

SARASVATI: SOMA YAJÑA AND THE VEDA

The argument: Rigveda is a metallurgical allegory; soma is electrum ore

According to Louis Renou, the immense Rigvedic collection is present in nuce in the themes related to *Soma*. About 120 hymns out of a total of 1028 hymns or a thousand verses and almost the entire ninth book deal with *Soma*. *Soma* is a material and also the only process elaborated in the *Rigveda*. The rest of the hymns related to Agni, Indra or other facets of vedic life will have to be concordant with this process which seems to constitute the very essence of vedic life, a process integral to the day-to-day living of the vedic seeker. The amṣu were pressed and processed almost like a religious act.

Soma yajña in Rigvedic days, in particular, connotes the process of parting/extracting gold and silver from *Soma*, electrum ore (gold-silver pyrite ore). This may be called auri-faction in alchemical terms; the r̥iṣis or sages who composed rikṣ abounding in philological brilliance, perhaps believed that they were in fact producing gold.

The interpretation of the *Rigveda* as a metallurgical allegory, in respect of the processing of *Soma*, declares a change of paradigm in vedic studies.

The oral tradition of transmitting the knowledge of gold-smelting operations was continued over millennia to maintain secrecy. The tradition of secrecy becomes allegorical as the brāhmaṇas and Śrautasūtras bureaucratize the process with allegorically-coded manuals for smelting operations. A nexus develops between the brahmins and the ruling classes and the former are generally in the employ of kings, led by a r̥t̥w̥ij and a purohita; and live in the same quarters of the royal palace, where goldsmiths live. The processes indicate that the alchemical tradition sustained by the ruling-priestly class-consortium was auri-fiction; that is, the priests knew that they were not, in fact, producing gold. The state-power was used to monopolize this operation of accumulating gold and silver metals into the state treasuries.

The analysis is advanced with reference to three historical milestones, and three related facets of alchemy as an enterprise:

- (1) *Rigveda* and aurifaction;
- (2) Śatapatha Brāhmaṇa and aurifaction; and
- (3) Arthaśāstra and alchemy as a state enterprise.

Soma, as a metaphorical elixir of immortality

We have drunk the *Soma* and become immortal;
We have attained the light the gods discovered.
What can hostility now do against us?
And what, immortal God, the spite of mortals?
(R.V. VIII.48.3)

This hymn from the world's oldest recorded oral literature seems to deal with the preparation and use of an 'elixir'. This hymn sets the framework for tracing the Indian alchemical tradition and its science potentials. The trace will perhaps lead us to the earliest alchemical tradition of the ancient world. It is significant that in a contemporary civilization, Gilgamesh of Babylonian myths too sets out to discover eternal life and finds a miraculous plant of immortality growing at the bottom of the sea. He plucks it, leaves it unguarded. It is stolen by a water snake. Water, plant and snake symbolisms are indeed central to all alchemical traditions.

Soma is not a drink

Chāndogya Upaniṣad (V.10.4) is emphatic:

*es.a somo rājā tad devānāṃ annam. tam devā
bhakṣyanti.*

Soma is king. *Soma* is food for the gods. Gods eat *Soma*.

Two vedic hymns reiterate that *Soma* is not a drink of mortals:

'One thinks to have drunk *Soma*, when they crush the plant. Of him (*Soma*), which the brāhmaṇas know, no

one ever tastes.' (RV X.85.3; the same hymn in AV XIV.1.3).

'O *Soma*, guarded by that which is meant to cover you, guarded by him who lives in the high (heaven?), you stand listening to the pressing stones. No earthly one eats you.' (RV X.85.4).

Atharva veda refers to the deficiency in name; this stanza is used, as a primary authority by some scholars, to justify the identification of *Soma* as the moon, since *dars'a* is interpreted as the slender crescent of the moon:

'O stem of *Soma* (*somasyamśo*), lord of the combatant (*yudhām*), you are indeed not-deficient by name (*nūno nama*); make me, O first sight (*darśa*) not-deficient (*anūnam*), both by progeny and wealth.' (AV. VII.86.3).

Soma, has the radical *su*, to press; pressing is the key process. *Soma* is that which is pressed. In the developing allegory, *Soma* is seen to be released from the cover; Vritra or the 'aryan dragon motif' or Vritra, who possesses the waters, using the vajra thunderbolt. Buschardt also observes that the mountains which are Vritra's body are also the same on which the *Soma* plants grow; Vritra-killing and *Soma*-pressing are one and the same act; *Soma*-pressing is *Soma*-killing; killing signifies making him 'whole' and this is creation. Vajra is a concept related to the reducing agents: Lahiri summarizes Buschardt's perceptions succinctly. "Buschardt traced the origin of the vajra, the weapon with which Indra kills Vritra, to the cultic implements the pressing stone used to crush the *Soma*-stalks, or pestle.

