

Forays into Alchemical Pottery, Part 2A: China

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*E r e m i t i c S c i e n c e s M o n o g r a p h S e r i e s f r o m T h e
C h y m i c a l P h i l o s o p h e r s a n d T h e D e l a w a r e T e a
S o c i e t y*

“Clay is molded to makes vessels, yet the utility of the vessel resides where it is lacking”Lao Tzu

Introduction

This article hopes to contextualize and catalog some of the primary alchemical pottery and earthenware from Daoist sources. This will be an evolving work as research materializes, and by its nature will differ from the foregoing treatment of Indian alchemical pottery. The latter was derived largely from practical textbooks, terse scriptures/manuscripts that list the ingredients and recipes like modern cookbooks. Alchemy is still very much practiced in India whereas Daoism in China is virtually gone under the Cultural Revolution (though there are still hermits). As a consequence, the Daoist alchemical material is spread out in historical studies of Daoism, usually touching upon alchemy in the context of other devotions. The first on Indian alchemical pottery focused almost entirely on the crucible, with subsequent monographs on related equipment and furnaces and kilns to follow. The present monograph will drift between discussions of crucibles, aludels, tripod containers, cauldrons and related *waidan* utensils in the earthenware crafts of Daoist alchemy, from incense burner to crucible. Just as ancient Chinese potters placed clay in caves to improve plasticity for future generations, it is with the same sentiment that this information is compiled. “Dragging its tail in the mud. . .” Transliterations are source dependent as Needham uses Wade-Giles, while more contemporary authors such as Pergadio use *Pinyin*. Sometimes both transliterations are given to aid the researcher in searching indexes, etc.

The Dao of the Crucible

Pottery might have indeed begun in China, with archeologists just recently finding a fragment of a large bowl in a cave in the Jianxi Province estimated at 20,000 years old. This pushes back the earliest use of pottery by 10,000 years. It is theorized the use of pottery was to cook food or brew alcohol. However this discovery destroys theories that pottery began with agriculture, and proves more advanced technologies by early hunter/gatherer societies. The archeologists, a little too smug in light of this evidence, say that it wasn't a “wok” as cooking with oil was not yet invented, but the very dating of the origin of pottery was considered absolute until this find. This speaks to the earlier issues of alchemical metals found at Indus valley sites that are written off or otherwise unaddressed. These dates and the substances uncovered shed light on truly ancient technologies, and are retorts to the academic oblivion to anomalous evidence. For, as mentioned below, the truly ancient use of bamboo to distill mercury would make it nearly impossible to date the earliest exploitations of cinnabar. Daoists embraced chaos as a spontaneous, dynamic force of primordial energy and unlimited potentially. The myth of *Huntun*, Mr. Chaos, is eloquently elucidated by Norman Girardot (1983) in the brilliant *Myth and Meaning in Early Taoism*, which emphasizes the ills of coercive order, no matter how well intentioned. The paradise of a time of simplicity and spontaneous following of the Way partook of the undifferentiated, undiscerning void that was violated and lost by an artificial order that distances man from harmony with reality. Chinese history records the “legendary rebels” that participate in this semiotics of chaos of resistance to proto-feudal and feudal tyrants. Needham called the rebels “metal-working confraternities,” and

Girardot calls them “Metallurgical initiatory brotherhoods” who “{had} attempted to resist the earliest feudal lords, and to prevent them from acquiring metal-working as the basis of their power.” These metallurgical guilds’ “secret of religio-political power (coming from the godlike ability to work with metals) would have made them the leaders of pre-feudal local cultures,” which eventually succumbed to the forces of tyrannical feudalism with the authorities appropriating the gods, symbols and technologies to further their agenda of control (Girardot 1983).
*

Masters of the fire participated in the divine-like powers of creation and were venerated throughout the ancient world. They were connected with various visionary plants, and alchemy’s doctrines of immortality arose from the shamanic trips to other worlds. I have previously sketched the evolution of Daoist psychoactive incense cults in China in the paper

Strange Fires, Weird Smokes and Psychoactive Combustibles: Entheogens and Incense in Ancient Traditions

