश्रकम्
निघोषं जाते नूनं प्रचितं चापि गोजले ||
त्रिपलाकथिते चापि गवां दुष्पे विशेषत: ||
ततो धन्याभ्रकं कृतवा मार्गीयं प्रयत्तं: ||

Purification of Mica.

First Process.

Mica is purified, if it is heated strongly, (preferably by means of a bellows) for seven times and immersed each time, either in (1) kanji, or (2) cow’s urine; then heated for seven times and immersed

* पाठावतरम्—त्रिपलाकथिते घोष्मृणास्ति \\ भस्ताय। सत्यम् योम तसं तसं विशेषति ||
each time in the decoction of triphala; and then again, heated for seven times, and immersed in milk with especial care. It is then to be reduced to what is called, “Dhanya-abhram”, and incinerated in the prescribed manner.

**Second process.**

Mica may also be purified, if it is heated and then immersed, while still hot, into a decoction of hog plums. It is next to be rubbed with two hands and dried. Thus reduced to powder, it becomes finer and better than Dhanya-abhram. (It is next to be incinerated exactly in the same way as Dhanya-abhram).

**Third process.**

Mica is purified, if it is heated strongly for seven times, and immersed each time in the juice of nirgundi leaves. Mica, thus purified, is to be reduced to Dhanya-abhram, and incinerated.
Fourth process.

Black mica is to be heated and immersed in milk. Its layers are then to be separated from one another and subjected to bhavana with the juice of tanduliyaka and a sour non-metallic liquid. Mica is thus purified.

Dhanya-abhram.

Powdered mica, mixed with shali paddy, is to be contained in a piece of cloth, and formed into a bundle, which is to be kept immersed in kanji for some time. This is then to be rubbed with two hands, and pressed in the midst of kanji, with the result that very minute particles of mica will come out of the bundle, and deposit themselves at the bottom of the pot containing the kanji. These minute particles of mica are called, “Dhanya-abhram” or “paddy mica.”
First process.

Dhanya-abhram is to be rubbed carefully with the juice of matsu yakshi, made into a cake, dried and subjected to heat by means of a half Gajaputam. This process is to be performed for six times. The mica is next to be rubbed with one-fourth its weight of tankanam and a sufficient quantity of the juice of punarnava, and then made into a cake which is to be subjected to heat by means of a half Gaja-putam. The process is to be performed for seven times. It is similarly to be subjected to putam for seven times each, after having been previously rubbed with the juices of basaka and tanduliyaka. Mica, thus incinerated, may be used in medicines as well as in metallurgical operations.
Dhanya-abhram is incinerated, if it is subjected to putam for ten times, after having been rubbed each time with the juice of kasamarda. The same purpose is served, if the juice of muste or of tanduliya is used instead of kasamarda.

Mica is incinerated and assumes the colour of red vermilion, if it is subjected to putam for six times, after having been rubbed each time, with haritalam, the juice of amalaki, and tankanam. This mica cures phthisis and all other diseases, if used with suitable anupanam or accompaniment.
Fourth process.

Mica is incinerated and assumes the colour of red vermilion, if subjected to putam for 20 times, after having been rubbed each time with the juice of any one of the following: (1) bark of the root of a banyan tree, (2) leaves of tambuli (betel) plant, (3) basa and matsuysakshi, (4) matsuyakshi and karaballi, or (5) milk of banyan tree.

Fifth process.

Mica is incinerated by being subjected to putam for three times, after having been subjected to bhavana, each time, with the juice of eranda leaves, mixed with molasses. Mica, thus incinerated, increases appetite to a great extent, and cures all sorts of diseases, if taken in doses of half a gunja a day, combined with suitable anupanam.
Sixth process.

Dhanya-abhrakam is to be subjected to Gaja-putam, after having been rubbed for one day with the juice of punarnava. It is next to be subjected to Gaja-putam, after having been rubbed for one day with the juice of meghananda. It is then to be subjected to putam for three times, after having been rubbed with the juices of tamarind, mustaka, and shurana, respectively. It is next to be covered with the leaves of arka or with the petals of banana flower, and subjected to putam. Thus treated, mica becomes deprived of its glaze, and may be used in medicines and metallurgy.

Seventh process.

Dhanya-abhram is to be roasted with cow’s ghee and decoction of triphalas, and subjected to putam for twenty-five times. It is next to be roasted with the juice of kasamardana. It is then to be subjected to putam for three times, having previously been rubbed with milk, every time. The mica, thus deprived of its glaze, may be used in medicines for the removal of diseases, senility, and premature death.

13
 Eighth process.

One part of Dhany-aabhram and two parts of tankanam are to be rubbed together and subjected to heat in a blind crucible by means of a strong fire. When cooled of itself, after the extinction of fire, the mica finely powdered, can be used in all sorts of diseases.
Dhanya-abhram is, first of all, to be rubbed with a sour vegetable juice and subjected to putam. While still hot, it is to be saturated with a sour vegetable juice, rubbed well, and subjected to bhavana with sour aranala. It is next to be boiled with aranala which is to be dried by the application of heat. This process is to be performed for 20 times, either by heating in the ordinary way or by putam. Care should be taken that heating is commenced in a succeeding stage, while the mica is still hot by the preceding heating.

Next, the mica is to be immersed, while still hot, in milk, rubbed with it, and dried up by application of heat. Then, while still hot, it is to be subjected to putam, and then while still hot, is to be soaked with fresh milk, which is to be dried up by heat. This process of soaking and rubbing the mica with milk, and then drying it up by application of heat, and then subjecting it to putam is to be performed 21 times. It is to be turned frequently in a cauldron or in an earthen pot, at the time it is roasted, after it has been soaked and rubbed with milk.

It is next to be roasted for seven days, during day time, and subjected to putam at night.

The mica is then to be rubbed for three days each with the juices of tanduliaka, asthisanahara, talamuli, punarnava, changeri, maricha, and bala, and subjected to putam after every act of rubbing. The prescribed
juice, in this case, is to be rubbed with the mica, while it is still hot by the previous putam, and the rubbing is to take place in the hot samputam itself. Mica, thus incinerated, turns black.

Tenth process.

Purified Dhanya abhram with one tenth its weight of maricha is to be rubbed with the amla-varga, and then subjected to bhavana with a sour vegetable liquid for three days. When dried, it is to be subjected to putam by a strong fire made of khadira wood. After removal of the upper basin, the mica is to be saturated with a sour vegetable liquid. It is then to be rubbed with the juices of the root, bark, and leaves, respectively, of basaka, shigru, and punarnava, and then saturated for six times with six different kinds of sour vegetable juices. The mica is then to be rubbed, with sugar, honey, clarified
butter, cow’s milk, curd, amlas, juices of matsyakhshi, and karabira, for three times, and subjected to putam each time with the result that it is incinerated and deprived of its glaze.

Eleventh process.

Dhanyabhrakam is to be rubbed for one day with the juice of each of the following:—matsyakhshi, tulasi, root of kokilaksha, root of kanya, root of white durva, byaghri kanda, and punarnava, and subjected to heat in a Gaja putam after each day’s rubbing. Every act of rubbing in this case is to be effected while the mica is still hot by a previous heating. The mica is similarly to be rubbed with the panchamitram and then heated by means of a Gajaputam for seven times. The mica, thus deprived of its glaze, may be used in all sorts of diseases.
Twelfth process.

Dhanya abhram and an equal quantity of tankanam are to be rubbed together with each of the following, and subjected to putam after every act of rubbing is performed:—Cow’s urine, juice of tulasi, juice of bakuchi, and juice of shurana. It is next to be rubbed with the juice of jayanti, and subjected to putam for three times. All this process, performed for four times, deprives the mica of its glaze, and makes it fit for use in all sorts of diseases.

Thirteenth process.

Dhanya abhram is to be rubbed with the milk of arka or with the juice of the root of arka, and then subjected to putam. Performance of this process for seven times causes the incineration of mica.
Fourteenth process.

Dhanya abhram is to be immersed in kanji and kept exposed to the sun for one day. It is then to be rubbed for twelve hours, made into a lump, and heated by Gajaputam. It is next to be immersed in cow's milk in the same way and similarly rubbed and heated. It is then to be immersed in the juice of cotton leaves, exposed to the sun for one day, and then rubbed and heated, as before. The mica is then to be dried in the sun, and heated by putam over and over again, after having been rubbed each time with one of the following in order of their occurrence:—sour vegetable juices, juice of cotton leaves, and cow's milk. Twenty-one such putams will cause the incineration of the mica.

पद्धति चित्र: I

कल्प धान्याक्रं तत्तु श्रोपित्वा तु महेषत् I
ब्राह्मचरीरिदिनं मद्द्वयणं मूलद्रव्याः सा II
Fifteenth process.

Dhanya abhram is to be duly dried up, and rubbed for one day with the milk of arka or the juice of arka roots. It is then to be wrapped up with arka leaves and heated by Gajaputam. This process is to be performed carefully for seven times. The mica is then to be rubbed with a decoction of the aerial roots of a banyan tree, and then heated by putam. The last mentioned process is to be performed for three times, leading to the incineration of mica, which may now be used in all sorts of diseases.
Sixteenth process.

Dhanya abhrum is to be rubbed for three times, with decoction of musta, and heated every time by a putam. It is then to be rubbed for three times, with each of the following, and subjected to putam after each act of rubbing:—juice of punarnava, juice of kasamarda, juice of tambulam, milk of arka, decoction of aerial roots of banyan, juice of mushali, decoction of gokshura, juice of banari, juice of the tuber of banana, juice of kokilaksha, and juice of lodhra. The mica is then to be rubbed for one time with each of the following and heated by putam, after every act of rubbing—juice of lodhra, milk, curd, clarified butter, honey, and white sugar. Mica, thus incinerated, cures all sorts of disease, if applied with suitable anupanam. It increases masculine strength, power of retention of semen, nutrition, longevity, growth of semen, retentive faculties, and the power of begetting children.
Mica is to be rubbed with the juice of a banana plant and salt, and made into a ball, which is to be kept inside tankanam. This is then to be put inside a hole made into the root of snuhi or arka, the hole being closed tightly with a portion of the same root. The whole thing is now to be subjected to heat by a fire made of charcoal, and kept kindled by a fan.

Mica is incinerated and assumes the colour of a lotus flower, if subjected to putam for a hundred times, after having been rubbed well with each of the following:—milk of banyan, milk of arka, milk of
snuhi, juice of kanya, juice of musta, man’s urine, juice of the aerial roots of banyan tree, and goat’s blood.

निन्द्विषो विधि: ।

गवां मृण्येघी धान्याध्रु मद्ययित्वा पुनः पुनः ।
शुरावसंपूर्ते रुद्धः पुरैः यजाति सहवशः ॥

Nineteenth process.

Dhanya abhram is incinerated, if subjected to putam for one thousand times, after having been rubbed each time with cow’s urine.

विषो विधि: ।

शुष्कं धान्याध्रकं मुस्तं शुभीरं उभयग्रामोजितम् ।
मद्येत् काशिकनेव दिनं चित्रकजे रसं ॥
ततो गजपुरं द्वातुत् तस्मादुद्धृत्य मद्येत् ।
त्रिपलवारिष्का तस्मात् पुरैः पुरैः पुरैः ॥
बलार्गोमूलसुंडरीतुलसीशुरावर्धवे ।
मदित्तं पूर्णितं वहौ त्रिवर्षेधः क्रजेनू मृतिम् ॥

Twentieth process.

Dhanya abhram, properly dried, an equal quantity of musta, and six times its weight of shunthi, are to be rubbed for one day each with kanji and the juice of chitrakka, and then subjected to Gajaputam. It is then to be rubbed with the decoction of triphala, and subjected to putam in the same manner for

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three times. It is next to be rubbed with each of the following, and heated by putam, for three times, after each act of rubbing:—juice or decoction of bala, cow’s urine, juice of mushali, juice of tulasi, and juice of shuranam.

पक्विंशो विधि

चांगेरी खाँगनियार्सेवर्यांयान्त्रेकं विमर्द्येत्
तदगौतिकमूलस्य रसेनापि तत: परम्॥
ततोड्षिन्नं खोदिराङ्गारेन प्रापिते दखिवैर्यंताम्।
चिपितु युन: युन: चौरे यथा निष्ठन्निर्कं भवेत्॥

Twenty-first process.

Dhanya abhram is to be rubbed, first of all, with the juice of changeri, and then with the juice of tanduliyaka. It is then to be heated, by means of khadira wood, and, when red hot, to be thrown into milk. The process is to be repeated until the mica is deprived of its glaze.

ह्रायिशो विधि: ॥

धान्याब्राहं गुड़तुल्यं च श्रेष्ठचौरेरेश मद्धितम्।
क्षतं चकाकारं शुष्कं सम्यग्य गजपुरसे पचेत्॥
ततो धतुरपुष्करमारीशशिवारिकाः ॥ 
प्रत्येकसंवस्ये पुटादाशुम्भ तिर्मवेत्॥

* पच्छमु जलपिण्डीः शशिवारिकोपलम्।
Twenty second process.

Dhanya abhram with an equal quantity of molasses is to be rubbed with excellent milk, made into a cake, dried, and then heated by Gajaputam. It is next to be rubbed separately with the juice of each of the following, and subjected to heat by Gajaputam, everytime it is so rubbed:—dhattura, gaja pippali, kanya, and utpalam. Mica, thus treated, becomes incinerated.

Twenty third process.

Dhanya abhram is to be rubbed with the juice of any grass and subjected to putam. Performance of this process for ten times will lead to the incineration of the mica, which will also be deprived of its glaze.

Twenty-fourth process.

Two parts of Dhanya abhram and one part of purified sulphur are to be rubbed together with the
milk of banyan, and subjected to Gajaputam for once only. This will result in the incineration of mica.

**Twenty-fifth process.**

Dhanya abhram is incinerated and cures all sorts of diseases, if rubbed with each of the following for seven times, and subjected to putam after every act of rubbing:—punarnava, kumari, shunthi, banari, mushali, ikshu, amalaki, milk of arka, and milk of shehundu.
Twenty sixth process.

Dhanya abraham, duly purified, especially with
decoction of triphala, is to be kept immersed, for forty
days, in four times its quantity of shuktam.* Then,
two tolas of purified mercury, four tolas of fresh
babbula flower, and four tolas of fresh gum of babbula,
are to be rubbed together, made into a ball which
is to be thrown into the shuktam. The whole thing
is next to be turned by means of a rod every day,
for three days only, (and by no means for a longer
period) and after the expiry of these days, to be
rubbed together in a mortar and made into a cake,
when sufficiently condensed. This cake is to be
dried in the sun and heated in a Gajaputam. It is
next to be rubbed with a fresh quantity of shuktam
for one day only, and then subjected to putam by a
fire made of cowdung cakes, found dried in the
pasturage. These last two processes, viz, rubbing
with a fresh quantity of shuktam, and heating by
cowdung cakes, if performed for three times, result
in the incineration of the mica. If taken in doses of
one gunja a day, it even enables a blind man to
recover his eyesight. It also cures all sorts of
diseases, and especially, indigestion, impurities of
blood, gonorrhoea, carbuncles, abnormal thirst,
leprosy, enlargement of spleen, diseases pertaining to

* Shuktam is prepared as follows:—

One prastha of boiled rice made into a paste (by being over-
boiled, rubbed, and sifted through a piece of fine cloth), 20 prasthas
of kanji, 30 tolas of curd, one prastha of molasses, 32 tolas of the
residues of kanji, 64 tolas of shunthi, and eight tolas of pippali,
jira, saindhava, haridra, and maricha, combined—all these things
are to be kept for eight days, in an earthen vessel, previously soaked
with clarified butter. It is then to be filtered and mixed with three
tolas each of guda twaka, ela, naga keshara, and patri.
the belly and the stomach, scrofula, worms, and consumption. It is moreover very nutritive.


twenty seventh process.

Dhanyabhram is to be rubbed for seven days with each of the following during day time, and heated by
Gaja putam every corresponding night:—milk of arka, cow’s milk; juices of—brahmi, rudanti, bala, basa, chitraka, shalmali, vilba, haritaki, kushmanda, dadima, jati, gokshura, shankha puspī, meda, ananta mula, barbari, draksha, mula, rakshasi (muramansi), tulasi, mundi, indrarbaruni, mada (dhataki flower), gojihva, vidari creeper, shringi (karkata shringi), bacha, jatamansi, shata puspā, and arka. The mica is next to be subjected to bhavana for twenty times with each of the two juices, viz., the juice of the aerial roots of banyan, and the juice of kesharaja, and heated by putam after every such act of bhavana. It is next to be rubbed separately with the juices of kapittha and seeds of chinčini (tamarind), and heated by putam after each act of rubbing. It is next to be subjected to putam for fifteen times, after having been rubbed each time with the following, mixed together:—lemon juice, cow’s milk, solution of molasses, curd, khandā guda, clarified butter, and pure honey. Thus treated, the mica will be deprived of its glaze and assume a red appearance. This will then be fit for use by kings.
Twenty eighth process.

Mica is to be rubbed with each of the following:—nagabala, bhadramusta, milk of banyan, juice of the aerial roots of banyan, juice of haridra, and subjected to putam after its being rubbed with each of them. Mica thus incinerated, assumes a red appearance.

Twenty-ninth process.

Dhany abhram is to be rubbed with the juice of matsyakshi, made into a cake, dried, and then heated in a Gaja putam. It is thus to be rubbed with the juice of punarnava and heated by Gaja putam for six times. It is next to be rubbed with one sixteenth its weight of tankanam, made into a cake, and heated by fire being applied on the upperside of the samputam (containing the cake) which is to be in a pit made in the earth. This process of rubbing with
tankanam and heating is to be performed for seven times. It is next to be rubbed with each of the following for seven times each, and heated in the aforesaid way after its being rubbed each time:—juice of basa, and juice of tanduliyaka. Mica, thus incinerated, may be used in all sorts of diseases.

शिशो विधि: । *

वज्राभ्रकं कुट्कितुं सुखलवे तपतेन दुग्धेन च
सेचनीयम् ।

तस्माहप्रेयं मृदुवहियकं प्रृतेन किष्ठिण्द्रि विलोलयित्वा॥
शालीविनिमित्रेण सुवस्वच्छेडः बच्चा छडः पोटलिमबु-पात्रे ।

विघ्रुष्य तोयान्तरसांहितं तदृ धान्याभ्रकं शुद्धिमुपैति
पश्चात्॥

खले सुरमे किल धर्षयित्वा जले चतुःपश्चिवन-
स्पतिस्नां
घर्मेऽथ संशोष्य दिनान्तकाले वनोत्तपलानां

पुटमाचरेभ ।

एवंविधं मारितमभ्रकास्त वनस्पतिस्नां कम एव-

मुक्मू ॥

दुर्गं रत्नें वटवज्रवज्रिकुमारिकानामनिलारितिका ।
मुस्तायुद्वीविच्याभ्रकान्तवर्तकिनीपरिषंद्रयं च गुलम॥

* धान्याभ्रकस्यापि विधानमत्र लिख्यते ।
Vajra abhra is to be rubbed in a mortar with hot milk of cow, and heated by a mild fire in an iron cauldron, mixed with a little of clarified butter. This mica, with s'ali paddy, contained in a piece of cloth, made into a bundle, is to be rubbed in kanji with the result that minute particles of mica will come out through the cloth. These particles are called “Dhānya abhram”, and they are pure. This mica is incinerated, if rubbed with each of the following drugs (not exceeding one in a day) during
day time, then dried in the sun, and heated by putam
by means of cowdung cakes, at night. *

The names of the drugs and their sequence are
as follows:—

milks of arka, banyan, bajri, and kanya; juices of
eranda roots, jaba-ticta, musta, guduchhi, bhangha,
gokshura, bartakini (kantakari), shalaparni, prisni-
parni, sweta sarshapa, apamarga, aerial roots of a
banyan tree, vilba, agnimantha, chitraka, tinduka,
haritaki, patali, amalaki, bibhitaki, kumbhi growing in
water, talish patram, talamuli, basaka, aswagandha,
kesharaja, kadali (plantain), saptaparni, dhattura,
lodhra, devadaru, tulsi, durba, white durba, kasamarda,
maricha, dadima, kakamachi, shankhapespi, nata,
tambula, punarnava, brahmi, indra baruni, bhargi,
devedali, kapithha, shivalingi, katu rohini, kinshuka,
koshataki, indura parni, meenakshi, karavi, tilaparni,
kumbhi, ardraka, shatabari, goat’s blood, and cow’s
urine.

यथा मृतांश्च वश्चणम्।

निश्चन्द्रं च सुसूच्चम् च लोचनांजनसत्त्त्विमह्।

तदा मृतविश्वेत्रकमः कर्क्कथायास्मुतम्॥

* Characteristics of killed (incinerated) mica.

Mica is said to be killed or incinerated, if it is
deprived of its glaze, and becomes as fine as collyrium;
otherwise, it is to be considered un-killed.

मृतांश्चवावस्त्रीकरणम्।

त्रिफलात्वकक्षायस्य पलान्यादया पोङ्खः।

गोघृतस्य पलान्य्यश्री मृतांश्चव्य पलान्यदश॥

* This includes the process of preparing dhanya abhram.
Impartation of the qualities of nectar upon killed mica.

Sixteen palams (64 tolas) of decoction of triphala, eight palams of cow's ghee, and ten palams of killed mica are to be mixed together, and heated in an iron cauldron by a mild fire, until the whole thing gets dried. This mica gains in efficacy and is to be used in all sorts of diseases. The same process is to be followed in the nectarisation of other metals also.

Another process of nectarisation of mica.

Incinerated mica, with an equal quantity of clarified butter, are to be heated in an iron cauldron, until the ghee is dried up. Efficacy of mica is enhanced by this process.

N. B. These processes hold good in the cases of dead mica, not red in colour. The qualities of dead
mica, red in colour, do not improve by the process of nectarisation. On the other hand, red mica undergoes deterioration in efficacy by this process.

अन्नपारणे पुतनस्य वैशिष्ट्यम्।

deshadistu shatannta: svat puuto va vyaadhinashane.
shataadistu sahakrannta: puuto deyo rasayane.

Importance of putam in killing of mica.

Mica, incinerated by putams numbering 10 to 100, is to be used only for the purpose of curing of disease. Mica, incinerated by putams numbering 100 to 1000, may be used for the purposes of curing and preventing physical decay and senility.

prakarantarman。

abhrantaradashpuradu vaatnudru nimen tu.
pitchadhriyamanka marshpakseforkutan.

abhrantarodpuradu, beejandhru nameth.
beeo janakatmikadra taadu beej deheharakam.

Another view.

Mica, incinerated by putam for 18 times becomes pacifier of bayu. It becomes a pacifier of pittam, if

* ~ shri sahasra shatpuradu beeja bhru mace.

sanhita: rasen prasatyoe dhatusajamryamadhite jayate.
incinerated by putam for 36 times. It pacifies phlegm, if incinerated by putam for 54 times. Mica, subjected to putam for more than one hundred times, is entitled to the name of beejam (seed). Such a mica increases semen, vitality, complexion, and strength of body.

Rubbing not necessary in putams for 1000 times.
If it is intended to subject mica to putam for a thousand times, it need not be rubbed with any of the prescribed juices. The mere act of subjecting the mica to bhavana with the prescribed juices will suffice in such a case.

Killers of mica,

Mica is also incinerated by being subjected to putam, after having been rubbed with the following:—tanduliyaka, brihati, nagaballi, tagarpadika, punarnava,

* Purified gold, and silver, as well as mica of the above description, are called “beejam” (seed), simply because they are fit for being swallowed by mercury.
hilamochika, mandukaparni, tictaka (kirata ticta),
akhuparni, madana, ardraka, palasha, mercury, and
amalaki.

अन्नमस्स्मावयोगः।
बेहत्योपसमन्वितं घृतघुतं वश्योन्मितं सेवतिम्।
दिन्यायं चत्याणं दृष्टां ग्रहिणीकाश्चूलामकुक्कुर्मयम्।
ज्वतिं श्वासगदं प्रमेहमरुचिं कासामायं दूधरें।
मन्दातिं जठरवयं विजयते योगैरशेषामयान्।

Use of incinerated mica.

Mica of an excellent quality cures pthisis, jaundice,
chronic diarrhoea, colic, dysentry, leprosy, fever,
asthma, gonorrhoea, aversion to food, loss of appetite,
cough, and pain in the abdomen, if taken in doses
of one balla at a time, with bidanga, trikatu,
and ghee. It also cures all other diseases, if taken
with the suitable anupanam (as detailed below).

अन्नमस्स्मानुपानानि।

अनुपानं विना व्योम जरामृत्युरुजापह्म।
योज्येद्नुपानान्वैं तत्तदरोगहरं चण्डात्।
अभ्रकं निर्यायं पिप्पलीमुना सह।
विषुचित्तथ प्रमेहाणां नाशयेन नात्र संशयः।
अभ्रकं हेमसंयुक्तं चत्यनुदं धातुवचरं कथा।
रौप्याहमाभ्रकसंवं धातुद्रुत्चिरं परम्।
अश्वक्रः हरितक्र्या युःैन सह योजितम् ।
एलाशकर्या युक्तं रक्तपित्तविनाशनम् ॥
स्रिकटुःत्रिपलायुक्तं चालुक्त्यतेन सितया ।
मधुनं सेवितं प्रातः चयाशःपाणुनाशनम् ॥
गुढ़चिक्षसत्तव्यायां सिद्धितं मेहनाशनम् ।
एलागोबुर्धूधात्रीसीतागत्येन मिष्ठितम् ॥
प्रातः संसेवनानू नित्यं मुत्रक्रःच्युविनाशनम् ।
पिप्पलीमधुसंयुक्तं भमजीविवरापहम् ॥
मधुत्रिफलं युक्तं हदिपुष्ठिकरं मतम् ।
मूर्वसत्त्वयं व्योमं व्रजाणाचा विनाशनम् ॥
भजात्कयं व्योमं लवशोंदेशनिवारणं ।
नागरणौःकर्मर्यागिगतं मधुनं सह ॥
ब्रह्मगोमन्ध्यं खादेहवात्वायिष्णुस्यावस्यानंते ।
चालुक्त्यतं सिता चात्रं पित्तदोषनिवारणं ॥
कटुपलिपप्पलीचौब्रुयतं न्योमं कपःपहम् ।
सत्त्वचारुतनम्ब्रममिष्ठिद्रजिकरं परम् ॥
एलागोबुर्धूधात्रींगोबुर्धसितया सह ।
मूर्वाधारं मुत्रक्रःच्युमशर्मीमपि नाशयेत् ॥
गोच्छीरवीरकन्द्रायं बलब्रजिकरं परम् ।
विजयारससंयुक्तं शुकसम्भवतं मतम् ॥
लवक्केमधुनं युक्तं चालुब्रजिं करोति हि ।
Special accompaniments of incinerated mica.

Mica, even if it is used without any accompaniment, can prevent senal decay, arrival of premature death, and diseases in general, but for the purpose of curing diseases, it may be used with suitable accompaniments.

It is to be used with haridra, pippali, and honey in twenty different kinds of prameha; with incinerated gold in pthisis and for increase of the dhatus; with incinerated gold and silver for increase of the dhatus; with haritaki, molasses, ela, and sharkara (sugar) in ractapittam; with trikatu, triphala, chaturjata, sharkara, and honey, taken in the morning in pthisis, piles, and jaundice; with essence of guduchi and fine molasses (or sugar) in spermatorrhoea; with ela, gokshura, bhudhatri, sharkara, and clarified cow's butter, in mutrakrichra; with pippali and honey in giddiness and remittent fever; with honey and triphala for improvement of eyesight; with essence of murba in boils, carbuncles, etc., with bhallataka in piles; with shunthi, root of puskara, bhargi, asva-
gandha, and honey, in batabyadhi (paralysis etc.) with chaturjatam and sugar in excess of pittam; with katphalam, pippali, and honey, in excess of phlegm; with all the ksharas for increase of the power of digesting food; with ela, gokshura, bhudhatri, cow’s milk, and sugar, in mutraghata, mutrakrichchra, and ashmari; with cow’s milk and bhumikushmanda for increase of strength; with juice of vijaya for retention of semen; with labanga and honey for increase of the dhatus; with cow’s milk and sugar in excess of pittam (animal heat); with shaileya, pippali, and honey, in all sorts of spermatorrhoea; with haritaki and molasses in bataractam; with triphala, honey and ghee in eye-diseases and for increase of semen; and with the trisugandhi, triphala, trikatu, sharkara, nagakeshara, and honey in jaundice, pthisis, and fever.

