CHAPTER-V

CHANDEL'S MILITARY ORGANIZATION
5.1: THE ARMY IN HINDU POLITICAL THOUGHT

Ancient political thinkers of India conceived the state as consisting of seven essential elements (Prakrtis), of which the army was one. The conception dates from pre-Kautilyan times, and was accepted as an axiomatic truth by all later writers. The army was thus accorded a recognised position in the state-organism. But it is nowhere held up as the supreme element. In contemporary thought it usually takes rank as sixth in the order of gradation. There is a discussion in the Arthasastra (Bk. VIII: 1923, Ch. I) as to the relative importance of the army (danda) and the treasury (kosa), and Kautilya pronounces himself definitely in favour of the latter. "The army", he says, "may go to the enemy, or murder the king himself, and bring about every kind of trouble. But finance is the chief means of observing virtuous acts and of enjoying desires". Later writers, though adhering to the general principles of Kautilya, show a more positive inclination to idolise the army. Kamandaka (XIII: 1912), for instance, says that "even the foes of a king, possessing an efficient army, are turned into friends; a king with a strong army rules the earth unhindered". In the Sukraniti
(Ch. I, II, 1914), the relation of the army to the state has been compared with that of the mind to the man. As without the mind the human organism cannot work, so without the army the state-organism comes to a standstill. "Without the army". Sukra writes elsewhere (ch. IV, sec. ii, II: 1914), "there is neither kingdom nor wealth, nor prowess. The treasury is the root of the army, and the army is the root of the treasury. It is by maintaining the army that the treasury and the kingdom prosper, and the enemy is destroyed".

5.2: 'FOUR-FOLD' DIVISION OF THE ARMY

In the Vedic period the army appears to have consisted of two divisions, viz. foot-soldiers (patti) and char-warriors (rathin). During the post-Vedic period, however, the horse and the elephant were incorporated in the fighting corps. Hence from the time of the Jatakas (1895) there came into vogue a new category in Hindu politico-military thought. It is the 'four-fold' army-caturangabala or caturanga-camu. This 'four-fold' division of the army is a common feature throughout ancient literature. In course of time it was transformed into a literary convention, and the convention outlasted the extinction of one of the arms. As will be shown later, war chariots fall into total disuse about the 7th century A.D. But long after their abandonment as instruments of war, and long after the four-fold army had in actual practice become three-fold, the convention of caturanga-bala continued intact, and is referred to both in later literature
and inscriptions. We shall here cite only two instances. In the Manasollasa (sl. 1176, p. 134) there is a mention of the epithet, though internal evidence proves beyond doubt that war-cars were no longer in use. So also the Jabalpur copper-plate of 1122 A.D. (Ep. Ind. 11, 3) refers to the army of Yastikarnadeva as caturanga, notwithstanding the fact that chariots did not form part of the war-apparatus of that king (Chakrabarti, B.C.: 1987).

It should be noted here that the relative position of the four arms differed from age to age. Both Vedic and epic testimony prove that in the earliest period of our history, as in that of Greece, the chariots constituted the most important arm. The knights and nobles drove in chariots to the front line, and from them showered their missiles on the opposing knights and their masses of followers. But from the 4th century B.C. onwards, as already stated, the elephant occupied the first rank in the military service. The infantry and the cavalry seem to have always remained in a subsidiary position in the Hindu military system.

5.3: 'SIX-FOLD' DIVISION OF THE ARMY

Besides the above classification of the army into four arms, there was also in vogue a six-fold division, presumably based on the area or source of recruitment. According to this conception, the army was supposed to consist of six 'limbs' (sadanga), these being the hereditary troops (mula), mercenaries
(bhṛta), gild levies (sreni), soldiers supplied by feudatory chiefs or allies (suhrdbalam), troops captured or won over from the enemy (dvinaadbalam), and forest tribes (atavi-balām). The earliest references to this six-fold division occur in the epics and the Arthasastra; but they may be traced in such late works as the Kamandakiya and Manasollasa, and in inscriptions ranging from the 6th to the 11th century (Kauttīyla Arthasastra: 1923).

Of the different classes of troops mentioned above, ancient military opinion appears to have attached the greatest importance to the maulas or hereditary troops. Graded qualitatively, the mercenaries came after the maulas, next came the gild levies, next the allied troops, while the forest tribes were placed at the bottom of the scale. In the Arthasastra (BK, IX, ch. 2:1931), Kauttīyla gives elaborate reasons in support of the above gradation. "A maula force", he says, "is more important than the bhṛta force in as much as it is dependent on the king for its existence, and is the recipient of constant favour from the latter". Mercenaries are better than gild levies because they are obedient to the king, stationed near at hand, and always ready to march. Similarly gild levies are better than allied troops on the ground that they belong to the same country as the king, have the same objects in view, the "same expectations of loss and gain," and are actuated by the same feelings of rivalry and anger. Kauttīyla proceeds in the same strain to show why he considers the allied troops superior to renegades from the hostile country, and the latter again
to forest tribes. With regard to the two last, he says: "Both these are anxious for plunder. In the absence of plunder and in times of difficulty, they prove as dangerous as a lurking snake (Kautilya Arthasastra: 1923). These views of Kautilya have been faithfully reproduced in the Hitiseri of Namiaskara (XIX, 4-9); but they do not appear to have been universally shared. In the passages from the Mahabharata, already referred to, the gild levies are considered as important as the mercenary. In the Manasollasa (sli. 557-561), again, the hereditary, mercenary and allied troops are estimated as the best, the gild levies as of medium quality, and the forest tribes as the worst, while troops from the hostile country (amitraje-balas) are declared to be absolutely untrustworthy.

The nautlas appear to have resembled the personal retainers of the early German chieftains. Professor F.K. Thomas suggests that they were probably "connected by caste, and ultimately by race, with the king himself, such as in later times we find in the quasi-seudal states of Rajputana (Cambridge History of India: 1922). Most ancient writers emphasise their unaltering loyalty to the king (Kautilya Arthasastra: 1923). In the Arthasastra, (Ski. II, ch. 35) Kautilya speaks of villages which were exempted from taxation in lieu of the military services which they rendered to the state. It seems reasonable to believe that the nautlas were endowed with rent-free lands, besides cash wages when on active service. Elsewhere, (Ski. IX, ch. 2), the Shamasatry
outlines the circumstances under which this class of troops should be mobilised against the enemy. "When the king, "he writes, "thinks that the number of his maula troops is more than is necessary for the defence of his kingdom, or when he apprehends that his maula force is disaffected and may cause disturbance when he is away, or when the enemy has under command a large and loyal body of hereditary troops, and is therefore to be fought out with much skill on his part, or when it is expected that the journey would be so tedious and the duration of fight so long that a maula force can alone endure the wear and tear, or when the enemy is known to be in possession of a powerful secret service, in which case the maula and other kinds of troops cannot be relied upon lest they may lend their ears to the intrigues of the enemy, or when the king thinks that other kinds of troops are wanting in strength, then is the time for mobilising the maula force." (Kautilya Arthasastra: 1923). It is thus clear that this class of troops was not only considered as the most reliable (for they alone could be trusted in the face of a powerful secret service of the enemy), but as possessed of the greatest skill and fortitude. And this, in part, accounts for and perhaps justifies the special privileges which the state bestowed upon them. The Chinese pilgrim, Huien Tsang, had perhaps these maulas in view, when he wrote about the so-called National Guard of India: this National Guard, he says, "are heroes of choice valour, and, as the profession is hereditary, they become adepts in military tactics. In peace they guard the
sovereign's residence, and in war they become the intrepid vanguard" (Halties Thomas: 1904-05).

Two other classes of troops which require some explanation are the gild levies and the forest tribes. The former have provided the basis for a considerable amount of historical speculation in recent years. In his translation of the Arthasastra (pp. 393-401), Dr. Chamasastry renders the term sreni-balam as the "corporation of soldiers". Professor DwR. Bhandarkar (1919) takes it to mean "tribal bands of mercenaries". In the opinion of Dr. R.C. Majumdar (1922) again, the term refers to "a class of guilds which followed some industrial arts and carried on military profession at one and the same time". On the other hand, Mr. Monahan (1926) makes the following observation on the point: "Probably the military srenis were special troops, composed of men of different fighting races, who enlisted in the royal army under their own chiefs. They would be called sreni from analogy to trade guilds, and, no doubt, served for pay, perhaps under a contract made between the king and the 'sreni-mukhya'. Lastly, Professor Thomas, writing in the Cambridge History of India (1922) (I, 489), says that the srenis probably refer to "ordinary trade-guilds, as an organisation for calling out the people for service in time of invasion, a sort of militia or landwehr".

On a close examination of the evidence at our disposal, it appears that there were two types of military srenis in existence in ancient India. First, there were those who like the
Swiss Guard of medieval Europe, formed themselves into a quasi-military corporation and placed their services at the disposal of the highest bidder on the occasion of an armed conflict between two or more states. Such were probably the Vahikas, Yauchheyas and certain other tribes in the time of Panini, for he has referred to them as ayudhajivi-samghah, i.e. guilds dependent on the profession of arms for their livelihood. The Rasika mentions more than sixty examples of corporations or clans as being included under the rules of Panini (V. 3, 114-117) (R.K. Mukherji: 1920). It is, therefore, probable that at one time or another these military arienis were fairly widespread throughout the country, and they may possibly have played the same part in the military history of India as the Condottieri in that of Italy.

There was, however, a second class of guilds which, as Dr. P.C. Majumdar says, "followed some industrial arts and carried on military profession at one and the same time". Kautilya refers to guilds of this nature in his chapter on Samghavrttam (Sk. XI, ch. I). In the relevant passage, he speaks of Ksatriya arienis, "who lived by agriculture, trade and wielding weapons" in Kambuja and Surastra countries. Obviously these were trade and craft guilds, which, like the Anti Faggori of Florence or the more well-known Hanseatic League of Northern Europe, had occasionally to resort to arms in defence of their commerce and industry. The conditions which brought these commercial-cum-military societies into being appear to have
been the same in India as in Europe. Briefly, these conditions were the constant need of protection and the inability of the state to afford it to its citizens. The weakness of the central government, the internecine strifes, the still more dreadful barbarian invasions, and, last but not least, the frequency of brigandage on the highways and along river-routes— all these tended to create an atmosphere of insecurity, in which the industrial and commercial communities, being thrown on their private and local resources for protection, developed a defensive power of their own, which became at once a source of weakness and of strength to the state.

Ancient epigraphic records disclose a few instances of guilds of this nature. The best known case is that of the silk-weavers' guild, referred to in the Mandesor Inscription of Kumara-gupta and Bandhuvarman. The epigraph records that some members of the guild "became excessively well acquainted with the science of archery," and that the guild as a whole was "valorous in battle," and effected "by force the destruction of their enemies (Fleet, c. i. l., III, No. 18: 1902). Another instance of this nature is provided by the Vira-Valanjiyas of the South. These were a great corporation of traders, whose centre was at Aiyavole (modern Ahole), and whose organisation seems to have spread over the greater part of Southern India. The name denotes 'valiant merchants', and is therefore similar to the 'Gentlemen Adventurers' of the East India Company. Like the silk weavers' guild of Dasepur, this great fraternity of traders frequently boats of its
prove and heroism in contemporary inscriptions, and some of its records, to quote Dr. Barnett, "are couched in a tone of regal pomposity (Rice, Mysore Inscriptions: 1902-05). Closely associated with the Vira-Valanjiyas were the Velaikkaras, a federation of working-class communities. They figure prominently in a large number of South Indian inscriptions and in the Ceylonese chronicle, Mahavamsa. It is clear from these records that they were an exceptionally powerful community, who wielded the sword with as much skill as the sickle. Sometimes they were entrusted with the protection of temples and shrines, with their property, lands and serfs. They supplied regiments to the Cola army and also to the kings of Ceylon. At intervals in the history of the latter country when the rulers were weak, they became the real power behind the throne; and repeated, on a smaller scale, the exploits of the Praetorian Guards in the Roman Empire (Madras Epigraphic Report: 1913 and Aiyangar, S.K.:1930).

We have stated before that these commercial-cum-military guilds were at once a source of strength and of weakness to the state. They were a source of strength because they provided a means of local defence, when the state, for one reason or another, failed to discharge its normal functions. Moreover, in times of stress and need, without being a drain on the exchequer, they foremd themselves into excellent battalions for the defence of the kingdom to which they owed their allegiance. In the Artha-sastra (Mk. V, ch. 3), dealing with the "subsistence to Government servants", the pay of srenimukhyas is set down as equal to
that of the chiefs of elephants, horses and chariots. And then follows the significant remark: "With this amount they can have a good following in their communities". It is clear that in the age of Kautilya only the leaders of the guilds were paid from the royal treasury while the rank and file served without pay. A statement in the Nitisara of Kandaka (XIX, 5), proves that the same practice continued well into the last centuries of our period. In the passage, referred to, the author remarks that one of the reasons why the mercenary troops should be considered superior to the guild levies is that the former are dependent on the king for their wages (vrittesca svamyadhinatvad bhrtam sreni-valad guru). In other words, the guild levies, though they might rally to the support of the king on occasions of grave danger to the state, did not receive any regular wages from the royal exchequer.

