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PREFACE
It is an almost universal belief with the educated people of modern times that the world was created only a few thousand years ago, and that the oldest civilization cannot date farther back than, say, twenty-five thousand years before Christ. This assumption would seem to be most absurd to those who have entered into the spirit of the ancient Indian culture, unbiased by any judgment passed by modern scholars on the antiquity of such a culture. The idea of the absolute creation of the Universe out of nothing, at a particular point of time, is more than an ordinary human being can conceive, in as much as it involves an attribution to God of such human characteristics as desire, want, and striving for the attainment of an wished for object, and thus reduces him to the level of an imperfect and human being. We are, therefore, justified in assuming, without entering upon a philosophical discussion of the subject, that the world is eternal with God, and creation means nothing more than the re-construction and re-moulding of matter, which, to a certain extent, takes place every moment. If the world is eternal—and it cannot be otherwise—what justification there is for the assumption that the civilization of which we can have only a glimpse, through records of a few thousand years only, is the only civilization known to the world? Is it not quite reasonable to assume that an infinite number of movements of civilization came upon and passed away from the face of the earth? We have, of course, no history of these civilizations, and naturally so. Can
history have a record of what takes place during an infinite number of years? Modern people have compiled a history for the last few centuries only. Let them proceed in their present method of compilation for a few thousand years more, then they would find the task to be hopeless. It is physically impossible for a human being to go through a history which contains a detailed survey of all that takes place during, say, 25 thousand years, not to speak of a longer period. We may, therefore, safely assume that the idea of keeping a chronological and detailed history of the world must be given up after, say, thirty thousand years, if not earlier. What would our historians do then? They would, in all probability, cull out of the past history some of the most important facts, and arrange them in a method which was followed by the authors of the Indian Puranas (i.e. ancient records). The Puranas are nothing but records of kings, sages, and important events that took place, in some cases, many thousands of years apart from one another. These records have been retained in the Puranas only on account of their moral, social, and religious significance. The ancient Indians realized the futility of keeping a detailed history of a world which is eternal and of their own civilization which, we have every reason to believe, was the most ancient known to the modern world, and had therefore to record ancient events of especial importance in a way which differs from the method followed by the modern historians. That being so, we cannot discard the authenticity of the Puranas and consider them as a collection of mythical legends and anecdotes only.
That the Puranas are not based on a mere fiction would find corroboration from independent sources. As for instance, I may refer to the phenomenon of Phallic Worship, the introduction of which into Europe, according to European tradition and mythology, is attributed to Bacche or Bacchus of Greek mythology. Now Bacche or Bacchus, according to Assyrian mythology, was an Indian (see Phallism in Encyclopedia of Ethics and Religion), the event of whose annual return from India used to be celebrated with a great festival on Mount Ymolus in Lydia. The question which now presents itself is, do we find any reference to this Bacche in our Puranas? Yes we do. In Bama Puranam (chapter VI) we are told that one of the earliest advocates of Phallic Worship was Baka, king of "Creetha" (Crete?), who was an Indian Vaisya by caste, and was initiated into Phallism by his Indian preceptor, the sage Apastamba. Here, we have got, I think, data sufficient to warrant the identification of the Greek or Assyrian "Indian Bacchus" with Baka of the Bama Puranam. Be that what it may, we look upon the Puranas as having a historic basis. They are, with the Vedas and the Tantras, the most ancient literature of the Indians that have been preserved, after countless acts of destruction of books and libraries by ignorant fanatics. The comparative modernness of the language in which the Puranas and the Tantras written does not justify the conclusion that they are of a comparatively modern origin, in as much as the language of the Tantras and the Puranas have been, for obvious reasons, revised from time to time, and new facts introduced into this group of literature.
According to the Puranas, the world is eternal, creation being taken to mean periodical reconstruction after dissolution. The age of the present Kalpa, i.e. of the world from the time of its last reconstruction to the current year is 1955885027 years. This is a figure which is based upon a tradition, as transmitted from generation to generation, through our science, philosophy, history, and scriptures.

Rasavidya, or Chemistry including Alchemy, began to be cultivated by the ancient Aryas as early as the beginning of the present Kalpa, i.e. more than 1950000000 years back. We have got fragments of two books, the authorship of which has all along been assigned to the great Rama Chandra (the hero of Ramayanam, an epic composed by the sage Valmiki who was a contemporary of the hero himself), who learnt the science of chemistry from Kalanatha, a sage living in the forests, during the fourteen years of his exile from his father's dominions. According to the tradition in vogue amongst the siddhas (chemists), King Ram Chandra was also called, Dandaka Nath, on account of his living in the forest of Dandaka for several years. The books said to have been compiled by this king are named, (1) Rama rajiya, and (2) Rasendra Chintamani. (The latter of these is to be distinguished from Rasa Chintamani, a book compiled by Ananta Deva Suri, not Madananta Deva Suri, as stated erroneously in Dr. Sir P. C. Roy's book). Now, Rama Chandra flourished, according to Indian history, at least 900000 years back. It appears from these fragments that chemistry of medicine reached a very high state of perfection at the time of Rama Chandra. The authorship of another
book, viz. “Arka Prakash” has all along been attributed to Ravana, the great king of Lanka, who was killed in battle by king Rama Chandra. This “Arka Prakash” is an excellent booklet containing a comprehensive treatment of all sorts of diseases by means of tincturs only. It contains at least one recipe for the preparation of a mineral acid. That being so, we cannot accept as true the assumption of Dr. Sir P. C. Roy that probably Indians came to learn the preparation of mineral acids from the Portuguese. The fact is that mineral acids are not to be used in medicines prepared from mercury and other metals. That is why the Doctor did not find any reference to these acids in ancient books on Rasa Vidya.

Innumerable books on chemistry were written from the earliest times. Most of these are no longer available. Only the names of some of them have been preserved. At present we have got only a few compilations, based on older ones, and most of them are fragmentary and incomplete. In chemistry of medicine and Alchemy, if not in any other branch of chemical knowledge, the ancient Aryas reached a very high degree of perfection. Herodotus testifies to the fact that there were, at his time, Yogis in India who used to live an unusually long life by the use of some mercurial preparations. My readers may take it from me that, even in our own time, there are many such yogis, living in the forests of the Himalayas, Amarakantaka, etc. who live an incredibly long life by the use of mercurial potions. Preparation of many such medicines will be found described in the several volumes of the present work. As for Alchemy, it was a matter of common knowledge with the ancient
Indian chemists. Philosopher's stone is not altogether a myth. How it was prepared in ancient times has been described in the present work.

The Mahomedan period of the Indian History was the darkest age of Hindu culture and civilization. The whole country was at that time in an almost perpetual state of anarchy and confusion. People were in a state of constant fear for loss of life, property, and honour, with the result that trade, commerce, and learning came to a stand-still. The race of chemist physicians became gradually extinct. Difficulty of procuring rare metals increased with the uncertainty of trade and commerce. Physicians in villages therefore took to the practice of medicines prepared from herbs only, especially in view of the fact that they were much cheaper than medicines prepared from metals. Chemistry of medicine thus came to be almost forgotten by the common run of physicians. It continued, however, to be cultivated, to a certain extent only, by some Yogis in the forests, where there was no chance of meeting with much obstacle. But in the absence of encouragement and patronisation by the state, the science could not be systematically cultivated during the Mahomedan period.

All this would explain the present state of deep degradation of Indian Chemistry. Before the publication of Dr. P. C. Roy's History of Indian Chemistry, the majority of our educated countrymen were not even aware of the existence of such a branch of knowledge as Indian Chemistry and Alchemy. Most of the Vaidyas or Kavirajas of the present day (i.e. physicians practising Indian system of medicine) are
ill-educated and content with a very little knowledge of the subject. Especially is the case in Bengal, where the Kavirajas, for the several centuries past, depended on medicines prepared from herbs, vegetable products, clarified butter, etc. It will be interesting to note that the late Kaviraja Gangadhara Sen of Murshidabad, a physician of remarkable attainments, who died some 50 years back, had no faith in metallic medicines and did not care to acquaint himself with chemistry of medicine. Matters have much improved since the death of the great Kaviraj, but speaking generally, the present day Kavirajas of Bengal are ignorant of the 18 mercurial operations, which can safely be considered to be the pivot round which the whole of the Indian Chemistry rotates.

In recent times, some Allopaths, a few of whom are very good scholars too, have taken to the practice of indigenous system of medicines, but, unfortunately, they have not yet come to be aware of the fact that the greater portion of Ayurveda, which deals with chemistry and Alchemy, has for the several centuries past, been a terra incognita to that class of physicians from whom they had to receive their training. They have not yet been aware of the fact that the ancient glory and greatness of Ayurveda was due neither to its progress in Surgery, Anatomy, etc. as taught by Sushruta, etc.—which these well-meaning physicians have been trying to revive, by the introduction of western methods, where necessary,—nor to the excellence of herbal drugs, as taught by Charaka, etc. but to the exceptional and unique progress which Ayurveda made in the region of Medical Chemistry.
While anxious for the revival of Ayurvedic culture in India, let me sound a note of warning to the authorities of the different Ayurvedic institutions, which have been started during the present decade, that unless and until the greatest stress is laid upon the revival of Indian Chemistry of medicine, as outlined in the present work, there is not the slightest chance of recovering the glory which Ayurveda lost about a thousand years ago. Let not the teachers of these Ayurvedic Colleges try to perpetuate the state of ignorance of chemistry prevailing among the present generation of the Kavirajas, content with the teaching of only those branches of Ayurvedic lore with which they can claim some acquaintance. An undue importance has been attached by these Ayurvedic teachers to the teaching of modern Surgery, etc., which has the effect of investing the present system of Ayurvedic teaching with a hybrid character, neither Ayurvedic nor Allopathic, but one which partakes of the nature of both. The sense of gratification which I felt a few years ago at the news of the Hindu University of Benares having opened an Ayurvedic Department was followed by a rude shock which I received at what I personally came to know about it at Benares. It is a poor apologia of Ayurveda, and not Ayurveda proper, that is taught at the Benares University. The same remark applies to the Astanga Avurveda Vidyalaya of Calcutta and similar institutions. In my reference to these seats of Ayurvedic learning, I am not guided by malice or personal grudge but by a real desire to learn that my remarks have made the authorities of these institutions alive to the necessity for an adequate arrangement for the teaching of Indian chemistry in these places.
I have been a devout student of Ayurveda even from my boyhood, and I would have naturally followed the same track as beaten by the common run of Vaidyas or Kavirajas of the present day. But Providence willed otherwise. It was a mere accident that I came to be in contact with a Yogi from whom I learnt much more than could be found in the existing books on Indian Chemistry, each of which is incomplete, incoherent, incorrect, and in many cases misleading. The instructions which I received from my preceptor yogi have enabled me to arrange methodically the materials found in the existing books on chemistry, which were mostly in a chaotic state, and have been neglected for several centuries past.

There were four different schools of treatment of diseases in ancient India, viz., treatments (1) by rasa, i.e., mercury and other metals, (2) by herbs and vegetable drugs, (3) by charms, incantations, etc., and (4) by surgical instruments.

These four different kinds of medical systems were cultivated, side by side, from time out of memory, by different classes of people. Of these, it was believed that the first system was of divine origin, the second and third of human origin, and the fourth of demoniac or barbarous origin. I leave my readers to form their own opinions as to the exact significance of all these remarks. Personally, I consider the chemical system of Indian medicine as of divine origin. It is not a science in the ordinary sense of the term. It is not a collection of experiential truths or inductive generalizations, based on observation and experiment. It is a super-science, and, as such, is based on something higher than observation and
experiment—call it inspiration, revelation, or what you will. It is not possible, even for a very careful and devoted student of Rasa-Vidya, to explain, in many cases, why a certain line of procedure was prescribed with a view to attain an end in view. Neither is it possible for us to make any material addition to what has been transmitted to us from time out of memory. I have no doubt any one who has been able to enter into the spirit of Rasa-Vidya would feel constrained to endorse these views. It is Rasa-Vidya which rendered treatment of diseases by surgical instruments almost useless and superfluous. Even in our own time, boils, carbuncles, etc., are found to be cured by oils and ointments, prepared out of metals and indigenous herbs, more speedily and effectively than they are by surgical operations.

The present day people of India have been animated with an intense desire for the attainment of political independence, partial or complete. Let them strive for it by all means, constitutional and legitimate. But they seem to be blind to the fact that cultural independence for India is much more valuable than the attainment of political independence. My attitude to politics is one of absolute detachment, but, if I am to express my views about the present day politics of India, I may say that India, as it is inhabited by a large number of Mahomedans whose sympathy is more with their co-religionists in Afghanistan, Arabia, Persia, etc., than with their Indian neighbours of the same blood, will not be able to retain complete independence for a very long time, even if it ever be granted to us. To be ruled by any other nation than the British would be a worse
lot for the Indians. A dominion status of self-Government, within the British empire, appears therefore to be the safest possible constitution for India. But it is too much to expect that Britain would ever consent to the Indians having such a government, unless she is convinced of the fact that 32 crores of people, contented with British overlordship, cannot but add to the strength of the empire. In the meantime we should try, I think, to secure the goodwill of the British people by the exhibition of our greatness—moral, cultural, and intellectual. Be that what it may, personally, I prefer cultural greatness for India to political independence.

I think, I should be a little more explicit here, and say that I advocate cultural independence for India, not because I hate western culture and civilization, which our people have been striving hard to follow, but because India can still boast of a culture and civilization of her own, which it would be most unfortunate and unwise to allow to be effaced from the face of the earth. The majority of the modern Indians suffer from a peculiar mentality which makes them attach very little importance to their own culture and civilization. Thy came to realize the importance of their philosophy, only when they were told of it by Schopenhaur, Maxmuller, etc.—of their medicine, when told by such European physicians as the late Surgeon General Dr. Lukis, etc.—of their tantras, when told by Sir John Woodroffe. It was Lord Ronaldshay, if I remember aright, who advised the Indian youths to turn to Indian culture, and to assimilate it, when possible and desirable, with the best of what we find in western culture and civilization. His advice to us was not to follow blindly the
western culture and civilization. But, I am afraid, it has fallen mostly on indifferent ears.

It is generally believed that it was in the field of abstract thought and spirit, and not in the field of science and material progress that the ancient Hindus attained greatness. This assumption is based on a total ignorance of Hindu culture, tradition, and history. The famous iron pillar of Delhi is not the only existing proof of the greatness which the ancient Indians attained in the field of industrial chemistry and metallurgy. In an article contributed to the "Forward" of Calcutta (in its issue of the 4th November 1925), I invited the attention of the public in general to the existence at Hyderabad (H.E.H. the Nizam's Dominion) of a manuscript Library, perhaps the biggest of its kind in India, which is reported to contain numerous books which have not yet been published. Some of these books are reported to deal with such scientific matters, as (1) process of embalming of dead bodies, (2) making of a kind of glass by means of which it is possible to see through water even the minutest article lying below its surface, (3) arrangement for constant supply of hot water through pipes without the application of heat, (4) growing cotton of any colour desired, (5) transformation of base metals into gold, (6) smelting of precious stones and letting them have any shape and colour, (7) communication between two persons living thousands of miles apart from each other, by means of two blocks of stones, especially constructed, (8) construction of a machine by means of which it is possible to ascertain the nature of minerals and hidden treasure deposited under a particular soil.
If would not be quite out of place to repeat here my appeal to my countrymen for the purchase and preservation of this Library as a national asset. Intending gentlemen may communicate with Dr. Md. Kashim (Jaghirdar, Patharghati, Hyderabad, (H.E.H. the Nizam’s Dominions, the Deccan), who is the present owner of the Library.

In compiling the present work (intended to be completed in 10 volumes), I have depended mainly upon what I learnt from my ascetic preceptor and upon the existing books on chemistry. The science of Alchemy has all along been an accomplished fact with the ascetic chemists of India. There are many such chemists even in our own times. They are in the habit of preparing from time to time only as much real gold as is actually necessary for the bare subsistence. My readers may be curious to know whether I can transform base metals into gold. My reply to this will be that the process has been demonstrated to me by my preceptor, and I am confident, I can carry on the operations successfully, if I am provided with an well-equipped laboratory and given an opportunity of devoting myself exclusively to this line of work.

It is a matter of pity that Indian Chemistry, which according to the sage Dandaka Nath or King Ramachandra, is an indispensable pre-requisite for the study of all other subjects of human culture, has not yet been considered a subject fit for being taught even in the greatest of the Indian Universities. To this fact I invited a few years ago the attention of the late Sir Ashutosh Mookerji of revered memory, who advised me to wait till the Public came to know
more about this apparently new science. Is it too much for me now to expect that the local governments and the authorities of the different Indian Universities will consider the desirability of teaching this subject in their respective Universities?

I cannot conclude the present work without a short notice of Dr. Sir P.C. Roy’s History of Indian Chemistry which was written with the object of proving to the world that the ancient Hindus knew a good deal of Chemistry much earlier than the other races of the world. The book is well written, and reflects credit upon the great chemist. It has served its purpose fairly well, but I am afraid, it has failed to convey to its readers the most fundamental and prominent features of Indian Chemistry. With due deference to Dr. Roy’s remarkable attainments in the field of modern Chemistry, I feel constrained to observe that Dr. Roy’s approached the subject as an amateur critic and not as a trained student of Indian Chemistry of medicine, which differs fundamentally from modern chemistry. Hence is his failure to enter into the spirit of Rasavidya, and to get hold of the central idea upon which the whole structure of the Hindu Chemistry is erected; viz., the fact that mercury can be made to swallow, by special processes, a considerable quantity of gold or other metals, without any appreciable increase in the weight of the swallowing mercury. I have no doubt this statement will appear to my readers to be highly dogmatic, paradoxical, and revolting against the common sense of rational beings, but I cannot help it. The statement is based on a practical experience and an arduous research carried on for several years,
Let my readers perform faithfully the operations described in the present volume, and then form their own judgment as to the truth of the statement.

It is earnestly hoped that Dr. Sir P. C. Roy will live to bring out a revised edition of his book, which contains so many misinterpretations of important principles of Hindu Chemistry, due, no doubt, to a hasty and superficial study of the subject.

In conclusion, I am to acknowledge the deep debt of gratitude which I owe to the reputed vedic scholar, Prof. Khitish Ch. Chatterji, M.A., Lecturer, Post Graduate classes in Sanskrit, Calcutta University, for the valuable assistance he rendered to me in correcting the proof sheets. I am also very grateful to Mr. M. N. Bose, B. A., ( Cantab ), Bar-at-Law, Mr. Jatish Chandra Mitra, M.A., Professor of English, Berhampore College, and some other friends, for the sympathy and encouragement which I received from them in the compilation of this encyclopedic work.

172 BOWBAZAR STREET,
CALCUTTA.

BHUEDEB MOOKERJI

25th November, 1926.
रसजलनिधि: 

मकुलाचरणकु

यस्यानन्दस्फुरितनयनोत्चेपमात्रेषा विष्णुं 
स्मृति धवलं मुदुरपिपुनस्तत्स्य गात्रे सिलाम।
मृत्युं जित्वा सकलमुचं पाति शांत्रु यथे एव 
वन्देः इति सकलाविभवागारः महेश्म।

जेताया येशुरुकुलवर्माः श्रीमहाद्वारकेवः 
वस्त्राभिनीता नरगधेशादितेन्द्रित्वंविचित्र।

तेशां वंशे कुटजनुरह मितभूधे देवदेवो 
प्रन्थः पुराणः रसजलनिधि रचयते संप्रथवात्।

अशोंवस्त्रानासिद्धः सर्वकानुक्लदात्रको।

वन्दे। पितरो भक्त्य जगतः पितराविच।

हरिनासानि: पिता देवो माता नित्तारिश्कं पत्रा।

मुखोपाध्यायं ज्ञतो भक्त्य शास्त्रार्थिः।

गजाराजभविष्ये राज्ये चक्रदेवे पुरातने।

हस्तिशालाल्यके भामे मघुराचीनदीतेः।
रसज्ञानिकिषः

नैवत्कान्यकारस्त्यान्त्रये जातावधस्ततनै।
सत्वंशुद्योपपत्त्रो च वस्तः पितरौ मम॥
रसविधा वरा विधा कल्पादो शूलिना स्मृता॥
जरायत्याधिविनाशार्थं भारते सम्प्रचारित।
अघुना भृतकल्पा ते सकलार्थप्रदार्थिनी।
नादिध्यते महीपालेन्द्रेशजैशं विदेशजैश॥
संख्यातीता: रसमन्था: रचिता: प्राध्य महर्षिबं:।
श्रमोष्ठं वहनो नूनं विलोपं नितरं गता:॥
दुर्लभा इतरे अन्या जातिल्यविष्कृतिता:।
संग्रह यहतो अनेकानु संहिता रचिता मया॥
कालीचे त्रं परिश्रेष्ठेष्ठो मृत्युक्षमयप्रसादतः।
ष्टिपचाभावाणादे कलेश विषमस्य च॥
रसरसलवहदिभिद्वैषीति प्रोच्यते बुधे:।
श्रोष्कशिभिष्ठथा मन्नेत्रश्रिकितसा मानुषी स्मृता॥
राजसी ज्ञाते सहि: शाश्वदिमिः कृतं तु या॥
अतएव रसकिया शिवश्रीयातियख्यः॥
INTRODUCTION.

I bow down to the Greatest of the great, at the movements of whose blissful eyes the universe comes into being, undergoes dissolution, and is frequently absorbed in Himself—I bow down to Him who has conquered death, has been maintaining the universe from all eternity, and is, the source of all greatness and magnanimity.

This salutary book, entitled Rasajalanidhi (the ocean of Metallurgy), is compiled very carefully by me, Bhudeba, a Brahman by caste, and descendant of the great sage, Bharadwaja, who, actuated by the motive of doing good to the suffering humanity, brought down to Bharat (India), in the Treta age (about five hundred thousand years ago), the science of medicine from the country of Swarga (a country corresponding to modern Mongolia—a region from which the forefathers of the Aryan Indians migrated gradually into the plains of India).

For the fulfilment of all desires, I bow down to my parents, who are the sources of all bliss, and appear to me to be the parents of the universe itself. My father’s name is Harilala Deba, and that of my mother is Nistarini Debi. I come of the Mukhopadhyaya (meaning, great preceptor) family, and am favoured by the three-eyed Deity (i.e., God). My parents are endowed with all good qualities, are descendants of the author of Naisadha Charitam (a well-known Sanskrit poem, composed by

* Vide ‘Original Home of Mankind’ written in Bengali by the late Pundit Umesh Chandra Vidyaratna.
the great poet Sreeharsa, a savant from whom have
descended all the persons bearing the family name
of Mukhopadhyaya, or Mookerji, as it is generally
written in English for the sake of brevity), and
residents of a village, named Hastisala, situated
on the banks of the river Maurakshi, in the
ancient region of Gangarastra (modern Rarh) in
Bengal.

Metallurgy is a great science revealed to the
world by God Himself at the commencement of the
present Kalpa (a mundane period, followed and
preceded by a dissolution of the universe—the present
Kalpa commenced, according to Indian history, some
160,000,000 years back.)* It was introduced into
India for the purpose of preventing desease and
premature old age. This science, which is the giver
of all wished-for objects, is now in a moribund
condition, and is no longer given attention to by
kings, whether Indian or foreign. Numerous were
the books written on Metallurgy and Chemistry by
ancient Indian sages. Most of these books have
completely been lost; those which are extant are
mostly very rare, and not very intelligible. The
present book is based on many of those which are
still extant, and have been collected carefully. It is
written by the grace of the conqueror of death at

* The theory of the creation of the universe out of nothing
is untenable, in as much as it implies want and desire in God,
and thus reduces Him to the level of a finite being. God is
eternal, and so is the universe, which only undergoes periodical
dissolution and change of form.
the great city of Kalikshetra (Calcutta) in the year 5026 of the perverted Kalijuga. *

Treatment of diseases by Rasa (mercury), gems, metals etc is divine, that by incantations and vegetable drugs human, and that by surgical instruments diabolical. Metallurgy is therefore to be learnt very carefully.

* According to the Hindus, eternity is measured by the following terms:—Kalpa, Manwantara and Juga. Kalpa is the period which is followed and preceded by the dissolution of the universe. A Kalpa is sub-divided into so many Manwantaras, each of which is again subdivided into so many Jugas.
CHAPTER I.

Requisites for Metallurgical Operations.

(1) Qualifications of a Preceptor.

The preceptor should be wise, well-versed in Metallurgy, courageous, kind-hearted, modest, student of the Tantras, worshipper of Shiva and Shivá (both representing the Universal soul in its two aspects, male and female, worshipped by votaries as Deities with human forms, which, it is believed, the Universal Soul assumes whenever it reveals itself to the devotees), having a control over the sense-organs and passions, inclined to doing good to all creatures, having all his senses well-developed, possessing an all round knowledge of many things, and fond of disciples.
(2) **Qualifications of a Disciple.**

A disciple should be modest, truthful, persevering, endowed with the power of reasoning, memory, and power of retention, devoted to his preceptor, devoid of idleness, having healthy habits, worshipper of Kalika (Shivá) and Shiva, and should have all of his senses well-developed and well-built.

Metallurgy is a great science which should be taught very carefully; but not to those who are not disciples, who are atheists, and who are dishonest.

(3) **रसशाखा-निम्माणम्**

खलाज्ञतस्करादनां भयं यत्र न विच्यते ।
हरगौरीसमायुक्तं शोभने नगरे तथा ॥
विपुलोपने रथे सत्तवें पधिसमन्धिते ।
निम्माणतवा रसशाखा सत्तवेंविद्विवृहिता ॥
वहचिद्वारसंयुक्तं निम्मलनीरसंग्रिजता ।
समाचयां रसक्रिया रहति धीमता तथा ॥
रसब्रह्मिड़िः।

शालायः पूववदिग्रामो रच्यन्तु रसमण्डपम्।
वातायनसमायुक्तमर्करशिंविमांसितम्॥
भूमिस्तः समा काय्या पाशाष्टिकोष पमाः।
तन्मध्ये वेदिका रच्या सम्बन्धीमायसंयुता॥
प्रतिस्वायं तथा यद्यातु रसःैैः रसलिङ्गकम्।
नित्यं पूज्यं यथाशास्त्रं स्वर्थायां सुसिद्ध्ये॥

(3) Construction of a Laboratory.

The proper place for a laboratory is a wide and beautiful garden, with all sorts of medicinal plants grown there-in, in a beautiful town where the images of the Deities, Hara and Gauri (Shiva and Shivá) are worshipped, and where there is nothing to fear from cheats, ignorant people, thieves etc. The laboratory should be freed from all sorts of disturbances, should have a sufficient number of doors and windows, and should be within the reach of a sufficient supply of pure water. It is in such a place that the intelligent should carry on their metallurgical operations in seclusion. On the eastern side of the laboratory should be erected what is called a Rasamandapam (i.e., a big hall for the storing of metals), which should be furnished with a sufficient number of doors and windows, and should have a sufficient quantity of daylight entering into it. The floor of this hall should be very plain, strong as stone, and clear as quartz. In the midst of this hall should be erected a platform or dais with its best characteristics, in which is to be placed
a Phallic emblem of God, made of mercury, which should be worshipped by the adept, in accordance with the procedure laid down in the sacred books (and with special reference to the instructions given below).

(४) अय रसिल्ल्य कथ्यते ।

साद्य कोलं सुवर्णस्य पत्रं निर्गठां रसः ।
याममेकं विमहं येदम्लरसेन यहंतः ॥
तेन लिङ्गं विनिमितं जम्बीरस्थं दिनं पचेतु ॥
दोलायमारंले तु प्रतिद्वारं ततो मुदा ॥
अल्लंब्यशिवलिङ्गामामचनादु यतृ फलं भवेतु ॥
ततृ फलं प्राप्यते नूनं रसलिंगस्य पूजनात् ॥
दर्शनानायते पुणयं स्पर्शनां ततो धिकम् ॥
पूजनाल्ल्यते मुक्तिरिति सतं शिवोदितम् ॥
नास्ति परतरं लोकं रसलिंगस्य पूजनात् ॥
आम्बेयिं श्रीमोहरेन मन्त्रराजेन ॥ तात्चयं ॥

# तथाहि शिवमहिष्णु स्तोत्रे—‘अधोराज्ञापरे मन्त्रः’—ह्वाच ।
मन्त्रोऽयं निह्यते अन्त—

ॐ हूं हूं हूं अधोराज्ञ प्रस्फुट प्रस्फुट प्रकट प्रकट कहं कहं श्रमय
रामय जात जात वह वह पातय पातय । ॐ हूं हूं हूं अधोराय
फट ।

ॐ अधोरोन्योऽन धोरेम्यो धोरेन्यो धोरोल्लोत्स्य ओ ।
नमो वं स्वर्पाबिश्यो त्रूपतेष्य एव च ॥
(4) The Rasalingam, (Phallus made of Mercury).

One Kola * and half of pure gold leaf, and three times its weight of mercury are to be rubbed for three hours with some vegetable sour juice and made into a Phallic image of the God, Siva. This image is to be put inside a lemon and boiled in Kanji (gruel), by means of a Dola Jantra. It is then to be properly installed with joy. The merit acquired by the worship of a Rasalingam equals that acquired by the worship of innumerable ordinary Phallic images. To

* For explanation of difficult words see appendix.
have a look at this image means to acquire some merit, to touch it is to multiply the same, and to worship it means to be entitled to emancipation. There is nothing more meritorious in this world than to worship a Rasalingam. Sree (literally, the beauty of the universe), the fiery Goddess is also to be worshipped with Aghora, the king of mantras (hymns).

*The conception of the two Deities:*

The Rasalingam is to be conceived as having eighteen arms, white complexioned, five-mouthed, three-eyed, mounted on a ghost, and blue-throated. On his laps is seated the great Goddess, having one mouth and four arms with a garland of lotus seeds and a trident in the right hand, and dice and an emblem of assurance of protection in her left hand; of a complexion resembling gold in the furnace, and dressed in yellow.

These are the conceptions of the parents of the universe, which are to be meditated upon by a devotee.

The Rasankusi Mantra or the hymn to be recited in connection with the worship of the Goddess is as follows:—↑

The goddess of beauty is in the form of speech or word; is the root cause of the energy of the Greatest Object of desire (i.e., God Himself),

* The hymn is given in original in the foot note on page 9 No translation is attempted.

↑ For a detailed procedure to be followed in the worship of both the Deities, a disciple should depend upon the instructions given by his preceptor.
and is the sovereign force behind Rasa (mercury). She is equal to mercury. It is therefore worth while to learn how to control mercury.

Thus the Goddess is to be worshipped with due offerings; and so also are to be worshipped Nandy, Bhringi, Mahakala and Kulirá (followers of Siva).

(5) Details of the Laboratory.

On the eastern side of the laboratory should be placed the Rasalingam. Metallurgical operations requiring the use of fire should be performed on the south eastern side. Grinding, rubbing, and powdering operations on the southern part; surgical operations on the south-eastern part; washing on the western part; drying on the north-western part; transformation of base metals into gold on the northern part; and storing of finished products to be done on the north-eastern part. The central part of the laboratory should be utilized for storing raw materials.
(6) Equipments of the Laboratory

Furnaces for the extraction of essences of metals, those for distillation, those that are movable, and those that are embeded into the ground, water troughs of various kinds, a pair of bellows; tubes made of bamboo as well as of iron; pots; made of gold, iron, bell-metal, copper, stone, and leather—these and all sorts of other strange and interesting apparata, such as those under-mentioned are to be collected. Iron mortars for powdering drugs, grinding stones, boat-shaped as well as circular, stone mortars for rubbing of drugs, iron mortars meant to be placed on fire,
all furnished with adequate rods for rubbing and hammering. Sieves furnished with thousands of very minute holes, meant for sifting fine powders, and made of both leather and fine sticks. Sieves are of three different kinds as per descriptions given below.

वैष्णविनि: शताकारिनिमित्ता प्रथिता गुणोऽ ।
कीर्तिता सा सदा स्थूलदृष्टियां गालने हिता ॥
चूर्णचालनहेतोश्र चालन्यन्यापि वंशजा ॥
कर्षिकारस्य शालमलः इरिजातस्य कम्ब्रया ॥
चतुर्धुर्विस्तारयुक्ता निर्मिता शुभा ।
क्रणशर्विष्टारा चागचम्मामिजुष्टिता ॥
वाजिरोमार्म्रान्धतला चालनिका परा ।
तथा प्रचालनं कुय्यास्चतुः सूचमतरं रजः ॥

The first kind, meant for sifting coarse things, is made of bamboo sticks and threads. The second kind, meant for sifting powders, is also made of bamboo. The third kind, meant for the sifting of finer powders, consists of a circular cylindrical edge, made of wood or bamboo, one aratni in height, and a surface made of horse hair or a piece of cloth.
शिखिरा ॐ गोवर्णं ॐ चैत्र शक्रा ॐ सितोपला ।
काच्यायोमूद्वराताना कुपिका ॐ चंद्रकाष्ठ ।
शूर्यंदिने गुप्तप्राभारिणि चुंद्रा: ॥ चिराध्यशङ्किका: ॥
ज्जुराश्रयं तथा पाक्यो यज्ञान्यत्र युज्यते ॥
पालिका करिका चैव शाकच्छेदन शबरका: ॥
शालासम्भार्जनायं हि रसपाकान्तकर्मं यतु ॥
तत्रोपयोगि यज्ञान्यतू ततु सवर्गं परिविध्या ॥
श्रीरसाङ्गुश्या सवर्गं मन्त्रस्यत्वा समाचरेतु ॥
श्रद्धा तद्गतं तेजः: परिश्रद्धति भेयवा: ॥

Crucibles; mud; husk; cotton; cakes made of cowdung; three kinds of medicines, viz. of metals, animals, and plants; fuel made of burnt wood and leaves (tikias); cow-dung; sugar; sugar-candy; jars and bowls made of glass, iron, mud and cowri; winnowing plate; and other utensils made of bamboo; all sorts of cutlery for chopping vegetables (perhaps kshudra is what in Bengal is called a khunti; kshipra is perhaps forceps; sankika may be an iron rod for
probing the condition of a metallic compound, while it is still on fire, kshurapra is perhaps an iron spoon; pakya is a ladle; palika is a small dagger; and karnika is what in Bengal is called a kurni),—these and all other articles necessary from the sweeping of the laboratory to the termination of a metallurgical operation are to be purified by the supreme mantram referred to before, otherwise Bhairavas (terrible spirits) might take away the inherent potencies of all these things.

Those who are engaged in metallurgical operations should secure the services of those physicians who are well-versed in the science, in lexicography, and in the commentaries of the difficult books on the subject; and of those attendants who are persevering and are neat and clean, courageous and strong. The
Aghora mantram is to be frequently chanted all the time a mercurial operation is carried on.

For the purpose of performance of metallurgical operations, one should engage a chemist of the following description:—pious, truthful, learned, worshipper of Shiva and Keshava (personifications of the two different aspects of the same God), kind-hearted, and having the following marks on the palm:—flag, vessel, lotus, fish, bow, and a line just below the ring-finger (i.e., on the mount of sun). Such a chemist is called nectar-palmed. A chemist who is unfortunate, cruel, greedy, uninitiated, and has black spots on his palm is called burnt-palmed, and should therefore be avoided in metallurgical operations.

शुचीनां सत्यवाक्यानामास्तिकानां मनस्तिनाम्।
सन्देहोहिविभितविचारानां रसः सिद्धति सवेदा॥
दशाष्ट्रिकिया सिद्धे रसेःसौ साधकोत्तमः।
रसिष्ठो भवेनृ मल्या दाता भोक्ता न घाचकः॥
जरामु को जगतुपूज्यो दिव्यकान्तिः सदा सुखी॥

Invariably successful are the metallurgical operations carried on by those who are pure in body and mind, are truthful, believers in God, learned, and full of optimism. That man is the greatest of all metallurgical operators who succeeds in performing all the eighteen different operations with mercury. He is a giver and enjoyer, not a dependant on any one. He is free from physical decay due to old age, is respected by the whole world, looks handsome, and is always happy.
CHAPTER II.

Initiation of Disciple.

Metallurgy is a science which was taught by S'iva (God) himself. It is to be given to an earnest disciple by the preceptor in accordance with the usual procedure. In an auspicious moment, when the moon is in conjunction with a benefic star, and when both the moon and the star are strong, an earthen vessel full of water, and containing gold, gems, and fruits, is to be placed in front of the Rasalingam,

* For a proper understanding of these, the reader is referred to Indian Astrology.
and covered with a piece of cloth. The image is then to be worshipped in the usual way with sandal paste, flowers, fried paddy, incense, and offerings of rice, fruits, sweets &c. After the worship is over, a sacrificial fire is to be made in a triangular hole, called Joni Kunda, characterised by good features, where offerings are to be duly given of oil, clarified butter, rice boiled in milk and mixed with sugar, flowers in general, and lotuses in particular, respectively, uttering all the while the Aghora and Rasankus' mantras. This being done, the disciple is to be called to attend.

A Kalini wife.

That wife is called Kalini whose hair is curled; whose body is warm in winter, and comfortably cold.
in summer; who has a complexion as bright as heated gold; whose eyes are like lotus flowers; who is beautiful, young, and has a well-cut physique; whose thighs are wide; who is possessed of all good qualities; who has breasts so well-developed as to give her stature a slight stoop; whose kiss, embrace and touch are soft; whose voice is very mild; whose genital organ is so developed as to give it the configuration of an Aswatha leaf, and who commences her menstruation during the period when the moon is on the wane. Such a lady is powerful, and is capable of success in metallurgical operations. She is efficient in preparing mercurial compounds, in the application of mercury to patients, and in the preparation of medicines for the prevention of premature old age and diseases. In case, such a wife is not available, any beautiful lady may serve the purpose, if she is required for three weeks only, to take every morning one tola of purified sulphur, mixed with clarified butter.*

एवं शक्तियुक्तः शिष्यं दीचयेत् तं युरूद्धमः । सुखात्मामिश्वरं तं मन्नेयं कलशेऽद्द्रकः ॥
अष्टोरामङ्गु श्रीं विधां द्वाध्विचिद्वाय सद्धुरः ।
यथाशक्ति सुशिष्येऽयं दत्तव्यं युरूद्विजः ॥
अथाश्च युरोमेत्रं तचं तचं प्रथक् जपेत ।

* This dose was prescribed more than 5000 years ago. The present day human beings can stand only one fourth to half of the dose prescribed in those days.
ब्रो हैं हैं हैं अघोरतर प्रस्फुट प्रस्फुट प्रकट प्रकट कह कह शुमय शुमय जात जात दह दह पातय पातय।

ब्रो हैं हैं हैं अघोराय फट ।
इममघोरमन्त्रात्।
ब्रो कामराजशक्तिबीज रसाङ्कु- शाये आज्ञायें विष्णु रसाङ्कु शायू।
अन्या पूजयेद्वीमिमांसागु श्रविकाम।
दशांशेन हुनेत कुशने त्रिकोणे हस्तमाणके।
जातिपुष्पं त्रिमध्यकं पूर्णान्ते कन्यकाचर्चन्म।

Thus strengthened, the efficient preceptor will initiate the disciple after the latter has bathed well, and sprinkle the water of the vessel upon him with proper chantings, and will then impart to him the sublime science of controlling mercury. The disciple should pay to the preceptor a fee according to his ability. The disciple is then to recite, under orders of his preceptor, for a hundred thousand times, each of the two hymns *viz.* Aghora and Rasankus’i as given in the text. Thus is to be worshipped the goddess, Ankus’avidya (the science of controlling mercury personified, the same as the goddess of beauty referred to above). Then a fire is to be raised and given offerings of *Jati* flowers, mixed with honey, clarified butter, and sugar in a triangular pit, having each of its sides one cubit long. After the last and fullest offering is made to the sacrificial fire, one or more virgins are to be worshipped.
The next thing to be done is to draw, with red vermilion, a hexagonal diagram, two cubits long on the Rasamandapam, by the side of which is to be drawn carefully a quadrangular and eight petalled lotus furnished with four door-ways. (Vide figure given here).
In one of the eight petals should be placed an iron *kbalwa* (boat-shaped mortar), mounted with gold, containing 100, 50 or 25 *palas* of mercury, which is to be worshipped like the Rasalingam. In six of the other petals of the lotus are to be placed diamonds, gems, mica, loadstone, borax and essence of earthworms, respectively, each of these potentialities being worshipped separately. Gandhaka (sulphur), Harital (orpiment), Kasisa (green vitriol), silajatu (bitumen), kankustham, gems, rajabarta, gairika (red ochre)—these important
uparasas (quasi-mercuries) are to be placed on the eighth petal, in the order of east to north-east, and worshipped in order of position. Rasak (calamine), bimalá, tapya (pyrites), chapalam, tuttha (blue vitriol), anjana (stibnite), hingula (cinnabar), and sasyaka (a kind of vitriol)—all these uparasas are also to be placed at the edge of the eight petals and worshipped from the east to the north east. Gold and silver are to be placed on the eastern door, copper and lead on the southern door, tin and kanta iron on the western door, and Munda (common iron) and tiksna iron (steel), on the northern door, and all of these are to be worshipped by means of the Aghora and Rasankusa hymns.