(Dannaway 2010) that evolved into the alchemical hearth and furnace cults of alchemy in China. Many of these incense recipes

included powerfully psychoactive plants and toxic metals, that were concentrated and inhaled in enclosed rooms for “hot-boxing” (to use a modern phrase) the fumes. It is from this context that perhaps the ash and residues were consumed, evolving into the

bhasmas

or calcined ash of metals of India, where used medicinally. Alchemy in China had an

Echoes of this can be seen in the European monopoly of mercury by the nefarious Rothschild cartel, which they still, through corporate fronts, continue to manipulate (Goldwater 1972).

□

ancient heritage, one found in India and Sumeria, of a plant of deathlessness that was searched for by hermits and Emperors alike. Plant potions were consumed on alchemical vessels, and then the metals themselves, as in purified mercury elixirs and pills, arose out of this confluence of visionary plants, metallurgy and incense cults.

The mysteriously effective alchemical gold ash powder from a master Burmese alchemist is likely very similar to the soma and Daoist elixir pills. The

ting

(

pinyin,

ding

), which is heated from an external source, was a familiar sight among bronze-age finds in Chinese archeology and it is distinguished from the stove

lu

which has fire within (Needham 1980). Scriptures say the

ting

tripod represents the human body, and has three layers that correspond to the Heaven, Earth and Man. It is called the cinnabar vessel (

chu sha ting

) and the Magical Vessel of the Great Unity (

Thai I shen lu

)

They are about 1 foot, five inches tall with a circumference of 12 inches, and about an inch or so thick. There are five types, of gold, silver, copper, iron and pottery(

thu ting

). As Needham (1980) notes,

ting

has a wide meaning, referring to the “chaos vessel”

hun tun ting

(which is legless) and corresponds with alchemical utensils such as the

kuei

(box, casing, container). Like the Indian crucibles, these had interesting casings such as the arsenical-lead casing that Daoists used in their construction by lining the surface of the interior. Needham (1980) points to recipes for these reaction vessels/crucibles that were made with

chhing yen

(blue salt, rock salt),

pai yen

(white salt) and arrowroot juice as well as refractory clay. Similar recipes are found in the blast-furnaces of late medieval China, that use “salt” as well as clay, lime and sand (Needham 1980). Needham writes that it is possible that in certain cases gypsum (calcium sulphate) is meant, as it has traditional names like

yenchen

(salt’s pillow) and

yen ken

(salt’s root), for gypsum is and was a common ingredient in making mortar and cement. Needham speculates that this may be a bald attempt to trick the uninitiated, as is common in alchemy of all times and regions, and particularly so in China. There were also beautiful “Precious Vases” that are like mini pagodas, which might have been for slow oxidation of mercury or for the

hua chhih

bath of strong vinegar (distilled) and saltpeter which would dissolve insoluble minerals by dilute nitric acid.

Similar to the aludels of Arabian and European alchemy are the ‘sealed reaction-vessels

shen shih

(magical reaction-chamber) and the

Yao fu

(chemical pyx). These were sometimes made of clays and associated mixtures or iron, and the

yao fu,

or pyx or bomb became weaponized with gunpowder in the 12

th

and 13

th

centuries. Returning to pottery, the early Chinese (before 1500 BCE) used a “peculiar vessel,” or

li,

that derived from the arts and techniques of cooking. It usually has three legs, “strikingly resembling breasts.” A steaming implement, it was designed to bring food into closer contact with the heat of the fire and to be able to cook three foods simultaneously. This is the ancestor of the alchemical tripods that later came to be made of bronze and iron. Pottery versions can be compared to iron in the archeological records of these and the

tseng

that became the

hsien

reaction vessels of later alchemy. Similar pottery is used in Asian kitchens for pickles and pickled vegetables and greens. (Needham 1980).