प्रकारात्मकः

अथाःश्रककल्पः

निश्चन्द्रमश्रकं सादं धात्रीयोषविवटिगकं।
निष्केकं भच्छिर्येत् प्राज्ञो वर्षेमेकं निरन्तरम्॥
द्वितीये तु पुनःवर्षें भच्छिर्येदु गृटिकार्यम्॥
एवं संतत्सर्पेष्व गृटिकेकां प्रवर्धयेत्॥
त्रिवर्षेस्य प्रयोगोऽयमश्रकस्य प्रकृतितः॥
अनेन क्रमयोगेन व्योगः शृपलं नरः॥
खादनुभवेन न संदेहो वज्रकायो महाबलः॥
मात्रस्येण रक्षायं चयकासं सुदार्शनम्॥
General directions for use of mica.

One should take every morning for a whole year, a pill, one nishka in weight, made of one racti of incinerated mica and an equal quantity of amalaki, trikatu, and vidanga. The dose is to be increased to two such pills, to be taken every morning during the second year. It is similarly to be raised to three pills, being taken every morning during the third year. A man taking one hundred palams of incinerated mica in the aforesaid way grows very strong with an adamantine constitution. One who takes mica in this way, and observes regulations for proper diet, becomes free, in three months, from all sorts of diseases, including pthisis, five different kinds of cough, heart disease, gulma, chronic diarrhoea, piles, fistula, rheumatism, consumption, jaundice, and eighteen different kinds of leprosy.

Dietary to be observed by one who takes mica.

One who takes mica should avoid taking the
following:—ksharas, amlas, pulses, karkati, karabella, brintaka (egg fruit), karira, and oils.

Evil effects of taking mica, not properly incinerated.

Mica, not properly incinerated, including that which has not been deprived of its glaze, may, all on a sudden, put an end to the life of one who takes it internally. Such mica also gives rise to all sorts of diseases, like the fur of a tiger, which finds its way into the belly or any other part of the body.

Removal of the evil effects of impure mica.

One is freed from the evil effects of taking impure mica, if one takes for three days amalaki fruit, rubbed with water.
Extraction of essence of mica.

First process.

Mica, powdered and immersed for one day in aranala, and mixed with a little of shuranam, and with one fourth its quantity of tankanam and a few shaphari fishes, is to be subjected to bhavana with the juice of the tuber of banana plant. This is then to be rubbed with she-buffalo's stool, made into a lump, dried, and heated in a kostham by a strong fire made of banyan wood, resulting in the extraction of an essence. This essence is superior to all the metals

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* महाद्रो दति पाठान्तरम् | † प्रथम लघुः ३०५ पृष्टि हृद्राव-योहाद्विद्राणवाण्गों द्रष्यः |

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in efficacy, and may be used for prevention of senility and diseases, after being duly incinerated. This essence, found in the form of small particles, is to be collected, kept in a crucible, and heated in conjunction with what is called, the "Mitra-panchakam" (or the five friends) with the result that the particles of the essence will smelt together into a mass, resembling a piece of bell-metal. This essence is to be purified and incinerated in the same way as iron.

The pancha-mitram are—(1) ghee, (2) honey, (3) guggulu, (4) gunja, and (5) tankanam. They bring about a combination of the seven different metals by being heated together by a fire made of char-coal.*

खङ्गश्च विधि: ।
पादांशृंगश्च घोषणं मूसलीरसमदितम् ।
रूप्यात्र कोष्ठायं हदृं ध्मातं सत्त्वहृपं भवेद्यं घनम् ॥

Second process of extraction of essence of mica.

Purified mica, with one fourth its quantity of tankanam, is to be rubbed with the juice of mushali and heated steadily by means of a kosthi jantram. This will lead to the coming out of the essence.

खङ्गश्च विधि: ।
कासिमद्घनधविविवासानां च धुनभूवः ।
मत्स्याच्यायं कारावल्यायं हिन्सपाया: रसेः पृथक् ॥

* See page 305, vol I, for articles effecting an easy smelting of hard metals.
Third process.

Mica is to be rubbed separately with each of the following, and dried in the sun, after it is rubbed every time:—kasamarda, musta, basaka, punarnaba, brahmi or hilamochika, karabella leaves, and hansapadi. It is then to be rubbed separately with one eighth its quantity of each of the following, and similarly dried in the sun:—powdered wheat, small fish, and tankanam. It is next to be rubbed with the milk, curd, ghee, urine, and stool of a goat, or a cow, or a buffalo, and made into a small ball, a little bigger
than a tinduka fruit. The ball is then to be subjected to heat in a patala koshthi, which lets the essence drop downwards and deposit itself down below. * The remains of the ball are to be freed from dirt, rubbed with a little of tankanam and cow-dung, and again made into a ball which is to be dried and heated in the afore-said manner, for the extraction of more essence. The remains of the second ball, if there are any, are again to be treated in the same manner for the extraction of more essence.

Fourth process.

Essence of mica is extracted, if it is rubbed with the powder of each of the following, and a sufficient quantity of milk, made into a ball, and then heated in a koshthi Jantram:—molasses, guggulu, laksha, sesamus cake, tankanam, wool, rala, and small fishes. By this process, it is possible to obtain essences even of such hard things as stone, earth, etc., not to speak of mica.
Dhanya abhram is to be rubbed with the following in order of their occurrence:—tankanam, molasses, tankanam, red glass, mahisha-panchakam, laksha, exudation of sarja tree, juice of the tuber of banana, small fish, juice of shuranam, juice of castor leaves, hingu duly purified (by being fried with ghee), tankanam, juice of wild shuranam, and honey. The whole thing is to be made into a ball, and dried. This is then to be subjected to heat (by means of a kosthica Jantram) which turns it into some thing resembling oxidised iron. This lump is then to be powdered and essence of mica, very fine and soft, is to be collected from these powders.
First process of purification of essence of mica.

The essence of mica is to be purified and incinerated in the same way as iron (see later).

Second process of purification.

The particles of essence of mica are to be kept confined with the shodhaniya gana and sour kanji, in a crucible, and heated until the smelting of the particles. The essence is then to be heated again twice. Thus purified, the essence becomes fit, by incineration, for being swallowed by mercury and for use as a rasayanam (i.e., a medicine which prevents and cures physical decay and senility). *

* “काथपित्वास्मकान्तिः” इत्येतस्य स्थले “सुस्ताकामास्मकान्तिः” इत्यथा पाठो इस्यम्ये। तथवेत “सम्यग्दुत्त” इत्येतस्य स्थले “सम्यक् पक” इत्यथा पाठ: कल्प्यते। शोधनावयनस्य संहिता प्रथमकाण्डे ३०६ पृष्ठेण दृष्टम्।

† For meaning of shodhaniya gana, see vol. I, page 306.
Incineration of essence of mica.

First process.

Mica is to be incinerated in the same way as iron.

Second process.

Essence of mica, mercury, and sulphur, each equal in quantity, are to be rubbed with the juice of kanya, and heated in a Baluka-jantram for two days, (confined in samputam consisting of two earthen basins *). The contents of the samputam or "Malla Musha" are then to be taken out and taken in doses of one masha \((i, e., \text{six gunjas})\) a day. Thus taken, it cures in a short time, phthisis, consumption, cough, gonorrhoea of an obstinate type, jaundice, and thinness.

* See page 269, vol I, under “Another kind of Baluka Jantram,” and page 291, ibid, under “Malla Musha.”
Third process.

Essence of mica is to be powdered very fine and sifted through a piece of fine cloth. It is then to be heated in a piece of earthen vessel, until it gets red hot, or until a straw thrown upon it is reduced to ashes. The powder is then to be rubbed with sulphur.
and the juice of the aerial roots of a banyan tree, and subjected to baraha putam for twenty times. It is then to be rubbed with decoction of triphala and subjected to putam for twenty times more. It is then to be rubbed separately with each of the following, and subjected to putam after every act of rubbing:—triphala, mundiri, bhringaraja, haritaki, bibhitaki, and mula. The essence of mica, thus incinerated, gains in efficacy. If subjected to putam for a hundred times, it proves more efficacious, and acquires the power of digesting food, and increasing appetite. It cures all sorts of diseases, if taken in doses of half a racti, with suitable anupanam.

चतुर्थम् विषि: ।

सत्त्वस्य गोलकं ध्वातं शस्यसंघुककाष्ठिके ।
निर्वाप्य तत्तुच्याणोंवे कुट्येन्नोहपारया ॥
संग्रताप्य घनस्थूलकम्बलान् जिप्त्वाथ काष्ठिके ।
तत्तुच्याणे समाहुत्व कुटूलित्वा रजश्चरते ॥
गोघृतेन च तञ्चूणें भर्जयेतु पूर्ववत् चिथा ।
धात्रीफलसैंतत्तुदु धात्रीपत्रासन वा ॥
भर्जे भर्जे भाये शिलापठे न पेशयाम् ।
तत: पुनर्बावासारस: काष्ठिकमिध्रिते: ॥
प्रपुट्टे दश्वारैश्च दश्वारैश्च गन्धकाः ।
भनेन मारितं सत्त्वं व्योऽः सर्वगुणोत्तरम् ॥
यथेष्टं विनियोक्तवं जार्यः च रसायने ।
Fourth process.

Lump of essence of mica is to be heated and cooled by being thrown into unfiltered kanji and broken into pieces immediately by means of an iron bar. The pieces which cannot be finely powdered by hammering are to be again heated, thrown into kanji, and hammered again, as before. The powders, thus obtained, are to be mixed with cow's ghee, and heated red hot for three times, being rubbed every time with the juice of the fruits or leaves of amalaki after the powder gets red hot, It is then to be subjected to putam for ten times, being rubbed each time with the juice of punarnava, mixed with kanji. It is next to be subjected to putam for ten times more, being rubbed each time with an equal quantity of sulphur. Essence of mica, thus incinerated, becomes the most efficacious, and may be used in the exhaustion of mica, and for purpose of prevention and cure of diseases and senility.
How incinerated essence of mica is to be used.

The general rule with regard to the use of incinerated essence of mica, kanta iron, and tikshna iron is that each of these is to be subjected to bhavana with decoction of triphala for as many times as are necessary for making the incinerated metal assume a black appearance. It is then to be dried, and sifted through a fine piece of cloth, mixed with the juices of bhringaraja, amalaki, haridra, honey, goats' ghee, cow's urine, and kept for a month inside a heap of paddy, confined within an iron sampatam. The mica, thus treated, is a very good medicine. It increases longevity to a great extent, if taken for one year, with ghee and honey.

Softening of essence of mica.

All sorts of hard essences, including those of metals, are softened, if smelted with honey, oil, fat, and ghee, and cooled—all these being done for ten times.
Dhanyabhram is to be rubbed with the juice of agastya leaves and kept confined within a tuber of shuranaam. It is then to be placed inside a pit, 1½ foot deep, cut in a land where cows are kept. This mica will be found to resemble mercury, if taken out after a month.

Second process.

Purified leaves of black mica are to be soaked with pilu oil, and dried in the sun, the process being
repeated over and over again, for one weak. They are then to be rubbed with the amla barga (see page 301, Vol I) and similarly to be dried. Next are to be procured equal quantities of ksharas of the following, powdered well:—snuhi, arka, arjuna, chitraka, katutumbi, jabakshara, swarjkshara, and tankanam. The mica leaves are then to be rubbed with these ksharas and subjected to bhavana for three days with the decoction of the following:—bajrakanda, kshira-kanda, brihati, kantakari, and bana brintaka. The mica leaves are then to be coated with a concentrated solution of the ksharas mentioned above, kept on a bell metal pot and dried, the process being repeated, as many times as necessary, for three days, resulting in the liquefaction of mica.

Third process.

Dhanya abhram with an equal quantity of powdered karkoti fruit and mitra pachchakam, (or panchamritam—see page 44) combined, is to be rubbed with a sour juice for one day, and heated in a crucible resulting in a liquefaction.
Fourth process.

Dhanya abhram with one fourth its quantity of cow’s flesh and saindhava are to be rubbed for three days with the milks of snuhi and arka, and with the juice of basaka, and made into a ball which is to be put inside the tuber of a banana plant, coated all over with mud. The whole thing is to be heated, for three days, by means of a fire made of cow dung cakes, resulting in a clear liquefaction of the mica.

Fifth process.

Mica is to be powdered very fine and subjected to bhavana with human oil (fat). It is then to be subjected to heat by being put into a crucible, previously coated all over its inner surface, with a worm called indra gopa or gopendra. The result will be a liquefaction of the mica.

* See glossary.
Sixth process.

Powdered white mica is to be subjected to bhavana with cow's urine and then with the juice of banana. It is then to be confined in a blind crucible and subjected to heat over and over again until it turns into a liquid.

\[ \text{Sixth process.} \]

Essence of Dhanya abhram, rubbed with the juice of bajra balli and saubarchala salt, and subjected to putam for several times, assumes the appearance of mercury,

\[ \text{Seventh process.} \]

Eighth process.

Powdered devadali, subjected to bhavana for many times, with its own juice, if thrown upon essence of...
mica, causes the liquefaction of the latter. This liquid comes to be condensed of itself, and even changes itself into gold, in course of time.

Ninth process.

(The process of liquefying all the metals).

Essence of mica as well as any metal undergoes liquefaction, if powdered tuber of kanchuki, already subjected to bhavana with its own juice, is thrown upon it.

How to amalgamate more than one metal in a state of cold liquid.

More than one such liquids amalgamate, if rubbed with the juice of palasha seeds, mixed with black aguru, musk, manas-shila, onion, and white hingu, and heated.
Transformation of tin into silver by means of mica.

White mica, white glass, aconite, saindhava, and tankanam are to be rubbed with the milk of snuhi for one day and made into a paste with which are to be coated the surfaces of a tin foil four times in weight of the paste. The tin foil is next to be subjected to heat in a blind crucible. When smelted, it will have to be poured into putranjiba oil. The process of coating with paste, heating, and then immersion into putranjiba oil is to be performed for seven times each, respectively, with the result that the tin will turn into a very fine white silver.

Second process.

White mica, sulphur, mercury, and a red flower—these four, rubbed with the milk of sehundu, turn tin into silver.
एकादश माण्डिकम\

माण्डिकं धातुमाण्डिकं तत्ततापीसमुद्रम।
गरुळो माण्डिक: पची तापीजो मधुमाण्डिकम।
ताप्यं माण्डिकथातुश्च मधुथातुश्च स स्मृतः॥
भन्तु सुवर्णंस्मक्षशो मनाक खप्प्लाच्छ्विरविह।
बहुदवर्णं इति ख्यातो माण्डिक: श्रेष्ठ उच्चते॥
माण्डिको द्रिविधो हेममाण्डिकस्तारमाण्डिकिः।
@
तत्रायं माण्डिकं कान्यकुलोत्थं सर्पसारिभम॥
तपतीतीरस्मृतं पद्यवर्णसुवाच्चवत्॥
पाषाणवहुल: प्रोक्तस्ताराप्योक्तामण्डकम।
सुवर्णंशेषसंभवं माण्डिकख्रितं खलु।
ताप्यं किरातचीनेषु कान्यकुले च जायते॥
ताप्यं सूर्यांशुसन्तं माषे मासि दशयते॥
मधुर: काठनामासत: साम्लो रजतसर्निभ:॥
किंचित् कथाय उभय: तिकं पाके कर्त्तव:॥
तत्स्ववनाजङ्गरायायिष्ठिः नं परिभूयते॥

Makshikam (byrites).

The makshika, which, on being broken to pieces, presents a surface bright with golden tints, with a rather black interior is superior to the common variety. This variety of makshika is called, “Brihad barna”,

* कास्यमाण्डिकमिति तादामाण्डिकत्र नामाण्ड्रम।
or having a superior colour (swarna-makshika). Makshika is of two kinds, viz, swarna makshika and roupya makshika. The first has got golden tints and is to be found in kanya-kubja; the other variety, called roupya makshika, which resembles gold \( \frac{1}{6} \) parts fine and contains much of stone is to be found in the banks of river Tapati. It is of inferior quality. Both these varieties of pyrites grow in rocks abounding in golden ores. They are generally found in the river Tapi, kirata, china, and kanauj. These are generally visible in spring in the hot bed of the river Tapi. The makshika which has golden tints is sweet in taste, and that which resembles silver in appearance is sour in taste. Both of them are a little astringent in taste, have a cooling effect on the system, turn pungent after their being digested in the stomach, and are light. One who takes makshikam regularly is never overwhelmed with senility, disease, and poison.

\[ \text{प्रकारान्तरसूर} \]

\[ \text{मानिकं त्रिविधं प्रोक्तं पीतं शुक्लभ लोहितम्।} \]
\[ \text{चतुर्थाकारबेशिष्टाय विज्ञम चत्रभेदतः॥} \]
\[ \text{कदम्बगोलकारं शुक्लिकापुरसचिभम्॥} \]
\[ \text{तथायुरिकाकारं भस्मकतुरिकासम्म॥} \]
\[ \text{पीतं सुर्वमानिकं रक्तां विमलाल्यकम्।} \]
\[ \text{सुर्वमानिकं तेषु प्रवरं सातवर्णेकम्॥} \]

\* अभ्ये विमलस्य खत्यं; प्रसंगः क्रष्णम्।

\* सतवर्णेकम्—सतवर्णसुर्वमाणसम।

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Detailed classification of pyrites.

Makshikas are of three different kinds, viz, yellow, white, and red. They are also sub-divided into four classes according to their shape, due to the difference in the location of the soils in which they are to be found, viz, (1) round like a kadamba flower, (2) having the shape of an oyster shell (3) having the shape of a finger ring, and (4) resembling burnt tubari in colour.

Of these varieties, the one which is yellowish is called swarna makshika, and that which is reddish is called bimala. Swarna makshika is the best of all these varieties. It has the colour of gold ¹⁄₅ parts fine. Bimala is a bit inferior in quality to swarna makshika. Similarly, the makshika which has the shape of an oyster shell and some other varieties having the colour of silver are the worst of all. As regards merit of these different varieties, it depends upon the quantity of gold contained in each.

* Bimala is separately treated later on.
Swarna-makshika is so called because it contains a little of gold. It is a semi-metal containing a little of gold, and, therefore, has to a certain extent, the qualities possessed by gold; but, on account of its containing other ingredients, it has got other qualities also. Swarna-makshika has the appearance of gold, has no angles, is heavy, leaves a black impression when rubbed on the palm. The swarna-makshika which is superior in quality should have the following characteristics; gold like complexion, heaviness, softness, a little blue tint, and causing a gold-like impression, when rubbed on a piece of touch stone.

The second variety is roupya makshika. It has the colour of silver. It is so called because it contains a little of silver. It is therefore inferior to swarna-makshika in quality. Not only does it possess some
of the qualities of silver, but it has got some other qualities also on account of its containing some other ingredients.

माक्षिक्षक्य गुणा: ।

माक्षीकज्ञात: सकलामयन्त: ।
प्राणो रसेन्द्रस्य परं हि ब्रूह्यं ।
दुर्मेलोहद्वयमेलनश्च ।
गुणोत्तर: सर्वसादानायथोऽऽ ।
चक्षुष्यं बसितत्कक्कपाणियुमेहविषोदरान् ।
अश्रृ: शोधं च चयं कर्पूः त्रिदोषं माक्षिको जयेत् ॥

Merits of makshika.

Makshika cures all sorts of diseases. It is the soul of mercury, so to speak, is nutritive, and can help the combination of two metals, otherwise difficult to combine. It is one of the best of all medicines, competent to cure all sorts of diseases and to prevent senal decay. Especially, it improves eye-sight, and cures diseases of the abdomen, leprosy, jaundice, venereal diseases, poison, udara-roga, piles, dropsy, pthisis, itches, and an abnormal excess of the three doshas.

मन्दानलत्वं वल्हानिमुष्यां ।
विद्यमितां नेत्रगदांश्च कुष्ठान् ।
Evil effects of taking makshika, not properly purified.

Makshika, not properly purified and incinerated, gives rise to loss of appetite, loss of vigour, swelling of the belly with gas attended with constipation, eye diseases, leprosy, scrofula, carbuncle, and even death.

Purification of Makshika.

Makshika is to be boiled with human urine, and then to be confined within the tuber of a shuranam, and again boiled for one day in a Dola-Jantram with the juice of kodrava, juice of amla betasa, the amlavarga, tankanam, and trikatu. It is then to be boiled for one day with the juice of banana plant, and then subjected to putam, after having been rubbed with ghee and castor oil.
Second process.

Three parts of makshika and one part of rock salt are to be boiled in an iron pot with the juice of matulunga or jambira (lime fruit), and turned all the while with an iron ladle, until the makshika gets red hot and assumes the colour of copper.

Third process.

The root of shigru is first of all to be rubbed with the juice of agasti flower, and then with the juice of pashana bhedi. The whole thing is then to be rubbed with makshika and made into a ball, which (duly dried) is to be subjected to heat in a blind crucible by means of 20 pieces of cowdung cakes. It is then to be rubbed as before, and heated in the
same way. The process is thus to be performed for six times, leading to the purification of makshika.

Fourth process.

Makshika, reduced to powder, is to be put inside a ball made of meghanada and pashana bhedi, rubbed together with water. The ball is then wrapped up in a piece of cloth and boiled, for one day, by means of a Dola Jantram, filled with a decoction of kulattha grams. Thus purified, the makshika becomes fit for being incinerated.

Fifth process.

Makshika, finely powdered, is to be wrapped up in a piece of cloth, and boiled by means of a Dola Jantram, filled with the juices of tanduliyaka and shalincha. The substance deposited at the bottom of the Dola Jantram is to be considered purified.
Sixth process.

Makshika, duly wrapped up in a piece of thick cloth, is to be boiled for three days, in a Dola Jantram to be filled with kanjika, lime juice mixed with cow's urine, and juice of jayanti leaves, respectively.

Seventh process.

Makshika is to be rubbed for three hours with castor oil, and then heated in a basin by a fire made of thirty pieces of cow dung balls found dried in a pasturage.

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Eighth, ninth and tenth processes.

Makshika is purified, if boiled with castor oil mixed with the juice of matulunga fruit; or if boiled for two hours with banana plant juice; or if heated and soaked with decoction of triphala.

Eleventh process.

See first process of purification of bimala.

Twelfth process.

Makshika is purified, if it is boiled, first of all, with the juice of nimbu (lime fruit), and then put inside a paste made of the root of shobhanjana, rubbed with the juice of basaka flower, and subjected to putam.

Thirteenth process.

Makshika is purified if it is heated and immersed in each of the following:—oil, takram, decoction of kulattha and that of triphala.
Incineration of Makshika.

First process.

Makshika is incinerated, if it is rubbed with the juice of matulunga and sulphur, confined in a crucible, and then subjected to croda putam † for five times.

Second process.

Makshika is incinerated, if rubbed with castor oil, or cow’s ghee, or juice of matulunga, and then placed on a basin and heated steadily. Thus incinerated, it may be used in mercurial operations, as well as for medicinal purposes.

* अग्रतिःख़े अग्रस्य इति पाठान्तर्दृश्यते ।
* Basaka flower, according to another version.
† Croda putam is another name for labaka putam (see page 298, vol I).
Third process.

Makshika is incinerated, if it is rubbed with the decoction of kulatthha, or takra (curd diluted with water), or goats urine, and then heated in a cauldron, and turned all the while by means of a ladle.

Fourth process.

Makshika with one fourth its quantity of sulphur is to be rubbed with castor oil, and made into cakes, which are to be confined within a sampputam, and subjected to gaja putam, with husk of paddy put on all sides of the sampputam. This will reduce the makshika to ashes, as red as vermilion.
Fifth process.

Purified makshika is to be rubbed with the juice of kumari, made into cakes, dried, and then subjected to kukkan putam for twenty seven times, which make it like nectar.

 Extraction of essence of makshika.

Makshikam, mixed with one thirteenth of its weight of lead, rubbed with ksharas and amlas and heated in an uncovered crucible, emits its essence. The lead is then eliminated from the essence, if it is heated and immersed in the juice of nirgundi, for seven times.
Second process.

Makshika is to be subjected to repeated bhavanahas with honey, castor oil, cow’s urine, clarified butter, and juice of banana plant, and then heated in a crucible, with the result that a soft copper like essence comes out of the makshika. The essence, which resembles a gunja seed in colour, is capable of smelting very quickly and is cool and pure, can make the body as strong as iron.

Third process.

Makshika, duly purified, is to be rubbed with lime juice and heated a little with some rock-salt. It is then to be kept surrounded on all sides with tankanam, in an earthen crucible, and subjected to kukkuta
putam. This will result in the emission of an essence, somewhat red in colour.

Fourth process.

Makshika is to be subjected to bhavana for one day with the milks of cow and tuttha plant and then rubbed and made into a lump which is to be put into an iron tube, dried in the sun and then heated by means of a Patala Kosthi or Patala Jantram, exactly in the same way as mica. The inner surface of the crucible, in this case, is to be coated with a paste made of jayanti, powdered triphala, turmeric, molasses, and tankanam, the last mentioned being one fourth in quantity of the preceding four things combined.
Use of essence of makshika.

Essence of makshika is to be rubbed with mercury until the former disappears altogether. Sulphur is then to be rubbed similarly. Liquefied essence of mica is then to be mixed with the amalgam and made into a ball which is to be subjected to heat for twelve hours in a Lavana Jantram, by means of a mild fire. When cooled of itself, the product is to be taken out, and used in doses of one balla a day with the anupanam of honey, trikatu, and bidanga. Thus used, it cures in a week, senility and all sorts of diseases including those which are very obstinate.

Liquefaction of essence of makshika.

Essence of makshika is liquefied, if it is mixed with a little of the compound made of gunja seeds, honey, and tankanam, rubbed with castor oil.
Accompaniments of makshika.

Incinerated makshika is to be used in medicine with the following accompaniments:—triphala, trikatu, bidanga, and ghee.

Removal of evil effects caused by makshika, not properly purified.

The evil effects of makshika are removed by decoction of kulattha or of the bark of pomegranates.

Bimala (pyrites with red tints).

Makshika with red tints is called bimala. It is of three kinds, viz, swarna bimala (having golden or
yellow tints as well), roupya bimala (having silvery or white tints as well), and kansya bimala (having tints of kansya or bell-metal as well). They are to be recognized by their colour. All of them are globular, furnished with angles and faces, and soft. Bimala is a pacifier of air and animal heat in the system, nutritive, and a good preventer and curer of diseases. The first, viz, swarna bimala is used in operations leading to the transformation of base metals into gold. The second, viz, roupya bimala, is used in operations leading to the transformation of base metals into silver; whereas the third, viz, kansya bimala, is used only in medicines. In quality, the first is better than the second, and the second is better than the third.

First process.

Makshika as well as bimala is first of all to be put inside the tuber of a shuranam, and then boiled with each of the following:—cow’s urine, aranala, oil, cow’s milk, banana plant juice, decoction kulattha, and decoction of kodrava.
It is then to be rubbed with kshara, amla, salt, oil, and ghee, and subjected to putam for three times. This is how it is purified.

**Second process.**

Bimala is purified, if boiled with the decoction of basaka.

**Third process.**

Bimala may be purified, if boiled well with banana plant juice.

**Fourth process.**

Bimala, as well as other metals, is purified, if boiled with the juice of a lime fruit or of meshashringi.
Fifth process.

Three kinds of bimala are purified, if rubbed with the juice of amla betasa, dhanya amla, and ewe's urine, and boiled in a Dola Jantram for twelve hours with the juice of banana plant.

Sixth process.

Bimala is purified, if subjected to bhavana in intense heat of the sun with decoctions of karkata shrangi, mesha shrangi, and lime juice.

Incineration of bimala.

First process.

Bimala is incinerated by being rubbed with sulphur and juice of lakucha, and then subjected to putam for ten times.
Second process.

Bimala is incinerated, if it is subjected to Gajaputam for three times, after having been rubbed each time with sulphur and juice of matulunga.