Vida, Kanji, apparata, alkalis, mud, salts, furnace, crucible, bent tube, husk of paddy, char coal, cowdung
cakes, bellows, several tongs, stone mortars, iron mortars, equipments of goldsmiths, balances and weights, all sorts of vessels and pots made of mud, wood, copper, iron; good medical ingredients, colouring oils;—all these are to be worshipped outside the four doors of the lotus diagram, with the mantram referred to above. By the mantram given here (see text) the Bhairaba (S'iva) is also to be worshipped.

सम्बंधु साधनसौधमा गुह्युता राजाज्ञ्यालंकु ता:।
नानाकम्मे पराड़ सुखा रसपराश्चालया जनेशार्थिता:।
मात्रायन्त्रसुपाककम्मकुशला: सरसुधे कोविदातः
स्तेषां सिद्धति नान्यत्था विखिलाच्छः पारदः।

Mercurial operations prove successful by the grace of God, if carried on by those who are persevering in every way; who are instructed by preceptors; who are patronised by kings; who avoid the following of too many pursuits; who regard mercury as the greatest of all earthly objects; who are rich; who are encouraged by the public; who are efficient in the knowledge of doses, apparatus, and proper heating of the metals; and who are acquainted with all sorts of medicines.

रसविघ्र हदं गोप्या शिष्येत्राजनाद्वृहवम्।
मतेदु वीर्यवच्चु तता निर्वाच्याचा च प्रकाशारात्।
न रोगिविविधं कार्यं बद्धमिभिविविधं तथा।
रोगिमि बद्धिमेलां भवेदु निर्वाच्यमौषधम्॥
The knowledge of Metallurgy is to be kept secret from those who are not disciples. It becomes powerful, if cultivated in secret; otherwise, it loses much of its strength. The preparation and composition of a medicine should not be taught to a patient or to the public in general. A medicine which is very familiar to a patient and to the public becomes ineffective.

If the preceptor is pleased, S'iva is pleased, if S'iva is pleased, Rasa (mercury) is pleased, and if Rasa is pleased, all metallurgical operations become undoubtedly successful.
तद्वितीयोऽध्यायः।
ब्राह्म रसप्रसंसः।
(१) तत्ताती सुमार्ग्यनम्।
पार्वतो रसराजस्वः रसेन्द्रस्वः महारसः।
जीवस्वः शिवस्वर्यस्वः रसः सूतः शिवाध्यः।
पार्वतो पड़सः सिंभ्रिष्टिधोष्ट्मो रसायनः।
योगवाही महावृष्णः सदा दशिवलप्रदः।
सर्वातमयहरः प्रको विशेषतः सर्वाकुलनुतः।
हतोहनिन्त जरां मृत्युं मूर्च्छितो व्याध्याधातः।
बच्चः लेचरतां देशे कोभ्यः सूतात् कुपाकरः।
मोहये यः परान् बच्चो जीवयेच्छ सृतः परान्।
मूर्च्छितो बोम्भेदन्यानं सूतं को न सेवते।
आयुक्तं विलिमारोपयं वधिमेधं महाकवलं।
रूपयोवलनलावणं रसोपासनया भवेत्।
मार्येजारितं सूतं गन्धक्रेनेव मूर्च्छितेऽय।
बच्चः व्यादु दुःतिसतताभ्यं रसस्यवे चिरा गतः।
दोषहीनो रसो श्रवा मूर्च्छितस्तु जनाधि न।
मारितो श्रद्धपः व्यादु बच्चः साचान्महेश्वरः।
श्रीमानो सूतनृपो ददाति विपुलं लच्छीं वचुः।
शाश्वतं

27
CHAPTER III.

Parada (Mercury).

The following are the synonyms of Parada (mercury): Rasarâja, Rasendra, Maharasa, Jiba, Sivabirjam, Rasa, Suta, and all the names applicable to Siva (God) himself.

Parada has six different kinds of taste, (viz., sweet, sour, saline, pungent, bitter and astringent). It has a soothing effect upon the human system, and is the destroyer of the three different kinds of doshas (faults).* It is efficacious in preventing disease and arrival of premature old age, and serves to heighten the medicinal properties of anything with which it is compounded. It nourishes all the vital parts of the body and always increases the strength of the eyes. It cures all sorts of diseases and especially leprosy†.

Parada when itself killed (i.e., reduced to bhasma or ash), becomes a killer of diseases and death; it kills diseases, when itself in a state of swoon (i.e.,

* Diseases are due to an abnormal excess of one or more of the three doshas, viz., भात्र (vayu or air), पित्त (pittam, i.e., the internal heat of the body), and म kap: (kafa or phlegm.)

† All these refer to the properties of mercury, as purified according to the processes given here-in-after.
transformed by combination with purified sulphur etc.)
It gives a human being the power of flying in the
space (like a bird,) if itself tied down (i.e., solidified by
conjunction with some special substances). Who else
is so kind as mercury? Is there any one who does
not serve that mercury which, when entangled or
solidified, causes wonder in others; which resuscitates
the dead, when dead itself, and which causes the
dawn of consciousness in others, when itself in a
state of swoon or unconsciousness? By the worship
of mercury are to be obtained longevity, riches,
health, power of digestion, power of retention, great
strength, beauty, youth, and graceful appearance.
Mercury is to be killed (reduced to ash), after being
exhausted, to be brought to a state of unconsciousness
by being mixed with sulphur, and is to be tied down
or solidified by being heated and combined with
the essences of particular metals—the these are the
three different courses of mercury.

Mercury is compared to Brahma, when it is in a
state of purification; to Bishnu, when it is in a state
of swoon; to Rudra, when it is dead; and to
Maheswara, when it is in a state of solidification.*
Mercury gives vast wealth, firm physique pleasing to
one's own people, and stable mind—things which are
generally given in this world by one's mother. No
one else is a better destroyer of diseases which affect
our bodies. It is therefore necessary, first of all, to

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* Mahes'wara (or S'iva) the universal Being, manifests Himself
in three different aspects personified; viz., Brahma (the creator),
Vishnu (the preserver), and Rudra (the destroyer of the universe).
strengthen our bodies in right earnest with mercury every day.

भङ्गलां स्वर्षीयं दानं ध्यानं परिपूजनम् ।
पञ्चथा रसपूषोक्ता महापारम्पराशीनी।
ञः चक्षुकं तु रमा ॥ यो रसेन परिजायते ।
शरणं तु तस्य भवेदित्वावृवीच्छवः॥
यथं निन्द्विति सूतेन्द्रं शाम्भोतेजः परात्यरम् ॥
स पतेश्वरके घोरे यावत् कल्पविकल्पना॥
रोगिभयो यो रसं दत्ते शुद्धियापक्रसन्नितम् ।
तुलादामनाध्येयानां फलं प्रामोदि शाश्वतम् ॥
उदरे संस्थिते सूते यस्योक्ष्माति जीवितम् ॥
स मुकों दुष्कटातु घोरातु प्रयति परसं पदम् ॥
मुकों परतरं न हि सा हि ज्ञानेन लभ्यते॥
झाँवेव ज्ञानयोगो हि जगाद परसं शिवः॥
प्राणायां वा निरोधश्च वासनानोदनश्च वा।
झ्योक्तत्वतः वषों सुस्थिरायुक्तिराहते॥
रसाधव पवनश्वेत देह्यों जानियादं भुवम् ।
मृग्गालीं हरते व्याधिं जीवयति रसो मृत्॥
वषं खेलरतां दत्ते रसों वायुश्च नान्यथा।
इह धनशरीरं भोगानह मत्वादिनित्यानु सदैव यतनीयम् ॥
Eating, touching, giving, meditating upon, and adoring of mercury are the five different ways of worshipping it—all of which tend to destroy great vices. The man who succeeds in subsuming in mercury even the minutest particle of mica, acquires the merits arising from performing one hundred sacrifices. This is what Siva himself said. The man who vilifies mercury, which is the strength of Siva himself, and is the greatest of all great things, rests in hell eternally. The man who gives to patients mercury, duly purified and duly prepared over the fire, attains for ever the merits derived from the performance of Tuladana (a ceremony in which the performer gives away to the poor his own weight in gold) and Aswamedha (a ceremony in which a horse is worshipped and sacrificed). The man who dies with mercury still in his stomach is freed from great sins, and attains emancipation.
There is nothing greater in this world than emancipation of the soul, which is obtainable by means of wisdom. The great Siva said that there are two ways of attaining wisdom, _viz._, stopping of respiration (as practised by the Jogis), and extinction of the passions. Neither of these can be attained without a strong and healthy physique. Now, mercury and air are the two things which can sustain the body. Mercury, in a state of swoon removes diseases, and, when dead, sustains the body in a healthy condition. Both air and mercury, if bound and rendered incapable of movement, render the body light enough to move in the atmosphere*. It cannot be otherwise. Enjoyment in this world of wealth and physical comforts is to be considered transient; emancipation of soul is therefore always to be aimed at. But emancipation depends upon knowledge which is the result of concentration of mind, this last depending upon a firm physique. Firmness of the body cannot be properly attained by any elixir made of vegetables and metals (except mercury). Being itself of an unstable nature, combustible, and liable to decomposition and shrinkage, a vegetable drug is subsumed in lead; Lead is similarly subsumed in tin, and so also tin in copper, copper in silver, silver in gold, and gold in mercury. As the souls of Jogis are translated into the being of Siva and thereby attain immortality, so are the metals

* The ability of expert Jogis to walk upon the surface of water and to ascend the atmosphere is traditional in this country. Such miracles are reported to have been worked even in our own time.
subsumed in the mercury which has already swallowed some mica. As the extinction of every being always takes place in the universal Soul, so the extinction of every material substance takes place in mercury. Mercury alone is therefore competent to free the body from infirmity and disease.

**Different kinds of Mercury.**

Owing to the difference in nature of the soil of deposit, mercury is of five different kinds, *viz.*, Rasa,
Rasendra, Suta, Parada, and Mishraka. Of these Rasa is red, free from all harm, and is the destroyer of senility and diseases. By taking it the inhabitants of Swarga became free from infirmity and early death. Rasendra is free from defects; is black, coarse, and very subtle. By the use of this mercury, the Naga people (perhaps the inhabitants of the Himalayas of old), came to be free from old age and diseases. Mines of these two kinds of mercury were therefore filled in by the gods with mud and stone. Thenceforward, these two kinds of mercury have been very rare in the earth. Sutaka is a little yellow, coarse, full of some evil properties, but, if subjected to the eighteen different methods of purification, it makes the body as hard as steel. Another kind of mercury, named Parada, is full of many evil properties, is subtle and white, but, by various processes, may be rendered a panacea. The fifth kind of mercury, named Mishraka, has the complexion of a peacock's feather, and becomes very efficacious, if subjected to the eighteen different methods of purification.

Owing to the difference in nature of the soil of deposit, mercury may assume four different colours viz., white, red, yellow, and black. Preference is to be
given to the white in the matter of curing of diseases; to the red in the matter of removal of senility and prevention of diseases; to the yellow, in the matter of transformation and incineration of metals; and to the black, in the matter of attainment of power to move in the air.

अवः रस्सादीनां व्युत्पत्तिः ।
रसनातू सर्वधातुनां रस इत्यभिमध्ये वते ।
जरास्तृप्तयणाशय रस्तेन वा रसो मतं ॥
सकलौष्धराजतवाद रसेन्द्र इति कीर्तित ।
देहलोहमयीं सिन्धि सूते सुतस्ततं स्मृतं ॥
रोगपञ्चाधिमशानां पारदानाध पारद ।
जीव्यति जीवान्त सर्वां तेन जीवः प्रकीर्तित ॥
सर्वधातुगतं तेजो मिश्रितं यथ तिष्ठति ।
तस्मातृ स मिथ्रकः प्रोक्तो नानारूपफलश्रद्ध ॥

Etymological significance of the different names of Mercury.

The name, Rasa (from root ‘ras’=to eat), is due to the fact that mercury can swallow every metal, or that mercury is eaten by men with a view to being cured of all diseases. The name Rasendra (from Rasa+Indra; a king) is due to the fact that mercury is the king of all medicines. The name, Suta (from ‘su’=to give rise to), is due to the fact that mercury is competent to make the body as strong as steel. The name, ‘Parada’ (from para=end+da=to give)
is due to the fact that mercury causes an end of the suffering of those men who are immersed in the muddy sea of diseases. The name, Jiva (from root, jiv=to live), is due to the fact that mercury helps human beings to live: The name, Mishraka (from mishra=mixed), is due to the fact that the properties of all the metals are found combined in Mercury.
CHAPTER IV.

Natural blemishes of Mercury.

The following are the natural defects of mercury:—(1) evil properties of lead, (2) evil properties of tin, (3) impurities due to the existence of foreign matters, (4) evil properties of fire (5) subtilness, (6) evil properties of poison, (7) evil properties of stone, and (8) inability to stand the heat of fire.

These blemishes give rise to the following ailments in one who takes impure mercury:—(1) carbuncles, (2) leprosy, (3) swoon, (4) inflammation, (5) loss of vigour, (6) death, (7) inertness, and (8) eruptions, respectively.

चतुर्थों चित्तायः।
अथ पारदप्रसंस्करः।
पारदुस्स्य नैसर्गिकः दोषः।
नागो बझो मलो वहिश्राक्षलयम् विषं गिरि:।
असह्याश्रिष्टिहादोषा नैसर्गिकः पारदे स्थितः॥
ब्रजं कुछं तथा मूच्छ्रा दाहं वीर्यप्रय नाशनम्॥
मरणं जड़तां स्फोटं क्षत्वान्येते कमानु नूणाम्॥

भूमिजज्ञा गिरिजा बार्जा दोषा योगपथिका स्मृतः॥
ते सत्ववे सस्सतसंस्करः कीर्तितः सतकृतः॥

37
Blemishes of Mercury due to its environment.

Mercury acquires three kinds of blemishes by coming in contact with soil, rock, and water. They are therefore due to its environment. They are seven in number, and are called the seven coverings of mercury, viz., (1) parpati (causing roughness of the skin), (2) patali (causing ruptures in the flesh), (3) bhedi (causing holes in the body), (4) draivi (causing decomposition of the body), (5) malakari (causing an increase in the three doshas, viz. air, heat, and phlegm), (6) andhakari (causing blindness), and (7) dhwankhshi (causing darkness of the skin).

To sum up, the blemish due to contact with soil gives rise to inertness, and that due to contact with water gives rise to a derangement of air in the system, heightened by all the consequences of the first two natural blemishes, viz., those characteristic of lead and tin.

The expert physician should therefore arrange for the purification of mercury, which, when purified, becomes nectar itself. Whereas in its impure condition, it is no better than poison.
Appearance of purified Mercury.

The mercury which is deep blue inside, and is as bright as the mid-day sun outside, is to be considered commendable, (on account of its having been duly purified), whereas that which is smoky, yellowish, and multi-coloured is not to be made use of in the preparation of medicines (unless, of course, it is properly purified).

* Uttarapraśyasatam naśamantām.*
Eighteen different kinds of Mercurial operations.

Shodhanam (purification), (2) swedanam (boiling), (3) mardanam (rubbing), (4) uddhriti, or utthapanam (raising or installation), (5) patanam (sublimation), (6) rodhanam (confinement), (7) niyamaṇān (restraint), (8) dipanam (stimulation), (9) anubāsanan (rehabilitation), (10) grasanam (swallowing of metals), (11) murchhanam (swoon), (12) sancharanam (movement), (13) garbhadruti (internal liquefaction), (14) yaranam (exhaustion), (15) maranam (killing), (16) bhasmi-karanam (reduction to ashes or incineration), (17) ranjanam or dyeing, and (18) bedhanam (transforming base metals into gold).

The eight operations commencing with boiling should be resorted to as soon as the process of purification is finished. The use of mercury, though purified, is not commendable, unless it is subjected to these eight kinds of operations.

There is an exception to this rule in favour of mercury, extracted in the prescribed manner from hingula (cinnabar). This mercury is applicable for all medicinal purposes, without being subjected to those eight kinds of operations.
(1) *Purification of Mercury.*

At a time when the moon is in combination with an auspicious star, purification is to be commenced with mercury, weighing 100, 50, 25, or 1 palam. A lesser quantity than one palam is not suitable for proper purification. Every mercurial operation (including purification) and worship of mercury are to be performed with the Aghora mantram.

*Vastuḥ Mahānah Sahāgaranavidhi:*

Sanskāre rasaraajasvamahānah nasya yada vidhi: 1
Pratyek pralabhānta nārāyana vismāya 2
Vīśeṣābhāvānaṁ bhaṅgaṁ pratyekasya vinīśākāḥ: 1
Rasasya pādārayaṁ śreṣṭha maṇḍayetu prthuk prthuk 2

*General rule for the rubbing of Mercury.*

In the matter of mercurial operations, wherever there is a mention of a thing being rubbed with mercury, in the absence of special instructions, the latter is to be rubbed seven times a day, with each of the articles finely powdered, the quantity of the prescribed article, taken afresh each time, being one sixteenth in weight of the mercury.

*One palam is equal to 4 rupees in weight. For measures of metallurgical weight, see page 310.*
The first process of purification of Mercury. *

Mercury renounces its lead blemish by being rubbed in a hot mortar for the whole day with ram’s fur, powdered turmeric, powdered brick, soot, and lime juice. It renounces its tin blemish by being rubbed with powdered root of bisala and of ankotha†. Blemish due to impure foreign matters is removed,

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* Any one of these eleven processes is sufficient for the purpose.
† For provincial and Latin names for all the plants etc., referred to in this book, see foot note in Appendix.
if mercury is rubbed with the gum-like kernel of the fruit of aragbadha. Evil properties of fire are removed from mercury by its being rubbed with the powdered root of chitraka. Rubbing with powdered black dhustura plant removes the subtleness of mercury. Its poisonous properties are removed by its being rubbed with the powdered Triphala. The stone blemish of mercury is removed by its being rubbed with the powdered Trikatu; whereas it is purged of its blemish due to inability to stand the heat of fire, by being rubbed with the Trikantaka.

For the removal of each of the blemishes, mercury is first of all to be sifted through a fine piece of cloth, and then rubbed with one sixteenth its weight of the powder of each of the things prescribed, including the juice of kanya. After the rubbing is over, the mercury is to be taken out of the hot mortar, and washed each time in an earthen pot, containing hot aranala.

Second process of purification.

Mercury is to be rubbed for one day with the decoction of each of the following:—white sandal, deodar, kakayangha, jayanti, karkati, mushali, and kanya. It is then to be subjected to a process of sublimation. Thus purified, it is to be applied for necessary purposes.
Third process of purification.

Mercury is to be rubbed (for one day) with the juice of kanya and powdered turmeric, and then subjected to a process of sublimation. It will thus be fairly purified.

Mercury, with one twelfth its weight of sulphur, is to be rubbed with lime juice for three hours, and then to be subjected to a process of sublimation. All these are to be properly performed for seven times.
Fifth process of purification.

Mercury is purified by being rubbed with the juice of each of the following, in accordance with the order in which they are mentioned*. Jayanti leaves, castor leaves, ginger, and bayasi leaves. The rubbing is to be continued until each of the juice is dried up. This process is to be performed for seven times (i.e., mercury is to be rubbed for 28 times altogether).* The mercury is then to be washed with hot aranala in an earthen pot. It is thus purified, and freed from all its blemishes and the seven covers, and becomes fit for use for all purposes.

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* In case fresh juice of herbs is not available, a decoction is to be prepared as follows:

The prescribed herb, fresh and well-dried, is to be cut into pieces and boiled in an earthen vessel, covered with an earthen basin, with sixteen times its weight of water, which is to be reduced to one fourth its quantity. In the absence of specific instructions, this procedure is to be followed everywhere.
Sixth process of purification.

Mercury is freed from its seven coverings, if rubbed separately with each of the following:

- Turmeric, brick, soot, a sour vegetable juice, ram’s wool, the Triphala, aranala, chitraka, kanya, and the Trikatu.

—मतान्तरम्—

अथ सतम: शोघनविधिः ।

दिनेकं मद्येत् सूतं कुमारीसम्भवेत्रेवें: ।
तथा चित्रकेः: काथैमेंहं येदेकवासरम् ।
काकमाचिरसे: साषं दिनमेकत्तु मद्येत्: ॥

Seventh process of purification.

Mercury is purified by being rubbed for one day with each of the following:—juice of kanya, and decoction of chitraka; and then to be rubbed for one day and half with the juice of kakamachi.

—मतान्तरम्—

अथ अहम: शोघनविधिः ।

रसोन्यः सूतो नागव्वल्लोलितः ।
श्रिफलायास्तथा काथे रसो मद्यः प्रयत्नः: ॥
तत्स्तै: पुष्पक कुत्ता सूतं प्रचाल्य कापिकः: ।
सन्तवेदोपविनिम्मेकः योजयेद्यु रसकर्मसु ॥

Eighth process of purifying Mercury.

Mercury is carefully to be rubbed separately with each of the following:—juice of garlic, that of betel, and decoction of the Triphala, and washed each time with kanji. Thus, it becomes free from all the blemishes and is fit for use in metallurgical operations.
Ninth process of purification of Mercury.

Mercury is freed from all the blemishes, if rubbed for three days, with the decoction of kumari (kanya), chitraka, red mustard, and brihati.

The tenth process of purification.

Mercury is freed from foreign matters by being rubbed with kanya, from fire blemishes by being rubbed with the Triphala, from poison by being rubbed with the roots of chitraka. So, mercury, rubbed very carefully with each of these drugs for seven times, becomes free from blemishes.
रसज्ञानिहि:।

- मतान्तरम्-

अथ एकादश: रोगनिविष्ट:।

(हिंदुचाल रसाक्षरणप्रणाली)

(क)

अथवा हिंदुचाल सूतः महवेदः प्रयतः सुधि:।
बहुविशा किया चात्र वविंता रसायनकः॥
जम्बोरनिम्बुनीरेश महि तं हिंदुचालो दिनम्।
उद्भ्य पातनयन्त्रेश याहः स्यान् निम्मलो रसः।
कन्तुकृत्त्वात्माविज्ञाविनिमुत्को रसकर्मणिः॥
विना कर्मामप्रकेशन सुतोत्य सर्वकर्ममऽकृत्॥

(श) मतान्तरम्।

दरदं तथुदलं स्थूलं कः भृतापत्रकः त्रिदिनम्।
भाव्यं जम्बोरसत्तेशाक्षेयो वा रशीवहुः॥
ततष्ठ जम्बोरवारिश्च चाङ्गेर्यारसेन परिप्रस्वतम्।
कः भृता स्थूलाधिमवि निधाय तदुपरि कठिनीचुमुक्यम्॥
चाव्यश्रावे तः त्रिज्ञग्रवारं जलं देयम्।
उप्यो हेयं तथेव तौद्भ पातनेन निम्मल: शिवजः॥

(फ) मतान्तरम्।

पारिवर्तसे: पेष्य हिंदुचाल याममानकक्षः।
जम्बोरायां रसन्वर्त प्रवेद्य पातनयन्त्रकः॥
तं सूतं गोयज्येव योगे सतकन्तुकवर्जितम्।
संशुक्विन्तरेषांपि शुद्धोत्यं रसकर्मणिः॥
The eleventh process of purification.

Mercury may also be extracted from Hingula (cinnabar) in one of the following ways:—

(a) Hingula is to be rubbed for one day with lime juice or lemon juice, and then subjected to the process of Urddapatanam (upward sublimation by means of Vidyadhara Jantram). Mercury, thus obtained, is pure and free from all the blemishes and coverings. It may be used in everything without being subjected to the eight indispensable operations of mercury.

Or

(b) Hingula is to be broken into small pieces of the size of rice, kept in an earthen pot, saturated several times with the juice of lime or of changeri for three days, and dried everytime by being exposed to the sun in day time and to open air at night. Then, it is again to be saturated with the juice of lime fruit or of changeri, and kept in an earthen vessel, which is to be covered with an earthen basin, the convex side of which is to be rubbed with powdered chalk, (the joint being cemented with mud). Water is to be put into the basin, and heat applied underneath. The water is to be replaced as soon as it gets heated; and this is to be done at least for 30 times, before mercury begins to be deposited on the convex side of the water basin.† The mercury so obtained is pure.

* See chapter on Jantram or apparata.
† The apparatus described here is called a Vidyadhara Jantram.
Or

(c) Hingula is to be rubbed with the juice of leaves of paribhadra (meaning two different trees, *viz.* margo and Erithrina Indica), or with lime juice for 3 hours, and then subjected to a process of sublimation. Mercury so obtained is free from the coverings, and may be used in all things, without being subjected to further processes of improvement.

(N.B. All these processes refer to what is called a process of Urdhapatananam or upward sublimation. The processes, as given in the books, are sometimes found to be tedious, especially in view of the replacement of hot water by cool water, as long as the whole of the mercury does not come up and become attached to the convex side of the basin. The author is aware of a kindred process of sublimation learnt from an ascetic chemist. This process, which is much simpler, is described below).

**Sanskrit Translation:**

संघेपदूष्णः पातनमन्यविधं निगच्छते ।
खण्ड्यायासे न संसाध्यमेतदेव जलं विना ॥
चतुर्भिंदुतिमिव तथाभोजवलन्तु रञ्चयेत ॥
सुत्तपात्रः श्रुङ्गाकारः शरावं तद्भो न्यसेत ॥
शरावं धारयेत्तस्मिन् हिम्करां वर्षमयिदं ।
पूर्वार्द्धं विशोधितं श्रुङ्गीकृतं प्रयत्नं ॥
तदुपरिन्यसेत प्राजः शिलित्रासिंहं श्रुङ्गुप्रस्मम् ।
उत्तापाक्षः चोर्दः रसो वायुविचालितः ॥

*शिलित्रं: पाचकोपिण्डः—टिप्पणी इति माथा ।*
Place an earthen vessel (about two feet in height) upside down on four props made of pieces of stone or brick (with sufficient space kept open for the entrance of air into the vessel). Within the space enclosed by the three props, place an earthen basin (in such a way as not to obstruct the entrance of air into the vessel). Spread the dried and powdered Hingula over a piece of cloth and wrap it in several folds. The cloth, thus folded and made into a bundle, is then to be put into the earthen basin. The bundle is now to be covered with mild tikia fire. When the fire will be extinguished and the apparatus cooled, mercury will be found to be deposited inside the vessel.

(2) स्वेदनम् या रसनः (एतदस्त्य द्वितीयः संस्कारः)।

प्रथमो सिधः।

रसं चतुर्गुणो वर्षे बच्ये। दोषाभ्यं पचेतु।।
दिनं न्योषवरावहिकाक्षाक्षेपः काश्चिके।
दोषशोषापनुत्तर्यतिः मिदं स्वेदनमुच्यते॥

(2) Swedanam or boiling of mercury (i.e., second mercurial operation).

First process*

Mercury being bound in a piece of cloth four-folded (i.e., having four folds) is to be boiled for a day in kanji, mixed with pasted trikatu, triphala, chitraka roots, and kanya. This act of boiling is necessary for the removal of remnants of blemishes.

*Any of the four processes may be observed.
Second process.

Mercury is to be boiled in kanji for three days with trikatu, rock salt, rajika, chitraka roots, and ginger.

Third process.

Saindhava, trikatu, all the ksharas (alkalis), and mercury are to be rubbed together with goat’s urine, and boiled in an earthen or iron vessel for three days. Mercury is then to be washed and rubbed with all the materials required for boiling, viz. saindhava (rock salt), trikatu, ksharas, and goats’ urine. Rajika and leaves of sigru are to be rubbed and made into a ball, inside which is to be placed the
mercury, the whole thing being bound in a piece of cloth, and boiled again for 3 days with all sorts of alcalis, sour vegetable juices, and urines.

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Fourth process.

The trikatu, saindhava, rajika, mulaka, the triphala, ardraka, mahabala, nagabala, meghanada, punarnava, meshasringi, chitraka, and nabasara—each of these, one-sixteenth in weight of the mercury, is to be rubbed with kanji and made into a paste. A piece of cloth is to be coated, one anguli deep, with this paste. Mercury is to be put into this cloth, which is to be made into a bundle, and boiled for three days in a Dola Jantram.
(3) रथ रस्त्य महर्नम् (एवद्यूतीय: संस्कार:)।
प्रथमो विचि:।
यह्यूमेघकाजाजीद्विषयोऽणुहसंयेव:।
सकालिकः: पोड़शांशेंथा नं त्रिदिनं शुभम्॥
(3) Rubbing of mercury (i.e., the third mercurial operation).
First process.

Mercury is to be rubbed for three days separately with one-sixteenth its weight of soot, brick, white jeera, burnt fur of ram, molasses, saindhava, (rock salt), each being mixed with a sufficient quantity of kanji.

—महान्यस्म—
व्रतायो विचि:।
यह्यूमेघकाजाहूष तथा दश्रुहङ्गवितम्:।
लभ्यासुहिसंयुक्तं चित्वा सूतं विमाहं येत्।
पोड़शांशं तु तद्व्य सूतमानाश्रीयोजयेत्।
सूतं चिसू। समं तेत सि दिनानि ब्रीशि महं येत्॥
जीर्णाद्रकं तथा वीरं प्रतं जीर्णाद्रकं तथेव प्रतं॥
नैम्मेंल्याः हि सूतवत्स लतेप्रवत्तः महं येत्॥
यह्याति निन्म्सं रागानू प्रासे प्रासे विमि:॥
महं नाल्यं हि यत्तकम्मस्तत् सुरुहङ्गक्रृद्ध मंत्वेत्॥

* यहुं लण्डह रुपं धीर्मस्तितिधीयते।
Second process.

Mercury is to be rubbed for 3 days with each of the following:—Soot, brick powder, curd, molasses, saindhava (rock salt), and rajika (rye). The quantity of each of the things is to be one-sixteenth the weight of the mercury. When this is done, for the purpose of removal of dirt, the mercury is again to be rubbed with each of the following; abhra bhasma (mica reduced to ash), bijam (purified gold or silver), and exhausted mercury.

In course of being rubbed in this way, mercury assumes a clearer appearance at every rubbing.

N. B.—After each rubbing, mercury is to be washed, as previously stated, in an earthen vessel containing hot kanji.

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In the absence of a better term we make it to mean जीवंतव:। Modern Chemistry has got nothing corresponding to जीवंतव; (exhausted mercury), बधवंतव: (dead mercury) and संकल्पवंतव: (mercury reduced to ash). Calomel and some other mercurial preparations may perhaps be considered to belong to the class of मूर्तिपरमेश्वरतंतव: ( swooned mercury).
Third process.

Mercury, in combination with a sufficient quantity of sour vegetable juice, is to be rubbed for three days with one sixteenth its weight of each of the following:—powdered brick, rock salt, molasses, rye, and soot.

Fourth process.

Mercury is to be rubbed constantly for one day or three days with the powder of each of the following, mixed with lime juice: red brick, haridra, dhumasara (soot), and urna (wool) reduced to ashes. The mercury is then to be subjected to upward sublimation for several times, or to be sifted by means of a thick piece of cloth; or to be washed off in kanji.

(8) पारदस्य उद्धृति: (सूतस्येषा चतुर्थ: संस्कृतः)।

प्रयोगविधिः।

महः येत् कान्यकावश्चूर्चितिरानिपादिकः।
पातयेत् पातनायन्त्रे इतःमुञ्चापनः मतम्॥

* उद्धारयुपाध्यायनसिद्धि नामानि बह्यः।
(4) **Uttapananam or raising of mercury** (i.e., the fourth mercurial operation).

Mercury is to be rubbed with one-fourth its weight of powdered turmeric, and a sufficient quantity of the juice of kanya, and then sublimated in a Patana Jantram (an apparatus for the sublimation of mercury). This is what is called the utthapananam or raising of mercury.

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**Second process.**

Mercury is to be rubbed in the sun with lime juice, dried, and taken out. The remains of this mercury, incapable of being collected, if any, should be sublimated by means of a Damarujantram or Vidyadhara Jantram.

(५) **पारदस्य पातनम् (एतद्ध विषम्: संस्कारः)।**

(पतत् त्रिभिं ध्रवा—ऊर्ध्वपातनम्, ततोद्ध्वपातनम्, तत: तिर्य्क् पातनम्। प्रत्येकः क्रमशः समाचरितत्वं यथाविचित्र।)

(७) **ऊर्ध्वपातनम्।**

प्रथमो विचित्रः।

**भाग्नायं रसस्यार्कभागमेकं विमह्येत।**

**जस्वीर्द्वयोगेन याचदायति पिरेड्ताम्।**
(5) Patanam or sublimation of mercury (i.e., the fifth mercurial operation).

(a) Urdhva patanam or upward sublimation.

First process.

Three parts of mercury and one part of copper are to be rubbed with lime juice till the whole thing turns into a lump. This lump is to be kept inside an earthen vessel on which is to be placed another earthen vessel containing water, forming what is called a Vidyadhara Jantram*, by means of which the mercury is to be sublimated,

Second process.

Mercury is to be rubbed with copper, made into a lump, and then subjected to a process of upward sublimation for three times, and to a process of downward sublimation for seven times. Mercury, thus purified, becomes fit for use.
Third process.

Mercury is to be rubbed with the following, made into a lump, and then subjected to a process of sublimation, both upward and downward:

Haridra, ankolla, sampaka, kumari, trifala, chitraka, tanduliyaka, punarnava, hingu, saindhaba, and makshika (pyrites or honey),

Or
Sanidhava and nakuli, etc,

Or
Branaghni and jakshalochanam.

Mercury, thus sublimated upward and downward, becomes fit for medicine, when combined with other things.
Fourth process.

Mercury is to be so rubbed with tutthaka and swarnamakshika as to loose its separate existence. It is then to be sublimated by means of a Vidyadhara Jantram.

(b) अध्यात्मिनम् ।
प्रथमो विधि: ।

त्रिफलाशिमु शिविमिरल्लवणासुरसंयुते ।
नर्मिष्णं रसं कुल्ला लेपयेदूढ्छ भाजनम् ॥
ततो दृष्टिरः पात्मुपलस्तत्य कार्यतेत् ॥
चन्द्रे भूधरसंज्ञे तु नत: सूतो विशुध्यति ॥

(b) Downward sublimation.
First process.

Mercury is to be rubbed with triphala, sigru, chitra-ka, saindhava, and rajika, and made into a lump which will have to be attached to the internal surface of the upper vessel of a Bhudhara Jantram, * placed upside down upon another vessel containing water, a glowing fire made of dried cowdung balls being placed upon the external surface of the upper vessel. The downward sublimation of mercury will have to be effected in this way.

—प्रतान्तरः—
प्रतितियो विधि: ।

नवनीताह्यायःसूतं गृह्य जम्भाभस्तादिनम् ।
वानरी शिम्म शिखिभि: सैन्यासुरसंयुते: ॥

* For details see chapter on apparata.
** नवनीताह्यायःकमिति रक्षेन्द्रचित्तामणिवृत्त पाठः ।
Nabanitam (sulphur or butter) and mercury are to be taken in equal quantities and rubbed together for one day with lime juice, banari, sigru, chitraka, saindhava, and rajika, and made into a lump, with which is to be painted the inner part of an earthen vessel. This vessel is to be put upside down on another vessel containing water, the joint being tightly closed with mud etc. The apparatus is to be put inside a hole cut in the ground, fire being placed upon the surface of the upper vessel. Mercury falls into the water. This is what is called the Adhahpatanam or downward sublimation of mercury.
वन्नं तत्र थूरा लिप्त्वा जलं स्थायुपरि बिपेत।
स्थायीकटाहयोः सनिं लेपयेत् लड़्टर थूरा॥
कटाहोपरि कर्त्तव्यं वन्योपलाभिद्विन्दणम्।
जलमध्ये रसो याति शुल्कं तिष्ठति चोपरि॥
तत्रभोजेः पाततम्॥
शुल्काद् रसां रसात् तास्रं पातयेच्छ पृथकक् पृथक्।
पुनः पिऩ्धि प्रकर्त्तव्या दत्ताम्लं तास्रसंयुतम्।
उद्दृपातनमेतयं यन्त्रे हमरके भवेत॥

A reverse process of sublimation.
First, downward sublimation.

Two parts of mercury and one part of powdered copper (purified) are to be rubbed with a sour vegetable juice mixed with powdered bisham (aconite purified), and made into a lump, which is to be washed very carefully. The inner part of a new earthen pan or bowl is to be painted with the mercury. This pan or bowl is to be put upside down upon a vessel containing water, the joint being cemented with mud and rag. A fire made of dried cowdung balls is to be placed upon the pan or bowl. Mercury will fall into the water, leaving copper attached to the pan or bowl.

Then, upward sublimation.

Now, mercury and copper are to be carefully separated from each other, and again rubbed together, with lime juice and made into a lump which will be

* विपाधरणकम् प्रक्ष्यस्ततम्।
subjected to a process of upward sublimation by means of a Damaru Jantram.

(c) Inclined sublimation.

Mica, purified and finely powdered, is to be rubbed with mercury and kanji in a mortar, and made into a lump which is to be placed in a Tirjak Patana Jantram. Heat is to be increased gradually till the whole of the mercury is sublimated through the inclined passage.

(६) भृत्य पारदस्य रोधनम् (निरोध:;) (पतदस्य
बढ़ा: संस्कार:)।

प्रथमो विधि:।

पाते: कदर्धित: सुत: पारदस्यविग्धिवनिधि:।
तन्मुक्तक्षेत्रस्य क्रियते रोधनम् कथ्यते हि तत्॥
विश्वामित्रकपाले वा काष्ठकूपयामाणि वा।
सुधास्नुजः॥ विनिमित्य तत्र तन्मजनाविधि॥

* Vidyadhara Jantram is more convenient.

* कबिन्द्र व्रतवादावेदिक धोनमू कथणे।

*** भृत्यपारदस्यविग्धिल पाठान्तम्। सुधास्नुज विनिमित्य इत्ययः
लोगों "सुते जले विनिमित्य" इत्येव पाठो ग्रह्वऽ रोधनस्तारस्य।
(6) Rodhanam or confinement of mercury. (i.e., the sixth mercurial operation.)

Mercury is to be subjected to a process of confinement for removal of the impotency which it has acquired by being sublimated. The process is as follows:—Put the mercury into a glass bottle or a shell of a cocoanut. Put over it as much decoction of bala and riddhi (or, a solution of rock salt, according to another version), as is necessary for the immersion of the mercury. The bottle or the cocoanut shell, as the case may be, is then to be kept buried for 3 days in a hole one yard deep, dug out in the ground. By this way mercury is freed from impotency.

—प्रतास्तरम्—
बिद्रीय विचिरः।
सुष्ठाम्बुजैनिरोधेन तदा सुखकरो रसः।
स्वेदनादिवशात्सूतूतो वीर्यं प्रामोदयनुत्तमम्॥

(b) Second process.

Mercury, if confined with the decoction of riddhi and bala (according to another version, if confined
with a solution of rock salt becomes a giver of happiness. It gains in potency by further heating, etc.

(c) Third process.

Mercury acquires impotency by being subjected to processes of sublimation. For the purpose of increasing its potency, it is therefore, to be boiled by being confined within bhurja leaves, containing rock salt.

(d) Fourth process.

Mercury is to be rubbed with a sour vegetable juice and put into a bottle, the mouth of which is to be hermetically sealed. The bottle is then to be put inside a Damaru Jantram, in which it is to be boiled for seven days. When completely cooled, it is again to be boiled in the same way.
(e) Fifth process.

Mercury is said to undergo ‘rodhanam’ or confinement, if it is kept for 3 days in a vessel containing water and saindhava salt.