The cultic implements on icons are remarkable records of alchemical legacy. Since the artist wanted to symbolize the representation with great fidelity, he used enormous degrees of freedom in adding to the icons four, six or eight hands; so that on each hand, he could represent the symbolism related to a cult implement such as a *kaman.d.alu*, an *aks.a ma_la*, a ladle, a *vajra*, etc. Many of these implements are alchemist's tools and relate to his apparatus. If this iconographic tradition can be extrapolated to the proto-indus seals, the so-called 'cult object' in front of the unicorn comes alive as a smelter-filter of the lapidary, the centre-piece of his very craft and life-mission.

Sometimes, even *ājya* (melted butter), *sphya* (spade of *khadira* wood), *abhri* (spade), *yūpa* (posts in the sacrificial site where the victim used to be bound), the waters etc.

are styled *vajra*.. the cult instrument which happens to be decisive at that particular moment is referred to as *vajra*..

Linking *vajra* with the waters finds significant support from dravidian etyma: DEDR 761: Kannada.vajjara, ojara a spring, fountain; orale oozing, oravu spring; Tamil. ùru to spring, flow (as water in a well); ùral small spring, spring-water, oozing, percolation; Kui. urpa to ooze, spring up; Maltese. orbe to fall in showers. The imagery sought to be evoked by the vedic poet-artisan is relatable to the intense desire to use a weapon that will enforce the flow of the metallic essence, *rasa vajra*, therefore, connotes the resin that flows from the male trees!

"*Vajra* is the cult's demon killing power as such, and Buschardt thought that the origin of *vajra* must be traced to the pressing stones which play a dominant role in the central moment of the cult, the pressing of the *Soma*.. At the *Soma* pressing water is poured over the *Soma* stalks and hence they actually take part in the *Soma* pressing, that is, *Vritra*-killing...The separation of *Soma* and *Vritra* becomes complete with the purified *Soma* on the one side, and the crushed lifeless demon on the other. This *Soma* 'clear flowing' fills up the gathering vessel...Thus the conflict is over." (Buschardt,L., *Vritra: Det Rituelle Daemondrab iden Vediske Soma-kult*, Kobenhavn 1945, p.48; loc.cit. Lahiri, A.K., *Vedic Vritra*, Delhi, Munshiram Manoharlal, 1984, p.21.)

Crysocole, or copper carbonate, was used by goldworkers as a solder. Two oxides of copper, red and black, were known. Mary, the Jewess-chemist, often refers to the 'little leaf of copper', the copper foil hung on the kerotakis to be subjected to the attack of mercury vapours or of sulphur vapours which was sublimed in the aludel fitted with kerotakis. cf. Hopkins, A.J., *Alchemy*, 1967, p.108. The 'leaf' motif has a remarkable parallel in Indus script signs and in an exquisitely executed pictorial motif which depicts two 'unicorn' heads surrounding a stylized 'sublimation device', may be *kampat.tam*, topped by nine leaves. In the jeweler's art, a process called 'royal cement' is used, which may perhaps be traced to *Tvasht*'s gilding techniques. "To a large quantity of fused base metal a little gold was added and the whole cooled to form one 'metal', and this solid solution was then shaped into some form such as a ring. This was then etched on the surface by alum or other mordant salt. The surface of the base metal, such as lead, by this process would be dissolved away, leaving granules of pure gold in relief, thus making the ring appear to be made wholly of gold. This process had been known from

very early times." Hopkins, A.J., *Alchemy*, 1967, p.49. Some etyma: RV iv.20.6 vajra mark; in RV. x.108.7 vajrabhir-myu²ah qualifying nidhi; in vi.22.5 vajra-hastam holding vajra in hand. Pali.vajira Indra or Sakka's thunderbolt; diamond. Tamil (lex.) vaccira-kantam yellow orpiment; vaccirakam pericarp of the lotus; vaccirappacai a kind of glue; vacciram a treatise on architecture; vaccira-ya_ppu glue-ing, in woodwork; vaccira-rasam purified mercury. DEDR 5214 Tamil. vaci rain, water; Kannada. basi, bose to drip, drop, trickle.