अर्थ विमलस्य सत्त्वपातनम्

प्रथमो विचि:

सटंकलकुचद्वैवेमेपथं ग्याथ्रं भस्मान।
पिष्ट्रो मूषोदरे लितं: संशोध्या च निरुध्या च॥
पटू प्रस्थंकोकिब्ध्यांतो विमल: सोससंनिभम्।
सत्त्वं मुख्यि तद्विको रसं: स्यातु सुरसायन॥

Extraction of essence of bimala.

First process.

The inner surface of a crucible is to be coated all over with bimala, previously rubbed well with tankanam, decoction of lakuchha, and ashes of mesha shringi. The crucible is then to be dried, closed hermetically, and heated by means of six prasthas of charcoal, with the result that bimala discharges an essence resembling lead. Mercury, combined with this essence, becomes a preventer and curer of senility and physical decay.
Second process.

Bimala is to be mixed with kankshi (saurashtra mrittika), kasisa, tankanam, wild shuranam, kshara of mokshaka tree, and subjected to bhavana with juices of shigru and banana plant. It is then to be put inside a blind crucible and heated with the result that the bimala will discharge an essence resembling a mixed metal containing sixteen parts of silver and twelve parts of copper.

* Bhāg: वोङ्ग्रैं तारस्य तथा व्हादुख्याम्यक्षत: ।
एकशास्त्रसिद्धान्त संस्कर्णमें चन्द्राक्षरमणि कथयते ।
Use of the essence of bimala.

One unit of essence of bimala is to be rubbed with an equal quantity of mercury, and the same quantity of sulphur, until the sulphur disappears altogether; it is next to be mixed with the following:—

Three units of haritala, five units of manasshila, one tenth of a unit of incinerated silver, the same quantity of incinerated vaikrantha. All these are to be mixed together and sifted through a piece of cloth, and then subjected to heat by means of a Baluka Jantram,

The medicine, thus prepared, cures the following diseases, if taken with trikatu, triphala, and ghee:—senility which causes unhappiness, swelling of the body, anemia, gonorrhoea, loss of appetite, piles, chronic diarrhoea, colic, phthisis, jaundice, and all sorts of diseases due to an abnormal excess of vayu (air) and pittam (animal heat) in the system. For the cure of these diseases, no other medicines are considered necessary.

अथ शिलाधातुः (शिलाजतु)।
शिलाजतु हि शैलेयमाद्रिं गिरिजमश्रमज्।
धातुजमश्रमज्जतुकं शैलजं चारसंभवम्।
गैरेयं गिरिजं गिरिनिज्ञ्यासं शैलधातुजाम्॥
Hemada: सुर्यसंतता: श्रवन्ति गिरिधातवः ||
जलाभं मुद्रुमत्त्वाभं यन्त्रलं तत्चिद्राजलु ||
शिलाधारुणि धा श्रोको गोमुट्रायो रसायनः ||
कप्पर्पूर्वकशान्यस्तत्रायो द्रिविणः पुनः ||
सत्त्वश्रेयाव निषत्त्वस्तयो: पूर्वोऽयुमाधिकः ||
हेम्नोत्य रजतातु ताश्रातु वरं क्षणायसादपि ||
नागातु क्षलतु वायव्यप्त्त तसातु तु तीव्ररौद्वतः ||
यथाक्रमं वातपिणे श्वेप्पपिणे कर्षे त्रिसु ||
विशेषेष्ठ प्रशस्यन्ते मला हेमादिधारुतुजा: ||
रसायनप्रयोगेऽऽ लोहजस्तु विशिष्यते ||

Shila-jatu (Bitumen).

Shilajatu is the exudation caused by the intense heat of the sun, from rocks in the womb of which lie deposited gold and other metals. It is soft as mud and resembles shellac in appearance.

Shila-jatu is of two kinds, viz. (1) Gomutra-shila-jatu, i.e., the variety which possesses the odour of cow’s urine; and (2) karpura-shila-jatu, i.e., the variety which has the odour of camphor. The first of these two, viz. Go-mutra shilajatu, is again subdivided into two classes, viz. the variety which has got some essence or substance and that which has got no essence or substance. Of these two, that which has got essence or substance is better than the other variety.
Shilajatu exudes from heated rocks containing gold, silver, copper, iron, tin, and lead, that exuding from iron ores being the best in quality. Shilajatus coming out of gold, silver, copper, and iron are especially suitable for the pacification of an abnormal excess in the system of vayu (air) combined with pittam (animal heat), kapha (phlegm) combined with pittam (animal heat), kapha (phlegm) only, and the three doshas (vayu, pittam, and kapha) combined, respectively. For the purpose of preventing and curing senility, the shilajatu which comes out of iron is the best.

शिलाधातुनां विशेषगुणाः ।
( १ ) फाल्गुनशिलाधाजल ।
मधुरं कल्यंतिकं च जवापुष्पनिं च यत् ।
सिक्रं घनं गैरिकांमें सुशीतं काश्चनालु तमृ ।
विपाके कटुतिकं च वातपित्तविनाशनम् ॥

( २ ) रज्जवशिलाधजल ।
रौप्याकरादधथं शशिरंखवरणं
सचारकद्वम्बलसं विदधाहि ।
शीतं विपाकानु मधुरम्भारि
पाण्डुं विशेषादु विनिहृन्ति पित्रम् ॥
मेहामजीर्जराणं पुंखेशोप-
प्योहायवातं शमयेदु हि सतः ॥

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रसायनिकिति-द्वितीयक्षणम्।

(१) ताप्तशिकाजति।
मगुरकथयोपमचाषपच-  
वर्गं सतिकं कटु तीच्छवीय्यम्।
ताप्राश्रमजं तद्धि सुलेखनं च  
मेहाम्स्थितिज्वरशोष्प्वारी॥

(४) जौहरशिलाजत।
यतू तु सुगृहसंकारं तिकरं लवणान्वितम्।
विपके कटुशीतं च सर्वश्रेष्ठं तदायसम्।
रसायनं परं तद्धि त्रिदोषय स्वनाशनम्॥

(५) धंगशिलाजत।
किष्टित सतिकं कटुसान्द्रकृत्वम्।  
श्रुप्रसूतं श्रुपवंगनथम्।
शोयथमेहज्वरशोष्पवारी  
शीताम्लपिंचं विनिहाति सथः॥

(६) सीतकशिलाजत।
नागात्र श्रसूतं घृंदु चोपवीय्यम्।  
तिकं च वर्णात् क्रसुमेन तुल्यम्।
रसेन तत् स्थात् कुटकप्रधानं  
वर्षाच्छ तेजश्च ददाति वीर्यं॥
Special properties of different kinds of shila-jatu.

(1) Gold shilajatu.

The shila-jatu which exudes from ores containing gold is sweet, slightly bitter, red like java flower, soothing, dense, and having a tinge of red ochre. It produces a cooling effect on the system, turns pungent and bitter, when digested in the stomach, and pacifies an abnormal excess of vayu and pittam.

(2) Silver shilajatu.

The shilajatu which exudes from silver ores is as white as moon or conchshell. It has the taste of kshara mixed with pungence, sourness, and sweetness. It is not easily digested. It gives rise to belching and inflammation of the heart. It is dense. It cures

- The properties of things having different tastes, when taken internally, are given here in brief:

  A sweet thing is nutritive; it pacifies vayu and pittam, but increases mucus and other dirts in the system. A sour thing increases the power of digestion, makes the blood impure, increases pittam, but pacifies vayu.

  A thing with a salty taste increases appetite, destroys semen, strength, and eye-sight, pacifies vayu, but increases phlegm and pittam.

  A pungent thing increases vayu, pittam, and appetite; destroys phlegm, obesity, semen, etc., and causes constipation.

  A bitter thing removes thirst, fever, pittam, phlegm, and impurities of the blood, increases vayu, but destroys blood, semen, flesh, etc. It is not to be taken in excess. (N. B. The use of quinine and such bitter things causes a waste of blood, semen, flesh, marrow, fat, and bone, leading to all sorts of diseases, especially chronic fever (Malaria and kala-azar), consumption, and paralysis.) A thing with astringent taste destroys phlegm, blood, and pittam; it increases vayu.
all diseases due to pittam, and especially, anemia and jaundice. It also cures spermatorrhoea, mucus, chronic fever, anemia, consumptipn, enlargement of the spleen, and diseases due to an excess of vayu.

(3) Copper sila-jatu.

Copper shilajatu has the same colour as that of the neck of a peacock and of the feathers of a papiya bird. It is bitter, pungent, and stimulant. It is a good remover of obesity.

(4) Iron shila-jatu.

It resembles gugguiu in appearance; is bitter and saltish; and turns pungent and cool, when digested in the stomach. It is a preventer and curer of senal decay, and has the power of pacifying the three doshas, viz., vayu, pittam, and kapha. It is the best of all shila-jatus.

(5) Tin shila-jatu.

It is somewhat bitter, pungent, dense, mud-like, and has the odour and colour of tin. It destroys, in a short time, dropsy, gonorrhæa, fever, consumption, and erysipelas.

(6) Lead shila-jatu.

It is soft, stimulating, and bitter in taste, but turns pungent when digested in the stomach. It has the colour of a flower. It imparts complexion, vitality, and vigour to the person who uses it regularly.
Test of genuine shila-jatu.

Genuine shila-jatu will burn without emitting any smoke, and when burnt, will assume the appearance of oxidised iron. If thrown into water, by means of grass points, it will sink in the shape of threads.

Properties of shilajatus in general.

Shilajatu is neither sour nor astringent. It turns pungent after it is digested in the stomach. It has the merit of increasing the properties of the substance with which it is mixed and taken internally. It prevents and cures senal decay. It produces neither a heating nor a cooling effect on the system.

It has the property of removing mucus and other dirt from the system. It can also cure an excess of phlegm, shaking of the limbs, stone disease, sugar in
urine, stricture and gleet, consumption, asthma, piles
due to an excess of vayu, hysteria, insanity, nausea,
leprosy, worms, fever, jaundice, dropsy, spermato-
torrhoea, loss of appetite, obesity, pthisis, colic, gulma,
enlargement of the spleen, udāra-rogā, pain in the
heart, dysentery, and all sorts of skin diseases. It is
very useful as a medicine as well as in alchemy.

शिलाधातोशोधननम् ।

प्रथमोविधिः ।

गोदुग्धे त्रिफलामुखद्रवः पिष्टं शिलाजतु ।
दिनेकं लोहजे पात्रे ततं: शुष्कं विशुद्ध्यति ॥

Purification of shilajatu.

First process.

Shilajatu is purified, if it is rubbed for one day
with any one of the following and then dried:—
cow's milk, decoction of triphala, and juice of bhringa-
raja.

दिनेकं लोहजे पात्रे ततं: शुष्कं विशुद्ध्यति ॥

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Second process.

Shilajatu is to be cut into pieces and washed off with water for the removal of dirts. It is then to be exposed to a smoke emitted by burnt aguru, nimba leaves, guduchi, adhaki, java, and ghee. It is then to be immersed for three hours in hot water or decoction of dashamula or triphala. It is next to be rubbed and filtered through a piece of cloth, and kept in an earthen pot, exposed to the sun. The dense and cream-like substance collected on the surface of the liquid will have to be taken out and kept in another pot. The process is to be repeated as many times as necessary, until the whole of the pure shilajatu is taken out. The sediment is to be rubbed again with hot water and again exposed to the sun, the dense and cream-like substance being taken out in the foregoing manner. This cream-like substance, which is nothing but pure shilajatu, may thus be
collected in two months. Shilajatu, thus purified, may be used for medicinal purposes. If thrown upon fire, after purification, it will emit no smoke and will have the appearance of penice. For the purpose of increasing the strength of this shilajatu, it may be subjected to bhavana with juices or decoction of drugs which can pacify the three doshas.

तृतीयोऽविधि: ।

व्याधिचित्याधिसात्त्वयं समनुसरन्त् भाव्येद्यः पात्रेऽ ।
प्राक् केवलजलधौतं शुष्कं शिलाजं कायेःस्ततो

भावम् ॥

तुल्यं गिरिजेन जले वसुयुग्गिते भावनौषधं काथ्यम् ।
ततुकाथे पादांशे पूतोऽषोऽ प्रस्तिपदु गिरिजम् ।
ततौ समरस्तां यातं संशुषकं प्रस्तिपदु रसे भूयः ॥

सै: स्वरेवं कायेश्वर्यं वाराणेव सत ।

श्रथि हिन्दक्षत्व शुद्धस्य घृङ्खं तितकक्षाधितम् ॥

श्रथि हि युज्ञीत गिरिजमेकैकै तथा श्रथि हि

फलन्तक्षत्व यूषेण पटोल्या मधुकस्य च ।

शिलाज्ञेवं देहस्य भववस्युपकारकम् ॥

Third process.

Shilajatu is first of all to be washed off with water, and dried. It is then to be subjected to bhavana with decoctions or juices of vegetable drugs to be decided

* पूर्त चक्रपूर्तं उष्णाः तस्मिन्, पूतोऽषोऽ ।
upon after consideration of the nature of the disease, the patient, his habits, and the food he is accustomed to. Such a decoction is prepared by boiling in an earthen pot the vegetable drug, equal in quantity to the shilajatu, meant to be purified, with eight times its weight of water, to be reduced to one fourth the quantity of this water (or double the quantity of the shilajatu). The shilajatu is now to be dissolved in the hot decoction, duly filtered by means of a piece of cloth, and dried. The process is to be performed for seven times in respect of each kind of decoctions. Such a shilajatu is to be administered to a patient who has already been soothed (by taking clarified butter mixed with a little of rocksalt), duly purified by purgation, and has taken for three days clarified butter, prepared with bitters (such as panchatitca ghritam). Such a patient is to take shila-jatu with a decoction of triphala on the first day, with a juice of patola on the second day, and with a decoction of jasti-madh on the third day; the order being repeated so long as it is considered necessary to let the patient take shilajatu. Taking of shilajatu in this way proves to be very useful.
उष्णे च काले रवितापयुक्ते ब्यवह्रे निवाते समभूमिभागे।

चत्वारिः पात्रायसितायसानि न्यस्यात्पे तत्र

शिलाजतु श्रेष्ठमज्जाय पात्रे प्रचिप्य तस्मादू

हियुष्मार्शो तोयम्।

उष्णं तद्भवं कथितब्र दत्ता विशोधयेत् तनू

मृदितं यथावत्।

ततस्तु यत्कृष्णमुपैति चोद्रं सन्तानिकावः

रविरसितस्यम्।

पात्रे तदन्यत्र ततो निद्ध्यातः तत्रापरं कोष्पाजलं

चिपेच।

पुनः तस्मादपरं तत्र पात्रे पञ्चाय शोषायदपरं भूयः।

यदा विशुद्धं जलमेवमूद्धं कृष्णं समस्तं मलमेवा

धस्तात्।

तदा त्वजेत् तत्तु संबिलं मलश्च शिलाजतु स्त्राजजल

शुद्धमेवम्।

Fourth process.

In order to free shilajatu from impurities due to foreign matters and contaminations caused by worms, flies, and poisonous drugs, it should be dissolved in iron pots with a solution of juices of nimba, guduchi
mixed with clarified butter, and java in the manner described below:

In the hot weather, when the sky is free from clouds and there is no wind, four pots made of black iron are to be placed in a level piece of land, heated by the sun's rays. Excellent shilajatu is to be kept in one of these pots and dissolved with twice its weight of hot water and half its weight of the solution referred to above. This solution is to be duly filtered through a piece of cloth and exposed to the heat of the sun, which will cause a black cream-like thing, rise on the surface of the solution. This cream-like substance is to be removed into another pot and mixed with some hot water. The heat of the sun will cause a cream-like substance rise at the surface of the liquid. This substance is to be removed into a third pot and mixed with hot water, as before. The cream-like substance rising on the surface of the third pot will have to be removed into the fourth pot. The process is to be continued until the whole of the dirts separate from the pure substance and subside at the bottom. The pure cream-like substance, which is shilajatu proper, is to be taken out carefully, to the exclusion of the water and sediments.
एकाहं चीरेण तु तत्त् पुनर्भवेथे चुक्कानम्।
सताहं भाव्यं स्यात् काथेनैषा यथालाभम्॥
काकोल्यौ द्रे मेदे विदारीयुम्म शतावरी द्राचा।
श्रीनियुगर्षभवीरामुखिष्ठितका जीर्के चांशुमत्यौ॥
रामापुर्करचिन्चकन्तीभक्तकणाकलिच्चचयाब्दा:।
कटुका शृष्णुपाठे तानि मिलितानि च काथ्यानि॥
एवं कमेश कस्थोब्ध काथे शालसारादिनः।
भाविष्यतु तु शिलाजतु यथाविचिन्हिष्ठितसकः॥
शालयुम्मो करोः द्रो क्षिरं चन्द्रनमः।
गहि भावहोर्जुनस्चोऽि लोध्युम्मथवासना:॥
शिरीपायसकालोपपुव्वृतीककक्कादा:।
शालसारादिर्पयेषो गया: शेष्मगदापह:॥
मेहुतमार्शः कुढादिमेदः पाण्डुरुजापहः।
पभिदिवात् शोष्ण्यं रात्री रात्रीं च भावायेत्॥
द्रवेण यावत्त स्रव्यमकीभुयाद्वादृत्त स्वेत्।
भवेभ प्रमाणं निर्दिष्टं मिलिक्षिन्हभवनाविधायो॥
भाव्यद्रव्यसमं काथ्यं काथ्यादेश्यघुम जलम्॥
अष्टांशश्रोपित: काथो भाव्यानं तेन भावना॥

* शिलाजतुरोधने पादश्रोपितकाथायापि व्यवहारे हुस्यते
—पौराणिक: द्रश्यः।
Fifth process.

In a hot weather, black Iron shilajatu is to be dissolved with decoction of triphala, duly filtered and dried. The process is to be performed for three times. The same process is to be performed for three times each with dasha-mula, guduchi, bala, patola, madhuka, and cow's urine, respectively. The shilajatu is next to be saturated with milk for one time, and dried. It is next to be saturated for seven times with a decoction of all (or as many as can be procured) of the following combined:—kakoli, kshira-kakoli, meda, mahameda, bidari, kshira-bidari, shatabari, draksha, riddhi, vriddhi, rishabha, jatamansi, mundiri, white jira, black jira, sapta-parni, prasniparni, rasna, puskara-mulam, chitraka root, danti, gaja-pippali, indra-java, chavya, musta, katu-rohini, karkata-shringi, and patha.

The shilajatu is next to be subjected to bhavana with a juice or decoction of each of the undermentioned drugs, called the shala-saradi:—

Shala, pita-shala, nata, karanja, visha-karanja, khadira, sweta chandanam, racta-chandanam, gardabhandha (gaya-aswatha), arjuna, white lodhra, red lodhra, dhava, asana, shirisha, aguru, and kaliya (pita chandanam). These drugs, taken together, are called the shala-saradi. They can cure diseases due to an excess of phlegm, spermatorrhoea, gulma, piles, leprosy, obesity, and jaundice. The shila-jatu is to be subjected to bhavana at night, and dried during day time. The rule regarding the quantity of the drugs mentioned above is this that the quantity of each of these drugs will be equal to that of the shila-jatu and
that each of them is to be boiled in eight times its weight of water, reducible to one eighth (or one fourth, according to a different practice).

Sixth process.

Shila-jatu is purified, if it is dissolved with a solution of kshara, amla (non-metallic acid), and cow's urine, and then filtered by means of a piece of cloth, and dried.

Seventh process.

Shilajatu is purified, if it is dissolved, in an iron pot, with milk, decoction of triphala, and decoction of bhringaraja, respectively, and dried each time it is so dissolved.

Eighth process.

Shilajatu is purified, if it is subjected to a hot vapour for one hour, by means of a Swedani-Jantram containing kshara, amla, and guggulu,
Test of purified shilajatu.

Shilajatu, properly purified, will burn without emitting any smoke. When sufficiently roasted, it will assume the appearance of penice. If thrown into water by means of the points of a grass, it will sink in the shape of thread.
Use of purified shilajatu.

Purified shilajatu, taken with milk and a suitable quantity of incinerated iron (dose of iron—$\frac{1}{16}$ tola a day) has the effect of increasing vitality, curing and preventing senility, strengthening the system, and increasing memory and retentive faculties in one who takes a sufficient quantity of milk (and of course a salutary and congenial vegetable diet *). Shilajatu produces an appreciable effect, if it is taken for one week; it produces better result if it is taken for three weeks; and if taken for seven weeks, it produces much better results. One who takes shilajatu for six weeks, observing all the regulations to be followed with regard to the use of medicines meant for the cure and prevention of senility, lives a happy and healthy life for 100 years. Dose of shila-jatu—one tola a day is the ordinary dose; two tolas a day produces a better effect; and four tolas a day produces an excellent effect.

While taking shilajatu, one should avoid foods which are fried, roasted (with or without oil), sour, fermented, and heavy. The man who takes shilajatu

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* Milk proves injurious to the system, if it is taken with such things as meat, fish, sours, beans, etc. (See Charaka and other books on Indian Hygiene).
should abstain from taking, once for all, kulattha gram, in as much as the latter can corrode even stone, and has therefore a property which destroys the effect which shilajatu produces upon the human system.

The man who takes shilajatu should avoid the following, not only during the period he takes it, but also during an equal period of time just preceding and following that period,—physical exercise, exposure to the sun’s rays, exposure to wind, things which trouble the mind, heavy food, food which gives rise to inflammation of the body, i.e., food which is sour, pungent, fried with or without oil, fermented, and food which is difficult to digest.

He should drink rain water, carefully collected during the rainy season, and water from big wells and fountains. He should avoid, once for all, kulattha gram, kakamachi, and flesh of pigeons.

**Incineration of shilajatu.**

Shilajatu is incinerated, if it is mixed with manas-shila, gandhaka, and haritala—all rubbed together with the juice of matulunga, and then subjected to putam with a fire made of eight pieces of cowdung cakes.
Use of incinerated shilajatu.

Incinerated shilajatu, in doses of 3 ractis, mixed with an equal quantity of kanta iron, vaikranta, triphala, trikatu, and ghritam should be prescribed in jaundice, anemia, pthisis, loss of the power of digestion, spermatorrhoea, piles, gulma, enlarged spleen, udara-roga, all sorts of colic, and diseases of the vagina.

Shila-jatu discharges its essence, if rubbed with the dravana-varga and some vegetable acid, and heated in a crucible by a strong fire made of coal, which is to be blown by means of bellows. The essence, thus extracted, has the appearance of iron. It should be incinerated and applied in medicines in the same way as iron.
Karpura-shila-jatu (or shilajatu having the odour and appearance of camphor).

It is found in the shape of sands, is yellow-white in colour, and is efficacious in stricture, gleet, stone disease, spermatorrhoea, gonorrhoea, jaundice, and anemia. It is purified, if dissolved and boiled well with a decoction of ela. The sages have not considered it necessary to incinerate it, and to extract an essence from it.

 Evil effects of taking impure shila-jatu.

Shila-jatu, not properly purified, gives rise to inflammation, hysterical fits, giddiness, hemorrhage, loss of appetite, and constipation,

How to cure the diseases due to the use of impure shila-jatu.

The diseases due to an improper use of shila-jatu may be cured by taking, for seven days, maricham (in doses of $\frac{1}{4}$ of a tola a day), mixed with ghee,
Shila-jatu is of two kinds, viz, the one which is procured from hills, and the other which is found deposited on the surface of a salty soil, due to the action of rain water on the soil. The second kind of shila-jatu is a white kshara (viz. carbonate of potash). It improves the power of digestion, and the complexion of the skin, and is efficacious in urinary diseases.
Tuttham (sulphate of copper, prepared in laboratory.)

It is a compound of copper, and sulphur, prepared by those who know the process. It possesses to a certain extent the properties of copper and is moreover, of the following description:—It is pungent, alkaline, astringent, nauseating, light, destroyer of fat, purgative, cold, improver of eye-sight, pacifier of phlegm and animal heat, and efficacious in poison, stone disease, leprosy, itches, and worms.

Purification of tuttham.

First process.

Tuttham is purified, if it is rubbed with the juice of lime fruit and subjected to laghu putam, and then subjected to bhavana for three times with curd water.

Second process.

Tuttham is purified, if it is rubbed with the stools of cat and pigeon, and then subjected to laghu
putam for three times, after having been rubbed with one tenth its weight of tankanam, curd, and honey, respectively.

Third process.

Tuttham is purified and deprived of its properties of causing vomiting and giddiness, if it is subjected to putam for three times, after having been rubbed with an equal quantity of the stool of cat, one fourth its quantity of tankanam, and a little of honey.

Fourth process.

Tuttham is purified, if it is rubbed with half its weight of sulphur, and then subjected to putam, as many times as necessary, for the removal of vomiting and giddiness.

Fifth process.

Tuttham is purified, if it is saturated with the amla varga (see page 301, vol. I) and with oil, or
clarified butter, and then boiled for one day in the urines of horse and cow, in a Dola Jantram.

तुत्थस्य सत्त्वपातनम्।
प्रथमो विधि।
टंकणेन समांशेन ध्मातं तुत्थं यथाविधि।
कोष्ठकायन्त्रयोगेन सुख्तिः सत्त्वमुच्चनम्॥

Extraction of essence from tuttham.
First process.
Tuttham discharges its essence, if it is smelted with an equal quantity of borax.

द्वितीयो विधि।
युग्यवुष्टकं लात्ता वर्जिः सज्जरसः पदु।
ऊर्ध्वं जातुद्रमो मा ब्रस्थीनि शशक्ष्य च॥
युं जामवचाष्यसंयुक्त्र पिरायाकं नागलं पयः।
तुत्थस्य हि दशांशेन प्रभुतं वर्क्कक्तम्॥
ध्मातं तदन्यथोष्यां सत्त्वं मुख्तिः सत्त्रम्।
तत् सत्त्वं ज्ञाते ताश्र निर्मलं च मुशोभनम्॥

Second process.
Tuttham discharges its essence, if heated in a blind crucible, after having been rubbed with one tenth its weight of the following and made into a ball:—guggulu, tankanam, lac, swarji, sarja rasa (rala), saindhava, urna (fur), gunja, small fish, bone of hare, oil cakes mixed with gunja, honey, clarified
butter, and goat's milk. This essence is no other than pure copper.

(Extraction of essence from tuttham without the application of heat).

Third process

Essence is extracted from tuttham without any application of heat, if powdered tuttham is kept immersed for seven days in lime juice in an iron pot.

How to extract copper from feathers of peacock.

Peacock's feather is to be burnt with ghee and honey. The ashes, thus prepared, are to be mixed with oil cakes, guggulu, small fishes, tankanam, swarji, honey, gunja, lac growing on aswattha tree, and
The finger ring which cures colic and neutralises poison.

Essence of tuttham, nagatamram, and gold are to be taken in equal quantities and made into a ring, the touch of which removes colic pain instantaneously. It also overcomes all sorts of poison and evil influ-
ences caused on human beings by the evil eyes of ghosts and witches. According to Bhaluki, the great chemist, water drunk seven times, each time touched with this ring and sanctified with the chanting of the mantram given in the text, cures colic pain instantaneously. The oil which is heated over fire, with this ring kept immersed in it, cures any sort of pain, by merely being rubbed on the part of the body affected. It also effects a speedy and painless child birth in a woman. It also cures eye diseases in a very short time.

अथ तुस्थत्तत्वस्य भस्मीकरणम्।

(अवे सम्यकसङ्ग्रही द्रष्यवम्)

अथ सस्यकम्।

सस्यकं तु शिलिमिवं हेमसारं मयूरकम्।
सस्यकमाणिसंज्ञं हि मयूरत्वथं च तत्॥
मयूरकंठसच्चायं भाराद्धमति शस्यते॥
सस्यकं हि स्वाभावजं तुस्थं तुथकं क्षत्रिमं मतम्।
एकाभवे परं भास्यं नानं काय्यं विचारण॥

*Sasyakam or blue stone.*

It has the colour of the neck of a peacock. The difference between tuttham and sasyakam lies in the fact that tuttham is prepared in the laboratory, whereas sasyakam is a mineral found in nature. In the absence of either of these two, the other may be used.

* See page 114 for a different prescription.
Qualities of sasyaka.

It is a remover of an abnormal excess of the three doshas. It is efficacious in poison, heart disease, colic, piles, leprosy, amla pittam (dyspepsia with acidity and an abnormal excess of pittam), constipation, leucoderma, and toxin. It also cures and prevents senal decay. It causes vomiting and purgation.