_N. B._ In addition to the foregoing processes, a few others are sometimes resorted to, viz., (1) heating of mercury with a solution of rock salt; (2) Mercury is to be put into a bottle with the menstrual discharge of a young girl, the closed bottle being kept buried for 3 days in a hole cut in the ground; (3) Mercury is to be heated in a Damaru Jantram for 3 days with the menstrual discharge of a young girl.

(7) _Niyamnam_ or Restraint of mercury.

In order to do away with the subtleness of mercury due to its gaining in strength by confinement, it is to undergo heating in one of the prescribed manners. This operation is called, “niyamanam”, or “restraint” of mercury.
First process.
Restrainment of mercury consists in rubbing it for three days with the decoction of gandhanakuli, bark of tamarind, bitter karkoti, bhringaraja, lotus, and kanaka dhusutra. This causes the stability of mercury.

(b) Second process.
In order to remove the subtleness of mercury, it is necessary to restrain it by rubbing it with karkoti, gandhanakuli, punarnava, lotus, and bhringaraja, and then boiling it for three days with kanji.

(c) Third process.
Mercury, if rubbed for 3 days with kanji and the following, and then heated, is restrained, and is
capable of devouring metals:—maricha, earthworm, saindhaba, rajika, sigru, and tankana.

(d) Fourth process.

Three crucibles are to be made out of a thick lump of saindhava (each for use for one day). Mercury, with one sixteenth its weight of nabasara, is to be put inside the crucible, the mouth of which is to be hermetically closed with mud and rags. It is then to be boiled by means of a Bhudhara Jantram for three days (one day in each crucible).
Fifth process.

Mercury is to be put inside a hole made in a red saindhava lump. Chanaka kshara is then to be put inside the hole. Next is to be poured some lime juice into it. The hole is then to be tightly closed by means of another piece of red rock salt. The samputam, thus prepared, is to be put in a hole made in the earth, which is to be filled in with dust eight angulis in depth deposited upon the salt samputam. A fire made of cow dung, found dried in the pasturage, is to be kept ablaze for seven days. The mercury is then to be washed off with kanji. Narasaram may be made use of, if chanaka kshara is not available.

(8) Dipanam or stimulation of mercury, (i.e. the eighth mercurial operation.)

The process by which mercury is kept inside an earthen vessel and heated with some metals, stones, and vegetables for three days is called Dipanam or
stimulation of mercury. This process makes mercury fit for swallowing metals, etc.

(क) प्रथमो विधि: ्
कासीसं पञ्चलवणं राजिका मरिचानि च।
भूशिमू बीजमेकमप दक्षिणेन समन्वितम।।
शाळोब्य काजिके दोलायन्त्रे पाकाहिने ग्रिभि:।
द्रोपनं जायते सम्यक् सुतराजस्य नान्यथा।।
अथवा चित्रकद्रवेण: काजिके त्रिदिनं पचेत्त।।

(a) First process.

Kasisa, five different kinds of salts, rajika, maricha, sigru seeds, tangana, kanji, and mercury are to be rubbed together and put into a Dola Jantram, and heated for three days; or mercury may be mixed with the juice of chitraka, and boiled with kanji for three days.

—भतान्तरम्—

(क) द्वितीयो विधि: ्
त्रिवारसिंहवुकगभिलिशिंह राजी
तीच्चास्याम्बेतसमुख्लक्ष्योपगाम्ले।।
नेपाष्टास्मदशोधितमारण्याले
साम्भास्वाम्बुपुर्दितं रसद्रोपनं तत्।।

(b) Second process.

Mercury is to be rubbed together with the three ksharas (alkalis), saundhava, earthworm, chitraka root,
signru, rajika, sarsapa, amlabetasa, saindhava, maricha, and aranala and to be dried by being placed on Nepal copper plates. This is then to be boiled with kanji or with sour asava.

(6) अथ पारद्यानुवासनम् । ( पत्तदस्य नवमः संस्कारः ) ।

(7) पृथ्वी विचः ।
दोपितं रसराजज्ञु जम्भीरसन्तुष्टम् ।
दिनेकं धारयेत् घनमं सूतपाते वा शिबोऽहने ॥

(9) Anudasanam or Rehabilitation of mercury (i.e. the ninth mercurial operation).

(a) First process.

Stimulated mercury is re-habilitated by being mixed with lime juice, and exposed to the sun, for one day, in a pot made of earth or stone.

—सताश्च—

(8) ब्रह्मीयो विचि: ।
स्वेद्येदासावम्भेन बीय्यतेंजःप्रवृज्ञः ।
यथोपयोगसंस्तेयः मूलिकानां रसेषु च ॥
सर्पोच्छी चौरिकीच चन्या मत्त्वाच्छी श्राद्धपुर्णिका ।
काकजल्क शिब्यिशिया श्राद्धड़क्यालुकिका ॥
वर्षाभू: क्रंधु को दूर्वा सैयकोतपलेशिबिका: ।
शुतावरी वज्जलता वज्जकन्दाधिभिकिका ॥
(b) Second process.

For the purpose of intensifying the potency of mercury, it is to be boiled with sour asava or with the juice of some or all of the following:

Gandhanakuli, kshirini, bandhya, hilamochika, sankhapuspi, kakajangha, apamarga, bhargi, akhukarni, punarnava, kanchuki, durba, swetajhinti, utpala, simbi, satabari, asthibharga, agnikarni, sweta arka, sigru, dhattura, mrigadurba; (these serve to control mercury), rambha, rakatalu, nirgundi, lajjalu, devadali, mandukaparni, patali (nagaballi), chitraka, grismasundara, kaka machi, maharastri, haridra, tilaparni, jati, jayanti, shredevi, bhukadamba, kusumbha, koshataki, jalapippari, langali, katutumbi, chakramarda, guduchi, shurana, surjabarta, sarapunkha, barahikanda, and bastishundi—all these are what are called rasamulika. These are useful for the purpose of rubbing and
ooiling of mercury, as also for making crucibles for mercurial operations.

An easy process of absolute purification of mercury.

Mercury is stript of all sorts of impurities, if rubbed for three days with a decoction of kanya, chitraka, red sarshapa, and brihati, and for 3 days more with the triphala. Mercury is then to be rubbed for one day with kanya and powdered haridra. Mercury thus treated becomes impotent, and is therefore to be boiled with the decoction of sarpakshi, chinchika, bandhya, bhringaraja, and mustaka. Thus it becomes powerful. If it is then boiled with the decoction of chitraka, it becomes very powerful.
(Mercury, thus purified, does not require to undergo all those operations beginning with boiling and ending with rehabilitation).
Another easy process of absolute purification of mercury.

Mercury, kept inside a crucible made of rye and garlic, is to be boiled in kanji for three days by means of a Dola Jantram. It is to be rubbed for one day each with the following: juice of kanya, decoction of chitraka, juice of kakamachi, and decoction of triphala. The mercury is then to be washed off with kanji, and rubbed for one day incessantly with half its quantity of saindhava, and a sufficient quantity of lime juice. It is then to be rubbed with kanji, rye, garlic, lakucha, and narasara; made into a cake; coated all over with hingu, and then dried. The cake is to be put into a sampurum consisting of one earthen vessel and one earthen basin placed upon it, the vessel being filled with salt. The joint is then to be closed very tightly. The apparatus is to be placed upon fire and water is to be put into the basin, as usual. Mercury sublimates and gets itself deposited inside the basin. This mercury is free from all defects and may be used for all purposes.

(१०) ब्रह्म रसस्य प्रासनम् (धातुभोजनम्)
(एतद्द्राथ दशः संस्कारः) ।
आराविन्दुः च हेमगन्धः
वास्तुनितिः सुवातुः फलसदयारः ।
चेत्रादनुष्ठादपि शस्यावर्ण
क्रीषीवलास्तै भिषजश्रम मन्दाः ॥
The grasanam (or swallowing of metals) of mercury (i.e. the tenth mercurial operation).

Those physicians who expect good results from mercury without letting it swallow mica, gold, and sulphur, are as bad as farmers who expect crops from a field which has not been sown.

The potency of pure mercury increases hundred times, if it is made to consume an equal quantity of pure sulphur. Mercury can cure all sorts of leprosy,
if it is made to consume double its quantity of sulphur; it cures all sorts of inertness, if it is made to consume three times its weight of sulphur; it cures premature falling of teeth and greyness of hair, if it consumes four times its weight of sulphur; it cures consumption, if it consumes five times its weight of sulphur; and it cures all sorts of diseases, if it is made to consume six times its weight of sulphur *

All this was said by Mahadeva himself to Indra, (the king of Svarga). If sulphur is to be consumed by mercury, it is first of all to be brought in contact with mercury. The potency of mercury increases according to the number and quantity of metals and semi-metals it consumes.

Mercury increases in potency by hundred times, if it consumes an equal quantity of mica (purified and reduced to ashes); it becomes more efficacious if it is made to consume the essences of makshika (pyrites), kharpura, and haritala; it acquires a thousand attributes if it is made to consume gold, and Siva alone knows the qualities of mercury which has consumed diamond and other similar gems (such as Vaidurya etc.)

*(क) रस्य प्रथमी प्राप्तविचि: ।
वज्रक्षटःकबंजात्थुः विद्यमयाखुः मृदा ।
विलिप्य गोविषिद्यायाः पुरितस्त्र शोभितः ॥

* For the best process of consuming of sulphur by mercury, see Jarana Jantram under apparata.
(c) *The first process of swallowing of metals, etc., by mercury.*

A hole, eight angulis in length, is to be cut in the strong and thorny branch of a bajra tree into which will be put mercury, well covered with mud, and heated for three days by means of fire made of dried cowdung. This mercury becomes capable of swallowing sulphur, gold, essence of diamond, etc., in a very short time.

(०) रसाल्य ब्रह्मीयो भास्नविविचः।

त्रिगुणामेव रसेन्द्रमेकमंशं कनकपीयोधरतार—

पञ्चांजानाः।

रसगुणाबलिमिश्रितः पिष्टिः रचय निर्न्तरम—

मुख्योः कुमार्याः।।

पञ्च गुणाबलिजीषयः अंस्तः पिष्ट्या: समुत्थितः।

प्रस्तृतः बल्हेमादि प्रासार्थी जायते सदा।।

(b) *Second process of swallowing of metals by mercury.*

Three parts of mercury, and one part each of gold, mica, and silver (all of these properly purified and reduced to ashes), with sulphur six times in weight of mercury, are to be rubbed together with the juice of kanya and made into a cake. The mercury which is
obtained from the cake, and which has consumed six times its weight of sulphur, becomes capable of swallowing diamond, gold, and other metals.

(c) Third process of swallowing of metals by mercury.

Mercury and sulphur are to be subjected to bhavana with kanji which has been for 3 days in a copper pot with tuttham, tanganam, and swarji kshara. Mercury may also be immersed with bida in kanji. Mercury thus qualified, is capable of swallowing diamond, mica, and other metals.
(a) Fourth process of swallowing of metals by mercury.

(1) Powdered conch shell, (2) soot, (3) subarchala salt, (4) kantakari, (5) sarji kshara, (6) tintidi bark, (7) kasisa, (8) silajatu, (9) jayapala seeds (strip of husks), (10) saindhava salt, (11) tangana, and (12) gunja seeds are to be subjected to bhavana for one day with (1) milk of arka plant, (2) lime juice, (3) goat's urine, (4) man's urine, (5) lime juice, (6) ditto, (7) ditto, (8) ditto, (9) juice of mulaka, (10) juice of sigru roots, (11) ditto, and (12) ditto, respectively.

All of them are then to be put together and rubbed for one day with lime juice and made into a lump. Mercury, rubbed with this mixed substance in a hot mortar, swallows a sufficient quantity of gold, mica, and other metals.
Another kind of *bida*:

Gandhaka (sulphur) is to be saturated for a hundred times with a solution made of mulaka, ardraka, and chitraka—all burnt into ashes, then, dissolved in cow’s urine, and dried each time by being exposed to the intense heat of the sun. Mercury, rubbed with this gandhaka, is competent to swallow gold, etc. The gandhaka, thus prepared, is called a *bida*.


(1) Powdered gunja seeds and saindhava salt, (2) tankana, (3) Chulika salt, (4) gandhaka, (5) swarji, (6) earthworm and (7) the trikatu are to be subjected to bhavana for a hundred times with (1) the juice of deodali leaves, (2) juice of kinsuka leaves, (3) lemon juice, (4) mulaka burnt into ashes and dissolved in cow’s urine, (5) juice of the root of shigru, (6) ditto, and (7) ditto. respectively.


Another kind of *bida*.


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Another kind of bida.

Gandhaka is to be subjected to bhavana in hot sun with cow’s urine for seven times; burnt conch shell is similarly to be subjected to bhavana for a hundred times with the juice of shigru roots—it being well-dried every time in hot sun. These two things combined with bisham (aconite) purified, and saindhava, each equal in quantity, form what is called a bida. Mercury, rubbed with these things combined, swallows every metal.

Another kind of bida.

Tankana is to be subjected to bhavana for a hundred times with the juice or decoction of kinsuka and well-dried every time in hot sun. This is what is called “fire-mouthed” bida, and is fit for swallowing every thing.
Another kind of *bida*.

Bastuka, eranda, kadali, devadali, punarnava, basaka, palasa, nichula (jalabetasa), tila, kanchana, and mokshaka—these are to be cut into pieces and kept upon a stone pot. With these will have to be mixed the burnt tila plant combined with five different factors of a mulaka plant, (*viz.*, its root, stem, flower, seeds, and leaves). All of these drugs will have to
be saturated with all the urines (*i.e.* urines of elephant, camel, ass, horse, and man—all of these male, and those of goat, ram, cow, buffalow—all of these female), and distilled. This distilled water will have to be kept in an iron pot, placed upon an earthen vessel filled with sand, mild fire being applied below the earthen vessel.

Kashisa, saurastrî, jabakshara, swarji kshara, tankanam, trikatu, white gandhaka, hingula, and six salts,—all of these are to be powdered and mixed with the heated water, at a time when a sufficient quantity of vapour and froths will arise. The mixture is then to be covered well by means of two iron pots, the joint being tightly closed. This is then to be kept for seven days, inside the earth, well covered with mud. The liquid, thus prepared, is an excellent bida. (The quantity of the three ksharas should be equal to the burnt tila plant).

Another kind of *bida*.

Kasisa, saindhava, makshika, saubira, the trikatu, gandhaka, sauvarchala, sarjika, and juice of malati flowers,—all of these are to be saturated with the juice of the root of sigru and dried. The bida, thus produced, is used in the exhaustion of every metal.
Another kind of bida.

Sulphur, haritala, saindhava, chulika, and tankanam are to be boiled with ksharas and urines. The product is called a Jwalamukha (meaning, fire-mouthed) bida.

Bidabati.

Equal quantities of makshika, chumbaka, and gandhaka, are to be rubbed together for three hours with earthworm and made into pills, six ratis in weight. These pills, called bidabatis, are used in the exhaustion of all sorts of metals. The quantity of the gold meant to be swallowed by mercury should be equal to the bidabati, which is to be rubbed well with the mercury and the gold.
(e) *Fifth process of swallowing of metals by mercury.*

Mercury is to be rubbed, for one day, in a hot mortar, with one sixty-fourth part of its weight of gold leaves besmeared with the bile of peacock, all these substances being immersed in lemon juice. The same procedure is to be repeated, if it is intended that the mercury would be required to swallow another morsel of gold (*i.e.* gold weighing another one sixty fourth part of the mercury). After the rubbing is over, the mercury is to be covered with bhurja leaves, kept inside a vessel containing kanji, mixed with salt, boiled for three days. It will then be found that mercury has swallowed the gold with which it was rubbed.* If the weight of the mercury is greater than

* Gold leaves are sometimes used in the preparation of Swarnasinduram or Makaradhwaja, etc., but the process how the gold is to be swallowed by the mercury does not appear to be known to the modern chemists who are under a wrong impression that gold cannot be chemically combined with mercury. Instead of making the mercury swallow the gold by one of the processes described here, the modern kavirajas and their followers rub the mercury and
what it was originally, it is again to be boiled until it reverts to its original weight. The quantity of gold to be swallowed by mercury may be increased to one thirty-second part, one sixteenth part, one eighth part, etc. Essences of silver and other metals may also similarly be swallowed by mercury. Chulika salt and gandhaka are to be used only in the absence of peacock's bile.

(३) रसस्य पहो प्रातबिचि: ।
शश्चन्मृदुम्पपातस्य: श्ववजशिरृष्टसंस्थित: ।
पको मूषाजले तसमनू रसाह्यान्वितावृत्त: ।
संस्त्रेण लोहपत्रायथ ध्मातो प्रसति काश्यन्म।

The eighth process of swallowing of metals by mercury.

Mercury, with one eighth its weight of bida, is to be put into a crucible, strong and well burnt, and is to be closely covered with some metal leaf. The crucible is then to be placed upon a hole at the bottom of an earthen vessel, which contains water, and is to be heated, placed on fire. The mercury, thus heated, is competent to swallow gold.

(४) रसस्य सत्मो प्रातबिचि: ।
कुण्डामभस्ति लोहमये सविन्ध सत्मसामीशां चाँटे ।
अतिचिपिटलोहपत्र्या पिधाय संलिप्य विहिना
योज्यम्। इति कख्द्ययन्त्रम्।

the gold leaves with sulphur and the prescribed juices; and thus prepare the compound by means of a Baluka Jantram, failing to have the mercury combined with the gold, which is found separated from the compound. For preparation of Makaradhwaja, etc., see the next mercurial operation.
The ninth process of swallowing metals, etc., by mercury.

Mercury with bida and the metal, etc., meant to be swallowed by the mercury, are to be kept in a metallic bowl containing water. This bowl is to be closely covered with a very broad iron leaf, the joint being carefully plastered and put inside a metallic vessel which is to be heated. Thus heated, the mercury swallows the metal, etc., mixed with it. The apparatus is called a Kachhapa Jantram. (See the chapter on Jantram).

The eighth process of swallowing of metals, etc., by mercury.

A part of the skin of a bijapura fruit is to be removed and a nole made into it. Put mercury with navasara into this hole (which is to be closed with that part of the kernel and of the skin which were
removed in making the hole, a piece of cloth being also used to cover the whole fruit, if necessary). The fruit is then to be boiled for three days in all sorts of sour vegetable juice. The mercury is then to be subjected to bhavana for one day each with earth worm, tuvari, lodhra, juice of basaka, lemon juice, menstrual discharge, and semen, respectively. If properly applied, this mercury devours all sorts of metals. Each of the bhavana may be performed for three days, seven days, fourteen days, or twenty one days continuously. The more mercury is subjected to such operations the more does it wax in potency.

(अ) रसस्य नरमेण ग्रास विभि: ।
कोटिका तिलिनी नाम नवसारोऽथ सूतकः ।
श्रद्धते चूर्णयते गाढः सूतको मद्द्र चते ततः ॥
अष्टवासरपथ्यन्ति बुधुचा पारदे भवेत् ।
निर्मलोऽपि च निर्दौषः कामकारी भवेछु रसः ॥
पश्चात्त जारणं कुष्याः गन्धादीनां च सूतके ॥
रागमाही भवेन्नूनं राचस: सर्वंभचक: ॥
वह्वास्यियं साचातु पारदोऽध्यतिरिच्यते ॥

The ninth process of the swallowing of metals etc. by mercury.

A small worm, named tilini (Bengali, telenga); navasara, and mercury are to be rubbed very well for eight days, causing hunger in mercury. Thus
rubbed, the mercury becomes pure, faultless and giver of all wished for objects. This is then to be used for the purpose of swallowing of sulphur etc. This mercury, which is capable of being coloured, is very powerful, and can swallow every thing like a monster.

(अ) धातुजारणाय दशमी विधि: ।

समपितः सन्यवत्याकट्ट्रे विधाय पिष्टि
सिकताल्यायन्त्रे ।

विशुद्धगन्धादिविशिष्टमिनास दशमीसामस्तमक्ष्यायः

शनीयंमीश्च इ॥

The tenth process of swallowing of metals by mercury.

Mercury, rubbed with pure sulphur etc., and then kept in a cavity made in a piece of saindhava, and heated by a very mild heat by means of a Baluka jantrami, is enabled to eat everything fit for being swallowed.

(ट) एकादशी प्रासविधि: ।

काळकूटो वत्तसाधनम् श्रुद्धकथ्य प्रदीपः ।
हालालुलो ब्रह्मपुत्रो हारिद्र: शुककस्तथा ।
सौराष्ट्रिको इति प्रोका विषेन्द्रा अमी नव ॥
श्रुक्कैपुद्धुद्युस्तरलाकेतिकायकः ।
युक्ताहियकेष्मित्येता: सतोपविषज्ञातयः ॥
एतेविवंतं: सुद्धिश्रवपच: प्रजायते ।
मुख्य जायते तस्य धातूत्थ यस्ते तदा ॥
The eleventh process of swallowing of metals etc. by mercury.

There are nine different kinds of poison, viz., Kalakuta, batsanabha, shringaka, pradipana, halahala, brahmaputra, haridra, shuktaka, and saurastrika;

There are seven different kinds of semi-poison, viz., arka, sehunda, dhustura, langali, karabira, gunja, and ahiphone.

Mercury rubbed with these poisons and semi-poisons, becomes deprived of its wings (i.e., unable to sublimate), and is provided with a mouth. It can then swallow metals.

The twelfth process of swallowing of metals by mercury.

Mercury is enabled to swallow metals, if rubbed in a hot mortár for seventy two hours, with lime juice, lemon juice, or kanji, and an equal quantity of the following (powdered and combined) :—trikatu, two ksharas, rye, five salts, rasona, narasara, and shigru.
The thirteenth process of swallowing of metals by mercury.

Mercury is provided with a mouth swallowing all sorts of metals, if rubbed for three days with binduli insect, salt, and sour vegetable juice.

Fourteenth process.

Mercury rubbed with the juice of a thousand lemon fruits becomes as hungry as fire.

Fifteenth process.

Since ksharas create hunger and amlas (sour vegetable juices) create consciousness (removal of swoon) in mercury, it is to be rubbed with all the ksharas, if it is intended to create hunger in mercury.
Sixteenth process.

Mercury gets hungry, if it is rubbed for three days, with ksharas, amlas (sour juices), salts, urines, poisons, semi-poisons, and divine herbs (sixty four in number). Each of these things should be one sixteenth in weight of mercury.

Order of swallowing of metals by mercury.

Gandhaka is first of all to be swallowed by mercury by means of the Kachchapa Jantram. Then are
to be swallowed mica, gold etc. Last of all lead and other metals, etc, are to be similarly swallowed. The following metals, reduced to ashes and each equal in quantity to mercury, may be swallowed by mercury in the order of their occurrence:—lead, brass, iron, copper, and zinc. This is the order in which metals, etc. are to be swallowed by mercury. Metals are not to be swallowed by mercury, unless, sulphur is first of all made to be swallowed; otherwise, no appetite is roused in mercury. Sulphur is therefore to be swallowed, first of all, for the purpose of increasing the appetite of mercury.

Swallowing of sulphur.

Mercury, with eighteenth part its weight of sulphur, finely powdered and properly purified with ghee (clarified butter), is to be contained in a piece of cloth, securely tied. This bundle is to be placed upon a new
earthen basin having a hole at the centre, the latter being placed upon an earthen vessel containing powdered subarchika mixed with kanji. The vessel is to be subjected to a mild heat for three days, after which the sulphur will be found to have been swallowed.

Thus is to be swallowed gradually sulphur to the extent of six times in weight of the mercury.

**Mercury, the king of monsters.**

First of all, mercury is to be made to swallow sulphur in the way just described. Then it is to be rubbed steadily with human milk, kanji, and saindhava salt, mixed with lemon juice. Thus rubbed, mercury becomes hungry like the king of monsters.
Two pieces of sea salt are to be hollowed into two pots, each plastered, first of all, with pasted tila (sesamum) and dried, and then with mud on the outside. Purified and powdered sulphur is to be scattered here and there over the inner surface of one of the salt pots, into which is to be kept mercury, the other pot being placed over the first, and the joint closed tightly with cowdung, mud etc. The whole thing is then to be plastered all over with the mixed substance out of which glass is prepared. * It is then to be placed in such a mild fire as to let the glass substance turn into glass. Fire is then to be placed all over the spheroid. Thus heated, the mercury is enabled to swallow the sulphur in a short time. A fresh quantity of sulphur may similarly be swallowed by the very same mercury.

* कच्चिंहतत्वयो पाठान्त्रम् *

* According to another version, it is to be plastered all over with mud mixed with human hair.
Sulphur and metals are to be caused to be swallowed by mercury by means of the Jarana Jantram or Kachchapa Jantram.

Fourth process.

In a vessel containing water an earthen basin is to be placed upon a stand. Mercury is to be kept in this basin, powdered sulphur, equal in quantity to the mercury, being placed upon the mercury. The basin is then to be covered with another earthen basin. The vessel is then to be closed by means of a plaster of ash. It is then to be subjected to putam for four
times by means of cowdung cakes found dried in the pasturage. Mercury is thus gradually to swallow sulphur to the extent of six times its weight.

Swallowing of the essence of mica by mercury,

Those chemists who score partial success in mercurial operations, by making mercury swallow gold and other metals minus mica, are as frugal as those divers who, getting at the bottom of the ocean, are satisfied with cowries only. Nothing but the essence of mica can cut the wings of mercury; hence mercury, when once controlled by mica, can easily be killed. Red and yellow micas are meant for transforming base metals into gold; black mica is meant for the same purpose, as well as for the purpose of medicines; white mica is to be made use of in transforming base metals into silver. This last should be avoided in the preparation of gold.
Mica is first of all to be swallowed by mercury and then is gold to be similarly swallowed; and last of all, is to be effected what is called garbhadruti or internal liquefaction of mercury. The chemist who does not know this makes a waste of his money.

(11) भ्रम रसस्य मूर्च्छना (भ्रमकर्म दशम: संस्कार:)।
मई नादीप्रेष्यजैन्यप्रिष्ठवका करकम्।
मूर्च्छि ज्ञायते प्राणः सब्बेदोपविनाशनम्।

(II) Swooning of mercury (i.e. the eleventh mercurial operation).

Rubbing and other acts performed with prescribed drugs leading to the transformation of mercury into a cake-like substance is what is called ‘murchhanam’, or swooning of mercury. This operation frees mercury from all sorts of evil properties.

-मतात्मक—

ब्याधिचारं विनं रसं: ब्याधिं हत्ति यदा शुभः।
सब्बेदोपविनुस्कृतो मूर्च्छितो कथितो बुधः।
मूर्च्छनं बहुविधन्तु ज्ञायते रसताधकः।
पञ्चगुणविलिना पाकप्रक्रिया भृषस्ती तथा।
Mercury is in a state of swoon, when it succeeds in curing diseases without producing any after-effect. The processes of causing swoon of mercury, as known to the expert chemists, are many; of all these, heating with six times its weight of sulphur is the best of all.

(Mercury may be brought to a state of swoon, by any of the following and other processes):

(५) ब्रम्हो विधि: ।
गत्यमान रसं प्राय: मुदर्तं मद्य्येंद्र मिषक् ।
कुशलाभो यदा स्तुती विहाय धनचापलम् ॥
धर्मेभेजतो तदा हृयो मूल्यितो रसकोविदैः ।
रोगच्छयासौ हन्यादनुपानस्य योगत: ॥

(a) First process.

Mercury, duly purified by the foregoing processes, is to be rubbed steadily with (an equal quantity of purified) sulphur; and in course of this rubbing, it gives up its dense subtleness and assumes a black appearance. (The rubbing is to be made in stone mortar and to be continued till the whole of the mercury is reduced to black dust). It is then said to be in a state of swoon, and is able to cure diseases by being combined with suitable anupanam (accompaniments).

(६) बिलीयो विधि: ।
पठूः गुणावलिजारत्रां विनायं
न कलु हुजाहरणस्मो रसेन्न: ।
Second process.

Mercury is not able to cure diseases promptly without consuming six times its weight of sulphur. Neither can it be effective in preventing disease and old age, if it is not combined chemically with mica and gold (both reduced to bhasma or ashes).

Mercury (properly purified) is to be rubbed with six times its weight of sulphur (purified), and put into a glass bottle or flask, which is to be placed in a Baluka Jantram, and properly heated. The heating is to be continued till the surplus sulphur is burnt out and the compound assumes the appearance of red vermilion (noticeable from outside the flask).

* The general rule is not to use any metal for medicinal purposes without purifying and reducing it to ashes. Mercury may, however, be made use of, after it passes through all the stages up to “swoon”. Sulphur may be used after purification.
N. B. The compound, thus prepared, is what is called Rasa sindura, prepared with six parts of sulphur. This compound can be used in all sorts of diseases with suitable anupanam (accompaniment). The compound, thus prepared, is however to be distinguished from mercury exhausted with six times its weight of sulphur.

(c) Third process.

Three parts of mercury, and one part each of gold, mica and silver (all of these properly purified and reduced to ashes), with sulphur six times in weight of mercury, are to be rubbed together with the juice of kanya and made into a lump, which is to be roasted properly by means of a Baluka Jantram.
(d) Fourth process.

Into a small earthen pot, placed on a Baluka Jantram, put sulphur, equal in quantity to mercury. On the sulphur being reduced to a liquid, put the mercury also into the pot. As soon as the sulphur will be found reduced to half the level of the mercury, put more sulphur into the pot. This is to be done again and again, till the total quantity of sulphur, being six times in weight of the mercury, is consumed. This mercurial compound, which consumes six times its weight of sulphur, becomes very powerful. It is efficacious in all sorts of diseases, and may be used in all sorts of diseases by being mixed with lead, copper etc., (purified and reduced to ashes).

(क) पञ्चमो विषः—सर्वरोगहरी करुणाप्रक्ष्या।
स्थाल्यां द्रढःघटितायामद्र वरिष्ठ्यं तुर्य्यस्थतवशांशे—
रक्षेष्टकारजोभिस्तुद्यपि मूतया तुर्य्यांशम।
सितसेन्धवं निषाय स्फटिकारंततूसमध्य तस्योद्धः।
स्फटिकारिधवलसेन्यवशुद्धसैः करायामवपरिपृष्ट्यः।
Fifth process—preparation of a camphor-like compound, which cures all diseases.

The lower half of a strong earthen pot is to be filled with the following:—powdered saindhava, one fourth in quantity of mercury. Upon that, red brick powder, upon that, white saindhava powder, each one fourth in quantity of mercury; and upon that, powdered alum, equal in quantity to each of the above. Upon all of these is to be superposed a paste made of alum, white saindhava, and purified mercury, rubbed with the juice of kanya. The arrangement is to be repeated in filling in the second half of the pot (i.e., saindhava, red brick powder, white saindhava, alum, and last of all, a paste made of alum, saindhava, and mercury). At the top of all these layers is to be placed broken pieces of earthen pots in order to stop the escape of surplus mercury out of the pot, which is then to be closely covered with a strong earthen basin, the joint being carefully cemented, and the pot being kept on fire for 3 days.

N.B. It is usual with the expert chemists to make use, in this case, of bhallataka, one fourth in quantity of mercury, although it is not mentioned in the original text.
第六过程（Rasasinduram or red compound of mercury).

One part of mercury, three parts of sulphur, and one eighth part of lead (reduced to ashes)—all of these are to be rubbed steadily in a good mortar, and the black mixture, thus prepared, is to be put inside a glass flask, the mouth of which is to be closed by means of a piece of chalk and lime. The flask is then to be well plastered with rags mixed with mud. It is next to be heated by means of a Baluka Jantram for 3 days by fire gradually increasing. The red compound of mercury thus prepared can be used with suitable anupanam (accompaniment) in all sorts of diseases. It prevents premature old age and death. Dose 3 ratis a day.
रससिन्दिरम्

अनुपतिकम्

A different method of preparing Rasasinduram.

A Kajwali (black sulphide of mercury) is to be duly prepared by rubbing one palam of mercury with an equal quantity of sulphur. This is to be subjected to a bhābaná for three times with the juice of the aerial roots of a banian tree, and put inside a pot closely covered. This pot is then to be placed in a Kabachi Jantram, and subjected to mild heat for twelve hours (by means of a Baluka Jantram.) The product is Rasasinduram, resembling the rising sun in colour. It is used in various diseases with suitable anupanam (accompainment).

अनुपतिकम्

प्रथक्क समं समं कृत्वा पारद् गन्धकं तथा

नरसारं घुमसारं स्फटिकं याममात्रकम्

निम्बुसरसं संमहं ब्र काच्छुप्य स्निवेशयति

पाषाख्लिकं मुखे द्रुतः सुद्रां व्रजयति

106
Another method of preparing Rasasinduram.

Mercury, sulphur, narasara, dhumasara (soot), and sphaṭikari are to be taken in equal quantities, rubbed for three hours with lemon juice, and put into a glass flask, the mouth of which is to be stopped by a piece of stone. The flask is then to be covered for seven times with rags mixed with mud, dried up every time, and put into an earthen vessel having a small hole at the bottom. The vessel is to be filled in with sand up to the neck, and placed over fire to be kept burning for thirty six hours. The flask is to be broken open, when cooled, and Rasasinduram deposited at the bottom to be collected, rejecting the pearl white sulphur, accumulated higher up in the flask. The Rasasinduram, thus prepared, may be used in all sorts of diseases.
Purified mercury and half the quantity of sulphur are to be rubbed together for one day and made into a black powder, which is to be put into a glass flask, the external surface of which has already been well-plastered with pieces of cloth and mud for 3 times and dried each time. The flask is now to be put into a Baluka Jantram and subjected to continuous heating for four days. The red compound of mercury deposited at the upper part of the flask is to be collected.
तत्त्वाः स्थाल्या मुखे स्थालीमपराधारयेत् समाम्।
सतता ऋत्विकावच्छुमु द्रयेदनयोमुःलम्।
सम्बन्धिविशोऽयुज्य मुद्रा तां चुल्ल्यां स्थालीं
विधारयेत्।

ऋषिः निरन्तरं दयाः यावदिन्चतुष्यथम्।
शनेन्द्रात्येदू यन्त्रमूलः स्थालीगतं रसम्।
करूणंनिम्नद्विलेखं यहीयाः पुष्करचरम्।
तेह वक्तुमचन्दनकस्तृतौक्कस्वयंतं
भुवं हरसुपदं व्याधिः लोपदवं सपदि।
विन्दुविवहे दैतिः पुष्टि विपर्य वलं विपुलम्।
रमयति रमणोशतकं रतनकोपरस्य सेवकं सतम्।

Seventh process—Karpura-rasa (or Sweta-rasa).

Purified mercury is to be rubbed for twelve hours with an equal quantity of each of the following, finely powdered and sifted through a piece of cloth:—gairika, brick, chalk, sphaltakari, saindhava, mud created by white ants, kshari salt, and mud for dyeing earthen pots. The whole thing is then to be put into a pot covered with another of the same magnitude, the joint being closed seven times with rags mixed with mud. When perfectly dried, the pot will have to be put on fire, which is to be kept ablaze for 96 hours at a stretch. The camphor-white mercurial compound, found deposited at the upper pot, will then have to be procured very carefully. This karpura-
rasa, or white mercury, if taken with cloves, sandal, musk, and saffron, brings about a quick cure of syphilis with complications, increases appetite and semen; and imparts nutrition, strength, etc. One who takes the medicine at regular intervals acquires ability to enjoy a hundred women.

Another process—Rasakarpuram.

Mercury is to be rubbed for one day with an equal quantity of tangana, madhu (honey), laksha (lac), ram’s fur, gunjá, and a sufficient quantity of the juice of bhringaraja, and then put into a pot well covered with another, and heated (exactly in the same way as described in the foregoing process). Thus heated, the mercury assumes the appearance of camphor, and is then found efficacious in many diseases, if given with suitable anupanam.
Another process—Sudhanidhi-rasa, sweta-rasa, or rasa karpuram (white mercury).

Purified mercury is to be rubbed steadily with pansu salt, saindhava (rock salt), and the juice of bajri, and put into an iron pot the mouth of which is to be closed tightly. The pot is then to be put inside a vessel filled with salt, which is to be placed upon a strong fire. When cooled, the moon-white mercury is to be found deposited upon ashes. If, taken in the morning, with powdered cloves (one fourth of a tola in weight) by two ballas a day, it causes purgation within six hours. Cold water is to be taken after taking the medicine. If taken regularly, it removes many kinds of poison from the system.

* पत्तित्रं मल्याभचल्लं ब्रह्मपुष्पार्णं विषपूर्णं। | तथाहि भावप्रकाशः “ब्रह्मपुष्पः स विषयो जायते मल्याधीत ते।”

III
Eighth process—Sarbanga-sundara-rasa or Pita-rasa (yellow mercury).

Equal quantities of mercury and sulphur are to be rubbed steadily for seven days with the juice of hastishundi or bhudhatri. Then the compound, put in a crucible, is to be placed in a Baluka-Jantram and subjected to a mild heat for 24 hours. Mercury thus turns yellow and is to be taken out, when cooled. Dose—one gunja to be taken with betel leaf. It increases appetite and cures all sorts of diseases.
prevents the arrival of premature old age and gives rise to riches and happiness. It gives enthusiasm, beauty, and children.

(Ninth process—Krishna-rasa. (black mercury).

Dhanya abhra * and an equal quantity of mercury are to be rubbed for one day with the juice of maraka drugs (i.e. drugs † which help the killing of mercury). A piece of cloth is then to be soaked with the mixture. When dried, the rag is to be steeped again and again in castor oil, and made into a candle, which is to be kept in an earthen vessel soaked with clarified butter; and lighted. The black substance deposited in the vessel will have to be rubbed again with the juice of the maraka drugs referred to above, and subjected for one day to sublimation by means of a Kanduka Jantram. This

* Finely powdered mica. For preparation, see Vol. II. under mica.
† These will be named later.
black mercury can be used in all sorts of diseases with suitable anupanam.

Another preparation of black mercury.
Parpati-Rasa.

One palam of dried sulphur is to be kept in a pot made of iron or copper, and heated by a mild fire. When the sulphur will melt, three palams of mercury will have to be put into it, and constantly turned, by means of an iron ladle. When both the substances will be commingled, the mixed substance will have to be poured upon a piece of banana leaf, stretched upon some fresh cowdung, and pressed lightly, by means of a lump of fresh cowdung contained in another piece of a banana leaf. When cooled and solidified, the black mercury may be used in all sorts of diseases (with suitable anupanam, of course).
Tenth process—Rasa-talaka.

Mercury, sulphur, orpiment, and red arsenic are to be taken in equal quantities, rubbed together for some time, and then put into a glass flask and subjected to heat for twelve hours, by means of a Baluka Jantram (in the same manner as in the case of Rasa-sinduram etc). The product is of an yellow appearance, and is called Rasa-talaka (i.e., mercury combined with orpiment). It cures fever, increases appetite, and the power of retention of semen, cures eighteen different kinds of leprosy and bataracta. It serves as a tonic, increases longevity, and retentive faculties, and prevents premature old age and diseases.
Eleventh process—Makaradhwaja.

One palam of gold, purified and reduced to ash, eight palas of mercury, and sixteen palas of sulphur are to be rubbed with the juice of kanya, and made into a black powder and dried. The powder is then to be put into a glass flask, placed in a Baluka Jantram, and heated for three days. The pollen-like red dust is to be procured, when the apparatus gets completely cooled. Dose, one jaba to be given with betel leaf, (in case of fever). If taken regularly, it prevents premature old age and death, and produces many effects; if taken with suitable anupanam. In
particular, it cures all sorts of fever, loss of appetite, and aversion to food.

(४) खाद्यो विचि:-स्वर्णसिद्धार्मम्।
पलं रसेन्द्रस्य च गन्धकस्य
हेम्न्द्रपि कवं परिप्रेय सम्यक्।
वाटपरोहेस्य रसेन यामं
यामं विमद्र्यायथ कुमारिकायः। ॥
तत्र काचकृत्या निहितं प्रयोजनः
पचेदु विभिज्ञः सिद्धाम्यन्ते।
ततो रजस्तोद्घं गतं सुरम्यं
प्रणयम् यत्तदस्तिएः प्रसं यत् ॥
तदस्त्रोजयेष्व सर्वं गदेशं वीच्यं
धातुं बलं वहिमयो व्यक्त।
रसायनं बुध्यतरं बल्यं
मेघधिकाल्लितस्मरवद्ध नमः। ॥

Twelfth process.