Atharva veda (AV.IX.6) can be interpreted as providing the clearest statement on the smelting process of the *Soma* yaja which is echoed in later-day alchemical texts:

"...the shed for housing the *Soma* cars...green sticks that surround the sacrificial altars (as a fence to restrict the range of fire)...The grains of rice and barley that are selected are just filaments of the *Soma* plant. The pestle and mortar are really the stones of the *Soma* press. The winnowing-basket is the filter, the chaff the *Soma* dregs, the water the pressing-gear. Spoon, ladle, fork, stirring prong are the wooden *Soma* tubs; the earthen cooking pots are the mortar-shaped *Soma* vessels; this earth is just the black-antelope's skin...The man who supplies food hath always pressing stones adjusted, a wet *Soma* filter, well-prepared religious rites...he who hath this knowledge wins the luminous spheres."

Metals were not fully distinguished from their alloys; all carried names such as aes, electrum etc. Ayas meant metal. Asem denoted the natural alloy of silver and gold; it also meant any bright metal made with copper, tin, lead, zinc, arsenic and mercury. Twelve or thirteen different alloys were called asem (Needham, Joseph, *Science and Civilization in China*, vol. 5, pt. II, p.45) "At Gungeria, in district Balaghat, 102 pieces of silver plates were discovered along with 424 copper implements. The silver was found to be admixed with 3.7% gold (...1100 B.C. - 800 B.C.). The presence of 3.7% gold in these silver pieces indicates the extraction of silver from electrum..." (Smith, V., 1905, *Indian Antiquary*, pp. 233 ff.; loc.cit. Bharadwaj, H.C., *Aspects of Ancient Indian Technology*, Delhi, Motilal Banarsidass, 1979, p. 138).

Asem was *Soma*; this hypothesis will be the running-thread of this review of the alchemical tradition of ancient India,

dating back to R.gveda. Hopkins states: "The existence of this alloy (asse*m) may have been the original cause for the suggestion of transmutation since by adding silver to it, one would get a metal nearly identical with the crude silver from the mine; and by adding gold, something indistinguishable from gold. [The paucity of the Egyptian language may perhaps have been responsible for a confusion. Gold was the 'yellow metal', and the alloy produced was also a 'yellow metal'.]" (Hopkins, A.J., *Alchemy*, 1967, pp. 103-104).

The parallels with the Indian alchemical tradition are apparent: *tapkam* gold in dravidian-Chinese becomes *t.ankan.a* borax (a reagent!) in indo-aryan, ²*apka* gold coin; the terms *hiran.yam*, *hema-bijam*, connote the yellow metal.

"The use of borax (*pheng sha*) as a preparatory agent for soldering and brazing (in the molten state it cleans metal surfaces by dissolving metallic oxides) goes back in China to the +11th century, for it is mentioned by Su Sung (*kho han chin yin*)... Li shi-Chen says that borax 'kills' the five metals, as saltpetre does; presumably this refers to the preparation of metallic salts. The mild and non-irritant antiseptic quality which has given it such wide use in Western and even modern, medicine, was appreciated by the Chinese pharmacists, who prescribed it for all kinds of external, including phthalic, affections." (Needham, J., *SCC*, vol. III, 1959, p. 663).

In the Babylonian Talmud (+2nd century), *asemon* is a commonly used word referring to bullion (gold, silver or mixed.) Leiden X papyrus (c. +3rd century) says: "no.8. It will be *asem*, (i.e. *electrum*, an alloy of gold and silver) which will deceive even the artisans (a tin-copper-gold-silver alloy); no.12. Falsification of gold (a zinc-copper-lead-gold alloy)..." (cited in Needham, Joseph, *SCC*, vol. 5, Pt. II, pp. 18-21). *Soma yajña* as a ritual, can be interpreted as an elaborate justification for the memories of processing *asemon*, *asem*, *electrum*.

A Tamil lexicon of Winslow (1862) provides a philological trace: *Soma ma-al*, is interpreted as meaning *ve³³i ma-al*, sand containing silver ore!

Soma, Soma ma-al, asemon, asem, electrum may perhaps denote the same substance that dazzled and drew travellers of antiquity in search of indus gold. It may perhaps be the same substance [which required the purificatory 'mineral waters'] contained in the kamaṇḍalu symbols in the icons of the yakṣa legacy. It may perhaps be the same substance said to be amṛtam which was considered to be the elixir of life, of immortality. It may perhaps be the same substance referred to, in sheer poetry, as amṛitam āyur hiraṇyam. Gold is immortality.

Soma! The very justification for the vedic hymns; the quintessence of the only technological process elaborated in magnificent poetry and philological excursus in the grand allegory, the *Rigveda*.

These findings are further elaborated in the work: *Indian Alchemy: Soma in the Veda*, by Dr. S. Kalyanaraman (in press; forthcoming (1998) publication of Munshiram Manoharlal, Delhi).