Purification of sasyakam.
First process.

Sasyakam is purified, if subjected to bhavana for seven times with the racta-varga, and saturated very carefully with the sneha-varga, after each act of bhavana.

* कुसुमम बादिरो ठाक्षा मालिका रक्कचन्नुमः ।
  मालिका वानुसजय्य तथा च पुरस्फिलिनी ।
  मालिका वेलि चिस्तेयो रक्कचन्नुंतिरशः ॥

( मालिका मार्गः साधनम पाठान्तरे “बादिरी च” “तथा च पुर- ।
  गिलिनी” द्वितीयतम स्थाये पाठान्तरे “तथा कपुर् गिलिनी” द्विति।

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effect an immediate cure of colic by touch only. It has also the properties possessed by the finger ring referred to in page 109.

अथ तुल्यसत्त्वस्य तथा सास्यकसत्त्वस्य मारणम्।
प्रथमो विचि।
मीनाचिशिलाभिद्रावसत्त्वदिश्रगणल्भकम्।
पिघ तु लेपयेत् सत्त्व सास्यक तुल्यजं तथा।
मूषामध्ये च संहृत्य यबाद् गजपुटे पचेत्॥
समांशेन पुनर्गन्धं दल्त्वा द्रावेक्ष लोलयेत्॥
एवं सतपुटे: पकं सत्त्वं मस्मीभवेदु भु वम॥

*Incineration of the essence of tuttham and that of sasyakam.*

*First process.*

Essence of tuttham or of sasyakam is to be coated all over with a paste made of the juices of pashana bhedi and hilamochika, rubbed with sulphur, double in quantity of the essence itself. It is then to be confined in a crucible and subjected to heat by Gajaputam. It is again to be coated all over with a paste made of the same juices and sulphur, equal in quantity to the essence itself, and subjected to Gaja putam. Performance of the second process for seven times will result in the incineration of the essence.

*द्वितीयो विचि।*

सत्त्वस्य दियुषुं सूतं गन्धं देयं चतुर्गुणम्।
जम्भीरामलेन तत् सत्त्वं मद्येत् तृहर्न्त्रयम्॥

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Second process.

One part of the essence, two parts of mercury, and four parts of sulphur are to be rubbed together with lime juice for nine hours, then covered with dhutura leaves, and subjected to Gaja putam. The essence, when cooled of itself, is then to be reduced to powder. This is how it is killed.

How to remedy the evil effects of impure tutthaka and sasyaka.

The evil effects followed by an improper use of tutthaka and sasyaka can be counteracted by the taking of lime juice for three days. The same result is obtained by the drinking of water in which fried paddy (not rice) is kept immersed for some time.
Chapala is obtained in mines from which lead and tin are procured. It is of four different kinds, viz., gold coloured, white, red, and black. The first two are especially suitable for solidification of mercury. The third and the fourth melt quickly like lac and are useless. Chapala (meaning subtle) is so called because it melts over fire as quickly as tin. Chapala has the appearance of quartz. It has six faces; it is soothing and heavy.

Chapala is a curer of obesity; it is soothing and has the property of making the body as hard as steel. It is a helper of mercury; it is bitter, strong, and sweet in taste. It is a remover of an abnormal excess of the three doshas; is a great nutritive, and has the

* It appears to be an ore containing lead or tin. It is now-a-days very rare; and the author has not yet been able to procure it.
property of solidifying mercury. This nectar-like substance may be used in gulma, mucus, colic, consumption, gonorrhoea, fever, leucorrhoea, and menorrhagia.

चपलास्य शोधनम्।

जम्बीरकजङ्कृतक्रिया। विभावनाभिमिश्रिपलस्य शुचि।।

Purification of Chapala.

Chapala is purified, if subjected to bhavana with the juices of lime fruit, karkotaka, and ginger.

चपलस्य सत्त्वपालनम्।

शेलं हि चूर्णयित्वात् धान्यामलोपनाशिविविधेः।

पिण्डं वद्धः तु विचित्रवत् पातञ्जलपल्लि भिषकः॥

Extraction of essence from Chapala.

The ore of chapala is to be powdered, rubbed with kanji, poisons, and semi-poisons, and made into a lump from which essence is to be extracted (by means of a Patala kosthika or Patala Jantram).

अथ नागसम्भवक्षपः।

त्रिश्चतुष्पलमिति नागं भानुदुग्धेन मन्दितम्।

यत्रतः पुनरेत्त तावद्य यावत् कप्लर्वशिष्टिम्॥

न ततो पुत्रसह्मेण चयमायाति सर्वथा।

चपलोध्यं समादिष्टो वाचिकेकर्षणसंभवः॥

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इत्यं हि चपलः काय्यों वझस्यापि न संशयः।
ततुस्प्रृणहस्तसंस्पृष्टः केवलो वध्यते रसः।
स रसो धातुवादेशु शस्यते न रसायने॥

Chapala produced from lead and tin.

One hundred and twenty tolas of lead are to be rubbed with the milk of arka, and subjected to heat by putam, until the quantity of the lead is reduced to one tola only. It will no longer undergo any diminution in quantity, even if it be subjected to putam for one thousand times. This substance is called chapala produced from lead. Such a chapala may also be produced from tin in a similar manner. Mercury is at once solidified, if grasped within the palm of a hand, previously smeared with the chapala produced from lead or tin. Mercury, so solidified, is commendable for alchemical purposes, but not for medical purposes.

अष्ठ रसकः (श्यापेरः)॥

रसकः खार्परो ज्वे खार्परतुष्ठकृष्ण सः॥
यशोदस्योपधातुहि यशोदसर्दशो गुर्णः॥
रसको द्विविधः प्रोक्तो दुर्वरः ॥ कारवेलकः॥
सदलो दुर्वरः प्रोक्तो निर्दिलः कारवेलकः॥
सत्त्वपाते शुभः पूर्वों द्वितीयश्रौपधादिषु।
मृत्युपाया युद्धस्तुत्त्वब्रिहितो रसको मतः॥

* ०० ० ० इति पाठान्तरम्॥
Rasaka or kharpara (calamine).

Rasaka is of two kinds, viz, "Durdara" * and "karabella." The variety which has got layers is called the "Durdara" and the one which has got no layers is called the "karabella." The first variety is to be preferred for the purpose of extraction of essence, whereas the second one is more suitable for purpose of being used in medicines. Rasaka resembles in appearance three different things, viz, mud, stone, and molasses. The first is yellow in colour and is full of layers. Both the second and the third are thick and without layers. In quality, the second is inferior to the first, and the third is inferior to the second. Rasaka cures all sorts of venereal diseases and eye-diseases; it pacifies an abnormal excess of the three doshas, and is a dyer of iron and mercury. The art of transforming the body into steel becomes a hand maid, as it were, to the person who can make mercury and rasaka stand fire.

* "Dardura," according to another version.
Inability of Rasaka to stand fire.

Rasaka cannot stand fire. It is so combustible that it burns on a slight heat being applied to it. There are a few things in this world which can make rasaka stand fire.

How rasaka may be made to stand fire.

First process.

Rasaka can be made to stand fire, if it is rubbed with the essence of earth-worm or with the liquid expressed from it.
Second process.

Kharpara is to be broken into pieces like gram, and kept inside a blade of kanya split up into two, immersed in ass’s urine, and boiled until the urine evaporates altogether. This process is to be continued for three days, after which the blade is to be replaced by a new one, which is also to be boiled in the same way for 3 days. This process is to be performed thrice. This is how kharpara is enabled to stand fire without much difficulty. If the kharpara still emits smoke when placed on fire, it is again to be boiled in the aforesaid way as long as necessary. The
kharpara is next to be boiled in a solution of kshari salt for 2 days which will result in its incineration. It is again to be put to the test of being placed on fire. If it still emits smoke, it is again to be boiled in the fore-going manner, then subjected to bhavana for seven times with the liquid expressed from earth worms, and heated by putam after each act of bhavana.

**Purification of kharpara.**

**First process.**

Rasaka assumes a yellow appearance, and is purified, if it is saturated with the juice of bitter alabu and then heated.

**Second process.**

Kharpara is purified, if it is heated for seven times, and is immersed in the juice of bijapura, after each act of heating.
Third process.

Kharpura is purified, if it is heated and immersed in man's urine, or horse's urine, or whøy, or kanji.

चतुर्थम् विचित्रः

नरमूत्रं च गोमूत्रं सताहं रसकं पच्चत्।

dolāyanḍeṣa śuddhi: styaat tatt: kāryeyaḥ yo jayaḥetu।

Fourth process.

Rasaka is purified, if it is boiled in man's urine or cow's urine for a week by means of a Dola Jantram.

पञ्चमो विचित्रः

puṣpaśaṁ rakṣipitānaṁ rassē: pitaṣa ch bhavaḥetu।

naramūtraṁ gomucyṛaṁvaśaṁśaṁ saṁsāyēvaṁ।

Fifth process.

Rasaka is purified, if it is rubbed with the juices of red and yellow flowers and then subjected to bhavana with cow's urine, or man's urine, or aranala, or saubir amla, each mixed with rock salt.

अग्रथ खररस्य मारांगम्।

पञ्चमो विचित्रः

खररं पारदेने यामाण्यकं विपाचयेत्।

वालुकायन्त्रमध्यस्थं शोभनं भस्म जायते।

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First process.

Kharpara is reduced to fine ashes, if rubbed with mercury and subjected to heat for 8 hours, by means of a Baluka Jantram.

Second process.

Kharpara is incinerated, if it is placed over fire in an iron pot, and when smelted, mixed with saindhava salt being put upon it little by little, and turned constantly by means of a rod made of Palasha wood.

Third process.

Kharpara is incinerated, and as such, cures all sorts of diseases, if subjected to heat by means of a Lavana Jantram.
Extraction of essence from Rasaka (calamine).

First process.

Kharpurna is to be rubbed with one fourth its quantity of haridra, triphala, rala, saindhava, dhuma (soot), tankanam, bhallataka, and a sufficient quantity of the amlas (sour vegetable juices), and made into a paste with which is to be painted the inner surface of a crucible, called "Brintaka-musha" (see page 291 vol. I). When dried, the crucible is to be covered with a lid placed lightly on the mouth. The crucible is to be heated until the rasaka gets smelted, and emits, through a hole in the crucible, a smoke of blue white colour. The inner crucible is then to be taken out and turned upside down on the ground, so carefully as not to let it break. All the essence, which has the appearance of tin, will thus be obtained by heating the crucible for two or three times. The essence, thus obtained, is no other than jasoda (zinc), but the drugs,
(z, e, haridra, etc.) used in the extraction of the essence, imparts to it a quality which makes it much superior to ordinary zinc in point of medicinal properties.

Second process.

Rasaka discharges its essence, if rubbed with hiritaki, laksha, earth worm, haridra, soot, and tankanam, and heated by means of a muka musha.

* Muka musha (dumb crucible) and andha musha (blind crucible) refer to the same kind of crucible—a crucible not provided with any passage for the entrance of air into it.
Rasaka is to be rubbed with the powders of laksha, gurh (molasses), white mustard, rala, and tankanam, roasted with cow's milk and ghee, and made into a ball. It is then to be confined in a Brintaka musha and subjected to heat in the manner explained in the first process.

Essence from the ball may also be extracted in the following manner:—Place an earthen vessel full of water, inside a pit cut into the ground, and put an earthen basin full of holes upon the mouth of the vessel. The crucible containing the ball referred to above is now to be placed upside down upon the earthen basin, and charcoal fire to be placed all round the crucible. This will result in the essence of rasaka falling into the water in the vessel. *

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This refers to what is called Patala Jantram, (see page 280, vol I), a correct description of which is given here:—

Patala Jantram.

In a pit in the ground, one cubit deep, place a vessel. Another vessel containing prescribed materials and having its mouth tightly
Incineration of the essence of rasaka.

Essence of rasaka with haritala is to be placed over fire upon an earthen pot or an iron cauldron, with an equal quantity of purified haritalam being put upon it, little by little, and turned all the while by means of an iron rod, until the whole thing is reduced to ashes. This powder is to be mixed with an equal quantity of incinerated kanta iron and is to be applied in doses covered with a basin, full of holes, is to be placed upside down upon the mouth of the first vessel. The joints are to be closed and the pit covered with mud. The apparatus is then to be heated by means of charcoal fire being placed all round the upper vessel, when cooled of itself, the essence, oil, or tincture, as the case may be, is to be taken out from inside the lower vessel.

* अभ्जे वशोवस्य भस्मीकरणविधिमयः ।
of 8 ractis a day with the accompaniment of the decoction of triphala, kept overnight in a kanta iron pot, with three or four drops of oil extracted from tila, (sesamus) put upon it. It speedily cures the following diseases:—spermatorrhoea, pittam (an excess of the animal heat), consumption, anemia, dropsy, gulma, racta-gulma of women, leucorrhoea, menorrhagia, diabetes, all sorts of vaginal diseases, malaria, kala-azar, pain at the time of menstruation, bronchitis, asthma, and hiccough.

रसकेन रसादीनां रज्ञामु।
नरमृतेन स्थितो मासं रसको रज्ञयेदू धु वमु।
शुच्चताङ्ग रसं तारं शुच्चश्वेतस्मप्रभमु॥

Dyeing of mercury, etc. by rasaka.

Rasaka, kept immersed in man’s urine for one month, acquires the property of investing pure copper, mercury, and silver with the colour of pure gold.
हिंदीयोगच्छायाः ।
प्रथ गन्धकः ।
गन्धार्मा गन्धकोऽण्डो गन्धी च गन्धिको वलिः ।
सौगन्धिकः सुगन्धिकः पामस्यो गन्धमोदनः ॥
शूल्वारि पूर्वगन्धकः कुआरिदिविगन्धकः ।
सुगन्धी रसगन्धकः कीटस्य कृ गन्धकः ॥
नवनीतस्तथा प्रोको गन्धेशः शरमूमिजः ।
सेवितो दलिना सोऊँ प्रभृत्वलहेतवे ।
तस्मादु बविन्दसेनाये गौरीरजो मनोहरः ॥

गन्धकस्य प्रकारः ।
चतुर्दश गन्धको ज्यो भएँः श्रेष्ठादिभिः खलु ।
श्रेष्ठोऽन्नन्न खंडिकाकारो लेपनाभोक्तताः ॥
तथा चामलसरः स्वातुः यो भवेतुः पीतवर्णावनः ।
शुक्किपरः स्वातुः श्रेष्ठो रसे रसायने ॥
रक्षश्रच शुक्किरावलयोऽधातुवादविषौ वरः ।
दुःस्वः क्षणवंशिच स जरामृत्युन्नाशः ॥

CHAPTER II.
Gandhaka (Sulphur).
Variety of sulphur.

Gandhaka is of four different kinds, according to its colour. The white variety has the appearance of khati or chalk; it is capable of incinerating a metal by besmearing the latter (with white sulphur rubbed
with a vegetable acid, and then heating it by a putam). The yellow variety is called the "amala-sara." It has the colour of the beak of a Suka (parrot); it is best suited to the requirements of mercury and of medicines prepared with a view to cure physical decay and senility. The red variety is best suited to the requirements of alchemy. The black variety is very rare; it is capable of overcoming senility and death.

Properties of sulphur.

Sulphur arrests and cures physical decay and senility; it is sweet in taste, but turns pungent and hot, when digested in the stomach. It cures itches, leprosy, erysipelas, and ring worm. It increases appetite and helps digestion of food. It destroys mucus and eliminates it from the system. It does away with poison, and imparts potency to mercury. It destroys worms, and is a greater tonic than even gold.
Sulphur is to be purified.

Sulphur contains two foreign matters, viz, particles of stone and poison. It is therefore to be purified very carefully. Impure sulphur gives rise to leprosy, inflammation, giddiness, diseases due to an excess of pittam, and loss of beauty, happiness, strength, and semen.

Purification of Gandhaka.

First process.

Gandhaka is to be smelted with cow's ghee, and immediately filtered through a piece of cloth into a
pot, filled with milk, with which it is to be boiled for 24 minutes, and then washed with water. Gandhaka is thus purified and turns into lumps, leaving the particles of stone on the piece of cloth, the poison in the shape of husks being mixed with the ghee which separates itself from the sulphur. One who takes gandhaka, thus purified, need not be afraid of any reactionary after-effects, even though one takes unwholesome food at the time of taking the sulphur. Gandhaka, not properly purified, proves as harmful as a strong poison, especially if a bad diet is taken.

Second process.

Gandhaka is to be smelted and thrown, through a piece of cloth, into the juice of bhringaraja. It is then to be powdered and boiled with the same juice for some time. It is next to be smelted again, and thrown into the juice of bhringaraja. Gandhaka, thus purified, may be used for all purposes.
Third process.

Gandhaka, tankanam, etc. are, first of all, to be washed with lime juice, which removes the dirt attached to their surfaces.

Cover the mouth of an earthen vessel by means of a piece of cloth tightly bound, and put sulphur upon this cloth, covering it with an earthen basin, the joint being closed with mud, etc. The vessel is then to be kept inside a pit made in the ground in such a way as to keep the brim of the vessel on the level of the surface of the earth, the hollow round the vessel being filled in with loose earth. A fire with sixteen pieces of cowdung cakes is now to be made all round the earthen basin. Sulphur, smelted by the fire and making its way through the cloth, will fall into the milk mixed with clarified butter, contained in the vessel, and will thus be purified.

चतुर्थों विषि: ||

पादांशटकशोषेपतं गन्धकमतियिबत: ||

मद्येनू मातुलुझोत्य सत्तेलेन भावयेत् ||
Fourth process.

Gandhaka, with one fourth its quantity of tankanam, is to be rubbed with the juice of matulungu, then powdered very carefully, and subjected to bhavana with castor oil in the intense heat of the sun. Thus purified, Gandhaka becomes fit for use in every way.

How to take gandhaka.

Gandhaka, purified in the way described above, if taken every morning, in doses of one fourth of a tola a day, with triphala, ghee, juice of bhringaraja, and honey gives the man who takes it a long life, being free from diseases, and an eye sight as clear and strong as that of a vulture.
(2)
Sulphur, duly purified, and smelted in an iron pot, smeared with ghee, and taken out of the pot by means of an iron ladle smeared with ghee, may be taken for the cure of phthisis and other diseases, and especially of leprosy.

(3)
Gandhaka cures skin diseases, if taken with ripe banana fruit. It cures loss of strength, if taken with powdered chitraka root. It also cures loss of appetite, if taken with a decoction of triphala. All sorts of diseases pertaining to the upper part of the body are cured very soon by gandhaka, well prepared and taken regularly.
Purified sulphur increases strength and semen, if taken for a month in doses of one fourth of a tola per day with milk. Taken for six months at a stretch, it cures all sorts of diseases, and increases longevity and eye-sight.

Sulphur, five palams in quantity, is to be powdered, saturated with three times its weight of the juice of bhringaraja, and dried in shade (without being exposed to the heat of fire or sun or electricity). To this is to be added haritaki, honey, and ghee, one palam each. The total quantity, thus prepared, is to be taken in the course of two months (in doses of 1/4th part of the whole thing per day). This procedure may result in an old man being restored to youth.
A man is freed in three weeks from carbuncle, piles, etc, if he takes sulphur, well prepared, in doses of one fourth of a tola, rubbed with a little of tila oil, and if he takes bath regularly every day in tepid water. One who is habituated to take sulphur in the above way is freed from all physical ailments and diseases.

One who takes powdered gandhaka, with an equal quantity of pippali and haritaki, becomes strong and healthy, with a very clear and keen eye-sight.
Purified sulphur is to be subjected to bhavana with cow’s milk, and the decoction or juice of each of the following separately:—chaturjata, guduchi, haritaki, bibhitaki, amalaki, trikatu, bhringaraja, and ginger. When this is done, the product is to be mixed with an equal quantity of sugar. The medicine, thus prepared, is called the “Rasayana gandhaka.” If taken in doses of one tola a day, it prevents waste of the dhatu, cures all sorts of spermatorrhoea and gonorrhoea, loss of appetite, colic, diseases
pertaining to the stomach, and the eighteen different kinds of leprosy. It increases semen, strength, and power of speech.

(8)

गन्धकस्तुत्यमारिचः पढ़ युक्तीत्रिफलान्वितः।
पृष्टः शम्याकमूलेन पीतश्राविलकुण्ठः॥
तन्मूलसलिले पिष्टं लेपयेतु प्रत्यहं तनौ॥
हस्तप्रत्ययोयोगोन्यं सत्त्वं युग्मिवैव्यवान्॥

(9)

All sorts of leprosy are cured, if gandhaka is taken with an equal quantity of maricha and six times its weight of triphala, all rubbed with the juice of the root of aragbadha, and if at the same time gandhaka rubbed with the very same juice is applied externally.

अथ गन्धकतैलम्।

(11)

क्रांश्येपसंयुक्तं गन्धकं श्लच्छाचूर्णितम्।
मधुराल्रिमात्रवस्ते तदृ विप्रकोर्यं विवेश्य च॥
सूत्र्येण वेद्यतिवास्यः गामं तेले निमज्जयेत्।
भृत्वा संदंशतो चर्चितमधयः प्रज्वालयेच तमः॥
ढु तो निपातितो गन्धो विन्दुशः काचभाजने।
तां ढु तिं प्रजीयेतं पत्रं नागवबबोहक्षितिविन्दुकान्॥
वन्यन्म प्रमिभं लक्ष्यं सूतं च विसुद्धेतु।
श्रीवुल्यास्य सप्त्रां तां ढु तिं सूतं च भवदेयेत्॥
Gandhaka, purified and very finely powdered, with one fourth its quantity of trikatu, is to be strewn over a piece of cloth, one aratni in length and in breadth. This cloth is then to be rolled up in the form of a candle entwined with cotton thread, and immersed in oil for three hours. The candle is then to be caught hold of by means of a forcep and one of its extremities to be set fire to over a glass pot on which is to fall smelted sulphur, drop by drop. Three drops of this sulphur oil, thrown on a pan (betel) leaf, is to be rubbed by means of the tip of a finger with mercury, three ractis in weight. The pan leaf with the sulphur oil and the mercury is then to be swallowed. Taken regularly, this medicine cures, in a short time, cough, asthma, colic, chronic diarrhoea, and mucus. It makes the system very light.
A piece of cloth is to be soaked for seven times with the milk of arka and snuhī. The cloth is next to be soaked with gandhaka rubbed with butter, made into a candle, and dried. This candle is to be held tight by means of a forceps over a pot, the lower extremity being set fire to in such a way as to let the smelted sulphur fall, drop by drop, into the pot. This liquid of sulphur may be used for all purposes.

Powdered gandhaka is to be mixed with milk, when it is boiled. This milk is to be converted into curd. Clarified butter, prepared out of this curd, is called sulphur oil. It cures cancer leprosy by internal as well as external application.
Dietary.

(1) One who takes purified gandhaka should avoid the following:—kshara, amla, oil, fermented liquids, fried and roasted food stuff, and pulses of all kinds.

(2) लवणामलानि शाकानि द्रिद्वलानि तथैव च।
स्त्रियांशारोहन्याने गन्धसेवी विन्याजित्॥

(2) One who takes gandhaka should avoid the following:—salt, sour things, leaves of vegetables, pulses, intercourse with women, and travels, especially on horse back and in carriages.

गन्धकस्य गन्ध्दूरीकरणाम्।

प्रथमो विचि:।

विचूपै गन्धकं चौरं घनीभावं ब्रजेद् यथा।
सुफ्यांवच्चरसं तत्र पुनर्द्वैत्वा पचेच्छन्॥
पश्चात् पात्येऽशास्त्रो जले त्रिफलसंधबे।
हृते गन्धको गन्धं निजं नास्ति हि संशय:॥

Removal of odour from sulphur.

Powdered sulphur is to be boiled with milk until it is condensed. It is then to be boiled with the juice of suryavarta, and then again with the decoction of triphala. Thus treated, gandhaka is deprived of its odour.
Second process.

Gandhaka is to be subjected to bhavana for three times with a solution of one fourth its quantity of tankanam, dissolved with water, and the juice of any one or more of the following:—devadali, amlaparni, shunthi, darima, and matulunga. The gandhaka is again to be subjected to bhavana for three times in an iron pot with a liquid prepared by rubbing together the under-mentioned articles with the juice of matulunga, and then dissolving the paste-like thing with castor oil:—dhattura, black tulashi, rasona, devadali, root of shigru, kakamachi, karpura, two kinds of shankhini (shankhapuspi and shankhodari?), black aguru; kasturi, bandhya karkoti,—all of equal quantity.
This will render the sulphur devoid of odour, and as soft as honey.

**Transformation of base metals by gandhaka.**

(1) Yellow sulphur and mercury rubbed with the juice of red chittrakā and milk of bajrī lead to the transformation of tin into silver.

(2) Copper is to be incinerated with gandhaka and mixed with an equal quantity of hingula. This is then to be rubbed with the juice of matulunga. Lead, when rubbed with this, will be reduced to ashes as red as red vermilion, by being subjected to putam for three times only.
Removal of the evil consequences of taking impure sulphur.

This can be done by taking milk with cow's ghee.

Gairikam

Gairikam प्रकारः रक्तधातुहृि गिरिधातु गैंथुकम्।
धातुः सुरक्षधातुधः गिरिमृद्भवमेव हि।
स्वालकं गोवेशं प्रत्यश्मा गिरिमृत्तु तथा।
लोहितमृत्तिका चौप परेभं गिरिजं स्मृतम्।
गैरिकम् द्विविंशं प्रोक्तं पापायं स्वान्गैरिकम्।
पापायंगैरिकम् प्रोक्तं कठिनं ताद्रवणकम्।
अत्यन्तशोषणं स्थितं मस्त्रं स्वान्गैरिकम्।
कषणमघुरं हिमं नेत्रतंर च रक्तपित्तनुः।
हिकावमिषांगं च ज्वरधृतं पित्तनाशकम्।
पापायंगैरिकं चात्यतं पूर्वस्मादज्जकं गुणं।
सुवर्णगैरिकं स्वान्धातुः सुरक्कमं तथा।
सन्ध्यान्ञ्ञ वर्स्थ्याधात्र ज्ञेयमिति विचारण।

Gairikam (red ochre).

Gairikam is of two kinds, viz., pāshana gairikam and swarna-gairikam. The former is hard and copper-coloured. The latter is very red, soft, smooth, sweet and astringent in taste, having a cooling effect, and improves eye-sight. It is efficacious in racta-
pittam, hiccough, vomiting, poison, fever, and an excess of pittam. Pashana gairikam is inferior to swarna gairikam.

Purification of gairikam.
Gairika is purified, if it is subjected to bhavana with cow’s milk, or if it is roasted with a little ghee for some time.

Extraction of essence from gairikam.
Gairikam, according to Nandi, is in itself an essence. According to others, essence can be extracted from gairikam, commingled with ksharas and amlas. This essence gains in efficacy, if combined with mercury.
Uses of gairikam.

Gairikam, pansu salt, shunthi, bacha, katphalam, and kanji—all rubbed together and made into an ointment—cure swelling of the parts around the ears in typhoid and other fevers caused by an excess of the three doshas. In fevers due to an excess of
pittam, gairikam may be used with honey, either
alone or with mercury and sulphur. It cures racta
pittam, if taken with decoction of dhanya, ushira, and
sandal or with ela and sugar. Saindhava, daru haridra,
haritaki, gairikam, and rasanjanam—all rubbed togeth-
er and made into a paste—cure all sorts of eye-
diseases, if applied to the eye-lids and the surrounding
region. Red sandal, laksha, buds of malati flower,
made into a paste and applied all round the eyes, cure
vrana shukram of a recent growth. Gairikam, in doses
of one fourth of a tola, taken internally four times a
day, with kanji, cures shita pittam. Gairikam with tur-
meric rubbed together and made into a paste cures shita
pittam and udarda, by external application. Gairikam,
in doses of one fourth of a tola, may be taken with
water for the cure of diseases due to an excess of
pittam. It cures visarapa due to an excess of pittam,
by being rubbed with ghee and applied externally
to the parts affected. It cures burns, by external
application with cocoanut oil or ghee. Gairikam,
kernel of the stone of a mangoe fruit, bidanga, haridra,
rasanjanam, and katphalam—all rubbed with water
and applied externally cures itches in the vagina.

