C H A P T E R XI.

MĀGHA'S ERUDITION (CONCLUDED) - GENERAL.

It is a rare occurence in the literature that poetry and scholarship co-exist. But we have a happy combination of these two in Māgha's Śiśu. From the study of the poem, it appears that Māgha, like Bhavabhūti, was a prodigy of learning. Śiśu. abounds in all the requisites necessary for a Mahākāvya as desired by Rājaśekhara.[1] The vastness of literature known to Māgha will be evident from the following analysis.

(1) Śruti:

The poet employs the Śruti to arouse the feeling of purity, auspiciousness and authority. We have a number of references to the Śruti in the poem.

The Śruti is an inexhaustible treasure which increases by imparting (I. 28). The Vedic acute accent is referred to in II. 95. The poet tells us that the transmission of Vedas took place through the four mouths of Brahmā (III. 65). The Veda is the basis of the Smṛti (III. 75). The Sāmaveda is referred to in XII. 11 and XIV. 21. The Rgveda and the Yajurveda are also spoken of in XIV. 21. The poet cautions us that even a well-studied Śāstra (Śruti) slips from a careless person (XX. 35).

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1. KM. Ch. 8, p.35.

But the tribute paid by Bhīsma to Krsna (XIV. 60-86) is the best example that illustrates the point.

(2) Smṛti:

The hero of the poem is a god. But he observes rules and regulations befitting an earthly king. Hence Rājadharma portion from the Smṛti is freely drawn upon by the poet for his (Krsna's) guidance. The science of polity is included in the Rājadharma as it is meant to elucidate royal conduct.

The whole of the second canto of the poem is devoted to the discussion of the principles of politics. We have also a reference to Mānava Dharmaśāstra in II. 62.

(3) Epics and Purāṇas:

The subject-matter itself of the poem is based on the following Purāṇas.

(1) Mbh. (Sabhā, Chap. 12-72).

(2) Bhāg.P. (X. Chap. 70-74).

(3) Visnu.P.(IV. Chap. 14, vs. 11-14).

(4) Agni. P. (for Śiśu. I. 46)

(5) Bhaviṣya. P. (for Śiśu. IX. 14).

(4) The different systems of philosophy (Samaya Vidyā):

(a) Vedānta: The following doctrines of this system are referred to -

(1) Brahma with and without attributes (I.35, 37; IV.4; XIV. 59-62, 66, 70 and XX. 32, 66).

(2) The account of creation (III. 65; XIII. 40 and XIV.67).

(3) The Supreme Soul enveloped by external adjuncts (XIII.3).

(4) The non-return of the individual soul (I. 32; VII. 42; XIV. 63, 64; XIX. 87, 93 and XX. 79).

(5) The transmigration of the soul (XII. 55 and XIII. 28).

(b) Sāmkhya: The following doctrines of the system are referred to -

(1) The relation between Puruṣa and Prakrti (I. 33).

(2) The principle of Buddhi (II. 59; XIV. 19; XV. 2, 7, 8, 14, 15, 16.)[1]

(3) The creation, maintenance and destruction of the universe (XV. 9, 10 and 13).

(c) Vaiśeṣika: The principle of Ākāśa is referred to in II. 91.

(d) Nyāya: The principle of Anumāna is referred to in XII. 69.

(e) Yoga: The cultivation of four emotions (bhāvanāḥ) viz., Maitrī, Karuṇā, Muditā and Utpreksā; freedom from five sources of miseries that beset the soul (Kleśas) in this world, the yogic contemplation of the Eternal (Sabījayoga); the knowledge that the Prakrti and Puruṣa are distinct from each other (Sattvapuruṣānyatayā Khyāti) and the keeping off of even this knowledge by the yogins are spoken of in IV. 55.

An attempt is made to define God in XIV. 62.

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1. These are the Nos. of the verses belived to be interpolated.

(f) Pūrva Mīmāmsā:

The performance of Agnihotra, a nitya karman, by the Agnihotrins and that of the Kāmya Karman, Rājasūya sacrifice, are described in XI. 41 and XIV. 18-42 respectively.

