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Secret of *Ayurvedic Dravyas* as Vital Energy Medicine A critical study of popular Laddakhi Traditional Medicine- AMALVETAS (*Hippophae rhamnoides*)

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Abstract

Amalvetas (*Hippophae rhamnoides*) , a small deciduous tree belongs to *Elaeagnaceae* family .*Aacharya charak* encovers *amalvetas* under *Deepaniya, Hridya, Shavashara mahakashaya* while *Aacharya shushrut* encovers it in *Amal skandha* and *Amal panchak*. It is recommended for the treatment of wounds and ulcers by using its bark paste , while fruit juice is prescribed in lungs complaints and tuberculosis. It pacifies *kapha and vata doshas* . Medicinally it has various pharmacological activities like anti herpes simplex , anti inflammatory, anti microbial , anti coagulant, anti cancer. *Amalvetas* is also employed as an *Agni Deepak, Malabhedhak, Pittajanak, Gulmahara, Aruchihara, Hikkahara*. The main aim of this article is to remove the controversy over this plant on the basis of their correct basis for identification with the subject " Secret of Ayurvedic Dravyas as a Vital Energy Medicine – A critical study of popular traditional medicine – Amalvetas (Hippophae rhamnoides)

Introduction

Fundamental View on Birth of A Plant

"Instead of exerting patient and tender efforts to keep their soils in nature balance they have been seeking to subjugate nature rather than cooperate with her. Everywhere there are indications that in the process of being raped rather than loved, nature is protesting. If the process goes on, the victim may die of bitterness and indignation and with her all that she nurtures."

The Soil: Staff of Life, Chapter 14, Secret Life of Plants.

According to the condition (vitality) of the soil (*bhumi*), the temperature and environment of the earth and space (*desh*), the exact moment to give birth- to sustain- to death (*kaal*), and the suitable place to grow correctly to come out (*disha*), a plant autonomously gives birth and peeps out from the womb of mother soil.

The ancient wisdom of the *rishis* (scientists) of *Bharatvarsha*, as enshrined in our huge repository of *vedic* and *puranic* texts, has described in great detail all aspects of growing, identifying, caring for and using the medicinal herbs in a way that acknowledges and aligns to the vital energy aspects of the herb rather than just treating them as inert, molecular substances. It is this approach that imbues a greater meaning into the entire process of healing and rejuvenating with the help of the Herbs or *Dravyas*.

Every herb is a living entity that carries vital energy patterns that have the potential to complement and balance the corresponding vital energy field of a human being and effect miraculous healing outcomes.

In the recent times, a break in the traditional way of passing down the true meaning of our ancient texts and the processes described therein has created a lot of confusion and needless controversies around the goldmine of our dravya vigyan and this puts at severe disadvantage the modern practitioners and users of the Ayurvedic herbs.

In this paper, we have attempted to examine the comprehensive information and some controversies surrounding one potent and historically popular herb known as *Amalvetas a*nd put them to rest. It is the expectation of the authors that this would lay the framework for studying and organizing the relevant information in a similar fashion for several other important *Ayurverdic* herbs and *Dravyas*.

A. General Information of A Dravya:

a. Every plant's origin story is unique:

On observing a *dravya* (substance) in its physical form as a herb or a shrub or a creeper or a tree in a forest, we find that, without using any agriculture technique, they continuously birth to their own when the womb of soil is ready to fertile (to become pregnant); as per nature (prakriti), these (plants) have their own mathematics (life span) to decide the birth and death as a natural cycle of regeneration.

When a plant initially emerges from the soil, it occurs during a specific time(*kaal*) period characterized by a particular frequency or resonance. This phenomenon holds the potential to generate a new creation in the form of a plant. The soil(*bhumi*), acting as a vital and fertile field, undergoes a transformation into the metaphorical womb of the earth. During an incubation period, the blueprint for the plant's development, represented by its etheric body (*pranmaya- kosha*), is prepared. The impregnated mother earth patiently awaits the completion of days, weeks, or months, signifying the full term of the soil's pregnancy. Once this time has elapsed, the soil is ready to manifest its designed blueprint in the form of accumulated vital energy, resulting in the birth of a miniature plant. This birth occurs when the earth's womb opens up, allowing the plant to emerge. The phenomenon of conditioned consciousness, known as *purusha* (subjective consciousness) is responsible for documenting the life cycle of a plant through the flow of vital energy. Additionally, the interplay between *prakriti*, (objective-conditioned consciousness which manifest in actual) and various factors such as space (*akash*) and time (*kaal*) contributes to the comprehensive narrative of a plant's creation, encompassing its roots, stem, branches, leaves, flowers, fruits, and seeds in the domain of time and space- the local domain. This collapse of creation emerges from the omnipresent consciousness- domain of potentiality- the non-local domain.