The military srenis were a source of weakness to the state because at times they became so powerful as to be able to defy the authority of the king. There are numerous indications in contemporary records to show that they were looked upon with ill-concealed suspicion and hostility by all advocates of absolutism. In the Narada Smrti (X,v.), for instance, it has been enjoined, with reference to guilds and other associations, that "confederacy in secret, ready to arms without due causes and mutual attacks will not be tolerated by the king. (P.C. Majumdar: 1922) The remark indirectly proves that the guilds sometimes betrayed a predilection for private warfare- a predilection,
inherent in all feudalised communities, but antithetical to all conceptions of sovereignty, ancient or modern. In the Arthasastra, Kautilya makes no attempt to conceal his great distrust of these quasi-military fraternities. The whole of Sk. XI. is one long sermon against them. "Which is better," he asks elsewhere (Sk. VII., ch. 11), "the land with a scattered people, or that inhabited by guilds?" The reply is significant. "The former is better," he says, "in as much as it can be kept under control and is not susceptible to the intrigues of enemies, while the latter is intolerant of calamities and is susceptible of anger and other passions." The same distrust is implied in another passage (Sk. VII., ch. 16), where the author in course of a hypothetical discussion as to the methods that may be employed to keep down a hostile party or group, recommends that guild levies (srenibala) may be "provided with a piece of land, which is under constant troubles from an enemy". It is evident, therefore, that the guilds sometimes became so powerful as to constitute a state within the state. Both Narada and Kautilya seem to imply that their distinguishing characteristics were turbulence, truculence and independence. The Mahavamsa (Ch. LVII and LXXIV) proves that at least twice in the history of Ceylon the Velaikkaras rose in revolt against their legitimate sovereigns—first in the time of Vijayabahu, and a second time in the reign of Parakramabahu I. It was a fight between the two fundamental forces of history, one centripetal and the other centrifugal.
The mention of atavi-balam as a part of military establishment in the Arthasastra shows that the custom of associating predatory borers with the army goes back to very early times. These predatory hordes used to live in vast forests and inaccessible mountains. They appear have been most numerous in central and peninsular India, though they could also be found in other parts of the country. Both literary and epigraphic evidence prove that they were a constant source of danger to peaceful settlements in their neighbourhood. In one place in the Arthasastra (Bk. VIII, ch. 4), Kautilya remarks: "Robbers carry off the property of the careless and can be put down as they are easily recognised and caught hold of, whereas wild tribes have their own strongholds, being numerous and brave, ready to fight in vroam daylight, and seizing and destroying countries like kings. In his Sitisara (XIX, 3), Kamandaka describes them as "wild and undisciplined, faithless, greedy and sinful."

Yet these wild tribes were often employed for military purposes by Hindu kings, in the same manner as the Red Indians were employed by the English and French in their wars in North America. They brought their own war-apparatus to the theatre of war, but they fought for pay and plunder. Their services were considered specially helpful when a king's army had to pass through forests and defiles, morasses or mountains, or when it was the intention of the invader to ravage and devastate the enemy's country (Santi Parva: 5a, 48).
It may be noted here that the same custom of associating predatory tribes with the army continued in later ages among the Marathas and the Moghuls. It is well-known that the Rinchis often accompanied a Maratha army in its expeditions, and were employed not so much for fighting as for plundering the country through which they passed. Describing the Moghul army, Venoci writes: "Along with the armies there marched privileged and recognized thieves called Bederia (Bidari); these are the first to invade the enemy's territory, where they plunder everything they find. The handsomest items are reserved for the general; the rest they sell on their own account. Prince Shah Alam, when he was with in the territories of Shivaji, near Goa, had in his army seven thousand such, whose orders were to ravage the lands of the Bordes.

5.4: THE EARLY MEDIEVAL PERIOD

In the early Medieval period the importance of the army was greater than ever before, and all the dynasties had to maintain large armies for their security. The main threat came from the neighbouring rulers and the Moslem invaders.

The army consisted of infantry, cavalry and elephants. Krishna Misra mentions the use of chariots in the battlefield and another inscription mentions a minister as expert in riding chariots (Geographic Indica, Vol. I, p. 201). But chariots were obsolete by this time and it is clear that the reference to them
war merely conventional bows and arrows, spears and swords.

were the principal arm of the army. Elephants and horses played
a dominant part in war and the importance of the elephants has
been stressed by various authorities. According to Kasthyla
(III, 1, VII, 11) and other sources (e.g. Kane, 1930, 41, 46) the
destruction of the enemy's fort was not victory depended on
elephants, though an Infalidkara passage states that an army
in which the infantry predominates remains firm but that cavalry
and chariots are only efficient when there is no rain (Kane;
E.V., fascia 1946) Infalidkara according to Islam historians,
collected a vast army against Sultan Helmo in A.D. 1022, the
figure of which, given in different accounts are as follows:
(H.E. Ray: 1936).

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The general agreement among the Islam historians
regarding the vast numbers of the army tends to suggest that
these figures are not excessively exaggerated.
5.5: UNITS OF THE ARMY

The Chandela's army consisted of infantry, cavalry and elephants.

5.5:1 : THE INFANTRY

5.5:1-1: Historical outline: As everywhere else in the world, so in India, the original fighting-men was the foot-soldier. In Vedic times, the infantry (pattī) fought along with the car-warriors. One of the epithets of Rudra in the Satarudriya liturgy of the Vajasaneyi Samhita (XVI.19) is "lord of footmen" (pattinim patī). In the Atharva Veda (VII. 52, 1) Agni is referred to as conquering the most powerful opponents, as a combatant on a chariot overcomes men fighting on foot (Ayan Agnīḥ Saptatīr Uṛddha-Urṇaṇo Rathiva Pattīn Ajayat Purahitah). The statement is important, because it shows that foot-soldiers in the Vedic period were looked upon as a helpless mass when pitted against car-warriors.

The same view of the relative inferiority of the foot-men has been more graphically depicted in the epics. In the war-scenes of the Mahābhārata, for instance, they are described as a conglomerate mass, with hardly any individuality or initiative. They were mostly recruited from the lower classes, even from barbarians and foreigners. They followed the charioted knight as vanamahā, anugah or anucarash, but at the knight's death, they usually fled, and when they did not flee, were, as in the līlā,
slaughtered as a herd of sheep who had lost their shepherd. In fact, the epic foot-soldiers seem to have been useful only in order to secure a decorous setting for the display of knightly prowess. They suffered the greatest number of casualties, but contributed little or nothing to the decision of battles. In this respect the early Indian infantry bears a remarkable affinity to European infantry in the feudal age. Early Indian tactics, as described in Vedic and epic literature, were, like feudal tactics in Europe, based principally on ideas of personal glory. Like their feudal counterparts, the early Indian foot-soldiers formed an unstable base of the knightly pyramid, and were not an arm, capable of offence and defence, having its own special organisation, functions in the line of battle and tactical method.

The evidence of the classical authors, the Arthasastra of Kautilya, later works on politics and military science, and early Muhammadan chronicles—all point to the conclusion that the infantry in ancient India never outgrew this subsidiary position in the military organisation of the country. There is a statement in the Santi-Parva (100,24) that "at army, in which the infantry is numerically strong, is always victorious. The figures cited in the preceding chapter show that facts tallied with the theory. From the 4th century B.C. till the close of the 12th century A.D., the combatants on foot continued to maintain their majority in Hindu armies. And yet it seems likely that during all these fifteen or sixteen centuries there was no continued or systematic attempt in any part of the country to use the
infantry as the kernel of armies as developed in it that solidarity and defensive power, for which the Macedonian phalanx and the Roman legions became justly famous in the ancient world.

In the Arthasastra, Kautilya attaches much more importance to elephants, and even to horses than to foot-soldiers. In SĀk. X., ch. 4, he gives a detailed analysis of the functions of the various arms, but referring to the infantry he simply says that its proper work is to carry weapons to all places and at all times, and drill (sara-saśākale aśtra-vahaneṇa vyayamānaśa). Elsewhere (SĀk. X., ch. 6), he says: "of infantry, cavalry, chariots and elephants, he should strike the first-mentioned with that which is subsequently mentioned," thus indicating clearly his views on the relative efficiency of the different arms. Sāndeśa in his Viśi-vyáyana (pp. 12-65) values eloquent on the utility of elephants and horses, but says nothing concerning the utility of foot-soldiers. In the Aplā Purāṇa (167) again, no distinction is made between the infantry as such and mere camp-followers.

Describing the functions of the infantry, it says, that they consisted in "carrying away the wounded and dead troops from the field of battle, offering resistance to elephants, supplying water and carrying arms and weapons." The Viśi-prakāśika (VI, 57) provides us with a similar enumeration of the functions of the infantry. "The proper task of the foot-men", it says, "is to protect the granaries, arsenals and treasuries, and to make entrenchments for the army." It is clear, therefore, that no Hindu writer, not even Kautilya who has so often been compared
to Machiavelli, possessed the latter's insight to recognize that the infantry was "the sinew and substance of the army (Carvam patti-baladhinam tasmad patti balam)."

From the quotations cited above, it would seem that there probably existed no clear-marked line of demarcation between the infantry as such and mere camp-followers. V.A. Smith (1914) observes that in the time of emperor Akbar, porters, dak runners or foot-men, gladiators, wrestlers, palki bearers and water-carriers, were all classed as infantry. Bernier says that in estimating the strength of the Mogul Imperial infantry under Aurangzeb, servants, cutlers, tradesmen and all those individuals belonging to the bazaars or markets, who accompanied the troops, were usually included (V.A. Smith: 1914). This curious resemblance between the Hindu infantry of ancient India and the Mogul infantry of the 16th and 17th centuries shows how a change in a country's political destinies may take place without necessarily involving any change in its institutional life.

From the foregoing remarks it must not be thought that the infantry in ancient India was a mere 'residue'. As archers they seem to have been redoubtable fighters, and won the admiration of the Greeks. It is also probable that being the most numerous part of the army, they sometimes decided the fortunes of battles by the sheer weight of their numbers. Moreover, in certain special forms of warfare, their services must have been found of real importance. Most ancient writers emphasize the kind
of ground on which the infantry could be employed to greatest advantage. In the Senitiperva (105, 23) Shima says that "a region, which is full of inaccessible spots and which is overgrown with large trees and cane bushes, is the ground for the infantry."

Hautiya (8k. K. Ch. 6) declares that the best ground for the infantry is one "which contains big stones and boulders, or is thickly planted with trees, green or dry. The Agni Purana (236, 46) approves uneven grounds as the most suitable for the employment of foot-soldiers. It is clear, therefore, that in contemporary opinion, the infantry were of special value when the theatre of war lay, not in the open plains, but in forest and hilly regions.

A striking confirmation of this fact is afforded by the Kurna-i Sahab of Al Bas'udi. "The greatest of the kings of India in our time," he writes, "is the sultan sovereign of the city of Vankir... His troops and elephants are innumerable, but his troops are mostly infantry, because the seat of his government is among the mountains" (Tillot. 1772).

In the defence of forts and strongholds, too, foot-soldiers were specially relied upon. The reason is simple: Elephants, chariots and horses could not be used when the enemy was hammering at the gates of a fort. Whatever resistance was offered at such times, was offered by footmen, standing on the walls, in the towers, or behind the parapets, and hurling their weapons and missiles on the besiegers. The classical chronicles provide us with a few instances of this nature, but they must have occurred in every century and in every part of the country.
5.5:II: THE CAVALRY

5.5:II-1 Historical writing: It is difficult to fix the period at which cavalry in the proper sense of the word were first used in India. Horse-riding was known as early as the Vedic age (Ryveda: 1911), but there is no satisfactory record of the use of cavalry in battles of that period (Zimmer: 1879).

In the epics the cavalry is recognised as a separate arm, but it is of no real value and is wholly unorganised. "The mounted soldiers," says Hopkins, "are recognised as a body (kulam) apart from others, of course, but do not act together. They appear as concomitants of the war-cars, dependent groups; but separate horsemen appear everywhere. Their employment was much influenced by that of the elephants. A body of horsemen is routed by an elephant. They were therefore detailed in small numbers to guard the war-cars and keep on the flanks of their own elephants. To the latter, indeed, they are formally assigned, but seem generally to be circling about the chariots.

Hopkins adds that they were generally grouped with the hastisadina or elephant-riders, as a force antithetical to the main strength of the army, the char-men, and that in the battle scenes they are conspicuous through falling off their horses, quite often from fear alone. "Their most efficient aid was given when they were hurled against the foes after the elephants had become useless, and the throng was too dense and mixed for the employment of war-cars. Then the agile and single horsemen could
do good work on the head of frightened foot-soldiers, intimidated by fear of heavier foes.

The classical chronicles show that the Indian cavalry in the age of Alexander were no longer as inefficient and unskilful as in the epic age. They were gradually out-growing the impotence of infancy, and winning recognition as an arm of real value. Aelian says that the Indians of this epoch held the horses in high esteem because of their great use in arms and warfare (McCrum-dle: 1896). The tables, given in chapter II prove that most of the Indian states in the fourth and third century B.C. maintained large cavalry forces.