श्रथ कासीसम्।
सितं पीतं हरिच्छथायां कासीसं हि चतुर्विधाम्।
सितं हि वालुकापूर्वं पीतं पुष्पायमेव हि॥
तदेव पद्यकासीसं कदाचितु कथ्यते जने॥
कासीसं हरितायकं सुलभं धुकरं तथा॥

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Kasisam (sulphate of iron).

Kasisam is of four different kinds, viz, white, yellow, green, and black. The white is also called baluka kasisa; the yellow variety is known by the names of puspa kasisa and padma kasisa. The black variety is called dhatu kasisa and mukta kasisa. The green variety can easily be prepared and is found in abundance. Kasisa is a product of iron and sulphur. It is a kshara, sour in taste, and is of various colours. It cures poison, eye diseases, and leucoderma, and is a dyer of hair. It also cures an excess of pittam and hystería.

Of all the different varieties, the puspa kasisam is the best. It is astringent and sour in taste and is efficacious in eye diseases. It also cures poison, an excess of vayu and phlegm, boils, leucoderma, and consumption. It is a good dyer of hair.
Purification of kasisam.

Kasisam is purified, if it is boiled only once with the juice of bhringaraja. It may also be purified by being subjected to bhavana with the bile of animals and with the menstrual discharge of women. It may also be purified with lime juice. An essence may be extracted from kasisam exactly in the same way as from tubari.
Kasisam, incinerated with sulphur, and an equal quantity of kanta iron, killed with kasisam, taken with triphala, bidanga and an unequal quantity of honey and ghee (the total quantity being one fourth of a tola) cures very quickly the following diseases:—leucoderma, jaundice, phthisis, gulma, spleen, colic, and especially piles. If the medicine mentioned above is taken for one year in accordance with the rules prescribed for taking rasayanas, it destroys mucus, loss of appetite, and signs of premature old age, such as greyness of hair and falling off of the teeth.
Kankshi (clay containing alum).

Kankshi or tubari is a clay found in Surat. It can dye clothes with the colour of manjistha. Kankshi is of two different kinds, viz, pitika and phullika. The former is a little yellow, heavy, and soft. It cures poison, boils in particular, and all sorts of leprosy in general. The second kind of tubari is called, 'fullatubari.' It is light, white-coloured, soft, and sour in taste. If applied as a paint to the surface of a copper plate, the colour of the plate changes into that of iron. It is popularly known by the name of gopichandanam.

Properties of kankshi.

Kankshi is astringent, pungent, sour, purifier of throat, salutary to hair, curer of boils, poison, and leucoderma. It improves eye-sight, pacifies the three doshas, and helps the exhaustion of mercury.

According to another reading, it enhances the colour of manjistha, if used in the dyeing of clothes.
Purification and extraction of essence from tubari.

Tubari is purified, if kept immersed for three days in kanji. It emits an essence, if rubbed with ksharas and amlas and then heated. Essence is also obtained, if it is subjected to bhavana with cow's biles and then heated. The process as to how this essence is made to transform metals is a secret one.

The essence of tubari is called sphaṭika, which is purified by being melted over fire.

Properties of sphaṭika (alum).

Alum cures boils, patches in the lungs, and colic. It helps the exhaustion of mercury. In appearance, it resembles white rock salt.
Haritalam is a compound of sulphur and arsenic, and is of four kinds, viz. Patra haritalam, or vansha patra haritalam, Pinda haritalam, Godanta haritalam, and Vakadala haritalam. The last two are very rare.

(1) Patra haritalam.

Patra haritalam is gold-coloured, heavy, soothing and soft, full of thin layers, and glazy. It consists of several layers, and is competent to cure and prevent, when properly prepared, physical decay and senility.

(2) Pinda haritalam.
(2) **Pinda haritalam.**

Pinda haritalam has no layers, is found in lumps, has very little essence or substance, is heavy, and can stop the discharge of menses. It is inferior in quality to the other varieties.

(3) **Godanta haritalam.**

It is found in long bars, is very soft, has the appearance of cow's teeth, is heavy, and yellow with blue streaks at the centre.

(4) **Vakadala haritalam.**

It is very soft and is generally known by the name of cold haritalam. It has layers, is heavy, and can cure leucoderma and leprosy.

शोचिताचितालिभुम गुणाः:

शेष्मरकविवातभूतमुत्तु केवलं हि खलु पुष्पहतः ।

शिंग्भसुष्णाकटुकं च दीपं कुष्ठारि हरिताल- ।

मुच्छ्यते ॥
Properties of purified haritalam,

Haritalam, properly purified, cures phlegm, vatarak-tam, posion, excess of air, and fear from ghosts. It stops menstrual discharge, is soothing, pungent, and produces a warm effect on the system. It increases appetite and cures leprosy.

Haritalam fit for incineration.

For the purpose of incineration, patra haritalam is the best suited, whereas pinda haritalam is to be avoided. Godanta haritalam may be incinerated for use in cancer leprosy. The vakadala haritalam is the best for incineration with a view to being used in leucoderma.

Evils of using haritalam, not properly purified.

Haritalam, not properly purified, shortens life and gives rise to an abnormal excess of phlegm, air, spermatorrhoea, gonorrhoea, inflammation, boils, and contraction of the limbs. It should therefore be purified very carefully.
The haritalam which is not purified and which is not properly incinerated gives rise to the following ailments, if taken internally:—loss of beauty, inflammation, spasm, excess of phlegm and air, and leprosy.

Purification of haritalam.

First, second, and third processes.

Haritalam is purified, if boiled in a Dola Jantram with juice of kushmanda, or with a solution of the ashes of tila plant or with water dissolved with lime.
Fourth process.

Haritalam, broken into pieces and combined with one tenth its weight of tankanam, is to be dissolved with lime juice and then with kanji. It is then to be combined in a piece of cloth made four-fold and boiled by Dola Jantram for one day. It is next to be boiled similarly for one day with aranala, dissolved with lime, and then again boiled similarly for one day with juice of kushmanda or with the juice of shalmali bark.
Fifth process.

Clean patra haritalam is to be broken into pieces wrapped up in a piece of cloth, and boiled for six hours in the juice of lime fruit, by means of a Dola Jantram. When cooled of itself, the bundle is to be again boiled in the same way in each of the following:—urine of she-buffalo, juice of kanya, solution of lime, mixed with juice of musta, juice of shara-punkha, juice of ripe lime mixed with water, and juice of sugar-cane boiled steadily by charcoal. Thus boiled, haritalam becomes purified.

Sixth process.

Haritalam is to be rubbed with the urine of buffalo and subjected to bhavana for three times with the juice of the root of the brahma tree, made as dense as honey. It is then to be confined in a crucible and heated for twelve times by means of fire made of ten pieces of cow-dung cakes, each time. Haritalam, thus purified, may be used for all purposes.
Vansha patra haritalam is purified, if subjected to bhavana for seven times with lime water.

Haritalam is purified, if it is boiled by Dola Jantram for three hours each with (1) kanji mixed with lime, (2) juice of kushmanda, (3) tila-oil and (4) decoction of triphala.
Ninth process.

Vansa patram haritalam is to be dissolved for three or seven times with kushmanda juice or sour curd. When dried, this will have to be broken into such small particles as rice. This is then to be confined inside a malla-musha, the joint being closed with a paste made of plum leaves. The samputam is then to be heated until the lower basin gets red hot. The contents are to be taken out, when the whole thing gets cooled of itself. Two gunjas of it is to be taken with ghee and honey every day. It cures all sorts of leprosy, fistula, ulcer, carbuncle, syphilis, eczema, and ulcers in nostrils and throat.
Incineration of haritalam.

First process.

Purified haritalam is to be broken into pieces, rubbed with lime water, juice of apamarga, solution of ksharas, and then to be kept in an earthen vessel with powdered ksharas of barley husks put below and upon it. This is to be covered with an earthen basin. The remaining portion of the vessel is to be filled with the kernel of a kushmanda fruit. The mouth of the vessel is then to be closed. It is next to be subjected to heat which is to be increased gradually at a uniform rate, for twelve hours. Haritalam, thus incinerated, may be used in leprosy and other diseases.
Purified vansa patra haritalam is to be rubbed in a mortar for one day with the juice of punarnava and made into a lump and dried. Half the portion of an earthen vessel is then to be filled with the kshara of punarnava, upon which is to be kept the lump of haritalam. The portion up to the neck of the vessel is then to be filled with the kshara of punarnava, and the mouth of the vessel to be closed by means of an earthen basin, the joint being tightly closed in the usual way. The vessel is then to be placed over fire and heated continuously for five days, the fire being gradually increased at a uniform rate. The haritalam will thus be incinerated. This is to be used in doses of one gunja a day with suitable anupanam.
Purified haritalam is to be subjected to bhavana for 36 hours with each of the following:—juice of changerhi, juice of nimboo (lemon), and lime dissolved with water. This is next to be dissolved in water with double its quantity of kshara obtained by reducing the stones of shalmali fruits to ashes. The solution is then to be dried, put inside a Kavachi Jantram, and heated by means of a Baluka Jantram for 36 hours. When the apparatus gets cooled of itself, the product is to be taken out, powdered and used in doses of one racti a day, for the purpose of curing leprosy and elephantiasis.

Third process.

श्वरणपत्रं शुच्यतावं पञ्चानं दशारस्वच्छकम् I
कौमारीद्रवप्रस्थेन महं येथु द्वितरं शुचम् II
निम्पुत्रस्थरस्थेचैव वाजपुरलस्ते पुनः I
वज्रीप्रस्थरस्थेचेतार्थमक्तम च रसे: प्रयक्त II
महर्षेचित्त दहं लल्ले याव-ज्ववति गोलकम् I
गोलकं शोषयेत पञ्चाठू घर्षणं सत्तवासरम् II
पलाशभमस्समस्समाझे विपक्षवार्षिकं च गोलकम् II
दृत्तवार्षिकं पुर्द्धस्मस्समाएदवकं निरोधयेत II
हरेरमारोपवेदं यक्षात्त् पावकं वाजायेत क्रमाल I
मन्दमव्यहस्तापणं यामानं च दिष्टस्थितम् II
Fourth process.

Forty tolas of purified gold leaves with an equal quantity of purified haritalam is to be rubbed with one prastha of the juice of each of the following, taken in order of their occurrence, until the whole thing turns into a lump:—kanya, nimboo, sharapunkha, bajri, and arka. The lump is then to be dried in the sun for seven days. In an earthen vessel are to be kept ashes of palasha, upon which is to be kept the lump which is to be covered with the same ashes. The mouth of the vessel is now to be covered with an earthen basin by means of mud, rag, etc. The vessel is then to be heated for 360 hours by means of fire increasing gradually at a uniform rate. When cooled, the white ashes of haritalam are to be collected and used in doses of half to one tandulam (rice) a day.

पञ्चमो विधि: ।
तालं विचूर्णेत् सूचमं महर्यं नागार्जुनोद्वेषः ।
सहदेब्या च वलया मद्येद्व दिवसद्रयम् ॥
तत्रां रोटकं छल्त्वा छायायं च विशेष्येत् ।
इगिरकायन्त्रमध्यस्यं पलास्मभस्मकोपरि ॥
पाक्यं च वालुकायन्त्रे विहितं चागहथिना ।
खांगशीतं समुद्रायं सन्ध्वरोगेषु योजयेत् ॥
Fifth process.

Haritalam is to be powdered very fine and rubbed for two days, with the juice of dugdhika, sahadevi, and bala, and made into a lump, which is to be dried in the shade and confined in a samputam or in a glass bottle, with the ashes of palasha, placed on all sides of the lump, and then heated by a gradually increasing and strong fire by means of a Baluka Jantram or a Handika Jantram (i.e., the apparatus described in the preceding process).

Sixth process.

One palam of purified haritalam is to be rubbed with the juice of kanya, dried, kept within a samputam, and heated for 36 hours. Haritalam, thus incinerated, can cure leprosy.
Seventh process.

Purified Vakadala haritalam is to be rubbed in a mortar for seven days with the juice of kanya, duly dried, and then entered into a glass bottle with its mouth kept open. It is then to be heated by means of a Baluka Jantram over a strong fire. After some time smoke of a bluish yellow colour will come out of the glass bottle.

An iron probe is then to be inserted into the glass bottle, with a view to turn frequently the haritalam by means of it. This probe is to be taken out every now and then and examined. When the probe will
be found to contain a few drops of water, bluish yellow in colour, it is to be taken for granted that the apparatus is to be heated for one or two days more. When the water attached to the probe will be found to be white in colour, the heating is to be stopped and the apparatus to be allowed to cool of itself.

Eighth process.

Fine powder of haritalam is to be subjected to bhavana for twenty days with the juice of asvattha, rubbed in a clean mortar and made into a ball, which is to be kept inside a vessel, one half of which is
filled with the ashes of asvatha bark. The remaining portion of this vessel is to be filled again with the same ashes, and the mouth of the vessel is to be closed by means of a basin, as usual. The whole thing is now to be heated for 12 hours in Gajaputam, by means of fire made of one thousand cowdung cakes. Haritalam will thus be incinerated. If it is so, it will assume a white colour and emit no smoke, when heated by an iron rod.

Ninth process.

Pure haritalam is to be reduced to powder, subjected to bhavana for three times with each of the following:—kanya, kushmanda, and curd; and then made into a ball which is to be kept inside an earthen vessel, previously filled with ashes, six angulis deep. This vessel is then to be placed upon an iron pot, and covered on all sides with ashes. It is also to be filled
with ashes up to its neck, covered closely by means of
an earthen basin placed at the mouth, and then heated
for 96 hours continuously by means of fire gradually
rising, at a uniform rate, in the intensity of its heat.
This will result in the reduction of the haritalam to
ashes having the appearance of lime. This haritalam
 CURSES vata-ractam and fever, if taken with sugar in
doses of one grain of rice (in weight) a day.

Tenth process.

- One part of pure haritalam is to be put inside an
  earthen vessel, partly filled with ashes. Upon the
  haritalam is to be put double its quantity of condensed
  smoke (soot). The mouth of the vessel is to be closed
tightly by means of an earthen vessel. The apparatus
  is then to be heated for 12 hours by means of fire
rising gradually in the intensity of its heat at a uniform rate. This will result in the incineration of haritalam which will assume a white appearance and will emit no more smoke, even if subjected to further heat.

पकात्वनो विधिः

जम्मीरदवमध्ये तु प्रबाल्य नटमण्डनम्।
दशांशं तंकानं दत्तवा खराृष्ण: परिमेलयेत्॥
चतुर्गुणो गाढपते निजव्य प्रहरदयम्।
दोलायज्ञेऽसुस्वेवं प्रदीपप्रसिद्धेत्वजले॥
चूर्णतोये च कांजिकेः कुच्छायते निम्बुतेलके।
श्रीफलामुनि ततपुरात्वा चालयत्वामःस्वारिष्णा॥
ततः प्वाशमूलाऔर्क्षरिष्णु प्रशोषयेत्॥
महिषीमूलस्तंपिष्टं पुनस्तं परिशोषयेत्॥
तदू गोलकं शारावः सुपटीकुलं यथातः।
खाते गजपुटे पछता खांगशीतं समुद्ररेत॥
भजन्वगेः पूनः पिण्ठा शोषयें गोलकीकृतम्।
शाकान्तं भस्मपालाशं हथिकायं विनिचिपेत॥
सम्यकं चूर्णस्तं कुष्ठं वै वंद्वः तत्र विच्छचिणः।
स्थापयें गोलकं तत्त्र पुनर्चूर्णस्तं भस्म च॥
यथा धूमों न निर्याति तथा तां च विमुद्रयेत्।
ञ्जायशतः प्रहरान्तु पाच्यं खांगशीतं समुद्ररेत॥
हिमकुन्देनुलस्तं श्रियं कुष्ठावर्मणमण॥

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Eleventh process.

Haritalam is to be washed with lime juice and mixed with one tenth its weight of tankanam. It is then to be confined in a piece of cloth having four folds, and made into a bundle, which is to be boiled by means of a Dola Jantram, with a slow heat such as is produced by the burning of an earthen lamp lighted with vegetable oil, for six hours, with each of the following:—lime water, kanji, kushmanda juice, lemon oil, and triphala. It is then to be washed with sour vegetable juice, rubbed with the bark of the root of palasha tree, and dried. It is next to be rubbed with the urine of she-buffalo and dried. Next it is to be put into a sampputam made of two basins and heated by means of Gajaputam; the contents of the sampputam being taken out when the fire will be extinguished completely and the sampputam cooled of itself. The haritalam is then to be rubbed with goat's milk, made into a ball, and dried. It is next to be put into a vessel, covered on all sides with powdered lime, the remaining portion of the vessel being filled with the ashes of palasha. The mouth of the vessel is to be closed in such a way as not to let out any smoke. The vessel is then to be subjected to heat, gradually increasing, for 96 hours continuously, with the result that the haritalam will be found, when taken out after the apparatus gets cooled, to be as white as moon and will emit no smoke, if subjected to further heat.
How to use the harital-bhasma described above.

One racti in weight of the incinerated haritalam, described above, is to be taken with old molasses for the cure of all sorts of leprosy, skin diseases, carbuncles, fistula, etc. At the time of taking this haritalam, the patient should take bread prepared from chanaka grams and shasthi rice, without the addition of any salt.
Twelfth process.

One karsha of purified haritalam with an equal quantity of incinerated iron and a little of incinerated gold and silver are to be mixed together and put into a glass bottle, properly coated with mud and rag for seven times. This bottle is to be put into a Baluka Jantram and heated for 12 hours. The medicine is to be taken out, when cooled of itself.
Purified haritalam is to be rubbed separately with each of the following and made into a lump:—juices of kushmanda, nimboo, gojihva, kulattha, chhikkani, ardraka, dhatura, bhringaraja, dugdhiaka, sahadevi, palasha, eranda roots, brahmadandi, swarna balli, rasona, palandu, gopala karkati, kakamachi, milk of bajri, and arka. The lump is then to be put inside a vessel filled with the ashes of aswatha, and heated as usual, for 96 hours. The haritalam, thus incinerated, cures quickly all sorts of diseases, and especially leprosy, scrofula, hysteria, and urinary diseases, if the patient lives twice a day on a good diet, prepared without salt, pungents, and strong ingredients.

शुद्धं तालं सामादाय द्रोणपुष्पपरसेम्भिष्कं।
दिनानि सस संमयं यथे विधाय्यरे विपेत॥
यामानशौ पचेदशौ स्वांगशीतलमुद्रते।
उद्दं पात्रगतं सत्त्वं यशोला मद्येत पुनः॥
त्रिदिनं तद्असरेत ततो यथे पुनः पचेत॥

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Purified haritalam is to be rubbed for seven days with the juice of drona puspi and put into a Vidya-dhara Jantram, which is to be heated for 24 hours, the contents being taken out when the apparatus gets cooled by radiation. The substance attached to the upper pot is then to be collected, rubbed for three days with the same juice, and again heated in the aforesaid way, for 24 hours continuously. The process is to be
repeated over and over again until the essence of the haritalam becomes stable, which generally takes place after seven days. On the eighth day, the haritalam is to be rubbed for one day with the milk of arka, and heated for 24 hours. This process is to be performed for three times. The product, thus prepared, cures cancer leprosy and swelling of the body due to vataaractam, and syphilis. The dose in leprosy is 2 ractis a day, whereas in syphilis only one racti is to be taken with honey and powdered topchini, 1/3 of a tola in weight.

**Fifteenth process.**

Purified haritalam is to be kept inside the hollow of a big human bone, the ends being closed by means of the ashes of aswattha, palasha or punarnava. The bone is to be plastered all over, for several times, with mud, etc., and dried each time. It is next to be heated by means of a strong fire, causing the incineration of the haritalam. The product becomes more efficacious, if the haritalam, prior to its being incinerated, were
rubbed with the juices of suitable herbs. The hari-
talam, thus incinerated, cures all sorts of diseases. It leads the chemist to the attainment of his wished-
for object; i.e., fame in the practice of medicine.

**Liquefaction of haritalam.**

The belly of a big fish is to be cut out very care-
fully, cleansed of the entrails, and made into a sort of
a bag which is to be filled with purified haritalam of a superior quality, the borders of the bag being sewed carefully by means of thread. The whole thing is then to be kept into an earthen vessel, covered in such a way as to let some air enter into it. The vessel is to be kept securely at the top of a big tree growing in a locality far away from human habitation, so that the stench coming out of the fish in a state of putrefaction may not prove a nuisance to any one. Innumerable insects grow upon the putrefied fish. The stronger among these insects devour the weaker ones until a few very big ones survive. These big ones are very beautiful and have the colour of gold. These are to be taken out and kept suspended, by means of a thread, inside a glass bottle, closed by a light cork. This bottle is to be sunk up to its neck into rice, boiled with milk and still very hot, until the insects melt and collect into a gold-coloured liquid. This liquid may be used in all sorts of diseases, and serves as a very important factor in the secret process of transformation of base metals into gold.

तालभस्म: परीक्षा ।

वहाँ ब्रिट्स न जहाँति यदा धूम मनागपि ॥
तदा श्रेष्ठं मूर्तं तालमन्यथा न मूर्तं हि तत्त ॥

Test of incinerated haritalam.

Haritalam is considered to be properly incinerated, if it does not emit any smoke when put upon fire; otherwise it is to be considered un-incinerated.
Incinerated haritalam cures eighty different kinds of diseases due to an abnormal excess of vayu (viz., paralysis, etc.), if taken in doses of half a gunja, mixed with six ballas in weight of khanda (condensed molasses).

Haritalam may be used in asthma, bronchitis, phthisis, leprosy pittam, vata racta, ringworm, itches, carbuncle, and diseases due to an excess of vayu.
Accompaniments of haritalam.

Incinerated haritalam is to be used with the juice of amra haridra in impurity of the blood; with purified aconite and jeera in hysteria; with samudra phalam in dropsy; with the juice of devadali in bhagandara and priyanga diseases (syphilis); with the decoction of manjista, etc. † in eighteen different kinds.
of leprosy; with triphala and sugar in jaundice; with powdered shunthi in rheumatism, with incinerated gold in ractapittam; with the juice of tanduliyaṃ in eight different kinds of fever. Such accompaniments may be devised by the physician himself in accordance with the particular requirements of the case.

हरितालस्य सत्त्वपातनम्। 

प्रथमो विषि:।

कुलत्थकाथसौभाग्यमहिष्यायमधुपुलतम्।
स्थाल्यां विपन्ना हरितालमल्लेनचिद्र्योगिना॥
सम्बंधः निरत्वशिलिनं ज्वालयेत क्रमविन्धितम्।
एकप्रहरमात्रं हि रन्थमाच्छाद गोमयः॥
यानाते चिद्रमुदङ्गाय दष्टे धूमे च पासरे॥
शीतां स्थालीं समुत्तार्यं सत्त्वमुत्क्षण्यं चाहरेत्॥

Extraction of essence from haritalam.†

First process.

Haritalam is to be rubbed with the decoction of kulattha, tankanam, she-buffalo's ghee, and honey and put into a vessel, covered well with a basin containing a few holes. The vessel is to be heated by fire

† This essence is no other than a substance containing much of arsenic.
increasing gradually. The holes in the basin being stopped all this time by means of cow dung. After three hours of heating the holes are to be opened, and on a pale smoke coming out of these holes, the heating is to be put a stop to. When perfectly cooled, the vessel is to be broken open, and the essence of haritalam collected carefully.

Second process.

One palam of haritalam is to be rubbed for one day with the milk of arka and mixed with sixteen times its weight of oil. It is then to be heated in an open space for 21 hours. When cooled of itself, the essence deposited at the bottom, should be taken out.
Third process.

Haritalam is to be rubbed for two days with the fur of a goat's tail, sulphur, and the dravana-varga (see page 305, Vol I), and then put into a glass bottle, which is to be coated all over with mud and rag, for three times, and dried in the sun. The lower half of this bottle is then to be put inside an earthen vessel which is to be heated for 36 hours. When cooled, the pure essence of haritalam deposited at the neck of the glass bottle is to be collected carefully.

Fourth process.

Two tolas of haritalam are to be lightly confined within a white piece of strong cloth and made into a bundle, which is to be coated all over with sulphur (rubbed with a vegetable acid) for three times, and dried each time. This bundle is to be thrown into
12 tolas of melted copper, and the whole thing is to be covered quickly with ashes. When cooled, soft white essence of haritalam, adhering to the surface of the copper, will have to be collected carefully. This is the essence which is required in mercurial operations and medicines.

Fifth process.

If haritalam is incinerated by means of a Tirjak patana Jantram (see page 253, vol I), a kind of white essence is obtained. This is to be used in doses of one sarshapa a day. It cures obstinate fevers and gives rise to beauty, nutrition, and strength.

Sixth process.

Haritalam, mixed with half its quantity of laksha, raji, tila, shigru, tankanam, labanam, and molasses, all combined, is to be put into a crucible provided with a hole at the bottom and heated by
Patala Jantram, leading to the extraction of the essence.

Satsmo vichit:

तालकं चूर्णयित्वा तु छागवचीरेष्वा भावयेत्।
बारष्यं ततो विद्धमूलं पिघ्या तु मिभ्रयेत्॥
क्रत्वा च गोलकं शुष्कं सत्त्वं माह्यं पूर्ब्बवत्।
पातालयन्त्रयोगेन यत्तो भिषजं वरें।॥

Seventh process.

Haritalam is to be powdered, and subjected to bhavana with goat’s milk for three times. It is then to be rubbed with the root of patha, made into a lump, dried, and then heated by a Patala Jantram, leading to the emission of its essence.

Abhramo vichit:

अतस्तीतिसंभुश्यं तालकं हरिडकान्तरे।
भृत्वा काचघरे पश्चानु मुद्रयेत् तन्मुखं भृशम्॥
हडः च सेन्यं दल्ल्वा हरिडकायं प्रयत्तः।
विद्धयोगोष्ठ कर्त्ययो द्रियामें सत्त्वनिर्गमः।
अनया किरते रीत्या चोज्मं सत्त्वपातनम्॥
सर्वकार्य्यं रं सत्त्वं निर्दोषमुच्यतम्॥

Eighth process.

Haritalam, roasted with linseed oil, and contained in a glass bottle, is to be kept inside an earthen
vessel, almost filled with rock salt. This is then to be heated for six hours leading to the emission of a pure essence of haritalam.

नवमो विधि: ।

काचार्कालवा्णं प्रस्थवर्वं तद्धम्तालकम् । *
गोमूत्रे मदर्येद् गाड़ दिनानि नीणं वयवतः ॥
कलाशशंकाणं देयं हस्तिकर्ण्डवस्तथा ।
द्विउणं तंकपास्येव देयं तेलं तिलस्य च ॥
गाड़ं विमारं सत्वं तु शोष्येद्वित्यलयतः ।
काचार्काप्यं निधायं तत् पचेद्र यामचतुष्टयम् ।
मुदुभुमं मो योद्धार्वति षेवतवावश्र पारदशः ॥
मुद्रपज्जाय मुलं दयाद्र वहं यामात्रकं हढ्रम् ॥
एवं निस्प्रथे सत्वं तालकस्य विझुहूक्तम् ।
कमगढ़लुप्पमाणत्स्य गोमूत्रस्यान्ते दिपेतः ॥
पुनस्तदु विपचेद्र मून्डे यावन् मूत्तचं पश्चेद्र ॥
तत्र उदार्यंते सत्वं शीतं सांटकाणं हि ततु ॥
त्रिशंदशंशितनेव गन्यकेन विमार्द्येति ।
ध्मापशेच तद्र गाड़ं ततः सत्वं हि जायते ॥
धवलं खोतुष्पश्च सर्वदोषेऽविवर्जितम् ।
ध्मापितं पितलोनेव चैकादश्चुणाक्तत्तु ॥

* काचार्कालवा्णं सौवसं हर्षेत्वदि उपरकायध्य यास्मु। भाषायामेतद् लोरेति कथयते ।
Ninth process.

Two prasthas of saltpetre and one prastha of haritalam are to be rubbed together with cow’s urine for three days. These are again to be rubbed with one fourth their combined weight of tankanam, an equal quantity of the juice of hasti karna palasha, and tila oil, double in quantity of the tankanam. All these are to be kept in a glass bottle, and heated for 1½ hours, and then, as soon as white and pale smoke will be found to come out of the bottle, the mouth of the same will have to be stopped tightly and the apparatus heated for 24 hours more. Then the apparatus will have to be cooled, and the pure essence of haritalam taken out of the bottle.