The

tseng,

in pottery or metal stages, contributed to Chinese techniques of distillation as well as in preparing alloys, where the ingredients are placed above, the molten metals descend below upon sufficient heat, depositing the less fusible oxides, scoriae and slag in the upper vessel, as in the Syriac

bot-bar-bot

(the crucible and the son of the crucible) (Needham 1980). Early sublimations were performed by placing a clay pot inverted and suspended over a glowing fire in which substances are cast in small amounts onto the charcoal, as in incense, and catching the sublimate in the pottery (Needham 1980). Needham records this method was used even in the 17

th

century by Glauber for flowers of antimony and hydrochloric acid, even though there were much better superimposed receivers. The next step is to add a lid, and collect the sublimate off of it, which is first described in Western writings by Dioscorides (

c.

50 AD). Pottery and metal utensils for subliming mercury such as the

hung ting

, go back to written texts in the 2

nd

century before the common era, attesting to possible earlier uses. Who knows how long the “legendary rebels” knew how to sublime mercury, and alloy metals and the textual appearances of such subjects only indicates when the secret was let out, usually by official writers. There are intricate pottery specimens that fit in to the philological arguments between

ting

and

teng

in the morphology of sublimatory vessels, such as in the serpent-headed “rainbow heater” dating to designs from perhaps the 2

nd

millennium BCE. Needham, ever the faithful guide in these subjects, takes us to sublimation as per

destillatio per descensum

. Here, flask-shaped pottery was filled with cinnabar ore, plugged with moss, inverted over a second pot and buried in the earth where the sun’s heat would liberate the mercury by oxidation into the bottom container, while the sulphur dioxide escaped through the porous moss-luting (Needham 1980), and it resembles various Indian alchemical

yantra

such as will be discussed in an upcoming companion monograph to Part 1. Even bamboo tubes can be used in this way to sublime mercury by

descensory distillation, which is a technique so ancient it makes it impossible to date applications and knowledge of mercury in China “especially in amalgamation gilding and silvering” (Needham 1980). Central to this, and to the alchemist’s lab and later to Daoist temples, is the incense burner. The incense burner is the forerunner of the alchemical

ting

or

ding

(depending on Wade-Giles/Pin Yin transliterations) tripod or cauldron that dominates alchemy, inner and outer.

Dinglu

refers to a complex of alchemical apparatus or with the

ding

or reaction vessels such as the

fu

(crucible),

shenshi

(divine chamber),

hezi

(closed vessel), etc. and the

lu

(furnace, stove) (Pregadio 2008). Perhaps most evocative to alchemy, is the crucible

fu

that is placed at the center at the laboratory, as the main tool of

waidan

. The most common type of crucible is of two superimposed halves, like the

mallamusa

discussed in Part 1 of this Monograph Series (<http://www.chymicalphilosophers.org/forays-into-alchemical-pottery-1/>). One of the earliest recipes to prepare the double crucible (

liangu, or liangfu

)

is given in the

Taiqing jing

(Scripture of Great Clarity), which includes the recipe containing the ingredients of powdered red clay (

chishi zhi

)

added to vinegar, and its inner parts are luted with reddish-black lacquer obtained by boiling oak bark (

Taiqing jing tianshi koujue

). Astute readers will note the abundance of “oak” references in alchemy, up to and including Fulcanelli, which will be the subject of a future monograph. Similar to the metallic-earthenware blends found in Indian crucibles, there are other

fu,

such as one whose lower half is made of iron and the upper half of clay (Pregadio 2008). There were also crucibles where the top and bottom were made of earthenware (

shangxia tufu

). This corresponds to

□ the □ lower □ Cinnabar □ Field □ (

dantian

) □

in

□ internal □ alchemy □ (

neidan

).