In the battle of the Hydaspes, the cavalry in the service of king Porus were posted in the two flanks of the Indian army. Alexander despatched against their left wing a contingent of 1,000 mounted archers, brought from the steppes of Central Asia, to throw the enemy in that part of the field into confusion with storms of arrows and charges of their horses. He marched rapidly forward himself with the companion cavalry against the left wing of the barbarians, making haste to attack their cavalry in a state of disorder while they were still in columns and before they could deploy into line. The Indians meanwhile had collected their horsemen from every quarter, and were riding forward to repulse Alexander's onset, when Koinos, in accordance with his orders, appeared with his cavalry upon the rear. Seeing this the Indians had to make their cavalry face both to front and rear- the largest
and gave part to oppose Alexander, and the remainder to wheel round against Koine and his squadrons. This, therefore, at once threw their ranks into confusion, and disconcerted their plan of operations; and Alexander, seeing that now was his opportunity while their cavalry was in the very act of forming to front and rear, fell upon those opposed to him with such vigour that the Indians, unable to withstand the charge of his cavalry, broke from their ranks, and fled for shelter to the elephants as a friendly wall. Arrian, from whom the above quotation has been extracted, adds that shortly afterwards the Indian cavalry, when they saw their own infantry men engaged in action, once again wheeled round and charged the Macedonian cavalry. But the Macedonian horsemen, being far superior in skill and discipline, again routed them and drove them back upon the elephants.

If we compare the foregoing account with that found in the epics, we shall hardly fail to recognise that the Indian cavalry of the age of Alexander were decidedly an improvement upon their epic fore-runners. It is true that they could not withstand the cleverly-planned attack of Alexander; but that was because of two reasons: first, the Macedonian cavalry were better-trained, better-disciplined and better-equipped; and second, Alexander himself was a cavalry commander of superb genius. As at Granicus Issus and Arbelae, so here on the bank of the Hydaspes, he showed all the best qualities of a great cavalry leader. Like Hannibal, he understood the advantage of hurling masses upon the enemy and breaking through them by the mere momentum; he demonstrated the
efficacy of using the horse and the rider as a projectile weapon. "Military critics", writes McCrindle, "cannot point to a single strategical error in the whole series of operations conducted by Alexander himself, or his generals acting under his orders, from the time he encamped on the bank of the Hydaspes till the over-thrown and surrender of Persepolis".

The gradual emergence of the cavalry as an efficient arm is further attested by the nature and variety of functions assigned to them in the Arthasastra. In one place (Sk·X·ch·5) Kautilya says: "running against; running round; running beyond, running back, disturbing the enemy's halt; gathering the troops; curving, circling, miscellaneous operations; removal of the rear; pursuit of the line from the front, flanks and rear; protection of the broken army; and falling upon the broken army-these are the forms of waging war with the horses". Elsewhere (Sk·X·ch·4) he defines the principal tasks of the cavalry as consisting in cutting off the provisions and reinforcements of the enemy; screening and protecting the strategic front of the armies; outpost and detached service, occupying advanced positions; delivering a charge, scouting and reconnoitring; gaining the flanks and rear of an enemy, covering an advance and pursuing a retreating foe. In other words, in the opinion of Kautilya, they were expected to intervene in the prologue, in the principal act, and in the denouement.

Out knowledge of the Hindu cavalry in the Gupta and post-Gupta period is extremely meagre. A few facts, however, are
worth noting. It is not improbable that this increase was a
direct sequel of the growing importance of this arm in contemp-
orary military estimation. Secondly, it is noteworthy that on
certain types of their coins, the Gupta emperors are depicted as
full-dressed cavaliers. Whether the Guptas issued these coins
merely in slavish imitation of the Indo-Bactrian and Indo-Gangetic
rulers, or were imbued with the idea of making the cavalry the
most honourable form of service, is more than we can say. For
reasons given in the preceding chapter, it seems reasonable,
however, to believe that the early centuries of the Christian
era witnessed a general improvement in the standard of cavalry
service in India and a better recognition of the genius and
utility of this arm. Certain remarks, contained in later works on
polity, perhaps prove that this change in military outlook
persisted till well-nigh the close of our period. Writing in the
tenth century A.D., Somadeva (1890) says: "The cavalry represents
the mobility of the army. With a king, having a strong cavalry
force, war becomes almost a sport. On him fortune smiles, and
even enemies at a distance easily come within his grasp." In the
same strain Somesvara (1906) (twelfth century A.D.) observes:
"The cavalry is the key to fame; a king in possession of a
strong cavalry need entertain no apprehension regarding his
territory."

Nevertheless it must be noted that the cavalry never
came to occupy the front rank in the army organisation of ancient
India. It never in fact came to form the core of a Hindu army.
As in the time of Cyrus, so in the time of Arthvinafi, much greater reliance appears to have been placed upon the elephant than upon the horse. And as in the 4th century B.C., so in the 11th and 12th century A.D., the superiority of foreign horsemen once again decided the fate of India. There is ample evidence in the early Muhammadan chronicles to show that both Tughluq of Ghazna and Muhammad Chori won some of their most brilliant military triumphs in India by the skilful use of a numerous and well-trained cavalry (Elliot: 1772).

One of the reasons why the Hindus never did or could evolve a cavalry system comparable in strength and efficiency to that of the Greeks or Muhammadans was the lack of good horses in India. Ancient writers are singularly unanimous in regarding the horses of the north and west as better than those of India proper. In the Mahabharata, the most famous horses come from the Sindhu country, or Bahlka, or Kamboja. The Samhitaka-parva (116, 13) speaks of the people of the latter country as among the finest horsemen. In the Surangalavilasini (I, 126) Kamboja is referred to as the home of horses—Kamboja asanam ayatanam. The Jaina Uttarakhayana Sutra (Jaina Sutras. S.l.P., II, 47) tells us that a trained Kambojan horse exceeded other horses in speed, and that no noise could frighten it. Kalidasa in his Raghuvaama (IV.70) makes Raghu exact a tribute of horses from the Kambojan kings. In the Gaudavaha (p. 78, v. 261), Vakpati refers to the tradition that the horse was a product of the Himalayan regions—hima selanta-sambhava. In the Rajatarangini (IV, 165), Kalhana
eulogistically speaks of the stables of the Kambojas. Finally, according to Somesvara, horses from Sindh, Arabia and the Kamboja countries were by far the best.

This paucity of good horses within India proper often compelled powerful monarchs both in the north and in the south to get their supply of horses from foreign countries. Sana tells us that the royal stable of emperor Harsha was filled with horses "from Vasayu, Aratta, Kamboja, Bharadvaja, Sindh and Persia. The Kalimpur copper-plate of Dharmapala speaks of his "unlimited troops of horses presented by many kings of the north. The Jonghyr copper-plate of Devapala indicates that this king of Bengal got his supply of horses from the Kamboja country. The Arab merchant, Sulaiman, says that his contemporary king of Jurz (who has been identified with Shoja of the Gurjara-pratihara dynasty) possessed the finest cavalry in India. "This king maintains numerous forces," he says, "and no other Indian prince has so fine a cavalry." It is reasonable to believe that he could get together such a strong and efficient cavalry because his kingdom lay in close proximity to the regions mentioned above.

The Deccan states seem to have suffered from this handicap even more than the northern states; and contemporary authorities affirm that they had to secure their supply of horses "from distant lands beyond the seas. Referring to the Kalabar coast, Rashiduddin says that there were no horses there, or rather those which were there were weak, and "it was therefore agreed that every year Jamalu-uddin Ibrahim should send to the Devar 14,000
strong Arab horses obtained from the island of Kiz, and 10,000
horses from all the islands of Fars such as Katif, Tansei, Bahrein,
Humuz and Tilchat, etc. Each horse is reckoned 220 dinars of
red gold current (Tillot: 1772). Describing the same region,
Macri Jobo (1703) says that "there is no possibility of breeding
horses in this country."

This lack of good horses of indigenous breed must have
proved a serious obstacle to the development of a first-rate
cavalry system in ancient India. It was indeed a fatal lack.

4.511.2: Classification and Training of Horses: Most ancient
writers, dealing with the art of war, have emphasised the care-
ful selection of horses for the army. Horses were accordingly
classified in a variety of ways, one of these was based on their
breed. Thus according to the Arthasastra (Dr. Ht. ch. 36): "The
breed of Cambodia, India, Arabia and Yemen countries are the
best; those of Shaliga, Asjaya, Iuwira and Tailea are of middle
quality; and the rest ordinary (eravah)". Another method of
classifying horses was by means of their physical proportions.
"The face of the best horse", says Kautilya, "measures 32 angulas;
its length is five times its face; its shank is 20 angulas; and
its height is 4 times its shank. Horses of medium and lower sizes
fall short of the above measurement by two and three angulas
respectively. The circumference (parinaha) of the best horse
measures 100 angulas, and horses of medium and lower sizes fall
short of the above measurement by five parts (pancabhagavarna)."
A comparison of the above figures with those given in the Garuda Purana (207, 4-5) and the Sukraniti (Ch. IV, sec. vii, 11. 85-144) will show that the standard of measurement was not rigidly fixed, but differed from age to age.

It may be noted further that horses were considered auspicious and inauspicious according to the colour of their body and the location of twists in the hair (avartas). And this again led to further divisions and subdivisions. The Brhat Samhita (66, 12 ff.) and the Agni Purana (289, 1ff.) give ten good and ten bad avartas. The Yukti-kalpataru (pp. 182 ff.) divides horses into four castes in accordance with their distinguishing characteristics, and gives an exhaustive analysis of their colour and hair-rings. In the Agva-krama of Hemasuri, a Jain author of the 14th century A.D., horses have been classified into as many as one hundred and fifty-three varieties. The classification is based on their curls marks, colours and qualities (Hemasuri:1928).

Great care was bestowed on the training of horses for war. Megasthenes says that in the 4th century B.C. there was a class of professional horse-trainers in India, who were trained from boyhood to manage horses. It was their practice to make the horses move at a measured pace and in a straight course. They did not gall the tongue of their horses by the use of spiked muzzles, nor did they torture the roof of their mouth, but broke them in by forcing them to gallop round and round in a ring, especially when they saw them refractory. "Such as undertake this work", adds the Greek ambassador, "require to have a strong hand as well as a thorough knowledge of horses (Mccrindle: 1926)."
The Arthasastra of Kautilya (Sk. II. ch. 30) provides us with a detailed account of the various movements employed for the training of horses. The author begins his description with the statement that "the regular training of the horse is its preparation for war". This, according to him, involved the mastery of five principal movements, viz.,

1. valgana (circular movement);
2. niceirgata (slow movement with the head and ears kept erect);
3. langhana (jumping);
4. dhorana (gallop);
5. narostra (movement following signals).

Most of these, again, consisted of several varieties. Thus valgana was of the following kinds:

(a) aupavenuka (turning in a circle of a cubit in diameter).
(b) Vardhamanaka (advancing and yet turning in a circle as above).
(c) yamaka (running the figure-of-eight).
(d) alidha-pluta (running and jumping simultaneously).
(e) irthatta (movement only of the forepart of the body).

and (f) trvacaši (movement of only the hinder portion of the body).

Similarly niceirgata consisted of the following sixteen varieties:

a) prakirnaka (a combination of all kinds of movements).
b) prakirnottara (the same as above, but with one kind of movement kept prominent).

c) misanna (a movement in which the hinder part of the body is kept steady).

d) pravasuuvratta (movement sideways).

e) urnimarga (movement up and down like a wave).

f) sarabha-kridita (playing like a sarabha, a kind of deer).

g) sarabha-pluta (leaping like a deer).

h) trita'la (movement using only three legs).

i) vahyanuvratta (moving right and left).

j) janasangani (movement by using two and three legs alternately).

k) sahepata (pacing like a lion).

l) svadhuta (long strides).

m) klista (moving straight without a rider).

n) slaghita (moving with the forepart of the body bent).

o) brinhiba (moving with the hinder part of the body bent).

and p) pusaphahikarna (zig-zag motion).

The several forms of langhana were as follows:

(a) kapitluta (jumping like a monkey).

(b) bhakapluta (jumping like a frog).

(c) ekaputana (sudden jump).

(d) ekapada-pluta (jumping with one leg).

(e) kokila-samceri (leaping like a cuckoo).

(f) urasya (dashing with the breast almost touching the ground).
and (g) bakasamari (leaping like a crane).

In the same way, dhorena included the following movements:

(a) kanka (flying like a vulture)
(b) varikatha (dashing like a water-duck)
(c) mayura (running like a peacock)
(d) ardha-mayura (half the speed of a peacock)
(e) nakula (dashing like a mongoose)
(f) ardha-nakula (half the speed of a mongoose)
(g) varaha (running like a hog)

and (h) ardha-varaha (half the speed of a hog).

Besides the above, a few kinds of trot are also enumerated in the Arthasastra. One of these is called marga (trot). "Trotting according to strength (vikrama), trotting with good breathing (bhastivasa), and trotting with a good load on the back (bharavahya) are the three forms of marga." Another kind of trot is designated dhara. This consisted of five movements, viz., trotting according to strength (vikrama), trot combined with circular movement (valgita), pacing with gallops (upakantha), medium speed (upajava), and low speed (java).