This essence will have to be boiled with about one prastha of cow’s urine until the whole of it evaporates. The essence is then to be rubbed with one thirtieth part of its weight of sulphur and a little of tankanam; and then heated by a strong heat which changes it into a lump of a compound substance, absolutely free from injurious matters. This compound, with eleven times its weight of brass and a little of pure silver, may be heated in a crucible with the result that the whole thing turns into pure silver.
Haritalam emits its essence, if rubbed with seeds of eranda and jayapala, and heated in a glass bottle, by means of a Baluka Jantram.

Eleventh process.

Pure lime and one fourth its quantity of nava saram are to be rubbed with water, double in quantity of the lime, and to be boiled in that water, exactly in the way salt is prepared by boiling salt water, so that dirty matters found afloat on the surface is thrown away over and over again. Excellent and purified haritalam with an equal quantity of mercury, tankanam, and half the quantity of tankanam of the compound prepared from lime and navasara, are to be rubbed together with the juices of kanya and shara-punkha. All these are to be dried, put into a glass bottle, and heated for 24 hours, resulting in the emission of essence from the haritalam.
Twelfth process.

One palm of purified haritalam and an equal quantity of tankanam are to be rubbed together with each of the following, separately;—ram's milk, juice of kushmanda, juice of kanya, juice of nimboo, milk of bajra, that of arka, castor oil, honey, and ghee.

These are then to be made into small balls and put into a glass bottle, previously wrapped up with mud and rag for several times. The bottle is then to be heated by means of a Baluka Jantram for four days with the result that essence of haritalam, appearing like diamond, will be found deposited at the upper part of the bottle.
Haritalam, rubbed with decoction of kulattha, tankanam, ghee of she-buffalo, and honey, and subjected to bhavaṇa with ghee is to be put into an earthen vessel covered by means of an earthen basin containing a few holes, the joint being closed tightly. The apparatus is then to be heated for 12 hours, after which pale white smoke is expected to come out through the holes. The fire is then to be extinguished, and when the apparatus gets cooled of itself, the pure essence of haritalam is to be taken out.

Use of essence of haritalam.

In vataracta of an obstinate type, essence of haritalam is to be used in doses of one grain of rice
in weight, the diet being much of chanaka grams and clarified butter. Fourteen days of use result in the cure of the disease and the complexion of the skin becoming very clear.

Removal of evil effects due to taking of impure haritalam is effected by taking, for three days, jira, mixed with sugar.

The evil effects of taking haritalam are removed by taking the juice of one of these three, viz., java-sa, kushmanda, and rajahanssa.
Dietary.

One who takes haritalam should avoid altogether salt, sours, pungents, and exposure to heat of fire and sun. The man who is unable to avoid salt altogether may take a little of rock salt. Sweets are beneficial to the person who takes haritalam.

 Transformation of base metals into gold by haritalam.

Haritalam is to be rubbed with the juice of rudanti. Copper leaf, smeared with this haritalam, turns into fine gold.
The leaf of a metal consisting of 16 parts of silver and 12 parts of copper is to be smeared with an amalgam made of haritalam, makshikam, hingula, manas-shila, and mercury, all rubbed together for three days with the juice of kakamachi, the weight of each of these metals being $\frac{3}{4}$ part of the leaf, which is to be heated after it is so smeared. The product is gold.

Haritalam with an equal quantity of manas-shila is to be rubbed with the juices of devadali and shiva lingi for one day each. Five palas of powdered lead, tin, and mercury, each equal in quantity, are to be rubbed with the amalgam of haritalam and manas-shila, described above, and with ghee and then subjected to putam. The process of rubbing with the amalgam and ghee and then of heating by putam is to be performed sixty times resulting in the prepara-
tion of a compound, which can transform 100 times its weight of tin into silver.

"अथ मनःशिला।

मनःशिला कुनाटी च मनोज्ञा नागजिहिका।
नेपाली कुनाटी शिला मनोहर रसनेत्रिका॥
नेपालिका मनोगृहता गोला कल्याणिका तथा।
रोगशिला तथा नागमाता दिव्यौषधिक वा॥
कर्त्ती चैव गोनी च मनःशिला प्रकृति वत॥
तालकस्वेयं भेदोज्यं मनोहरा प्रोच्चये जनः॥
तालकस्वतिष्ठितः स्यादु भवेदु रक्ता मनःशिला॥

Manas-shila (realger),

Manas-shila is only a variety of haritalam; haritalam is very yellow, whereas manas-shila is reddish in colour.

मनःशिलायाः प्रकारः।

मनःशिला स्रिया श्रोच्या श्यामाज्ञी काशवर्का।
ख्यादाय चेति तद्रू पं विविच्य परिक्षयते॥
श्यामा रक्ता च गौरी च भाराङ्ग्रा श्यामिकायुः।
तेजस्विनी च निगोऽरा ताङ्गामा काशवर्का॥
चूर्णमभुतातितरकान्ती सभारा ख्याद्यपर्विका।
उत्तरेऽरक्ता गुणः भृद्द्रा मूर्तिस्त्वा प्रकृतिषः॥

* * त्रिविचारां गुणः भृद्द्रा कण्वीरा मनःशिला इति पादःनः॥

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Different kinds of manas-shila.

Manas-shila is of three different kinds, viz. shyama, kanaviraka, and khandha. Shyama is reddish white with a black tint and is heavy. Kanabiraka is bright without whiteness, and has the appearance of copper. Khandha is in the form of powder. It is very red and heavy. The last mentioned, viz. khandha, is the best of all varieties and has plenty of essence.

\[
\text{मनःशिलाया गुणः} \]

\[
\text{(१)}
\]

\[
\text{मनःशिला स्थानु स्थायनाम् तित्तका कठौष्णा}
\]

\[
\text{कपङ्खातहन्त्री} \]

\[
\text{सत्त्वादिश्च भूतविषाधिमान्यकरूपूर्तितकासाधनः}
\]

\[
\text{हारियौ} \text{च} \]

\[
\text{Properties of manas-shila.}
\]

\[
\text{(१)}
\]

Manas-shila is an excellent rasayananam (i.e. a medicine which prevents and cures senility and physical decay). It is bitter, pungent, producer of heat, destroyer of phlegm and air; and has an ample essence. It cures influences exerted by ghosts on human system, poison, indigestion, itches, cough, and phthisis.

\[
\text{(२)}
\]

\[
\text{मनःशिला युर्वर्विया सरोष्णा लेखनी कु} \]

\[
\text{तित्तका लिख्या विष-धासकासभूतविषाश्चनु} \text{तु} \]

15\]

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Manas-shila is heavy, improver of complexion, laxative, producer of heat in the system, destroyer of fat, pungent and bitter in taste, soothing, and curer of poison, asthma, bronchitis, evil influences of ghosts, and impurities of the blood.

 Evil effects of taking manas-shila, not properly purified.

Manas-shila, not properly purified, gives rise to stone disease, stricture, gleet, loss of appetite, and constipation. If properly purified, it cures all sorts of diseases.

Purification of manas-shila.

First process.

Manas-shila is purified, if subjected to bhavana for seven times, with the juice of agasta leaves, or of ginger.
Second process.

Manas-shila is purified and, as such, may be used in all sorts of diseases, if boiled in a Dola Jantram with the juices of jayanti, bhringaraja, and red agastya, for three hours, and with goat’s urine for another three hours, and then washed with aranala.

Third process.

Manas-shila is purified, if it is boiled in a Dola Jantram with the juices of bhringaraja, agastya, jayanti, and ardraka.

Fourth process.

Manas-shila is purified, if it is boiled with goat’s urine for three days, by means of a Dola Jantram, and then subjected to bhavana for seven times with goat’s bile.
Fifth process.

Manas-shila is purified, if it is subjected to bhavana for seven times with lime water.

Sixth process.

Manas-shila is purified, if subjected to bhavana for seven times with the juice of baka leaves or of ginger.

Extraction of essence of manas-shila.

Manas-shila discharges its essence, if heated strongly by means of a bellows, after having been rubbed with one eighth its weight of oxidised iron, gurb, guggulu, and ghee.
Second process.

Manas-shila, rubbed with kshara and amla, and mixed with the essence of earthworm, tankanam, madana fruit, and juice of karaballi leaves, all rubbed together, is to be put into a crucible, and heated by means of charcoal, given twice only. This results in the extraction of essence from manas-shila.

Antidotes to the bad effects of taking impure manas-shila.

Manas-shila fails to produce any bad effect in one who takes cow’s milk with honey, for three days.
Anjana (stibnite, sulphide of lead, and other things, mainly used as collyrium).

Anjana is of five different kinds, viz, (1) sauviranjana, (2) nilanjana, (3) rasanjana, (4) srotonjana, (5) kulattbanjana, and (6) puspanjana. All of them are efficacious in eye diseases.

(1) Sauviranjana.

This can be obtained in the beds of river, Suvira. It has the colour of smoke, is cool, and is efficacious in hemorrhage, poison, hiccough, eye disease, and boils.

(2) Nilaanjana.

It is blue, heavy, soothing, beneficial to eye-sight, remover of the three doshas, destroyer of senile decay, killer of gold, and has the property of softening the metals.
(3) Rasanjanam.

Rasanjanam is of three different kinds, of which the first is obtained in nature in the form of stone, whereas the second and the third are prepared artificially.

(a) The first kind of rasanjana is obtained from rocks in Turkey. It is yellowish in colour, and contains mercury as one of its constituents. It is pungent and bitter in taste, and pacifies phlegm, poison, carbuncles, and eye diseases. It produces heat in the system, prevents and cures senile decay, and cures obesity.

(b) The second kind of rasanjanam is an exudation or concentrated decoction of yellow sandal. It is yellowish in colour. It cures diseases pertaining to the mouth, asthma, hiccough, and an excess of vayu, pitta, and blood.
(c) The third kind of rasanjana is prepared by boiling daru haridra with an equal quantity of milk and condensing the mixture into one fourth its original quantity. This rasanjanam is also very efficacious in eye diseases.

(४) स्रोतोज्ञनम्।

स्रोतोज्ञनं हिमं लिग्नं कषायं खादु लेखनम्।
नेत्रायं हिकाविस्मृत्वं दिर्गमितादिरोग्नुत॥
वज्रीकशिराकारं भवेन नीलोत्स्पत्यु ति।
धृष्टं तु गैरिक्ष्ठ्यं स्रोतोजं खरोपेदु गुघः॥

(4) Srotonjanam.

It is cool, soothing, astringent, and sweet. It is efficacious in obesity, eye-diseases, hiccough, poison, nausea, excess of phlegm and animal heat, and impurities of the blood. It has the appearance of the top of a mound of earth raised by white ants; when broken into pieces, its inner surfaces appear to have the colour of a blue lotus, but if rubbed, they turn red as red ochre.

(५) कुलस्थाज्ञनम्।

कुल्क्ष्यं कुलस्थकं नेत्रायं कषायं कटुकं हिमं।
विषविस्मृतक्रांडूनं अश्वाचेश्व निवर्जनम्॥
काकेश्वादि निहितं च कुम्भकामलाप्रम्॥

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(5) **Kulatthanjanam.**

This is black in colour, astringent, pungent, cool, and is efficacious in eye-diseases, poison, boils, itches, and carbuncle. It also cures a kind of leprosy, called kakanam, and jaundice at a very advanced stage.

(6) **Pushpanjanam.**

It is white, soothing, and cool. It cures all sorts of eye-diseases, hic-cough of a very virulent type, and fever due to poison.

**Purification of anjanas.**

All the anjanas are purified, if subjected to bhavana with the juice of bhringaraja. Rasanjana alone is also purified, if subjected to bhavana with the juice of suryavarta, etc. ↑

* # अत्रे कक्षुष्ठस्य शोधनप्रणाली दृष्ट्वा *

† See purification of kankustham on page 209.
Rasanjana is dissolved with a very hot water, filtered through a piece of cloth, and dried in the sun. Thus purified, it cures diseases, otherwise not.

Third process.

All the anjanas are purified, if they are powdered, subjected to bhavana with lime juice, and dried for one day in the sun. The following are also purified in the same way:—gairika, kasisa, tankana, varatika (cowri shells), shankha, tubari, and kankustha.
Extraction of essence from anjanas.

Essence of anjanas is to be extracted in the same way as that of manas-shila. The essence of srotonjana may also be obtained in the same way as of rajavarta.

Solidification of mercury by means of srotonjana.

Srotonjana, subjected to bhavana for several times with the juice of cowdung, cow’s urine, ghee, honey, and tallow solidifies mercury very soon.

उपथ कंकुष्ठम् ।

हिमवत्पाद्येकरे कंकुष्ठसुपजायते ।
तदेव त्रिविथं लेवं नलिकश्वेतरणुकम् ॥
पीतप्रभं गुरु लिङ्गं श्रेष्ठं कंकुष्ठमादिसम् ।
श्वेतं तस्मादु गुरौहींनं सिद्धेप्रथं कथितं पुरा ॥
श्यामपीतं लघु त्यक्तसत्तं नेषं हि रेषुकम् ॥
कंकुष्ठं कालकुष्ठं चिरं च रज्ज्वकालकम् । *
रेषांकं पुलंकं चौवं शोधकं कालपालकम् ॥
उपधातुत्स बन्धस्य भालुकिना विमोषितम् ॥

* कालकुष्ठमित्यस्य श्लेष्ट्र कालकुष्ठमिति पाठात्तथम् । तथेत
विरंगमित्यस्य श्लेष्ट्र विरंगमिति पाठात्तथम् ।
Kankustham (an ore containing tin.)

It is produced at the foot of the Himalayas and is of three different kinds, viz. (1) nalika, (2) white, and (3) renuka. The first is yellow-coloured, heavy, soothing, and the best of all varieties. The second, i.e. the white one is inferior to the first, and has very little essence in it. The third variety, viz. renuka, is blackish yellow, light, devoid of essence, and is not suitable for medicinal purposes. Kankustham is an ore containing tin.

Kankustha is bitter, pungent, producer of hot effect on the system, and highly purgative. It is efficacious in carbuncle, udavarta, colic, gulma, enlargement of the spleen, piles, and fistula. It cures rheumatism and causes purgation very quickly. It also effects a quick cure of an exceptionally enlarged spleen and of dropsy.

First process.
Kankustha is purified, if subjected to bhavana for three times with the decoction of shunthi.
Second process.

All the uparasas (including kankustham) are purified, if subjected to bhavana for several times with ksharas, amlas, and with the juice of any one of the following:—suryavarta, kadali, bandhya karkotaki, koshataki, devadali, shigru, vajra kanda (wild shuranam), jala pippali, and kakamachi. Essence is discharged by the uparasas (of course, those which have got them), if heated after they have been purified in that way.

सत्त्वमयं हि ककुष्ठं न सत्त्वं पातयेतु ततः।

Kankustham is full of essence. It is therefore not necessary to extract an essence from it.

ककुष्ठस्य सेवनाचिनि: ।

रजेदेन्व विरेकार्थः ग्राहिभिषेकवामात्रया ।

नाशयेदामपूर्तिः विरेच्य सुरामात्रत: ॥

भल्लुः सह ताम्रबुल्लेविनेर्च्यासून् विनाशयेतु।

वर्मीलिकाकाल्क्रोज़स्मात्मक समाखण ।

ककुष्ठविषयाय भूपेयमुः पिबेन्नर: ॥
How to take kankustham.

If taken in doses of only one java (barley grain) a day, mixed with some thing which has the property of hardening the stools, kankustham removes all the mucus from the system by purgation. If taken with betel leaf, it causes death by over-purgation. To undo the evil effects of kankustham, it is necessary to drink over and over again the decoction of the root of a barbura (acacia) tree, mixed with an equal quantity of jeera and tankana.
CHAPTER III.

Kampilla.

Kampilla is like brick dust, glazy, and highly purgative. It grows in the locality of saurastra (Surat). It is efficacious in an excess of pittam, carbuncles and boils, swelling of the belly with wind, constipation, excess of phlegm, udara, worms, gulma, piles, fistula, fever, and colic, and all other diseases curable by purgation.
Purification of sadharana uparasas.
(i.e. from kampilla to bhunaga).

The sadharana uparasas, that is uparasas belonging to group III (kampilla to bhunaga) are purified, if subjected to bhavana with the juices of matulunga and ardraka for three times.

All sorts of essences of ores and metals are purified, and combine with one another, if heated with the shuddhi varga (or shodhania gana, see Vol. I, page 306.

Kampilla cures boils, skin diseases, and even carbuncles on the back bone, if it is mixed with cow’s ghee and applied as an ointment. In case of a carbuncle on the back bone, it is necessary, first of all to apply on it, for one day, a paste of bimbi leaves, slightly heated, and then to apply the ointment prepared by mixing powdered kampilla with cow’s ghee (or, preferably, goat’s ghee). In the absence of ghee, cocoanut oil may be used for this purpose.
Gauripashana (Arsenic stone).

Gauripashana is of three kinds, viz, red, yellow, and white. They are mentioned here in order of their merit. It is no other than the essence of haritalam. Gauripashana is also of two kinds, viz. mineral and that which is obtained from haritalam. Haritalam, rubbed with castor oil and lime juice, and heated by means of a Baluka Jantram, discharges red gauripashana, as its essence.

Purification of arsenic stone.

Arsenic stone is purified, if it is confined inside a
karaballi fruit and boiled for one hour by means of a Dola Jantram.

Second process.

Since gauripashana is an essence of haritalam, it is also to be purified in the same way as haritalam.

Extraction of essence from gauripashana.

Essence of gauripashana is to be extracted in the same way as that of haritala. This essence is pure white, soothing, and destroyer of the three doshas. It is used in the solidification of mercury and increases the potency of the same.
Navasara or chulika salt is a kshara which is sometimes found to grow in karira and pilu wood, when in a state of decomposition. It is the same pale saltish and light thing which is sometimes found deposited on burnt bricks. The stool of man, camel, hog, etc. is to be dissolved with water and filtered through a piece of cloth for several times and then dried up by means of heat, the product being navasara.

Properties of navasara.

It helps the exhaustion of mercury and the melting of metals, increases appetite, cures gulma, enlargement of the spleen, and dryness of the mouth. It helps the digestion in the stomach of such heavy food as meat, etc. It is one of the constituents of what is called a vida and is a pacifier of the three doshas.
रसरजनिधिः—द्वितीयशब्दम्।

(२)
पदः प्रवज्ञिशीलानां स्वाग्नि: शोथहृद्वित्तमः।
युक्तदोषें जवे प्लीहि शिरः शूलेज्ज्वृद्धादिषु॥
स्तनरोगे रक्तपित्ते काले भग्नामये तथा।
योनिव्यापत्तु च ज्ञेयो नरसारः सुखावहः॥

(२)

Navasara is saltish. It expedites the discharge from the system of things (such as blood, kapha, pittam, etc.) which have already commenced to come out. It is cool, and is efficacious in dropsy, heart disease, liver complaints, fever, enlargement of the spleen, head disease, tumour, diseases pertaining to the female breast, ractapittam, cough, fracture of bones and in diseases pertaining to the vagina.

अथ कपर्कः॥

पीताभा अन्निला प्रथे दीर्घवृत्ता वराटिका ।
चरार्वरेति सा प्रोक्ता याहा रसक्रियायास्य सा ॥
साध्वा निष्कभरा श्रेष्ठा निष्कभारा च मध्यमा ।
पादोनानिष्कभारा च कनिष्ठा परिक्रितिचिता ॥
निस्फलाहृत ततो न्यूनाः पुंचरातश्री पित्तला: ।
दल्ल्वा दल्ल्वा गुणान् भूयो सवं हि विकरोति ततै॥

Kapardaka (cowrie or marine shells).

The cowrie shell which is yellowish in colour, having a knot and circle on the back, is known by the
name of charachara. Cowries of this type only may be used in medicines. Of these, the one which is $\frac{\frac{1}{2}}{}$ niska (i.e., $\frac{5}{8}$ of a tola) in weight is the best, that which is one niska ($\frac{\frac{1}{2}}{}$ of a tola) in weight is of moderate quality, and that which is $\frac{5}{8}$ of a niska (i.e. $\frac{\frac{1}{2}}{}$ of a tola) in weight is inferior in quality. That which is less than $\frac{5}{8}$ of a tola in weight is a male cowrie, is useless for the purpose of medicines, and causes an excess of pittam, if used in medicines. Although found beneficial in some cases, all such cowries give rise to several evil effects, and should therefore be avoided for medicinal purposes.

**Properties of cowry or marine shell.**

It cures all sorts of colic, including that which is felt just at the time of digestion of food. It also cures chronic diarrhoea and phthisis. It is pungent, hot, increasing the power of digestion, nutritive, beneficial to the eye, and pacifier of an excess of vayu and kapha (phlegm). It is one of the best of the materials constituting what is called a vida, referred to in the exhaustion of mercury. The cowries which do not conform to the description given above are male cowries—they are not easily digested and give rise to an increase of phlegm and animal heat.
Purification of kapardi (cowri).

Kapardi or cowri is purified, if boiled with kanji for three hours.

Incineration of kapardi or cowrie.

First process.

Cowrie is reduced to ashes, if placed upon charcoal fire until it bursts. When cooled of itself, it may be reduced to powder and used in all things.

Second process.

Kapardi is undoubtedly reduced to ashes, if subjected to putam by means of a strong fire. When cooled of itself, it is to be reduced to powder and used as required.
दुतीयो विचि: ।
भूगर्भं च समे शुद्धे पत्तनं स्थापयेत् सुभीः । १०
तुषेशा पुरयेत् तत्त्वाः किचिदन् मध्यं भिषगुरः ॥
वरातपरितं मूषां तन्मध्ये विनिवेशयेत् ।
करोषाधिं ततो द्रव्यतं पाणिकायन्त्रमुच्चमम् ।

Third process.

A big and wide-mouthed earthen pot is to be placed in a pit, made in a clean and level soil. About half of this pot is to be filled with paddy husks into which is to be placed the closed crucible or samputam containing cowries. Upon this crucible or samputam is to be made a fire made of cowdung cakes, which will effect the incineration of the cowries. The apparatus referred to here is called the Panika Jantram.

आधु शुद्ध: ।

dhīṣa सं द्विग्रावर्त्तेऽवामावर्तः शुभेतारः ।
द्विग्रावर्त्तेऽशंकस्तु पुरयोगादवायते ॥
तित्तिति यदू यहे स वै तल्लुकम्याभाजनं भावेत् ।
द्विग्रावर्त्तेऽशंकस्तु त्रिदोषधुः: शुचिनिधिः ॥
शंखश्रवण विसलः भ्रेष्टः चन्द्रकान्तिसमभ्रमः ।
आशुद्ध्रो गुणादो नेव शुद्धं एव गुणापदः ॥

* पत्तनं वधुमायायं 'पात्मा' हि निध्यते ।
Shankha (conch shell).

Shankha is of two kinds, viz, the dakshinavarta \(i.e\.), that which has got its involution from left to right, and the vamavarta \(i.e\.), that which has got it in an opposite direction. None but the virtuous can procure the former. The latter does not indicate good fortune in the owner. The home-stead which contains a conch of the former description is the abode of the goddess of fortune. Such a shell is a destroyer of an abnormal excess of the three doshas. It is pure and a wealth in itself. A conch shell, which is devoid of dirt, is moon-white in colour, and if duly purified, is commendable for medicinal purposes; otherwise not.

**Purification of shankha.**

Shankha is purified, if boiled in a Dola Jantram with amlas, mixed with kanji.

**Incineration of shankha.**

One palam of shankha, killed by being heated in a blind crucible is to be rubbed by means of a rod with half a masha of tankanam, and then used in medicines.
Shankha cures all sorts of diseases, especially chronic diarrhoea, colic pain, acidity with biliousness, swelling of the belly with wind, spermatorrhoea, and heart disease. It also increases the power of digestion of food. It is a kshara, and has a cooling effect on the system. It removes looseness of stool even in chronic diarrhoea. It cures white blot in the eye, is a tonic, and cures pimples in the face of young men.

Bahi jara or agnijara.

Agnijara is the uterine excreta of agninakra, (a kind of shark) thrown upon the beach by sea waves.
and dried up by the sun. Agnijara is the pacifier of the three doshas. It cures tetanus and other diseases due to an excess of vayu. It increases the potency of mercury and the power of digestion. It is already purified by contact with the kshara contained in sea water, and does not therefore require any further purification.

Girisinduram (Mineral red vermillion).

This is found in small quantities inside rocks in big mountains. It is dry and red. This is a compound of lead and other things. It has all the properties possessed by lead; but it possesses other qualities also on account of its containing a little of mercury and sulphur.
Properties of girisinduram.

(1)

It is a pacifier of the three doshas, laxative, good solidifier of mercury, and is beneficial to eye-sight. It makes the body as strong as iron.

(2)

सिन्दूरयुग्मवीसप्रकाष्ठक्रूद्विशापः ॥
भद्रसन्ध्यानकारकं व्यशौधनरोपः ॥

Both kinds of red vermilion (viz, girisinduram which is a natural product, and artificial red vermilion manufactured in the laboratory. For the process of preparing the latter, see under lead), are efficacious in erysipelas, leprosy, itches, and poison. They help the joining of broken limbs, are disinfectants, and heal boils and carbuncles.

न्यायहारयोग्यः गिरिसिन्दूरः ॥
सुरङ्गोप्पितः सूचसः लिग्धः क्षणयुग्मः दुः ॥
सुवर्णकरजः शुचः सिन्दूरो महत्प्रदः ॥

* Red vermilion fit for use.

Red vermilion is considered pure, and fit for use in medicines, if it is well-coloured, able to stand the heat of fire, fine, soothing, transparent, heavy, soft, and is obtained from a gold mine.

* सिन्दूरं द्विविधं यथा—गिरिसिन्दूरं नागसिन्दूरः ॥ अनवो-मंध्ये प्रथम खमावतं हि तीत्वं नागसुम्पूर्तं हुत्रिमः ॥ अन्ने सीतक-प्रकरणे नागसिन्दूरस्य निर्माणविचित्रः ॥
Purification of red vermilion.

First process.

The red vermilion which is obtained from a gold mine and is pure in itself need not be purified. The one which is not of this description should be purified by being subjected to bhavana with milk and sour vegetable juice.

Second process.

Red vermilion is purified, if it is rubbed with lemon juice, dried in the sun, and then subjected to bhavana with rice water.
Varieties of hingula.

Hingula is of three different kinds, viz, (1) charmara, (2) shuka tundaka, and (3) hansa pada. Of these, the third is better than the second, and the second is better than the first. Charmara has the colour of a parrot; shuka tundaka is yellowish; whereas hansapaka is as red as japa flower and coral, with white streaks here and there.

Properties of hingula.

Hingula is a destroyer of all the three doshas (i.e. abnormal excess of vayu, pittam, and kapha). It increases the power of digesting food, and is an excellent medicine for the cure and prevention of senile decay. It cures all sorts of diseases (if used with suitable accompaniments); is nutritive, and is very useful for the purpose of incineration of metals. Especially does it cure spermatorrhoea and leprosy. It
increases appetite, strength, memory, and power of digestion. Mercury, extracted from hingula, is as good as that which has swallowed some sulphur. (For the process of absorption of sulphur by mercury, see vol. 1.)

First process.

Hingula is purified, if subjected to bhavana for seven times with the juice of ginger or lakucha.

Second process.

Hingula is purified, if it is rubbed for seven times with the juice of the amlavarga and buffaloe’s milk, and dried each time it is so rubbed.
Third process.

Hingula is purified, if it is subjected to bhavana for seven times with ram’s milk and the juice of the amla varga.

चतुर्थोऽविचि: ।

dardāṃ doñikāyaṇātē pāk jambivirājōtē vē: ।
satvāramajamūtraṁbhārvitē śuddhitē hī ॥

Fourth process.

Hingula is purified, if it is boiled in a Dola Jantram with lime juice, and then subjected to bhavana for seven times with goat’s urine.

पट्वमो विचि: ।

jayntya: varṣe mūtre kāṣṭikē nimmuñjāvē ।
doñayānātē trēhāṁ pācyāṁ dardāṁ hī vishuddhīē ॥

Hingula is purified, if it is boiled for three days in a Dola Jantram with the juice of jayanti leaves, or in urine, or in kanji, or in lemon juice.

