

HOUSING SYSTEM IN THE VEDIC AGE

Pranati Ghosal

Junior Research Officer, Indira Gandhi National Centre for Arts, Varanasi

Abstract

In all the ages, human pursuits start with basic requirements, which include shelter/Habitation along with food and clothing. The case has been same with Vedic Indians. They were not only concerned with rituals (yajna) and metaphysical ceremonies but at the same time conscious of leading a prosperous material life, where house was an essential aspect.

Praise of house and its chief architect Vastospati, glorious description of houses at various places signify that people felt necessity of building a house not only to protect themselves against cold and rain but from the attack of wild animals also. References to various building names, different portions of house, building parts, their materials, lay-out of the house and its construction 'bespeak of high standard architectural skill of that period. Although materials of construction were mainly forest products. planning was meticulous, artistic and comfortable. The smallest unit of house was grha/dama, biggest form of which was puralnagara. Even town planning was not unknown to them.

On the basis of this, it may not be wrong to presume that idea of modern building construction was germinated for the first time in the Vedas. The aim of this paper is to focus on the architectural achievement of the Vedic People.

Introduction :

In all the ages human pursuits start with basic requirements of life which include shelter/ habitation along with food and clothing. The case was same with Vedic Indians. They were not only concerned with performance of rituals (*yajña*) metaphysical ceremonies but at the same time conscious of leading a prosperous material life where house was an essential aspect. Present paper aims at focusing architectural achievement of Vedic people. But, beside Vedic Civilization, Indian history provides us information on Indus Civilization also, where people were highly expert in building-construction (i.e. Civil Engineering). R. Sengupta¹ mentions in his work: "The achievements of Indian people in the field of engineering began in proto-historic times from the 3rd millennium B.C. or even earlier. The ancient Indian Civilization like those of Mesopotamia, Egypt, Iran and Iraq showed skill in the construction of building and granaries, in the town-planning and in the provision of civic amenities like community baths and other sanitary conveniences".

On the basis of archaeological excavations, historians opine that earliest type of human dwellings

were pit-dwellings. Deshpande² has written: "Excavations at Burzahom (1959) near Srinagar have revealed that earliest inhabitants of this valley (datable to 2920 B.C.) lived in circular or oval pits dug into 'karewa' soil. Evidence of post-holes along the edge of pits indicated a timber superstructure covered by a roof. The pit dwellers provided landing steps to reach down the floor of their house, where stone hearth and small sized storage pits were met with. In the succeeding period, red ochre was found used as a colouring material for the floor. Such pit-dwellings have been found at Nagarjuna-konda in the Krishna valley".

Indus Valley Period :

Remains of Indus valley civilization (c. 4th 83rd millennium) excavated from Mohenjodaro and Harappa (now in Pakistan), Lothal (in Gujrat) and Kalibangan (in Rajasthan) are specimens of well-developed technical skill of ancient Indians. Mohenjodaro in Sind and Harappa in Punjab these two were capital cities, each of which was approximately three miles in circuit. Most probably these people were among the world's pioneers in city-construction. Ruins of large buildings have been

unearthed from Mohenjodaro. Road alignments were from east to west and north to south, each crossing the other almost at right angles. The width of roads varied, according to the traffic requirement (Alchin & Alchin, *The rise of Civilization in India and Pakistan* p.171)

The houses unearthed were commodious and well-built. The bricks were well-burnt and of various sizes. It is interesting to observe that although they acquired considerable mastery over brick-building, they have left no evidence of decorative brick works. Most of the houses had more than one floor, although number of rooms in the first floor was limited. The average middle class dwelling consisted of four/five living rooms, which had due provision for sanitary amenities. Sengupta described: "A typical house included a central courtyard, a well room, a paved bath, a sewer pipe protected by brick-work, which ran beneath the floor into the public drain in the street providing drainage from the courtyard and a pipe running vertically to carry sewage from the upper floor (Sengupta, "Engineering and Architecture in Ancient and Medieval India", *Cultural Heritage of India*, VI,p.206). The use of a pulley wheel for drawing water from well was known to the people. The most remarkable two structures of Indus Valley Civilization found in Mohenjodaro and Harappa are the *Great Bath* situated in the citadel mound at Mohenjodaro and *Great Granary* at Harappa (Alchin & Alchin, *Op Cit.*,p.180-182).