It is difficult for us, especially after the lapse of so many centuries, to understand the full meaning of all the technical terms mentioned in the Arthasastra. Words and phrases, which once appeared obvious in the context of daily life, have now become obscure. Yet the above list of technical terms, each
signifying a special kind of movement, testifies to the extreme care with which horses were trained in ancient India. We do not know how long this elaborate system of horse-training continued in actual practice. Casual references in literature and inscriptions show that the five movements styled dhara by Kautilya were well-known to the horse-trainers of later epochs. Thus in the Sisupalavadha (V. 60) we read of a horse being actually taken out to practise these movements. The Anankonda inscription, (dated saka 1084), referring to Rudradeva's cavalry force, says: "His horses are of the most pleasing shape- of low-sounding neighings- possessed of all the excellent characteristics that are made famous by the writings that treat of horses- adapted in their make for speed and weight- very long-lived- and trained in the five kinds of paces (pancadharah). In the Udenagar Prasasti of the reign of Kumarapala (1151 A.D.), Ahimadeva's horses are referred to as "supremely skilled in accomplishing the five kinds of trot called dhara (Epigraphic India: 1922)."

The Agni Purana (268, 60-68) and the Mahabharata Samhita of Vasistha (p. 66) supply us with a neat list of technical terms in connection with horse-training, but it is difficult to make out their full import (Kautilya Arthasastra: 1923).

5.5:III: TECHNICAL

5.5:III-1: Historical outline: Elephants are mentioned in the Rgveda probably under the designation of varga varana (vii, 33,
8; x. 40, 4), certainly under that of mrga hastin. They are usually spoken of as wild, terrible beasts, and both suggests that the compound name is a proof of the newness of the animal to the Vedic Indians. This may well have been so, but there are good reasons to think that before the period closed, elephants had been both tamed and domesticated. The Yajur-veda uses the term hastina to denote an elephant-trainer. In the Atharva-veda (ix. 3, 17) we read: "Thou hall (or house) standest on the earth with feet like a female elephant". The passage suggests that its author must have been accustomed to look familiarly at the animal close at hand. There is a verse which pointedly says that the elephant "hath now become chief of all pleasant beasts to ride".

There is, however, no reference in any of the Vedas to the use of elephants in war. But once they were tamed and domesticated, it did not take long to realise that their extraordinary strength might be profitably utilised for military purposes. The initial steps in this direction were probably taken in the post-Vedic period. In both the Jatakas and the epics the elephants are represented as taking part in military operations, but they were not yet the most important arm. They became the most important arm about the time of the Macedonian invasion. The classical chronicles make it abundantly clear that in his titanic struggle against Alexander, Porus pinned all his hopes on the elephants in his army. In the battle-array that he drew up on that fateful day,
he posted the elephants along the front like sections in a wall. He seems to have thought that these monsters would terrify the foreign soldiers, and render the Macedonian cavalry unmanageable. In fact, he counted without his host. Alexander, a shrewder judge of military affairs, instinctively realized the grave danger involved in such extensive employment of elephants in war (Macridile: 1896). But neither Porus nor any other Indian prince did. Everywhere there was the same demand for elephants, the same implicit faith in their military effectiveness. In the eastern kingdom of Magadha, Mahapadma Nanda had collected a huge contingent of elephants, numbering about four thousand, "all trained and equipped for war (Macridile: 1923). Shortly afterwards Chandragupta Maurya increased the strength of the Magadhan elephant corps to nine thousand. The age of chariots had passed, that of elephants had begun (Chakravarti, P.-E. 1967)."

In the succeeding centuries, the importance of elephants went on mounting higher and higher in Indian military estimation. In the Arthasastra (ch. VII, ch. 2) Kautilya provides us with an inkling into the military thought of his age when he writes that "it is on elephants that the destruction of an enemy's army depends". "The victory of kings in battles", he remarks elsewhere, "depends mainly upon elephants; for elephants, being of large bodily frame, are able not only to destroy the arrayed army of the enemy, his fortifications and encampments, but also to undertake works that are dangerous to life. Where Kautilya is merely
affirmative, his successors are superlative. For instance, Vaisakha, the famous author of Kasyayurveda, says: "The Sunaru is the ornament of the world, the moon of the night; learning is the ornament of the man, and the elephant of the army". Again, "where there is truth, there is religion; there where there is religion, there is prosperity; where there is beauty, there is nobility; and where there are elephants, there is victory". Ramadaha (XXV, 16-12) says that "the kingdom of kings depends on elephants", and that "one elephant, duly equipped and trained in the methods of war, is capable of slaying six thousand well-equipped horses. The Niti-Vedana (pp. 62-23) and the Agni Purana (267, 5-6) join their voice to this general chorus of praise. A medieval author goes so far as to declare that an army without elephants is as despised as a desert without a lion, a kingdom without a king or as useless armed by the best.

There is no reason to think that the theory was divorced from practice. Referring to the king of Patal, the Ibn Traveller, Sulaiman, says: "He does not go to battle, he is followed by 50,000 elephants. He takes the field only in winter because elephants cannot endure thirst, and can only go out in the cold season." Ibn Khurdadbeh says that "the kings of Kair take great delight in maintaining elephants, and pay largely for them in gold (Elliot: 1772). The elephants continued to fill an important role in the Indian military system long after the conquest of India by the Muhammadans. It was only after the introduction of
The use of elephants in battle is not limited to India alone. The practice was also adopted by other civilizations such as the Greeks, Romans, Turks, and Mongols. Classical authors, such as Herodotus, tell us that after the battle of Plataea, Alexander the Great gifted elephants to the Indian emperor Chandragupta Maurya. This practice continued through the centuries, as seen in the wars of the Macedonians and later, the use of elephants by the Sultans. The practice was further refined, with commanders using them as shock troops against heavy cavalry. Despite their size and strength, elephants were not always valuable in battle, as their movements were slow and their size made them easy targets for archery. The use of elephants in battle is complex, and the treatment of their use varies from text to text. For example, in the works of Kautilya, the role of elephants in battle is discussed in detail, with the use of elephants being divided into different functions. These functions include acting as shock troops, providing cover, and acting as mobile fortresses.
as the vanguard of a marching army (puravasam), (b) preparing roads, camping grounds, and landing ghats in rivers (srutemarga-vaz-a-birtha-karma), (c) clearing away such impediments as small trees and bushes (vivasa-vaz-badha-pravasa), (d) scattering down wells, gates and towers of a fortress (salayavatkalaka-bhanjana), and (e) breaking up, scattering or trampling down the hostile force. Namanaka (1911) adds that "breaking into forest forts" (vaze-dariga-pravasanam) was another important function of war-elephants. In the Mahabharata (242, 327) it is stated that elephants were specially useful in all confused battles.

But elephants were sources of more harm than benefit. If wounded, they were liable to get beyond control and escape at the top of their speed. It also happened that once taken by terror, they turned round and trampled their own men under their feet. The earliest known instance of this kind occurred in the battle of the Ayodhya, recorded by the sound received from the enemy's missiles, the elephants in the Parshva army "attacked friend and foe quite indiscriminately, pushed them, trampled them down, and killed them in all manner of ways", and being at last spent with wounds, "spread havoc in their own ranks (Purinkle, J.N.: 1996). Another example of this nature recorded is Kalhana's Rajasamhita (VII. 1551-55). "The horse was fighting for his very life and throne against the Satavahana and Chalukyas, headed by Uccala near the bridge on the stream called Kshipra. Then Janakacandra and others shot arrows at the king's fighting
elephant, which stood in front of the bridge and had thrown off its armour. Hit in the joints by the arrows, the elephant raised a trumpeting roar, and turning back trampled with his feet his own force. Attacked by the elephant which had turned hostile, as fate (had done), the foot and horse of the army were routed.

In other ways, too, elephants sometimes proved to be a source of immense danger. With the growing importance of elephants, kings and generals began to appear in the fighting line mounted on these ponderous beasts. They apparently thought that being thus easily visible, they would be a source of inspiration to all the troops. But there was one grave risk attending the practice, for they were thereby making themselves a target of attack by the enemy. In those days battles were nearly always decided by the fate of the leader; and it was believed that if the king or general were killed, his army would give up the contest and in a very short space of time melt away altogether. An instance of this nature occurred when Muhammad-bin-Kasim invaded the kingdom of Banir. The Chachnana relates how Dahir was observed seated on a lofty elephant by the enemy. "Muhammad Kasim told the nakhtha throwers that the opportunity was theirs, and a powerful man in obedience to this direction, shot his nakhtha arrow into Banir's howdah and set it on fire." This produced immediate confusion in the Hindu army had decided the day. A similar incident took place in 1008 A.D., when the confederate Hindu army under Anandapala met the Ghaznavide troops under Sultan Mahmud on the plains of
Chach (lying between Kathi and Hanu) saw the Hindu and Muslim armies lay in front of each other in entrenched camps for forty days, each watching for an opportunity to gain advantage of the other. Then the Muslins, impatient of further delay, began the action by rushing the entrenched Chachini camp, and slaying a few thousand Hindu soldiers. The two armies thus became entangled in deadly conflict, and for a time it seemed that the Hindus would win the day (Val. ch. 17:11). But all on a sudden, says Sivishita, "the elephant, upon which the prince who commanded the Hindu rode, became unruly from the effects of the naphtha balls and the flights of arrows, enraged and fled. This circumstance produced a panic among the Hindus, who seeing themselves deserted by the general, gave way and fled also. Still another instance of this nature occurred towards the close of the tenth century A.D., when the Sultana of Jauze was attacked by Abul-ad-din Abbas. The Sultana, we are told, prized himself on the number of his troops and war-elephants. He came to the field armed at a lusty mordah, but within a short time received a deadly wound from an arrow, and "fell from hisainted seat to the earth." No sooner his army lost heart and fled in confusion (Alioti: 1772).

5:11111:3 Elephants - Elephants, like horses, were usually classified either according to their breed or according to their physical characteristics. In the Arthasastra (Sk. xx. ch. 2), Kautilya says that 'elephants bred in countries such as Kalinga, Angra, Harasa, and the best are the best; those
of Desarna and "eastern countries are of middle quality; and
those of Surastra and Vancjana countries are of low quality".
It may be mentioned here that just as ancient writers have
ascribed, with surprising unanimity, the pre-eminence in horse-
breeding to the north-west, they have attributed the pre-eminence
in elephant-breeding to the east. For instance, it is noted in
the Santiperva (101. 4) as a distinguishing characteristic of
the easterners that they could fight skilfully with elephants
(pracya matanga-yuddesu kusalah). In the Meghuvamse (IV. 40, 83,
VI. 27, 54), while describing the campaigns of Pachu, Kalidasaspeaks of the mighty elephant force of the Maliga and Anag kings.
Similarly, Vepati refers to the king of the Vanges as "powerful
in the possession of a large number of war-like elephants.
Referring to Kamrupa, the Chinese pilgrim, Huan Tsang, says
that there were "wild elephants which ravaged in herds, and so
there was a good supply of elephants for war purposes". Elsewhere,
he mentions that the military establishment of the contemporary
king of Kamrupa included a contingent of 20,000 war-elephants.
This peculiarity of fauna may have been an important factor, as
Rhys Davids has suggested, in the gradual rise of Magadha to
supreme power (Chakravarti, B.C.: 1907).

The training of elephants for war must have involved a
more laborious process than the training of horses. Of the methods
employed to capture wild elephants, some have stood the test of
time and are well known in modern India (McCrieulle: 1923). Captured
elephants were first carefully tamed. Megasthenes says that this
was usually done by tying their feet one to another, their necks
to a pillar firmly fixed in the ground, and leaving them without
food. According to the Arthasastra, the training of elephants consisted of several clearly marked stages. The process began when the animal was brought to attach itself to a herd of tamed elephants, and lost its wildness by contact with them; this was called the Yuthagata stage of training. Then the animal was cleverly thrown into a pit, specially dug to subdue its ferocity; this was the apapata stage. The next step in the training (variigata) was to keep the animal confined within a particular area of the forest instead of allowing it to roam at large. The next disciplinary measure was to tie the animal to a post when it was found sufficiently gentle for the purpose (stambhagata). The taming was completed when the animal became so gentle that it allowed its driver or trainer to sit on its withers without protest; this was the skandhagata stage (N.N. Law: 1914).

When sufficiently tamed, elephants were divided into two groups, viz., those meant for peaceful traffic and those for warlike services. According to Kautilya (1923) the military training of elephants comprised two successive stages. In the first, they were accustomed to girths (kakayakarma), collars (graiveya karma), and to co-operation with a herd of trained elephants in a joint work (yuthakarma). In the second, they were trained in the following manoeuvres:

a) upasthana (drill, such as riding, bending, jumping over fences, ropes etc.).

b) samvartana (lying down, sitting and leaping over pits and lines drawn).
c) samyana (moving forward straight or transverse, or making serpentine movements)
d) vahavaha (trampling down and killing)
e) naktiyodha (fighting with other elephants)
f) nagarayana (assaulting forts and cities)
and g) samgramika (other cognate movements relating to war).

Dana informs us that in the 7th century A.D., leather
figures were used to train elephants in military manoeuvres. There
is an elaborate description of this method of training in the
Samhita. It may be further noted that elephant-trainers
developed a code of technical terms in various parts of the country.
Dharmapala has a reference to drivers speaking words of encouragement
at the elephants. Somesvara (1006) supplies us with a list of these
technical terms as used in Maharashtra and Gujarat in the eleventh
and twelfth century A.D.