Clay, especially a “yellow clay” was used in some elixir recipes, such as

Elixir for the Nomination to Immortal

, in the fifth part of the received

Scripture of the Golden Liquor

. Here yellow clay is added to the Gold and Mercury Waters, where first gold is produced and then the Elixir. Ge Hong wrote, “If you add yellow clay to the Golden Liquor, place them in a bowl luted with the Mud-of the Six and One, and heat the bowl over an intense fire, its whole contents will form gold.” There is a recipe for the “Spirit Lute” used to seal crucibles with more precise ratios:

“Shell of left-oriented oysters from Donghai—6 parts, earthworm castings—3 parts, fine hairs shed by a horse—1 part, talc—3 parts, scarlet clay—2 parts, fine goat hairs—2 parts, salt crystals—1/2 part. Mix the above seven substances and pound them in a mortar. Strain them through a fine mesh and mix the powder with one-hundred-day-old rice wine vinegar.” [This is pounded thirty thousand times, if mushy add more scarlet clay, if too stiff more vinegar until a fine “slip” is obtained. It suggests to only use the white inner substance of oyster shells, and the goat and horse-hair to be washed and selected carefully, castings should be ground and cleansed of contaminants. This is used to line and lute the crucible, and when dry “mix Yellow Cinnabar with rice-wine vinegar, pounding 30,000 times to form another lute-like substance. Sun Ssu-Mo said that those who employed earthworm excreta are foolish” (Mual 1967).]

Burning and Luting

Who can wait quietly while the
mud

settles?

Laotzu

The adepts, in their inner (

neidan

) and outer (

weidan

) alchemy, sought the most efficient means to heat and seal in the kinetic energy of chaos in the crucible as well as themselves. Both the metal or clay reaction vessels and the aspiring adept must seal the energies in, as Needham uses the term “hermetically sealed personality” for physiological/spiritual alchemy. To hermetically seal an alchemical vessel, the Daoists made use of a “Mud of the Six-and-One” (

liuyi ni

) and similar mud/clay preparations for luting vessels, thus preventing

qi

from escaping the vessels. It is called “Divine Mud” and is found in the

Taiqing

corpus, and the name is explained by the commentary to the

Jiudan jing

, “Six and one is seven the sages keep this secret, and therefore called it six-and-one” (even if it be made from different numbers of ingredients). In an alchemical quest for the oldest origin of the Ouroboros, it is interesting to note that potters test the use of a clay deposit by rolling out a snake of mud and joining it from end to end, like

aserpent eating its tale. Similar designs are seen in the luting of a crucible with its lid, another crucible as is shown in the invaluable

Caveman Chemistry

(Dunn 2003).

Pregadio (2008) speculates the name derives from the fact that the numbers 1 and 6 represent Heaven and Earth respectively, hinting at microcosmic numerologies. Pregadio also points to early Daoists texts, inverting the Bible's seven days of creation, describing the reverse, or devolutionary fall in seven stages from "Chaos" of the cosmos as occurring over seven days.

Mr. Chaos, the gourd-like

Hundun

, had no orifices or holes and was drilled, and killed, by his guests, and it's possible the six-and-one refer to attempts to fill his seven holes, that correspond to the seven holes in the head, or the senses that exhaust our *qi*.

To avoid dispersion of pneuma or

qi,

the crucible is sealed or luted with this "Divine Mud" (

Shenni

) of which the earliest recipes are found in the

Jiudan jing

(Scripture of the Nine Elixirs). The ingredients are listed as "alum (

fanshi

), Turkestan salt (

rongyan

), lake salt (

luxian

), arsenolite (

yushi

), oyster shells (

muli

), red clay (

chishi zhi

), and talc (

huashi

); which are pounded, sieved, and placed in an acetic bath for night days and nights (Pregadio 2006, 2008). This is done in an iron vessel, pounded again, sieved and coll then soaked in the Flowery Pond (

huachi

). The crucible is luted first with the Six-and-One mud and then the mud of Mysterious Yellow, and finally left to dry in the sun for ten days (Pregadio 2006). Certain manuals say that one must use an earthenware crucible

tufu

and earthenware tripod

tuding

for the Nine Elixirs. To digress into the Flowery Pond, it is used for soaking ingredients before they are heated and it is "obtained from boiled wheat, yeast, the unidentified "white-azure-stone" (

qingbai shi

), powdered lead, powdered cinnabar, and steamed red glutinous millet, which are placed in a closed vessel together with vinegar. The acetic bath should be prepared at the center of the laboratory, in a position of good auspice, and away from women and domestic animals. It is ready in seventy days in summer and one hundred and forty days in winter” (Pregadio 2006). Pregadio presents another method, “prepared by first pounding one pound of honey into five bushels of pure vinegar (*chun zuowei*)