We find that the technical terms of the school e.g., Uttarpakṣa (II. 15), Bhāṣya (II. 24), Ṛtvik (XIV. 20), Anuvākya (XIV. 20), Udgātṛ (XIV. 21) etc. mentioned.

(g) Buddhism:

The so-called Ātman and the principle of five Skandhas are mentioned in II. 28. The victory of Lord Buddha over the army of Cupid is suggested in XV. 58. A reference to the wise and fruitful teaching of Buddha is made in the second of the five epilogue stanzas at the close of the poem.

(h) Jainism:

The poet speaks of Mahāvīra as one of the incarnations of Viṣnu in XIX. 112.

(5) Ritual:

The sacrifices - Kṛṣna is said to be pleased with those who perform sacrifices according to the Vedic precept (I. 17). The daily performance of Agnihotra is a duty of the Agnihotrin (XI.41). Yudhisthira performed Rājasūya sacrifice to attain world-sovereignty (XIV. 18-42).

The material for sacrifice:- Ghee (XIV. 25).

Purodāśa- a kind of cake (II. 106 and XIV. 20), an animal (XIV. 20) and milk and curd (XI.41) were offered to the sacrificial fire.

The people performed Sandhyā regularly (IX. 14). The ascetics were constantly busy with Japa (XI. 42) and the people offered their salutations to the rising sun in the morning (XI.48). The reference is made to the penance with five fires in II. 51. We are told that the good deed followed the performer (III. 26) and the learned are afraid of transgressing the bounds of moral course of conduct (X. 40).

(6) Etymology: This science is referred to in XIV. 24.

(7) Prosody: Magha's knowledge of this science can be inferred from his use of twenty two metres in canto IV and many more in the whole of the poem.

(8) Arthaśāstra: The importance of Arthaśāstra is as great as that of Kāmaśāstra in enriching a Mahākāvya. The whole of the second canto of the poem is devoted to the discussion of the principles of politics. Some of the principles enunciated there as follows:

An enemy growing in power like a developing disease should not be ignored (II. 10). Mere theoretical knowledge of politics is of no avail. The political acumen or the ability to apply theory to the practical problems is the most important requisite for an ambitious king (II. 26, 27). The five constituents should receive the most careful consideration in all deliberations on matters of policy (II. 28). An ambitious king should never rest content with his achievements however great they may be (II. 32). He should not allow even one enemy to survive. Only then,

he can have prosperity, prestige and happiness (II. 34, 35). He should adopt a strong attitude towards his enemies for softness is mistaken for weakness by enemies (II. 49).

The political sagacity and the spirit of enterprise should be acquired by an ambitious king for these two alone are the basis of prosperity (II. 76). The patience is also an important quality to be cultivated (II. 79). He should learn to employ heroic spirit (tejas) and forbearance (kṣamā) with discrimination (II. 83). A king with sharp intellect, sound constituent elements, strictly guarded deliberations, clever spies and ambassadors never fails in his undertaking (II. 82).

Many technical terms of this science are used in the poem e.g. षाड्गुण्य, शक्तित्रय, सिद्धित्रय, उद्यमत्रय, five-fold Mantras, सहजमित्र, सहजशत्रु, कृत्रिममित्र, कृत्रिमशत्रु, संधिविग्रहादिगुणाः, उपायाः, मित्रव्यसन, विजिगीषु, आत्मसंपद्, राजमण्डल, चाराः, यातव्य, पार्ष्णिग्राह, सपक्ष, उपजाप, etc.

(9) Nāṭyaśāstra:

A play should be entertaining with Sanskrit and Prakrta languages, should have no mixing up of places or characters, should have purity of Bhāvas e.g. Rati etc. and should contain sentiments like erotic etc (XIV. 50).

The world is a stage (XIV. 63).

The sage Bharata, the author of the science of dramaturgy, is referred to here, and we are informed that a dramatist who has

studied the science of dramaturgy composes acts of his play which are expansive in the beginning and contracting gradually at the end (XX. 44).