The lower layer of soil possesses a distinct resonance or vital energy. This energy establishes boundaries within which the blueprint for the physical and physiochemical characteristics of the plant is encoded- defined Earth's womb- which writes the plant life plan and its details. Every plant elucidates its own physiological characteristics, known as primary metabolites, as well as its higher functional physiology, referred to as secondary metabolites, through its qualities (*guna*), phytochemistry (*rasa*), and its impact on human psychological- physiology (*karma*-therapeutic usage). Furthermore, some specific plants exhibit distinct effects on particular areas of an organ or system, known as *prabhav*.

b. **Ayurveda texts explain, the etymology of Dravya(substance) as follows**:

- is derived from - ***drugato dhatu*** which means- to grow upwards **or *dravti-gachtiurdhvam*-** to move **in** upward **direction(*disha*).**

- according to *Panini sutra- dravyam cha bhavye* which means- to provides the vital energy of surrounding and energy converts into the specific gunas(properties) for one life span(plant life) within the dravya.

- *Charak* and *Sushurta* have explored and quoted in *sutra*, via the *shloka*:

"*Yatra Ashritah Karma Guna-ha Karnam Samvayiyat tad **D**ravyam"(C.Su.1/51)*

"Dravyalakshanam Tu Kriyagunavat sanvayikarnam iti" (S.Su.40/3)

Interpretation: The substance (*panchmahabhutatmak dravya*) which sustains inherently the potential properties **(*guna* and *virya*)** and potential hidden actions **(*karma*)** within; which can never be separated from the **Dravya (*samvaya*)**; now we can understand that specifically a plant (herb or tree or shrub etc.) stores the vital energy in form of properties (*rasa- guna- virya- prabhav*) and when it is used by a person, we can see healing via pharmacological and therapeutic actions.

According the source we talk about *Audbhid* (which comes out from the earth like plants) type; for example, *Aamlaki*, *Haritaki* etc. Again, *audbhid- dravya* are divided in four groups:

1. *Vanaspati*- those having fruits but no appearance of flowers (may be hidden) like big trees e.g. *Banyan*, Coniferous tree
2. *Vanaspatya*- those having fruits and flowers both, appear clearly like medium trees, e.g. *Mango*, *Amala*.
3. *Virud*- those have not so much height, these are like shrubs or small trees or climbers like – *Giloy*, *Sariva*
4. *Aushadhi*- those have very less height or creepers or small herbs or those grow and provide fruits and vanish automatically.

B. DETAILS ABOUT AMALVETAS

Part I: AMALVETAS- PHYSICAL APPEARENCE

Photo 1: A Small Deciduous Tree- **Hippophae rhamnoides**

Photo 2: Parts of A Plant; Branches, Leaves, Fruits

Photo 3: Parts of A Plant; Thorns

Dravya (Plant): *Amalvetas*- ***Hippophe rhamnoides***
Varg (Family): Elaeagnaceae
Paryaya(Synonyms): Chukra, Shatvedhi, Sahastranut
ParamparikNamrupa (Regional name): *Aaameel,Takha,Chuma, Chhurchuk,LaddakhiCharma,Chuma,Tarvu*

[599 amaradiphal-varg Bhavprakash Purvardha]

Part II: Description with Modern Perspective

Habitat: This plant species is a member of the Elaeagnaceae family. The plant under consideration is classified as a tree of moderate size. It exhibits a natural propensity to germinate and thrive in regions characterized by elevated altitudes, typically ranging from 2000 to 3600 meters above sea level. It is commonly found in close proximity to high-altitude rivers such as Bhagirathi, Gangotri, Mandakini, and Alaknanda, as well as in high-altitude cities such as Leh-Laddakh and Jammu and Kashmir.