). Then one soaks five pecks of millet in rainwater. When the sprouts appear, they are collected and left to dry in the sun; then they are pounded, filtered, and placed in the vinegar together with rice cakes containing alum (*fanshi*)

). After the vessel is hermetically closed, the Flowery Pond is ready in three days. At the end, one adds ten pounds of saltpeter (*xiaoshi*)

)”. Ge Hong mentions the “Flowery Pond” as containing oyster shells, red clay, and magnetite (Campany 2002). These special clays are used in countless elixir recipes, like the Flower of Cinnabar (*danhua*)

), which uses a luting of the “Six-One Mud and Black-and-Yellow (*xuanhuang*)

),” as well as with the Divine Talisman (*shenfu*)

), the Returned Elixir, Victual Elixir, Refined Elixir, the Compliant Elixir and many others written about by Ge Hong (Campany 2002). Of this black and yellow, the *Scripture on the Elixirs of the Nine Tripods* directs: “Take ten pounds of quicksilver and twenty pounds of lead. Place them in an iron vessel and make the fire below intense. The quicksilver and lead will emit their efflorescences (*tu qi jinghua*)

), these efflorescences will be of a purplish color, or in some cases a hue like that of yellow gold. With an iron spoon, join them together and collect them. Its name is Black-and-Yellow, it is also named Yellow Essence, Yellow Sprout, or the Yellow Weightless. Place this medicine in a bamboo tube, steam it one hundred times, combine it with solutions of realgar and cinnabar, and volatilize the mixture.” The Chinese tended more to metal apparatus in their laboratories such as the iron crucibles, reaction vessels of bronze and iron and even pure gold or other precious metals. But these were used in combination with pottery and earthenware mixtures, such as might have been meant by Ge Hong’s “red clay crucible” (Ware 1981). Thus gold was used to cast condensers and water-jackets, and tubes that still had to be luted by means of clay. Some recipes for these, such as in the *Pheng Ssu*

, call for *chih shih chih*

, (red bole clay) mixed with *chin thu*

(earth) and vinegar, and left to dry, or by *chih ni*,

which Needham (1980) suggests might be red bole clay and mud, and other recipes call for yellow earth. The texts describe adding the ingredients to the reaction chamber, which is tightly sealed and placed into a pottery vessel (*thu ting*)

) with the space in between filled with silver beads (*yin chu*)

). This is suspended inside a combustion chamber, fire envelops the vessel and the processes is completed, with some having a large water vessel at the top, to cool and control the heat and insulating from extremes in a surrounding waterbath. These reached a vast and precise use in the 13

th

century where regulation of temperature became a very central concern (Needham 1980). Needham connects these devices with the Japanese

daki,

formerly made of wood and now of pottery, a temperature stabilizer in the fermentation industry.

Sung era manuscripts show porcelain flasks, (essentially an

ambix

) of a pomegranate shaped vessel (

tzhu shih-liu kuan

), used for

destillatio per descensum.

Eleventh century manuscripts describe earthenware jar with perforated iron sheets that is luted above another jar, and they are connected mouth to mouth. The luting recipe consists of salt, clay and pig's hair. The stove is

surrounded by fire from above and the mercury trickles down. One such device using an iron crucible on bottom and earthenware crucible on top luted together is known as the

yaofu

. It is made thus:

Method of Making a

Yaofu

“The lower iron bowl (

tiefu

) was a capacity of one peck, a diameter of 9 ins. and a height of 3 ins. At the base, which comes in contact with the fire, the thickness is 8/10 inch, but around the four sides the thickness is 3/10 inch. The upper and lower bowls are of equal thickness. The base is flattened. The flange all around is 1

1/2

inch wide and 3/10 inch thick; it is also flattened. The two handles at the side are 3 inches long and 3

