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HUMAN ANATOMY IN THE VEDAS
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The science of the full structure of the body of a living being is called 'Anatomy'. Its knowledge is obtained by practical experimentation through the dissection of the dead body. In a way it is a branch of Biology. In the Western world, it is said that Pythagoras and Alemaeon the student of Democritus residing in Crotona dissected the dead bodies of animals in order to make a comparative study of the anatomy of human body. Hippocrates belonged to Cos (about 460 B.C) who is believed to be the father of medicinal science, though not of anatomy. His concepts of anatomy are rather incomplete and incorrect. In the opinion of the recognized European scholars, Aristotle (about 364 B.C) has been regarded as the founder of this science. It seems, he too formulated his tenets on the basis of the dissection of animals, but he did not himself dissect the human body. It was he who named as 'Aorta' the main vein carrying the blood. Subsequently, Erasistratus (250 B.C) dissected the body of the criminals for the first time. Hitherto, too, is said to have done the dissection. Celsus (63 B.C) has written a book titled 'De Meecina' about the anatomy.

In India, Atharvāgīrhas loved to study anatomy. They are connected with the literature connected with the Atharvaveda belonging to the yedestic period. Being inspired by the Vedic hymns he started the study of the human and animal bodies.

Anatomy in the 6.veda

In the Yakṣa-6.arna hymn¹ there is a description of the disease of tuberculosis (yakṣa-mā) that has percolated through, and is to be removed from the limbs of human body, such as eyes, head, arms, lungs, heart, and etc. We get here a glimpse of the anatomy in it. It has been said in the hymn: 'From your eyes, nostrils, ears, chin, head, brain, tongue, veins of the throat, hind muscles of the neck, arm, spine, shoulders, arms, intestines, veins of anus, buttocks, thighs, knees, ankles, ribs, fingers of feet, wrist, buttcoks, vulva, phallic and nails.' I am removing the disease from every limb, every hair, every joint, from wherever it be, from all those places, from the entire body.'

Siya's has explained some of the words used in this hymn as follows:


In the Yakṣa-6.arna hymns of the Atharvaveda, too, different limbs of the human body are mentioned.

Anatomy in the Yajurveda

In the 26th Adhyaya of the Yajurveda is devoted to the anatomy of the animal body. The limbs mentioned init are as follows:

danta = tooth (cf. RV. 8.43.3; 10.68.6); danta-mūla = gums; barsu = socket of a tooth; daśa-rā =fangs (large tooth); agrajīva = tip of the tongue; jihvā = root of tongue; Flu = palate; hanu = chin / jaws; jyā = mouth; aṭa-stētesī = small ō = beard; bhrō = eyebrow; kamniṣu = pupil of eye; pakṣa = eye-lash; nāsi = nostril; prīṣa = breath; aprīṣa = out breath (through anus); adhara = lower lip; sāduttrā-prākṣa = bright look; anukṣa = gloss of the lower part of body; māṣi-ka = head; karṣa = ear; jōtra = internal ear, adhara-kā-ka = lower neck; fi-ka-ka-ka = fleshless part of the neck; tedaṇa = clotted blood; manya = nape or back of the neck; jāra = head; supāra = knot of tuft of hair; keṭa = hair; ūpāsaka = active shoulder; yakṣa-dā = quick spring; ṣeṣa = hoof; shihī = ankle; buttcoks or lower part of the foot of tiger; jāga = thigh; jīmha = knee; jīmha = kneecap, knee joint; atirik = horse's fetlock; pod = forearm; uśa = shoulder; pakṣa = right side rib; n-pakṣa = left side rib; dakṣa-prīṣa = right flank; attāra-prīṣa = left flank. skandha = shoulder; prathama-kast = first, second and third rib cartilage; paccha = tail; bhāḍa = hind-quarter, buttck; ṛh = hip; ṛṣ = thigh; aṅga = groins; ku-h = cavities of the loins; shūtra = buttocks; uṣṭa-h = part of the entrails of an animal; šhūla-guṭa = large intestine; 'itra = entrail; bastu = bladder; guṭa = guts; cāṣa = testicle; va-ṣā = scrotum; ṛpad = penis; jēṣa = seed; vṛṣu = semen; pittu = bile; pradāra = fission; pīyu = anus; jaka-prīṣa = lumps of dung; nāvi = navel; rassu = fluid; yō-śā = broth; vippura = drops of fat; u-māṣa = heart; pas = marrow; aṅgu = tear; dō-ik = flesum of eye; asā = blood; anga = limb; rūpa = beauty; tok = skin; kroṣ = chest; pīṣya = belly, flank, sides; śrī = clavicles; bhasā = neither hind part; purā = pericardium, or some other organ near the heart; udaya = belly; mātra = cardiac bone; vākk = kidney; pīṭha = duct; pīṭha = spleen; kloma = lungs; glau = lumps or part of flesh, arteries or vessel of heart; hṛ = vein; kūr = flanks; udara = belly; bhasman = ashes.