The elaborate training thus given to elephants often
produced amazing results. The Greeks in the fourth century B.C.,
and the Muhammadan invaders in the eleventh and twelfth century
A.D. were equally amazed by the astonishing feats of Indian
elephants (Mccrindle: 1933). It is no wonder, therefore, that
the elephant drivers of ancient India acquired a reputation,
which spread beyond the borders of the country. It is probable
that the war-elephants in the Sassanian army were mostly managed
by Indian drivers; it is certain that the elephant trainers in
the army of Sultan Mahmud and Sultan Kusum were mostly Hindus
(Muhammad Nasim: 1931).
The history of the development of arms and armour goes back to the remotest antiquity. Among the numerous objects of interest, which have been unearthed at Mohenjo-Daro and Harappa, there have been discovered weapons of war and of the chase. It would seem that the chief weapons used by the people of the Indus valley were axes, spears, daggers, bows and arrows, maces, slings, and possibly—though not probably—catapults. But they do not appear to have known the use of defensive armours such as shields, helmets or greaves. At least, no trace of any of these has been discovered. The materials of which most of the weapons were made were either copper or bronze (John Marshall: 1931).

In the succeeding ages numerous other weapons came into vogue. Some of these held the field for a time, and were superseded by other, more efficient prototypes. Some, again in varying forms, outlasted the shocks of centuries and remained a permanent feature of the Indian military system. On the whole, it would seem that like many other things of life, arms and weapons underwent a gradual process of evolution. For instance, the sword which was not known to the people of Mohenjo-Daro and Harappa, and, it would seem, rarely used by the Vedic Aryans, became one of the principal weapons of India in the post-Vedic period. The bow, which was a wooden staff bent into a curved shape in the Rgvedic period, was developed into a highly finished composite apparatus in later centuries. Moreover, with the advance of
knowledge in science and metallurgy, powerful projectile machines worked by mechanical power appear to have been discovered and used in both offensive and defensive warfare. Such were the yantras and maha-yantras mentioned in the s.i.s. and Arthasastra and later literature.

Ancient writers have classified arms and weapons under certain heads. The Mahabharata (1919) for instance, speaks of a four-fold classification of arms, but does not indicate the principle on which it is based. In the Arthasastra (3k. 1.; ch. 18), Kautilya divides arms as engines of war, weapons with pointed ends like ploughshares, bows, swords, razor-bladed weapons, stones and armours. The Agni Purana (240, 2), again, classifies weapons under five heads, viz., those thrown by machines (yantra-mukta), those thrown by the hand (puni-mukta), those thrown and drawn back (mukta-sandharita) those not thrown (amukta), and natural weapons such as the fist. Omitting the last, which is purely theoretical, the practical division is four-fold, and is probably the same as that referred to in the Mahabharata. The Yukti-kalpataru of Bhoja divides weapons into two classes, viz., deceitful (mayikam) and non-deceitful (nirnayan). The former is illustrated by combustibles (dahanidikam) and the latter by weapons like the sword (khadgadikam). In the Niti-prakasika (II, 11-13), again, arms are divided according to their nature into mukta (thrown), amukta (not thrown), muktamukta (thrown or not thrown), and mantra-mukta (thrown by means of spells). These four classes of arms,
AXES IN ANCIENT INDIA

1. Dagger
2. Sword
3. Infantry shield
4. & 5. Cavalry shields
6. Pind or Javelin
7. Vajra carried in kings' hand
8. Axe
9. Bhalla
10. Tridents
11. Elephant goad
12. Ardha chandra
13. Karmika
14. Vatsadamta
15. Tomara
16. Alatacakra

Fig. 5.1
the author adds, concluded:

For the purpose of the present study, we cannot accept the above classifications, each of which is realized on reflection is defective in one way or another. We may, therefore, more conveniently divide arms under two heads, viz., offensive and defensive. Offensive arms may, again, be subdivided into (a) missiles and (b) short arms, those used at close quarters, corresponding to the European ‘arme blanche’.

5.6.1: OFFENSIVE WEAPONS (Fig. 5.1)

5.6.1-1: Bow: The origin of the bow is lost in the mists of obscurity. The discovery of a number of copper and bronze arrow-heads at Mohenjo-Daro and Harappa proves that the use of the weapon was known to the people of the Indus valley about the third or fourth millennium B.C. The evidence of comparative philology shows that the Indo-Aryans were acquainted with archery even before they settled down in India. For, the names of the bow, bow-string and arrow are the same in Indo-Iranian and in part appear Indo-European. The Rigveda is replete with references to the bow and arrow, and Macdonell and Keith suggest that practically no other weapon played any substantial part in Vedic warfare (Rigveda Samhita: 1911).

Starting from that dim past the bow had a continuous history in India till the beginning of the nineteenth century. It was only after the introduction of hand fire-arms, and the
gradual extension of their use that it was ousted from its position as one of the leading military weapons of the country. Throughout the ancient period, however, it was the weapon par excellence of the Hindus. It gave its name to military science (dhanur-veda), and proficiency in its use was the measure of a man's reputation as a warrior (Chakravarti, p.c.: 1987).

The earliest bow must have been a very simple instrument made of bamboo, cane or wood. During the Vedic period, it was "composted of a stout staff bent into a curved shape (Av. iv, 6,4) and of a bow-string made of a strip of cow-hide (Av. vi, 67, 11; av. i, 2,3; 1911)."

The Catech. 1895) frequently refer to the ram's-horn bow, though it is likely that bamboo and wooden bows were also in use. In the Arthasastra (Sk. II. ch. 18), Kautilya specifies palmyra (tala), bamboo (casa), wood (cana) and horn (runga) as the chief materials out of which bows in his age were made. Bows made of palmyra were known as harku, those of bamboo as koda, those of wood as duma, while horn bows were called dharu. Bow-strings were made of murva (Sansevieria oxisurghiana) arka (Calotropis Gigantea), sana (hemp), gavdhu (Coix Barbata), venu (bamboo bark) and snayu (sine)."

The siva-Dhanur-veda mentions two kinds of bows, one made of bamboo (vamsam) and the other of horn (sarngam). It lays down that bows of bamboo should consist of three, five, seven or
nine knots. Those having four, six or eight knots should be discarded. The bow-string, according to the same authority, should be made from silk-thread (patta-svrah) twisted into a cord. It must be three-stranded, round, smooth and of the size of the little finger throughout. In the absence of silk-thread, Siva recommends the sinews of deer and buffaloes as also cords prepared from the thongs of the fresh skin of goats for strings. He further adds that a good string could be made of the outer kind of bamboo with a silk-thread twisted round it. Fibers of arka (Calotropis gigantea) might also be turned into a string of considerable strength (Chakravarti, 1957).

The Agni Purana (245, 4 ff.) supplies us with the following account of the materials for the construction of the bow:

"Bows are made of three things, viz., metal, horn and wood. The string of a bow is likewise made of three substances, viz., reed (vansu), hemp (bhang) and hide (tvaco). The best bow is four cubits long, the medium bow three and a half cubits, and the inferior bow only three cubits. The bow-stave is to be so prepared that it may not have any uneventess from its centre to the extremities. In order that it may be firmly held, a spare piece of wood should be fixed at the centre of the bow-stave. The ends of the bow should be made thin and tapering so as to resemble the eye-brows of a handsome woman. Metal and horn bows should be made either of iron or horn separately or of the two substances conjointly. The horn-bow should be well-shaped and decked with gold. Bows which
are crooked or have cracks or holes in them are not good. The metal-bow is to be made of gold silver, copper and black iron (steel). Horn-bows made out of the horns of buffaloes, sarabha and moolica are praiseworthy. Bows are also made of sandal wood, teak, sal wood chenchus (a kind of Hedysarum) and kuduksa (Famcetera arjuna). But the bow made of bamboo, which grows in autumn and which is cut and taken at that time, is the best of all.

It is quite probable that originally wooden and bamboo bows were alone used, and horn bows were later inventions. In search after materials to improve the casting power of the bow, man would naturally be struck by the elastic properties of the horns of animals. The combined testimony of the datekas, the quica and the Arthasastra of Kautilya proves that horn-bows had come into use in India before the beginning of the Christian era. Probably the bow of pure horn was the link between the wooden bow and the composite bow of a later age. In making a bow of horn, whether of a pair of horns or of a single large horn, like that of a buffalo, split up to make the two limbs, the bow when made and unstrung would naturally take the shape of the horns when growing of the animal's head. It would at once be seen that the only way to get any spring from the bow would be to bend them the reverse way of the natural curve. Thus we have the reflex bow. This particular characteristic of the horn bows, viz. that they were drawn in the reverse direction to the curve
The passage quoted above from the Agni Purana shows that the bow was sometimes made of iron; but the recoil of this, or, indeed, of any metal is so slow in comparison with that obtained from other materials, that a bow which would give the requisite swiftness of flight would be beyond the power of the strongest man to draw. Metal bows are, therefore, nowhere extolled and they do not seem to have ever come into general use in ancient India.

There are two passages in the Agni Purana which suggest the existence of composite bows in the later centuries of our period: one of these runs to the effect that bows might be made of horn and iron conjointly. In the other we are told that the middle part of a bow should be joined with a spare piece of wood. Now, the main constituents of the composite bow are three-fold—horns, being a compressible substance for the belly; wood or metal to give stiffness to the centre; and sinew for the back, to give elasticity and ‘cast’. The reticence of the Agni Purana concerning this additional backing of sinews no doubt weakens, but by no means precludes, our inference. The double-curve bows portrayed in some Sanchi reliefs and on Gupta coins appear, in all probability, to have been of the composite form. The curve of these bows when fully drawn (illustrated, for instance, in the Lion-slayer and the Tiger-slayer types of Gupta coins) seems to
so only practicable with those which are made of materials far more elastic and less liable to fracture than any wood.

It may be naturally asked as to why even after the development of horn and composite bows, the Agni Purana so highly extols bows made of bamboo. The answer to this question is, no doubt, partially found in the elastic properties of bamboo. But the more important reason appears to have been that a highly finished horn or composite bow would always be an expensive weapon, whereas bamboo bows, though less effective, would be more easily come by.

Ancient writers throw some light on the length and size of bows. Hopkins points out that in the Rigahbharata the bow is "several times spoken of as talastra or palm-long, which when compared with the numerical qualification employed in sadaratni, may probably be interpreted as six cubits in length. Elsewhere we have recorded a statement of Arrian that the bow carried by the infantry in the fourth century B.C. was of the same length as the bow-man. Some of the bows represented at Sanchi appear to have been of this size, but others were shorter (Cunningham Sir J.: 1891). The Siva Dharurveda contains the following rules regarding length and size of a bow: "A good bow is that which is a little less strong than its bearer. For that which is precious is not the bow, but the bow-man. If he is troubled by the bow, he cannot shoot with ease (lit. does not see his target). Hence
the size of a good bow should be in proportion to the strength of its bearer. The bow which measures five and a half cubits is recognised to be the best. If this length was the heavenly bow which sanchala held in yore, twenty-four angulas make one cubit (hasta), and four cubits make one hast (mama). If the bow used by men be of this length, it should be considered suspicious.

According to some authorities, however, the bow should measure nine vitastis (\(\frac{1}{2}\) cubits). A little further on the author says:

"The weapon par excellence of Vishnu is his horn-bow. It was made by Visvakarma and measures seven vitastis (\(\frac{3}{2}\) cubits). The horn-bow used by man for long many years is six and a half vitastis (\(3\frac{1}{4}\) cubits) in length (Chakravarti, P.C.: 1967)."

From the preceding quotations it is abundantly clear that the length of a Hindu bow usually varied from \(3\frac{1}{4}\) cubits to \(4\frac{1}{2}\) cubits. It appears further that, generally speaking, horn bows were shorter than wooden or bamboo bows. Both the Siva-Dhanurveda and the Agni Purana recommend four cubits as the most appropriate length of bows. Thus, by a process of expansion in meaning, the word 'dhanus' came to signify a measurement of four cubits (hastas) (Chakravarti, P.C.: 1967).

5.6:1-2: Arrow and quiver: The shaft of an arrow was usually made of sara reed (Saccharum Sura), sometimes also of wood and bamboo. A butt (junkha) was often added to the shaft for the purpose of making a safer notch. An arrow was usually feathered for the purpose of stabilising its flight. The Siva-Dhanurveda
recommends the feathers of the following birds for arrows: heron (nagka), goose (narsa), brown neck (sasada), egret (natayada-kratace), peacock, vulture and wild cock (kulakta). The Nabhavata mentions all these and the feathers of flamingos besides. The number of feathers preferred appears to have been usually four and they were fastened by means of threads and sinew (snyu-tamchubin). The feathers were generally trimmed six inches long, but those stuck up in arrows meant to be shot from a horn bow measured ten angulis (Chakravarti, p. 1927).

The head of an arrow was usually tipped with horn, bone, wood or metal. Vaishali (sk. 11, ch. 15) mentions arrow-heads made of metal, bone or wood as “as to cut, rend or pierce”. The Brahmapara (I, 22, 23) gives a list of forbidden weapons and mentions, inter alia, arrow-heads made of monkey-bone, deer-bone and elephant-bone. The Siva-Chaurveda says: “There are numerous kinds of arrow-heads, assuming different shapes in different regions, such as aramukha (head shaped like an ax), kaurura (head having a razor-like bend), gopuccha (head resembling a cow’s tail), arka-sandra (crescent-shaped head), suimukha (needle-shaped head), bhalla (bread-headed(?)), vatsa-dance (head shaped like a calf’s tooth), dvibhala(?), karnika (ear-shaped head), and kaka-tunda (head shaped like a crow’s beak) (McCrindle Al.: 1923).

