

HIRANYA : GOLD METALLURGY IN RIGVED IN SPECIAL REFERENCE TO JEWELLERY

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Abstract

Rigveda is rich in metaphysical as well as material sciences. Golden Jewellery, which is deeply connected with emotions of Indian life appears frequently in Rigved and interestingly, is the only metal used for the making of jewellery at the time.

Gold was known as Hiranya by Rigvedic Aryans and thought to be extremely pious. It was so much so that Aryans addressed their deities as Hiranyamay and Hiranya itself was compared with the glory of Sun. Both men and women felt pride in wearing golden jewellery and even their animals were adorned with it. Apart from jewellery the skilled sukarmon of Rigveda made as huge a article as chariot and as delicate as wire with the use of gold, it indicates the technical advancement of that period. The technology involved in the making of these is hesitantly discussed.

The aim of this paper is to bring-forth gold metallurgy as depicted in Rigveda and present a comprehensive picture of jewellery-making, its patterning and technology at the time of this most ancient text of the world.

There are very few commodities, except those fulfilling basic needs of mankind which have as long, unbroken and universal history, as is that of golden Jewellery. We do not exactly know the time and the circumstances under which gold first came into the hands of man, but from the past 5000 years we have been irresistibly using it ever with new temptation.

In Rigveda, which is the first authoritative literature of India in which about gold and golden jewellery was mentioned with full description of its typology and technology in philosophical version. There has been described a variety of Jewellery made up of gold and worth noting, exclusively made of gold, which is important in terms of investigating the value attached to it, till present day.

In Rigveda Samhita, various metals like Ayas¹, Chandra², Rajat³, Suvarna⁴ and Hiranya⁵ have been mentioned, but except Hiranya none of these were used for the purpose of body adornment by men and women of this period. Although Suvarna⁶ and Chandra⁷ have been taken by the authors of Vedic index in the meaning of gold but it is uncertain whether both

were substantives of gold or a mere adjective of Hiranya (gold) and silver, mistaken as gold, respectively⁸. Rajat⁹ later in Vedas and Brahmanas came to denote silver, was used in Rigveda as a chariot and not silver exactly. Ayas¹⁰ was iron or bronze but not gold, thus Hiranya studded or unstudded with precious stones seems to be the only metal preferred by Aryans to wear on their bodies.

The metal was considered pleasant, pious and powerful like sun-

यः शुक्र इव सूर्यो हिरण्यमिव रोचते।

श्रेष्ठो देवानां वसुः।।¹¹

It was so much so that Aryans attributed their deities with adjectives like Hiranya रुप and Hiranyavarana¹² etc.

हिरण्यरूपः स हिरण्यसंददगपां नपात्सेदु हिरण्यवर्णः।

हिरण्ययात् परियोनेर्निषद्या हिरण्यदा ददत्यन्नमस्मै।।

Its brightness and medicinal properties were perhaps the reasons behind the privilege given to the metal. In many hymns Aryans have prayed their deities to bless them with ornaments which shows

that it must have meant some kind of treasure to them. The list of ornamental objects consists of those worn on the neck (Hiranyamani¹³, Nishka¹⁴, Rukma¹⁵, Mana-Hiranyaya¹⁶ etc), on the ears (Hiranyakarna¹⁷, Karnashobhna¹⁸, Chakra¹⁹), on their head (Sraja, Stupa, shipra, shring²⁰, Kurir, Opash²¹) on hands (Hiranyapani, Anuk²², Narya²³) and those worn on the waist and legs (Nyochani²⁴, Varunapash²⁵, Hirayavartani²⁶, Rashna²⁷, Khadi²⁸).

The technique of making golden ornaments is although not discussed openly in Rigveda but certainly it must have involved a very high degree of skill, dexterity and experience. The words 'Karman'²⁹, 'Sukarman'³⁰ & 'Dhmatari'³¹ indicates towards some kind of organization formed by the workers in gold. This is also supported by the seemingly industrialized manufacture of jewellery which could not take place if everybody's work was not distributed properly.

The Sunars of Rigveda were working in organized way and they know the two sources of gold, which are common today. Gold acquired from the rivers as alluvial or detrital source as well as described from auriferous lodes, found in the quartz veins in several mines. There is a hymn in Rigveda (chapters 8th & 10th), where river Sindhu has been called Hiranyayi & Hiranya-vartini³², the meaning of this is 'who bears Hiranya or gold'. It is noteworthy that river Sindhu flows in the north-western India, the part which at the eastern expansion of Darius, paid him 100 talents of gold-dust. This gold-dust was, perhaps, collected from Sindhu river, the same which produced it at the earlier times of Rigveda.

Rai Govind Chandra has cited few hymns, according to him there was knowledge of Rigvedic people about gold existing mines.³³ It was situated in the Ishan - Kona of their Country.

ईशानासो ये दधते स्वर्णो गोभिश्चोभिर्वसुभिर्हिरण्यैः।
इन्द्र, वायु, सूरयो विश्वमायुरवाद्भिर्वीरैः पृतनासु सहयुः।³⁴

The metal after extraction usually undergo a process of cleaning, shaping and polishing etc. before ready to be worn. There is no any single hymn

in Rigveda which deals about all these states of making, but few words do give a sense of their happening in a much similar way as it happens now.