One palm of mercury, one palm of sulphur, and one eighth of a palm of gold (reduced to ashes), are to be rubbed together, for three hours each, with the juice of the aerial roots of a banyan tree and that of kanya, and then to be put into a glass flask, and subjected to heat by means of a Baluka Jantram. Then the red and beautiful powders, accumulated at the upper portion of the flask, are to be procured carefully and
prescribed in all sorts of diseases, in accordance with the nature and strength of the constitution, power of digestion, and age. This Swarna sinduram prevents premature old age, and is a destroyer of diseases. It is nutritious, and increases strength, retentive faculties, power of digestion, beauty, and sexual power.

(३) अष्टोत्तरो विभि:।

विषुखुकान्ताशिलाताक्षरकुमिल्कक्कुलिके।
विशालानागिनीकन्द्याग्रपादिकुत्तम्भके॥
द्रुश्याकालोभोजिकंहंसपाया सहायः॥
अप्रसूतगवां मूत्रे: पिष्ट। वालुको वषेत॥
पक्षेवं मृतेऽतो हेमसङ्हि तं विपचेद्य रसम॥
शन्त्रेपु मूच्छी सुतानामेशा चोक्का समासत:॥

Thirteenth process.

Mercury is to be rubbed with the following drugs and subjected to heat by means of a Baluka Jantram:—bisnucranta, karpura, lata-kasturi, kumbhi, kanaka dhutura, kulika, bisálá, nágadanti, shurana, byaghrapadi, dronapushpi, brischikali, hastishundi, sahá (mudgaparni), asura, and the urine of a cow which has not yet conceived. After the completion of the heating, the mercury is again to be rubbed with some incinerated metal and again to be heated (by means of a Baluka Jantram).

* For test of a perfect heating, see instructions under Baluka Jantram.
Assay:  

Mercury is to be rubbed very steadily for some time with meghanada, bacha, hingu, and shuranam, and made into a ball, the surface of which will have to be coated with hingu. The substance is then to be put upon a very strong fire, and heated by means of a Labana Jantram for one day. The mercury thus deposited, at the upper part of the bottle, is to be procured and enclosed tightly with a piece of cloth. This is then to be heated with sulphur put at the top and the bottom. When this sulphur will be burnt up, a fresh quantity of sulphur will have to be put in, and so on. The total quantity of sulphur, thus made use of, will be six times in weight of the mercury. The compound thus prepared, may be used in all sorts of diseases.
Equal quantities of sulphur, wax, and mercury are to be rubbed for three hours in a hot mortar, and then to be put inside a bottle, and heated by means of a Baluka Jantram for thirty six hours. When cooled of itself, the bottle is to be broken open, the mercury deposited at the bottom being taken, to the rejection of the sulphur deposited at the upper part. This mercury is applicable in all sorts of diseases.
Sixteenth process.

One part of saindhava, two parts of pure mercury, and four parts of sulphur are to be rubbed together for three days with the juice of white jayanti, and made into a lump, which is to be dried and put inside a crucible. This crucible is to be closed tightly, duly heated, and to be thrown into water, while it is still somewhat hot. Mercury is then to be procured from his, subjected to bhabana with the juice of the Trikanta, and heated either in an ordinary way, or by means of a Bhudhara Jantram. This can be used in all sorts of diseases.

Seventeenth process.

Mercury, with half its quantity of sulphur, is to be rubbed with clarified butter, and made into a ball, which is to be wrapped up in a piece of cloth, and heated by means of a Dolajantram for three hours.
with cow's urine, and for 3 days continuously with man's urine. This is then to be dried and again wrapped up in a piece of cloth very tightly, and put inside a crucible which is to be heated by means of a fire made of husk of paddy. The heating is to continue for 3 days, both the extremities of the crucible being put on fire by turns. The compound, thus produced, has the effect of curing all diseases, if applied with suitable anupanam. It also serves to heighten the effect of a medicine with which it is mixed.

Eightheenth process.

The stool of a newly born baby, seeds of palasa, juice of a chandali plant, and mercury, each equal in
quantity, and tanganam, one fourth in weight of mercury—all of these are to be rubbed for one day with the juice of jayanti and made into a ball. A part of this ball is to be rubbed with sahadevi, with which is to be painted the whole surface of a copper samputam * inside which is to be put the ball. The samputam is then to be heated for six hours by means of a Baluka Jantram placed upon mild fire. The external surface of the samputam is then to be painted with a paste made of chitragaka, sahadevi, and gandhaka, and wrapped up in a piece of cloth, which is to be covered with mud and dried. This is then to be put inside a blind crucible, which is to be subjected to heat. The samputam is then to be taken out and reduced to fine powder, which cures all sorts of diseases, and serves to increase the potency of the medicine with which it is mixed: Here the samputam has the same property as the mercury contained in it.

\textit{\textbf{मन्निंशो विषि:—}}

\textit{प्रस्तुरकड्वेम्यं दिनं गन्धं समूतकम्} ।
\textit{अन्यमूषे दिनं स्वेच्छं सूर्ये मृचिष्ठितो भवेत्।।}

\textit{Nineteenth process.}

Mercury with an equal quantity of sulphur is to be rubbed for one day with the juice of Dhutura.

* Samputam means a basin placed upon another, the joint being tightly closed with rags mixed with mud. This is used for the purpose of killing metals and semimetals which are placed inside the two basins. See the Chapter on putam.
put into a blind crucible, and heated by means of a Bhudhara Jantram. This is how it can be brought to a state of swoon.

**Twentieth process.**

The inner surface of a strong crucible, made of mud and well burnt, is to be painted with a paste made of raddish and leaves of red sobhanjana. Mercury is to be put inside this crucible, the remaining part of which is to be filled with the juice of the vegetables referred to above. The crucible is to be tightly closed and heated by means of a Labana Jantram by a strong fire. The mercury, taken out after a week, cures fevers, if given in dozes of one jaba a day.
Twenty first process.

(Not more, not less than) one hundred niskas each of kasisa, saindhava, suta (mercury), and fulla turika, are to be put gradually into a mortar, and rubbed for nine hours. The substance is then to be put inside a metal samputam, and heated for one day by a very strong fire. Then the mercury found deposited in a state of swoon at the upper part of the samputam will have to be collected.

Twenty second process.

Mercury is to be immersed in the juice of kuruntaka and to be rubbed for one day in the sun by means of the leaves of latakarana or by the thumb. This is thus brought to a state of swoon, and as such, may be used in all sorts of diseases.
Mercury, with an equal quantity of ghrītam and double its quantity of sulphur, is to be rubbed for one day with the milk of arka, and then put into a sampumātī tightly closed, and heated by means of a Bhudhara Jantram. This mercury will be able to retain, even in a state of swoon, the gold, if any, with which it might have been mixed up.

अथ रसचन्द्रकमः।

कदुतुमच्युस्वं कन्दं वनस्पताय चौरकन्दकमः।
अपकवं तु समादय तदुगमें पिविदका ततः।।
दशनिष्कं शुद्धसुद्तं निषकैंकं शुद्धगन्धकमः।
स्तोकं स्तोकं निपेदं गन्धं पाण्यं चापि कृष्णेद्।।
याममात्रं भवेतु पिवडी रक्ककन्दे विनिविपेतं।
उद्दृध्यो भस्मवैकान्तं तत्त्वा निषकाङ्गमात्रकमः।।
ततः कन्दशय मजामिमुखं बद्धा मृदृश द्रहम्।
लिसमझकमानेन सवर्तं शोष्णगोलकमः।।
पाचयेते भवरे यन्तु तथोद्धृत्य पुनः पचेत।
उद्दृध्यश्वासमवः कुञ्ज्यादिच्येव परिवर्तयेत।।
कमेल्य चालयेद्वृं बहियुगमोत्पलः पचेत।।
ततो यज्ञात् सुलस्माह्यो बद्धस्तु दाढििमोऽमः।।
नामना वक्कान्तस्वर्णं सवर्गरोगेषु युष्मिते।।
Solidification of mercury.

A hole is to be made in the green tuber of a katutumbi, bandhya, or bidari creeper wherein to be deposited ten niskas of purified mercury and one niska of purified sulphur, the whole thing being pressed gradually upon stone and made into a ball. This ball is to be put inside the tuber of a ractakanda (or sarkarakanda) with half a niska of baikrantaka ash, put at the top and at the bottom, the opening being closed by the rejected portion of the tuber. The tuber is then to be coated all over with mud one anguli thick, and dried well. This is next to be heated by means of a Bhudhara Jantram for more than once—each of the extremities of the ball being heated in turn and the upper part being gradually moved. The fire to be made outside is that of cowdung balls, found dried in pasture grounds. The mercury, which is now solidified and assumes the appearance of a pomegranate, is called "baikrantaka baddha." It is very efficacious in all sorts of diseases.

Another process.

Mercury with an equal quantity of sulphur is to be bound up in a piece of cloth, soaked with a solution of
sulphur, and dried. This bundle is to be put inside a strong metal samputam, tightly closed, and heated by means of a Bhudhara Jantram, until the sulphur is consumed. This is to be repeated until sulphur, six times in weight of the mercury, is consumed. Mercury, thus entangled with sulphur, becomes the destroyer of all the diseases.

Pun: prakaraantya

Mooha manoeristoataa deveya aho Dvajaabhaa.

Aprka surdha kaarya sinkataamaaMhajama.

Trisambhaa vaalukaamaa padaamshen bhadh: sthita.

Padaekh chaurithant gantho mooaamadhaye vinichhipeto.

Shuddhsoo sam sam prathata chippadnaphalant tata.

Bhagaaramo saaleechnaMhmanda mooaamachaazhay yabt.

Mandakritina padetvabhyavaadhyaardhyamataa brahataa.

GanithaMme gatho puthya kaamachaibesthu sa.

Draee jireeyo pun: puthya nagabhaaladhbah.

Tajjireeyo hustrudraave: pauridvina pun: padet.

Yavaajjireeyita tadnya kaamachaayadibmi pun:.

Dutches daechha pachetvadu hustruradikamadraa.

Dhira mooam harsanadaa jaraayadhira ras:

Yuujhate ganwabhojisam yogvahresh samvartat.

Another process.

A strong and unburnt crucible, sixteen angulis in length, and having a breadth equal to the diameter
of an ordinary lime fruit, is to be kept inside a Baluka Jantram. Three parts of this crucible is to be kept under sand, the rest, viz. one fourth, being kept above that. One palam of powdered and purified sulphur is to be poured into the crucible; and an equal quantity of pure mercury is next to be poured into the same. This is to be followed by the pouring again into the crucible of one palam of sulphur, as before. The crucible is then to be closed very carefully, and the Baluka Jantram put upon a mild fire and heated, until smoke ceases to come out. The crucible is then to be filled with the juice of kakamachi, and heated by means of a mild heat. The evaporation of the juice is to be followed by the pouring in of the juice of pan leaves. When that, too, will be evaporated, juice of dhutura is to be poured in the same manner and heated. These juices are to be poured into the crucible in their turns, until the mercury is completely consumed. The mercury is then to be procured by breaking the crucible open. This mercury is what is called entangled with sulphur. This serves to heighten the property of a drug with which it is mixed, and is the curer of diseases and decay due to the premature arrival of old age.

(१२) अय रसस्व सञ्चारण्यात् (पतवस्य ब्राह्मणसः संस्कारः।
तुंदिव्यत दुःता मृदितं सोषीय खल्लेघनङ्गोभादिदी।
चरणि रसेन्द्रः चिन्तिखंगतं सज्ज्यार्बीजपुरांमान्यः॥१०

* सज्ज्यार्बीजपुरांमान्यः पुर्व्यासांचिकान्निकायापि भवहार्ये

हुस्यति।

१२९
(12) *Movement of Mercury.*

Mercury (made capable of swallowing metals etc.), if rubbed in a hot mortar with mica, gold, iron etc., each one triti in weight, in sour juice made of juices of lime fruit and of bijapura, or in old kanji, moves like an earth worm.

(13) अथ रसस्य गर्भदुःति: (पत्तद्य तृयोदश; संस्कारः ) | *
प्रास्तस्य जारणाम् गर्भेनान्तरस्य कारणां तथा |
त्रिरूपा रसजारणा निर्देश्य वर्तवाचिकः | II
रसस्य जठरे प्रास्तचतुष्यां जारणा मता |
प्रस्तस्य द्रावणग्य गभेन गर्भदु ् तिरिवनाधिनाः | II

(13) *Internal liquefaction of mercury.*

The great annotators are of opinion that the exhaustion of mercury comprises the three different stages, viz., swallowing of the metals etc., internal liquefaction, and movement.

When metals etc., thrown upon mercury, disappear altogether, it is a case of swallowing, but when the metals etc., thrown upon mercury turn into liquids without any heat being applied, it is a case of internal liquefaction (as distinguished from external liquefaction of metals etc., which means the liquefaction of the metals at the touch of mercury).

* प्रस्त्रकुमादत्र रसस्य बाधुतितिमोक्ष्यते :—
बाहिरेऽद्वृत्तीम्य वनसपन्नामिकम् बलु |*
जारणाय रसेयनस्य सा बाधुतितिवत्यते | II
First of all, mica is to be swallowed by mercury, then gold is to be so swallowed; next to that, is to be effected the internal liquefaction of mercury. The man who does not know this makes a waste of his money.

Mercury undergoes internal liquefaction, if mixed with half its weight of the essence of mica, and half its weight of the essence of makshika, (the latter two being mixed together before being put upon mercury).

Thus, gold mica and silver mica (*) are to be freed from hostile elements and applied, as necessary.

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(*) See later, under Alchemy.
Gold, silver, etc. are to be mixed with the essence of swarna-makshika, and rubbed with sour vegetable juices. Mercury undergoes internal liquefaction, if such gold or silver is put upon it. Lead, killed with manassila, or swarna-makshika (pyrites) killed with salt, if rubbed with "bijam" (gold or silver to be swallowed by mercury), causes an immediate internal liquefaction of mercury. Alkalis made of jambira, changeri, and amlabetesasa are suitable for internal liquefaction. According to some chemists, internal liquefaction is indispensable to the exhaustion of mercury.

(14) भय रसस्य जारणम् । (पत्तद्व्य च) ।
अथातो जारयापूवः सबीजं मारयोच्ये ।
अजीय्याप्यबीजं भूतं यस्तु मारयेत ॥
ब्रह्मा स दुराचारो शिवद्रोही सदा भवेत ।
तस्मात् सर्वप्रयंतबेन जारितं मार्येद्रसम् ॥

Now, we are going to describe the process by which mercury, which has already been made to swallow a sufficient quantity of gold, mica etc., is to be exhausted and then killed and reduced to ashes. The man who kills mercury without exhausting it and making it swallow a sufficient quantity of gold, mica etc. is a great sinner, and is to be taken for an enemy
of the great God. Hence, mercury is to be exhausted very carefully before it is killed.

Construction of a hard crucible for use in the exhaustion of mercury.

Two parts of burnt husks and one part of the soil, raised by white ants; one part of particles of iron thrown out of red hot iron on the anvil by means of a blacksmith's hammer; one part of powdered white stone, one part of man's hair—all these are to be rubbed steadily for three hours with a little of goat's milk; and made into a crucible. This is then to be dried and coated all over with a plaster made of the foregoing materials. Such a crucible is to be closed with the same ingredients.
(1) First process of exhaustion of mercury.

Essence of mica, previously soaked with sour asava and dried, and kanta iron or steel, reduced to ashes;—each of these two things, one sixty fourth part of the mercury in weight, is to be mixed, very slowly and little by little, with the mercury mixed with kanji, and rubbed very fine in a hot mortar. The mercury is then to be put upon a bhurja leaf, previously painted with jabakshara, kanji, saindhava, milk of snuhi, and that of arka, and then wrapped up in a
piece of cloth and tightly bound, the bundle being boiled in kanji, equal in quantity to the mercury, then washed off with hot kanji, and well dried. The mercury is now to be mixed with one eighth its quantity of bida, and subjected to heat by means of a Kacchapa Jantram. This is how mercury is exhausted, and is capable of standing fire. If iron, mica etc. with which mercury was rubbed—are properly swallowed, the mercury retains its original quantity, and can stand the heat of fire. In case these are not properly swallowed, the mercury will have to be subjected to a process of sublimation by means of sour asava, and then again to be rubbed and boiled, as before. Every such new act of exhaustion will require increased fire and increased morsel (*i.e.*, mica, iron etc., meant to be swallowed by mercury).* Iron rust or oxidised iron, aconite, urine, rasaka, manas-sila, haritala, and gandhaka are not to be made use of in the exhaustion of mercury, since mercury exhausted with these things give rise to leprosy, boils etc.

* In the event of mercury having previously swallowed sulphur, micas, gold etc. this process need not be gone into.
The bida referred to above.

Powdered gunjá and powdered saindhava are to be saturated, for a hundred times, with the juice of devadali leaves, and dried. Similarly, tankana is to be saturated with the juice of kinsuka; chulika salt with vinegar prepared out of lime juice; gandhaka with the ashes of mulaka mixed with cow's urine; and sarjika, earthworm and the trikatu, taken together, are to be saturated with sigru root juice. Each of these substances is called a bida. They are as strong as fire in mid sea.

अयोजनन्यविचि: बिड़; —बिड्वटी।

खोटकं स्वासांतुलाः समावत्तन्तु कार्येतू।
माचिकं कान्तपाषां शिलागलं समं सम्म।
भूनागमैदेयै गमं वस्मात्र वरीक्षुतम।
एषा बिडवटी ख्याता योज्या सत्वेन्त्र जारणे॥

Mercury with an equal quantity of gold is to be smelted and mixed with swarna makshika, kanta pashana (load stone), gandhaka, (each duly reduced to ashes or purined, as the case may be, and equal in quantity to gold). The whole thing is then to be rubbed with earth worms and made into pills, six ratis in weight. This pill is called bida bati, and is always used in the exhaustion of gold.

मतान्तरप्तांश्वायकरणम्। 

तान्येन वा समं पिन्नः चतुर्भागां विधीयताम।
पातयेदु हमरुणां त्रिवारं निम्बुकद्वेणः॥

* अनाचरिते रसजारणस्य प्रथमे चिठ्वी प्रणालयेश्वरालम्बनीया।
Another process of enabling mercury to stand fire.

Mercury is to be rubbed with one fourth its weight of copper, and made into a lump, which is to be subjected to sublimation by means of a Damaru Jantram, filled with lime juice. Mercury is then to be rubbed steadily with the raktagana (red group †), and is thus enabled to stand fire, leaving no possibility of danger. Thus is mercury to be exhausted.

(2) रसजारणस्य ब्रतीयो विचित् ।
संस्थायं गोमयं भूमी पक्कमूषां न्यसेत् तथा ।
तन्मध्ये कटुरुस्तुल्यं तेलं दल्ला रसं चिपेत् ॥
काकमाचीरसं देयं तेलतुल्यं ततः पुनः ।
गन्धक ब्रह्मायास्य चिप्तव्यात्रा ताथा निरोधयेत् ॥

* रक्तगणो यथा—
कुसुम्भा क्षित्रो जाता मिश्रिता रक्तचन्दनम् ।
अश्री च वच्चुजीव्यक्ता तथा कर्पुरगंधिनी ।
माधिकं बेती चिह्यो रक्तगाउलतिर्जनः ॥

† These are—kusumbha, khadira, laksha, manjistha, raktachandana, redshigru, bandhujiiba, karpura-gandhiini and makshika. These are used in preparing a deep red colour.
तत्पृष्ठे पावकं देयं पूर्णं वा वहिन्योपरम्।
स्वाभिश्वलता जलता जीवे तेले च गन्धकम्॥
काकमाची द्रवं चाम्रो दत्तवा दत्तवा च जारयेित॥
मूषायो गोमयश्वात्र दत्तवा चोठः च गन्धकम्॥
पड्गुष्णं गन्धकं जायः सुतस्येवं मुखं भवेत्॥
तं सूतं महं येश्वीः जम्बवीरस्यं पुनः पुनः॥
चतुःचतुः शकं पूव्वं ह्रात्रिंशांशं ततः पुनः॥
षोड़शांशं ततो हेमपत्रं सूते विनिचिपेत॥
शिखिनिचन संपिष्टं तेलेश्च सर्पोद्ग्रवः॥
लिफता हेम चिपेत सूतं यामं जम्बवीरजैडःैः॥
मद्यं तं पूव्ववृत्त पचेनू मूषायां जम्बवीरजैडः॥
पूर्वेंद्रु रोघचैयार्यं दत्तवा यले न जारयेित॥
प्रासे प्रासे च तन्मयं जम्बराणा द्रवें ह्रम्॥
चूलिकालवंगन्धमभावे पिनंतीतीलयोः॥
पिद्या जम्बवीरनीरेश हेमपत्रं प्रलेपयेित॥
इत्येवं जारणा काय्या ततः सुतशाम मारयेित॥
अत्थवा निर्मुलं सूतं विह्रयोगैन महं येत्॥
स्वयंचासनस्वलोहानि येयश्वानि च जारयेित॥

* चतुःचतुःपद्यपतां वीजःग्रत्त्वः मुखायुघे।

** महंनयंत्र तत्सज्ज्वः जलयं।

† चातुःभोजनायाय-विचित्र-विचित्राय गन्धायाहेमावीनः प्रसति।
रसे विधिरेषः न समाचरणीयः।
(2) Second process of the exhaustion of mercury.

A well-burnt crucible containing oil, made of bitter tumbi, and mercury, is to be placed upon some cow-dung deposited on the ground. The juice of kakamachi equal in quantity to the oil, and a grain of gandhaka are also to be put inside the crucible which is to be hermetically closed, and heated by fire set on all sides. The heating is to be continued so long as the oil is not completely consumed. The crucible is then to be cooled, and fresh quantity of gandhaka and kakamachi juice are to be put inside the crucible which is again to be subjected to heat in the foregoing manner. Thus, gandhaka, six times in weight of the mercury is to be consumed by means of a crucible, placed upon cowdung and heated on all other sides. This mercury is to be rubbed again and again with lime juice. Then one sixty-fourth part, one thirty-second part, and one-sixteenth part, of its weight of gold leaves rubbed with peacock's bile and mustard oil are to be mixed gradually with the mercury, and rubbed with lime juice for three hours each. The mercury is then to be put with lime juice inside a crucible which is to be closed and heated on all sides by fire, as before. It is better, if the gold leaves can be rubbed with lime juice rasamulikas, salt and sulphur. In the event of their not being available the gold leaves can be rubbed with peacock's bile, oil, and lime juice. Thus is mercury to be exhausted. It is then to be killed. Mercury may also be exhausted by being rubbed in a hot mortar with a bida, and then by swallowing, as much as possible, of gold, mica, and other metals.
Third process of the exhaustion of mercury.

Mercury is to be enclosed with its morsel (i.e., mica, gold etc. meant to be swallowed) in a bhumra leaf, previously painted with an amalgam of salt, sour vegetable juice (or aranala), kshara, cow’s urine, and milk of snuhi, and then tightly wrapped in a piece of cloth, to be boiled for 3 days in kshara, kanji, and cow’s urine. Thus, four morsels are to be swallowed gradually by means of a Dola Jantram. (N. B.—The process is to be observed at every morsel being swallowed.) The mercury is then to be exhausted by means of a kachchapa Jantram.
Quantity of the morsels referred to above.

The quantity of the four morsels referred to above are as follows: \(-\frac{1}{64}, \frac{1}{32}, \frac{1}{16},\) and \(\frac{1}{4}\) of the mercury, respectively. The first morsel makes the mercury look very beautiful, the second gives it the appearance of a leech; the third makes it appear like a crow's stool; and the fourth makes it look like butter milk.

Another version.

Mercury is first of all to swallow the following five morsels of essence of mica: \(-\frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \frac{1}{64},\) and \(\frac{1}{128}\) of the mercury, which is then to swallow one fourth its weight of gold or silver, as the case may be.*

* If the mercury is meant to be used for medicinal purposes only, both gold and silver or any one of them may be used at this stage. But if the mercury is meant to be used in the transformation of base metals into gold or silver, the use of these two metals at this stage, will depend upon whether it is meant to manufacture gold or silver.
(15) Killing of Mercury, (i.e., the fifteenth mercurial operation.)

First process of killing mercury.

Exhausted mercury is to be rubbed for one day with kumbhi including its root, previously well rubbed with cow’s urine and kept in a basin made of kanta iron, covered with another of the same description, the inner side of the basin being painted well with a paste made of vegetables which control mercury, and the joint being closed tightly with mud mixed with rags, etc. The mercury, if thus heated by means of mild fire for one day, is killed.
Second process.

Karkoti, kakamachi, kanchuki, katutumbi, kakajangha, kakatundi, kakini, and kakamanjari—all these are to be rubbed and made into a paste with which is to be painted the inner side of a bajra musha (hard crucible). Mercury, previously rubbed for one day with the juice of the foregoing plants, is to be put inside the above crucible, which is to be tightly closed and heated for eight times, by means of a Bhudhara Jantram, mercury being rubbed anew every time.

तृतीयो विषयः।
रसो नियमकर्मयायों ह्रई यामचलतुष्णम्।
द्वियोगर्गतेनतलेष्व पचन् मृद्धिना शनेः।
यावत् लोटो भवेत् तचत् रोध्येत् लोहिसंपर्ते।
हरीतकीं जले पिष्ठा लोहिक्टूिन मृष्किकाम्।
छूत्वा तनमथ्यत् चिप्त्वा संपुर्तं चान्ध्येत् पुनः।
तस्योद्व म्हावकोकारं हुत्ता नागम् दूि तं चिपेत्।
कठिनेन धमेत् तावद् यावकाशगो दूि तो भवेत्।
न धमेतु पुनस्तावद् यावद् कठिनतां बजेत्।
एवं पुनः पुनमात्रत्तियामेष्मिर्यते रसः।
नियमकस्ततो बहुः सूतस्य मारकमर्मिणः।
Third process.

Mercury is to be rubbed steadily for twelve hours by the controlling drugs. It is then to be mixed with double its quantity of sulphur oil and heated steadily by means of mild fire, until it is solidified. It is then to be put inside an iron samputam, which itself is to be confined within a crucible, made of oxidised iron, rubbed with haritaki made into a paste. In a groove made at the top of the crucible, place some lead and heat the crucible steadily until the lead smelts. The heating is then to be discontinued until the lead gets solidified again. The process is to be repeated, and the crucible heated in this way for 12 hours, leading to the killing of the mercury. Lead is, in such a case, considered a controller of mercury.

चतुर्थां विधि: ।
काल्यंडरम्बरजेण: चीरें: सिता हिंद्रविभावयेत ।
सस्तवारं प्रयलोण शोष्यं पेष्यं पुनं: पुनं: ॥
काल्यंडरप्रियाम्ब्राह्म: कपायं कोड्रशांशकम् ।
हृत्वा तेन पुनमथं हिंद्रवध्रस्तेश्वरम् ॥
चिप्पवा निरुत्कथ भूषायां भूषराक्यपुर्वें पचेत ।
विबधा कित्रियते सूतो देयं हिंद्र पुर्वे पुर्वे ॥

* Sulphur, purified and powdered, is to be strewn over a piece of cloth, which is to be soaked with mustard oil, and made into a wicker. If lighted, and held erect on a glass pot, the wicker will let oil fall, drop by drop, and collect itself in the pot. This oil is called sulphur oil.
Fourth process.

White hingu is to be subjected to bhavana for seven times, with the milk of kasto udumbara, being rubbed well every time. This hingu, together with an equal quantity of bangā (tin) and mercury, is to be again rubbed with the decoction of the five different parts (viz. root, leaf, stem, flower, and fruit), of a kasto udumbara tree, the quantity of the decoction being one sixteenth in weight of the three things combined. The compound is then to be closed in a crucible and subjected to heat for eight times by means of a Buddhara Jantram, fresh hingu being put into the crucible every time it is heated. This causes the killing of mercury.

Fifth process.

Mercury can be killed, if confined with human milk, within the tuber of a katu tumbi fruit, and heated for seven times with the fire of cowdung cakes.

* Kastērṇa padantyā ||

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Sixth process.

Mercury with sulphur is to be rubbed for one day with the juice of the root of ankola. Then it is to be closed in a crucible and heated for one day. Mercury is killed in this way.

सस्मो विचि: ॥

द्विपलं श्रुत्सूतन्त्र सूताढ़ू शुद्धगन्धकम् ॥
मह येन् मारकदार्विदिन्मैक्ष निरन्तरम्॥
वच्छ। तु भूधरे यन्ने दिनेन्क मार्थेत् पुरात्॥

Seventh process.

Two palas of purified mercury and half its quantity of purified sulphur are to be rubbed incessantly for one day with the juice of drugs which can control mercury. The lump is then to be subjected to heat for one day, by means of a Bhudhara Jantram.

भष्मो विचि: ॥

एवमहिस्थतो लौहसतुचधः केवलोथ वा ॥
नियमकौष्ठकिताङ्कोमूलरसादितिः॥
वैकान्तरसुखवापि रसेन्द्र: सह महिंतः ॥
यन्त्रस्य: कमब्रुज़न वहिनोद्वेवन पाचितः॥
सूतोधरासिना ततोध्यँचीशो नोद्वं माध्येत् ॥
Eighth process.

When mercury will be enabled to stand fire by one of the processes described above, it may or may not be mixed with iron, and then rubbed with the controlling drugs, the juice of white ankola, and with baikranta and other gems, it will have to be put into a Bhudhara Jantram and heated by means of a fire kindled at the upper surface of the Jantram, the intensity of which will have to be gradually increased. Mercury is killed by this process. This mercury, even if heated by a fire kindled underneath, does not undergo diminution in quantity, and does not sublimate.

Ninth process.

Mercury is killed, if rubbed with the oil of black Dhattura and the controlling drugs, and heated for one day by means of the kachchapa Jantram. This mercury can be used in all sorts of diseases.

*

* Shambu naldhura yadvam jagyarh prakritim.

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Tenth process.

Mercury is to be rubbed for seven days with the venom of a serpent, and then put inside a Jala Jantram. A strong fire is to be made, and the apparatus is to be filled with cold water (preferably ice). The heating is to continue for 36 hours, causing the killing of the mercury. Half a gunja of this mercury is sufficient to transform copper into gold, and one gunja is considered necessary for transforming stone into gold. It is beneficial to the body as well as to the metals. The man who takes it can enjoy many wives. Such a small quantity as one tila in weight of this medicine is sufficient to cure all the diseases. It increases longevity.
Four parts of purified mercury, four parts of saindhava, two parts of somala (arsenic), and one part each of the following:—bisham (aconite), hingu, sfatika, gairika and samudra labana—all of these are to be mixed together, and subjected to bhabana with indrabaranl and kanji separately. The mixed substance is then to be subjected to heat, by means of a sthalis Jantram, for twenty four hours. After the Jantram is cooled upon the fire place, the compound, thus produced and deposited at the upper part of the Jantram, will have to be procured, and used in all sorts of diseases. It increases appetite, is nutritious, and serves as an aphrodisiac. Dose, two ratis a day.

Twelfth process.

Mercury is killed, if rubbed in the sun with the juice of koranta for some time. This may be used in all sorts of diseases.
Mercury is killed, if rubbed with devadali, hansapadi, jabatikta and punarnava.

Mercury is surely killed, if rubbed with the Jarayu of a cow which has newly brought forth a calf, and then burnt by means of an Andha musa (blind crucible).

Mercury, rubbed with the milk of kak-udumbara and hingu turns into a solid. It can then be killed, if properly burnt by means of a blind crucible.
Sixteenth process.

Mercury is to be rubbed for five days, with the juice of akhukarni, in such a way as to make the juice invisible and to make the mercury lose its original appearance. The mercury is then to be placed upon an earthen basin, kept inside a Baluka Jantram. For six hours, the mercury will have to be heated with the juice of manduki, and for the next nine hours, with the juice of akhuparni. It will thus be solidified, white-coloured, blameless, and nectar-like. If taken with tankan, ghrita (clarified butter), and honey, it prevents decay, due to the arrival of premature old age.
Mercury, with an equal quantity of sulphur, is to be rubbed for nine hours with the juice of nirgundi leaves in the intense heat of the sun, and heated by means of a Baluka Jantram. This will bring the mercury to a state of swoon. This is next to be rubbed with ghritam (clarified butter), and again heated by a Baluka Jantram. The substance, thus prepared, will appear to be an unclean lump. This contains some white coloured mercury which is to be separated, by being rubbed again with ghritam, and again heated as before. This will cause the killing of the mercury.
Eighteenth process.

Mercury is killed, if rubbed with the juice of vishnukranta, apamarga, ahiphena, and indrabaran—all mixed together, and heated by putam.

Nineteenth process.

Mercury is solidified by being rubbed with the juice of lajjalu. This is then to be put into a crucible, mixed with the same juice, and burnt by putapaka. This is how it is killed.

Twentieth process.

A Labana Jantram is to be filled with apamarga ashes, instead of salt. In the central part of the ashes,
hole is to be made, and this is to be filled with mercury and the juice of bhringaraja. The vessel is to be covered, as usual, with a basin, the joint being closed very tightly with mud, etc. The vessel is then to be heated by means of a strong fire, for six hours, causing the death and solidification of the mercury.

\[ 1 \text{st process.} \]

Mercury is to be rubbed steadily for three days with the juice of all of the following:—tuber of kalikari (langali), white punarnava, debadali, debadaru, bajarakanda, patha, and jīya. This is then to be put into a glass bottle or crucible, and heated for forty-eight hours. Thus killed, mercury will assume a red appearance.
Twenty-second process.

Five tankas of mercury are to be put inside a crucible, which has already been coated on the inner side with a paste, made of five tankas of sikhari (apamarga) roots, rubbed well with water. The crucible is then to be put upon fire. Thus heated, the mercury becomes solidified and becomes a destroyer of physical decay, and of various diseases.

Twenty third process.

Mercury is killed, if rubbed with seeds of palasha,
raktachandnam, and lime juice, and heated by means of a Bhudhara Jantram or Baluka Jantram.

Characteristics of dead mercury.

Dead mercury is white, light, stable, devoid of glare, and is capable of killing metals. When put on fire, it does not expand and sublimate.

(16) The reduction to ashes or incineration of mercury.

(i.e., the sixteenth mercurial operation.)

The first three processes.

Mercury, properly killed by one of the foregoing processes may be reduced to ashes, (a) if burnt by
putapaka, after being rubbed with the oil of apamarga or with the juice of puskaramula and tanduliaka, or with white hingu previously saturated with the milk of kaka-udumbara and dried; or (b) if heated with cow’s urine and drona-flower on a pot made of kanta-iron; or (c) if rubbed with the oils of kanguni and black dhattura, and burnt by putapaka.

Fourth process.

Dead mercury may be solidified in one of the following processes:—(a) It is to be rubbed (with
ashes of baikranta, if possible, and) with castor-oil, put inside a candle made of the fibres of a lotus stem, and burnt for three hours.

(b) It is to be put inside a paste made of bandhya and anantamulam, and heated by means of a Bhudhara-Jantram.

(c) It is to be rubbed with chapala, and juice of nirgundi or with rasaka, and burnt by means of a Bhudhara Jantram.

(d) A dead mercury wrapped up in a piece of cloth, saturated with sulphur and juice of Barahi kanda or chakramarda, and boiled with gandhakatailam (See under gandhaka, in Vol. II).

Dead mercury, solidified by one of the three foregoing processes, may be reduced to ashes—(a) if mixed with gandhaka, equal or double in quantity, and burnt in a samputam made of two kanta iron basins; or (b) if mixed with the same quantity of gandhaka and one-third its quantity of parpati made of kanta iron, rubbed with the juice of the drugs which control mercury, and then burnt in iron samputam; or (c) if rubbed with one-fourth its weight of sulphur and the juice of the controlling drugs, and burnt in an iron-samputam by means of a charcoal fire.

अथ लौहमयों मूशामायमे द्रादशाङ्कलाम्।
महिंतं हेमवाराधस्यश्च कन्यारसे रसम्॥
रसोन्यिष्ये दधर्तो लौहमया सुरन्त्रया।
निर्मिता यत्र लौहमया स्पष्टपाषांगलथया॥

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Fifth process.

Dead mercury is to be rubbed with the juice of nageswara, barahikanda, and ghritakumari, and put inside a paste made of garlic. This is then to be put inside an iron crucible, having a hole and having its inner surface painted well with sulphur, one-fourth in weight of the mercury, rubbed with the juice of nirgundi. This crucible is then to be placed inside a bigger iron crucible, twelve angulis in length, and furnished with a cover. This bigger crucible is to be kept suspended at the mouth of a vessel containing water which is to be placed on fire made of khadira wood. Upon the basin which is to serve as the cover of the water vessel, will have to be made a fire made of cowdung, found dried in pasture grounds. In this way, sulphur, eight times in weight of the mercury, is to be consumed. Mercury, thus incinerated, has the effect of curing Pthisis and leprosy.
Incineration without killing of mercury.
Sixth process.

Mercury is incinerated, if put inside a paste made of seeds of apamarga and of lotus, well powdered, and then confined within a crucible and burnt steadily.

Seventh process.

Mercury is to be rubbed, and brought to a state of swoon, by being rubbed for seven times, with debadali and blue aparajita, rubbed with kanji. The mercury is then to be put upon an earthen basin, and heated for one day, the liquid referred to above being applied all the time. Mercury will thus be reduced to ashes of the appearance of salt.
Eighth process.

Mercury is reduced to ashes, if put in a crucible with seeds of apamarga and eranda, finely powdered placed above and below it, and burnt by laghuputam for four times.

Ninth process.

Mercury and mica are to be rubbed for nine hours with the milk of a banian tree, and burnt by means of a kosthica Jantram. Thus is mercury reduced to ashes.

Tenth process.

Mercury is reduced to ashes, if rubbed with the juice of pan (betel leaf), put inside the tuber of karkoti, and burnt in a mud crucible.
Eleventh process.

Cow's ghee, sulphur, and mercury are to be rubbed together, and made into a ball which is to be put inside a kanya leaf, and placed in a kanta iron samputam, the leaf being immersed in cow's urine. This samputam is to be burnt by laghuputam for three times. The mercury will then be reduced to ashes, if confined within a blind crucible, and burnt.

Twelfth process.

Mercury is reduced to ashes, if mixed with the powdered jarayu of a cow which has brought forth its young for the first time, and burnt in a blind crucible, the inner surface of which has been painted with a paste made of the ripe fruits, duly purified, of shaka ( teak ) tree, rubbed with the milk of arka.
A hole is to be made into a strong, big and circular ball, made of sulphur, into which is to be put mercury, the hole being closed hermetically by a piece of sulphur smelted by means of a heated iron stick. Care should be taken to see that there is no hole anywhere on the surface of the ball, which is now to be wrapped up carefully with a network of thread, and boiled by means of a Dolajantram for twelve hours. The mercury is then to be taken out of the ball, and put, as before, into another sulphur ball, and again heated in the foregoing manner. The heating is to continue for seven days incessantly. Mercury thus heated, will be reduced to ashes, and will assume the appearance of an emerald. This mercury cures all sorts of diseases.
Fourteenth process.

Powdered brick, gairika (red ochre), mud raised by white ants, and saindhava—all of these are to be mixed in equal quantities, and powdered very fine. Three parts of this powder and two parts of mercury are to be rubbed together steadily and put inside an earthen vessel, with small pieces of earthen pots placed on all sides. With the mouth of the vessel will have to be joined, by means of mud and rags, the mouth of another vessel. The apparatus is then to be subjected to continuous heat for forty-eight hours, applied both from the top as well as from an
oven upon which it is to be kept all the time. By this process the mercury will be reduced to ashes, as white as camphor, and will attach to the inner surface of the upper vessel. It cures all sorts of diseases, increases longevity, and serves as an excellent tonic.