Historians describe Lothal (nearly 3.2 km. In circumference) as miniature form of Mohenjodaro. An important feature of this city was a thick mud-wall reinforced with burnt bricks on its northern periphery which served as a defence against floods. The blocks of the town were raised on mud-bricks to further provide a degree of security against floods. There is evidence of civic amenities like brick-built wells, underground sewers and brick paved bath. Among the important structures of this city were a dock with a wharf and a warehouse. The dock is a testimony to the engineering skill of its builders. It was built of the main stream in order to reduce the likelihood of silting and flooding and incorporated a water-locking device and a spillway to ensure the floatation of ships during low-tide. Ships entered the dock

during high tide. The wharf ran along the western wall of the dock where cargo was loaded and unloaded from the ship. From the wharf, goods could be taken to the warehouse adjacent to it. The warehouse covered a large floor-area. The entire structure stood on a four-meter high platform on which was raised sixty-four blocks of mud bricks. On the top of the blocks, a superstructure of timber was raised (Alchin & Alchin, *ibid.*,p.173ff).

In Kalibangan, ruins of a town and a fortified citadel have been traced on an artificial platform of mud and mud-bricks six to seven meters high. Though smaller than Mohenjodaro, Harappa and Lothal, Kalibangan was a well planned town with houses built in oblong blocks flanking in the arterial streets. Lack of street drains makes the historian presume that sanitation of Kalibangan was not rigorously maintained like other cities. However, evidence of private baths, soakage jars and drains have been traced (Alchin & Alchin, *ibid.*,p.157ff.).

Vedic Period:

In contrast to the Indus Valley civilization, which was essentially urban, relying on extensive trade and depending upon organized city-life, Vedic civilization was primarily pastoral and in course of time became agricultural one based on village life. Therefore it is quite normal that in the early phase well developed cities like Harappa, Mohenjodaro did not appear here. Although, in that early stage materials of their construction were mainly forest products, planning was meticulous, artistic and comfortable. The smallest unit of house was *gr̥ha/dama*, biggest form of which was *pura/nagara*. Beside utility and comfort due precaution was taken for safety.

Praise of the house and its chief architect Vāstoṣpati, glorious description of houses at various places signify that people felt necessity of building a house, not only to protect themselves against cold and rain but from the attack of wild animals also. An entire hymn in the RV (7.55) is addressed to the chief architect Vāstoṣpati. The ĪB (1.1.1.19) has declared house as a firm support because it provides people as well as cattle rest at night. Moreover, in this resting place, people perform religious rites as well as other duties.

In search of the housing system of Vedic people we see that throughout Vedas, there are numerous names for a house, viz. *gr̥ha*, *gaya*, *dama*, *duroṇa*, *sadana*, *sadma*, *sādana*, *yatana*, *vasatha* etc. which are common names only for abode or dwelling; though in some cases, specific meanings can be traced from the same. Yāska, in his *Nirukṭa* (3.13) has enumerated twenty-two synonyms for house. Actual list is furnished in the *Nighaṇṭu*³.

Various Types of Buildings & Their Purpose:

Now from the references to various building names, different portions of house, building parts and their materials we are to suppose that, at that period people knew techniques of constructing various types of buildings, which can be classified under several headings; viz.

- i) house, as a general name,
- ii) sacrificial hut/ chamber,
- iii) spacious dwelling,
- iv) mansion/palaces,
- v) castles/forts and
- vi) buildings meant for some other purpose e.g. (a) guest-house, (b) treasury-building and (c) gambling-house, etc.

In the vast range of Vedic Literature (starting with RV and reaching upto Upaniṣads) so many names have been traced which mean dwelling/resting place in general (in some cases dwelling for animals also), viz. *dāma*, *gr̥ha*, *gaya*, *duroṇa*, *sadma*, *sadana*, *sādana*, *āyatana*, *āvasatha*, *agāra*, *śaraṇa*, *saṁvaraṇa*, *niveśana* etc. It is interesting to note that all these terms denote more or less same meaning, though some of them apart from their general meaning include some specific meanings also (some of them occur rarely), e.g.