1/2

inches wide; they are situated above the flange. The upper bowl (i.e. cover) is made of pottery (

shaowa

). It has a diameter of 9 2/5 inches, a height of 8 inches and thickness of 3/10 inch. The cover thus has a greater curvature (than the larger bowl.) Its flange is also made flat. The

yaofu

is used for the preliminary treatment of the ingredients and hence its size. After the ingredients have become refined, they should be transferred to a

xiaofu

(small vessel) which measures 6 inches across at the mouth and 2

1/2

inches in height. Besides these the shape and other dimensions (of the lower bowl) are the same as those for the (

yaofu

). For the cover the diameter is 6 1/5 inches and the height 6 inches. Besides these, the shape and other dimensions do not differ from those of its predecessor” (Ho 2000). As stated, many Daoist alchemical processes were carried out in metal vessels, which will be the subject of a forthcoming monograph. But vessels made of porcelain with

bamboo tubes were also used to bring into solution a large number of inorganic substances using weak nitric acids. Earthenware basins (

wa phen

) were often used to

make elixirs as well, with ingredients placed inside for microcosmic alignments with celestial correspondences, like directions, colors, etc. (Needham 1980). But even when Daoists used metallic crucibles, as would solve many problems for students of the dryway, they lined the interiors with earthenware materials. This was likely done for insulation as well as for keeping the interior contents free from interacting with the exterior metals. An example is the crucible for making the Elixir of Great Clarity, which is coated with a layer of mud “according for the luting method described in the

Scripture of the Nine Elixirs

which is almost identical to the luting recipes above with some recipes omitting talc” (Pregadio 2006). Some texts are almost entirely devoted to this craft, as is found in the

Reverted Elixir in Nine Cycles.

This requires the adept to purify himself, and he makes the mud with “oyster shells, white clay (

baishi zhi

), powdered mica (

yunmu

), earthworm excreta (

yinlou fen

), talc, and white alum (

baishi

zhi), powdered mica (

yunmu

), earthworm excreta (

yinlou fen

), talc, and white alum (

bai fanshi

).” These are pounded and sieved and placed in vinegar, forming a mud that is used for luting the outer and inner parts of the crucible (Pregadio 2006). It is dried and luted again, three times total, and then lead and vinegar are added to form another mud, which is spread on the inside of the vessel (Pregadio 2006). Then the crucible is closed, the two halves luted on the mouth and on outer side with three layers of the same mud, and the layer of Mud of the Six-and-one (2006). Readers of the first part of this series on India will recognize many similar ingredients proving the intense alchemical contact that Needham suspected. A text called the

Flower of Langan

gives different ingredients, but seven in number, “oyster shells, earthworm excreta, horse hair, talc, red clay, goat hair, and salt. They are sifted, added to vinegar, and pounded “thirty thousand times.” The adept then lutes the crucible both inside and outside, applying the mud gradually and letting it dry after each layer is added. Then some Yellow Elixir (

huangdan

) is added to vinegar, is again pounded thirty thousand times, and spread on inner part of crucible” (Pregadio 2006).

This is applied internally and externally as well as luting where the crucibles meet. The injunction of the importance for a hermetic seal, “Be cautious so that the floss essence (

huajing

) does not leak away. If it leaks away, there will be no benefit.” There have been some modern studies of these luting methods with experiments in replicating the Daoist alchemical recipes. These records that alchemist Sun

Ssu-Motried many of ancient recipes, but found the simple lute made from kalinite and red bole “unsurpassably excellent” (Maul 1967). Maul records the Sun Ssu-Mo’s procedure for the lute with modern measurements, (1) Put in 5.6 to 7.8 gm kalinite in the tube, cover with a tile and then lute to thickness of 2.5 to 5.0 mm with a mixture of equal parts of fine sand and yellow clay. (2) Bake to dryness over a low fire. After replastering and rebaking, roast in an oven for 7 days (over a charcoal fire) in an iron pan. It is removed and ground to fine powder. (3) Pound the red bole into a fine powder and mix to consistency of mud. Form this mixture into a cake 12.25 mm by 98.0 mm and dry it in the sun. Then place it in the kalinite furnace for one day, after which it is pounded into a fine powder and sifted. (4) Mix equal amounts of the treated and untreated red bole. This is then mixed with two fen (either two parts or 5.2 gm) of kalinite and red bole to a lute (thin) consistency.” Maul also gives notes on her modern attempts to replicate the luting, and she first used Mexiclay (a red siliceous potter’s clay) for red bole, but it would crack upon drying both in desiccator and at room temperature.