The folk-play is referred to in X. 82. The technical term of this science, viz. पूर्वरङ्ग is mentioned in II. 8.

(10) Kāmaśāstra:

Much of the charm of the Sanskrit poetry would be lost if this science is not availed of therein. The sentiment of Śṛṅgāra has a very important place in life as well as literature. The achievement of four goals of human existence (puruṣārtha) is the aim of a Mahākāvya and Kāma is the third of these four goals of human existence.

The erotic sentiment is described in 32 out of the 96 cantos of the five Mahākāvyas.[1] It will be seen from this that the Kāmaśāstra is a very important factor in helping the equipment of a Mahākāvya.

Māgha exhibits intimate knowledge of the Kāmaśāstra in his poem. We have beautiful descriptions of love-sports in canto X of the poem. This canto abounds in the description of wine-drinking by lovers (X. 1, 2, 3, 6); its effect especially on young ladies (X. 10-26 and 30, 32, 34); preliminaries to the sexual intercourse (bāhya surata) (X. 40-54) consisting of different kinds of kisses,

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1. Dr. Vatave: Sk. Kav. Panc. Prana p. 56.

embraces, horripilation on the part of ladies and loosening of the knot. A detailed description is given of the sexual intercourse (ābhyantara surata) (X. 55-80) and that of the aftermath of the intercourse (X. 81-90). These descriptions reveal not only Māgha's deep knowledge of the science but also his excellent study of the psychology of women engaged in sexual sports. The canto is full of technical terms of this science e.g. Nivimokṣa, nakhakṣata, dantakṣata, bhartsnā, ruditam, dhṛṣtata, sitkṛta, karunokti, kanṭhakūjana, snigdha vacānsi, niṣedha vacānsi, kuṭṭimita etc.

Different kinds of kisses and embraces are mentioned in X. 1, 7, 52-54, 86 and X. 42-49 respectively. Moreover there are stray references to kisses in IV. 38, 42; VII. 45 and to embraces in IV. 35, 38, 42; VII. 65 and IX. 52.

Various kinds of Nāyikas are mentioned in canto VII and other cantos of the poem in the following manner:-

(1) Kalahāntaritā is mentioned in VII. 14½ IX. 55,57,59.

(2) Khanditā is mentioned in VII. 11, 52-56; XX. 24-25.

(3) Madhyamā is mentioned in VII. 38.

(4) Mugdhā is mentioned in VII. 44; IX. 73.

(5) Pragalbhā is mentioned in VII. 16.

(6) Praudhā is mentioned in VII. 32, 46, 47, 49, IX. 59, XIII. 40-45.

(7) Svādhīnapatikā is mentioned in VII. 13, 49.

Over and above these, we have beautiful descriptions of the erotic influence of different seasons on young men and more

particularly on young women in canto VI of our poem.

(11) Tantraśāstra:

This science is referred to in II. 88; IV. 37; VII. 58; X. 37 and XIX. 84 of the poem.

The great serpents are subdued by those who are skilled in the employment of charms and drugs and who occupy the mystical diagrams by means of meditation on the deity invoked (II. 80). The spells are of hidden meaning and are potent enough to destroy sins. They are difficult to be grasped by them who have no faith in them even though they are expounded by experts in the Āgama or science of spells (IV. 37).

Abhicāra Mantra which is employed to kill a person is mentioned in VII. 58, while Vaśikarana Mantra which is employed in bringing a person under perfect control is mentioned in X. 37 and XIX. 84.

(12) Sangītaśāstra:

Māgha was well-versed in the science of music. His knowledge of music is deep and vast. He is well-acquainted with its technicalities and mentions a number of musical instruments played upon in times of peace and war. The poet gives us the following indications of his study of the theory of this subtle science.

He mentions that ceaseless stricking of the strings of a flute with a thumb reddens it (the thumb) (I. 9).