- i) *Gaya*⁴ indicates household in total,
- ii) *āvasatha* conveys the sense of guest-house⁵ and sometimes palace⁶, and
- iii) *sadana* denotes mansions⁷, in some cases seat⁸ only.

Apart from the general concept of the house, that the idea of mansion and palaces was not unknown to the Vedic people has been indicated through the terms viz. *chardi*, *varti*, *okas*, *dhāman*, *harmya*, *śālā*, *śarman*, *śarana*,

varūtha, *kṣaya*, etc. This list shows us that there are at least 8/9 names for mansion or well-ordered habitation. But it is very difficult to ascertain their exact nature. Still, from the expressions like, *bṛhantaṁ varūtham* (RV 4.56.6), *bṛhantaṁ kṣayaṁ* (RV 10.47.8), *acchidraṁ śaraṇam* (RV 2.3.8), *ayohataṁ yonim* (VS 26.26), *sukṛtañca yonim* (RV 10.34.11) etc. it can be inferred that idea of well-ordered building was nothing new to them. Further, people's preference for multi-storeyed building has been reflected in the occurrences, e.g. *trivarūtha gr̥ha* (RV 8.42.2), *tribhuja śāyana* (AV 8.9.2), *tridhātu śarman* (RV 8.40.2), *tridhātu śaraṇa* (AV 20.83.1) etc. According to the commentator⁹ the words *trivarūtha gr̥ha* etc. suggest the idea of strongly built habitations, which were triply defended from cold, heat and rain.

The term *prāsāda* itself is absent in the early Vedic Literature, but the concept of palace was not unknown. From the description of Varuṇa's palace having thousand columns (*sahasrasthūṇā sadas*- RV 2.41.5) and thousand doors (*sahasradvāraṁ gr̥ham*- RV 7.88.5), it may not be wrong to suppose that the technique of fashioning palaces was known to the masons of that period. In this connection, we may mention here the *dvipakṣā/catuṣpakṣā/ṣaṭpakṣā/dāśapakṣā* building described in the AV (9.3.21), which bespeaks of the high standard architectural skill of that period. Expert masons built up not only iron-houses but golden ones also. King Varuṇa's golden palace has been mentioned in the AV¹⁰. Another golden palace is referred to in the ŚB¹¹ in the narrative of King Pururavas and nymph Urvaśī. However, according to Macdonell and Keith the term *prāsāda* to mean palace has been recorded for the first time in the *Adbhuta Brāhmaṇa*.¹²

Beside these mansions/palaces etc. terms like *pur*, *purī*, *pūh*, indicate that strong holds/ fortresses/ramparts were built for defence. The epithets *prthivī*¹³, *urvī*, associated with *pura*, *mahāpura*¹⁴ etc. signify that some of these fortifications were of considerable size. The Brāhmaṇas¹⁵ texts in the context of *paśuparyagnikaraṇa* inform us of three fold strongholds. The ŚB¹⁶ has declared this *tripura* as the best form of strongholds. Autumnal forts (*śaradī pūh*- RV 1.131.4; 1.174.2; 6.20.10) belonging

to the Dāsas make us suppose that these fortresses were probably used as a place of refuge against the attack of enemies (specially the Aryan attack). But whether these were used as a place of permanent habitation, is still questionable.

These castles were built with strong fences¹⁷, with hundred walls¹⁸ and hundred gates¹⁹ to make security strong. Sometimes fire parapet was kept burnt for the same purpose²⁰.

From the phrase *aśmapura*²¹ it appears that castles were built with stones. But *āyāsī pūh*²² occurring frequently in the Vedas suggests that iron-fortresses also were built. Three castles of iron, silver and gold built by *asura*-s have been recorded in the Yajurvedic Saṃhitā and Brāhmaṇas²³.

Parallel with the idea of house as a regular dwelling place, concept of houses built for some other purpose also has been traced in the Vedas through the terms like *garta* and *sabhā* (to mean gambling house), *vasudhānī* (treasury-building) and *āvasatha* (guest-house) etc. Though, they were not meant for regular habitation, still they were concerned with some matters connected with people's everyday life e.g. people went to this gambling house for the purpose of entertainment. The gambler's addiction to *sabhā*²⁴ makes its sense and purpose clear. In the *Nighaṇṭu* (3.4.) *garta* is read as one of the house names, and Yāska²⁵ with a citation from the RV (1.124.7) explained *garta* as dicing hall.