पश्चिमोऽविष्टः ।
अष्टेयमञ्जरस्रीरसरण्डकदलिजाले ।
मारंकमस्य द्रवः सूतं काकमाचीरसस्तथा ॥
वहतृपवशस्वसैं मण्डलपत्री रसिरपी ।
तण्डुलीयकलोयन कन्यकारसमहितः ॥
इष्टंकाकांजिकेनाथ चित्रलकथमहितः ।
कुंडालिकारसेनापि देवदाया रसेन तमु ॥
चपटारससांपितं गोष्णद्रवमिठ्ठितम ।
चित्रकस्य रसैरुङ्गं सेषुंपुष्पसा तथा ॥
चित्रिकाससांपितं मूषाकर्णद्रवस्तथा ।
आटर्भांमसां पित्त्रा कलिहारीसैभृंशमः ॥
गण्डृवारसेनां यामं यामं विमशु तत् ।
पल्लुक्क्रमाणा स्वात् पारदं निम्बुक्कव्यः ॥
बहुशो मधः तापे भाव्यः च पुनः पुनः ।
अथ तापीद्रयं नीत्वा समं च द्रहस्तत्तमम् ॥

* मेकरणीति पाठान्तरम् ।

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अघस्ताद्रायेतु ताप्योऽपरां वैरोऽपरन्न स्निधि दिप्यते।
पुनः पञ्चमृदूराया स्राव्या सुन्दर्म्ये लघुगातिर्क्ता॥
तन्मध्ये दिम्भिकापञ्चं षट्ठर्दसम्भवम्।
विरच्य मृषिकां गाढा तस्मिन् गर्ते निवेद्यायते॥
तस्यां सूतं विनिक्षिप्तं शिबीपत्ररसो रसे।
दीयते धरमविवर्तसम्मु सुखमचिच्छदशरावके॥
तत्पर्ये खर्परी देया निर्दौषिया नूलना तथा।
तापिकामायेचानां कन्याद्रविलेपिताः॥
pुनर्वसारेणात्मकेकत्: कुरु तद्वन्दयम्।
कुरु सन्योनिर्देशव पञ्चमुच्चल्ल्यपरि क्षिप्ते।
यथाप्रिशालायेचात्त्रयोस्तायोऽसमनतः।
यामपोडशक हावदु वर्हि कुर्याचिर्ग्रेतरम्॥
तदा निष्प्रथते भस्म सूतरं भ्रूण याहं।
हेरकेण च संकालं प्रभाणं हेरकाकृति॥
कचित्त पर्वतिकाकारं कचित्त कुपुरासग्धिमु।
pिण्डरूपं कचित्त साक्षाधु गल्दृप्तप्रभं कचित्त॥
कचित्त चंद्रसमं साक्षाधु दृढयते ह्रिष्टसौभ्यदम्।
भक्ष्येदू रत्किकामेकां मरिचनाथवा समम्॥
गुड़ेरनिच्छ्य मतिमान स्वरनाशाय भक्ष्येत्।
अहुच्छ सद् पिप्पल्या समं मोचरसेन तम्।
प्रहण्यामतिसारेः शतं मिलवेन शास्यते॥
Fifteenth process.

Mercury, six palas in weight, is to be rubbed for three hours with each of the following—juices of the kernel of the ankola fruit, eranda, plantain tree, bhringraja, kakamachi, dhatura leaves, bhendapatri* tanduliyaka, kanya leaves, powdered brick, kanji, decoction of the triphala; juices of kantalika, devadali, chapala, gokshura, chitraka, sehunda, chinchika, mushakarni, atarusha, kalihari and gandadurba. The mercury is then to be rubbed, for several times, in a hot mortar with lime juice, with which the mercury is again to be subjected to bhabana for several times. Next, are to be procured two earthen basins, uniform in size, and strong. One of these is to be painted all over with a paste made of powdered leaves of the plants which can control mercury. Five different kinds of mud (viz., brick, gairika, salt, kshra, and mud created by white ants), are to be placed in this

* another reading—bhekaparni.
basin with a hole being made in the mud. Pour the juice of simbika leaves and dhatura leaves into the hole. Prepare a crucible and put it into the hole. Put mercury into the crucible with one seer in weight of the juice of simbi leaves. The crucible is to be covered with a basin containing small holes. By the side of the mercury are to be placed broken pieces of new earthen pots. The other basin is now to be got. This should be painted with the juice of kanya leaves and with powdered nabasara. The basins are now to be joined with each other, and to be placed on fire, which is to be kindled on all sides of the basins. The heating is to last for forty-eight hours continuously, leading to the incineration of the mercury. The ashes, so produced, resemble sometimes a diamond, sometimes a parpatica, sometimes camphor, sometimes smel tep silver, and sometimes the moon. For the cure of fever, one rati of this ash is to be taken with powdered maricha and molasses. It should be used with pippali in aversion to food; with mocharasa in grahami with powdered bilwa in Atisara (diarrhoea); with the decoction of the triphala in pandu (jaundice); with the juice of bhargi in kasa (cough) and swasa (asthma). This is a very good medicine, giving strength, long life; and beauty to the man who takes it regularly.

षोडशी विधि: ।

द्यामाकुण्डलिकाविरेचनफलेछ्छूपचाम्बुना ।

खत्वस्योष्ठ सुयंत्रितोदिपिनिहितो मुलपश्रृङ्खः पूर्वपर्। ॥

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Sixteenth process.

Mercury is to be rubbed in a mortar with shyama kundalika, castor seeds, and juice of dhatura leaves, and then put inside a crucible with the five muds (see the foregoing process). The inner side of the upper part of the crucible is to be painted with the juice off kukkuradru. The crucible is then to be closed very tightly and put upon fire for one night. When cooled, the mercury is again to be heated with curd water, and then washed off with water. The mercury, thus incinerated, is to be taken with masha and pan leaf, or with sugar, or with honey. Eight virgins are to be duly worshipped before one commences taking this medicine. It cures all sorts of diseases, such as drowsiness, lethargy, inertness, diseases of the ear, inflammation, shaking, swoon, nausea, diarrhoea, vocal diseases, chronic dyspepsia, diseases
of the mouth and the eyes, gonorrhoea, obesity pthiosis, etc.

**Seventeenth process.**

The five different parts of an akhukarni plant (viz. its root, stem, bark, leaves, and flowers), and an equal quantity of gunja are to be rubbed together, and the juice extracted by means of a rag. Exhausted mercury is to be rubbed with this juice for one day, and kept in the mortar for seven days. Then it is to be rubbed well for six hours with the two drugs referred to above. The upper part of the inner surface of an earthen vessel is to be painted with a paste made of those two drugs. Mercury is to be put into the vessel, the mouth of which is to be
covered tightly with a basin, mud, rags etc. The vessel is then to be placed on fire, neither mild nor strong, for thirty six hours. When cooled, the ashes of mercury, red as morning sun, are to be taken out.

Eighteenth process.

Mercury previously rubbed with the juice of lajjalu, is to be rubbed again in a mortar with hingu, and juice of atasi, put inside a crucible, and heated by means of a mild but steady fire. This will cause the reduction of mercury to pure ashes which can be further purified by being mixed with honey, clarified butter, and tankana, and heated.
Nineteenth process.

Mercury and half its quantity of tankana are to be rubbed for five days with the juices of nimbu (lemon) and minakshi, and made into pills five masha in weight. These pills are to be dried, placed in a wooden pot, coated with powdered brick, and then again dried by being exposed to a scorching sun. These pills are now to be put inside a crucible, placed upon a charcoal fire, and heated steadily. Mercury, thus reduced to ashes, cures diseases affecting the mouth and throat. Contact with water makes this mercury assume the colour of gold. If again heated, it is solidified, turns white, strengthens the body, and increases longevity.
Twentieth process.

Saindhava, torika (tubari), mercury, kasisa, and juice of lakucha—all these are to be steadily rubbed together in a mortar for three days, and then put into an earthen vessel, tightly closed and heated for three days by a fire made of wood fuel. Mercury will thus be reduced to white ashes. This should be taken early in the morning (dose, one rati only). It increases appetite, improves eye sight, strengthens the body, and makes the system free from diseases.
Twenty-first process.

Mercury is to be rubbed constantly for one day with nagarjuni, a well-known species of dugdhika. Then, it is to be rubbed with kakmachi. This mercury, ten tankas in weight, and an equal quantity of gandhaka and Narasara—all these three are to be rubbed together and put inside a glass bottle, the mouth of which is to be tightly closed. The bottle is then to be heated for twenty-four hours by means of a baluka jantram. Thus are prepared ashes of mercury, as red as the morning sun. This mercury cures all sorts of diseases very soon. It prevents premature old age and is a very good aphrodisiac. Dose, five ratis a day.
Twenty-second process.

Mercury, if rubbed in a mortar with the juice of the five different parts of chitraka, barbari, and shivalingi and thus made into a lump and then properly subjected to heat, is reduced to a red powder.

ब्रह्मोविशो विषि: ।
भूजङ्ख्यच्छलोरेन महैत्पारदं द्यदम् ।
कर्कटेकंदसुशायाः संपुटस्यं पुटे गजे ।
भस्म तथ्योगवाहि स्यात् सर्वकर्ममेत्सु योजयेन् ॥

Twenty-third process.

Mercury is to be rubbed steadily with the juice of nagaballi, and put inside a crucible made of tuber of a karkati creeper, and burnt by gajaputam. This ash serves to heighten the efficacy of a medicine with which it is mixed, and may therefore be applied in all sorts of diseases with proper anupanam.

चतुरबंशो विषि: ।
काष्ठोदम्बरिकादुर्गचैः रसं किंचित्तिमद्येत् ।
तदुर्गचैः शृंगाहिंगोष्ठ मुषायुगमं प्रकल्पयेत् ॥
क्षिप्तवा तहसंपुटेः सूतं तच मुद्रां प्रकल्पयेत् ॥
घृतवा तद्नैतकं प्राज्ञो मस्मुस्पासंपुटेः शिष्ये ।
पचेत् गजपुटे तेन सूतको याति भस्मांतं ॥

Twenty-fourth process.

Mercury is to be rubbed for sometime with the
milk of kashtha-udumbara. Two crucibles are to be made of hingu already saturated with the same milk and dried. The mercury is now to be put inside these two crucibles, joined with each other, and kept inside another crucible made of mud, and tightly covered. This is now to be burnt by gajaputam, which will cause the reduction of mercury to ashes.

Twenty-fifth process.

Mercury and mica are to be rubbed together for six hours with the milk of bata (banyan tree), and burnt inside a sampputam by a fire made of banyan wood. This will result in the incineration of mercury.

Incinerated mercury is devoid of lustre. It is light, white, killer of metals, devoid of subtleness, and it does not sublimate, if placed upon fire.
हरिद्राशकरायुको लघुरस्य विकारनतु।
ब्रूयपां त्रिफळा वाता कामलापायुहरोगातिष्।
शिलाजतु तवैशाच शितोपतसमानित।
भृत्रकुठ्छ्य प्रशस्तोऽयं सत्यं नागाजर्जनोदिताम।
इवं गकुसम पत्री हिंशुमकलंकर।
पिपलीविजया चैव विकारन्तानिं कारयेत॥
कपरादिवम्पादानि नागाज्रागार्दकं चिपेत॥
सर्वैनकश समंद्र धातुब्रजः प्रदापयेत॥
वैवच्चलं लर्वं च भूतंबं च हरितकी।
अस्त्यानुपानयोगेन सर्वज्वरविनाशन॥
तथा रेखकरः प्रोक्षः सौवच्चलफललक्रिकः।
लर्वकुस्ममेव दर्देन च संयुताः॥
तांशुलेन समं भो धातुब्रजिकः परमः।
विदारीण्योगेन धातुब्रजिकरो मत॥
विजयादीप्यसंयुक्तो वसन्तकौ विकारनतु॥
सौवच्चलं हरिध्रा च विजया दीप्यकं तथा॥
ञ्जनेनोडरपीडः च सयोजातां विनाशयेत॥
चतुर्वषियोपलाभस्य बीजं च द्रुगणो गुढः॥
अस्त्यानुपानयोगेन क्रमिदोषविनाशन॥
अहिंसेन लर्वं च दर्दं विजया तथा॥
अस्त्यानुपानः सतः सर्वतीसारानाशनः।
Incinerated mercury, if taken with pippali, maricha, shunthi, bhargi, and honey, cures cough, asthma, and colic. It purifies the blood, if taken with turmeric and sugar. It cures jaundice and anaemia, if taken with trikatu, triphala, and the juice of basaka. It is to be used in stricture with shilajatu, elachi, and sugar-candy. Labanga, jatipatri, hingula, akalankara, pippali, bhangaa—all of these are to be taken in equal quantities, and in one eighth the quantity of each of these is to be taken camphor, and nagakeshara is to be taken half of lavanga etc.—all of these are to be rubbed together and taken with incinerated mercury for the purpose of increasing the dhatu *

Incinerated mercury cures all sorts of fever, if taken with, saubarchala salt, labanga, bhunimba, and haritaki. It serves as a purgative, if taken with saubarchala salt, and triphala. It increases the dhatu, if taken with labanga, and betel leaf. It may also be taken with the powdered bidarikanda, for the same purpose. It cures vomiting, if taken with bhangaa and jamani. It cures all sorts of diseases relating to the belly, stomach, and abdomen, if taken with saubarchala salt, haridra, bhangaa, and jamani. It kills worms, if taken with chaturballi, palasha seeds, an

* The dhatu are the seven essential substances composing the human system.
double their quantity of molasses. It cures all sorts of diarrhoea, if taken with opium, labangha hingula, and bhianga. It cures loss of appetite, if taken with saubarchala salt and jamani.

Incinerated mercury cures all sorts of ailments due to the predominance of pitta, if taken with sugar and amalaki. It cures all sorts of ailments due to the predominance of vayu, if taken with pippali.

It cures all sorts of ailments due to the predominance of phlegm, if taken with ginger juice. It cures fever, if taken with lemon juice. It cures all the ailments due to the impurities of the blood, if taken with honey. It cures dysentery, blood discharges in general, and diarrhoea, if taken with tanduliyaka.
Use of the ashes of mercury.

The ashes of mercury can cure every disease, if taken with that particular anupanam (accompaniment), specially efficacious in that disease. It cures fever, if taken with the decoction of musta and parpāti. It cures a fever due to an abnormal excess of the three doshas i.e. (typhoid and similar fevers), if taken with the decoction of dasamulam and powdered pippali. It cures raktapīttaṁ, if taken with honey and powdered haritaki or with the juice of vasaka and powdered pippali. It cures kasa or kapha, if taken with the decoction of kantakari and powdered pippali. It cures consumption and pthisis, if taken with ghee and pippali, already boiled with goat’s milk, dried and powdered, or with the triphala, gandhaka, trikatu, and old molasses.
The ashes of mercury cure hiccough, if taken with saubarchala salt, the juice of bijapura, and honey. It cures vomiting and inflammation, if taken with honey, sugar, fried paddy, mudga, and sugar water.

It cures piles, if taken with shuranam, burnt by putam, and mixed with oil and rock salt. It cures diarrhoea, if taken with the decoction of the bark and blossoms of a kshiri tree, mixed with butter water. It cures cholera, if taken with pippali and hingu. It cures indigestion, if taken with kanji or with powdered haritaki, and decoction of the root of eranda. It cures an awful bimbisi, if taken with the decoction of blossoms of a kshiri tree, dried bilva fruit (unripe), and shunthi, mixed with molasses. It cures mutrakrichhra, if taken with the decoction of dried bilva fruit, inner part of a karkatica fruit, and masura, or with milk and gokshura, or with milk and honey.

पारद्भस्मशिलाजल्लक्षणालोहिमल
श्रीफलाकुलिवीजम्
नायनिशारजतोपलकान्तत्योष
रज: खपुरश्च कपित्यम्
Incinerated mercury, silajatu, pippali, mandura, triphala, akuli seeds, swarna-makshika, haridra, gandhaka, kanta iron, trikatu,—all of these are to be taken in equal quantities, powdered, and then mixed and subjected to bhavana for twenty times. This medicine, if taken in the morning with honey, cures twenty different kinds of gonorrhoea and spermatorrhoea.

Incinerated mercury cures enlargement of the spleen and gulma, if taken with the decoction of nyagrodhadi or ashanadi, mixed with haritaki, rasona and cow’s urine. It cures pacti-sulam, if taken with the juice of peas mixed with the kshara of conch shell. It cures amasulam, if taken with the decoction of tila, mixed with the trikatu.
Incinerated mercury cures udara-rogam, if taken with powdered haritaki, previously subjected to bhavana with butter, aconite, and kshara. It cures jaundice, if taken with the decoction of jastimadhu. It cures sotham attended with anaemia, if taken with the decoction of triphala. It cures sotham, if taken with the decoction of shunthi and bhunimba, mixed with cow's urine, nimba, amalaki, and kankustha.

Oil is to be prepared with rasona, rajika, chitraka, nili (indigo), bhringaraja leaves, and an equal quantity of bhallataka. Ghritam is also to be prepared with bhusirisa, and the five important parts (viz. root, bark, flower, leaves, and fruits) of nagakeshara, —A man suffering from leprosy should take every day in due doses the oil and the ghritam, mixed with honey and ashes of mercury, and should also apply powdered trikatu all over his body, or
anoint it with mustard oil, mixed with mercury and sulphur, both purified.


कपूरव्यासहिनस्वतैलपाताल।
मूलीरसभावितेन।
रसेन लिहात् समुवर्ग्यों वा
विचूर्यितं पुष्पसां स कुशी॥

फेफळफलाहिदर्वाकन्दरसं
खाद्यःमत्तुदिनम्।

फेफळमूलोद्वन्नमाचरतापि
च कुतः कुशम्॥

A leper may also take every day honey, well rubbed with gold reduced to ashes, and with dead mercury, previously subjected to bhavāna with karpura balli, nimba oil, and juice of patala-muli. He should also take every day phenila fruit, ahi, and tuber of darvi, and get himself rubbed all over his body with the root of phenila tree. Leprosy is to be cured in this manner.

चित्रकवानिववायसोलुगदीवाकुचिका
द्रियुका: परिपीता:॥

मूत्रयुता मृतसूतसमेतस्तकभुजः
शमयति किलासः॥

A man is cured of kilasam, if he takes one part of dead mercury, and two parts of each of the follow-
ing;—chitraka, banari, kakatundi, bakuchi—all rubbed well with cow’s urine, and also takes some butter milk every day.

Leucoderma or white leprosy is cured very soon, if the patient lives on rice with milk, and takes the ashes of mercury with the following as anupam (or accompaniment):—essence of mica, marubaka, somaraji, talamuli, ijjala, jatamansi, rasanjana, shunthi, bhringaraja, maricha, dhava tree, karpura, chitraka root, ankola seeds, haridra, tila, guduchi, bark of shakhotaka tree, and the triphala (all rubbed, of course, with honey. Dose of the accompaniment—one fourth of a tola in all).
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रसमङ्गिनिचि: ।

त्रिकुटुत्रिष्णेत्रालवल्लैः समानशुगुंगुलुजयेत।
वातारि तेलसंयुक्तः स्यौल्यं भस्मरसो ध्रु वमु॥
मधुरदकाभ्यां युक्तो वा कार्यं तु शुर्करानीतः।
हितकाूवच्चलण्योपमुत्रसिद्धेन सार्पिषा॥
रसो हन्यादपस्मारसुन्मादं च तथाज्ञानात्।
मध्यकुन्तीताद्यपारावतसारलेष्यं॥

Dead mercury kills worms, if taken with blossoms of nimba. It kills all sorts of diseases due to an excess of bayu (air), if taken with oil, boiled with garlic. It cures gridhrasi (sciatica), if taken with milk boiled with shunthi (dried ginger), and the root of castor tree. It cures bata-rakta, if taken with molasses, haritaki, and decoction of guduchi. It cures obesity, if taken with the trikatu, triphala, bidanga, each equal in quantity, plus purified guggulu, equal in quantity to all these three combined—all rubbed with a sufficient quantity of castor oil. It may also be taken with water mixed with honey for the same purpose. It cures thinness, if taken with sugar. It cures insanity and hysteria, if taken with ghritam (clarified butter) boiled with hingu, saubarchala salt, the trikatu, and cow's urine. It also cures the same diseases, if used as a collyrium after being mixed with madhuka, manas-sila, rasanjana, and the stool of pigeon.
Falling in of hairs in the eye-lids is cured by the application of killed mercury, rubbed with oil prepared with one-eighth its quantity of the following three, combined and rubbed with kanji:

Pippali, seeds of karpasa and karamardha All sorts of eye diseases are cured, if dead mercury, already subjected to bhavana with bhallatakṣa and rubbed with the following is used as a collyrium:—barbura, blossoms of nimba, burnt goat’s stool, killed kansya, kokilakshya, manasila, and human milk. The patient, in this case, after taking the collyrium, is to have his whole body well rubbed with oil, and then take a bath. Dead mercury cures timira (loss of eye-sight) and kacha (cataract), if used as a collyrium mixed with the following:—Mahabheri roots, aswagandha, hingupatri, bodhi, kola, and lime juice. Dead mer-
cury cures all sorts of diseases pertaining to the rectum, by external application, when rubbed with oil extracted out of ghosha fruits, previously subjected to bhavana with the milk of arka.

The triphala, patola root, the trikatu, guduchi, bidanga seeds, and guggulu, equal in quantity to all of the foregoing combined—all of these taken together, cure carbuncle, if mixed with dead mercury. The juice of mulaka, mixed with the ointment just mentioned, cures granthi. Cocoanut water, mixed with killed mercury, cures measles, and small pox.

Dead mercury, mixed with oil and the juices of cotton leaves and anantamulam, cures Osteomyelitis, or discharge of a liquid substance through a particular part of a bone, and cures poisons of all sorts, organic and inorganic. The same purpose is served if dead mercury is mixed with
rice water, * juice of tanduliyaka, or satabari, and used either as a drink, or as a snuff, or as an unguent.

Dead mercury, taken in one rati with curd and camphor, previously subjected to bhavana with the juice of cowdung, cures all sorts of poison, organic, inorganic, and artificial.

Gold, killed with incinerated lead and incinerated mercury, destroys senility, if taken for six months with the juice of satabari. The same purpose is served by taking the triphala, already subjected to bhavana with the decoctions of khadira and asana, respectively, and mixed with incinerated gold and incinerated mercury. One can live an incredibly

* Powdered rice immersed for some time in four times its weight of water gives rise to rice water.
long life, if one takes every day regularly, mercury, killed with sulphur, and kanta iron, killed with the juice of amalaki, mixed together with the triphala. Chitraka roots, the triphala, bhringaraja, haridra, anjana leaves, killed mercury, clarified butter, sugar, and honey—all these taken together, serve to remove senility and ugliness of appearance.

Senility is destroyed by dead mercury, previously subjected to bhavana with the herbs having the power of controlling mercury, if taken with sugar, milk, honey, water, and clarified butter, all rubbed together with incinerated gold, one fourth in quantity of the mercury, taking of this medicine being followed by the patient drinking some milk, boiled in a kanta iron pot.
Bajrapanjara rasa.

Incinerated diamond and an equal quantity of killed mercury are to be rubbed with the juice of hansapadi and burnt by putapaka. The product is then to be rubbed again with an equal quantity of killed mercury and burnt in the same manner. This ash is then to be rubbed for some time with kanji for coating the surface of four times its weight of gold leaf to be killed in the usual manner. The product, thus obtained, is to be taken with chitraka root, ardraka (ginger), saindhava salt, bacha, and saubarchala, in doses of half a rajika to be gradually increased to one masha per day, total quantity taken by a patient being one palam. This medicine, called ‘bajra panjara,’ is a saviour of people overwhelmed with diseases, senility, and impending death.
Panchamrita.

Swarnamakshika, kanta iron, mica, pearls, and diamond, taken in equal quantities, (all purified and reduced to ashes), are to be rubbed for one week with mercury which has already swallowed gold, and with the juice of one of the several herbs known as rasa-mulikas (or herbs required for mercurial operations), and made into a lump which is to be heated by means of a Jantram (crucible, or samputam, or bhudhara-jantram). The medicine, thus prepared, is called panchamrita. It is more efficacious than the foregoing (i.e., bajrapanjara rasa), if taken with honey and clarified butter.

\[\text{अथ रससेवाविधि:} \]

प्रातरैव पुरतो विरेचनं तद्हिनोपवसनं विनाय च ।
तत्परेजहनि च पथ्यसेवनं ततौपरेजहनि रसेन्द्रसेवनम् ॥

Take a purgative in the morning, and fast for the whole day. Take some light diet next day, and commence taking mercury from the day after.

—मतान्तरम्—
क्षेत्रीकरणम् ।

चमनरेचनादिभि: शुद्धो लघुङ्गवल: पुमानः ।
प्रात: प्रात: क्षणापथ्याविश्वसैन्यवचिन्त्रकम् ॥
Preparations for taking mercury.

One should observe the following rules for one-month, before one commences taking mercury:—

The system is to be purified by purgation, vomiting etc., and then, after recovery of strength, the patient is to take every morning powdered pippali, haritaki, shunthi, saindhava, and chitraka root, mixed with tepid water. This will serve to maintain the power of digestion. He is also to take every night, for one month, with a little of pippali, haritaki, honey, and clarified butter, incinerated mica and kanta iron, previously subjected to bhayana with the juice of bhringaraja and amalaki, and confined within an iron samputam, kept in a heap of paddy for some time. This is what is called the kshetrikaranam or preparation of the soil.

—-मतान्तरम्—

क्रिमयो क्रिंभविरिकं यशीरुजं सिंहभेषजे:।
एतत् चेत्रं समाते न रसबीजार्जणचमम्॥
The soil of a human system is rendered fit for receiving the seed of mercury, after it is soothed, soothingly purged, and freed from ailments. It can be soothed with clarified butter, taken with a little of saindhava, every third day. It can be purged by a purgative called the *Ichhavedi bati*. It can be made to vomit by the juice of bacha etc. It can be freed from worms by palasha seeds and bidanga, taken with molasses. It can be freed from minor ailments by such medicines as shringarabhra, lakshmibilasa, etc. which contain a good deal of the essence of mica. It can get strong, after purification, by taking Shali rice
with meat juice of a salutary character. An intelligent man should get himself thus purified and strengthened, before he commences taking mercury for the purpose of removing diseases and senility. The man who takes mercury, without preparing the soil of his physical system in the aforesaid manner, does not derive any benefit from the medicine which rather proves harmful. * Only mercury of the following kinds is considered commendable for medicinal use:

(a) Incinerated mercury exhausted with one fourth its quantity of the essence of mica. (b) incinerated mercury exhausted with half its quantity of kanta iron, and (c) incinerated iron exhausted with an equal quantity of steel.

The mercury which does not undergo any change by the application of heat can create gold and silver. Even purified mercury (not incinerated) is competent to cure diseases, if taken in the preserijbed manner.

अय रत्सेवकम् मात्राः

वनस्पत्वकन्तरताग्रसंकरतीत्वादि दिष्टीणम्

सूतस्य गुज्ज वृहदया माषकमात्रं परा मात्रा

The dose of incinerated mercury exhausted with essence of mica, kanta iron, copper, brass, steel etc. is one gunja, or rakti per diem, to be gradually increased to one masha.

* This refers to the taking of mercury alone, purified or incinerated, and does not apply to medicines containing mercury with other metals.
शुचामात्रेन रसभमस्म हेमजीयांतु मध्येऽत।
दिणुण्यं तारजीयांस्य रविजीयांस्य च श्रयम्।
तीच्यांच्याकान्तजीयांस्य माषा मात्रा प्रकीर्तिता॥

Another view.

The dose of incinerated mercury exhausted with gold is one rakti; that of mercury exhausted with silver is two raktis, that of mercury exhausted with copper is three raktis, and that of mercury exhausted with steel, nica, and kanta iron is one masha or 8 raktis per day.

वश्मेकं नरेश्वे तु गद्यायौंकं गजे द्रष्यम्।
सन्बरोगविनाशयं भिषकु सूतं प्रयोजऽयेत॥

Another view.

For the cure of all sorts of diseases, mercury is to be given in doses of two raktis to a human being, 32 raktis to a horse, and 64 raktis to an elephant.

नागवक्षडा-मिर्बंधं चिरेकोपविक्षेण वा।
भृगुक्षुकास्थातहू ब्रह्मं स्वतेत् कल्पे रसायने॥
भस्मस्त्रीर्जोचार्जीयांस्य लचायुः पलभच्यात्।
दशपदं च न: प्राग्नस्त्रीर्जोचार्जीयांस्य भ合作共赢॥
स्थं जीवनं महाकल्पं प्रलयान्ते शिवं अंशेत्।
भस्मं: शुल्जीयांस्य लचायुः पलभच्यात्॥

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Mercury, solidified with lead, tin, poison, semi poison, urine, or semen, is to be avoided for medicinal purposes. One who takes one palam of incinerated mercury, exhausted with steel or copper, lives a lac of years. If he takes ten palams he lives for a kalpa. One who takes one palam of incinerated mercury, exhausted with gold, lives for one crore of years. It is desirable to take every day one rakhi of incinerated mercury, exhausted with gold, and mixed with clarified butter, and honey, and to enjoy betel leaf and the company of a passionate wife, so long as the medicine is taken. There is only one difficulty arising out of taking incinerated mercury, viz, the man gets intoxicated, in three weeks, with sexual desires.
The man gets indigestion, if he avoids all connection with women, at the time he takes incinerated mercury. A sexual intercourse, on the other hand, leads to the waste of semen and proves very dangerous. Such being the case, it is desirable to dally with women without having any sexual intercourse. The taking of incinerated mercury every day, by a yogi who observes absolute celibacy, serves to help him in attaining samadhi (a state of mind in which the individual soul merges itself into the Brahman or the Universal Soul). The mercury is to be taken in the morning, diet being taken just after mid-day. In case of constipation, caused by the medicine, take a decoction of guduchi and pippali, just before going to bed for sleep. Incinerated mercury, taken with a betel leaf, does not give rise to constipation.

The patient is to greet the Rasacharya with the same degree of respect as is due to Maheswara. He
should also welcome the mercury, duly prepared, and kept in pots made of horn, ivory, bamboo reeds, etc. The patient is also to pay his reverences to the gods, cows, and Brahmans and to take the medicine with a piece of betel leaf.

Dietary regulations to be observed at the time of taking mercury.

The following items of diet are considered salutary to one who takes incinerated mercury:—juice of mudga, milk, clarified butter, shali rice, punarnava, bastu, meghanada, juthika, saindhava salt, pippali, musta, and lotus roots.
The following are considered injurious to the eater of mercury:—
Kushmanda, karkoti, kalinga, karabella, kusumbha, karkati, kalambi, and kakamachi.

The following are salutary to an eater of mercury:—
Shali rice, wheat, barley, shastika rice, jangala meat juice, juice of mudga, cow's milk, daily bath in comfortable water, and dallying with a dear wife, full of youth and beauty.

The following are injurious to an eater of mercury:—anointing the body with mustard oil, taking of kanji, oil, alcohol, curd, kalinga, karbella, things sour in taste, garlic, onions, rye, raddish, pulses, vilba fruit, brinjal, mushrooms, kakamachi, rubbing of
limbs, keeping late hours at night, sleeping in day time, and taking things which are pungent, sour, bitter, saline, and sweet in taste; warm food, ice water, grief, current of air, exposure to the sun, anger, meditation, showing of courage and bravery, and taking of all things which serve to help the incineration of mercury and metals.

The following serve to counteract the effect of mercury (and should therefore not be taken by an eater of mercury, except, of course, betel leaf, a piece of which may be taken with mercury for the purpose of removing constipation):—camphor, chaturjata, kankola, trikatu, jatiphalam, and betel leaf.
The following are to be avoided by one who takes mercury:—Excess of drinking water, excess of food, excess of sleep, excess of avoiding sleep, excess of association with women, walking, excess of anger, laugh, sorrow, and desire; dry conversations, sports in water; excess of thought; commission of sin, staying near animals; going near the junction of two roads, walking over stools and urines; slandering of worthy people and women, telling of lies, telling of unpleasant things, taking of kurathwa-grams, atasi (linseed) oil, tila, masha-grams, mashura, pigeons, kanji, food mixed with whay or...
butter milk, hemachandra, etc, and fowls; taking of things which are pungent, sour, bitter, and saline; things which increase pitta (animal heat) and vayu (quantity of air inside the human system); plums, cocoanuts, mangoes, subarchala salt, nagaranga (oranges), kamaranga, grapes, and sobhanjana, argumentative discussions, going for walks, uncooked rice, camphor, anointing the body with saffron, lying upon the earth, and chastisement of virgins.

The taker of mercury should on no account abstain from food, when hungry, and should also not take any food unless he gets hungry. He should chant the aghora mantram, if possible, as long as he can.

(4)

घृतसौन्थकन्याकन्याकेरकाक  कसंस्कृतम् ।
तपुडुलीयकन्याकपटलालस्तुपादिकम् ॥
गोधूमजीर्षणशाल्यपः गच्छं चोरं घृतं दधि ।
इसोदकं मुदरसं पध्यवर्गः समासतः ॥

One who takes mercury should take the following vegetables, duly cooked with clarified butter, saindhava, dhanya, jiraka, and ginger:—tanduliyaka, dhanya, patola, alambusha. He should also take wheat, shali rice of more than one year's, but less than three year's standing, cow's milk, clarified butter, curd, water exposed to the sun during day time and to moonlight during night, juice of mudga, and all good diets in general.
The following are to be avoided by one who takes mercury:—brihati, vilba fruit, kushmanda, the tender part of betas, karbella, masha (bean, horse gram), masura, shmibi, kulattha, sarshapa, tila, fasting, rubbing the body with oil, etc, bathing, fowl's meat, white mustard, liquors in general, fermented drinks, meat of anupa animals, kanji, taking meal on banana leaf and on bell metal pots, heavy meal, and pungent and hot things.

The under-mentioned articles of food stuff, with the alphabet "K" at the beginning of their names, should also be avoided by one who takes mercury:—kantakari fruit, kanji, kamatha (tortoise), oil, rye, lemon, kataka (nirmala fruit), kalingaka, kushmanda, karkati,
The following articles of food stuff, also beginning with 'K' are to be avoided by one who takes mercury:—
kangu, kanduka (betel nut), kola, kikkuta, kalacroda, kulattha, kantari, katu taila (mustard oil), krishnagala,
kurma, kalaya, kana, karkalu, kathillaka, kataka, karkotaka, karkati, krishnajira, and kanji. All these are forbidden by the great Shree Krishna.

उद्दारे सति दृष्ट्यं क्रिष्णमीनं सजीरकम्कृ।
भिष्मेनितिलोभोंमें तेलेनारायणुद्दिष्मिन्।
भरतौ श्रीतोयेन मस्तकोपरि सेचनम्।
तुष्णाय्या नारिकेलाम्बुमुदयूर्यं सशक्रम्।
श्रीचादाहिमस्मृतिकर्मकं फलं त्यजेत्।
रसबीर्यविवृद्धरथं दधिवीरेनुभुक्तंसम्॥

श्रीर धनार्थविवृद्धं परिचर्यं न तु दुर्घच्च तदेष्विशेषेष्वतववांम्॥

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How to cure symptoms due to an improper use of mercury.

If the taking of mercury is followed by a coming out of gases through the alimentary canal, the patient is to be given rice with curd, and black fish cooked with jira. In case of excess of vayu (air) in the system, the body of the patient will have to be anointed with narayana taila etc. In case of restlessness of mind, cold water will have to be applied on the head. In case of excess of thirst, tender cocoanut water mixed with sugar and juice of mudga, are to be prescribed. Grapes, pomegranates, dates, banana fruits etc., are to be given up. For the purpose of increasing the potency of mercury, the following should always be avoided:—curd, condensed milk, sugar-cane juice, sugar, and all sorts of things having a cooling effect on the body. After discontinuing the taking of mercury, it is desirable that the patient should take for some time brihati fruits and vilba fruits. These are the general rules relating to the eating of mercury.
The violation of the rules relating to the taking of mercury, as referred to above, results in a failure to digest the mercury, accompanied by a colic pain on the lower part of the navel, inactivity, drowsiness, lethargy, fever, shortness of eyesight, pains all over the body, aversion to food, and inflammation of the whole body. To remove such symptoms, one should take, for three days, suvarchala salt, with cow's urine and the juice of karkati root, or the juice of matulunga mixed with saindhava salt, and shunthi (dried ginger). A man who takes by mistake mercury containing lead or tin, should take saindhava mixed with cow's urine and the tuber of karabella; or a decoction of karkoti, guduchi, haritaki, and sharapunksha, prepared by boiling the things with cow's urine, to be reduced to one eighth its quantity and mixed with saindhava.
A man attains success in taking mercury; if, prior to his so doing, he prepares his system in a manner described above, viz by purgation, vomiting etc.; otherwise, the action leads to death.

अन्यविधः

(3)

नामिमूलसे भवेच्छुलो निद्रालस्वं व्यरोजःचिः।
जायं मलसहो द्राहो रसाजीण्यं भवेच्छु ग्राम॥
रसाजीण्यं भिन्नता तत् कुष्यांत् प्रतित्रिक्यां।
दिनन्त्रयं प्रयलेन क्रियावं रसायने॥
कक्रोठकेंद्रसंस्थूलं क्षायं श्रीदिनं शीतुः।
रसाजीण्यं शीतेद्रापि गोजलं रूचकान्वितम॥
विल्वसेन्धवसंयुक्तं मालुकुलस्य मूलकम्।
ञ्चानानागकलङ्को भुको यदि भवेद्रसः॥
नागदोषविशुद्धयत्र गोमूलस्य समन्वितम्।
पदुयुक्तं शीतेद्रापि कारवेलभवतं था।
इत्यं नागभवो दोषो नामायतां निद्धितम्।
वन्याकक्रोठकपुष्पं गर्हणि च तत् परम्।
ञ्चामान्तं मूलं चिप्तवा गोजलम्बयत्॥
ञ्चामलकंत्कक्षु मूतं स्ववित सेविते।
ञ्चामललवणाहारं मनंदवीयों भवेद्रसः॥
सतं बर्ज्यदेवकाहारं रससेवकः॥
Indigestion of mercury is followed by colic in the navel, drowsiness, lethargy, fever, aversion to food, dullness, constipation, and inflammation. This is remedied by taking for three days decoction of tuber of karkati; or cow’s urine mixed with saubarchala salt; or root of matulunga mixed with powdered shunthi and saindhava. To remedy the evil effects due to the taking of mercury mixed with lead, one should take the root of karabella mixed with saindhava. The same purpose is served, if a little of bandhya karkotaka flower and garudi root is taken with cow’s urine. Mercury is purged out of the body by taking a good deal of sour, pungent, and bitter things.* Mercury looses its potency by an excess of sour and salty things being taken. One who takes mercury should avoid taking meal only once a day, in as much as abstinence from food destroyes appetite, with the

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* The allopaths who have been using "makaradhwaja" should take note of this. Administration of Makaradhwaja and quinine at the same time, is found to be not only abortive but pernicious also.
result that the mercury is not absorbed in the system, leading to the failure of mercury to cure disease. The potency of mercury is therefore to be increased by a splendid diet. Practices, forbidden before, should be avoided by all means at the time of taking mercury. Diets which have the effect of purging mercury out of the body should be avoided very carefully. Those articles of food stuff which cause a loss of appetite should also be avoided.

(4)

विकारा यदि जायन्ते पारदान् मलसंयुतात्।
सेवेत गन्धकं धीमान् पाचितं विधिपूर्वकम्॥

The ailments due to an improper use of mercury may be removed by the use of sulphur, duly purified. (For purification of sulphur, see vol. II.)

(5)

रसकपूरे रख्यावरुणः।
सेवितोऽविधिना कुष्ठम् सन्धिवातं कष्टादिकम्।
रसकपूरेण कुष्ठायत् तस्माद् यलेन सेवयेत॥

Rasakarpuram or white mercury, if not prepared in the prescribed manner, gives rise to leprosy, gout, and excess of phlegm. It is therefore to be prepared and taken very carefully.

रसकपूर्णखोपस्य शाल्ति:।
महिषीश्चक्तो नीरं धन्याकं वा सितायुतम्।
पिन्नु नीरेय मुक्त: स्वादुः रसकपूरंजेगदेः॥
Ailments due to the use of rasakarpura, prepared in an improper way, are removed by taking with water, the watery portion of the stool of a she-buffalo, or dhanya mixed with sugar candy.

(6) रससिन्दूरस्त्याक्सुणः।
रससिन्दूरमशुद्धाद्रसांद्रि जातं पारदबरूऽरोगान्।
कुष्ठांतः तेषां शान्त्येऽघुत्मारिचरजः पिबेत् सतदिनम्॥

(6) Rasasindura, prepared out of impure mercury, gives rise to all the evil effects of using mercury, not purified in the manner described before. These evils are remedied by taking clarified butter with powdered maricha for seven days.