Occasionally, it would seem, arrows had ignited matter wrapped round the point. In the Archasatra (sk. XLI, ch. 4),
Vautilya gives three different recipes for the preparation of fire-arrows. In a well-known passage (VII, 30), Yana condemns the use of fiery arrows in civilized warfare, indirectly showing thereby that these were known. The later Manasollasa (106) on the other hand, recommends the use of arrows carrying burning matter, especially against elephants. The Rajatarangini (VII, 362-3) records an actual instance of the use of "burning arrows smeared over with vegetable oil, struck by which the enemies caught fire".

Arrows built entirely of iron were known as narada. We find mention of these in the Jatakas (1855) the Mahabharata (1709) the Arthasastra (Sk. II, ch. 15), the Agni Purana (245, 12) and a multitude of other works. The Atrayi-Mahapurva says that the naradas were built entirely of iron, that five big feathers were attached to them, and that only the strongest archers could shoot with them. There are reasons to think that these arrows were specially employed in fighting against elephants.

Sometimes the shaft of an arrow bore the name of the archer inscribed upon it. The practice is referred to in the Drona-Sarva (19, 36), the Aagluvansa (III, 35; VII, 38), the Vatas-Khandha (39, 66) and the Rajatarangini (VIII, 1678).

The size and length of arrows seem to have varied considerably. In the Satapatha Brahmana (VI, 3, 2, 10), the length of an arrow is stated to be five spans, about three feet. In the Mahabharata, the normal length is said to be equal to that of
an axle of the war-car. According to Strabo, Indian arrows in
the Mauryan period were nearly three cubits long (Wright, 1923). Cunningham maintains that the arrows represented in
the Sanchi reliefs appear to be from three to five feet in length
(Cunningham, 1891). The Siva-Chamurvida describes the length of
an arrow as two cubits or two cubits subtracted by a musti (dist)
and its girth as equal to that of the little finger. According
to the Agni Purana (249, 36), again, an arrow of the best class
should measure twelve mustis in length, while the Pitripaksha
(1, 17; 4, 26-9) maintains that it should be three cubits long
and an anjali (the hollow of the two palms) in circumference.
It may be inferred, therefore, that arrows usually varied from
two to three cubits in length. Shorter arrows were probably
meant for close and longer ones for distant combat (Mahabharata;
1908; Dan, p. 53, 122).

Direct references to the range of arrow shots are
seldom available. The Siva-Chamurvida, however, throws some light
on the subject. While discussing the question of the distance
at which the target for practice is to be located, P.C. Chakraverti says that "the target placed at a distance of 60 dhanus
(240 cubits) is the best, that placed at a distance of 40 dhanus
(160 cubits) is of medium quality, while one located only 20
dhanus (60 cubits) apart from the Bowman is inferior. It may be
inferred from this that the distance which an arrow could traverse
with force and efficacy was about 120 yards. Similarly, from
another passage dealing with meraca-shooting, it may be inferred that the range of the flight of an iron arrow was about 50 yards.

The archer usually carried his arrows in one or two quivers slung over his shoulder. Hopkins says that the quiver was fastened on the right of the breast, and that it held from ten to twenty arrows. The sculptural reliefs seem to confirm this view (Cunningham 1891). The quiver was sometimes decorated with the figures of animals and birds (Viratpurva: 1906; 43, 15).

5.6.1.3 YANTRA: Yantara is a generic term, often loosely used to denote "a contrivance of almost any kind". In the Mahabharata, as Hopkins points out, it is used to denote a restrainer or protector, and serve as an armour or holder of a fastening, as the rope of the holder of a banner; it is part of the trappings of a war-car, the hand of the chariot; it is used to sail a boat with, and is even a drum-stick. In the Acharasutra it is found among the war accoutrements of elephants (SkiIi, ch. 32) and also among the surgical instruments used by physicians in the discharge of their professional duty (Sk. X, ch. 3).

But the yantaras were also employed as military implements. In the Arthasastra (Sk. II, ch. 16), Kautilya speaks of two varieties of yantaras, viz. sthira (immovable) and cale (moveable), but both implements of war. In the epics and the Puranas, these along with satagnis are frequently mentioned as posted on the walls and gates of forts and fortified towns. In
the Sambhavaparva (5, 26), for instance, a sage asks a king: "Are your forts always filled with treasure, food, weapons, water, yantras, mechanics and archers?" In the Santi-parva (95, 45), Shrius enjoins that heavy yantras (yurunyeva yantram) should be placed on the gates of fortresses (gatesu). Moreover, the usual descriptions of towns in the epics inevitably leave the impression on the reader's mind that like the walls and moats, the yantras formed a part and parcel of the Hindu conception of fortification. In the Agni Purana (241, 24), it is stated that "that fort is said to be in distress in which the yantras, walls and moats are in a state of disrepair, and where the garrison is dwindling in number."

The question, therefore, naturally arises as to what were these yantras so often stated in the epic and post-epic literature as forming an essential part of a city's defence. We are inclined to believe that these were of the nature of catapults and ballistae used by the ancient Hebrews, Greeks and Romans in their warfare. Like them, these engines were enormous in size, and were used for propelling large arrows and stones. As already stated, Kautilya speaks of two varieties of yantras; one of these the "immovable" variety consisted of the following engines of war:

1. Sarvatobhadra
2. Jamadagnya
3. Bahumukha
4. Visvasaghati
5. Sanghati
6. Yanska
7. Parjanyaka
8. Ardhabahu
Hautilya himself does not say what exactly was the nature and purpose of these engines, save and beyond that they were enormous and heavy, and hence immovable. But the gap left by him has been filled in by his commentator. Thus servatubheda is explained as "a cart with wheels and capable of rapid revolution. And then follows the remark: "This, when rotated, throws stones in all directions." Janadagnya, he says, was an engine to shoot large arrows (mahasara-yantra): bhumuktha "a tower situated on the top of a fort and provided with a leather cover", altogether so devised as to enable a number of archers to direct their arrows in all directions; and visvasaghati "a cross-bow at the entrance of a city, and so placed as to be caused to fall down and kill enemies when approaching." The others have been similarly explained. Thus saughati was a long pole to set fire to assailers and other parts of a fort; yonaka a pole or rod mounted on a wheel so as to be thrown against enemies; parjanyaka a water-machine to put out fire, and so on and so forth.

It is obvious from the above that the yantras were of various kinds and were used for different purposes. But if the interpretation of the commentator can be relied upon, the first two in the above list were very similar to the ballista and the catapult as used in ancient and medieval Europe. And it is necessary to emphasise that we have no right to disbelieve the commentator, partly because his interpretation is not contradicted by any rival set of evidence, but more so because it is in general
agreement with what we learn from other contemporary or semi-
contemporary sources. In the same chapter in which Kautilya speaks
of these engines, he also speaks of_yantro-gospam-musti-pasana,
i.e. stones thrown by yantras; gospana (a kind of rod) and hand.
If there were stones specifically meant to be thrown by yantras,
there must have been engines also to propel stones on the enemy.
This conclusion is upheld by epic evidence. In the Sundara-Kanda
(3.24), there is a reference to yontrultisipta svapala, i.e.
like stones thrown by machines. In the Lanka-kanda (3.12ff.)
the poet, while describing the defence of Lanka, says: "There
are big and strong yantras to throw stones and arrows, and these
can repel a hostile army when it approaches the city". A few lines
below we read: "At the gates of the city there are four broad
bridges, provided with yantras. These prevent enemies from making
an assault on the city and throw them into the surrounding ditches".
Quotations like these may be multiplied, but it is abundantly clear
that the yantras (not all, of course) were large and heavy engines,
generally used for discharging heavy bolts, stones and arrows.
We have no knowledge as to what supplied their motive power, or
how they were constructed and worked. But it is on record that
like their European counterparts, they produced terrific noise
when in action. They may, therefore, be looked upon as the
artillery of the Hindu army, and as such they seem to have been
regarded in ancient times. We have noted elsewhere that in the
six-fold division of the Hindu army as contemplated in Manu
(vii, 185) and Santi-parva (103, 38), the yantras have been
assigned one independent division.
5.611-4: The sword: The sword appears to have come into use comparatively later than the bow. No sword or sword-blade has been discovered at Mohenjo-Daro and Harappa (Chattel, John 1931). And although it was known to the Vedic Aryans, it appears to have been seldom used in the battles of the period; but as centuries elapsed, it came more and more into prominence. In the Santi-parva (165, 3ff.; 62 ff.): Draupadi, being asked as to which weapon in his opinion is the best for all kinds of fighting, replies that the sword is the foremost among arms (agryah praharanam), but the bow is first (adyam). There are reasons to believe that in the later centuries of our period the sword came to rival the bow as a weapon of offence.

Early Arabic literature provides us with a curious illustration of the esteem with which Indian swords were looked upon in Western Asia. A renowned Arab poet, Rashid-al-Din, composed a poem in praise of the Prophet, entitled Huwaida-i Burda, now known as Benat Tudeh. One couplet of the poem was as follows: "Verily the Prophet is a light from which illumination is sought by all and a sharp sword (serimun) among the drawn swords of God". The Prophet, however, suggested an improvement, saying that serimun should be replaced by Al-muhammad (the Indian sword) (Muslim Hak Magazine: 1929). Another early Arabic poet, Hallal, describing the flight of the Hemyrites, says: "But they fled under its (i.e. the cloud's) small hail (of arrows) quickly, whilst hard Indian swords were penetrating them". And again: "He died and we inherited him; one old wide
(chilasa) and a bright Indian (sword) with a long shoulder-belt (Junker, n.d.: 1918).

Certain regions of India appear to have enjoyed special reputation for excellent sword fabrication. In the Vīrata-parva (42, 14), there is an eulogistic reference to swords manufactured in the country of the Nisadhas (naisadhyas). In the Vāma-parva (51, 26) again, the Apanaca country is declared to be one of the best centres for the manufacture of swords and other steel weapons. The early Muslim chronicler, Ibn Haukel, says that in his days the territory known as Beka was "famous for the manufacture of swords (Alliot: 1773). The Agra Purana (245, 21 ff.) provides us with the following account of the chief centres of sword manufacture: "Swords manufactured in Khet or Kattara country are noted for their elegant appearance, those produced in Thalh are well-known for their cutting capacity, those in Surgraka for their strength, those in Anga for their sharpness, while swords manufactured in Varha are characterised both by keenness and their power of standing blows."

Swords appear to have varied greatly in form and size. Arrian says that in the fourth century A.D. short and broad swords were generally in use. The swords represented at Sanchi generally correspond with this description (Felley, P.C.: 1892). On the other hand, Kautilya (Sk. II, ch. 18) mentions swords of three distinct varieties, viz., nisthima (provided with a crooked end), asi-yasti (shaped like a staff), and mandalagre (provided
with a circular head). It is probable that the first of these resembled the modern kuki, incurved with the cutting edge on the inner side; while the second was certainly the typical Indian long sword, with straight and pointed blade (modern kirich). The exact shape of the mandalagra is more difficult to determine, but it might have been the same as the modern leaf-shaped 'pattisa'. It is not worthy that all these three types of sword are represented in the frescoes and sculptures at Ajanta, "while kirich and pattisa blades have been found in the Pinnevelly urn-burials".

Ancient treatises on sword contain detailed rules regarding the construction and measurements of the weapon. Thus both the Bhat Samhita (ch. IV) and the Agni Vrana (245, 28) maintain that a good sword must not be longer than fifty finger breadths nor shorter than twenty-five. In the Yukti-kalpataru (p. 174, vv. 59-60) the characteristics of a good and bad sword are thus described: "a good sword is one which is long, light, sharp, tough and flexible. The chief characteristics of a bad sword are shortness, heaviness, slowness, thinness, penetrability and inflexibility".

The component parts of the sword were, of course, the blade and the hilt. In the Arhatasatra (Sk. 11, ch. 10) the materials for the construction of the hilt are specified as the horn of rhinoceros and buffalo, the tusk of elephants, wood and the root of bamboo. The epics refer to hilts made of gold or
Ivory, and set with jewels. Bana describes Uraga's sword-hilt as "rough with the pearls which thickly studded it. The Raja-
taramini (ii, 1512) mentions "heaps of gold and silver sword-
hilts". It is probable that swords and sword-hilts made for the
rakshas and cetas were all plain and costly; while those meant to be
used by leaders and higher classes were embellished with gold
and silver. The usual type of hilt represented at Ajanta is
provided with an angular V-shaped guard and disc-like pommel,
the blade usually being strengthened by long processes running
up it either in the middle or along the reverse (Chakraverti,
1967).

Sword-sheaths (kosa) were usually made of leather.
A passage in the Vitata-jarva (ii, 231f.) shows that the
leather used was that of the cow (pasyu-kosa), black (vaityagra-
kosa) and goat (pancerras-kosa). A passage in the Santi-
jarva (50, 26) describes this leather as dark (mucarnma). But
besides leather, sheaths were also occasionally made of wood
(Chakraverti, 1967).