The CU (4.1.1.) reveals us the story of King Jānaśruti Pautrāyaṇa who constructed many *āvasathas* (guest-houses) in his domain with the intention that people would eat his food. Both the commentator²⁶ and translator²⁷ had taken the word *āvasatha* for guest house. Hence, we have been informed that at that period guest houses were built up at various places for the refreshment of tired travelers.

Again *vasudhānī*, occurring in the TA²⁸ help us to infer the existence of treasury building.

Layout of the House/Building Plan:

Names of various portions of house, e.g. *patnīnām sadanam*, *sadas*, *agnīśālā*, *sadana/sādana/*

sadhastha, *koṣṭha*, etc. indicate that even at that ancient age house building was not anything casual. People built up houses consisting of several rooms, which served different purposes. Again, *havirdhāna*, *goṣṭha*, *dharuṇī* also formed different parts of the house.

In the AV, there are at least three hymns, which have been devoted entirely to the benediction of a newly built house (3.12.9.3) and its glorification (7.60).

The passages like,

ihaiva dhruvā pratitiṣṭha śale' śvāvati gomati sunṛtāvati /

urjasvatī ghṛtavatī payasvatyucchrayasva mahate saubhagāya //

dharuṇyasi śāle bṛhacchandāḥ pūtidhānyā /AV3.12.2-3

or,

ime grhā mayobhuva ūrjasvanta payasvantaḥ /

pūrṇā vāmena tiṣṭhantas te no jānāntvāyataḥ /

yeśāmadhyeti pravasan yesu saumanaso bahu /

upahūtā bhūridhanāḥ svāduḥ samudah /

upahūtā iha gāva upahūtā ajāvayaḥ /

atho annasya kīlāla upahūto grheṣu naḥ //

sunṛtāvantaḥ subhagā irāvanto hasāmudāḥ /

atrṣyā akṣudhyā sta grhā māsmaḍ vibhītana //AV 7.60.2-6

make us visualize the picture of an ideal house full of abundance and happiness. The house should be lofty-roofed, rich in corns, animals (cattle, horses, goat and sheep), food and drinks. It should be free from hunger and thirst. Many a friendly hearts reside therein. Delight and felicity should be there.

Again;

pūrṇaṃ nāri pra bhara kumbham etam

ghṛtasya dhārāṃ amṛtena sambhṛtām /ē

imā āpaḥ pra bharāmya yakṣmā yakṣmanāśanī /

grhāṇ upa prasīdāmyamṛtena sahāgninā // AV3.12.8-9

This is probably a description of the ceremony of householder's entering the new house with two important necessities of human life (i.e. fire and well-

filled pitcher) accompanied with his wife, clad in grass-robes (*trṇaṃ vasānā sumanā* -AV 3.12.5).

The text goes on describing the ideal house consisting of *havirdhāna* (storehouse), *agni-śālā* (fire-hall/ sacrificial chamber), *patnīnām sadana* (women's apartment), *sadas* (dining hall cum drawing-room²⁹) etc. *Patnīnām sadana* / *patnī-śālā*, appearing in the late Vedic Samhitā and Brāhmanas, suggests that a portion of the house was kept apart for the female members, especially on ritual occasions.

The names *agni-śālā* (AV 9.3.7; VS 19.21), *dikṣitavimita* (AB 1.3), *prācīnavamśaśālā* (TS 6.1.1.1. ŚB 3.1.1.7) meaning fire-shed or sacrificial campus, indicates that separate fire-hall or sacrificial shed was built for the initiated sacrificer where he established his ritual fire and performed various rites. In the context of Agnistoma, the AB³⁰ has instructed the sacrificer to stay within the *dikṣitavimita* after his initiation and prohibited to stay outside. From the ŚB³¹, we have been informed that nobody other than the consecrated sacrificer, would be entitled to enter this sacrificial shed.

According to the ŚB³², *koṣṭha* was used as a storeroom, though on ritual occasions; people used *havirdhāna* as the storeroom³³. For the preservation of corns, use of granary was known to the people³⁴. We are to remember here - though prayer hall, dining room, drawing room, ladies apartment, etc. everything has been discussed in the ritual context, still in the everyday life also concept of these portions in connection with building construction, was known to the people.