Atharvādic Anatomy

The seer of the Atharvavedic hymn 10.2 is Nṛśya. He introduces us to the physicians of prehistoric times who were practicing as the priests as also the physicians. Nṛśya is a representative of this India tradition of physicians. He is also the seer of the famous Puruśa-sūktam of the 6.veda, and many references to the human anatomy are referred to it. His name is also connected with many hymns.

The bones of human body in the Atharvaveda

The details of the human bones as given in the Puruṣa-sūktam are as follows:

1. prīṣa = heel; 2. gulpha = ankle bone; 3. aṣgu = finger; 4. ucchāla = metacarpal or metatarsal bone of hand and foot; 5. prati-h = bottom of foot; 6. a-hcwantu = knee-cap; 7. jāgh = shank; 8. jīma-śantri = knee-joint; 9. ātri = pelvic cavity; 10. ṛṣ = thigh; 11. urāl = chest bone; 11. grāv = wind pipe; 12. stīna = breast; 13. kāphōça = shoulder blade, scapula; 14. skandas = shoulder bone; 15. pā = spinal back bone; 17. a-sa = collar bone; 18. lait-ā = suprascapular ridge at the eyebrow; 19. kā-ik = central facial bone; 20. kapāla = cranium with temples; 21. hanumāt = pile of jaw; 22. kāsa = spinal column; 23. anvōka = thoracic portion of spine, explained as 'belonging to the backbone'.

The detailed information about the bones of the body testifies to the deep observation of the bodies, not only of
human ones, but also of animals by the ancient Vedic seers, who obviously knew the knowledge of dissection.

In the Atharvaveda, there is mention of 360 bones of the human body, but it is not easy to recognize them. The RV. 1.164.48 reads:

There is some variance between the third and the fourth quarters. But the scholars have not been able to explain them fully. It is difficult to make out the twelve parigaha, one discus, three nabhī, and three hundred sixty saṅku, or the khila. Normally, this metaphorically means 12 months, 1 year, 360 days. But, there is no indication of any reference to human body. However, there is no restraint against interpreting it to refer to human body (cakra): its three main parts, viz., the head, the trunk and the feet directed towards the sky (nabhyāni); the twelve limbs, viz., eyes, ears, nose, tongue, hands, feet, anus and pradharma); three hundred conical bones (kānakavād) and sixty peg-like bones (khala). Monier-Williams explains the word khala to mean 'a post' in the context of the AV. 10.8.4a.