The sword was usually worn on the left side. At
Sarnath and Sanchi it is shown as suspended from the left
shoulder by means of a belt (Balasoy, 1892). But this was
not the only mode of carrying a sword. On some of the Gupta
coins, the king's sword is shown as hanging from a waist belt
(AIan John; 1914). We find a reference to the same practice
in the Agni Purana (251, 7-8), where the author says that "the
sword is to be attached to the waist and slung on the left side.

The sword was used both for cutting and thrusting purposes. Occasionally it was also used as a missile in the heat of battle. Swordsmanship was raised to the level of a fine art and proficiency in the art involved an acquaintance with certain special manoeuvres. The term for those manoeuvres in the Vepabharata is mandalani, and their number is given as twenty-one. The Agni Purana (331, 4) and the Itti-parasika (ch. III) swell them to thirty-two.

5.511-5: spears and javelins: Developed from a sharp-headed stake, the spear may be reckoned, with the club, as among the most ancient of weapons. Spear-heads have been discovered at Veenko-Bane and Harpura, but these are unaccountably primitive in form, thin and broad in the blade without any strengthening midrib, and with a tang instead of a socket (Marshall, Johns 1931).

The usual term for the spear in the epic and post-epic literature is sakti. In the Vepabharata, it is said to be of different kinds, but all sharp (saktisa vividhastrih). It is described as a terrible weapon, made of iron (ayasi), sometimes adorned with gold and beryl, sometimes with bells. In the Arthasastra (3k. II, ch. 18), it is defined as a weapon provided with edges like a ploughshare. The commentator to
Kautilya says that it was a metallic weapon, four cubits long, shaped like the head of a karaśvara, and provided with a handle like the cow's teat. Nāgka (XIX, 59) describes it as made of iron (lohaśa) and provided with a sharp blade at the end (adhyagre-gaha-saliti) (Chatriyavarti, 1967).

There were some other weapons which seem to have belonged to the generic class of spears and javelins. One such was the kunda. Kautilya defines it, like the sakti, as a weapon with edges like a ploughshare. The commentator says that the best kundas measured seven cubits in length, the medium six, and the shortest five. In the Niti-prakāśaka (IV, 22 ff.) it is defined as a lance, six cubits long, provided with an iron body and six edges.

The kamaśa is, in all probability, a javelin. In the Adiparva (XIX, 12) it is described as possessing of a very sharp point (ṣatikacarita). In the Rāmaharṣya (27, 14) it is referred to as iron-mouthish (ayamayya) and gilded (heka-danda), preceding straight through the arms of a combatant. In the Arthasastra (XXVII, 72, Ch. 10) it is defined, like the saekali and the kunda, as a weapon with edges like a ploughshare. According to the commentator, it has a rod with an arrow-like edge, the best measuring five cubits in length, the medium four and a half, and the shortest four. Vālaṇkaśa (Cṛyāparva: 154, 3 ff.) says that kamasas have darts to be thrown by the hand. The Niti-prakāśa (IV, 35 ff.) describes it as a weapon with a wooden body and a metal head.
The \textit{kusha} (or \textit{niga}) appears to have been another
weapon belonging to this class. The \textit{Mahabharata} contains frequent
references to this weapon, but nowhere is its exact nature made
sufficiently clear. The only information which we can gather from
early evidence is that it was sharp and broad. The \textit{Arthasastra}
(\S 11, ch. 16), however, leaves no doubt in one's mind that it
was a kind of spear or javelin. The later \textit{Uttararatasika} (V, 23)
also defines it as a spear, seven to nine long, its handle made
of bamboo (Chakravarti, \textit{etc.}, 1967).

The \textit{municula} (\textit{mucicula} or \textit{mucinvela}) may also
have belonged to the generic class of spears. Though it is often
mentioned in the \textit{Mahabharata} (e.g., \textit{Vayuparwa} 19, 3, 154, 6;
\textit{Shimayara}, 26, 32, 106, 23; \textit{Vayuparwa}, 26, 59, \textit{etc.}), its
nature is left undefined. In most \textit{Arthasastra}, however, it is
described as 'kung', e.g., \textit{Arthasastra} (\textit{Shimayara}, 106, 23) as 'sharp
and long-handled' (\textit{shakala kula andhvala}). In the \textit{Arthasastra}
(\S\S 11, ch. 16), cautiously mentions it along with \\textit{svadg}, \\textit{gaya},
\textit{kusa}, \textit{tuma}, and \textit{takara} as, like the \textit{kanya}, as a weapon with
edges like a ploughshare. There is no doubt but that cautiously
regarded it as a kind of javelin or lance. This conclusion is
also born out by later evidence. The \textit{Satayu} (156, 10),
for instance, describes it as 'made of iron' (\textit{ayagama}) and
'kung' (\textit{cikgata}). The \textit{Vayjayanti} (P. 117, 1-331) defines it
as a long dart with a large head.

We may also include in the same class such weapons
as the \textit{kasuya} and \textit{karpna}. The commentator on the \textit{Arthasastra}
defines the \textit{karpna} as a dart, thrown by the hand like the
\textit{tumara}. Its edges weighed 7, 6 or 9 karsas. 'It can go, he adds,
"as far as a hundred bow's length when thrown by a skilful person". The same authority describes a kanaya as a "metallic rod both ends of which are triangular. This is held in the middle and is 26, 22 or 24 inches long".

There are numerous illustrations of spears and javelins in ancient reliefs and coins. One of the earliest specimens may be seen in Cunningham's Coins of Ancient India, I. IV, fig. 6. Spears and javelins depictured in Sacchi reliefs have been admirably illustrated in Baly's J.A. XXIV, fig. 29-35. Spears, in some instances barbed, are also represented on some Yedicaya coins, ranging from about the second to about the fourth century BCE (Bali, V, 1931) on the so-called Comb-type of coins of the kings of Ujjain (Bali, V, 1931). The weapon is also illustrated in some of the frescoes at Ajanta, where it is depicted as short, with triangular blades and ferrule.

5.61-6: The club or mace is one of the most primitive weapons of India. It was known to the people of the Indus valley (Vatsal, John 1931) and has continued in use ever since. The epic description makes it more important than the sword. According to the historians of Alexander, it was the chief weapon of the Sibi tribe in the fourth century B.C. (McCrindle, 1896). Plutarch says that in the capital of the Bactra, Alexander "received a blow on his neck from a club, which forced him to lean for support against the wall with his face towards the enemy (McCrindle, 1896). The weapon is also referred to
Its construction, however, must have differed from
are so eye-luring, our period means of both wood and iron appear
to have been in use. In the Pitāmāhāstra (Sk. II., ch. 16), Kauḍīya
mention musaka, yasti and gada as three varieties of mace. The
commentator says that musaka and yasti were "pointed rods made
of iron" (ksetra cattau), whereas the gada was "a long and
heavy rod". In the Śatadharmasastra, however, the gada is always
described as made of iron - asyamayi or yasti. Its general form,
says Nāgaperlm, "came to have been that of a tapering post,
grooved with iron spikes, and hence heavy and sharp, sometimes
plated with gold, or, according to the extravagance of the poet's
fancy, bejewelled". In the Āṅgikopārahā (51, 28), it is referred
to as four cubits long and hexagonal; elsewhere it is octagonal
(Sāgarasūra, 51, 5) and� made in boomer strings, mixed with
wires of gold (Pitāmāhāstra, 15, 22).

The poet similarly accounts of the mace in later works.
In the Śāhajāngastra (6, 29-30), for instance, it is described
as made of iron, four cubits long, with a number of spikes at its
broad head, and covered on the side with spikes. Sūtra (Ch. XV,
sect. vii, 1-424) refers to it as octagonal (astastra) in sha, e
breast-high (hrusyasūra), and bejeweled with a strong handle.
The Kauḍīya Bhāsur-vada (Ap. 30-46) says that the best mace
should measure fifty angulas in length, the next best forty,
and the worst thirty. It may be of three shapes, viz., sthulagra
(pear-shaped), catirastha (quadrilateral) and talemulakrtti
(shaped like the root of palmyra).
The nae or the nace, as represented in ancient sculptures, is the bow or the sword, having a two-ended club in one of the reliefs at Palenki (Kelley, vol. xxxvi, fig. 35). There is another representation of the same vision in the famous Veniakes statue, now deposited in the British Museum. It is a tapering post, being broader at the base than towards the hilt. The portion between the first two bands represents the handle is round the middle portion between the second and the fourth band is sixteen-sided, only half projecting from the garment. The remaining portion is eight-sided, only three sides being actually shown in front and two partly at the sides. The fifth and lowest band is decorated with a nagara hood, which like the bands themselves was probably also of metal.

Like the bow and the sword, the nae had its peculiar manoeuvres or circles (bandals or nage). In the Aspara (46, 12), the club-fight is said to consist of four methods as praksapā (hurling at the foe from a distance), vikṣapā (engaging in close fight at the point of the club), purśikṣapā (revolving it about in the midst of foes) and ashikṣapā (wringing the foe in front). But this list does not exhaust the armory of technical manoeuvres. In the Saliyapārva (17, 185), in the course of a description of a club-duel between two knights, we are told that the manoeuvres are in fact multiform (varyan bahu-vichārān), and then we have an enumeration of twenty technical names. These have been repeated almost verbatim in the maat-prakasika of
Vaisarpaxo (v. 31-34). In the Agni Purana (252, 11-12),
chitiavastti (gada-karura) is said to involve twelve manoeuvres,
which are partly identical and partly different from the list in
the above-said works.

3-641-7: ladilavastti, saksas, gada... The axe is mentioned in the
vedas, but seldom as an instrument of war (Us, 2-5; 1935). In
the Manasatattvas it is mentioned under several names, such as
saksa, parsa, kasha, kutita and kutaka, and is viewed as a
weapon chiefly by the rudravavya. Pāṇini (3.1, ch. 16) mentions
kutita and kutaka as two kinds of axe. The commentator explains
the latter as "a kind of axe well-known", and the former as a
skinda, 34 inches long, and incurved like a crescent. The Pāṇini-
śāstra 1-9-16) states: "It is a
shaped as: "It is a
thin reed: with a broad handle the face is in front, curved like
a half moon; the body is dark-coloured, but the face is shining.
its face and in the handle, and it has a knob. The height is
the length of an axe for cutting and splitting."

The Agni Purana (252, 11) mentions six functions to the battle-
axe, but it is difficult to make out their exact meaning.

The battle-axe is also illustrated in ancient sculptures
and coins. The early illustration may be seen in Cunningham's
coins of ancient India. 1. IX, fig. 4-5. Another taken from
Sanchi is shown in Kosswig's I. XIS, fig. 37. A similar type of
Samudragupta's coins (Allen, pl. IV, fig. 8-10) contains a clear
representation of the axe; but the weapon does not appear to be
of the ordinary type, the metallic curvature being in the middle, not at the end of the handle. Sir John Marshall reports that in course of archaeological explorations at Sita, near Allahabad, he discovered two hatchet-heads. The first belongs to the Indian period, and is 7" long and 3\" broad. The second belongs to the Gupta period, and is 30" long and 17" broad at the edge (Chakravarti, 1967).

5.6.1-8: *Visves or _Tika_: The discus (cahrā) is mentioned in many ancient works and inscriptions. But it does not appear to have ever become a national favourite. Yautiya (12, 11, ch. 16) defines it as a movable machine (kala-şenstra). The Mahabharata (adiparva, 33, 228) describes it as a revolving (pravihra-śentam) weapon, made of iron or steel (jyotsmayam) and sharp-edged (titana-śravan) Nāga (Raghuvaracarya, 11, 15) speaks of it as a weapon which is hurled from a distance, and used off some limb of the enemy. In the Yuddha Purana (120, 193), again, it is described as a wheel with eight spokes and smeared with oil. The Kali-prakasika (17, 47) says that it had the form of a circular disc (kundalakaram), with a triangular hole in its midst.

5.6.1-9: *Ladha, 229:58, 230*: The disc was a sort of lance or lance. It is mentioned in the Tora (35, 63, 4; 73, 11) as one of the weapons of Varuna and Indra. The passage in the Mahabharata (Kalpa-parva, 45, 108) describes it as cast from the raised hand (paseyata-kara); in another (Varaparva, 53, 23) it is employed to tie the feet of the foe (hence called pada-vancha).
The ayak huma (2:51, 1:15) describes it as follows: "...pass should measure six cubits in length, its and terminating in a loop, and its face should be round in the hand. It should be constructed of the strings made of hemp, or of flax, or of manja grass, or of banga, or of strings of animal, or of leather, or of other things of which a string could be made. It may also be made of thirty pieces of thread twisted together. The learners should make a string knot in the past; and having held one end of it with the left hand, and twisted it round on the right, they should turn it over their heads, and afterwards throw it on the chest of a manne figure covered with skin. After this they should try to throw the string on the neck of a horse at full gallop, or of a bull, jumping about, or such an are moving fast.

80.1-10. Uraglile: the name literally means a "mane-killer". It helped in the role of making the learner strong in the body, while being an expert, relying on physical and measure, considered it as a method about a critical examination of all epic references to the weapon, having showed that bo the neither the one nor the other (Andrews, 1917)."