The observed plant exhibits characteristics of a large shrub, characterized by an abundance of branches bearing fruit. It typically attains a height ranging from one to six meters, featuring robust and rigid elongated branches. When viewed from a distance, the plant presents a dense appearance. The bark of the plant is reddish brown in color and displays deep longitudinal furrows. Notably, this plant demonstrates dioecious reproduction, with distinct male and female individuals. The female plants produce berries that vary in color, ranging from orange to reddish or yellowish hues. The leaves of this plant are oblong-lanceolate in shape, measuring approximately 8-15 cm in length and 3-5 cm in width. The upper surface of the leaves appears greener in shade compared to the silverish green coloration of the back surface. The midrib of the leaves is highly prominent, contributing to a whitish appearance. Thorns emerge at the point of leaf initiation, namely from the node of a branch, while roots extend deeply and broadly.

From a morphological perspective, traditional healers and ancient scientists have assigned the botanical name "hippophae" to this plant. The term "hippo" denotes horse, while "phae" signifies flare or shine, suggesting that this plant has a significant amount of internal heat. Additionally, the element "*ashv*" depicts fire and is associated with a yellowish/orangish color.
The flowers and fruit of the plant exhibit a vibrant coloration, ranging from orangish to yellowish, which signifies the abundance of the fire element and its inherent heated natural .Floral blossoms emerge concurrently with the emergence of nascent foliage in plants that bear mature fruits. The name "Sea-buckthorn" appears to draw an analogy with the horn of a deer, as the thorns of this shrub are notably long, pointed, and positioned at the edges of its leaves.
It is worth noting that the root system of the subject under consideration exhibits a high degree of organization. The roots of the plant produce bulbils that are approximately the size of dove eggs. These bulbils contain bacteria that have the ability to bind nitrogen in the soil (Valíček and Havelka, 2008). Additionally, they include other necessary components (Li and Beveridge, 2003). Seaberries are frequently employed in soil erosion prevention and recultivation procedures due to their robust root system (Kumar and Sagar, 2007).

Part III: Description Ayurveda View

This view considers the five factors of a substance (*rasa panchak*), namely the place (desh), time(kal), area/direction(disha).

As per Ayurveda, each dravya originates as per the basic theory of five elements; earth element (*prithvitatva*) is the base of existence (*adhar- ashraya)* where a plant births; water element *(jaltatva*) is carrying the different kinds of physio-chemical properties, because of this each dravya has uniqueness (*yoni swaroop*); ether, air and fire (*akash, vayu and agni*), all together, it gives the shape and structure; for example black pepper, long pepper or ginger are having different shapes and having different constituents; their *virya* (vital energy) is *ushna*(hot) in nature. *[charak sutra sathan 26*]

From Ayurveda perspective, what is the purpose of plant vitality (vital energy):
- Plants keep inherently the special and unique vital energy (*virya)* carrying in the roots, stems, branches, leaves, flowers, fruits and seeds or overall in a whole plant.

In Laddakh region, *Amalvetas* is associated with Hippophae rhamnoides, which in the local dialect is called the Sea buckthorn; based on extensive ground studies pioneering deep thinkers in Ayurveda of 20th century, Shri Mayaram Uniyal and Priyavrit Sharma have claimed and urged the new age Ayurveda healers to follow this association rather than go with the modern view of considering *Amalvetas* as Garcinia paniculate (*Thaikal)* and Rheum emodi*(Revandchini*).
The Ayurvedic authorities in India have acknowledged the diversity of opinions about Amalvetas and hence so it is labeled as a controversial drug.

***Amalvetas- amal*(acidic-sour) rasa(taste) and *vetas*- type of a plant which grows near water or under water or water born (*apsuja*) or a reed(a plant grows near water) or** it is called golden (hiranya) plant**; i**n *sanskrit* dictionary, *vetas* is a reed or cane or citron or name of *agni*.
[https://www.wisdomlib.org/definition/vetasa#sanskrit]

Amlavetas is a very famous drug; is explained in the *Samhitas* and *Nighantus*; but it becomes controversial since, with the name of *Amlavetas*, different plants are being used in different regions; in North India, dried leaf stalks of Rheum emodi (*Revandachini*) are being sold in the market; most of the drug manufacturers use this in place of *Amlavetas*; in the Eastern parts of India, citrus fruits of *Thaikal* (Garciniapedunculata) are used by the name of *Amlavetas*; in South India, physicians use the *Nerinnapuli*(Solena neterophylla and Ampelocissuslatifolia) by the name of *Amlavetas*. We can observe that today different states use different drugs by the name of *Amlavetas*.