The house held not only people, but also cattle and sheep at night³⁵. From the AV's³⁶ reference to *goṣṭha*, *vraja*, *saṃgavinī*³⁷, etc. it can be assumed that well built cow-pen also was a part of human dwelling.

Construction of the House:

As regards the construction of house, there are very few references still in the context of different sacrificial rites, various parts of the house³⁸, e.g. door, door-bolt, roof, etc. have been mentioned. Further, the construction of sacrificial altar has been discussed in details in the Yajurvedic Samhitā and Brāhmaṇas³⁹, on

basis of which we are to suppose roughly the construction of house and its required materials of that period.

References to women's apartment, sacrificial chamber, storeroom, etc. prove that the house consisted of several rooms; and *dvāra*, *dvāra-pidhāna*, *dvāranahana*, etc. mentioned frequently, suggest that these rooms were well fitted with doors, door-posts and bolts, most probably for security. Because of this *dvāra*, in some places, house has been named as *durona*⁴⁰, that which is invincible.

In the context of consecration of a new house, the AV⁴¹ mentions names of *vaṃśa* (bamboo), *sthūṇā* (pillar), *upamit* (pillar), *parimit* (cross-beams), *pratimit* (beams) etc. from which we may guess that posts, beams and cross-beams were used for the framework of rooms. With reference to the construction of *prācīnavamśaśālā* and *sadas* the ŚB has referred to a *sthūṇārāja*^{41a}, the central beam.

The construction of *havirdhāna*, *prācīnavamśaśālā* and *sadas* has been discussed in the TS and ŚB⁴² through the performance of rituals. With the aid of this discussion and Sāyana's commentary thereon, we may have a rough idea how these structured were built up. At first a central post was erected. Both the *havirdhāna* and *sadas* should have doors on both sides⁴³. Therefore, for the front and back doors four other pillars were set up and beams both long ways and cross ways were leant and connected. For the construction of *sadas* and *havirdhāna* the proper position of tie-beams has been directed in the ŚB-

tad udīcīnavamśaṃ sado bhavati, prācīnavamśaṃ havirdhānaṃ (ŚB 3.6.1.23)

In this connection, the ŚB has remarked in the human practice hall or hut should be constructed with the top beams running from south to north.

tasmād manusyā udīcīna vaṃśaṃ eva śālām vā vimitaṃ vā minavanti (ŚB 3.1.1.7).

It is interesting to observe that in later ages some western scholars also opined in similar language regarding the construction of this framework:

“A chief post was erected at the central position and four other pillars were set in four corner of the room.

Against them, beams were leant at angles as props. Then those upright pillars were connected by cross-beams.” (Zimmer’s view cited by Macdonell & Keith, *Vedic Index of names and Subjects*. I.p. 20).

Now, for the roof, we see in the Yajurvedic Samhitā and Brāhmaṇas, some terms like *chadis*⁴⁴, *viṣuvant*⁴⁵, *akṣu*⁴⁶ etc. From the textual context, it appears that these were used as roof materials. Against the framework of bamboo or bamboo-ribs, a ridge called *viṣuvant*, a net called *akṣu* and covering mats named *chadis* were thatched. From the TS, we have been informed that in case of constructing sacrificial hall, the numbers of these covering mats may vary according to the desire of the sacrificer.

The walls were filled up with bundles of grass⁴⁷ and the whole structure was held together with various types of knots and ties viz. *nahana*, *praṇāha*, *pariṣvañjalya*⁴⁸, *sandaṁśa*, etc. Most probably, side posts were called *pakṣa*. A house erected on two/four/six/eight/ten side-posts has been described in the AV. (9.3.21). “Clay was used for smearing and minor finishing of the walls” (Muir, *Original Sanskrit Texts*, V, p.461).

From these statements it appears that in the early Vedic age generally houses were built of wood, bamboo-ribs, grass, etc. Though, time and again, *trivarūtha gr̥ha*, explained by the commentator⁴⁹ as ‘three-storeyed building or that triply defended from heat, cold and rain’ has been mentioned in the RV. Still on the basis of this much, it is difficult to ascertain whether the technique of fashioning brick-built house was developed in the Rgvedic age (in parallel with the fashion of wood and grass made house) or not.