हिंगुलत्य पाक: ।

प्रथमो विचि: ( शतार्कदर्शः ) ।

cañkānimihāvaṇḍāṇi dardasyā tu kāreyet ।
sīsajē chañayā pāṭre śyāpitaṁ tadbhū hāmedh ēdṛmaḥ ॥
jañatāyamūgnātāyāṁ vē tṛñā draṅgāṇī śeṇchayēt ।
pācyatūlyāṁ draṅgālyāṁ tathā vahāmaṇā ॥

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Preparations of Hingula.

First process.

Hingula is to be broken into pieces of the size of chana gram and kept in a pot made of lead or iron. It is then to be heated steadily. When heated, it is to be saturated with each of the liquids undermentioned, the quantity of the latter being equal to the hingula itself. When one of the liquids gets dried up, the hingula is to be saturated with the liquid next mentioned, and so on. The juice or liquids are:—ram's milk for ten times, juice of kshirika for ten times, juice of arka for ten times, decoction of the dipta varga for ten times, juice of virekarka (pilu) for five times, dugdha varga (see page 303, vol I). for five times.

* श्रीवर्गः: पिप्पल्यादिगणः—यथा, पिप्पलीपिप्पलीमृतचयः
 विश्रकस्थामधिकाहस्तिपिप्पलीहरुकेलाजमोदेन्द्रयवपाताजीरस्वते—
 पम्भानिन्मज्ञानमधिष्यांगमधुसूरसातिविपयचविचिन्द्रानिक्कुरोहिनीचेति,
 पिप्पल्यादिः कक्ष्य: प्रतिष्ठायानिधार्थी:। निहितयादिपनो मुलम-
 शूलप्रचारामपाचन:।
The hingula is then to be subjected to bhavana with all the liquids mentioned above, one by one, in order of their merit.

This hingula is called the "Shatarka darada", or the hingula which has been prepared with one hundred liquids. This cures various diseases and is a "jogabahi" or a medicine which enhances the properties of a thing with which it is taken.

Second process.

Two palas of purified hingula are to be confined in a piece of cloth, four-folded. Six palas of the root of kandhari (gopala karkati or palandu?) are to be rubbed well and made into a paste, with which is to be coated the surface of the bundle containing hingula, the whole thing being made into a ball which is to be wrapped up well with eranda leaves and then coated very carefully with mud, and dried. This ball
Is to be heated by putam with a fire made of ten pieces of cowdung cakes. This is to be done for one hundred and one times. The medicine, thus prepared, is equal in potency to rasa-sinduram, prepared carefully. Dose, one racti a day to be taken with an equal quantity of powdered lavanga.

Third process.

Purified hingula is to be wrapped up by means of a fine piece of cloth, coated all over with a paste made of onion, and made into a ball, which is to be covered with eranda leaves and then with mud and rags. The ball is then to be dried and heated by a putam by means of fire made of ten pieces of cow-dung cakes. The process is to be performed one
hundred times. It is again to be performed hundred times with each of the following, used as paste, instead of onion;—egg fruit, fruit of indra baruni, and ripe amla vetasa fruit. Hingula is thus subjected to putam for four hundred times, i.e., one hundred times with each of the following:—onion, egg fruit, indra baruni, and amla vetasa. The medicine, thus prepared, is to be taken with betel leaf in doses of one racti a day. Thus used, it cures asthma, cough, fever, increases retentive and faculties, beauty, memory, and procreative energy. It also has the power to prevent and cure senility.

Preparation of cinnabar at laboratory.

Hingula is of two kinds, viz, (1) that which is obtained in mines and (2) that which is prepared at
laboratory by the combination of mercury and sulphur. The process of preparing chinnabar at laboratory is as follows:—One part of mercury (which need not be purified) and four parts of sulphur are to be placed in an iron pot, and heated for some time. The amalgam is then to be broken into pieces and put into a glass bottle, previously coated all round with mud and rag one anguli deep, and dried in shade. The bottle is to be heated by means of a Baluka Jantram for one day with mild heat. It is then to be heated for five days continuously by means of a fire increasing gradually in intensity at a uniform rate. The heating is then to be discontinued and the contents of the glass bottle taken out on the seventh day. The product will be found to be hingula.

Evil effects of impure hingula.

Hingula, not properly purified, gives rise to leprosy, impotency, fatigue, giddiness, and derangement of the brain. The chemist physician should, therefore, purify it.
Their remedies,

The evil effects of taking hingula, not properly purified, may be remedied in the same way as prescribed in the case of mercury.

दरदः पातनायन्ते पातितः जलाशये ।
सूतहृयं महासत्त्वं विमुखति न संशये: ॥

Essence of hingula.

Hingula discharges its essence in the shape of mercury, if subjected to sublimation, the sublimated mercury being allowed to be condensed in a water trough forming a part of the Tirjak Patana Jantram.

अथ मृदराश्रुङ्ककम् । *
सदलं पीतवर्णं च भवेदुर्गर्ममयङ्गले ।
श्रुवद्वय निरे: पाषवेः जातं मृदराश्रुङ्ककम् ॥
सीसत्त्वं गुह शलेष्मशमनं पुङ्गदापहम् ।
रसवन्धनमुतक्षुरं केशरजनमुत्तमम् ॥

Mriddara-shringakam. (an ore of lead).

It is found by the side of the Arvuda hill near about Gurjara (Gujrat). It is yellow in colour. It has lead for its essence. It is heavy, pacifier of phlegm and curer of syphilis. It helps the solidification of mercury and is a good dyer of hair.
Purification of Mriddara shringakam.

The process is the same as in kampilla.

Earth worms are of four different kinds, according to the nature of the mines, in the neighbourhood of which they grow, viz, (1) those which grow near gold mines, (2) those which grow near silver mines, (3) those which grow near iron mines, and (4) those which grow near copper mines. The first three are rare. The fourth is easier to procure, and is more efficacious than the other varieties. Earth worms growing in ordinary soil are of very little worth, and have got a very little essence.
Purification of earthworms.

Rasaka, haritala, manas-shila, essence of tuttham, and earth worms, etc. are purified by being boiled with ksharas, and amlas, for one day only.

**भूनागस्य सत्त्रपातनम्**

प्रथमो विधि:

चीरेण पक्षं भूनागं तंबूद्रा वाज्यं तर्काः।
भृष्टश्रेष्ठं विधाययाथ पात्यं सत्त्रं ततः किल ॥

*Extraction of essence from earthworm. First process.*

Essence can be obtained from earth worms, if they are boiled with milk, rubbed with the soil raised by these worms or with tankanam, and then heated.

**द्वितीयो विधि:**

शरत्कालसमुदभूताय भूनागा गुड़मिश्रिताः।
मधवाज्ययंकरणायुतः कदलीकन्नदमदिताः ॥
शूरणोऽन समोपेता विशेष्य युटिकीतिताः।
भ्रायमानाः भृत्यं किदमध्यात् सत्त्रं चरन्ति हि ॥

*Second process.*

Earth worms growing in sharat (*i.e.* the two months next after the rainy season) are to be mixed with molasses, honey, ghee, tankana, tuber of the root of a banana plant, and tuber of shurana. All these are to be rubbed into a ball, dried, and then heated until essence is discharged. This essence is to be taken out of the dirty substance.
Third process.

(Extraction of essence from copper earth-worms).

Earth-worms growing in the proximity of copper mines are to be rubbed with molasses, guggula, lac, wool, small fish, oil cakes, and borax, and made into a ball, which is to be dried and heated, resulting in the discharge of a copper-like essence. An essence can similarly be obtained from pea-cock’s feathers.

Properties of the essence of earth-worms.

Essence of earth-worms is cool. It cures all sorts of carbuncles and leprosy. A draught of water touched by this essence has the property of pacifying all sorts of poisons, organic or inorganic. It imparts to mercury the property of standing the heat of fire. Such are also the properties of the essence of peacock’s feathers.
CHAPTER VI.

Metals.

There are seven metals, viz. gold, silver, copper, iron, zinc, tin, and lead. The mixed metals are three in number, viz. brass, bell-metal, and vartaka. They are called dhatus (from dha=to sustain), simply because they prevent senility and thinness, and cure fever and other diseases, and thus sustain the system.
Gold is red when melted, but white when cut into two. It leaves a saffron-like tint, when rubbed upon a touch stone. The gold which is devoid of impurities, soothing, soft, and heavy is commendable. That which is white, hard, coarse, dis-coloured, full of impurities, consists of layers turns black when melted and cut into two, leaves a white impression on a touch stone, is light and brittle, is to be avoided.

Varities of gold.

Gold is of two kinds, viz, that which is transformed from base metals, through the agency, mainly, of mercury, especially prepared, and that which is
obtained from mines. The first variety is full of sixteen colours, whereas the second has combined in itself only fourteen colours. The first is the purest, best, and has the property of preventing and curing senility, whereas the latter has the property of curing all the diseases, if duly purified, incinerated, and applied as medicine for internal use with suitable accompaniments.

**Properties of gold.**

(1) Gold is soothing, pure, nutritive, curer of poison, phthisis, insanity, and other diseases. It increases memory, intelligence, retentive faculties, appetite, and power of digestion of food. It pacifies all the three doshas and is sweet in taste, after it is digested in the stomach.

(2)
Gold is cool, nutritive, strengthening, heavy, curer and preventive of senility, sweet, bitter, and astringent in taste. It turns sweet and slippery after it is digested in the stomach. It is pure, nutritive, beneficial to eye sight, increaser of the retentive faculties, memory and consciousness, beneficial to the heart, and increaser of longevity. It stabilises beauty, and purity of speech. It cures two kinds of poison (\textit{i.e.} natural and artificial), phthisis, and insanity.

Gold (and silver also, to a certain extent) increases vitality, fortune, beauty, intelligence, and memory. It destroys all sorts of diseases, pacifies the evil influences exerted on human beings by ghosts, is an aphrodisiac, and gives rise to happiness and nutrition. It cures diseases, prevents senility,
removes loss of memory and consciousness. It also removes thinness, develops the mind, and increases semen.

ब्रजोधितस्य ब्रमारितस्य च ख्यास्य दोषः।
(१)
लौक्यं बीय्यं बलं हति रोगवर्गं करोति च।
ब्रजुश्च न मृतं खलं तस्मादेतत् प्रयबजः।
शोधयेन् मारपेत् प्राणः द्रव्यान्तरवियोजितम्॥

Evil effects of taking gold, not properly purified and killed (incinerated).

Gold, not properly purified and incinerated, destroys, if taken internally, health, semen, and strength, and gives rise to various diseases. It should, therefore, be stript of alloy, purified, and killed.

र्ग प्राणस्य शोधनम्॥
प्रयमो बिधिः॥
कर्ष्प्रमाणां नु सुवर्णपृच्छं शरावरुद्धं पदुधातुत्तुकम्॥
ऋढ्रासंस्कः प्रहराच्छ मानः धमानेन तत् स्तान्तु
पूर्वायंस्यम्॥

* पदुधातुःपांसुजलवणम्॥

241
Purification of gold. *

First process.

Pure mineral gold which has got only 14 colours, becomes absolutely pure and assumes 16 colours, if it is mixed with pansu lavana (or salt prepared from ashes of plantain, etc.), and heated over charcoal fire for one and half hour.

Second process.

Leaves of gold, silver, brass, copper, and iron are purified, if they are heated over fire and immersed, while still hot, into oil, butter milk, milk, kanji, and decoction of kulattha, for seven times each, separately.

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* The term “purification” of a metal, as used in this book, does not mean to purify it physically, but to purify it medicinally. No metal which is physically impure should be used in medicines, except, of course, the mixed metals.
Third process.

All sorts of metals are purified, if they are heated for seven times, and immersed each time in the juice of the root of a banana plant.

Fourth process.

Gold is purified, if subjected to putam with burnt mud and salt, after having been previously subjected to bhavana for five times with mud and juice of matulunga.

Fifth process.

The pancha mrittika (i.e. brick, red ochre, salt derived from ashes, soil raised by white ants, and ashes, see page 302, Vol I) are to be rubbed with lime juice and aranala and made into a paste with which is to be coated the surfaces of gold leaves.

* प्रथममास्ते ३०२ पूर्ण द्रष्टयम्। महमेत्यतस्य खङ्खे धूममिति पादान्तरं द्रष्टयम्। अत्र धूममिति धृष्ट्रस्तृतिकृति हेयाः।
which are next to be subjected to putam after three days. Gold is thus purified.

Sixth process.

Gold is purified, if heated, as in the preceding process, after having been coated with the pancha mrittika, previously subjected to bhavana for three days with the juice of matulunga, rock salt, and burnt mud.

Seventh process.

Pure gold is to be melted in fire and immersed in the juice of kanchanara. The process is to be performed thrice, resulting in the (medicinal) purification of the gold.
Incineration of gold.

(1)

Importance of mercury in the killing of metals.

The killing of a metal with the help of incinerated mercury is the best. That with the help of vegetable drugs is the next in efficacy; that with the help of sulphur, etc. is still less efficacious; whereas that with the help of a metal having antagonistic properties is positively injurious.

(2)

Worms grow in the abdomen of the man who takes metals killed without the help of mercury.

(3)

The physicians who are experts in the performance of processes explained by Siddha Lakshmiswara have no doubt that the ashes of metals containing mercury are the best that can be prepared.

* पाढळा विपरीत प्रेपनः ॥
† See the fourth process.
First process.

Leaves of gold, so thin as to be pierced through by acacia thorns, are to be smeared with a paste made of incinerated mercury, rubbed with the juice of matulunga, and then subjected to putam. The process, performed for ten times, will lead to the incineration of the gold,

Second process.

Gold is to be melted over fire and mixed with an equal quantity of incinerated mercury. The amalgam, thus prepared, is then to be powdered, rubbed with the juice of matulunga and cinnabar, and then subjected to putam. Twelve such putams will result in the reduction of the gold to ashes of the colour of saffron.
Third process.

Gold leaves are reduced to ashes, if they are smeared with one-fourth their weight of incinerated mercury, rubbed with a non-mineral acid and subjected to putam for eight times.

Fourth process.

All the metals may be reduced to ashes in the following way:—One part of mercury and two parts of sulphur are to be rubbed into kajjvali (black powder), and then mixed with three parts of the
metal (meant to be reduced to ashes) and rubbed for six hours with the juice of kanya. The whole thing is then to be made into a ball, wrapped up with eranda leaves, kept in a copper pot, and exposed to the sun for half an hour till the ball grows hot. It is then to be kept inside a heap of rice for three days, covered with an earthen basin. On the fourth day, the lump is to be powdered very fine, and sifted through a piece of cloth. This powder will be found to be so light as to float on the surface of water.

Gold and the six other metals become very efficacious, if killed in a Baluka Jantram, mixed with mercury and sulphur. The metal gains in efficacy, if incinerated with two to six times its weight of sulphur.

Fifth process.

Mercury with twice its weight of sulphur is to be rubbed together with a vegetable acid and made into a black powder which again is to be rubbed in the same manner with thin gold leaves, equal in quantity to the mercury and sulphur combined, and made into a lump. The whole thing is then to be covered with rock salt, put below and upon it, and confined within a
samputam, which is to be heated for 24 hours resulting in the incineration of the gold, which may now be used for all purposes.

Sixth process.

Purified gold leaves are to be smeared again and again with mercury and sulphur (made into a black powder and saturated with a sour vegetable juice). They are then to be immersed in the juice of kanchanara, langali, and jwala-mukhi, and confined within a samputam which is then to be subjected to heat resulting in the incineration of the gold.

Seventh process.

Purified mercury and an equal quantity of thin gold leaves, cut into pieces, are to be rubbed together
and made into a lump, which is to be confined in a samputam with double its quantity of sulphur, put on all sides of the lump. The samputam is then to be subjected to heat by fire made of 30 pieces of cow-dung balls found dried in the pasturage. The process is to be performed for 14 times leading to the incineration of the gold.

Eighth process.

Gold leaves are to be rubbed with purified mercury and made into a ball which is to be covered on all sides with powdered lead and then subjected to putam which causes the incineration.
Ninth process.

Gold leaves, smeared with mercury or ashes of mercury, are to be rubbed for one day with the juice of kanchana and an equal quantity of hingu, hingula, sindura, and manas-shila, and made into a ball which is to be kept at the bottom of a vessel, the remaining parts of which are to be filled with ashes. The vessel is then to be subjected to putam for two times and opened only when cooled of itself. If, on opening the vessel, a part of the ball is found to be still un-incinerated, it is again to be subjected to putam for two times. In this way gold is reduced to ashes which can not be restored to the original state.

कांचनस्य प्रकारेण लांगली हर्नम् कांचनम्।
ज्वालामुखी तथा हन्यातृ तथा हर्नम् मनःशिख।

In the foregoing process for incineration of gold, each of langali, jwalamukhi, and manas-shila may be used as a substitute for kanchana.

प्रमो थिचि:।
समस्तुतेन वेपिभ्यं कुत्वार्धी नाष्ट्येदृ रसम्।
स्वर्ग तत्त्समतत्पदने पुरितं भरम जायते॥

Tenth process.

Gold and an equal quantity of mercury are to be rubbed together and made into a lump, which is to be heated by fire causing the disappearance of the mercury from the lump. The gold is then to be mixed with an equal quantity of copper and subjected to putam leading to the incineration of the gold.
Thirteenth process.

Thin leaves of gold are to be smeared with incinerated lead rubbed with lemon juice and subjected to putam. This process is to be performed for three times. The ashes, thus prepared, are to be deprived of the lead, if they are again rubbed with hingula and subjected to putam for three times.

Twelfth process.

Gold leaves, smeared with sauvira anjanam, previously rubbed with the juice of bhringaraja, are reduced to ashes, if subjected to Gaja putam.
Thirteenth process.

One tola of gold and one masha (1/12th of a tola) of purified lead are to be melted and rolled together with some sour vegetable juice and then powdered. This powder, with an equal quantity of sulphur and swarna makshika, are to be rubbed for three hours with a sour vegetable juice, and subjected to laghu putam for ten times, fresh quantity of sulphur being used every time. Gold is incinerated in this way.

Fourteenth process.

Powdered manas-shila and red vermilion are to be subjected to bhavana with an equal quantity of the milk of arka. This powder is to be thrown into an equal quantity of melted gold which is to be heated again in such a way as to let the powder disappear altogether. If the process is repeated for three times, the gold will be incinerated.
Fifteenth process.

Leaves of gold are incinerated very soon, if smeared with powdered makshika and lead, rubbed together with the milk of arka.

Sixteenth process.

Gold leaves, cut into pieces, with half their weight of mercury are to be rubbed together and made into a lump, which is reduced to ashes, if subjected to putam after having been confined in a samp-putam with powdered lead put below and upon the lump.

Seventeenth process.

Gold is incinerated, if smeared with powdered lead and manas-shila, rubbed with the milk of bajri, and then subjected to putam.
Eighteenth process.

Gold leaves are to be smeared with incinerated lead rubbed with the milk of snuhi or some sour vegetable juice, and then heated by Gajaputam. It is then to be smeared with one eighth its quantity of earth-worms rubbed with some sour vegetable juice, and again subjected to heat by Gajaputam. Performance of this process for eight times will result in the incineration of the gold leaves.

Nineteenth process.

Gold leaves are to be smeared with purified mercury, an equal quantity of sulphur, and the same quantity of makshika, all rubbed with a strong non-metallic acid. They are then to be subjected to heat by Gajaputam. Eight such putams will cause the incineration of the leaves.
Gold leaves with double their quantity of mercury are to be rubbed together for three hours with a sour vegetable juice. Swarna makshikam, equal in quantity to gold, is to be similarly rubbed. Half the quantity of this is to be put at the bottom of the crucible. Upon this is to be placed the gold leaves rubbed with mercury, upon which is to be kept the remaining half of the swarna-makshikam. Next is to be put powdered sulphur, equal in quantity to the gold. The crucible is then to be closed and heated steadily for some time. It is then to be broken open and a fresh quantity of sulphur of the same weight,
as before, is again to be put, and the crucible closed and heated as before. Sulphur is thus to be put for six times in all.

Five parts of these ashes and one part each of tankanam and white glass are to be rubbed with honey and ghee and made into a lump. This is to be confined within a samputam with one part of dhany-abhraka put below and upon the lump. The crucible is then to be closed and heated for two ghatis with the result that the ashes of gold attain a state of incineration in which it is physically impossible to restore them to their original state (i.e. the state of gold).

राजव्रतरसेनापि भस्मातैैंकगोन च
लिप्तवा स्त्रप्तस्य पत्रश्र रूढः गजपुर्ते पचेत्
तैद्र वेद्य पुनः पिछं निरक्ते सत्वा पुर्ते: ॥

Twenty-first process.

Gold leaves are to be smeared with the juice of aragbadha, bhallataka, and tankana, all rubbed together, and then subjected to Gajaputam. The process is to be performed for seven times leading to the incineration of the gold leaves.

मतुस्यपश्चयं योगेन खर्चं तत्कालदाहिजितं
भूजयोगाच्छ तद्वृतथं दुग्धयोगापु वक्ष्रदम् ॥
Accompaniments of gold.

(1)

Incinerated gold cures inflammation of the body, if taken with the bile of fish. It is nutritive, if taken with the juice of bhringaraja. It serves as a tonic, if taken with milk. It improves eye-sight, if taken with the juice of punarnava; serves as a rasayanam, if taken with clarified butter; improves memory, if taken with bacha; improves beauty, if taken with saffron; cures phthisis, if taken with milk; removes poison, if taken with nirbishi (visalyakarani). It also cures insanity due to the three doshas, if taken with shunthi, lavanga, and maricha.

(2)

Incinerated gold, when taken with powdered maricha and ghee (clarified butter), in doses of two ractis a day, cures phthisis, loss of appetite, asthma,
nausea, jaundice, chronic diarrhoea, and all kinds of poison. It increases vitality, strength, and is an excellent tonic.

(1)

Gold remains in liquid state, for a very long time, if mixed with bone and fat of frog, borax, karabi (saliva of horse, according to another version), and an insect called indragopa.

(2)

The insect called Indragopa, duly powdered and subjected to bhavana with the juice of devadali fruit turns gold into water-like liquid, very nice to look at.

Apth Ropayam

Ropayantu rathau shubhau kusubhothu scharikam
Chandraha udbhau shvetayau tapahpakam
The best silver has the following characteristics. It is heavy, soothing, mild, white when melted, malleable, white as conch shell, smooth, glossy, and free from cracks.

Silver of eight kinds are to be rejected; viz. that which is red, yellow, or black, when heated; and that which is coarse, brittle, light, stiff, and rough.

Silver is of three different kinds, viz, (1) that which is as old as the earth (2) that which grows in mines, and (3) artificial, that is, silver prepared from base metals.
(1) Silver which is as old as the earth.

Silver of this description is to be found in Kailash and some other mountains. Such a silver cures diseases by mere touch only.

(2) Silver growing in mines.

The silver which grows in mines found in the peaks of the Himalayas and in other places is called mineral silver. Such a silver is a good curer and preventer of senility.

(3) Artificial silver.

Artificial silver is the one which is nothing but tin, copper, or lead, transformed into silver by mercury (for processes of such transformation, see vol. I). It cures all sorts of diseases, if applied properly.
Silver is astringent and sour in taste, but it turns sweet, when digested in the stomach. It is cool, laxative, reducer of fat, increaser of appetite, soothing, pacifier of vayu and kapha, and increaser of the digesting heat in the stomach. It strengthens the body, retains youth, and increases memory.

Silver is cool, astringent, sour, pacifier of pittam and vayu, and heavy in point of digestion. It cures all the diseases, if taken in accordance with the regulations prescribed for taking of medicines efficacious in curing and preventing senile decay.
Silver is to be purified and incinerated.

Silver, not properly purified and incinerated, impairs longevity, semen, and strength. It gives rise to inflammation and constipation. It should therefore be purified and incinerated.

Purification of silver.

First Process.

Leaves of gold and the other metals are best purified if they are heated and immersed, while still hot, seven times, in each of the following liquids, respectively:—oil, butter milk, cow’s urine, aranala, and decoction of kulattha.
Second process.

Silver is purified, if it is melted for three times with a little of lead and brox thrown upon it, and then immersed each time in the oil obtained from the fruits of jyotismati.

Third process.

The central portion of an earthen pot is to be enclosed by means of a mortar made of ashes and lime. Inside this enclosure is to be kept silver and an equal quantity of lead. The vessel is then to be heated until the lead is burnt and consumed altogether, leaving the silver pure and free from alloys.

Fourth process.

Leaves of silver are purified, if they are heated for three times and immersed in the juice of agastya, each time it is so heated.
Fifth process.

Physically pure silver is to be purified (medicinally) by means of lead, etc. (see process II and III, above). It is then to be made into fine leaves which are to be heated and immersed in the juices of tamarind and raisins.

Incineration of silver.

First process.

Mercury and purified silver leaves, cut into pieces, are to be rubbed together, with the juices of lakucha, and made into a lump which is to be put into a cruci-
ble with powdered sulphur put above and below the lump. The crucible is to be heated in a Baluka Jantram for one day by means of a steady fire. When cooled of itself, the lump is to be rubbed with haritala and a sour vegetable juice, and then subjected to putam for twelve times which will result in the incineration of the silver.

Second process.

Silver is to be rubbed with powdered makshika and juice of matulunga and subjected to putam. Performance of this process for thirty times will lead to the incineration of silver.

Third process.

Leaves of copper are to be smeared with a paste made of makshika, previously subjected to bhavana with the milk of snuhi. They are then to be subjected to putam resulting in the reduction of the leaves to such ashes as cannot be restored to their original condition.
Fourth process.

Four parts of purified silver leaves and one part of purified haritalam are to be rubbed together with lime juice and dried. They are then to be confined within a blind crucible and subjected to putam by means of fire made of 30 pieces of cowdung cakes. Performance of this process for fourteen times will effect the incineration of the silver leaves.

Fifth process.

Leaves of silver are to be smeared with makshika and sulphur rubbed with the milk of arka. They are then to be dried and subjected to putam which will reduce the leaves to ashes.
Sixth process.
Leaves of silver are incinerated, if they are smeared with a paste made of bhumi-amalaki, makshika, pippali, saindhava, and amla, all equal in quantity, and subjected to putam, the process being repeated as many times as necessary.

Seventh process.
Four parts of silver leaves are to be smeared with one part of incinerated tin (or the same quantity of sulphur and orpiment, mixed together in equal quantities), rubbed with lime juice. They are then to be dried and subjected to putam by means of fire made of 25 pieces of cowdung cakes. The process is to be performed for three times resulting in the incineration of the leaves. Powdered sulphur is to be put on all sides of the leaves every time they are subjected to putam.
Eight process.

Mercury and sulphur, equal in quantity, and root of kakatunda are to be rubbed with buffalo's milk and dissolved with water. The solution is to be rubbed with turmeric and made into a ball which is to be kept inside a heap of horsedung for twenty one days. The leaves are then to be smeared with a paste made of the ball rubbed with some sour vegetable juice, and then subjected to putam for 20 times which will cause the reduction of the leaves to ashes.

Ninth process.

Silver leaves are to be made into a lump by means of mercury. This is then to be rubbed with haritata and sulphur by means of lime juice, and then subjected to putam for two or three times. This will result in the incineration of silver.
Tenth process.

Three parts of silver leaves are to be smeared with one part of haritala, previously rubbed for three hours with some sour vegetable juice, and then subjected to putam, by means of thirty pieces of cowdung balls found dried in pasturage. The process is to be performed for fourteen times before the silver is reduced to ashes.

Ashes of silver are to be rubbed with purified haritala by means of a sour vegetable juice and then subjected to putam. The powder, thus prepared, cures all sorts of diseases.
Silver is incinerated, if immersed in a solution of four times its weight of haritala, dissolved with the juice of pomegranates, and subjected to Baraha putam for three times.

Uses of incinerated silver.