The Organs of the Human Body

The hymn (AV.2.33) devoted to Brahmā in the Atharvaveda provides an account of the limbs of human body with comments, which includes almost all the main limbs described in the traditions of Caraka and Dhanvantari. They are as follows: akṣi (eye), ṇāsikī (nose), kara (ear), chabukī (chin), dharamā (head), masti-kā (brain); jihvā (tongue), grāvyā (neck), ṇāsvā (nape of neck, or medulla oblongata), kāgas (spinal column, probably cervical portion of the vertebral column), ardhrā (thoracic portion of the spine), doṣa (superior extremities), a-sa (muscles of the shoulder along with collar bones), ādāyā (heart), kłoma (lungs), hal-kī (gall bladder, foot of pancreas), mātasī (gall duct), pīś (spine), yāhā (liver), ṇātra (intestine, entrails of groins), guḍi (anus), sāhā (rectum), ūdāra (abdomen), kūk (sides of abdomen), pīṣ (colon), nabhī (umbilicus), puritāt (pituitary gland), sāhā-ka (passage for food, esophagus), ṇār (thighs), a-ḥr-vaat (knee), praptā (transverse arches of feet), bhasada (knuckles), pītā (waist), bhūdā (buttocks), bhū-sāsa (vaginal orifice), asthi (bone), māji (marrow), snaśa/snaśā (muscle), dhaman (artery), pītā (hand), a-guli (finger), nākha (nail), a śa (limb), loma (hair on the body), pāra-va (joint), tva (skin), mehanam (urinary organ), basti (bladder for urine), bāsta-bīla (bladder orifice).

These terms occur in the different hymns and different contexts, such as māji, carma, mī-śa, asthi and loma in AV. 4.12.3,4,5; and pā-ḥ, varjaṁa, pīr-vā, etc., in AV.11.8.11-5.

Similarly, the Vaiṣṇasvēyi Sa-hitā, the Bāḥdra-rāya Upaniṣada, and the atapatha Brhma, give description of the body. In the following verse of the Atharvaveda the human body is said to comprise the following two main parts; the para-gītra (upper portion) and the anara (lower portion)

\[a= me parasma gītra\]  
\[a= me catubhīya aṣeṣhām am astu tane 3 mama\]  

(1.12.4)

According to Caraka, Suṣrata and Vīgātha, the main limbs of a human body are four, viz., arms, feet, trunk, skeleton, and they are divided into 56 sub-limbs.

Special Terms used by Atharvāṣa

The most important limbs are the brain, heart and the bladder. The Atharvaveda knew the difference between the head (AV. 10.2.6) and the brain (AV.10.2.8,26). According to Caraka, the ‘kłoma’ has been connected with the respiratory system near the heart, but is different from the lungs. Probably, it is the lung. According to Suṣrata, ‘phuṣphuṣṭa’ is on the left side, while the ‘kłoma’ is on the right side, thara’a, Caraka, Suṣrata and Vīgātha use the singular number for it. According to thara’a, ‘hal-kī’ is located in between the ‘kłoma’ and the ‘mātasī’. But, in the yuvredic literature, it is not mentioned anywhere else. Sāya’a, and others following him, interprets it as ‘a particular mass of flesh’. Weber explains it to mean ‘liver’. Sāya’a explains ‘mātasī’ as ‘dākṣ’, and Caraka explains ‘dākṣ’ as kidneys, and the two sacks near as receptacles for bile, ‘plīva’ is a receptacle with numerous holes meant for excreta, ‘kara’-kāryi” (AV. 11.9.8) are the bones of hands and feet. The terms ‘varjaṁa’ (= cācikau, AV.10.10.14), ‘plīva’ (‘mātā’ AV.9.12.5), ‘puritāt’ (AV. 9.7.11) (cāphrānti); kapha sauss shoulder blades (scarpa) AV. 9.5.15.16, 17; 9.12.11) are used in the later works, too; only a few terms are dropped.

Similarly, the Atharvāṣa-mantra (AV. 10.2.31), which is called a source of the Tantric mysticism, provides a wonderful description of the human body in a metaphorical style:

\[A=a-cakṣa nava-dvāl devi= pōr ajodhī /
Tasya hira-yavā ṇāsīd svarag yojitiva-ātāh //

Here, the human body is compared to an invincible city, and the brain is a golden treasure. The eight wheels are: (1) mālihāra, (2) sūrdhi-hina, (3) maśipura, (4) anātha, (5) niśuddha, (6) lalani, (7) jīrī, (8) sahasrāra. The nine doors are: two eyes, two ears, two nostrils, mouth, anus, and penis. The gods meant are: earth, water, light, air and sky. The golden treasure is the heart, with three qualities, viz., sattva, rajas and tamas.

Circulatory System – Veins and Arteries

Bolling says that Atharvāṣa has no knowledge of the difference between the veins and arteries; it is not right, because it has been mentioned clearly in the AV.1.17.3. In the common sense of internal canals, it refers to the intestines, vagina, etc.