Central Health Ministry, Government of India, ISMD, Ayurvedic Pharmacopoeia Committee has accepted the fruits of *Thaikal* (Garcinia pedunculata) as Amalvetas in a consensus way. But through a published article in "Sachitra Ayurveda Magazine" (May 2000), Acharya Priyavrit Sharma appealed to rethink about Amalvetas and accept a more accurate association of Amalvetas with the ripened fruits of *Takhu* which are Hippophae rhamnoides or Hippophae salicifolia.

Shri Mayaram Uniyal, with experience of over thirty (30 years) in the Survey Department of Forest and Traditional Medicines, who is the author of several well respected Dravyaguna Vigyan books, has also endorsed the view that *Amalvetas* is Hippophae rhamnoides rather than the commonly held belief of its being Garcinia or anything else. He has based on his conclusion on his long studies about the identification of plants and folklore related to their medicinal uses.

PART IV: Unraveling the mystery of Amalvetas- Establishing the correct basis for identification

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अवपाश्चवगोपाधमेंचान्यंवनवाविन||चरक- ????

According to *Maharishi Charak*, nomenclature and identification of plants should be done on the basis of synonyms according to their famous regional names, their morphology, their birth place and then with the help of these- *rasa, guna, virya, vipaka* and *prabhav* (properties and attributes), name should be placed.

Maharishi Charak mentioned Amalvetas in *Dipniya Mahakshaya* which classifies the plants (*dravya*) which are having inherently more fire(*agneya)* and air (*vayu*) elements rather than the remaining elements ether

(*akash*), water(*jal)*, earth (*prithvi*). When it is taken, it helps to release the digestive enzymes locally (digestive fire) and correlated hormones (non- locally); it intensifies the appetite (*kshudha ko uttpanakarna aur badhana*) but it does not involve directly in the digestion process (it sometimes digests the food or sometimes doesn't); in our view, it particularly works with *saman vayu* (this *vayu* is living in abdominal area that's why it is hot in nature); this *vayu* triggers or accelerates the movements of *vayu* (nerve connections) in that particular area as well as the message sent to brain to act- so as a result of the feedback- the vital organs (liver, stomach, pancreas and small intestine, gall bladder) release the enzymes to speed up the process of digestion; digestive enzymes work as catalyst and support the metabolism *(agnideepan*); and help as appetizer *(kshudhautpadak*).

[charak sutra sathan, chapter 4 shloka 9], *Dipniyadravya* [dravyagunavigyanam/ purvardha p.n. 36]

Part V: Description found in Ayurveda Texts

CHARAK SAMHITA
DEEPNIYA MAHAKASHAYA
1.Pippali 2. Pippramool 3. Chavya 4. Chitrak 5. Adrak 6. **Amalvetas** 7. Marich 8. Ajmoda 9. Bhilava ki guthli 10. Hingu
Modern concept:
HRIDYA MAHAKASHAYA:
1.Aam 2. Aamra 3. Badhar 4. Karonda 5. Vrikshamal 6. **Amalvetas** 7. Kubal(badiber) 8. Badar(ber) 9. Dadim(Khattaanardana) 10. Matulung
SHAVASHHAR MAHAKASHAYA:
1.Kachhor 2. Pushkarmool 3. **Amalvetas** 4. Choti ilayachi 5. Hingu 6. Tagar 7.Sursa(tulsi) 8. Bhumyamalki 9. Jivanti 10. Chanda(chor-pushpi)
SUSHURAT SAMHITA
AMAL SAKANDHA :Amalvetas
AMAL PANCHAK: Jambeer, Narangi, Amalvetas, Tinteedak, Beejpurak or Kola, Dadim, Vrikshamal, Chukra

1. Sushurat Samhita has mentioned in chapter 42/Uttar Tantra about *Amalvetas* for treatment of *Gulma.*
2. Sodal writes *in Amlavetas Kalpa* of *Gadnigrah,* that it is a divine medicine which is available in Himalyan areas; it is like a *Jalvetastree.*
3. Ras authors has described *Amlavetas*in*Amla Dravyas*.
4. In brief, it is *Amlavetas Kalpa Rasayana*, which treats many diseases with different *Anupaan*.It has the power to breakdown stones, wood and iron.