However, the intricate process of construction of different types of fire-altar for different types of sacrifices have been recorded in the ŚB (VI-VII Kāndas). Some altars resemble the figure of women⁵⁰, some of semi-circle, some of circle, while some other resemble flying-falcons (*suparṇa-citi*). The construction of this fire-altar with 10,800 bricks (ŚB 10.4.3.14-20), shaped like a colossal flying falcon with wings outspread bespeaks about not only superb architectural skill of that period but expertised intricate knowledge of geometry also.

In the context of five-layered (*pañca-citika*) and seven-layered (*sapta-citika*) fire-altar, the YS and Br-s⁵¹ present before us the names of various types of bricks. Though, it is true, that in the context of *citi-nirmāṇa*, brick is a technical name for any required material e.g. *animal bricks*, *food-bricks*, etc. use of mud-bricks burnt by chaff-fire has been mentioned in the TS⁵² (in the context of piling Gārhapatya fire). Again the process of brick-making (ŚB 6.2.1.8-9) and brick-makers (ŚB 6.5.3.1) have been mentioned, which prove that actual bricks also were used. Further, Yama’s instruction to Naciketas (TB 3.1.1.1-10; Kāṭh Up 1.1.15) on the technique of fashioning fire-altar including names of bricks and their numbers, confirms about the use of bricks once again. Apart from bricks, sand of gravel, stone, iron-dust also were used for preparing fire-pan⁵³ (*ukhā-nirmāṇa*).

Though, there is hardly any direct reference to the use of these materials for the construction of house, it may not be wrong to suppose that at least use of these ingredients as building-materials was known to the people. Thus, it may be safely stated that brick-built houses were fashioned in late Vedic age - but whether this idea was known the early Vedic period is still a question.

The expression *aṣmanmaya nahana* (RV 10.67.3), *aśmapura* (ŚB 3.1.3.11) etc. are proofs of building stony castles or castles with stony ramparts. That the use of iron and gold as building materials may be supposed from the phrases like *ayohatam yoniṁ* (VS 26.26) or *hiraṇyaya gr̥ha* (AV 7.83-1) scattered in Vedic Samhitā-s. Three castles of *asuras* (as mentioned above) built of iron, gold and silver prove validity of this fact.

Now, the question arises regarding the exact meaning of the term *pura*; whether it means castle/fort or town/city Normally it means castle/fort, sometimes rampart also. But on the basis of some translator’s⁵⁴ opinion, recent scholars⁵⁵ interpreted *pura* as city/town (*nagara*). If this view is considered to be correct, in that case town planning also was known to the Vedic Indians.

An arrangement of water supply was evidently a part of house construction. Lakes (*saras*) springs (*utsa*)

wells (*avata*) and reservoirs of water are frequently mentioned in the Vedic texts. Some of these were presumably public works, meant for general use. *Avata*, meaning artificially made (dug up) well in contrast to a natural spring (*utsa*) has been mentioned very often in the RV⁵⁶. The word *kūpa*, *kūpya* also are met with in the Br-s⁵⁷, to mean more or less same. Most probably people mainly depended on these wells⁵⁸ and spring for their domestic use. Such wells were covered by the makers⁵⁹ and are described as unfailing (*aksita*) and full of water⁶⁰. Sides of these wells were paved with stony banks. The water was raised by a wheel (*cakra*)⁶¹ of stone to which a strap (*varatrā*)⁶² was fastened with a pail (*kośa*) attached to it. When raised, it was poured (*siñc*) into wooden buckets (*āhāva*)⁶³. Sometimes these wells appear to have been used for irrigation purpose, the water being led off into broad channels (*sūrmī susirā*)⁶⁴.

Conclusion:

So far, we have discussed housing system of the Vedic age. Although, in the aspect of house-construction achievement of Vedic people was remarkable providing various household facilities, the texts hardly furnish any information regarding sanitation. But on the contrary, we have seen in the Indus Valley Civilization, technique of drainage-system and sewer reached a height of perfection. It is rather surprising that Vedic people inspite of being posterior to Indus people, appear to remain unaffected by their predecessors' skill in this regard. Although, it is an open question, it may be surmised that natural calamities might have been responsible for this total lack of contact between these two communities.