The flute is described as giving forth, without the touch of human fingers, melodies set in notes and quantity with the

most scientific exactness (I. 10). We are told in II. 72 that infinite is the variety of music. The other notes of musical scale accompany the ruling note in a particular song due to the height of its pitch and its being the leading note (II. 90). The charming effect of a good song is described in VI. 49. We are further informed that the Pancama and Rsabha notes are forbidden to be sung in the morning. The Sadja note is recommended for singing in the morning (XI. 1). The flutes were played upon by bards early in the morning to awaken sleeping kings and the songs were sung in harmony with their notes (XI. 10). The tabors were kept in perfect order by the application of the paste of ashes, earth or the flour of wheat on their surface (VI. 31).

The following musical instruments were in use and have been frequently mentioned in the poem.

Vīṇā (I. 9), Parivādinī (VI. 9), Venu (XI. 10), Tantrī (X. 64), Dardura (V. 9), Ānaka (VI. 67; XVII. 20, 31, 42; XVIII. 78), Dindima (XVIII. 10), Dundubhi (III. 24; XVII. 32; XVIII. 3), Mrdanga (XI. 2; XVII. 42), Pataha (III. 24; XIII. 31; XV. 16; XVI. 32; XVII. 43), Mardala (VI. 31), Panava (XIII. 5), Turya (XVII. 34, 38; XVIII. 26, 54), Bherī (XII. 27; XVIII. 66) and Kāhala (XVIII. 54).[1]

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1. Cf. Dr.A.D.Pusalkar, Bhasa - A Study:

"The musical instruments used by the Indians were generally of four types - tata (stringed instruments) ānaddha (percussion), susira (wind-instruments) and Jhana (cymbal). The Vedas and

(Contd.)

Vīnā was the wind instrument with seven strings and was played upon by finger-nails. It was turned to a high pitch and to a medium one (Śiśu. I. 10). Parivādinī, Venu and Tantrī were its other varieties.

Ānaka, Dindima, Dundubhi, Mrdanga, Paṇava and Paṭaha appear to be mostly used for the military music as they are mentioned in that connection by the poet. Dundubhi was a kettledrum and Mrdanga was a kind of tabor.

Tūrya was a kind of trumpet and was used mostly in warfare.

The poet employs the technical terms of this science in the poem e.g. śruti, svara, grāma, mūrchanā, pancama, ṛsabha, sadja etc.

Foot-note No.1 on p.215 contd.

and Brahmanas refer to various instruments of all these types.... Vīnā (lute) was the most popular of instruments, and it was considered a ratna (jewel), obtained without churning the ocean, while the well-known fourteen jewels extracted from the ocean by churning it ."

(p.423).

(13) Āyurveda:

The poet speaks of certain diseases and medicine.

(a) Diseases:

Āmajvara, a fever caused by indigestion (II. 54), rāja-yakṣmā consumption (II. 96), apasmāra, epilepsy (III. 72) and heart disease (XVI. 22). The symptoms of epilepsy are described as follows. An epileptic person lies on the ground, tosses his hands about, cries out and gives out foam from his mouth (III. 72). Rajayaksma is attended with the symptoms of a number of diseases. The poet makes certain observations regarding the diseases in general. He tells us that a disease should not be neglected (II.10). It attacks a person when the crisis due to irregularity in diet etc. has arrived (II. 84) and is sometimes the result of excessive physical labour (II. 94). The fact that a disease sometimes has its complications is mentioned in XX. 76.