Note: Animals, birds, snakes like insects do not enter in the *Amlavetas* plant.

Part VI: Description of Amalvetas in Nighantus

Table 1: **Synonyms based on Morphology**

Phalamla	fruits are very sour, and when eaten, release watery discharge from the mouth
Amalvrtsa	small tree is similar to *jala-vetsa*
Raktsaar	fresh juice of fruits is reddish/orange in color
Vetraphala	fruits are similar to *vetraphala*
Vetasamla	small tree is in cane shaped

Table 2: Synonyms based on the functional properties

Ras-amla	Fruits are very sour(amal rasa)
Amlanayak	Most sour in taste as the king of sour(amala rasa)
Shankh-dravi	Pieces of *shankh* are easily dissolved in the juice of fruits called *mansadravi*
Vetraphala	Fruits are similar *to vetraphala*
Vetasamla	Its small tree is in cane shaped
Bhedni	It opens the subtle channels(*strotas*) and pacifies *vata*, melts *kaph*
Gulma-ketu	It pacifies *vata* via opening the subtlest channels(*strotas*)
Shatvedhi	It melts or liquify the hard or swelled area (cyst or tumor) or accumulated k*apha*(blocked the channel) dosha

Table 3: Reference of *Rasa, Guna, Virya, Vipaka and Karma (Rasapanchak*):

***Nighantu**: Madanpaal, Kaidev, Raj, Bhavprakash, Sodhal, Hridyadeepak*
Rasa: *amal*(sour); ***Guna***: *ruksha, ushana*. *Laghu;* ***veerya:*** ushana***; vipaka***: amal; ***Karma***: kapha- vatashamak
Dhanvantri Nighantu has given only rasa is *kashaya and katu* and other properties are same as above nighantus.

Author of *Raj nighantu* has also written about the provenance of *Amlavetas*, that it is a herbal medicine which is available from Himalaya to Bhutan, Sikkim, Tibbet and China.

Part VII: Therapeutic Uses

The fruit is rich source of Vitamin C. It is used to improve resistance to infection and is given for lungs infections; leaves and fruits are used for wound healing and for ulcers in folk medicines. The oil extracted from young branches is used for skin repair including burns, bedsores and radiation injury; fruit juice is used for jaundice.

***Prayog*(uses)**: *amal rasa, malbhedak, laghu, agni-deepak, pita- janak, romanch(*taste bud secretion*), ruksha, hridya- roga, gulma, aruchi, hichki, swash- kash, kapha- vatahar.*

Part VIII: Chemical Constituents

Vitamins (A, B, C, E and K), rhamnetin, caulilexin, napthalens, musizin, sesquiterpenes.

Part IX: Modern Scientific Validation:

Anti- cancer, anti- herpes simplex, anti- oxidant, anti- inflammatory, anti- coagulant, anti- microbial and wound healing properties.

C. Findings and Conclusion:

After thinking and analyzing the above-mentioned reference points intensively, we observe that

- It is a *Amla Ras* dominant fruit.
- Its shrub is similar to *Jalvetas* and is available near the rivers or water streams of Himalayan region.
- *Kshetraphala, Shankhdravi, Vetraphala, Phalamla and Rasamla*, which are the indicator of shape or properties are mentioned.
- *Shakhamla* is also a synonym of *Amlavetas*. Because of this, a drug which is citrus and interwined like a braid is available in the market by the name of *Amlavetas*, which is possibly the leaf stalks of Rheum emodi because it is prepared by the dried leaf stalks. That is why it is perceived as branches and thus called *Shakhamla*. Other than this, branches of *Cissus and Ampellicissus* of Vitceae family are intertwined like a braid, dipped in citric juice and dried, are available in the markets of North India by the name of *Amlavetas*, which is not classical.
- Lemon like citrus fruit of *Thaikal*(Gaciniapedunculata) is used by the name of *Amlavetas* in Bengal,

Gujarat and Assam. *Sodhal* has called it as "*MadhujambirRasprabh*". Fruiting on this shrub occurs in autumn season, which are yellowish in color after ripening. This plant is found in Assam, Kuchviha retc regions. Regional people cut and dry the fruits like *Aamchur*.