References :

1. R. Sengupta, "Engineering and Architecture in Ancient and Medieval India", *Cultural Heritage of India*, Vol. VI. P.205.
2. M.N. Deshpande, "Archaeological Sources for the Reconstruction of History of Sciences", *Indian Journal of History of Science*, May 1971, p.5.
3. *gayah, krarah, gartah, harmyam, astam, pastyam, durone, nṣdam, duryāh, svasarāni, amā, dame, krtih, yonih, sadman, śaranam, varūtham, chardiḥ, chadiḥ, chāyā, śarman, ajmeti grhānām-* Nighantu 3.4
4. RV 1.74.2; 5.10.3; 5.44.7; AV 2.6.3; 6.84.1; 7.84.1;
5. *jānaśrutir ha pautrāyanah śraddhādeyo bahudāyṣ, bahupākya āsa/sa ha sarvata āvasathān māpayāṭcakra sarvata eva me' nnamatsyanti* 8 CU 4.1.1.
6. *tad yathā rājānam āyāntam ugrāh pratyenasah sūta grāmanyō'nnaih pānairāvasathaiḥ prati kalpante* / BU 4.3.37.
7. *a.vatthe vo nisadanam pane vo vasatiskrtā* - VS 12.79
8. AV 7.99.1; TS 4.3.1.1; AB 1.28; etc.
9. *trivarūtham trayānām śstātapavarsānām nivārakam, yadvā tribhūmikam grham-* Sā on 8.18.21.
10. *apsu te rājan varuna grho hiranyayo mithah* / AV 7.83.1.
11. *sa ha samvatsaratamṣm rātrim ājagāmeddhiranya vimitāni-* śB 11.5.1.11.
12. *Adbhuta Brāhman'a* 5.6.
13. *pūśca prthvṣ bahulā na urvṣ bhavā tokāya tanayāya sam yo-* R?V 1.189.2; 10.101.8.
14. *upasadā vai mahāpurām jayati* TS 6.2.3.1. cf. MS 3.8.1; KS 24.10; KapKS 38.3.4
15. AB 1.23; śB 3.4.4.4.
16. *tasmād u haitat purām paramam rūpam yat tripuram* / śB 6.3.3.25.
17. RV 7.99.5; TS 3.2.11.3.
18. *adhā mahṣ na āyasyanādhṛsto nrpṣtaye pūrbhavā śatabhuji-* RV 7.15.14.
19. *anarvā yac chatadursaya vedo-* RV 10.99.3
20. RV 7.3.7; AB 2.11; śB 6.3.3.25.
21. RV 4.30.20; śB 3.1.3.11.
22. RV 2.20.8; 7.3.7; 7.15.14; 7.95.1; 8.100.8.
23. MS 3.8.1-2; KS 24.10-25.1; Kap KS 38.3-4; TS 6.2.3.1-2; VS 5.8; AB 1.23; śB 3.4.4.3-4.
24. *sabhām eti kitavah prcchamāno jesyāmṣti tanvā śuśujānah / aksāso asya vitiranti kāmam pratidṣvne dadhata ā krtāni //* RV 10.34.6.
25. *abhrātrkeva pumseva pītrn etyabhimukṣṣ santānakarmane pindadānāya na patim / gartārohiṣva dhanalābhāya daksināṣ gartah sabhāsthānuh / Nirukta* 3.5.
26. *sa ha sarvataḥ arvāsu diksu grāmesu nāgaresu cāvasathān etyāvasanti yesvityāvasathāstān māpayāṭcakra kārītavānē.* ś on CU 4.1.1.
27. Swami Gambhirananda, (tr) *Chāndogya Upanisad*, loc. cit., p.244-245
28. *suvarnam kośam rajasā parṣvrtam / devānām vasudhānṣm virājam //* Tā 3.11.4