वाहीकालितनिमुः कृत्यहीनो भवेतः॥
जायते मन्थथाकारो नरोविष्य प्रसदारतः॥
रसायने हि निहिंद्यं प्रायशो रससेवने॥
बुधः प्रजा बलः कान्तिः प्रभावश्च तथा वहः॥
झारौग्यं लघुता सौष्ठवं रुचिर्गुणब्यंशस्मिष्टा॥
रोगनाशश्च बुध्यताः सततं रससेवनात्॥
नौषधं पारदादन्यश्च देवो महेशातः परः॥
न वेदादपरो बन्धुस्यं दानादपरो विधि॥

A man who takes mercury, in accordance with the procedure laid down above, becomes free from senility and death, and acquires a very handsome physique.
with a steadiness of procreative energy; and development of intelligence, beauty, and physical strength. Mercury gives rise to immunity from diseases, buoyancy of the heart and of the body, cheerfulness, appetite, power of digesting heavy diet, and nutrition.

There is no better medicine than mercury, no greater god than Mahadeva, no better friend than physician, and no better deed than gift.

Kanta iron, abhra, swarna-makshika, hiraka (diamond), gold, and incinerated mercury—all these are to be rubbed for one week with kanji and made into a ball, which will have to be coated all over with a paste made of gojihva, kakamachi, haritaki, nirgundi,
honey, and saindhava. This is then to be subjected to heat by means of a bhudhara jantram, heated by fuel made of khadira wood. The crucible to be used for this purpose should be coated all over its inner part with a paste made of barley, tamarind, ashes of palasha wood, bibhitaki, rajika (rye), cotton seeds, and tanduliyaka. Powdered alum and white glass are to be gradually put into the crucible, from time to time, so long as the heating continues. In this way, the ball gets dried in fifteen days. The gold used in this case is to be incinerated by means of an equal quantity of bida being mixed with it at the time of its being heated in a crucible.

This ball, if held for one year inside the mouth, serves to restore a dying man to life and strength, and to make the body so strong as to baffle the enemies' arms, and to cure senility.

Incinerated mercury, mixed with an equal quantity of incinerated swarna-makashika, is nutritive. Incinerated mercury, if taken with clarified butter, honey, juice of satabari, and milk, increases sexual desire. It gives an unusual power of sexual activity, if taken with the juice of red agastya flower, juice of black banana, and essence of mica.
The following, with their respective flowers, roots, and leaves, are what are called the controllers of mercury:—gandhanakuli, banyakarkoti, kanchuki, jamachinchika (unripe tamarind), satabari, sankhapsuppi, sharapunkha, swetapunarnava, mandukaparni, hilmachika, brahmadandi, juthika, antamulam, kakkangha, kakamachi, kapotika, aparajita, pitajhihnti, prasarini, pitabala, swetabala, nagabala, murba, chakramarda, karanj, patha, bhumiomalaki, nili, ghosa, padmcharini, ghanta-patali, gokshura, gojihva, kokilaksha, meghanada, akhuparni, kshirini, tripusha, meshasringi, black tulasi, kantakari, and sweta aparajita.
The following vegetables, called the controllers of mercury, are used in the bhavana, and boiling of mercury, and also in plastering crucibles for use in mercurial operations:—gandhanakuli, kshirini, indrabaruni, hilamochika, sankhapuspi, kaka jangha, apamarga, bhargi, akhuparni, punarnaba, kanchuki, durva, sweta-jhinti, utpalam, shimbii, satabari, asthi-sanhara, banya surana, agnikarni, sweta arka, shobhanjana, dhuttura, mrigadurba, kadali, racta-alu, nirgundi, lajjalu, devadali, mandukaparni, nagaballi, chitraka.
grishmasundara, kakamachi, maharastri (kanchata), haridra, tilaparni, jati, jayanti, shridevi, bhukadamba, kusumbha, koshataki, jalapippali, langali, katutumbi, chakramarda, guduchi, suranam, surjabarta, sharapunkhi, barahikanda, and hasti-shundhi.

The following are the drugs which are to be used in the killing of mercury. Not less than eighteen of these drugs are to be used, jointly or separately, in the operations leading to the incineration of mercury:—brahmadandi, tanduliyaka, chitraka, musta, asthisanchara, bala, shunthi, katutumbi, ardhachandra (karnas-
photā), bishamustī, arka, lakṣha, gokṣhura, kakaṭundi, kanya, chandalini, shuranaṃ, sharapunkha, basta, gandhanakuli, ractagra (ractarka? or ractalu?), nirgundi; lajjalu, devadali, jati, jayanti, barahi, bhukadamba, jhinti, koshataki, jalapippali, langali, prasarini, chakramarda, guduchi, shuranaṃ, kakamachi, suryabhacta, aparajita, hastishundi, snuhi, bhringaraja, and patu (saindhava salt).

मतान्तरम्—मार्कवर्गः।

घण्ठचालित्रकगोचरकटुवम्बीदन्तिकाजातीः
सर्पाच्छी शरणुझा कन्या चण्डालिनी कन्दम्।
विषमुष्टिवज्रवंश्यो लज्जा देवदालि लाचा
सहदेवा नीपकगाः न निर्युंहः चक्क लाञ्ज्जलिका ॥
माणार्कचन्द्रेश्वा रविभक्ता काकमाचिकाचार्कः।
विष्णुकान्ता वायस्तुरद्वी वज्री वला सुषुटी हैव ॥
कोषालकी जयती बाराही इस्तिशुरुण्ड्का रम्भा ॥
मतुस्वाभी यमचित्ता हरित्रे ह् पुनर्वात्िदितथम्।
धुस्तुरः काकजहा शतावरी कक्षु की हैव वन्या।
तिलमेकपरिष्का दूष्यां मूल्यां हरीतकी तुलसी।
गोकुटाकसुपरमो कक्षीकन्द्वगलंता च।
मूलसी हिन्द्रुझु ची शिपु गिरिकपिका महाराजी॥

* मीरजाना इति पादान्तरम्।
† माणार्क खडे शालार्के इति पादान्तरम्।
रसजलनिनिगः।

माक्रसन्भवसरणिसोमलताशवेतसर्पपासनध्वः।
हस्पदीन्याङ्गपदीकिंशुकमल्लातकेन्द्रवारुणिका:।
स्वर्ज्ञाांशं वायुशाखिकं वापि त्रच्चम्।
समारामूस्त्राद्रो च युक्तिः विविधिविहुप्योज्यम्॥

The following are the killers of mercury. They are to be used by the adept in causing swoon and incineration of mercury. All of them, or half their number, or at any rate, not less than eighteen of them, may be used either jointly or separately:—Musta, bacha, chitraka, gokshura, katutumbi, danti, jati, gandhanakuli, sarapunkha, kan ya, chandalinii, shuranam, bishamusti, asthisanhara, lajjalu, devadali, laksha, prasarini, kadamba (balaka, according to another version), pippali, nirgundi, kasamardaa, langali, mana (shala, according to another version), arka, shomaraji, surya bhacta, kakamachi, sweta arka, aparajita, kakaunbdi, snuhi, balaa, shunthi, koshataki, jayanti, barahi, hastishundi, rambha, brahmi, jamachincha, haridra, daruhridra, swetapunarnava, ractapunarnava, dhuttur, kakahajanga, shatabari, kanchuki, bandhya, karkotaki, tila, mandukaparni, durba, mura, haritaki, tulasi, gokshura, akhuparni, karkatikanda, bargalata, mushali, hingu, guduchi, shigru, sweta aparajita, jalapippali, bhringaraja, saindhava, sarani, somalata, swetasarshapa, ashana, godhapadi, byaghrapadi, palasha, bhallataka, and indrabaruni.

मतान्तरम्।

सर्पाची चीरिणी वन्या मतस्याची शरुपुष्किरा।
ककज्जां शिखिरिण्या ब्रह्मदेवज्ञातुपरिकरी।॥

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वर्षाभूमिकृत के मूर्वा पदुकोत्पलचित्रिको \\
शताब्दी वज्रपत्ता वज्रकन्द्र त्रिकर्णको \\
मण्डलकरणी पादली चित्रकं ग्रीस्मसुन्दर: \\
काकमाची महाराज्यी हरिद्रा तिलकर्णको \\
श्वेतार्कशिमु गुस्तूरमुगूर्वा हरीतकी। \\
गुठ्छ ची मृदली पुढ्छ भुज्जराड्रकर्क्कचित्रककम \\
तर्गरे शूरगां मुण्डोमलकपोतको किंकिम। \\
सेन्धव्र श्वेतार्कशिमु सत्तव्र हिज्माचिकम। \\
विष्णुकान्ता सोमवली व्रजाली यचलोचनम। \\
व्याघ्रपादी हंसपादी वृक्षकाली कुप्तककम। \\
स्त्रयम्ब्कुसुमं कुम्भी हरितमुडदित्तवार्णी। \\
बीजान्यहस्यरस्यापि सचंचेते नियामकां। \\
एताः समस्ता न्यस्ता वा देया हरिद्रशाचिकां। \\
माराण मृदूने बन्धे रसस्यैत्तानि योजयेत।

Gandhanakuli, kshirini, bandhyakarkati, brahmi, sharapunkha, kakajangha, maurashikha, (nilakantha, or moragphul), brahmadandi, akhuparni, punarnaba, kanchuki (khirisha), murba (suchamukhi), saindhava salt, utpala, chinchika, shatabari, astisanghara, bajarananda, gokshura, mandukaparni, patali, chitraka, grishmasundara, kakamachi, jalapippali, hariatra, tilaparnika, swetarka, shigru, dhuttura, mrigadurba, haritaki, guduchi, mushali, sarapunkha, bhringaraja, ractachitraka, tagaram, shuranam, mundiri, kasta-
udumbara, karanja, kokilaksha, saindhava, swetapunarnaba, sambara salt, hingu, madhu, aparajita, somalata, langali, bata, byaghrapadi (bikankata), godhapadi, brishchikali, jhinti, mashaparni krishnajira, hastishundi, indrabaruni, and seeds of arka. All of them, or at least 18 of them, are to be used, jointly or separately, in the transformation, incineration, and entanglement of mercury.
(17) Ranjanam or Dyeing of mercury (i.e., the seventeenth mercurial operation).

(It is not usual to have mercury dyed in operations leading to the transformation of base metals into silver.)

(1) Mercury, which has swallowed three times its weight of pure copper killed with hingula, assumes the complexion of lac. (2) Lead killed with sulphur is again to be exhausted by means of a crucible made of copper. Mercury which is exhausted with three times its weight of this substance becomes as red as lac.

This operation with lead is to be avoided in the preparations of mercury for medicinal purposes.

(1) वापितं दरदेन तु।
(2) कमलोद्रे ताङ्कोद्रे।

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Or, the substance which is produced by the commingling of one part of the dyeing substance mentioned above and three parts of copper, is competent to dye mercury which is exhausted by an equal quantity of this new dyeing substance.

Gold mixed for three times (1) with lead killed with manas-sila, or (2) with copper killed with swarna makshika and sulphur, or (3) with manas sila killed with hingula, can dye only copper mixed with sulphur.

Sarana or dyeing by means of oil.

Sáraná of mercury is a process by which gold and other things are thrown upon mercury contained in an apparatus full of some prescribed oil. This heightens the alchemical power of mercury.
The dyeing oil.

An oil is to be prepared with manjistha, palasha, khadira, raktachandananam, karabira, devadaru, sarala, haridra, daruharidra, and other red flowers, all rubbed with lac juice. The oil, thus prepared, serves to dye mercury. In this case, two parts of the juice of red flowers, two parts of the juice of reddish yellow flowers, four parts of milk, and one part of oil are to be made use of. The oil will also have to be boiled with the juice of each of the following:—jatismati, karanja, katutumbi, patala, kakatundi, maharastri. It
will then have to be mixed with the tallow of each of the following animals, each one-sixteenth in weight of the oil,—frog, hog, ram, snake, fish, tortoise, and leach, all well rubbed. The oil will have then to be again prepared with the following:—soil raised by earth worm, honey, and two parts of ela. The oil, thus prepared, will have to be filtered. It is called Sarana Tailam.

अथ गन्धर्वतैलम् ।
उष्णात्मकर्णिकृतमहिषीक्षाविमलेन्द्रगोपकर्तका द्वन्दमेलाक्याकोष्ठानि ।
यथार्थात् श्रेष्ठ पशुष्येनादानावससमुद्रविवेकः ।
रसं चतुर्गां शोभ्यं कहुननीतिलमस्यत् ॥
पचेत् तैलावशेषन्तु तस्मिन्ततेपि निपेचयेत् ॥
द्रावितं तारवीजन्तु हृक्विस्मेतिवारकम् ॥
रक्तिः जायते तत्र रसपराजस्य रज्जनम् ॥
कुटिले बलमत्यधिकं रागस्तीच्छवि च पद्मग्रेस्नेहः ॥
रागस्नेहञ्चलानि तु कमले नित्यं प्रवसति ॥

Gandharva tailam.

An oil is to be prepared with the following ingredients:—ram’s fur, tanganam, silajatu, the dirt collected in the eyes and ears of a she-buffalo, indragopa worm, karkataka (crab), two kinds of ela, the juice of as many white flowers as available, the quantity of this juice being four times in weight of the kanguni oil from which the oil is to be prepared.
Silver beejam becomes white-coloured, if smelted for twenty one times and immersed in this oil. Mercury, exhausted with this silver beejam, assumes the appearance of silver. It is to be borne in mind that the characteristic of kanta iron is strength, that of steel is the aptitude of being coloured, that of lead is smoothness, and that of copper is all these three combined.

अध्याय: 1

(१) कूटिलं विमला तीतरां समचरां प्रकल्पयेत्।
पुटितं पञ्चवान्तु तारे बाह्यं शवर्ज्ञकम्॥
यावदशुगुणं तत् तारबीजं भवेच्छुभम्॥

(२) सत्वं तारोज्जवलं वहं समं क्रत्वं तु धामयेत्॥
तथौं पाहयेत्तरं गुणान्येत् हि जोडश।
प्रतिबीजमिदं भ्रेष्टं सूतकस्य निरवधनम्।
जार्याांत् साराधार्श्च सहस्राण्वेब्य विध्यति॥

(३) वहनां वाहयेत्तरं गुणानि द्रादशानि च॥
परवचं च संम चूर्णं शवर्ज्ञी भवेदसं।

(४) नागार्जु वाहयेदिवम द्रादशानि गुणानि च॥
प्रतिबीजमिदं भ्रेष्टं पारदस्य निवधनम्॥

(५) मायकृष्णं हतं तां नागं रजस्येनं मुद्द॥
तन्नागं वाहयेद्ध ब्रह्मे द्रियोद्धशुगुणानि च।
ब्रह्मं तिर्दं वरं भ्रेष्टं नागवीजं प्रकीर्तितम्।
समचारितमन्त्राणं सहस्राण्वेब्य विध्यति॥

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The tara bijam or seeds of silver.

1. Kanta iron, bimala, and steel are to be taken in equal quantities and mixed together by means of being subjected to putapaka for five times. Ten parts of this compound and one part of silver are to be heated together until the whole thing turns into a seed of silver.

2. Essence of silver and banga (tin) are to be taken in equal quantities, and burnt by putapaka. Sixteen parts of this compound and one part of silver are to be heated together. This compound, by means of being dyed and exhausted with mercury, becomes competent to transform into silver a base metal thousand times in weight of this.

3. Banga (tin) and abhra (mica) are to be taken in equal quantities and mixed together. Twelve parts of this compound and one part of silver are to be heated together to form into a silver seed. Mercury, exhausted with this substance, is competent to transform into silver hundred times its weight of base metal.

4. Twelve parts of lead and mica mixed together and one part of gold are to be heated together to be formed into a silver seed.

5. Copper and lead, both killed with makshika, are to be mixed together. Thirty-two parts of this compound and one part of silver are to be heated together to form themselves into a silver seed. This is a very good silver seed and is called the Naga bijam. It transforms into silver thousands times its weight of base metal.
The process of sarana.

A blind crucible, smooth, deep, resembling the shape of a cow's teat, and having a hole at the upper part, is to be partly filled with the dyeing oil duly filtered. Into this oil is to be thrown mercury as soon as smelted beejam is thrown upon it (i.e. mercury). The crucible is then to be covered well. Mercury duly mixed with the beejam (of gold or of silver), and enclosed with a piece of cloth, saturated with the oil, gets dyed.
With double the quantity of the bijam the colour of the mercury is spread; and with three times the quantity of the bijam the colour of the mercury is deepened. In these three different kinds of dyeing mercury, it is desirable for the purpose of transformation of base metals into gold, to have the tin and lead slightly smelted.

क्षणत हसिताळ च गणुकं दररं शिला।
माधिकं सेन्धवं तुरं नवसारं तथाज्ञकम्।
सौवीरं गैरिकाकारं राजावचं विषज्ञम्।
प्रवालं यावं किलं सिन्दूरं सरसाज्ञनम्।
समुद्राक्षं कर्पूंरं पीतकाशीवेतसम।
खर्षरं किङशुकं रक्तं तरटीं & नूतनं नयेतु।
कल्य सूर्यं विज्ञप्त्याथ श्रीरकृं च भावयेतु।
दाळखिमीकुसुममैथों जपया: कुसुमंतथा।
वन्यक्षकृसुममैर्गं हरिश्चुद्धदीरसैरप।
चांगरिकारं: साधं मुसलीरसमहि।
हरिद्राभावना: पञ्चभुटिकायास्थथा रसेः।
सुवर्णकुसुमानं च रसंइ यथा भावना।
श्रद्धालिङ्गस्तु दातन्या भावना पञ्च पञ्च च।
दुन्धिकाया रसेः: पञ्च कुक्षमस्य रसैरप।

* तोरी तुषरी स्मृतिकारि हस्तेते तरुंथा: प्रतिश्रवं।
Another process of dyeing mercury

Kankustha, haritala, gandhaka, hingula, manassila, makshika, saindhaya, tuttham, nabasaram, abhraka, saubiranjana, red ochre-like rajabarta, the three different kinds of poison, (viz., shrungi, batsanabba, and kalakuta), pravala (coral), lac, haridra, sinduram, rasanjanam, samudraphalam, karputram, yellow kasisa,
betasam, kharpara, kinsuka, kasumbha, new tubari—all these are to be finely powdered, mixed together, and rubbed with mercury, which is to be subjected to bhavana with the menstrual discharge of a woman. The mercury is then to be subjected to bhavana with the following:—pomegranate flowers, japa flower, bandhuka flower, hastishundri, charaneri, musali, haridra juice for five times tubari for five times, juice of dhatura flower, shrngiti poison for five times, dugdhika for five times, kunuku juice, aragbadha flower, and lemon juice.

Thus dyed, mercury becomes perfectly devoid of motion. It then may be used in all sorts of things. It is then capable of standing fire. Mercury is to be dyed in this way. It should not be exhausted without being dyed. Mercury thus dyed, becomes red in colour, and is capable of swallowing metals etc.

punjprakarano bhogaparyat
punja prakrte te lahotakalne vividdhavat
chhutavasato shambhagam bhogaparyat
hirunshang raavan dareva ghamne sah sah yate
sordha khabre charaamaas dhu tigam prajatyate
sordhan charanalena charaamabhad raaksham
srayapatva pataqta chaayaa pataqtaayantya
tatpurant yodhali vaach dawalaynena dharayat
raah paryam garth dhurva muhalabhaatvairiyat
pun: suatra nivasthath yastraya aparyate
Swallowing of metals etc. by the mercury referred to above.

The mercury, dyed in the foregoing manner, is to be rubbed in an iron mortar with one sixty-fourth of its weight of gold (or silver), one thirtieth of its weight of salt, and a sufficient quantity of sour vegetable juice. This causes the internal liquefaction of mercury which swallows the metal. The mercury is then to be washed with warm aranala, and to be confined within a patra-putam with one eighth its quantity of bida. This putam is to be rapped up in a piece of cloth and boiled by means of a Dola Jantram, half of which is to be filled with urine, sour juice, and ashes dissolved in water. After keeping the bundle suspended, as usual, by means of a thread, the mouth of the vessel is to be closed. The morsel is swallowed in three days by the mercury, which is to be washed again with warm aranala. The mercury is to swallow such morsels, again and again. Thus rubbed and boiled, the mercury becomes very clear.
चतु:षष्ठं श्रभागेन प्रासयम्म प्रदीयते ।
चतारिंश्च विभागेन दयादु भासचतुष्ययम ॥
त्रिंशांशके न पढ़ प्रासा भ्रष्टौ विंशतिके न ।
एते चतुर्विंश्च प्रासा जीर्यन्ते स्वेदयोगतः ॥
चतुिर्गाणं वस्त्रेश पीठो यदि नि:सरेत ॥
प्रासं जीर्यं विजानीयादजीवं तु विक्रजयेत ॥
अस्य पातं ततः कृत्वा पुन:प्रासं प्रदापयेत ॥
दश: प्रासा: प्रदातन्या जलकृम्मे रसस्य च ॥
पोिद्वाशेषन भृजं च विडं चािष्ठः शकं भवेत् ॥
द्वादश: द्वादश्वाशेषन स्थलकृम्मे प्रदापयेत ॥
भ्रष्टःभृजेन्दजासा दातन्या कन्दमध्यतः ॥
कन्दमध्ये विडं दल्वा विड्याये तु नारदशः ॥
हारं निरं यथेऽवेनेन वेष्येश्व: वाससा मृदा ।
भृजे च पुरं दल्वा त्रिदिनेजीयेयेति रस: ॥
दातन्या पोिद्वाशेषा: पादाशेषन रसस्य ते ।
कृत्वा वज्रमयी मूषा: विडं गमं प्रदापयेत ॥
तत्रचारुः प्रसते सुत: पुषेन कारोणाहीना ।
जलकृम्मे दिनन्त्रीयः स्थलकृम्मे दिनन्त्रयम ॥
कन्दमध्ये दिनन्त्रीयः मूषायां च दिनन्त्रयम ॥
एतं चािष्ठः रेणोनाः तत: सिद्धति पारदः ॥
Saranam (or dyeing by means of an oil) of the mercury referred to above.

The mercury, dyed as above, is to be boiled with soot, brick powder, curd, nirgundi, and kanji, and then to be subjected to sublimation. It is then to be made to swallow two morsels (silver or gold), each \( \frac{1}{40} \)th in weight of the mercury. Four more morsels, each one fortieth in weight of the mercury; six more morsels, each one thirtieth in weight; and eight more morsels, one twentieth in weight each, are
also to be made to be swallowed, by means of heating in the prescribed manner. If the mercury is then capable of passing through a piece of cloth, four folded, the morsels are to be considered swallowed; otherwise, the mercury is not to be made use of for the purpose in view. If it is then again to be subjected to sublimation, and again made to swallow gold or silver, ten morsels are then to be given, by means of a Jala-kachchapa Jantram, each one sixteenth in weight of the mercury, combined with bida, one eighth in weight of the same. Twelve morsels, each one twelfth in weight of the mercury, are then to be made to be swallowed by means of a Sthala kachchapa Jantram. Fourteen morsels, each one eighth in weight, are next to be given to the mercury by means of being confined within the tuber of a suitable plant (such as shuramant, bidari, karkoti etc.). The tuber, which in this case, is to confine within itself the mercury, surrounded on all sides with bida, is to be closed carefully, and coated all over with a plaster made of rag, soaked with mud, and dried. It is then to be subjected to heat by means of a Bhudhara Jantram for three days, leading to the exhaustion of the mercury. Sixteen morsels are next to be given, each one fourth in quantity, by means of a bajra musha (hard crucible), containing bida, and subjected to heat by putam with fire, made of cowdung cakes. The mercury is thus to be exhaussted with eight times its weight of gold or silver, by means of a Jala Kachchapa Jantram, Sthala Kachchapa Jantram, tuber, and hard crucible, for three days each. The mercury thus prepared, is
to be solidified with divya (divine) drugs, and becomes the giver of wished for objects.

If exhausted with only an equal quantity of bijam (gold or silver), it becomes shata-bedhi, (i.e. capable of transforming into gold or silver, as the case may be, a hundred times its weight of base metals). If exhausted with double its quantity of bijam, it becomes Sahasrabedhi (capable of transforming into gold a thousand times its weight of base metals). If exhausted with four times its weight of bijam, it becomes Laksha bedhi (i.e., capable of transforming into gold or silver one hundred thousand times its weight of base metals). If exhausted with eight times its weight of gold or silver, it becomes koti bedhi (or capable of transforming ten millions its weight of base metals). If exhausted with sixteen or thirty two-times its weight of metals, the mercury becomes Sparsamani (Philosopher's stone, or something capable of transforming into gold or silver, any metal by mere touch). This process was taught by Shiva himself.

When three times its weight of bijam is swallowed by the mercury, an equal quantity of mica is also to be exhausted. Sulphur is also to be exhausted by a hundred or thousand times in weight of the mercury. All these procedures are to be observed for increasing the power of transformation of base metals by mercury. The mercury is then to be put into a long crucible containing aacta-tallam (i.e. the dyeing soil). The crucible is then to be heated by means of cowdung cakes, causing the dyeing of the mercury.
The mercury is thus to be dyed twice or thrice by means of the red oil.

Sankramanam (or imparting upon the mercury, dyed as above, the power of transformation of base metals into gold).

Wax, honey, tallow, blood, takanam, earthworm, incinerated lead, and oil—these are things which impart upon the mercury the power of transformation of base metal into gold. A base metal may be transformed into a fine gold by the mercury described above, if subjected to bhavana with the things noted above.

If it is intended to transform base metals, one crore times in weight of the mercury, to gold, it is necessary to subject the mercury to bhavana with tallow and the bile bag of an animal. In such a case, the adoption of the process of external liquefaction makes the transformation instantaneous.
(18) Bedhanam or transformation of base metals into gold by mercury (i.e., the eighteenth mercurial operation).

Mercury is to be dyed and exhausted, and again dyed and exhausted. It becomes competent to turn into gold, crore times its weight of base metals, by the performance of the operation of dyeing and exhaustion, for seven times.

(18) Bedhanam or transformation of base metals into gold by mercury (i.e., the eighteenth mercurial operation).

Mercury is to be dyed and exhausted, and again dyed and exhausted. It becomes competent to turn into gold, crore times its weight of base metals, by the performance of the operation of dyeing and exhaustion, for seven times.

वेधनार्थ जारिण भान्वानेनां प्रयोजनम्।
चलामस्तःञ्चकसत्वेः जार्यारागा प्रतिष्ठितस्तीतीश्।
बद्धश्रेर्षो लोह्हेः कामणामथनागवक्षयातः।
कामति तीच्छोन युति तीच्छोन च जीर्यः तः प्राशः।
हेन्द्रो धोनिस्तीतीश्च रागनु प्रहाति तीच्छोन भी।
तदपि च दर्देन हतं श्वला वा मार्विकेण रविसहितम्।
वासितमयि वासनया घनवह मार्यं जार्यं।
सन्तवरेमिज्जो हैमार्विकस्रतिदेथु तेष्त्रागमेः।
विद्योजेन च जीर्णो रसारो बनायुपयायि।
निवृज्जु समजीर्णो पादोऽन बोधांशे नु।
श्रीभुधेन पादकनाक पादनेकेन तुल्यकनकककः।
Importance of metals in Bedhanam or Alchemy.

The essence of mica possesses strength, steel possesses the power of exhaustion and colour. Mercury, therefore, if bound with steel, causes the alchemical transformation of lead and tin. Mercury transforms base metals into gold by the help of steel. It is steel which makes mercury swallow other metals. Steel produces gold. Colour is imparted by steel. But steel, like mica, is to be exhausted and incinerated, by being killed with hingula or with swarna makshika, combined with copper. All these metals, previously rubbed with makshika, and thrown upon mercury, causes its internal liquefaction. This mercury, if now rubbed with bela, becomes exhausted, and allows itself to be bound (i.e., solidified).

Mercury, exhausted with an equal quantity of the amalgam of the metals referred to above, but without gold or silver, becomes competent to transform an equal quantity of base metals into gold. It can transform one fourth its quantity of base metals, if it is exhausted in the above way with half the quantity of the amalgam. If it is exhausted with one fourth its quantity of the amalgam, (without any bijam i.e., gold or silver) it can make base metals appear like gold, but cannot transform them into real gold.

इति श्रेयः भोक्षंयं द्वे पादेऽव विपार्द कर्कर्ष जायते। तथा परेक्ष भात्सुमधिता सह जीणे पाद्मार्त कर्कर्ष जायते। तथा पापेन पाद्मार्तन प्रात्सुमधिता जीणे रसे तृत्कानक कर्कक्तुल्यं मिश्र धातुविशेषः न हु त्रिभुक्तकर्ष जायते।
Another version.

Essence of mica is ten times as powerful as mica incinerated, whereas liquefied mica is ten times as powerful as its essence. Lead (exhausted in mercury) gives rise to smoothness, mica (similarly, exhausted) gives rise to strength, and steel gives rise to colour, but copper alone possesses these three characteristics of strength, colour, and smoothness. Mercury, duly exhausted, gives up its want of colour, if subjected to sanctramanam with iron. Mercury turns to a seed of gold or silver, if subjected to sanctramanam with semen. In diamond exists two lacs of units of colour, in manikya ten lacs, in nilam twelve lacs, in emerald sixteen lacs, in vaidurya and pusparaga one lac units each. Mercury assumes a divine appearance by the influence of the above.
Leaves of silver, copper etc. are to be purified very well, and rubbed well with a strongly sour vegetable solution. They are then to be coated with mercury, duly exhausted with the bijam, and then heated by samputam. The leaves are next to be mixed with half their quantity of absolutely pure gold and heated by putapaka. For the enhancement of the colour, they are then to be subjected to putapaka with the soil raised by earth worms, salt, and red earth.

In accordance with the instructions given by a preceptor, the elephant of mercury can be tied, in pillars made of incinerated diamond and iron, by ropes made of mica, tin, and gold.

Four parts of manas-sila and one part of sulphur, if put in a glass bottle, with its mouth closed tightly with a stopper made of haritala, iron, khatika (chalk),

* सारः वज्रशारम् (हीरकस्म) | अद्वैत-खण्डमिति मेविनः |
† कीलः श्रद्धा वादम् हरिताद्यम् भयः लोहम् |
and salt, give rise to a substance which (if properly utilised) can produce gold.

Black mica, mercury, manas-sila, and sulphur are to be taken in equal quantities, and rubbed with the entrails of animals living in holes made into the earth. No wonder, if they turn into gold, if heated for a few days, by means of apparata devised by preceptors.

Iron, sulphur, borax, mica, swarna-makshika and tin are to be mixed together and smelted in a crucible, the compound thus produced being a primary seed of silver.

(1) विद्या: ताहित: महित: ।
(2) स्मरण: दु:पेत: दृष्ट: ।
(3) आवर्त्त्येदु वहियोगेन मूघाया द्रावयेत्।
(4) तालं गोलकारस्।

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Sulphur, mica, munda iron, and swarna-makshika, combined, can cut off the wings of cinnabar (which, even if heated, does not sublimate).

Silver, copper, and gold, combined, can cause the external liquefaction of purified mercury. Taking of this mercury increases longevity. Moreover, mercury, exhausted with an equal quantity of the above metals combined, becomes shatabedhi i.e., competent to transform hundred times its weight of base metals. Mercury, exhausted with double its quantity of the above metals, becomes sahasrbedhi i.e., competent to transform thousand times its weight of base metals. Mercury may thus be made to transform millions, and
billion times its weight of base metals. Mercury, exhausted with sixty four times its weight of the above-mentioned metals, is competent to transform base metals into gold by its smoke (see definition of dhumabedhi), touch, *sight, and sound.

शिल्या निहतो नागो वल्ला वा तालकेन शुद्धेन।
क्रमशः पीते शुक्ले कामगऽमेततु समुहिष्ठम्॥

Mercury, exhausted with lead, previously killed with manassila is competent to turn base metals into gold, whereas mercury, exhausted with tin, previously killed with purified haritala, is competent to turn base metals into silver.

दृढं माणिकं गन्धं राजावर्तं प्रवालकम्॥
शिलातुल्खं कक्षुं समचृङ्गं प्रकल्पयेत्॥
वर्गिभ्यं पीतरकाभ्यं । कहुँनीतिलकः सह ।
भावेयद्व दिवसानन्त पश्च सूर्यायतापे पुनः पुनः॥
जारितं सूताकोटका । कलकेनानेन संयुतम्।
वालुकालिङ्गमध्यस्थ्यं शुरावपुटमध्यगम्॥
त्रिदिनं पाचयेचुल्यं कर्कं देवं पुनः पुनः।
रक्षितो जायते सूतः शतवेधी न संशयः॥

* This refers to what was popularly called the Sparshamaní or Philosopher’s stone.

† अम्र परिमाणा द्रष्ट्या।

‡ पूर्वाक्तया विद्वेष्टया खुतोऽज्ज जायथ;।
Hingula, swarna-makshika, gandhaka, prabala, manas-sila, tutthaka; kankustha—all powdered and taken in equal quantities, are to be rubbed together and subjected to bhabana with the yellow and the red bargas (see chapter on commentary), and with kanguini oil for five times. Mercury, combined with gold and other metals, and duly exhausted, * is to be mixed with the powder referred to above and confined within the samputam of two basins, tightly closed with mud etc. and dried. The samputam is then to be heated for three consecutive days by means of a Baluka Jantram, fresh powders being put inside the samputam, from time to time. Mercury, thus prepared, becomes tinged, and serves to transform into gold hundred times its weight of base metals.

Iron, sulphur, and borax, heated together; powdered copper, mica, lead, and tin, equal in quantity to the three things mentioned above; mercury and sulphur, equal in quantity to all the materials mentioned above—all of these are to be put into a glass bottle and heated mildly for some time. Do

* Mercury exhausted with what is called bidabati should be used in this case.
not let your mind lose itself in wonder at the sight of the product (i.e., gold).

Silver, mixed with three times its weight of copper, killed by being subjected to putam with an equal quantity of the following, combined in the proportion of 1, 2, 3, 4, and 5 gives rise to what is called hemakristi (transformer into gold) :—rasa (mercury), warna-makshika, gandhaka, and manas-sila.

Ninety eight parts of silver, one part of gold, and a sufficient quantity of mercury give rise to a compound which serves to transform hundred times its weight of base metal into silver. Forty nine parts of silver, an equal quantity of pure copper, one part of lead, and one part of mercury produce a substance
which can transform hundred times its weight of lead into copper. The potency of the above-mentioned metals can be increased ten times or more, according to the quantity of the mica, gold etc. with which the mercury used in the compound may be exhausted.

The four kinds of substances meant to be thrown upon base metals may be rubbed with lac, previously subjected to bhabana with the bile of fish, and with silver, copper, silver solution or Kristi * (as the case may be). The amalgam is then to be covered with the coarse remains of the ingredients mixed together and smelted. This compound causes the transformation of base metals into gold, silver, or copper (as the case may be), by mere contact. The transformed metal is to be anointed with the dyeing oil referred to above, then covered with ashes, got

* परिमाण प्रकृत्वाः *
* See Chapter on Definitions.
down from the oven, and cooled by the radiation of the heat.

Silver leaf, painted with mercury which has consumed an equal quantity of sulphur, and heated, assumes a yellow appearance immediately.

Leaf, made of essence of mica, and killed with makshika, is to be caused to be swallowed by mercury which becomes thus solidified. Similary, lead, gold, and iron, each equal in quantity to the mercury and incinerated very fine, are to be duly made to be

* The word दुःखतारण: means one who puts an end to human misery by transformation of base metals into gold. The word Doctor appears to be a contraction of Dukhtar or Dukhtaran.
swallowed by the mercury. Paint a silver leaf with this mercury, which is to transform the leaf into gold,

विद्रव्य रसेन त्रद्ध द्रव्यं पचेकं स्थाप्येद्र सुवि ।
तत आनीय नगर चिक्क्केवौत विचरणं ॥

Base metals transformed into gold by mercury should be kept buried in the earth for a fortnight, before they are taken out for sale in the market.

वेदो बदुविचो ज्ञेयो लेपो चेपश्च कुन्तकः ।
धूमास्त्यः शन्द्वसंज्ञकः स्पष्टार्थ्यो हुःखतार्कः ॥

Transformation of metals are of various kinds, viz, (1) lepa, (2) kshepa, (3) kunta, (4) dhuma, (5) shabda, and (6) sparsha. All of these put an end to human miseries.

शेपेन कुल्ते लोहं स्वर्णं व रजतं तथा ।
लेपवेदः स विज्ञेयः पुरस्मात्र च सौकरम् ॥
प्रचेपां दुःते लोहे वेधः स्थान चेपसंज्ञितः ।
सन्द्रशपत्तृतस्तुतेन दुःतद्वाहतिः यथा ।
शुद्धाचाल्विदिरत्रां कुन्त्वेवः स उच्छते ॥
वही धूमास्त्यमाने जतः प्रक्षितसंहुमतः ।
स्त्त्यापादान्तक्लोहे धूमवेदः स इंरि: ।
मुखस्थितसनालयलोहस्य धमनात्र खलु ।
स्वरूप्यत्वजननं शाबदवेदः स कीर्तितः ॥

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Lepabedha—is an act of bedhanam or transformation of a base metal into gold or silver by subjecting the base metal to putam of an ordinary nature, after painting the surfaces of the metal with mercury, especially prepared. Kshepabedha—is an act of transformation of a base metal into gold or silver by the throwing in of mercury, especially prepared, when the metal is in a state of liquefaction. Kunta-bedha—is an act of transformation of a base metal into gold or silver, an act in which a bit of mercury, especially prepared, is held within the grip of a forceps and put upon the base metal when smelted. Dhuma-bedha—is an act of bedhanam in which mercury, especially prepared, if thrown upon a base metal, put upon fire, emits a smoke and causes the instantaneous transformation of the base metal into gold or silver. Shabda bedha—is an act of bedhanam in which the transformation takes place by means of heating a small piece of base metal by breath, accompanied with a hissing sound, emitted through mouth containing mercury, especially prepared. Sparsha bedha—is an act of transformation of base metals into gold by the mere touch of a mercury, already exhausted with at least sixteen times its weight of beejam (metals, gems, etc.), and brought to a state of consolidation. This mercury is popularly known to be the Sparsha-mani (Philosopher’s stone)
A Jantram (or apparatus) is so named, because it is made use of by the Chemists in controlling mercury by way of boiling etc.

Two holes are to be made, opposite each other, at the edge of a vessel, half filled with some liquid. This is provided with a rod, passing through the two holes across the mouth. A bundle, containing the material or materials to be boiled, is to be kept suspended into the liquid, by means of a thread tied at the middle of the rod, the vessel being placed upon fire and heated, as required.
Swedani Jantram.

Things, meant to be boiled, are to be put upon a piece of cloth, with which is to be closed the mouth of an earthen vessel, filled with water. An earthen basin is to be placed upon the mouth of the vessel, so as to cover the materials completely, and heat is then applied underneath. The apparatus is called the swedani Jantram.

उद्व पातनयनमि कथ्यते पत्तृ।
A vessel with a diameter of eight angulis at the top and ten angulis at the middle, and a height of four angulis from the bottom to the neck, is to be placed upon the mouth of another vessel having a diameter of 16 angulis. The upper vessel is to contain water and the lower vessel is to contain mercury etc, the joint being cemented with a plaster made of buffalo's milk, powdered and oxidised iron, and treacle, and dried. The apparatus is then to be placed upon fire, and heated for fifteen hours continuously. The mercury, deposited on the convex side of the upper vessel, is to be collected very carefully, after the apparatus gets cooled of itself on the oven.

Adhah patana Jantram,

It consists of two earthen vessels. The inner surface of the upper one is to be painted with mercury and the lower one is to contain water. The upper one is to be placed, upside down, upon the lower one, and the joint closely cemented, A fire made of cow-dung balls, found dried in the pasturage, is to be
made upon the upper vessel. This will cause the downward sublimation of the mercury.

तिथ्यंक्पातन यथा।
चिपेदु रसं घटे दौर्षे नताधोनालसंधुते।
इतरसिन्हु घटे तोषं प्रचिपेत स्वादंशीतलम्।
तस्मां निचिपेज्ज जलकुमभकुच्यते खलु।
तत्र रूढः। मृदा सम्यगु वदने घटयोरथः।
अधस्ताद्द रसकुम्भस्य ज्वालयेत तीन्रपावकम्।
तिथ्यंक्पात्नमेतदि वार्तिकेरिमिविलयते॥

Tirjak patana Jantram.