Fruits of this plant are accepted as *Amlavetas* by the Ayurvedic pharmacopoeia committee. Since *Amlavetas* is considered a controversial drug, a reconsideration of the identification of classical *Amlavetas* by the scholars is very important.

A basis for this has been provided by *Acharya Priyavrat Sharma Ji* in his article published in "*Sachitra Ayurveda*" in May 2000. In the same article, the writer has presented his thoughts on the traditionally popular drug of Uttarakhand, Sikkim, Bhutan, Leh Laddakh, Nepal-Tibbet, which is citrus fruits of *Aameel, Chichhrama* (Hippophaesalicifolia and Hippophaerhamonoides) which is also used as *Amlavetas.*

The information about the regional name, morphology and regional properties is given below-

- It is a thorny shrub of *Aameelkul*. It is a hardy, deciduous shrub that can grow up to 15 ft.
- It has a rough, brown or black bark and a thick, greyish-green crown.
- The leaves are alternate, narrow and linear- lanceolate, with silvery- green upper faces.
- Flowers are inconspicuous, yellow, unisexual appearing before leaves.
- The oval or lightly roundish fruits, which are 1-seeded drupe and grow in compact grapes varying from pale yellow to dark orange have a citric taste.
- Shape of fruits is similar to *Vetraphal.* Perhaps that is why authors of *Nighantus* have given *Vetraphal*as its synonym.
- Leaves are similar to *Jalvetas* and available near river or waterbeds and the fruits are citric, that is why *Amlavetas and Vetasamla* synonyms are given.
- Juice of the fruit is citrus similar to *Chukra(* Rumex) that is why given *Chukra* synonym.
- People of Laddakh use its fruits by the name of *Chuma or Charma* and it is found near riversides that is why called as *Chuma*. '*Chu'* means water.

Timings

- Time of flowers-June, July
- Time of fruits-August, September
- Drug collection time- September- October
- Useful part-Matured fruit

Local use-

Regional physicians of Leh Janpad use the *Satva* of matured fruits of *Takhu* mixed with other formulations mainly for *Deepan, Pachan, Pitta Vikara,* diseases of lungs. Regional people believe that its fruits contain abundant amount of vitamin C and amino acids. That is why, beneficial for *Udar Vikar* and ulcers etc., also useful in *Agnimandya.* Marginal residents use its *Satva* or bark for the local application in injuries.

Regional people of Uttarakhand Himalaya, eat chutney of its fruits or add sugar in the juice of its fruits and use it as jam or syrup. Dr. Badoni made the jam or syrup products from the fruits of *Aameel* and made it a small scale industry which becomes a good source of income in Uttarakhand. Regional properties and chemical composition is given in "Medicinal and Aromatic Plants of Himachal" book, on page no.220-225,published by Dr.N.S Chauhan.

Description about the plant is given below-

Chemical contents- Beta-sitosterol and 2 alkaloids have been detected from the bark.

Properties and uses- bark has given promising result as a cure for certain types acids, the source of vitamin C and made into chutneys. The paste of the bark is used for curing wounds and ulcers. The fruit juice and jellies are prescribed in lung complaints and tuberculosis. Plant is a medicine in tumors, used in sun-burn preventing, medicinal and cosmetic preparations for skin. Bark extracts has shown tumor inhibition activity.

Uses- fruits are used for the preparation of jelly, syrup and used against pulmonary and used in tumors, in sun burn preventing preparations, as emollient in prevention of eye region skin wrinkles and in other cosmetic preparations.

We are thus in agreement with the article published by *Acharya Priyavrat Sharma* on reconsideration of *Amlavetas*. Fruits of *Aameel* (Hippophae rhamnoides or H.salicifolia) popular in North Himalayan region are used as classical *Amlavetas*. On the basis of climatic conditions of Uttarakhand, it can be planted on big scale. AYUSH Ministry, Pharmacopoeia Committee of Government of India has included classical ***Amlavetas* (***Hippophae rhamnoides)*** in AyurvedicPharmacopoeia.

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