First the metal is smelted in the furnace³⁵ with charcoal and the purified mass thus obtained is worked-out further, by putting it in crucible, on fire. Rigveda, Ch. No. 5 has a hymn which is as follows:

अधस्म यस्यार्चयः सम्यक्संयन्ति धूमिनः।

यदीमह त्रितो दिव्युष ध्मातेव धमति शिशीते ध्मातरी यथा।³⁶

Vedic Index means that the goldsmith smelts gold by controlling the fire. How this fire was controlled? In present days, the work is done by bellows. There is a word 'upashvas'³⁷ in the Sanskrit index of Vedic Index, the meaning of which is given 'bellows'. Unfortunately, its reference is not in detail, so we cannot say precisely whether it was used in Rigvedic times or in later Veda and Brahmanas period, but if not the real bellows, the work was done with the help of feathered fans³⁸, can be satisfactorily accepted. Evidently the words अधमत्, ध्मातेव, धमति etc. coming in Rigveda, leave no room for any negative speculations.

For the smelting and making rough gold workable, the smiths need charcoal blocks, to burnt, to heat up gold - particles to form a workable mass. There is no any reference of coal in Rigveda Samhita, however in the period of Brahmanas it is indicated by the word-अंगार. But if we take into account the liquefied form of gold referred in the Rigveda Samhita, it will not be difficult to infer that coal was involved by the people of that time in the process of smelting in spite of its no any description in the book.

The reference of the fireplace, where perhaps the purification and Smelting of metals was performed is found in the Ch. 10th of Rigveda. The place is called 'Astri'³⁹. The word denotes a fireplace where 'the evil bird is entreated not to settle on the hearth as interpreted by Vedic Index'. It is interesting that the furnaces or the fireplaces where smelting of gold was performed is not altogether different from the furnaces where the smelting of copper is done. Copper is the

metal which is generally accepted as the probable meaning of Rigvedic 'Ayas'. Hence the smelting process of metal gold can be drawn by the evidence of the existence of 'Ayas' also.

The metal after heating in furnace became pure due to removal of impurities, it melts up like a liquid. This liquefied gold is indicated in Rigvedic period as an adjective of 'Som'.

पूनानः सोम धारयायो वसानो अर्षसि।

आ रत्नधा योनिमृतस्य सीदस्युत्सो देव हिरण्ययः।⁴⁰

This melted gold then fuses together into a single lump which can then be hammered out into sheets. The hammered cup of Soma is the best example of this act and also a recapitulation of the previous processes, resulted as the shaping of the cup.

रक्षोहा विश्वचर्षराभि योनिमयोहतम्

द्रुता संघस्थमासदत्⁴¹

The hammer with which the metal was beaten to give it a particular shape, is referred by the word 'kuta' in Rigveda, Ch. 10.102.4. The word in the same meaning were used in Atharvaveda and Brahmins also.

When the metal sheet was beaten equal it needed further workout to get a required shape and design, but continuous hammering makes the metal hard and brittle, if annealing or reheating is not done, the metal will lose its workability. For annealing, tongs are very important because it exposes only that part of metal which requires reheating. Tongs have been variously mentioned in later Vedic period, although not straightly in context with gold. 'धृष्टि' and 'शफ' are the words used to denote tongs in which शफ was used, according to Vedic Index to lift an iron pot from the fire and धृष्टि was fire tongs, found in the dual in Taittiriya Aranyaka and Shatapatha Brahman. Whether these are more specialized tongs were utilized by goldsmiths, is not definite. The word 'पेशस' in Rigveda⁴² to which Vedic- Index explains as the wire made of gold⁴³. If this was so, then whatever other instrument (drilled beads, drawplates etc.) used

by goldsmiths to cast the wire, tongs were very necessary which only could pull them through dies. There is one more method of making wires but that is not applicable on Rigvedic 'पेशस' because this implies cutting and hammering of a sheet gold into wires which cannot be a case with the wires woven in the cloths (the meaning and use of Rigvedic 'पेशस'⁴⁴. This particular method is called filigree work. Filigree is one of the most popular techniques of decorating any piece of ornament even today. But in another view⁴⁵, 'पेशस' is used in the meaning of 'pachchikari', so Rigvedic 'पेशस' should also be taken in the same use and not as filigree work⁴⁶. Whatever be the matter, at this stage we can say confidently that people of that period have refined taste and high skills.

Another method of elaborating an ornament is 'granulation'. Exactly, it was in vogue in Rigvedic times, can not be proved with proper authenticity. There is evidence of work Drops in Rigved (Chs. I & IX)⁴⁷ which was a drop of metal or precisely, a drop of gold⁴⁸. Rigvedic people know the technique to make a very minute size (about 100th part of an inch) drop.

The people of this early period, used to inlay precious stones in golden leaves is confirmed by the reference of the pada 'जरितू रत्निनीम्' in 10th mandal of Rigveda Samhita, the meaning of which is 'inlaid with'⁵⁰.

In all the methods, discussed above, during making and decorating ornaments, the technique which was used by goldsmith, was, soldering. In this process they join separate pieces of metal.

This brief description of gold metallurgy in Rigveda with special reference to ornaments is although only glimpsed but is still capable of giving an idea about how the work was conducted by the artisans and advancement of the technique in about 3500 years back. The archaeological remains of a goldsmith's workshops excavated at Nagarjunikonda of 3rd - 4th cen. A.D.⁵¹, it confirms the work-process to be done in more or less similar manner as it is practiced today.

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