Daoists often refer to the brains as a ball of mud, and of course there is the internal “mud pill”

Niwan

, that is “located in the very center of the head.” Chinese used an assortment of clays for spiritual and medicinal purposes, such as Immortal Ch’en Nan, who cured diseases with a clay and holy water, giving him the nickname, “Mud-pill Ch’en.” There is also the 16

th

century doctor Li Shizhen who lists sixty-one clays, muds, and other earths in the

Bencao Gangmu

, treating disorders from malnutrition, to infection to diarrhea. Missionaries record the use of a soft stone or mineral called

Hiung hoang

, which cures all sorts of diseases (Young 2011). Laufer (1930) records many instances of geophagy in Chinese literature, as medicine, in Daoist Magic and as a famine food. From Laufer (1930): “As to Yao Sheng, it is unknown from what place he came. Once he traveled to the Chang-kung Grotto and, a torch in his hand, entered it. There he met two Taoists seated opposite each other and engaged in a game of wei-ki. Sheng expressed the wish to obtain some food. The Taoists pointed to several lumps of blue (or dark) clay or mud. He chewed a morsel of it, and found it very fragrant. The Taoists then bade him go and not speak to mortals about his adventure. Sheng bowed and thanked them, and carried away in his bosom the remains of the clay. He left the grotto and met Kia Hu who became frightened and said, ‘This is the food of dragons. Clay is produced in grottoes, in the same manner as rocks.’” In a Chinese tale, entitled “The Nine-headed Bird,” a youth meets a dragon in its cave and notices it lick a stone; the youth, tortured by the pangs of hunger, follows the dragon’s example and no longer experiences hunger.” And (among much more): “During the period Wan-li (1573-1620) of the Ming dynasty, the district Tse-yang (in the prefecture of Yen-chou, Shan-tung) was struck by a great famine. Suddenly appeared there a Taoist monk with a star-cap, gourd, and sword, and pointing to a lot of waste-land, said, ‘Beneath this spot there is earth-rice, which may serve as food.’ He vanished at once, and the crowd regarded him as a strange apparition. The people dug the soil more than a foot deep, and found earth of a bluish color, which somewhat had a flavor like grain. The famished people swallowed it eagerly, and as they greatly enjoyed it, quarreled about the same piece. Several thousand men took so much of this earth away that it resulted in a pit several acres wide and about twenty feet deep. The following year, when wheat had matured, the Taoist monk came down to the same spot, as if he had something to fill out the pit. All of a sudden it was full, and again the people began to dig; however, they found nothing but sandy earth, which could not be eaten; for the fairies are crafty and make such earth only to help men. Further, in the year ping-tse of the period Tsung-cheng (1636), there was an intense drought north of the Yang-tse, and in the Fung-yang

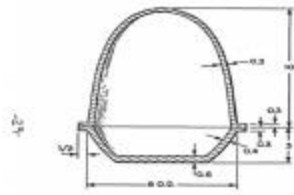


Fig. 1. Cross-section of two-part reaction vessel as described by Sun Shu Mo in the TAN CHING YAO CHEUNG. (Diagram courtesy of Professor H. Stein, M.I.T.)

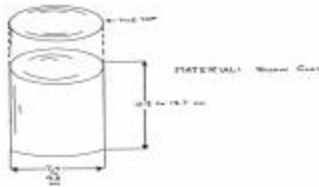


Fig. 9. Yellow clay tube, which is used in preparing six-mo lute, as specified by Sun Shu Mo in the TAN CHING YAO CHEUNG.

mountains where this earth was produced. Many people depended on it to keep themselves alive.”References and Further Reading

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A composite graphic featuring a central image of the Virgin Mary and Christ Child, a waterfall on the left, a scallop shell on the right, and a large, colorful, glowing orb in the background.

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