There is a formulae (AV.1.17.1) for stopping the bleeding from the wounded limb or of menstruation, in which the term ‘hiri’ means veins, and it has been explained by Sāya’a as the channels for the flow of the menstrual discharge. In reality, ‘hiri’ refers to the nerves, which are the sensors covering the veins. The term ‘hata-vāracas’ refers to the flow of blood, and it is meant to be stopped by a sort of an anesthetic. According to Sāya’a, in this prayer to the veins, they are shown to be located in the upper, lower and middle parts, and as big and small.

The number of the veins and arteries has been mentioned clearly. Veins are 100, and its sub-veins are 1000, as attested by the Ka-hopani-ud and the Praṇapāni-ud. The Atharvavedic hymn 7.35 is about stopping the embryo of the inimical woman. Here, too, is a mention of 100 hiri’s and 1000 dhāman’s. Sāya’a interprets ‘hiri’ to mean the five veins inside the uterus and the dhāman the big veins enveloping it. Although the context is different, he inter-
The 'manas' and the 'citta' have been regarded as different from each other by Atharva'a in 'prai'nnude manas'pra cittenota brahma'" , which testifies to his knowledge of them as such being an ancient as the Atharvaveda. S'ya'a considers 'manas' as an internal organ, and the 'citta' as its particular condition. The Atharv'a hymn 3.25 supports S'ya's interpretation. 'Citta' is the will power of the brain. The acceptance of this interpretation only can clarify the mantra: 'yath' mama Aitv vaso mama cittaṃ upay' sa atha 'bhrati kÅ to mānayā kA tāt vA' // (AV. 3.25).

'Kratu' = intention' i.e. 'sañkalpa' = thought; 'manuyu' = decision, determination, etc., are various phases of the mental tendency. It has been connected with the heart, too. Caraka and Su'ruta also explain it similarly. The intimate connection between the brain and the heart is mentioned in 'Mādayā yāvan asa-ASA vAy/ thāTHA tāhā dayā vA yAT' (AV. 10.2.26), because the heart is called the seat of consciousness. The seven basic elements are authenticated in the 'Kād sapta k'hi vi tadārda ṣv-r-a-ti ka'rto imaun nāk-e kā-tu mukham' (AV. 10.2.6).

Dissection and Care

Dissection is important in the study of anatomy. The Atharvaveda calls one to be careful for clean and healthy dissection. Hear the context is of dissecting a goat. Here the instructions that one should first take out the skin, then separate the limbs from the joints, not to cut unnecessarily, etc., prove that the Atharva'as had the experience of dissection, and that they had developed this branch also.

On the strength of all these references, it can be concluded that the Atharva'as possessed the knowledge of human anatomy, and probably it was acquired through the practical dissection of the dead bodies. The comparison of each of the limbs of the human body with the year and a divine city testify to the special interest and ability of explanation on the part of the Atharva'as. This is not possible without a deep study.

It would be more beneficial to update this knowledge in consonance with our age, instead of branding, or despising it as an obsolete myth. All the scientific discoveries are the heritage of the entire human society. But, according to the ancient dictum of 'yad dējasya yo jantus tasyaiva tasyaiva adham', I feel that if our ancient knowledge is coordinated and modified in the context of the current age and the modern discoveries and developments in the various branches of knowledge and science, it would be useful for the entire human world.

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1 RV. 10. 163. 1-6.
2 AV. 2.33; 20. 16.
3 Br. 1.9.2.35; 13.5.3.8.
4 AV. 6.25.1.
5 Br. 1.3.3.5; 12.4.10; 3.5.3.4.
6 RV. 4.21.4; 6.19.10; 6.29.2; 8.9.34; 4.19; 21.1; 24.29; 54.8; 10.156.3; G Br. 83.4.4.4; 4.3.10.
7 RV. 10.163.3; AV. 2.33.4; 9.12.12; 10.9.17; 20.96.2.
8 AV. 4.14.8; 9.12.5; 10.10.20; "Br. 10.6.4.1."