29. *havirdhānam agniśālam patnṣnām sadanam sadah / sado devānām asi devi śāle // AV 9.3.7*
30. *dṣksitavimitam prapādayantiētasmād dṣksitam nānyatra dṣks?itavimitādādityo' bhyudiyāt vā' bhyastam iyādvāe AB1.3.*
31. *dṣksitasyaiva prācṣnavamśa nādṣksitasyaē šB 3.1.1.7*
32. *anasa eva yajūmsi santi na kosthasya ē. šB1.1.2.7*
33. *yajTo vā' anah/ētasmād ānasa eva grhṇṣyātē šB 1.1.2.7*
34. *dharunyasi śāle brhacchandā pūtidhānyā / AV 3.12.3*
35. *trnair āvrtā paladān vasānā rātrṣva śālā jagato niveśaṇṣ / mitā prthivyām tisthasi hastiṣva padvatṣ // AV 9.3.17*
36. *AV 2.14.2-4; 4.21.1; 19.58.4*
37. *yasmāddhedam bharatānām paśavah sāyam goṣthah santah madhyandine samgaviṇṣm āyanti š AB 3.18*
38. *RV 1.69.5; 1.91.19; 1.142.6; 10.40.12; AV 8.3.22; 10.8.43; 14.1.63; VS 5.30; 20.40; 21.16; 21.34; 21.49; 27.16; 28.5; 29.5; 30.10; TS 4.1.8.2; šB 1.6.1.19; 4.3.5.9; 4.6.7.9; 11.1.1.1-2; 11.4.4.2; etc.*
39. *TS 4.3.1-4.4.11; MS 2.8.8; KS 17.7; Kap KS 26.6; VS 15.6.9; šB 6th 810th Kān?d?a*
- 40.(i) *adrau cid acmā antar durone viśām na viśvo amrtah svādhṣh // RV 1.70.2*
- (ii) *ē.durone dustaryagrhe-Sā. ibid.*
- 41.(i) *rtena sthūnāmadhiroha vamsogro virājannapa vrnksva śatrūn / AV 3.12.6*
- (ii) *upamitam pratimitam atho parimitāmuta / śālayā viśvavārayā naddhānī vicr?tām asi // AV9.3.1*
- 41a. *tad ya esa pūrvārdhyo vrsisthah sthūnārājo bhavati- šB 3.5.1.1*
42. *TS 1.3.1; 6.1.1; šB 3.1.1.6-8; 3.5.3.9; 3.6.123; etc.*
43. *ubhayato dvāram havirdhānam bhavati, ubhayato dvāram sadah / šB 3.5.3.7*
44. *RV 10.85.10; AV 3.12.3; VS 5.28; TS 4.4.3.3; 6.2.10.5-6; AB 1.29; šB 3.5.3.9*
45. *AV 9.3.8*
46. *RV 1.180.5; AV 8.8.18; 9.3.8*
47. *AV 9.3.4; 9.3.17*
48. *AV 9.3.4-5*
49. *Sā on RV 8.18.20-21; 8.42.2; 10.142.1; etc.*
50. *yosā vai vedihē šB 1.3.3.8*
51. *Names of various bricks : TS 4.3.1-4.3.5; retahsic- šB 7.4.2.22; dvivajus- šB 7.4.2.16; rtavya- šB 7.4.2.29; apsyā- šB 7.4.2.35; animal-bricks and food-bricks-šB 6.1.2.30 etc.*
52. *nairtṣ krsnāstisras tusapakvā bhavanti- TS 5.2.4.21*
53. *athaitat trayam pistam bhavati š śarkarā'- śmā' yorasah/ tena samsrjati /- šB6.5.1.6*
54. *H.H. Wilson, The Hymns of Rigveda (RV) 1.130.7; 2.14.6; 2.19.6; etc.*
55. *Geldner Vedische Studies, I, Intro XXII- XXIII; Hopkins, JAOS, Vol.-XIII, p.173-174*
56. *RV 1.55.8; 1.85.10-11; 1.116.9; 1.116.22; 4.17.16; 4.50.3;etc.*
57. *šB 5.3.4.15-16*
58. *Well: YV 16.7; Spring: RV 5.52.12*
59. *RV 1.55.8*
60. *RV 10.101.6*
61. *a.ma-cakra: RV 10.101.7; 8.72.10; etc.*
62. *varatrā: RV 10.101.6*
63. *āhāva: RV 10.101.6-7*
64. *RV 8.69.12*