(b) Medicine:

He tells us that it is foolish to treat Āmajvara with a bath. It would only aggravate it. The correct treatment is the administration of diaphoretic (II. 54). A person desiring of increasing strength should use an elixir (rasāyana), the tonic revitalising a person and prolonging life (II. 93). The mercury (rasa) is the chief ingredient of the elixir. Sudhā, a kind of ointment is referred to in IV. 28. A particular class of physicians treated ailments produced by poison and they were known as Visavaidyas (II. 88; IX. 36). In certain cases of sickness, a physician

administered medicine to a patient after making him observe a fast (XII. 25). The wholesome diet leads to perfect health (XIV. 13). The medicine though unpalatable and bitter drives away disease (XIX. 89)

(14) Grammar:

That Māgha was a profound scholar and a great master of the science of grammar is quite clear from his poem. He uses a variety of grammatical forms and constructions and embillishes or substantiates his ideas throughout the poem with illustrations and similitudes. Such a wonderful knowledge of grammar and vocabulary is very rare with any other Sanskrit poet. The remark नवसर्गगते माघे नवशब्दो न विद्यते is made with reference to this particular aspect of his scholarship.

It becomes evident from his poem that he knew fully well the essence of Śabdaśāstra and was adept in its use. He produced extraordinary charm by employing even dry grammatical words e.g. Śiśu. I, 37, 38, 47, 51 and II. 112.

The celebrated grammarian Bhaṭṭoji Dikṣita acknowledges the profound knowledge of Māgha in grammar by way of citing Śiśu. I. 51 as an illustration in the Lakārārthaprakriyā.(Kaumudi. III.4.5.).

He refers to the following principles of grammar.
(i) A word coined by chance (yadrcchāśabda), a proper name does not bear any signification as it does not denote class or action

or attribute but is arbitrarily given to a person, animal or thing (II. 47). This is a clear reference to Patanjali's Mahābhāṣya which says " गौः शुक्लः चलः डित्थः " इति शब्दानां चतुष्टयी प्रवृत्तिः।

(Mahabhasya I. 1.2)

(ii) In Śiśu. II. 95, we have a reference to Pāṇini's Sūtras viz. उच्चैरुदात्तः। नीचैरनुदात्तः। समाहारः स्वरितः। (I. 2, 29-31).

(iii) A reference in II. 112 is made to the Paspaśā chapter of the Mahābhāṣya of Patanjali. This Paspaśā chapter may have its Nyāsa that has brought all words under the Sūtras of Pāṇini, its Vrtti that is so judicious in its treatment and its Bhāṣya that is learned and exhaustive; but without the Paspaśā, the science would lack the very key to its intricacies.

(iv) The prepositions bring out several meanings hidden in a root (X. 15).

(v) The dissolution of compound-words according to the correct accents gives the right meaning and pronunciation of those words (X. 23).

(vi) A reference is made to Paribhāṣā in XVI. 80. Paribhāṣā, though mentioned in one place, covers everything and never turns back.

The Mahābhāṣya says to the same effect (Cf. परिभाषा एकदेशस्थिता सती सर्वं शास्त्रमभिज्वलयति प्रदीपवत्।)

(Mahabhasya.II 1.1)

(vii) The poet informs us in XIX. 75 that the grammar of Pāṇini being difficult can be studied by only those who are patient and intelligent. Those sūtras of Pāṇini which contain the words- Suhṛt, svāmi, pitṛvya, bhrātṛ and mātula- are referred here. (Cf. Index of Pāṇini Sūtras by Pathak and Chitrāv Shastri. B.O.R.I. ed.).

(viii) The two meaning of the root 'pā' are cleverly shown in XIX. 103.

(ix) Māgha lays stress on faultless expressions (II. 7).

The poet employs several technical terms of this science in the poem e.g. Jāti, Kriyā, Guṇa, Artha, Udātta, Paspaśā, śabda-vidyā, Vṛtti, Nibandhana, Dhātu, Upasarga, Vibhakti, Vyakti, Samāsa, Vigraha, Paribhāṣā etc.

(15) Astronomy:

We get a fair glimpse of astronomy in the poem. The naksatras are mentioned in the following manner:-

The nakṣatras are said to revolve round the mount Meru (III. 37). The twenty seventh lunar mansion, Revatī and the fourth lunar mansion, Rohiṇī are referred to in III. 60. They are moving (VI. 36). They sorround the moon (IX. 31) and set at the end of night (X. 91). The rising sun destroys their light (XI. 57). That they are twenty seven in number is suggested by the use of the word 'nakṣatramālā (XVIII. 35). The brilliance of Baladeva is compared with their brilliance (XIX. 3).