Mercury is to be kept in a long vessel, provided with a bent tube, the lower end of which will have to be projected into the body of another vessel containing water. The mouths of these two vessels are to be closed with mud etc. and the first vessel is to be put upon a strong fire, which will cause the inclined sublimation of the mercury which will fall into the water.

जलपूर्वापात्रमश्ये दल्त्वा घटलवर्य धुविस्तिर्गोऽम्।
तदुपरिव विहम्मय्यगतः स्वयं स्वतः क्रतः कोष्ठामृ।
लघुलोहिकोरिक्या क्रतन्त्रासृजसंनिश्चिन्तियाच्छायं।
पूविकोर्बघटलवर्यः ज्ञायाच्छायः। लदिरकोलम्बः॥
A big earthen vessel is to be kept afloat upon water contained in a vessel. Mercury, mixed with bida, is to be kept in a kosthi, placed upon the floating vessel. The mouth of the kosthi is to be covered with a thin iron plate, the joint being closed tightly with six coatings of mud and rags, plastered together. A fire made of Khadira wood charcoal is to be made on all sides of the vessel. Heated in this way, mercury, which is to be rubbed also from time to time, is exhausted. All sorts of essences of metals are then liquefied in that mercury by means of an adequate heat.

Dipika Jantram.

It is a Kac-chapa Jantram, provided with an earthen lamp, placed upon a mud stand, kept on the surface of the floating earthen basin. Vegetable oil and mercury are to be put into the lamp, kept burning, and fire made on all sides of the Jantram. Mercury will sublimate and fall into the water.
नलिकास्यं तत्र योज्यं हर्दं तच्चापि कार्येत्।
युक्तविवेचितं पूज्यं तत्र घटे रसं॥
श्लोकामन्ना तापितो नालात्तो तस्मिन् पतल्यं।
यावहुयथं भवेत् सन्तं भाजनं तावदेव हि॥
जायते रससन्धायं डेकीयन्त्रमित्तिरितिम्॥

_Deki Jantram._

Put one of the extremities of a bamboo reed into a hole made somewhere below the neck of an earthen vessel, well-covered at the mouth, the other end of the reed being connected with another hole made in a samputam consisting of two bell-metal pots containing water. The joints are to be closed very tightly. Mercury, previously mixed with prescribed materials, is to be put into the vessel which is to be placed upon fire. Thus heated, mercury sublimes and falls into the water in the Samputam. The sublimation continues so long as the samputam remains warm.

जारणा यन्त्रम्।

लोहमूलाद्यं कुर्वा द्रादशान्तल्लमान्त:।
ईषचिन्द्रानितामेकां तत्र गन्धकसंयुताम्॥
मूर्षां रसयुक्कायामन्यस्यां तां प्रवेशयेत।
तोयं ग्यात् सूतकस्यां ऊष्ठ्यो वहिदिर्गन्धम्॥
रसोनकरसं तत्र चतुतो वद्यगलितम्।
दापयेत्र प्रचुरं यलादाप्लाय्य रसगत्वो।॥

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स्थालिकायां पिठायोष्णं, स्थालीमन्यं हद्रां क्रुं।
सन्तिं विलेजते यलान् सूदा वर्षेन चैव हि।
स्थाल्यन्तरे कपोताल्यं पुर्वं कर्षोऽधिना सदा।
यन्त्रस्याधं करीणामिन्द्रशाश्वामधिमेव वा।
एवं तु विदिनं कुय्यान्ततो यन्त्रं विमोचयेत्।
तत्रोदके तत्तचुहा न कुय्याच्छित्तां क्रियाम।
न तत्र चीयते सुतो न च गत्स्थति कुय्याचित्।
झनेन च करमेर्यौँ कुय्याच्छिन्नकारस्याम।

Jarana jantram.

Put sulphur into an iron crucible, twelve angulis in height, and provided with a hole at the bottom. Place mercury into another iron crucible, not provided with any hole. Enter the first crucible into the other, and close very tightly the mouths of the crucible, after pouring a sufficient quantity of garlic juice, duly filtered, into both the crucibles, so that both mercury and sulphur are almost immersed into the liquid. Place the crucibles in a pot containing water covered by another pot, the joint being closed very tightly. The apparatus is then to be heated, by means of what is called “Kapota putam”, or simply, by a strong fire. The heating is to be continued for three days. The mercury is to be taken out, after the apparatus is perfectly cooled. On no account should the apparatus be broken open before it is perfectly cooled. Sulphur is thus to be swallowed by mercury. (The process
is to be repeated, if it is desired to let the mercury swallow another morsel of sulphur).

Somanala Jantram.

It is an apparatus consisting of an earthen vessel, which contains mercury and is covered very well with mud etc., placed upon another earthen vessel, which contains water and is placed inside a pit cut into the ground, so that the lower part of the first vessel is immersed in water, and its mouth is placed at the same level with the surface of the earth, fire being kindled on the surface of the earth, just above the mouth of the first vessel.

Mercury, mica, etc, are exhausted by means of this apparatus.
Garbha Jantram.

This is meant for the reduction of a mercurial paste (mercury combined with prescribed ingredients) to ashes. Prepare a strong earthen crucible, four angulis in length, and three angulis in breadth, with its mouth made smooth, and of the shape of a spheroid. (Mercury and other things are to be put into it at the time of its making, otherwise, it would be difficult to close the mouth after the crucible gets dried.) Twenty parts of powdered iron and one part of guggulu are to be rubbed together very carefully, and made into a paste, with which the crucible is to be plastered, over and over again. It is next to be plastered lightly with a paste, made of two parts of mud, one part of salt, and a sufficient quantity of water. The crucible is then to be burnt in an underground pit for 24 or 72 hours, by means of a mild fire, made of husks. This causes the incineration of mercury.

Hansapaka Yantram.

An earthen vessel, with a wide mouth, is to be
filled in with sand, upon which will have to be placed another vessel containing five different kinds of ksharas, five different kinds of urines, salt, and bida. The apparatus is to be heated by means of a mild fire, slowly but steadily.

**Baluka Jantram.**

It consists of a glass bottle, plastered on the outside with rags and mud, one anguli deep, and dried. It is to be filled with mercury, etc., to the extent of two thirds of its capacity. Its mouth is to be closed by means of a piece of chalk, etc. It is to be placed inside a vessel, one bitasti in height, which is filled with sand up to the neck of the bottle. The mouth of the vessel is to be covered with an earthen basin, the joint being closed with rag, mixed with mud. The heating is to be stopped, when it is found that the external surface of the earthen basin, at the top
of the apparatus, has got so heated as to reduce to ashes a piece of dried grass placed upon it.

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माष्टे विततिगम्योरे मध्येनिहितकुपिके।
कुपिकाकान्तपर्यंत बालुकामिथ्य पूरिते॥
मैषजं कुपिकासंस्यं वाहिना यज पाष्यते।
वालुकायन्त्रमेतत्तिद्र यज्ञतत्त्सुपक: स्न्तस्मू॥

A different version.

A Baluka Jantram is an apparatus, by means of which are heated medicines contained in a glass bottle, placed inside a vessel filled with sand up to the neck of the bottle.

अन्यविभ वालुकायन्त्रमू।

पश्चादवालुकापूर्यं भाष्टे निभिन्त्य यजनतः।
पश्च्यते रसगोत्रायं वालुकायन्त्रमीरितम्॥

Another kind of Baluka Jantram.

Mercurial compounds are sometimes heated, buried in a vessel filled with five adhakas of sand. This apparatus is also called a Baluka Jantram,

खण्यतन्त्रमू।

वालुस्थले सिकताल्ये निचेिपालुत्तवशस्य हि।
यन्त्रोष्ण तत्वश्चाल्यकः शस्त्रते रसकर्मिष्॥
A Baluka Jantram is transformed into a Labana Jantram, if sand is replaced by salt or kshara. Instead of a glass bottle, it consists of a copper bowl containing mercury, the cover of the bowl being cemented with mud and salt. This will have to be placed inside an earthen vessel containing salt. The mouth of the vessel is to be covered, the joint being closed with mud and salt. The apparatus is to be heated exactly in the same way as a Baluka Jantram.

It is an iron tube in which mercury is confined, and which is kept buried in salt in a Labana Jantram, and heated in the manner described above. (Vide Baluka Jantram and Labana Jantram).
Bhudhara Jantram.

A crucible, containing mercury, is to be placed inside a pit, cut into the ground, and is to be covered on all sides with sand with which the pit is filled up. A strong fire, made of cowdung cakes, is to be made upon the pit.

पुद्यन्त्रम् ।
शरावसंपुटान्तः स्यं करिपेष्वप्रिमानवित् ।
पते भुल्लने डियाम्र वा पाच्यं तत् पुद्यन्त्रकम् ॥

Puta Jantram.

It consists of an earthen vessel, containing the materials to be heated, and covered with another basin, the joint being tightly cemented with mud, cloth etc. It is to be heated by a fire made of cowdung cakes, placed on all sides, or simply by being placed for two hours on an oven.

अथ कोष्ठिकायन्त्रम् ।
सत्वन्नां पातनार्थाय पातितानां विशुद्धये ।
कोष्ठिका विविधाकारास्तासां लब्धुमुच्यते ॥

Kosthika Jantram.

For the purpose of extraction of essences from metals, and for the purification of these essences, various kinds of Kosthikas are made use of. Some of them are dealt with below.
It is a quadrangular oven, two cubits in height, one cubit in length, and one cubit in breadth, the four walls being made of earth. At the lower end of one of the walls, there should be made a strong and well-cut hole, one bitasti or one and half bitasti in diameter. Another hole is to be made, one pradesha in diameter, at the upper surface of the oven, which is situated one pradesha below the upper extremities of the four walls. Then edging the borders of the two holes with bricks and plastering them with mud,
the oven is to be filled with charcoal, coal, etc, and the fire is to be kindled by means of two bellows. Fuel and articles to be heated are to be entered into the oven through the upper hole. This koshthika is used for the purpose of extracting essences of hard substances.

Patala Kosthica.

Cut out, in a hard soil, a circular pit, one 'bitasti in diameter and in height. Inside this bigger one, cut another pit, four angulis in diameter and in height. Place an iron tube slantingly from the bigger pit to the bottom of the smaller one, the upper extremity of the tube being kept at a level, a little higher than the edge of the bigger pit. Cover the inner pit with an earthen circular lid provided with five holes. The bigger pit is to be filled with charcoal, the fire being
blown by means of a bellows. This kosthi is meant for the extraction of essences of soft substances. (The substance in question is to be kept in an earthen vessel, closely covered, which is to be put upon the fire, the upper extremity of the iron tube being connected with a small hole at the bottom of the earthen vessel. Sufficiently heated, the substance will emit its essence which will pass through the iron tube and deposit itself at the bottom of the smaller pit. For details see Vol. II).

GAKAOSTHI.

It is a kosthi meant for heating all sorts of things capable of being heated. Its use was taught by the great Nandi (follower of the Great God). It is specially used for separating the ingredients of a
mixed metal. It is twelve angulis in depth and one pradesha in diameter, with a belt four angulis in height, placed upon it. Place upon this belt a circular lid full of several holes. Cover the kosto with charcoal fire, and heat the substance in the crucible with what is called a banka nala (bent tube). This tube is very strong, is one aratni in length, is made of earth used for the making of crucibles, and is provided, at one of its extremities, with another tube, five angulis in length, and bent downwards. It is meant for heating a substance very steadily.

Kosto Jantram.

It consists of a bucket-shaped, slanting, and cylindrical pipe, made of iron or earth, with one cubit of slanting height, and eight angulis of diameter at the lower end; placed upon a smooth-surfaced ground; plastered all over with mud; and furnished with two circular air passages—the lower one being just as big as to fit in the end of the tube of a bellows.

Fill it with a sufficient quantity of charcoal and blow the fire by means of a tube, made of the bone
of an animal, or by a bellows. It is used especially for extracting essences of mica.

A different kind of kosthi Jantram.

Prepare an oven of the shape of a mortar, upon which is to be placed a mortar. The oven is to be filled with charcoal, set on fire, which is to be blown by means of two bellows, provided at either side of the oven. Mercurial cake, rubbed with ksharas, amlas, etc., gets quickly smelted, if heated by means of this apparatus. This mercury becomes very efficacious, if the smelting is effected on a piece of kanta iron.
A third kind of kostika Jantram.

A kosti is one cubit long and twenty four angulis in breadth. It is used for the purpose of extracting essences of metals. Half of the space inside the apparatus is to be filled with hard charcoal, made of bamboo, khadira, madhuka, and badari wood, the fire made by which being fanned by air, sent through the internal passage by a bellows.

Khalachari Jantram.

It consists of two iron pots, one bigger than the other, each furnished with a circular iron stand. The smaller one with the stand, will have to be placed
upon the bigger one which contains kanji. Put swooned mercury into the smaller pot, and apply heat to the apparatus for six hours. This will cause the regaining of consciousness (i.e., reversion to the original condition) of mercury which is now in a state of swoon. This apparatus is used also for the purpose of increasing the potency of mercury by six times, (viz. by reviving mercury in a state of swoon).

Ghata Jantram or Apyayanam Jantram.

It is a water vessel containing four prasthas of water, with a mouth four angulis square.
Istaka Jantram.

A circular pit is to be cut into the ground, and an earthen basin placed upon it. A burnt brick, with a hollow at the centre, is to be placed upon the basin. A circular iron plate, one anguli in height, is to encircle the hollow. Put mercury into the hollow, and cover it with a piece of cloth upon which is to be kept some sulphur. The hollow is now to be covered with another earthen basin, placed upside down. The space between the iron plate and the basin is to be filled in with mud. The whole apparatus is now to be subjected to a mild heat by means of kapota putam.

Palika Jantram.

It is a circular iron spoon, furnished with a perpendicular rod with its upper extremity bent a little. (It is generally used in drawing out oil).

Damaruka Jantram.

It consists of one earthen vessel, placed upside down upon another, the joint being closed very tightly. It is used for the purpose of incineration of mercury.
Nabhi Jantram (Jala Jantram).

At the centre of an earthen basin put mercury and sulphur, surrounded by a circular earthen enclosure, one anguli in height. Cover the space by means of a crucible of the shape of a cow’s teat, placed upside down, and plaster the joint by means...
of the following paste, which serves as a good water-proof:—oxidised iron, finely powdered,* molasses, and lime, rubbed together with a highly condensed decoction of the bark of babbula. This plaster is called “water mud”, and water cannot pass through it. Similarly, chalk, salt, and oxidised iron, rubbed together with buffalo’s milk, gives rise to a plaster, called, “fire mud” . This plaster is a strong fire proof, The joint of the basin and the crucible is to be plastered with this fire mud, which will prevent the mercury from coming out, even when heated. Water is then to be poured into the basin, and heat applied underneath. By this way mercury is exhausted, and becomes incapable of sublimation, It is also purified by the exhaustion of sulphur.

* Powder of overburnt brick, according to another version.
लेहवत् कुतवबूलकायणेन परिमहिंत्तम् ।
जीरोषिकारजः सूदमनुष्ठुर्चूर्णसमिन्तितम् ॥
लेपयत् खलु तत्र प्रोकं दुर्मेयं सलिलेः खलु ।
खतिका पटुक्षितं शो महिषीदुग्धमहिंत्ते ॥
यत्तथा मृत्त्युर्हा रुद्रो न गन्तुः चमते रसः ।
विदग्धवनिताश्रोढ्रप्रेमणा वच्छः पुमानिव ॥
घटीमयोमुखां ताथं निमज्ज्य जलपात्रके ।
पाचयेद्व युक्तः सिद्धो वहिः प्रज्वलयेद्यथः ॥
अथवा कारयेन मूषां पात्रलभामघोमुलीम् ।
लोहानामनुरुपं च तन्मूखामुखरोपिनिम् ॥
दल्वा चान्यां तयोः सन्निं विलेप्य च यथाविधि ।
जलमूद्रः विनिलिप्य निःसकोचं विपाचयेत् ॥

Jala Jantram.

(This is another version of the preparation of a Jala Jantram or Nabhi Jantram. According to this, the joint of the basin and the crucible is, first of all, to be plastered again and again with powdered iron, mixed with goat's blood, and dried every time. It is then to be plastered with the same two pastes, as described above. In other respects, the two versions are almost the same).
Pratyangram

मूषां मूषोदराविद्यामाध्यतंमवच्चु लाम।
चिपिटं च तले प्रोक्त्य प्रस्तयन्त्र मनोषिभ॥
सूतेन्द्रबन्धनाथं हि रसविद्विदर्शारितम॥

Grasta Jantram.

It consists of two crucibles, one of which is to be placed inside another. Both of these are to be cylindrical, except at the bottom, where they are flat. This apparatus is used for the solidification of mercury.

झालीयन्द्रम॥

स्थाल्यां तात्रादि निचिप्प भलेनास्य निरुष्य च।
पच्चे स्थालिकाधः स्यं स्थालीयन्नितारितम॥

Sthali Jantram.

It is a vessel covered with a basin. Copper, etc. contained in this vessel, is heated by fire applied underneath.

चूःपग्राम॥

विप्रायायायांगुलं पात्रं लोमवायांगुलोच्छयम॥
कच्चाडो दृढ़ गुले देशे जलाधारं हि तत्र च॥
तिप्र्यङ्गलोहशलाकाशं तन्नविस्तिर्यावविनिविनयितु॥
तन्नूनि ल्याणप्रत्यार्थि तासामुपरि विन्यसेतु॥
पात्रायो निचिपेदू भूमं वच्चयमाणांसिहवें हि॥
तत्पात्रं न्युनजपाषणेन च्छःचआयेपदपरेण हि॥
Prepare an iron pot, eight angulis in length, breadth, as well as in height, and put into this, a water trough, two angulis below the brim. Place a few thin iron sticks upon the water trough in a slanting manner so as to support thin gold leaves, meant to be reduced to ashes. At the bottom of the iron pot keep the articles, mentioned below, meant to emit smoke rising up to the gold leaves. The iron pot is now to be covered with another iron pot, placed upside down, the joint being closed with mud, and fire placed underneath. The gold leaves are thus reduced to ashes, and undergo internal liquefaction, if thrown upon mercury which has been made to move quickly. (According to another version, the mercury with which the leaves were painted, now sublimates and deposits itself at the bottom of the water trough).
Fumigation of gold leaves is to be effected by means of a kajjvali (black sulphide of mercury) made of mercury and any one of these three—gandhaka (sulphur), haritala (orpiment), and manas sila (realgar). The fumigation may also be effected by means of incinerated lead. Incinerated tin, etc. may be used for the fumigation of silver leaves, if it is intended to make use of this silver in course of a reduction of base metals into silver. The Dhupa Jantram is used in preparing materials with which mercury is to be exhausted.

Khalva Jantram.

A khalva or mortar should be made of stone, blue or black, smooth, strong, and heavy. It should be of the following dimensions:—16 angulis in height, 9 angulis in breadth, and 24 angulis in length. It is to be provided with a pestle, 12 angulis in length.

A mortar may also be 20 angulis in length and 10 angulis in height. Such a mortar is in common use.
These two kinds of mortars, used for the purpose of rubbing mercury, etc. conveniently, should be so strong as not to wear away very rapidly by friction. They should be very smooth and be provided with pestles.

Another version.

A mortar should have the following dimensions:—Ten angulis in height, sixteen angulis in breadth at the upper part, seven angulis in breadth at the bottom, and two angulis in thickness. It should be very smooth, and have a crescent-like shape. It should be provided with a pestle, twelve angulis long.

Circular mortar.

It is a circular mortar, made of a very smooth stone, twelve angulis in diameter, at the upper part,
and four angulis in diameter at the bottom. The pestle is to be flat at the lower extremity, and capable of being handled easily, at the upper end. Rubbing in this mortar is very comfortable.

Iron mortar.

Its breadth is 9 angulis at the top and six angulis at the bottom, having a pestle eight angulis in length. It may be termed a hot mortar, if heated in the following manner: Construct an oven of the shape of a mortar and fill it with charcoal fire. Place the mortar upon the fire and blow it by means of a bellows. Mercury rubbed in a hot mortar made of kanta iron, grows in efficacy by a hundred times.
Another kind of hot mortar.

Goat’s stool, husk of paddy, and fire are to be kept in a pit made in the ground. The mortar, placed upon this pit, is called a hot mortar.

उद्धव नलिकायन्यम् (टंकयन्त्रम्)।
भाग्यकालाद्धरिंहिङ्गे वेष्णालं विनिविपेत्।
समानकरकं वापि भाग्यकालं निवेशयेत्॥
सन्धिं लितुं च नालाम् काचभाग्यं निधापयेत्।
श्रधस्ताद् प्रश्वेद् चारिद टंकयन्त्रमिति स्मृतम्॥

Urdhva Nalika Jantram (Tanka Jantram).

Make a hole just below the neck of a vessel and fit in to this a bamboo pipe, the mouth of the vessel being tightly covered with a basin. Join the other extremity of the bamboo pipe with a glass vessel, into which is to flow vapour coming out of the vessel through the pipe. (This apparatus is meant for the extraction of essences of materials kept with liquids in the vessel which is to be placed upon fire).

पाताछ युक्तम्।
हस्तप्रभागां निष्मं च गर्त्ते छृद्वा प्रवहतः।
तस्तिनं भाग्यं संस्थाप्य तथायत् पात्रमाहरेत्॥
तस्मिनमृष्णधवर्घं च दस्त्वान्यसं शरावकम्।
सुखं संस्थाप्य निद्रायणं छृद्वा चैव शरावके॥

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In a pit in the ground, one cubit deep, place a vessel. Another vessel containing prescribed materials and having its mouth covered with a basin, full of holes, is to be kept inside the first vessel, which is also to be covered with another basin. The joints are to be closed by means of mud, and the apparatus heated. When cooled of itself, the oil or tincture, as the case may be, is to be taken out from inside the apparatus.

**Patala Jantram.**

भार्देन्त्रां चाद्रर्पमाणि द्व्रयः स्थाप्यः प्रयत्तः।
तन्मुखः दिनलीयन्त्रं संस्थाप्यः च निरोधयति॥
पश्चान् मन्दाधिमुखजाल्यं जलं दल्लवाय पात्रके।
तथा तत्तततालिकाद्वा निःसार्यं च पुनः पुनः॥
नीचस्थानलिकावक्षे भार्दः स्थाप्यं द्वितीयक्मः
तस्मिनां च पतितं ग्रहियायात् विशेषतः।
तेजोन्नतिर्मिति स्वार्तं तथायन्येमवं तत्मम्॥
Tejo Jantram (Lavaka Jantram).

Fill up one half of a vessel with prescribed materials, and the other half with water, and close the mouth of the vessel with a lid provided with two tubes, one of which is raised a little high up, and then bent downwards, the other being bent low. Place the vessel upon mild fire, and let hot water come out of the high pipe, again and again, (the other being closed for the time being). Then, when a sufficient number of times, (vapour condensed into) water has been allowed to come out through the higher pipe, let the arkam (concentrated extract or tincture) come into a pot placed at the mouth of the lower pipe.

Tula Jantram.

Two crucibles, egg-shaped, are to be joined at the lower parts by means of a wooden pipe, one pradesha in length*, the two joints being closely

* pradesha is the maximum distance measured from the tip of the thumb to that of the little finger.
cemented by rag, soaked with mud. In one of these two crucibles put mercury, and powdered sulphur in the other. Having closed the mouths of these two crucibles, put them into two different Baluka Jantrams, the wooden pipe referred to above passing through a hole in each of the two vessels. Fire is now to be applied below the vessel containing the sulphur crucible. This leads to the exhaustion of sulphur by the mercury (which remains constant in weight, and does not contain any trace of the sulphur swallowed or exhausted). This apparatus is used for the exhaustion of haritala, gandhaka, manas sila, lauha (iron), etc. It is called an apparatus having the shape of a tula (libra or balance).
Gauri Jantram.

It is used for the purpose of an easy exhaustion of mercury. Prepare a brick, eight angulis square, with its surfaces made very smooth. Make a pit at the central part of this brick, by means of glass, and plaster the surface of the pit with lime. Then, prepare a cake of mercury, mixed with mica, silver, or gold, or with the essences of the same. Inside the pit is now to be placed the cake, covered on all sides with powdered sulphur, one fourth in quantity to the mercury, and dried. The mouth of the pit is to be covered with a basin, the joint being cemented, plastered, and dried. The apparatus is now to be covered lightly with cowdung cakes, arranged in the shape of a horse-shoe. These cakes are then to be burnt.

Chakra Jantram.

It consists of a pit inside a bigger one. Mercury is to be kept in the inner pit, the outer and the bigger pit being filled with cowdung cakes duly set fire to.

चक्र यन्त्रम् ।
गर्वतात्रले भवेद्ं गर्तों मध्ये गर्तें रसं कुरु ।
चक्रयन्त्रमिदं ख्यातं बाधे गर्तें ब्रह्मेत् पुत्रम् ॥

Chakra Yantram.

It consists of a pit inside a bigger one. Mercury is to be kept in the inner pit, the outer and the bigger pit being filled with cowdung cakes duly set fire to.

चक्र यन्त्रम् ।
दीर्घकरष्ठयां काचकृष्णयां मिल्येत् काचराजेऽककम् ।
तिर्यंक्रूत्वा पचेकुलयां चक्रयन्त्रमिदं स्मृतम् ॥
Baka Jantram.

Fit in a glass bowl to a glass bottle with its upper part elongated. Heat is to be applied below the bowl, the apparatus being kept in a slanting posture, (This apparatus is used for distillation of liquors, tinctures etc).

Nadika Jantram.

Place a small bowl, upside down, upon a vessel, containing material to be distilled, and close the junction of the mouths with soft mud, etc. Connect the apparatus, by a tube passing in curls through a water trough, with another vessel having its mouth closed tightly. The apparatus is to be heated until the whole of the extract is taken out.
Baruni Jantram.

This differs from a Nadika Jantram in this that it has got a water pot placed at the top of the vessel containing the drugs; it has no water trough through which the tube is to pass in a Nadika Jantram; it requires a straight and not a bent tube, and that it requires the pot meant to contain the extract to be surrounded on all sides with water.

(Translation not necessary).

अथ मूषदिविनिरस्पणम्

मूषा हि कौशिका प्रोक्ता कुमुदी करभादिका
पाचनी बहिमिथ्रा च रसबेदिनिरिष्यते
सुष्णाति दोषान्त मुचेंद्र वा सा मूषेति निगच्चते
उपादानं भवेतु तस्या मृत्तिका ळोहमेव च
A musha (crucible) is so named, simply because it causes the removal of impurities from metals by their incineration. The main ingredients of a crucible are mud and iron. The mud which is yellow, reddish yellow, tough, devoid of pebbles, and is capable of standing fire for a long time, is commendable for the purpose of preparing crucibles. In the absence of such mud, preference is to be given to the mud created by white ants, or to the mud used by the potters.

An ordinary crucible is prepared with mud, mixed with burnt husk, hemp fibres, and cow dung or horse’s stool—all mixed well and hammered by means of an iron rod.

The mud used in the preparation of crucibles is to contain, in sufficient quantities, white stone finely
powdered, burnt husks, cow dung, hemp fibers, horse's stool, oxidised iron, and black mud.

Bajra Musa.

A Bajra Musa is prepared with the following:—three parts of mud, one part of hemp fiber, one part of cow dung or horse's stool, one part of burnt husk and powdered stone combined, and half a part of oxidised iron. This crucible is used in the extraction of essences of metals.

Joga Musa.

Joga Musa is made of the following:—burnt charcoal, burnt husk, mud, and earth raised by white ants, mixed with a sufficient quantity of bida, suited to the requirements of the case. The inner side of the crucible is to be plastered with a sufficient quantity.
of the same bida. Mercury heated in this crucible, becomes more powerful than before.

Bajradrabanika Musa.

Mud, immersed in water for a long time, soil raised by earth-worms, jute fibers, and burnt husk,* each equal in quantity, and the mud suitable for the preparation of crucibles, as described above, equal in quantity to the foregoing—all of these rubbed together with buffalo's milk and plastered with a paste, made of the blood of bugs, balaka, and the root of tanduliyaka, make a crucible strong enough for the purpose of smelting diamonds. If filled with a liquid substance, and heated, it can stand the heat of fire for twelve hours.

* according to another version eight parts of burnt husk is to be used, instead of jute fiber and burnt husk.
Gara Musa.

Buffalo’s milk, mud immersed in water for a long time, and six times the weight of the milk, oxidised iron, charcoal, jute fiber, and black soil are to be rubbed together and made into a crucible, called “Gara Musa.” This can stand fire for more than six hours.

Bara Musa.

Powdered iron (or mica, or diamond, or quartz), charcoal, burnt husk, one part each, mud for crucible—four parts, mud immersed in water for a long time—four parts—all these are to be rubbed together and made into what is called a Bara Musa. This can stand fire for three hours.

Barna musha or raupya musha.

Powdered stone, red earth, rubbed with the juice of that group of plants called the rakta-varga (see
page 304) are to be made into a crucible which is to be plastered with catechu and green sulphate of iron. This is called, “Barna musha”. It is used for intensifying the colour of red metals. If plastered with the juice of plants called, “shweta varga,” instead of that of rakta varga (see page 304), the crucible is called a “Raupya Musa.”

Bida Musha.

A crucible prepared with specially prescribed mud, and plastered with specially prescribed bida, is called Bida Musha. This is used for the preparation of medicines for strengthening the body, and for transformation of metals.

Brintaka Mushika.

It is a crucible of the shape of a brinjal (egg fruit), and furnished with a strong funnel, twelve angulis in length, of the shape of a dhatura flower, and attached
to the crucible, in the same manner as a flower is to its stem. This crucible is eight angulis in length, and is provided with an outlet (through the passage in the funnel). This is used for the purpose of extracting essences of kharpara, etc.

गोस्तनी मूषा |
मूषा या गोस्तनाकारा शिखायुक्तपिथानका ।
सत्तानां द्वाराये शुद्धो मूषा सा गोस्तनी भवेतु ॥

Gostani Musha.

This crucible is of the shape of a cow's udder, and is provided with a cover furnished with a handle. It is used for the purpose of extraction of essences, and of purification of metals.

महध मूषा |
निधिंश्या महभमूषा या महन्द्रितयसंपुर्दातु ।
पर्यायादिरसादीनां स्वेदनाय प्रकोचिता ॥

Malla Musha.

This crucible is made of one basin, placed up side down upon another, the joint being tightly closed. It is used for the purpose of heating parpati and other mercurial preparations.
Pakva Musha.

It is a small vessel such as is made by potters, made specially strong, and burnt, as usual. It is specially used for the purpose of heating a special class of medicines, called "pottali", etc.

Gola-musha.

It is a ball-shaped crucible, without any mouth. The material meant to be subjected to heat is to be kept inside this crucible at the time it is prepared. (Having no mouth and no joint whatsoever, it leaves very little room for the passing of air from the inside to the outside, and vice versa). By means of this crucible, it is possible to have the desired operation performed very soon.

Māha Musha.

It is pointed at the bottom, and gradually widened on the upper parts, resembling a big egg fruit in appearance. It is used for the purpose of extraction of essences and incineration of iron, mica, etc.
Manduka Musha.

It is of the shape of a frog, and is six angulis in height, length, and breadth. It is to be put, inside a pit in the earth, and covered with fire made at the top.

Musala Musha.

It is flat at the bottom, cylindrical, and eight angulis in height. It is suitable for the purpose of heating a paste of mercury.
The excellence of the preparation of mercury and other things depend upon the prescribed number of putam. A medicine must not be subjected to a greater or a less number of putam than are actually necessary for its efficaciousness.

By means of putam it is possible to reduce a metal to a state of incineration, from which it cannot be restored to its former condition. It is putam which causes the excellence in the quality of metals, the ability of metals to float in water, the ability of metals to enter into the lines in the palms, lightness of metals, rocks, and other hard substances, the power of metals etc., to spread through the system in a short time, and the ability of the metals to increase the power of digestion. It is putam which invests metals with even a greater amount of efficaciousness than what is possessed by exhausted mercury.

महापुटम्

निम्ने विस्तरतः कुण्डे द्रिहस्ते चतुरस्कृते।
वनोत्तरसहस्रेण पूर्ते पुर्तनौषधं।
कौशिकां रच्छ वर्यते परिवर्तनस्ति पिष्कोपरि निन्धिपेत।
वनोत्तरसहस्राद्विन्य स्वरूपां विन्यसेत।
वहिं प्रज्वालयेच्छत्र महापुटमिदं स्वरूपम।

* A putam or samputam is an act of burning a material being kept inside two basins, joined with each other by means of mud, rag, mixed with mud etc. The apparatus, so constructed, is also called a putam or samputam.
Mahaputam.

Fill up a pit, of cubical shape, two cubits in length, breadth, and height, with one thousand pieces of cowdung balls, found dried in a pasture. The prescribed article, confined in a crucible, tightly covered, is to be put upon this heap of cowdung cakes. Five hundred pieces of the same fuel are then to be put upon the crucible, and fire set upon the heap. Heating an article in this way is called, burning it by "Mahaputam."

Gaja putam.

A cubical pit, one gaja in length, breadth, and height, each, is to be filled up with cowdung cakes up to the brim. A crucible, containing the prescribed material, is to be placed upon the heap of cowdung cakes. Half the number of the cakes, required for filling up the pit, are now to be placed upon the heap, which is next to be set fire to. Burning a metal in this way is called, burning by "Gajaputam." A "gaja" is equivalent to 30 angulis of an ordinary human
being. Burning in this way increases the potency of mercury to a great extent.

Baraha putam, kukkanputam, and kapota putam.

A Baraha putam is a pit, one aratni in each of the three dimensions, meant for the burning of metals, etc., in the same manner, as described above. A kukkanputam is a pit, two bitastis in length and breadth, meant for the burning of metals, etc., in the same manner, as described above.

A kapota putam is an act of burning in which a crucible, containing mercury etc., and tightly closed, is subjected to heat of fire made by eight pieces of cowdung balls found dried in the pasturage. This process of heating is resorted to for the purpose of effecting an incineration of mercury.
Govara putam.

It is an act of burning resorted to for the purpose of incineration of mercury by a fire made of husk or cowdung found powdered by the strokes of the feet of cows grazing in a pasturage.

Bhanda putam.

It is a big vessel filled with husk, inside which is placed a crucible containing the article to be heated by the fire set upon the husks.

Baluka putam.

This is an act of heating an article contained in a crucible by means of heated sand placed on all sides of the crucible.
Bhudhara putam.

In this case, the crucible is heated by means of being placed two angulis below the surface of the earth in a pit covered with a fire made of cowdung cakes.

Labaka putam.

It is an act of heating a very mild substance, by means of a fire made at the top of a samputam or crucible containing the substance, by husks, or powdered cowdung, sixteen times in weight of the substance cooked.


Definitions.

Salts—There are six kinds of salts, viz, samudram, saindhavam, bidam, sauvarchalam, romakam (or sambharam), and chulika (or nabasaram).

The three Ksharas—There are three kinds of ksharas viz, javakshara, sarjika kshara, and tankanam.

The five ksharas—They are as follows:—the kshara of palasha, that of ghantapatali; java kshara, subarchika, and the kshara of tila nala.

The three madhus (sweets)—They are three, viz, ghritam (clarified butter), molasses, and honey.

रसपेलानि 
कन्याशूलस्मिनी धोषा करः श्रीफलोज्ज्वम् 
कटुवार्तकसिद्धार्थसोमराजीविभीतज्जम् ॥

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Oils, extracted from the seeds of the under-
mentioned plants, are to be used in mercurial opera-
tions:—kanguni, katu-tumbi, ghosha, karanja, vilba,
katu bartaku, (kantakari or brihati ?). rajika, somaraji,
bibhitaki, atasi, mahakali, nimba, tila, apamarga,
devadali, danti, tumbru, ankola; dhatura, bhallataka,
und palasha.

The following are also used in mercurial opera-
tions:—fat of jackal, frog, tortoise, crab, porpoise,
cow, hog, man, goat, camel, ass, ram, and buffalo;
urine of elephant, camel, she-buffalo, ass, horse, cow,
goat, and ram; menstrual discharge of women, and
semen of men.
Pancha-mahisham—The urine, curd, milk, clarified butter, and juice of stool of a buffalo are called the pancha-mahisham. Similarly, chagala-panchakam are the same five different substances relating to a goat.

The following and other sour vegetables are called the Amlabarga (sour group);—amlabetasa, jambira, nimbu, bijapura, changeri, chanaka juice, tintidi, kola, darima, ambastha (hog plum), tintidi leaves, nagaranga, chukra leaves, and karamarda.

Of all these, amlabetasa, and chanak leaf juice are the best. The former is especially suited to the requirements of purifying, liquefaction, and exhaustion of mercury.
Juices of the following five sour materials are called the amlapanchakam—kola, darima, tintidi, chullika, and chukrika.

The following five kinds of earth are called the pancha mrittika, or mrit-panchakam;—brick, red ochre, salt, ashes, and soil raised by white ants.

The following poisons are called the bisha varga:—shringaka, kalakuta, batsanabha, kritrima (artificial), and biles. These are commendable in mercurial operations including the solidification of mercury. These poisons, if swallowed improperly, cause death.
The following are called the upabishas:—(semi-poisons):—langali, bishamushti, karabira, jaya (bhanga), nila, dhatura, and arka.

दुग्धवर्गः।
हस्त्यम्बवनिता ठेनुगर्भ भी ब्याविकाविका।
उद्रितकोद्भवाश्यमानिन्ययोत्तिनित्वम्॥
दुग्धिका स्तूग्गा चैतत् तथोपनिमलकारिका।
एषां दुग्धवर्गिनिविनिद्रिः स दुग्धवर्गोऽर्जादिशु॥

Milks of the undermentioned animals and trees are called Dugdha barga. They are used in mercurial operations:—elephant, horse, cow, ass, goat, ram, camel; udumbara, aswattha, arka, bata, lodhra, dugdhika, sruhi, and uttamakandika (small dugdhika).

चिद्ध्रणः।
पारावतस्य चाष्य कपोतस्य कलापिनः॥
ग्रहस्य कुक्कुटस्यापि विनिविनिद्रिः हि चिद्ध्रणः॥
शोधनं सर्वेऽलोहानं पुत्राणां पनात्त खलु॥

Stools of the undermentioned birds are called the bidgana. All the lohas (metals excepting mercury), are purified, if coated all over with these bidgana, and subjected to puta paka.

* For some other kinds of poisons and semi-poisons, see page 91.
The following are called Rakta barga (red group), and are used in preparing a red colour:—kusumbha, khadira, laksha, manjistha, rakta chandanam, akshi, bandhujiba, karpura-gandhini, and makshika.

The undermentioned plants are called the Pita barga (yellow group). They are used in mercurial operations:—kinshuka, karnikara, haridra, and daruharidra.

The undermentioned are called sveta barga (white group):—tagara, kutaja, kunda, shveta-gunja, jivanti, and root of white lotus.
The following are called, the krisna varga, (black group):—kadali, karaballi, triphala, nilika, chitraka, panka, kasisa, and tender mango fruits.

रक्तवर्गादिवर्गोऽच द्रव्यं तजारणात्सकम् ।
भावनीयं प्रयज्ञेन ताहं रागात्ये खलु ॥

If it is intended to impart a particular colour to a metal, etc., the latter is to be subjected to bhavana, at the time of its exhaustion, with the juices of the corresponding group of plants. (such as ractabarga, etc.).

लोहकाठिन्यनाशनवं: ।
महिषीपिष्टयुहोत्य: कलिक्रो धवबीजयुक्।
शशास्त्रीनि च वर्गोऽयं लोहकाठिन्यनाशन: ॥

The following articles are destroyers of the hardness of metals:—ashes of the horns of she-buffalo, and of ram, indrajava, dhava seeds, and bone of hare.

दुर्बार्बर्धोहादि द्राणवं: ।
गुद्दुगण्यल्लुल्लज्ञसारणेष्ठक्षान्तिनिते: ।
दुर्रावचविलोहादर्द्रवणाय गशो मत: ॥

The following serve to facilitate the smelting of those metals which are very difficult to smelt:—molasses, guggulu, gunja, clarified butter, honey, and tankanam.