Purified and incinerated silver cures phthisis, anaemia, udara-roga, piles, asthma, cough, loss of eyesight, and all sorts of diseases due to an abnormal excess of pittam, if it is taken every morning (in doses of one racti a day) with an equal quantity of incinerated mica and copper, combined with powdered trikatu and triphala, equal in quantity to the three combined—all of these rubbed with sufficient quantity of clarified butter and honey.
Silver, duly purified and incinerated, cures inflammation, etc, if taken with sugar; it cures an abnormal excess of vayu and pittam, if taken with the triphala; it cures gonorrhea, if taken with the trisugandhi (guratwak, ela, and patrakam); it cures gulma, if taken with kshara; it cures cough, and excess of phlegm, if taken with the juice of basaka and trikatu; it cures asthma, if taken with bhargi and shunthi; it cures consumption, if taken with shilajatu; it cures thinness, if taken with meat juice or milk; it cures enlargement of the spleen and the liver, if taken with triphala and pippali; it cures dropsy, if taken with punarnava; it cures anemia, if taken with oxidised iron of at least 60 years standing, duly purified and incinerated; it cures senile decay, and also increases beauty and appetite, if taken with clarified butter.
Liquefaction of silver.

Gold and silver turn into liquid (without the application of heat), as soon as a little of devadali fruit, powdered finely, and subjected to bhavana for one hundred times *, is thrown upon the metal.

अथ तात्त्रम् ।

तात्त्रमौन्नूवरं शुल्कमुन्द्रवरमपि स्मृतम् ।
रविपिनं भूलभ्यं सूर्यंपयायनमकम् ॥
उद्वस्वरं वरिष्ठम् द्विषं क्षीयसं तथा ।
श्रौदुस्वरं मद्मदयमृत्तेन मेदिनियम ॥
राजीवं रक्तातुक्ति मुनिपित्तलममकम् ।
कमलां तथा ज्ञायं सूर्येषं लोहितायसम् ॥
म्लेच्छं नेपालकं चेति तयोरनेपालमच्छम् ।
नेपालद्वन्द्वन्यख्यायं म्लेच्छमित्यभिविभीषते ॥

Tamra (copper).

Copper is of two kinds, viz, that which is found in Nepal, and that which is found elsewhere. The copper found in Nepal is the better of the two. The second kind of copper is known by the name of “mlechha” copper.

मुहन्निगर्म भूदुलं शोष्ण घनघातचमं गुरु ।
निरिकारं गुशाश्रेष्ठं तात्रं नेपालमच्छे ॥

* Seven times, according to another version.
Copper of the first kind is very smooth, soft, red, malleable, heavy, incapable of losing its properties by the application of heat, and has excellent properties. Copper of the second class (i.e., mlechha copper) is red with white or black tints, is hard, causes vomiting in excess, and assumes a black appearance even when washed off.

**Characteristics of bad copper.**

The copper which is pale, blackish red, light, full of cracks, coarse, and consists of layers should not be used in mercurial operations and medicines.

**Characteristics of good copper.**

Good copper is red as jaba flower; is soft and soothing, malleable, and free from iron and lead.
such a copper should be used for incineration. For the purpose of incineration, Nepal copper is to be used. Other copper may also be used, if properly freed from alloy. In the absence of absolutely pure copper, the expert physician should make use of the essence of tutthaka (this essence being no other than absolutely pure copper).

Properties of copper.

Copper is astringent, sweet and bitter, but sour and pungent, when digested in the stomach. It is a purgative. It pacifies pittam and phlegm, is cool, heals boils, carbuncles, etc., is light, and cures obesity; it also cures the following diseases:—anemia, udara, piles, fever, leprosy, cough, asthma, phthisis, pinasa, dyspepsia with acidity, dropsy, worms, colic, obesity, poison, and eye diseases.
Evil properties of copper, not duly purified and incinerated.

Copper, not duly purified and incinerated, impairs longevity, beauty, semen, and strength. It also gives rise to vomiting, loss of consciousness, nausea, leprosy, and colic.

Purification of copper.

First process.

Copper is purified and freed from the five defects referred to above, if it is melted with ksharas, amlas, and gairikam by means of a fire of cowdung cakes, and then immersed in butter milk prepared out of buffalo’s milk, the process being performed for seven times.
Second process.

Leaves of copper, freed from alloys, are purified medicinally, if they are smeared with rock salt, rubbed with lime juice, heated, and then immersed into gruel made of barley, the process being performed for eight times.

Third process.

Leaves of copper are purified, if they are smeared with lime juice mixed with saltpetre, heated, and then immersed in the juice of nirgundi, the process being performed for eight times.

Fourth process.

Copper leaves are purified, if they are boiled with cow's urine for three hours on a strong fire.
Fifth process.

See process two page 242.

Sixth process.

Copper leaves are to be heated and immersed in the juice of nirgundi, after having been smeared with the milks of snuhi and arka, salt, and kanji. The process is to be repeated for 12 times. The leaves are then to be smeared again with chalk, and salt, rubbed with butter milk, heated, and while still hot, to be immersed in the juice of nirgundi, rubbed with a sour vegetable juice. This last process is to be performed for six times. This is how copper is purified.
Incineration of copper.

First process.

Copper leaves are incinerated, if they are smeared with mercury and sulphur, rubbed with lime juice, and then heated by putam, the process being performed three times.

Second process.

Thin leaves of copper are to be kept immersed in cow’s urine for 15 hours in an earthen vessel. After the lapse of that period, mercury, equal in quantity to the copper, and sulphur, double the quantity of the same, are to be put into that vessel, containing cow’s urine. Changeri leaves, duly rubbed, are also
to be put upon the copper leaves. The mouth of the vessel is then to be closed tightly and heat applied underneath. Heating the vessel for three hours will lead to the incineration of the copper which may now be used for all purposes.

Third process.

(Somanatha tamram).

A fine and black powder is to be prepared by rubbing together four parts of mercury, four parts of sulphur, two parts of orpiment, and one part of manas-shila. This black powder and copper
leaves, equal in quantity to the mercury, are to be put in layers inside a Garbha Jantram (see page 258, vol. I) and heated for three hours. When cooled of itself, the leaves are to be powdered. The ashes, thus prepared, cure colic, udara roga, anemia, fever, gulma, enlargement of spleen and liver, phthisis, loss of digesting power, gonorrhoea, piles, and chronic and obstinate diarrhoea, if taken with suitable anupanam, in doses of 6 ractis a day. This copper is called Somanatha Tamram.

Fourth process.

Mercury with an equal quantity of sulphur, and copper leaves, double the quantity of mercury, are to
be rubbed together with the juice of kanya and kept in an earthen vessel. The amalgam, thus prepared, is to be covered by means of an earthen basin placed inside the vessel, the remaining portion of the vessel being filled with salt. The vessel is then to be covered closely by means of another earthen basin placed at the mouth. The vessel is now to be heated for 12 hours resulting in the incineration of the copper leaves which are now to be powdered very fine and used in all sorts of diseases, in doses of three ractis a day, taken with honey and pippali. It is especially efficacious in gulma, enlargement of the spleen and liver, hysteria, colic, udara roga, piles, and diseases relating to the head. It also cures fever affecting the seven dhatus (i.e., liquid essence of food digested, blood, semen, flesh, bone, fat, and marrow), if used with suitable anupanam. It may be used in medicines as well as in mercurial operations.

पद्मस्व विपिनः ।

मक्षाभ्रान्त ।

श्रेष्ठ सहितं तालं निम्पृत्येन सुपेष्टितम् ।
भसितं पुत्रपालेन हस्ति प्रियामर्जं धुम वम ॥
दुष्क्राणं चतं सन्ये भगन्दरस्य नाशयेतु ।
रक्तथर्भेन प्रदातव्यं घृतेन सह धीमता ॥

Fifth process

(Arka-talam).

Copper and haritalam rubbed with lime juice and subjected to putam will cause the incineration of the
metal. The ashes, thus prepared, cure syphilis, boils, and other diseases due to an excess of kapha and pittam.

पचो विधि: I

पलानि पञ्च शुद्धानि तांग्रपत्नाणि चुद्विमान्।
शहीत्वा योजयेत् तत्र तदर्थे शुद्धपारद्रम्॥
मद्येन्न निम्भुक्कद्रावेशिनिदनान्यभयं मिष्क्क।
तांग्रपत्रे: समं शुद्धं गन्धकं तत्र निःविपेत्॥
मद्यित्वा घटीयंम् काचकुर्मा निधापेत्।
यामानश्च पचेद्धो खांगशीतलमुद्धरेत्॥
पष तांग्रेश्वरो हन्यात् कुडादीनविलान् गदान्।
धातुपल्लिकरंचेव सूतिकारोगणाशः॥

Sixth process.

Twenty tolas of purified copper and half its quantity of mercury are to be rubbed together for three days with lime juice. Purified sulphur, equal in quantity to the copper leaves, is then to be rubbed for two hours, with the copper and mercury. The whole thing is then to be put into a glass bottle and heated (by means of a Baluka Jantram *) for twenty-four hours. When cooled of itself, the contents of the bottle are to be powdered. This powder is the king of copper ashes. It cures leprosy, sutika, and all sorts of diseases. It increases the dhatus.

* See page 259, Vol. I.

283
Saffron

Saffron is obtained by the process of saffron production. The stamens are harvested when they are fully open and dried to achieve the characteristic saffron colour.

Saffron is used in various cuisines including Indian, Turkish, and Italian cuisines. It is also used in traditional medicine for its anti-inflammatory and antioxidant properties.
into a black powder), rubbed with lime juice, and then exposed to the sun.

Tenth process.

Copper leaves, as thin as can be pierced through by means of thorns, are to be smeared with an equal quantity of sulphur, previously rubbed with some sour vegetable juice. They are then to be dried and subjected to putam, and then powdered. The powder is now to be mixed with one-fourth its quantity of sulphur and rubbed with the juice of lime fruit or of mriga durba, and then to be subjected to putam. The last process is to be performed for four times, after which the powder is to be rubbed with the juice of matulunga and subjected to putam. This is how copper is reduced to ashes.
Eleventh process.

Copper leaves are to be rubbed with double their quantity of mercury, rubbed with lime juice and sugar-candy, and then subjected to putam. Three such putams will bring about the incineration of the copper.

Twelfth process.

Copper leaves are to be smeared with double their quantity of sulphur, rubbed with the juices of pashana bhedi and matsyakshki and then heated by Gaja putam. The copper is then to be rubbed again with one seventh its weight of sulphur, rubbed with the juice mentioned above and subjected to putam. Seven such putams will result in the incineration of the copper.
Thirteenth process.

Copper leaves and double their quantity of mercury are to be rubbed with lime juice and kept inside a crucible, covered with dhuttura leaves, upon which are to be put powdered sulphur, equal in quantity to the copper. Upon the sulphur is again to be put copper leaves, rubbed as before, and dhuttura leaves and sulphur to be put as before. The whole thing is now to be covered with dhuttura leaves, and the crucible, duly closed, is to be subjected to heat by Gaja putam. When cooled of itself, the copper is to be powdered and will be found to be in a state of incineration.

Nectarisation of incinerated copper.

Copper, duly purified and incinerated, is to be rubbed with a sour vegetable juice and made into a ball which is to be confined inside a tuber of shuranam. This tuber is to be plastered all over with mud and dried. It is next to be subjected to heat by Gaja putam. Thus prepared, the copper will be freed from all defects—it will no longer give rise to vomiting, giddiness, purgation, etc.
Use of incinerated copper,

(1)

Incinerated copper should be taken for six months at a stretch with honey, juice of shalmali, and ghee in doses of one racti a day. The diet, in this case, should be milk, sugar, and rice or bread with ghee, without any sour thing at all. Such a treatment results in the increase of semen, nutrition, beauty, and eye sight of the person who takes the medicine.

(2)

Incinerated copper rubbed with honey and ginger juice, taken in the morning, in doses of two ractis a day, cures all sorts of udara-roga.
GLOSSARY.

Page 6.

Swallowing of mica by mercury—For processes, see pages 76—99, vol. I. The mercury which swallows a metal does not increase in weight, if the act of swallowing is perfect.

Page 7.

Kalakuta poison—A highly poisonous tree having a black and round tuber, the very odour of which is reported to cause death. See vol. III.

Kanji—See Glossary, vol. I.

Page 8.


Page 9

Bhavana—See Glossary, vol. I.

Page 17.

Panchamitram—See page 45.

Page 28.

Prastha—See page 311, vol. I.

Page 30.

Khandaguda—Molasses subjected to heat, purified, and solidified.

Page 36

THEORY OF BAYU (VAYU) PITTAM, AND KAPHA.

Everyone of us is aware of the universal law of gravitation by which material bodies have a tendency to move towards the centre of the earth, which it is not feasible for them to reach as they cannot pierce into the hard surface which presents a serious obstacle to their downward passage. All material substances are thus necessarily attracted towards the earth, being unable to rise up in the air from its surface. It is, however, seen that many of them are not immovably fixed to the earth and can move about on its surface as men and animals do. Inanimate things which are light in weight can be moved hither and thither by the force of wind, while things
that are heavy remain attached to the earth with comparative steadiness; even these can possibly be moved from one place to another in many cases. Why is this so? If all material bodies have an irresistible tendency to move towards the centre of the earth, how can it be possible for them to move about or be driven from one place to another. The answer is that it is the existence of wind and air which makes such movement possible. Air is perpetually in motion, and, permeating through every substance on the surface of the earth, imparts the power of movement to it. If there were no air, all things would have been immovably fixed to the surface of the earth without any power to move at all. There is hardly any place in this world which is devoid of air, which exists even in stone, iron, and other hard substances. All substances are composed of minute particles, called atoms, which adhere together in such a way as to admit of some vacant space, however small, between them, which varies in different substances and which is to be found even in iron, stone, human system, and in a mass of water as well. It is through these fine spaces that air enters into all things. In hard substances, this intervening space is very little, and the quantity of air that enters through it is hardly perceptible.

What has been said above makes it abundantly clear that air enters into all substances in the world and makes them moveable. The greater the quantity of air in a substance, the more capable it is of movement. Air enters into the human system and renders it fit for loco-motion. Not only does it enter through the nostrils and the mouth, it also finds access into the human body through infinitely small openings between its molecules which are finer than the pores of the skin and are countless in number. It penetrates deep into the blood, flesh, and bones; and it is this which causes the blood to circulate through the veins and arteries in all parts of the body. Blood may flow down from the brain to the extremities or it may rush to the head from the feet in a contrary direction. The first phenomenon may be due to gravitation but the second can never take place without the agency of air. We all speak of circulation of blood but we do not perhaps know how this is caused. The primary and only cause of this circulation of blood is the constant presence of air which enters into every part of our body and sets the entire organism in motion. It is present everywhere and pervades the
bones, the flesh, the blood, and even the minutest parts of our body. If you apply heat to any part of your body, blood takes its course in that direction, and on the other hand, if you apply cold to any part, the blood tends to flow away from that part. Vayu or air is the cause of this movement. If heat is applied to any part of the body, the air in that part becomes lighter and expands by the action of heat and some portion of the air shifts to other parts. The vacuum thus caused is filled by the flow of blood from other parts i.e., blood rushes in from other parts to take the place of the displaced air. There is thus a ceaseless movement going on within the body. An application of cold on the other hand produces an opposite effect. When any part of the body becomes cold the other parts of it become comparatively warm; hence a portion of the blood from the former rushes to the warmer parts.

From this it is clear that without air we could not live, nor could there be any circulation in the system. Vayu or air is therefore one of the main conditions of life, nay, it constitutes a primary ingredient of animal organism. The various organic functions, such as breathing, discharge of excreta, circulation, exercise will power, and energy are carried on through its instrumentality.

Air, though forming one of the chief constituents of the human body, acts prejudicially on it when it finds its way into the system in an abnormal quantity. When it exceeds the quantity required to stimulate circulation, the flesh, bones, marrow, etc. dry up and become contracted under its pressure. The greater the quantity of air generated in the system, the more heavily will it press upon blood, bones, etc. Allopaths now-a-days speak of blood-pressure which is probably nothing but the pressure of air upon blood. It cannot strictly be called blood-pressure, for it does not press upon blood alone, but on flesh, bones, marrow and other parts of the body as well.

Pittam (animal heat).

The solar system is the fountain and source of all heat, and all things in this world derive heat from the sun. This warmth which is present everywhere in a more or less degree, cannot be felt by the touch in all cases. If the heat of any substance exceeds the normal temperature of our body, we say that it is heated; if it be less, we say that it is cold. The constituents of animal organism
i.e., blood, flesh etc., possess a natural warmth which is termed pittam without which life would have been unsupportable. Like air, it forms one of the vital constituents of our body.

But an abnormal increase of animal heat vitiates our blood and brings on that state or condition of our body which is usually termed bilious complication or derangement due to excess of animal heat. This disorder gives rise to endless diseases. On the other hand, an unnatural decrease of bodily warmth is no less attended with danger. As excess or preponderance of pittam gives rise to diseases, abnormal increase or decrease of the same may even bring about death. Health and long life may be ensured by maintaining the internal heat of the body in a normal condition.

Kapha (Phlegm).

It has been said that the function of air in the body is to produce dryness or, in other words, to absorb moisture from it while that of pittam is to generate heat or warmth in it. The things which constitute our body are rendered dry by air and warm by pittam, but dryness and warmth are not the only attributes of human organism which is also characterised by the quality of coldness or tenderness without which life would have been impossible. Besides dryness and heat, all the constituents of human body possess softness which is present in the blood, bones, flesh, and other vital parts. The general name for this all pervading softness is phlegm, which is present in different parts of the body in various forms, and performs diverse functions. If there is excess of the phlegm over what is necessary for the sustenance of life, various diseases may develop; on the other hand, if it unduly decreases, it may be attended with serious and baneful consequences. Total loss of phlegm as well as an abnormal excess of the same may even lead to death. The same remarks may be made with regard to Vayu or air and Pittam or animal heat. Abnormal preponderance of these three vital elements is as dangerous and baneful as their abnormal decrease or loss.

Effects of Vayu, Pittam, and Phlegm.

The following symptoms usually develop when wind (vayu) is unduly in excess in our body:—Pain in the limbs, prostration, scanty evacuation of urine and stools, contraction of the arteries, nerves, etc. thirst, shivering, roughness of the skin, astringent taste, dryness of the mouth, and high-coloured urine, etc.
When the animal heat is unduly in excess, the following symptoms appear:—burning sensation in the palm of the hands and feet, redness of the skin, generation of excessive heat in the system, promotion of digestion, sweating, etc.

Page 44.
Aranala—see Glossary, vol. I.
Tankanam—borax.
Bhavana—see Glossary, vol. I.
Kosthi Jantram—see pages 262—267, vol. I.

Page 46.
Ghee—clarified butter.
Patala kosti—see page 264, vol. I.

Page 54.
Kanta iron—an oxide of iron of which load stone is a variety.—see vol. III, (in the Press).

Tikshna iron—steel.

Page 57.
Indragopa—a kind of insect, popularly known in India as mukhmuli insect.

Page 57.
Human Oil—It is human fat that can be obtained in a most cruel manner in the following way:—A human hermaphrodite is to be fed for some time on an exceptionally nutritious food which serves to make the creature sufficiently fat. It is then to be flayed alive and hanged with its feet upwards and head downwards, kept suspended over an iron cauldron heated by a strong fire. When sufficiently heated, fat begins to come out of the body of the unfortunate creature and falls into the cauldron. This fat is very efficacious in instantly healing up wounds and cuts in animal bodies. This is the oil which, according to tradition, the physician Asvini Kumara applied in joining a goat’s head with the body of king Daksha who had been beheaded by his son-in-law, and thereby effected a resurrection of the dead man. The awfully cruel manner in which the oil can be obtained can rarely induce a modern Hindu Chemist
to have recourse to the abominable process; Human oil is therefore a thing of the past in India.

Page 58.
Sauvarchala salt or usharaka—saltpetre (sora).

Page 63.
Tubari—alum clay.

Page 65.
Udara roga—diseases in the belly. They are of six varieties, viz., (1) Batodara—a disease which gives rise to wind in the belly (2) Jalodara—dropsy, (3) Plihodara—enlargement of the spleen, (4) Jakritodara—enlargement of the liver; (5) Baddhodara which causes chronic constipation, and (6) Mahodara—a disease which causes an abnormal derangement of all or almost all of the organs in the belly.

Page 70.
Takram—butter milk.

Page 74.
Kukkuta Putam—see page 296, vol. I.

Page 82.
Kankshi—Alum clay.
Kasisa—Green vitriol.

Page 83.
Vaikranta—corundum.

Page 93.
See treatment of Leprosy in Ashtangahridaya, etc.

Page 107.
Swarji—carbonate of soda.

Page 112.

Page 122.
Kshari salt—saltpetre.

Page 129.
Racta-Gulma—Tumour arising out of mense blood.

Page 141.
Aratni—See Glossary, vol, I.

Page 146.
Racta pittam—haemorrhage from the stomach through mouth, rectum, nostrils, penis, vagina or from the pores in the skin.
Page 149.

Vrana shukram—A deep-seated, round-shaped white spot inside the black part of the eyes causing an intense pain.

Shita pittam—erysipelas.

Udarda—erysipelas with fever, nausea, excess of phlegm, inflammation, etc.

Visarpa—erysipelas.

Page 162.

Malla musha—see page 291, vol. I.

Page 165.

Kavachi Jantram—The glass bottle referred to in Baluka Jantram. see page 259, vol. I.

Page 175.

Karsha or tola is equal to 180 grains (not 126 grains as stated wrongly in glossary of vol. I). see page 310, vol. I.

Page 182.

Bhagandara—fistula.

Page 186.

Labanam—salt.

Page 190.

Navasaram—sal-ammoniac

Page 209.

Rajavarta—Lapis Lazuli.


Udavarta—chronic constipation attended with various complications.

Page 215.

Vida—see page 81 and elsewhere, vol. I.

tola—a measure of weight equal to 180 grains.

Page 225.

Hingula—cinnabar.

Page 226.

Amla varga—see page 301, vol. I.

Page 228.

Dipta varga—

Pippali, pippalimula, chabya, chitraka, shunthi, maricha, gajapippali, renuka, ela. vana-jamani, indrajava, patha, jeera, sarshapa, mahanimba fruui, hingu, bhargi, madhurasa, atibisha, bacha, viranga, and katurohini.
Page 235.
Rasaśa—calamine.
Haritaša—Orpiment.
Manas śhila—realgar.
Tuttham—sulphate of copper.
Kšharaśa—see page 299, vol. I.
Amlaśa—see "sour group" in page 301, vol. I.
tankanāma—borax.

Page 257.
Sindura—red vermillion.

Page 252.
Gaŋaputama—see page 295, vol. I.

Page 253.
Lagbhputama—an act of heating a putam (see footnote, page 294, vol. I.) by a light-fire made of a few pieces of cowdung cakes, put on all sides of the putam.

Page 254.
Makshika—pyrites.
Saṃputam or putam—see page 294, vol. I.
Non-metallic acid—"see sour group" in page 301, vol. I.

Page 271.
Barahputama—See Page 296, vol. I.

Page 273.
Mlecha—foreign.

Page 283.
Sutika—fever and other ailments following child birth.

Page 284.
Ractis—One racti is equal in weight to ¹⁴₁⁸ grain. See measures of weight in page 310, vol. I.
APPENDIX.

List of plants referred to at the foot-note of Glossary in Vol. I.

prepared by

UPENDRA NATH DUTTA.
# APPENDIX.

## List of Plants.

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| 155 | Gandha- nakuli | Gandha- rasna |
| 156 | Gambhari | See No. 128 |
| 157 | Gardabhandya | Gayasootha |
| 158 | Guggulu | Guggul |
| 159 | Gunja | Kunch | Chirmiti | Eraru |
| 160 | Guratwaka | Dalchini |
| 161 | Guduchi | Goluncha | Gurach | Sulbeli | Tippatoge | Tinospora cordifolia |
| 162 | Gojibha | Gojia | Govi |
| 163 | Godhapadi | Goaalelata |
| 164 | Gopala | Kum- karkati | Goru- druki | bhaba |
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| 167 | Ghantapatali | Ghonta- | Mosha | parul |
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RASA-JALA-NIDHI,

or

Ocean of Indian Chemistry and Alchemy.

Written in Sanskrit with English translation by Bhudeb Mookerji M. A. of 41-A Grey Street, Calcutta.

It is the best book on Indian Chemistry, alchemy, and medicine. Volumes I and II are already out. Vol. III is in the press.

OPINIONS.

(1)

Sir Jagadish Chandra Bose:—

Please accept my sincere thanks for copy of Rasa-jala-nidhi which I am looking forward to reading with great interest. Of course, in chemical Science, you should interest modern chemists in the achievement of Hindu Chemistry in the past.

(2)

Sir C. H. Setalvad, Vice-chancellor, Bombay University:—

It is indeed very creditable to you to have carried on your researches in Indian Chemistry and to publish the results in such comprehensive form. The publication is sure to attract the attention of all those who are interested in making available to the public the past achievement in the field of science by India. I will certainly ask the syndicate of the university to give such encouragement to your work as they may think proper.

(3)

Dr. H. K. Sen, M. A. D. sc. Professor and Head of the Department of Applied Chemistry, University College of Science and Technology, Calcutta:—

I thank you very much for the very attractive copy of your Rasa-jala-nidhi, Vol. I. I enjoyed the reading of the whole volume...... you have been able to make the treatise extremely interesting. The work indicates erudition and the requisite patience of a scholar. I am really looking forward to your subsequent volumes, which I hope will come out in rapid succession and justify the excellent promise given in the first volume......
(4)

Prof. Arthur B. Lamb, Director, Chemical Laboratory fo
I have examined the book with interest and thank you for it.

(5)

Prof. L. M. Dennis, Head of the Department of Chemistry,
Cornell University, U. S. A: —
I looked through the book with much interest.

(6)

Prof. H. Nagaoka of the Institute of Physical and Chemical
Research, Tokyo: —
You were so kind as to send me your interesting book "Ocean
of Indian Chemistry and Alchemy," which I read with much
interest......I am at present engaged with electric experiments in
the same domain of research......I hope to obtain sufficiently large
quantity of gold from mercury.

I have placed your book in the library of the Institute so that it
will be consulted by those interested with the subject. There is an
old Chinese treatise on similar subject. I believe that it originated
from India.

(7)

The Chemical News of London dated the 16th September,
ber 1927: —

Alchemical Literature.

Two Important Indian Publications. It is becoming apparent
that there is a revival of scientific interest in Alchemy. Two new
and important contributions have appeared in India, and merit
attention. The first is a bound volume by Dr. Bhudeb Mookerji,
M. A., entitled Rasa jala nidhi or Ocean of Indian Chemistry and
Alchemy, and is the first of a series to be edited by him.

Hindu Chemistry and alchemy is a subject almost unknown
and our indebtedness to the Indians' early contributions to the
development of science was briefly dismissed in the Brief outline
of the History of science (by Dr. Gerald Druce). We are therefore
especially grateful to Dr. Bhudeb Mookerji for his compilation.

Details are given for the preparation of mercury for use in medicine
and for transmuting itself or base metals into gold, etc. The
bilingual text is accompanied by a glossary and definitions and is
preceded by a valuable introduction. Of both works under review it may be said that further publications will be awaited with interest.

(8)


The work is an ambitious undertaking and is expected to be completed in 10 volumes. The book claims to be a comprehensive treatise on Indian Chemistry and alchemy, an art almost lost several centuries. It contains much interesting matter which deserves testing under modern laboratory methods. The author describes several processes, by which he maintains, it is possible to make mercury swallow, without any appreciable increase in its weight, much of gold and other materials. Another equally interesting topic he has dealt with is the transformation of base metals into gold. In view of the scientific attention that has been devoted to this subject, there is no reason why the formulae as given out in this work should not be given a fair trial. These instances, taken at random, are fair samples of the startling and important nature of the contents. The processes have been described in detail and the author himself has given his agreement with them from the result of his own research. The first instalment from the pen of this author is promising. He deserves the thanks of all orientalists and Indian chemists for rescuing a science that was in great danger of being lost altogether. The work is heartily recommended to the attention of those interested in Indian Chemistry.

(9)

"Bharatvarsha" the leading Bengali magazine of Calcutta:—

The work, when completed, will no doubt prove to be the greatest and the most comprehensive treatise on Hindu Chemistry and alchemy......The author is an eminent and successful physician, and most probably he has been able to earn a high reputation by prescribing the medicines described in the book under review. Physicians in general, we are sure, will be profited by a study of the book.
CATALOGUED.
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"A book that is shut is but a block"