The following planets are referred to in the poem.

Jupiter, Venus, sun, moon and Rāhu. Rāhu is believed to possess baneful influence. The moon is mentioned in conjunction with Jupiter and Venus (II. 2) and again with Venus alone (XIII. 61). The moon is said to possess sixteen digits and is called the lord of Revatī (the twenty seventh lunar mansion) and Rohiṇī (the fourth lunar mansion) in III. 61. The fact that the moon has a black spot and is surrounded by nakṣatras is mentioned in IX. 31.

The twelve suns are referred to in II. 81. They are twelve gods of celestial light or sun-gods. According to some, they represent the sun in the twelve months of the year. In the Vedic times, the Ādityas were six or more frequently, seven celestial deities of whom Varuṇa was the chief. In later times, their number rose to twelve, and they came to be regarded as sun-gods, of whom the sun, the maker of the day, is the chief. Of the twelve Ādityas, the sun alone shines on the earth and it is at the final destruction of the universe that all the twelve suns shine and consume the entire creation. In IX. 13, we are told when the sun sets, its light enters the fire.

The summer solstice and the winter solstice are referred to in III. 1. The direction towards which the sun is marching is called Pradhūmitā (XVII. 41).

The pole-star appears very small because it is far off from the earth (XI. 3). The position of the Great Bear becomes topsy-turvy at the end of night and it looks like a cart upraised (XI. 3).

The comet foreboding evil is mentioned in I. 75; XV. 92 and XX. 69.

The Durudharā Yoga is mentioned in XIII. 22. It takes place when the moon comes between the sun and some other planet. Consequently the beautiful moon appears more beautiful.

The lunar eclipse is mentioned in II. 35, 49, 61 and XIV. 78. We are informed that the solar eclipses are fewer than the lunar ones (II. 49) and that a lunar eclipse takes place only on the full-moon day (II. 61).

On a full-moon day the rise of the water of the ocean due to the attraction of the moon is recorded by the poet (IX. 38).

(16) Dhanurveda:

The last three cantos of the poem are devoted to the description of the battle where a number of things connected with warfare of those days is mentioned.

An arrow was fitted with a sharp iron-point and was furnished with feathers which were spmetimes golden (II. 97; XVIII. 13, 55, 74; XIX. 63, XX. 9, 13).

The archers attained great proficiency in the art of discharging arrows. The poet describes this in XVIII. 29. An elephant-driver was trying to remove the veil from the temple of his war-elephant. But, in the meantime, the elephant-driver of the enemy-camp fixed that piece of cloth providing the veil to the elephant's

temple with the quick discharge of his arrows.

At another place (XIX. 110), the poet tells us that the arrows discharged by Kṛṣṇa travelled so speedily that though they penetrated the bodies of the enemies they were not stained with their blood. Again Kṛṣṇa's skill in archery is described in XX. 28. Kṛṣṇa fixed arrows on his bow so quickly that it appeared to onlookers that there was only one arrow mounted on the bow.

We have two more examples of such skill in archery in XVIII. 55 and XIX. 120.

The names of the owners of arrows were inscribed on them (XIX. 110) and sometimes the pictures were painted on them (XX. 24). The archers used a leather strap (Godhā) to protect their fingers from the constant rubbing against the strings of their bows at the time of discharging arrows (XIX. 39).

Some of the bows were fashioned from the special material e.g. Śiśupāla's bow is said to have been fashioned from the horns of a buffalo (I. 57). The soundness of a bow was tested by dashing it against the ground (XVIII. 9).

(17) Aśvavidyā and Hastividyā:

(a) Aśvavidyā: Māgha mentions the characteristics of good horses, the kinds of horses, their gait and few other technical things connected with the science of horses.