चारा: सत्वेष मलं हन्दुरस्मलं शोधनजा जारायम् ।
मान्यं विषाणि निबन्धि स्तोत्यं स्नेहाः प्रकृतीति ॥

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The characteristic of ksharas is the destruction of impurities, that of amlas (sour non-mineral liquids) is purification and exhaustion, that of poison is the destruction of tardiness, and that of oil, fat, marrow, etc. is to soften and to remove coarseness.

शोधनीयमण: |
काँचटक्याशिप्रामिः शोधनीयो गणो मतः ।
सत्त्वानां वज्रसूतस्य लोहानां मलनाशनः ।
कापालिकगुणाध्वांसी रसावदिदिमिरुच्यते ॥

Sodhaniya gana.

Kacha, tankana, and shipra are called sodhaniya gana. They are the destroyers of impurities in essences of metals, solidified mercury, and metals. They are also said to be the destroyers of what is called the "kapalika guna."

कज्ज्ञानी रसपटुः ।
धातुभिरमण्यायेन्द्र निद्र वैमेहितो रसः ।
सुगुणाच्या: कज्ज्ञानामोक्षोऽकज्ज्ञानायमिरहितः ।
सद्वा महिः तः सैव रसपञ्च इति स्मृतः ॥

Kajvali is the fine black powder obtained from rubbing of mercury with metals, sulphur, and other things, without the addition of any liquid substance. This powder, if rubbed with a liquid substance, becomes what is called a rasa-panka.
Copper and an equal quantity of mercury, makshika, and sulphur—each even so little as half a niska or one triti in weight—turn into a paste-like substance, called rasa pisti, if rubbed together and kept in an intense heat of the sun.

The paste-like substance, prepared out of sulphur, milk, and mercury, rubbed together in a mortar, is also called rasa-pisti.

The paste-like substance, obtained by rubbing mercury with one fourth its weight of gold, is called Patana pisti. It is of much importance in mercurial operations.
Swarna-kristi and Rupya-kristi.

Gold or silver, incinerated with mercury, sulphur, etc. and restored to its former condition for several times, is called swarna-kristi, or rupya-kristi, respectively. If swarna-kristi is mixed with gold, the latter does not undergo a loss of colour. The seed prepared out of swarna-kristi is a good dyer of mercury.

Copper, combined with an equal quantity of tikshna (steel), is to be smelted and immersed, for several times, in a solution of sulphur and the sour juice of a
lakucha fruit. The amalgam turns, by this process, into an excellent metal. Gold, reddened by being mixed with this amalgam, is called Hema-racti, which, if thrown upon smelting gold, improves the colour of the metal.

Tara racti, which improves the colour of silver and tara-bija (silver seed), is prepared similarly.
Measures of weight.

6. anus (molecules) make one triti.
6 tritis    "    "    liksha.
6 likshas    "    "    juka.
6 jukas     "    "    sarshapa (mustard seed.)
6 sarshapas    "    "    java (barley seed.)
6 javas     "    "    gunja or racti.
2 gunjas    "    "    nispava.
3 gunjas    "    "    balla.
2 ballas    "    "    masha.
2 mashas    "    "    dharana.
2 dharanas    "    "    niska, shana, kala, or tanka.
2 niskas    "    "    kola, bataka, or gadyana.
2 kolas     "    "    tola or karsha.
(Synonyms of karsha are:—udumbara, panitala, subarna, kobaragraha, aksha, and bidalapadaka.)
2 karshas    make one shukti.
2 shuktis or 4 tolas    "    "    pala, musti, prakuncha, or vilba.

# नक्षन इति पादस्लिरम्।

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2 palas  "  "  prasrita.
2 prasritas  "  "  kudaba or anjali.
2 kudabas  "  "  manika or sharaba,
2 manikas  "  "  prastha (64 tolas, or one seer.)
2 prasthas  "  "  shubha,
2 shubhas  "  "  adhaka or patra.
4 adhakas  "  "  drona, ghata, unmana;
               rashi, lalvana, ar mana, or kumbha.
100 palas  "  "  tula (400 tolas.)
2000 palas  "  "  bhara.

द्रोणाभ्यं सूपों विज्ञेयश्चतुःप्रभुवेत्रावरकः ।
सूर्यभानु भवेदु द्रोणी वाही गोष्टि च सा स्मृता ।
द्रोणाचतुर्य खारी कथिता सूचि बुद्धिमिः ।

2 dronas  make one surpa.
2 surpas  "  "  droni, bahi, or goni.
4 dronis or gonis  "  "  khari.

अथ रसवन्यः ।

प्रविधिश्चतिसहःस्थाने रसवन्याने प्रचंबरते ।
येन येन हि चावरल्यं दुथं हृतं रसस्यज्ञें ॥
हदारोद्दो तदाभासः कियाहीनश्च पिष्टिका ।
चारः सोटश्च पोटश्च कल्कवदश्च कण्डवल्ली ॥
सजीवश्चेव निर्जीवो निवैश्च सत्वेजकः ।
श्रृङ्खलादु तिवन्यों च वालकर्षण कुमारकः ॥

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The commentators have described twenty-five different ways of solidifying mercury.

They are as follows:—(1) hatha (2) arotta (3) hatha bhasa and arotatabhasa (4) kriyahina (5) pistika (6) kshara (7) khota (8) pota (9) kalka baddha (10) kajjali (11) sajiva (12) nirjiva (13) nirbija (14) sabija (15) shrinkhala (16) drutibandha (17) balaka (18) kumara (19) taruna (20) briddha (21) murtibandha (22) jala-bandha (23) agnibandha (24) susanskrita and (25) mahabandha. Some add to the list a new item, viz. jalaukabandha (which will be dealt with in another volume).

Solidification of mercury, not properly purified, is what is called, “hatha bandha.” This mercury gives
rise to death or a very serious disease. Solidification of mercury, properly purified, is what is meant by “arota bandha.” This mercury is commendable for the purpose of internal use; it cures diseases slowly. The mercury, though mixed with metals and drugs, does not allow itself to be solidified, but sublimates and assumes its original condition, when subjected to heating by means of putam, is called, “abhasa.”

The mercury which is solidified by being combined with metals, etc, not properly purified, is what is called “Kriyahina.” The taking of such mercury, if followed by improper diets, gives rise to several after-affects of trouble-some nature.

The mercury which assumes the appearance of butter by being rubbed steadily and exposed to the intense heat of the sun, is called “pishtika baddha.” This mercury increases appetite and is a good digester of food.
The mercury which is solidified by being combined with conchshell, oyster, and couri, duly purified and burnt to ashes, is called “kshara-baddha.” It cures colic, and gives rise to appetite and nutrition.

Solidified mercury, if it undergoes condensation and reduction in quantity every time it is heated, is called “Khota baddha.” It cures diseases very soon.

Kaijali, liquefied (by being heated) and put upon a plantain leaf (placed upon cowdung), and then pressed lightly (by means of another piece of plantain leaf containing cowdung), is called pota or parpati, and is the curer of all diseases, especially of children.

Mercury, if it assumes the appearance of mud, by being subjected to heat, etc. and combined with herbs, made into a paste, is called “Kalka-baddha.” This mercury partakes of the properties of the herbs with which it is combined.
The black sulphide of mercury, prepared by mercury and sulphur, finely powdered and rubbed together, is called “Kajjali baddha.”

If mercury, in course of the operations performed for its incineration, sublimates, by being subjected to heat, and comes out of the crucible, it is called, “sajiba baddha.” It does not possess the properties of incinerated mercury, and is not considered efficacious in curing senility and diseases.

Mercury, incinerated after having been made to swallow mica and sulphur, becomes superior to all other metals, and is called, “Nirjiba baddha.” It cures diseases immediately.
Mercury, incinerated by means of putapaka after having been made to swallow one fourth its quantity of gold, and made into a lump by being rubbed with an equal quantity of sulphur, is called “Nirbija baddha.” It cures all sorts of diseases.

The mercury which is exhausted with the essence of mica, gold, silver, copper, and kanta iron, all rubbed together, and incinerated with six times its weight of sulphur, is called, “bijabaddha.” It is of supreme strength.

Mercury, killed with diamond, etc., and combined with an equal quantity of mercury killed otherwise, is called “Shrinkhala baddha.” It imparts hardness to the body. None but Mahadeva can describe the strange efficaciousness of this mercury, and the power of its being quickly assimilated in the system.
Mercury, which is solidified, or subsequently reduced to ashes, after having been combined with metals which undergo external liquefaction or which turn into a liquid while kept close to but outside mercury, is called "drutibaddha," and can cure difficult diseases, if taken in doses of a quarter of a rajika (equal in weight to a mustard seed).

Mercury, exhausted with an equal quantity of mica, and then reduced to ashes, is called "balabaddha." If taken with the proper anupanam or accompaniment, it can cure and prevent all sorts of diseases.
Mercury, exhausted with double its quantity of mica and then reduced to ashes, is called ‘kumara baddha’. It can cure, in three weeks, all the diseases due to serious vices (e.g. leprosy), and can also prevent the occurrence of diseases.

The mercury which has swallowed four times its weight of mica, and is then reduced to ashes, is the best of all rasayanas (medicines which cure and prevent senility and diseases). It is called tarunabaddha. It can cure, in a week, all sorts of diseases, and increases strength and vitality.

The mercury, which has swallowed six times its weight of mica, and is then reduced to ashes, is called ‘briddha baddha’. It is applicable in curing diseases as well as in the incineration of metals.
The mercury which is enabled, by means of being rubbed with controlling herbs of amazing properties, to stand fire without being exhausted with mica, is called 'murtibaddha.' This mercury is to be duly exhausted, and used in all sorts of diseases with incomparable success. It does not undergo any diminution in size, if placed upon fire.

The mercury which is solidified by means of ice, etc. is called 'jalabaddha.' It is a destroyer of senility, diseases, and death. It can be made to produce any effect desired.

When mercury alone, or in conjunction with some thing else, is solidified, and undergoes no diminution, when subjected to heat, it is called 'agnibaddha,' and serves to endow the user with the power of flying in the air.
If mercury, when heated with gold or silver, becomes solidified, amalgamated, heavy, elongated, and bright, without undergoing any diminution, it is called 'Mahabaddha'. When killed, it can be reduced to powder like salt; when rubbed, it does not part with any rust; if not properly solidified, it turns into a liquid immediately.
CHAPTER VIII.

Making of gold.

Lead is to be incinerated with the wood of brahma tree, mixed with kharpara, and powdered together. This powder is then to be rubbed with the
milk of banian and made into a crucible, dense and cylindrical. The quantity of the first two, viz, lead and Kharpara, is one palam each. One palam of mercury is to be put into the crucible, kept inside a balukha jantram. Sulphur, eleven times in weight of mercury, and very finely powdered, is to be swallowed by the mercury, by gradual mixture and rubbing. The crucible is then to be taken out of the jantram and cooled. This will be found very red. This is then to be finely powdered. Seventy two parts of this powder, one part of mercury; and one part each of silver and copper, are to be combined. * The combination may result in gold, ten sixteenth parts pure. Substitution of pure silver for copper, may have the effect of producing pure gold.

* According to another version, seventy two parts of the powder, one part of mercury, two parts of a compound made of sixteen parts of silver and twelve parts of copper.
Lead is to be rubbed for six hours with the wood of either of these two, viz., pharabaha and bibhitaki, and with daruharidra. This is then to be rubbed with the juice of kinshuka, and burnt by putapaka. This is next to be rubbed with the juice of kanya and again burnt by putapaka. This is again to be rubbed with a solution of yellow kashisa and again burnt by putapaka. The lead is thus to be subjected to bhabana and putapaka for hundred and eight times each. The lead will thus be reduced to ashes of a very deep red colour. The ashes are to be mixed with thirty times their weight of copper, which will be transformed into silver, containing a little copper. This copper will have to be separated from the silver, which will have to be again mixed with the ashes of lead. This will result in the silver turning into gold twelve carats fine.
Manufacturing of silver.

Four parts of swarji, four parts of jabakshara, four parts of borax, two parts of powdered white mica, and two parts of manas-shila—all of these are to be rubbed together and immersed in the juice of kakamachi. One part of very finely wrought brass leaf is to be heated mildly and immersed in the solution, for twenty one times. The foils will thus grow undoubtedly white like silver. They will have to be mixed with an equal quantity of real silver and eleven times their weight of mild tin. The product will be pure silver.
निचिन्यते तदा वारी दत्ता दत्ता विमान्यते।
गन्धकः सोष्यते परवाद्यच्छस्यएकसंमितः।
गलध्रो श्नेद्वयाच्छन्नेगन्न्यश्नेः श्नेः।
ताम्रं पूर्ण श्नेयोज्यं गन्धभागो दशात्र च।
सवं सहायते रस्यं हेमरकं च निर्मलं।
तोलके माषकं दयादेकं वर्षाचुतुष्यमयं।

Manufacturing of gold.

Sulphur, ten tankas (see page 310) in weight, is to be smelted with ghee, and immersed in the juice of kanya for five times, and then dried and mixed with three tankas of navasara. The mixture is then to be subjected to bhavana with five tolas of maricha, rubbed well with water.

The amalgam is then to be dried and made into the form of chanakam. This is then to be gradually put into gold, smelted with an equal quantity of copper in the crucible, the proportion of the sulphur amalgam being one tenth of the total quantity of the two metals in the crucible. The whole thing will turn into beautiful gold, red, and pure. Further addition to this artificial gold, of every dose of the sulphur amalgam by one sixteenth part of the gold, will heighten its colour to the extent of six carats fine.

श्रेष्ठकरणम्।
जात्यतुत्तकनाग्नार्थ रसकर्त्यापि माषकम्।
शिला माषद्येतेनतज्ञस्रंभिस्यं च मार्येत।
Making of gold.

The following are to be incinerated separately: mineral tutthaka and rasaka, one sixteenth of a tola each, and manas-sila, one eighth of a tola. All these three things are to be mixed together and combined with one tola of gold of an inferior colour, with the result that the colour of the gold will be improved.

Making of silver.

Twelve parts of powdered steel, and three parts each of powdered banga (tin), powdered sisaka (lead), and powdered haritala—are to be rubbed steadily with the juice of tanduluiyaka, and heated in an andha musha, with tankanam applied gradually. On breaking open the crucible, the metal will be found to be excellent. If combined with an equal quantity of silver, it will turn to be the best silver.
रीप्यकरणः

पारदं तालकं श्वेतं भान्यानं टकराणं नवम्।
शृंगिंकं च विंशं वंगं मृतं टकरयं हयम्॥
अर्कसेवुष्ठुदुरुत्तेन महं येच दिन्न्यम्॥
चनकमानतो वटी कर्त्तव्यायं प्रयत्तः॥
त्रयमेव रसं पश्चात्तु पुनरेवं मनःशिलाम॥
त्रयम्ब्रापिश्रृंगिंकंतु खर्किकांतकक्षयम्॥
ध्वनरस्य रसेनेतनम् मदनीयं चतुष्ययम्॥
त्रिदिनं शोषयेदु गाढं पुनस्सारं समं नतेन्।
दशरस्तरकमितं शुचं कृतप्रतं प्रभायूतम्॥
अन्धमूषे परिचित्तं तत्ततुष्ययमौषधिम्।
अर्थमध्यं च दल्ल्वा तद्वा गाढयेदु गाढमेव तत्त।
दलं निष्ठ्यते श्वेतं पुनः पूवंलं क्वताध्या तां।
वटिका नूतनाः सन्ति तासां मध्ये नयेद्यथं॥
भागमेकं पञ्चदशं दलं स्वात्मिरमलं शुभम्।
कृत्वेकत्रं च मूषायां गाढयेदज्जलसन्निमम॥
पञ्चसृष्टं च तन्मध्ये दीयते सुन्दरं भवेत्।
दलमेतत् पुनर्भवगा बष्ट्रीं तारस्य सुन्दरः॥
एक एव भवेन्तु मूषे गाढनीयं यथा पुरा।
पुनादित्तीयवेलायां नवभागं दलं भवेत॥
Making of Silver.

Mercury, haritalam, white mica finely powdered, fresh tankanam, shringa poison, incinerated tin—two tankas each, are to be rubbed together for three days, with the milks of arka, and sehundu, and made into pills of the size of a chanakam. Three tankas of mercury, an equal quantity of manas-shila, and two tankas of swarjika, with one of the pills referred to above, are to be rubbed with the juice of dhuthura for three days. Dried copper foils, well purified, and equal in quantity to the amalgam, viz. to tankas, are to be put into a blind crucible and smelted with the amalgam, half of its quantity being put at a time. This will turn the copper foils white. This metal will be purer, if smelted again with one fifteenth part of its weight of the pills referred to at the beginning and a little of ghee, curd, milk, sugar, and honey. Eight parts of the metal thus produced and one part of fine silver are to be smelted, as before, in a crucible. Nine parts of this product and one part of pure silver are to be again smelted and turned, all the while the smelting goes on, with a fine rod made of karabira. The product will be pure silver, as bright as stars.
Making of Gold.

Iron, very finely powdered, is to be mixed with the juice of kanya, and burnt very carefully for three times, by means of putapaka. The powder will thus turn yellowish red. Again, powdered makshika is to be mixed with rock salt and some sour juice, and subjected to putapaka for three times. These two kinds of powders are to be mixed together in equal quantities. To these will have to be added powders of silver and copper, each equal in quantity to each of the above mentioned powders, so that the amalgam contains an equal quantity of the four ingredients, viz, iron, makshika, silver, and copper. All of these
are to be heated together with a little of lead being put into the crucible, every now and then, so long as the heating continues. The heat will have to be applied so long as the silver does not disappear altogether—nay, up to a little while after that. The product is a yellow metal containing gold $\frac{1}{16}$ parts fine. Add to this, gold $\frac{1}{16}$ parts fine, the product being gold of an excellent quality.

Making of Gold.

Gandhaka, hingula, powdered iron, and manas-shila,—all these are to be rubbed for three days with some, sour juice. They are then to be fried in a
cauldron, dried, powdered finely, and then put into a glass bottle. This is then to be heated in Baluka jantram, for nine hours, by a strong fire. A little of silver is then to be put into a crucible and smelted. A little of the compound, prepared in the Baluka jantram, is then to be put into the smelted silver, with the result that the silver turns into gold 8 parts fine. An equal quantity of pure gold, mixed with this substance, makes the whole thing absolutely pure gold.

रौप्यकलामृः

तालेन मार्येद्रक्षपत्रं सूच्चम विधाय तत्त॥
तेन बंगेन सतारपत्रं श्रुद्धं च मार्येत॥
एकनापि पुटेनैव स्मियते तारसुद्धम॥
टंकेकं ताटतत्त्वाच तारस्त्यं च मूतस्त्यं च॥
एकमत्रं भवेत्रं पारदो द्रयमेव च॥
एकत्र पिढितं कुला गोलं कुर्याण्तं: परम॥
वर्तुलं निचिपेचं च सुपिष्ठं मार्यतृर्कं।
निवेश्य गुटिकाकारेण प्रजतसीतलयाचितम॥
तेन सा पर्यमानापि पिष्ठी कुष्ठा भविष्यति।
सैंधवेनार्कपत्रं ताम्रपत्रं प्रजिप्यते॥
श्रावसुच्चम पुनं भर्त्रं निर्युग्णहीरसमध्यगम्।
चिप्यते ताळवेने वैवत्ताबच्चुर्ज्रं भविष्यति॥
Making of silver.

Fine foils of tin are to be incinerated with haritalam. The ashes, so produced, are to be used in incinerating pure and finely wrought silver foils, the incineration being effected by means of one putam. Take one tanka of the essence of haritalam, one tanka of incinerated silver (as referred to above), and two tankas of mercury—all of these are to be rubbed together and formed into a ball, which is to be coated with a paste made of masha gram (a kind of bean), and boiled in atasi (linseed) oil. The ball will thus turn black. Pure and very fine copper foils are then to be coated with saindhava and milk of arka, and kept immersed in the juice of nirgundi, until they turn white. Ten tankas of pure silver and ten tankas of the copper foil are to be smelted together with the black ball referred to above, the product being pure silver.
अर्कसेवदृढगुस्त्य तिलं: पश्चाच भावना:।
आविक्षयाय मतस्यस्य वसां दत्ता विमद्द्वेते॥
शोपरित्वा पुनः कुर्यायतं लुढं कालाकृपये।
जुज्जिकायां तदारोप्य मुख्मुद्रादत्य पाठ्येत॥
धूमं निसारयेतावधावावधायमध्यं अयम्।
मुखं विसुधं ते पश्चात्वत्तिन्या छिन्नविभिनम्॥
याम्राम्ब्दालश्यं वहिदेयो निरन्तरम्॥
कृपिकाया नुले सर्वं सत्त्वमात्य तिष्ठति॥
पुनः सत्त्वं च गुह्यीयाण्युपन: कुर्यात्त्वधिष्ठम्।
रसभसम तुतीयांशं तस्य सत्त्वस्य दीयते॥
अथावशिष्टं यत्विप्रव तातसत्त्वस्य किंचन।
तदधो दीयते किंतु किन्निः कसत्वनं वे सम्म॥
पुनर्याम्बकं ददायधिं त्यतिकर्मानं।
नोष्णे नाथं स्थितं सत्त्वमन्तरादशितं नयेत्॥
इति सुद्धे शुभे तारपत्रे सत्त्वं समं चिपेत्।
मूनिकाया मधृश्रोच्यं श्रेणकजाचांतरालगम्॥
भयं तवदन्भायां यथा स्याधोकोत्तमः।
तत्ततो तस्य मयायस्य गुह्यात्म शुक्लसन्निमम॥
स्तत्तरमेकपिन्धस्य तदादा योव्हेत।
हृदादशांशं भवेदेव पिचलं शुक्लतारकम्॥
Making of silver.

Six palas of haritala are to be boiled for three days in a decoction of kulattha; and rubbed very fine in a mortar. Bhallataka fruits and castor seeds, ten tankas in weight each, are also to be finely powdered. These three things, viz. haritala, bhallataka fruits, and castor seeds, are to be rubbed together, and subjected to bhabana, for three times, with the milks of arka and sehundu, respectively. The compound is then to be rubbed with the fat of ram and fish. When dried, the powder will have to be put into a very strong glass bottle, and heated without closing the mouth of the bottle. Smoke is expected to come out of the bottle, after six to nine hours of heating. The mouth of the bottle is then to be closed hermatically, by means of a piece of chalk—the heating is to last continuously for thirty-six hours, without any interruption.

At the mouth of the bottle will be found deposited the essence of the substance thus heated, which will have to be taken out very carefully. The remains of the substance are to be heated again in the aforesaid way, which will result in the extraction of some more essence. A part of this essence, with one third its quantity of incinerated mercury, is to be put into another glass bottle, below which is to be put remains of the substance mixed with a little of the essence. Heat is then to be applied again for twenty-four hours, after which is to be taken out the essence deposited, neither at the top nor at the bottom, but at the central portion of the bottle. This essence, with an equal quantity of very fine silver foils, is to be
heated in a blind crucible, with lairs of white glass put
above and below them. When sufficiently heated, the
contents of the bottle will smelt into a ball-like
substance having the appearance of semen. This
will have to be taken out and heated with twelve
times its weight of brass, which will turn into pure
silver.

शर्यकरणम् ।

निन्द्धूरसेन सहन्यं भावयेच्छुद्रसातपे।
एकविश्वमितामितं भावनाभि समन्ततेः।।
कुकुटांटोद्वेगामु चतुर्वें विभावयेत्।
भ्रथ तास्लस्य पत्राणि सुसूचमाणि हद्राणि च॥
कर्मवध्यादि च गन्धेन तेन लेख्यानि तानि च।
पुनर्नियानि ताधिष्ठान निधाप्यंत्ये पुनर्जले॥
बिलेप्याथ बिलेप्याथ गन्धकेन पुनः पुनः।
सत्तेलिमिदः कर्म छ्रत्वा छ्रत्वा पुनः पुनः।॥
तानि विभाव्य वेगु गाढः गहंते तास्मुस्त्मम।।
अरुणादित्यसंकाशं निदर्शं तारसुह्रतेः॥
तारे टक्करं देयं टक्करे शुभं रविं।।
pुष्पये तास्मेवंत्रयावलाढ़स्यं भवेत्॥
गर्वं च पुनस्ताः हत्रयं सत्वर्गन्विकाम॥
तत्र हेम द्राश्चांग्रामन्यमेलय चौत्मम।।
हेम संज्ञायते सर्वं रस्यं चैव सुह्म प्रदाम॥
Making of gold.

Purified sulphur is to be subjected to bhavana with lime juice for twenty one times, and with hen's egg for four times. Very fine and strong copper foils are then to be coated all over with that sulphur. These are next to be burnt by putapaka and immersed in water. They are again to be coated with the sulphur, burnt and immersed in the same way, for seventy times altogether. Three parts of pure silver and one part of this copper are to be burnt together, by putapaka, which is to be carried on till the copper disappears altogether. The product is gold $\frac{1}{10}$ parts fine. With this is to be mixed pure gold $\frac{1}{3}$ parts fine. The compound will turn to be pure gold.

Augmenting the colour of gold.

Essence of mica and an equal quantity of copper are to be smelted together and compounded. An essence is to be extracted in the usual way out of...
this compound. This essence is wonderfully yellow. Twenty five parts of gold, ten sixteenth parts fine, and one part of this essence are to be smelted together, with the result that the whole compound will turn to be gold $\frac{11}{18}$ parts fine. Further addition of every one part of the aforesaid essence will result in the enhancement of the colour of the gold by $\frac{1}{18}$ part.
Making of gold.

Manas-shila, makshika, sisaka (lead), karpura-mani (camphor gem), rajabarta, rust of iron of a very long standing, cinnabar, kharpara, tuttham, and yellow kasisa—all of these are to be rubbed together and heated steadily in a crucible, with sulphur being put into it, six times in weight of each of the other ingredients. The crucible is to be put inside another crucible, and the superfluous sulphur burnt gradually. One rati of the compound, thus prepared, is to be smelted with one tola of copper, the result being gold ¼ parts fine.*

* Preparation of gold is ordinarily prohibited. It is only for the bare subsistence of life that one may have recourse to it.
Making of silver.

Purified mandura and kharpara, ten tolas each, are to be subjected to bhavana, for twenty one times, with strong urine, Manas-shila and navasara, one tola each, are to be mixed together, and subjected to bhavana with buffalo's milk. Three tolas of mercury, previously subjected to bhayana with the milk of sehundu, and three tolas of manas-shila are to be rubbed together. All the things, noted above, are to be rubbed together,
and made into a dense and black powder. These are to be put into a vessel covered with a copper plate, and heated by fire, made below and around the vessel, for six hours. The compound, thus prepared, is to be rubbed with eight tolas of essence of haritana, mixed with lemon juice. The amalgam, thus prepared, is to be rubbed for seven days with the juice of small nagarjuni leaves, equal in weight to the lump. It is again to be rubbed with some more leaves, and to be heated for 24 hours by means of a Baluka jantram, at the bottom of which will be found deposited the essence (one sixteenth in weight) of the whole thing. Copper mixed with this essence becomes as white as silver.

Eight tolas of white kharpura (essence of kharpura, i.e. zinc), seven tolas of haritana, one tola each of silver, and abhram (white mica) are to be mixed together and put into a blind crucible, with one tola of the newly prepared white substance at the top and one tola of the same at the bottom. The crucible is to be heated until all the things smelt together and turn into a compound. The result is only two tolas of a very beautiful silver.

रूपकरणम्

चांगेरायः: खरसनेत्त्वोहृंगूर्यं विग्रहे यते।
पाकिश्याम्ब पट्पलं गाढं प्रत्यहं दिनसत्यः च॥
तस्य चूर्णस्य मध्ये वें सस्त्रकामितं भवेत्।
सत्वं तालस्य दातन्यं भून्यं मूषके द्रढः॥

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Six palas of powdered iron are to be rubbed steadily with the juice of changeri for seven days, by means of the two hands. This powder is to be confined with seven tankas of essence of haritala in a strong earthen crucible, which is to be covered, at the top as well as at the bottom, with white glass, and then closed as usual with mud, etc. The crucible is then to be burnt by means of a fire made of charcoal, for three times. The contents of the crucible are then to be powdered, and again subjected to putam
with seven tankas of purified and powdered tin, in such a way that the tin mixes itself with the powder. Seven tankas of this compound, powdered well, are to be smelted with an equal quantity of iron and haritala, and fine silver. The compound is then to be powdered and mixed with an equal quantity of oxidised iron, and mercury. A little silver, purified with swarji, is then to be placed upon a heated brass plate. Six tankas in weight of this brass foil is to be then mixed with one tanka of the powder referred to above, and heated in a blind crucible. This results in the production of silver, which, when smelted with an equal quantity of pure silver, turns into an excellent silver.
Making of silver.

Mercury manas-shila, dhanyabhra, (mica, finely powdered in the manner to be explained in vol. II), incinerated bangla, rala, swarji, and tankana—each six tankas in weight, haritala, 24 tankas, rubbed and purified seeds of ranjaka, 24 tankas in weight,—all of these are to be rubbed in a mortar, with the milk of bajri for two days, with cow’s milk for one day, and then heated for eight days. The compound is then to be mixed with aconite and put into a glass bottle and heated. It is then to be smelted with sixty four times its weight of white and purified copper, which will turn into silver.
Haritala is to be boiled for three days with water mixed with abhra. This is then to be rubbed with an equal quantity of sulphur and twenty one hen’s eggs, until they mix together and become a lump. Twelve tankas each of swarji and tankan are then to be mixed with the lump, of which an essence is to be extracted in the usual way. Then, twelve tankas of this essence and five tankas of powdered steel are to be rubbed with water mixed with abhra, until they mix together and turn into a lump. Then, eight tankas of pure steel, three tankas of mercury, and three
tankas of silver are to be rubbed together, and mixed with the lump by being heated in a crucible. The product is then to be rubbed for a long time with mica, mixed with water, and dried. This process is to be performed during day time for twenty one days. All these twenty one days, the product is to be subjected to putam at night. Next seven days, the product is to be rubbed with mica water and dried every night, and then subjected to putam at the very same night. The substance will thus grow white, and essence taken out of it will be as pure as any thing. One part of this essence and sixty four parts of tin or copper will turn into a pure silver.

Making of gold.

Copper, killed with cinnabar for three times, and revived each time, becomes pure, heavy, and yellowish red. Then a crucible is to be made with kharparka, subjected tā bhabana with triphala water and rubbed with the milk of sehunda. The copper referred to
above, is to be put into this crucible, and heated strongly. This will turn the copper into gold.

रूप्यकरणम्

तालकं पट्पलं शुद्धं चूर्णं भूनागजं शुभम्।
तुतीयांशं भवेत् तस्य तालकस्यान्तरे चिपेत्॥
पलं टंकराकं दल्वा मद्येत् कदलीद्रवः।
कन्दंजेविदिनं यावत् पश्चात् कूपस्य मध्यगम॥
हुत्यते जिदिनं यावत् तदा सत्वं नयेत् ततः।
लेन सत्वेन सत् तास्रं पोइशांशं च वेधेयेत्॥
किषिचं स्फुंटं तारं तत्र चान्यद्व ददेत् च।
ल्वं च कोमलं शुद्धं तदा मद्रं भवत्यपि॥

Making of silver.

Six palas of haritala, powdered and purified, two palas of the essence of earth-worms, and one palam of tankana are to be rubbed with the juice of banana plant and with the juice of shuranam for three days. The amalgam is then to be confined within a glass bottle for three days, before essence is taken out of it in the usual way. This essence is competent to transform sixteen times its weight of good copper into silver. In case the silver, thus produced, happens to be coarse, it is to be smelted with some pure silver.
विशंटकमिति तालं पद्यंक्रमिति रसम् ।
द्रयमेकत्र संमिश्रयः चित्रस्तेहन महं येतु ॥
त्रिदिनं गाढःमेतः पुनः काचर्य कूपके ।
निधाय त्रिदिनं सम्यक् सत्वं निःसारिये शुभम् ॥
श्रीदा य ख्रीत: सत्वं तेतकिं च समुत्तुस्तेन ।
अन्यत तालं तथा द्वादसिंहन सत्वे तथा रसम् ॥
तथा विचित्स्तथा मां तथा तेलं तथा क्रमः ।
महं नं च तथा कुर्यात् तथा वहियेच चुरा ।
तथा च त्रिदिनं कूण्यारोपं कुर्यात् तथा नयेत् ।
निहरेच तथा किं च तथा सत्वं नयेत् पुनः ॥
यामायकं पुनर्हिरेतदेव विशिष्येत ।
पुनर्नयते तथा तालं तथा सवं विधियेते ॥
तथा पुनर्स्मृ हेयस्तथा कर्म न संशयः ।
त्रिवेलमेव कर्तव्यं तालसत्वे तथा विधिः ॥
तोलमेकं भवेचारं टक्केकाभिकं शुभम् ।
रेल्यते मेल्यते तेन तालसत्वन गाढवत् ॥
तरुखान्सेहसिं गाढः गाढः यथा भवेत् ।
मेलधित्वातः कुला ग्रन्थिरुपं भवेत् स्वहुतम् ॥
पुनः कुप्ये निधायाय पुनर्निं प्रदापयेत् ।
वहियोगेन गाढः न तन्मिलत्यावकतो द्रयम् ॥
Twenty tankas of haritala and six tankas of mercury are to be rubbed together steadily with castor oil for three days, and then kept confined for three days in a glass bottle, before essence of the substance is extracted in the usual way. The essence is to be separated from the other substances and mixed with 20 tankas of haritala and six tankas of mercury and rubbed together, as before. Essence of this new substance is to be taken out exactly in the same manner as described above. The essence, thus extracted, is to be subjected to heat for 24 hours. It is then to be mixed with 20 tankas of haritala and six tankas of mercury, and rubbed, as before, with a view to essence being taken out for the third time. A little over one tanka of this essence with one tola of silver, finely powdered, are to be mixed and rubbed together with castor oil. When sufficiently rubbed, the compound is to be again heated with the result that a white substance will be found deposited at the bottom of the pot. One part of this white substance and sixty four parts of copper, if properly smelted, will produce fine silver.
Bleaching of copper.

A fine copper leaf is to be coated all over with a solution of apamarga burnt into ashes, and then heated. The process is to be performed for seven times with the result that the copper leaf will turn very soft, pure white, and spotless. Such copper is to be used for the purpose of transformation into gold or silver.
चेष्टा मे ते चरणकले शक्तिहीनेन दत्ता भूमे मे द्रिजकुलभवं सिद्धवैयं दयक्ष।

मातृस्वेहोविधुरशिशुकं नामिनन्देत कोषि विश्वाधीशश्रृंगवतदले स्थानलाभं करिषे।
आकाद्वेयं ह्वदशनिहिता पूर्यते किं न श्रमभो पाता वच लमसि जगत: स्थितिनाशीकोरू।

मृत्युस्तवं नयनयुगलं मोचयितवान्तिमे मे सरजनं लं तवपदयुगं मूढं पीटे समेव।
द्रष्ट्वा मार्गे मम चिंगुरो राजराजेन्द्र तिष्ठ द्रक्षुष्णा मे निमित्तह्वद्यव्यापिनी शास्यतु हि।
भक्तस्य लं चिरदिनभवां वासना पूर्यक्ष ओरायस्तां सकलभुवने हे प्रिय हे शराय।

इति मुखोपाध्यायोपाधिक-सिद्धवैयं-श्रीभूमदेवश्यामणि चिरचित
रसज्ञनिष्ठ-नामक-महात्मग्निस्य प्रथमक्षणं समासः।

THE END.
APPENDIX
GLOSSARY.*

A.

Abhra—mica.
Angula—a finger’s breadth.
Aranala—see kanji.
Aratni—a measure of length from the elbow to the tip of the little finger.
Asava—is a liquid obtained by fermentation of prescribed materials immersed in water for a month in a jar, closely covered.

B.

Ballā—see measures of weight, page 310.
Bataracta—Leprosy.
Banga—tin.
Bhavana—a thing is said to be subjected to bhavana with a liquid substance, if it is saturated with the latter and dried, by being exposed to the sun during day time and to open air during night.
Bimbisi—nausea.
Bitasti—a measure of length equal to 12 angulas, (being the distance between the extended thumb and the little finger).

*This does not contain Latin names for the vegetable drugs referred to in the book. A booklet dealing with English, Latin, Tamil, Telegu, Hindi, and Bengali synonyms of all these names intended to be compiled by the author, in collaboration with his disciple, kaviraj N. Swarnamni Shastri, kaviratna, of Ramnad—( Madras ).
Chulika salt—Sal-ammoniac Same as Narasara or Navasara.

Chumbaka—Load stone. It is a kind of oxide of iron, and is a variety of kanta iron.

Essence of earth-worms, metals, gems, etc., For processes, see vol II (in the Press).

Gairika—red ochre.
Gaja putam—See chapter VI.
Gandhaka—Sulphur.
Ghee—clarified butter.
Ghratam—Do.
Gold mica—Yellow mica, which is to be used exclusively in connection with operations leading to the transformation of base metals into silver.

Granthi—A kind of scrofula.
Gulma—Tumour in abdomen.

Jabakshara—Carbonate of potash, prepared from ashes of barley husks.
Jantram—apparatus, see chapter VI.
Jasada—Zinc.

Kanji—A liquid obtained by fermentation of 6½ seers of boiled rice and 16 seers of water (one
seer being equal to 64 tolas or $64 \times 126$ grains (troy) in weight. The liquid is called aranala, if wheat is used in place of rice.*

Kanta iron—A variety of iron, see vol. II (in the Press).

Karpura moni—White marble. Some people take it for touch stone.

Kasisa—Sulphate of iron. It is of three different kinds, viz., dhatu kasisa or valuka kasisa, puspa-kasisa or padma-kasisa, and kasisa proper. The first variety is of ash colour, the second of yellowish colour, and the third of green colour.

Kharpara—calamine.

Kola—equal in weight to half a tola or a half rupee weight (i.e. 63 grains, troy).

Kshara—means two things, viz. ashes and alkali, see page 299.

Kshari salt—Salt prepared from ashes of banana plant, etc.

L.

Laghut putam—See putam, page 293.

M.

Mantram—Chanting of sacred texts.

Mutra-krichra—striction, gleet.

N.

Narasara

or

Sal-ammoniac.

Navasara

* आरणालस्तु गोच्छः रामीं स्यालिचिरीहैतः।

पक्षविभं विशिष्टस्ततुः सौभीरसकृं गुणः।

कुलमापशार्यमण्डारितांहितं कार्त्तिकं विदु:॥
Nepal copper—copper, procured from mines in Nepal is the purest obtainable.

O.
Osteomyelitis—a name coined by an allopathic friend of the author to denote a disease in which a liquid substance oozes out of a particular part of the bone.

P.
Pacti shula—colic at the time of digestion of food.
Pansu salt—Same as kshatri salt.
Phulla Turika—pure alum.
Poisons—see vol. II (in the Press).
Putapaka—heating by means of a putam (see page 293).

R.
Racti—gunja, see page 310.
Rasaka—calamine.
Rati—same as racti.
Raupya or rupya silver

S.
Saindhava—rock-salt.
Saurastri or Saurastra mrittika a kind of earth from which alum is extracted.
Shali rice—a kind of rice having a white coating.
Shastica rice—a kind of rice which grows and is harvested in course of sixty days.
Silver mica—white mica which is used exclusively in the transformation of base metals into silver.
Sphatika—a quartz of a superior quality. There are three varieties, viz. Surya kanta (sun stone), Chandra kanta (Moon stone), and the ordinary one. See vol. II.

Sphatikari—alum.
Swarji—Carbonate of soda.
Swarna—Gold.
Swarna-makshika—pyrites with golden tints.

T.
Tamra—copper.
Tankanam or borax.
Tanganam

Tikias—Cakes produced from powdered charcoal and ashes of leaves, mixed with water in which rice has been boiled.
Tola—126 grains (troy) or a rupee-weight. See page 310.
Tori—see tubari.
Trikatu—Combination of the three pungents, viz., shunthi, pippali, and maricha.
Triphala—combination of the three friuts, viz. haritaki, amalaki, and bibhitaki.

Tubari or
Turika or alum.
Tori

U.
Udararoga—production of wind in the belly and dropsy.
Urdhapatnam—upward sublimation.

V.
Vida—see page 81.
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