The characteristics of a good horse, as described by the poet are as follows:

A horse who has Āvarta, (ii) Śukti (iii) Devamaṇi (iv) Rocamāna, (v) Ūrmi and (vi) a robust appearance is considered to be the best horse (V. 4). He is speedy by nature i.e. he does not await whipping to run fast (V. 10). He sleeps in a standing position and for a short while (XI. 11).

The poet mentions these special kinds of horses, viz. (i) the Arabian horse (ii) the horse born in Bāhlika country and (iii) Śrīvṛksakin horse in V. 10; V. 54 and V. 56 respectively. The Arabian horse is noted for his natural speed (tejas) and 'ardha-pulāyitā' gait. The theory of giving punishment with whips is also referred to in this connection (V. 10). The Śrīvṛksakin horse is well-known for his purusaka posture (V. 56).

The poet also refers to the various gaits of horses, different ways of handling reins and the nine roads on which the horses should be trained to run.

The 'ardhapulāyitā' gait is referred to in V. 10 while 'chatuṣka' one is suggested in V. 60. The gait called 'dhārā' (with its five divisions) is referred to in V. 60 and 'dhaurita' in XVIII. 5. The (fourteen) different ways of handling the reins and the (nine) roads on which the horses should be trained to run are referred to in V. 60.

The poet tells us that it is difficult to manage colts (VII. 73).

The poet employs several technical terms of this science in the poem e.g. Āvarta, Śukti, Devamani, Rocamāna, Urmi (all in V.4), Tejas, Ardhapulāyitā (V. 10), Puruṣaka (V. 56), Valgāvibhāga, Mukhasiddha, Dhārā, Vīthi (V. 60), Dhaurita, Vardhrā and Sthāsaka (XVIII.5).

(b) Hastividyā: The poet gives us a fairly good idea about the nature of elephants.

The fact that the elephants are intolerant even of the smaell of the rival elephants is mentioned in V. 36 and XVIII. 27. When a restive elephant who does not mind a goad was much punished by the man entrusted with his charge be taking food (V.49). The abstained from war-elephants, though their eyes were covered with veils, rushed towards their rival elephants after recognising them from the smell of their rut (XVII. 67).

The gait of elephants is referred to in XVII. 35. The belief that an elephant lives for 120 years is mentioned in XVIII. 6.

The pictures of weapons were painted on the bodies of the elephants (XVII. 69). They were encouraged to fight by means of anointment etc (XVIII. 26).

(18) Psychology: The poet was a student of human nature and his knowledge of the workings of the minds of men and women is revealed at several places in the poem. He understood the various feelings of the minds of ladies and this is evident from the study of the cantos VII, VIII, IX, X, some portions of canto XIII (the activities of the ladies when Krsna entered Indraprastha) and XV

(the activities of the wives of Śiśupāla's warriors going for the battle). This capacity of the poet is further displayed in the following cases also-

(i) The description of Śiśupāla's anger (XV. 3-38),

(ii) that of the anger of the kings who were the allies of Śiśupāla (XV. 48-57),

(iii) that of the anger of the kings on Kṛṣṇa's side (XVII. 2-19) and

(iv) the meeting of Kṛṣṇa and the Pāndavas (XIII. 1-24).

(19) Ratnaśāstra:

The various kinds of jewels are mentioned e.g. mahānīla (I. 16), mauktika (I. 58), muktā (III. 10), indranīla (III. 11), nīlāsma (IV. 26), mani (IV. 27) and marakata (IV. 56).

We have a reference to the fact that the wet jewels were very carefully exposed to the sun for drying. There was no shine or glitter on them because of wetness (III. 39).

(20) Palmistry:

A mark of disc on the palm of a hand was considered fortunate (XII. 3).

(21) Chemistry:

The dyeing of clothes is mentioned in XVIII. 69. The mixing of the black colour with the yellow one produces the green colour (XX. 56).

(22) Physics:

The effect of heat on the clouds containing water is described in XX. 63.

(23) Navigation:

The sea-faring merchants making the best bargains are mentioned in III. 76.

(24) Science of birds:

The pet birds imitated the sounds and words uttered by the sporting ladies (III. 55).