That, then, was the real nature of this weapon? The name itself might not to misled us, for a name is not always an unerring index to the nature of a weapon. Ancient writers seem to refer to the varieties of satagnâ - the first serving part of a city's defence, and the second used as a sort of projectile
along with spires, jefelling, etc. The former is often seen planted on the walls of fortresses or fortified to use. Thus, in the Adiparva (267, 34), it is mentioned as a part of the defensive equipment of Indraprastha; in the Ramayana (15, 7) as that of Dvaraka; in the Ramayana (16, 11; 17, 22; 18, 24; Lankakanda, 3, 23) as that of Ayodhya and Lanka. The Antyayaka (69, 45) enjoins that the king should plant destructive engines (yantras) in all the gates of the city. "He should plant on the rampart of his fortress sataghas and other weapons."

It is clear, therefore, that the satagha, like the yantra, formed an essential element in a city's defence, but what was it like? Dr. C.R. Vaidya (1907) says that it "must have been some machine in the nature of a catapult. The catapult, it may be noted, was a rather long instrument of the cross-bow type. It was a propelling machine and was used with arrows "for what is now called direct fire". There is not a scintilla of evidence to show that the satagha was a propelling instrument, or that it was ever used with arrows. On the contrary, one passage in the Ramayana (Lankakanda 3, 13), referring to the satagas, which were placed to defend the gates of Lanka, says that they were steel-made (sukhayamayi), sharp (sukh) and formidable-looking (bhiman). This agrees remarkably well with what we learn about the weapon from later commentators. For instance the commentator on the Arthaśāstra defines it as "a big pillar provided with an immense number of sharp points on its surface, and situated on
the top of a fort wall". The Vaijneyant (c. 118, 11.337-6) describes it as a huge block of stone (masapita), studded with iron spikes. Presumably these heavy objects were kept on the gates and walls of fortresses in order that they might be thrown on a besieging force attempting an assault. Presumably, too, these gigantic blocks of stone or wood were provided with wheels to facilitate movement. Time and again in the Mahabharata, the sataghnis are described as wheeled (sakhrak) instruments. One verse in the Dronaparva (198, 19) specifies the number of wheels as two and four.

As stated above, there seems to have been a second variety of sataghni, which were used as ordinary projectiles along with spears and javelins. These are referred to in the Mahabharata (45, 109-10) as "held in hand" like clubs, swords and hammers. Elsewhere (Karnaparva, 11, 65, 15, 17) they are stored in a war-car along with a multitude of other weapons. Moreover, like the swords and spears, they are described as "ornamented with bells" (sakin-kinin). In all cases, however, these hand-sataghnis are 'flung', but they produce no greater effect than that of ordinary projectile weapons. In his Raghuvama (XII, 95-6), Kalidasa describes Bhera hurling a sataghni, but it is soon split to pieces. The sataghni itself is described as studded with iron spikes (syamadusita). The later Bihira-prakasika (V, 48-9) says that the sataghni was made of iron, was provided with thorns and had the look of a hammer (vadgara).
It is not improbable, therefore, that the second variety of
ataganas resembled the first in general appearance; only they
were shorter, lighter, altogether more handy, and hence used as
projectiles.

5.511: Atagana (atagana). Defensive arms may be subdivided under
two main heads, viz., shield and body-armour. The usual arms
for the former, in Sanskrit are karanas, vatta, kala, etc.;
for the latter variety (karanas; 19.5), variada samala, sus-
trana, etc. In the Arthasastra (ch. 11, ch. 16), Vautilya uses
the term varana in the generic sense of shields and varana for
different kinds of body-armour.

5.511-1: Vautilya says: "There existed different kinds of
shields in the classical period, viz. the Atakana
used by the horsemen of the classical period. The Atakana used
by the cavalry being somewhat smaller and lighter than those of our infantry. The
Arthasastra (11.11, ch. 16) and the Mahabharata furnish us with
simpler details regarding the construction of early shields.

Vautilya says "teki (back-scutch); varma (leather-shield), hastikama
(elephant's ear, no doubt perhaps because of the shape), tapanas,
dharnamaka (bladder), navata (ground-flint) hitika (light shield)
apratihata (insurmountable) and vallaka-kanta (close-edges) are
the instruments used in self-defence (avaranam)". The commentator
explains peti as a kind of net made of kusamvalli (a creeper),
carma as a kind of cover made of leather, hastikama as "a board
to form a cover to the body"; tapanas as a "wooden shield",

kevata as "a wooden board", are called as a kind of shield of reed and leather. The apratihata is left unexplained, but the name indicates that it was particularly strong. The valahakanta however, is said to be the same as apratihata, only with the edges sharpened with strips of iron. It is clear, therefore, that in the age of Vesaliya shields were constructed of a variety of materials such as copper, bamboo, wood and leather. The same materials were also used in the fabrication of medieval shields.

The frequent mention in the Pugacaraka of the epithet vahakana for shields probably indicates that the knights used hide-shields in preference to others. Hide shields were sometimes prepared from the skin of wild animals, more frequently from that of bulls (carabha). They were, moreover, elaborately decorated and incrusted with gold and silver, crescents and moons. A passage in the Vamishaparwa (15, 51) mentions a shield (vahaka) adorned with three crescents (crescenta). This kind of the hide-shield, there was another kind called phala (phala), for instance, in the Kautilyaparwa, 3, 55; Vamishaparwa, 154, 12. In one passage it is said to have been held in the left hand (nava) as phala phala (phala); in another it is differentiated from vahaka. The Kautilya parwa of saravaranu, mentioned in the Vamishaparwa (60, 17; 60, 40) and the Kautilya parwa (13, 72) may have been another name for a shield. Hopkins says that it may be anything that protects the body from arrows such as shields, halls, breast-plates, etc. But in the passages, referred to above, the interpretation of shield seems most appropriate. In the Vamishaparwa (60, 17) it is, like
she continues, "are most interesting and very greatly. Round
side shields are common in modern India, elephant and rhinoceros
hides being chiefly used. The little parrying shield to be seen
at Ajanta is iconographical and appears in many southern Indian
sculptures.

5.6:12: body-linings: the notion of such coats as vests and
drapes in the "ayurva" shows that some kind of body armour or
coatslet was known to, and used by, the nobles and chiefs of
the early Vedic period. Of what material it was made is not known.
There are references, however, to scaling (spets), which may
be reckoned in favour of the use of iron coatslet, such as
those recorded by Thaplik. H. H. Wilson (vol. 18, II)
sees the term "linen" in the context of coatslet or metal-plated.
The Jainina Bhraddittra (Ir. 1, 3) explicitly mentions
metal armour, but it is doubtful whether any importance can be
attached to this.

Washing back to the fourth century B.C., we find our-
selves on surer ground. Referring to the armour which Socrates
wore in the battle of the Hydaspes, Curtius says that it was "shot-
proof" and "nought does for his strength, and the closeness with
which it fitted his person, as could afterwards be observed by
those who saw him". But he was "wounded in the right shoulder,
where only he was unprotected by mail". Curtius also says that the armour of Socrates was embellished with gold and silver,
and that it "set off his supremely majestic person to great
advantage (Kouridas 1923). It seems reasonable to believe that it was some metal armour which forms core, and whether it was of the mail or of the interlinked mail variety cannot be determined.

In general, according to the reconstruction and the archaeological, literary, poetic and art icon types of evidence, besides metal cores of mailless metal, were known not about the same period. In the Roman age, the warriors and the navale are usually described as made of iron or steel, covered with lacquered ornamentation in gold and colours. The decorations used on them, however, are the same as on shields, such as suns, circular bosses, etc., as in the manuscript (i.e., 11, ch. 16),男篮鞋 regardless the materials out of which the different kinds of body armour, as known to his age, were fabricated. The relevant passage may be rendered as follows: "Iron-mail (luna-jala), little iron-mail, luna-jalika, iron plates gearment (luna-sudra), iron armor (navale), calched, and a contrivance of skin hood and horn of rhinoceros gorging, rhinoceros, onamuki (according to them, dalika, according to Cane, Ceyel), elephant and cattle are protective clothing (varmali).

The luna-jala or luna-jalika are an object; a hauberk of interlinked mail. It is mentioned in the"shabharata also, but here the poet’s fancy makes it of gold. According to Dhasa’s commentary, the luna-jala covered the whole body, including the head, while the jala left the
head-hunt. The same authority explains khad-patta as a coat of
armor without cover for the arms. The kavaca appears to have been
a cuirass, composed of breast and back-plates and perhaps
resembling those worn in Europe during the Middle Ages. The
sattak (or sabao-sattak, as some name it), on the other hand,
was essentially a jacket or cuirass without. Lastly, there was a
kind of body armor fabricated from hides, hides and horns of
different animals (Chakravarti, vol. 2: 1967).

It is probable that the different varieties of armor
mentioned in the Arthashastra remained a permanent feature of
Hindu armor throughout our period. The dark or rusty-coloured
iron armor is repeatedly referred to in Sanga's Bana-alavadi
(Kalpā, 26, 27; see 11, 28, etc.). The Sanskritik (p. 65, v. 362)
mentions coats of mail (karanaka) made of iron, hide, cotton
and hemp. The Vatika-Kalpā: (p. 147, v. 37), however, seems to
imply that metal armor, though well-known, was not in common
use. The very cost of metal armor, apart from its availability,
must have tended to keep it a monopoly of the higher classes.
The rank and file had normally to rely on the solider either with
simple shields or with second coats of hidden cotton or with
both.

5.611-3: 452. 232. 4. Emph.: 5.611. 3.423. Besides shields
and body-armour, there were in use other kinds of protective
devices. These are summed up by Kirtiya as follows: "Armastrana
(covers for the head), kantha-trams (cover for the neck),
Nirapada (cover for the arm), kalauna (a coat extended as far as the knuckles), vesanam (the "arrow-ovater"), yata (a coat without cover for the arm) and nagaardika (finger-gloves).

The nirapada (probably the same as alpa of the "ny") is mentioned in a multitude of other works, but it is difficult to make out its exact composition. The kalauna represents is "to be of metal and adorned with gems, chiefly the diamond."

It might well have been a solid hosepiece, which was worn along with the examples of chain-mail, but it might also be mere folds of cloth, adjusted on the need to protect it from a sword-stroke. The vesanam ("arrow-ovater") and yata, as mentioned in the "Ariavana," are originally "bear-ovaters or vulturine or ungulate ovaters of the kalauna," i.e., a hosepiece used by an elephant for the protection of his fingers, the precisely analogous of southern finger-stalls used as correpsonding capsels.

Nirapada and vesanam, as the arm, with an arm-guards or bands of metal, and the hick of the string when the arm was locked in, were all the other in the "Nyasa" horticulture. Yata and niagauna were, and the kalauna hickauna and talstra of the equivalents. The epic evidence proves that it was made of igana-skirt. Nejanealal Bhutra asserts, on what authority we do not know, that metal gauntlets were used in later ages (Chakravarti, 1967).
The equipment of the infantry, like the dress of the common people, must have varied from age to age, and region to region. But our sources of information are so scanty that it is well-nigh impossible to throw any light on these local and periodic variations. Arrian, from whom we get a short description of the equipment of Indian foot-soldiers in the 4th century B.C., prefaces his account with the significant remark that "it is not to be regarded as the only one vogue". Evidently there were other modes of equipment, besides the one noticed and described by the Greek historian.

Arrian says that Indian foot-soldiers in the fourth century B.C. carried a bow made of equal length with the man who bore it. "This they rest upon the ground, and pressing against it their left foot thus discharge the arrow, having drawn the string far backwards (Validasa, Raghuvamsa: 1905), for the shaft they use is little short of being three years long, and there is nothing which can resist an Indian archer’s shot—neither shield, nor breast-plate, nor any stronger defence if such there be. In their left hand they carry bucklers made of undressed ox-hide, which are not so broad as those who carry them, but are about as long. Some are equipped with javelins instead of bows, but all wear a sword, which is broad in the blade, but not longer than three cubits; and this, when they engage in close fight (which they do with reluctance) they wield with both hands, to fetch down a lustier blow."
It will appear from the above quotation that the bow was the principal weapon of the infantry of this epoch; but the sword and javelin were also used. The bas-reliefs at Bharhut and Sanchi, (assigned respectively to the second and first century B.C.), show that the same mode of equipment prevailed over wide regions of the country, and persisted till well-nigh the beginning of the Christian era. Nearly all the infantry in the scene depicting the "war of allies" at Sanchi are represented as archers. But several of them are also furnished with broad, heavy swords, and javelins. In one of the bas-reliefs a soldier covered by a shield is shown holding a javelin horizontally ready to launch it forward. There is, however, one great distinction between the foot-soldier’s equipment as described by Arrian and that revealed by Sanchi and Bharhut sculptures. The classical author seems to imply that all classes of infantry—archers, swordsmen and javeliniers—had shields to protect them. The bas-reliefs at Sanchi and Bharhut, however, show that only the archers and javeliniers were provided with shields, but the swordsmen were without them, probably because they used their hands already full (Celsius, Sanchi and its Remains, London, 1892). The evidence of Kanjiliba confirms that we learn from the sculptures. In 3k. x, ch. 5 of the Arthasastra, in course of a discussion about the formation of battle-arrays, he says that an array of pure infantry may be formed with the men with shields in front and archers in the rear (Arthasastra, 3k. x, ch. 16). This two-fold classification of infantry into avaraniah and
Shawniah is necessary, and leads one to doubt the accuracy of certain statement in this particular. It is, however, possible that the practice noticed by the classical historian was confined to the northwest, and did not obtain currency in other parts of the country.

The bas-reliefs at Sanchi and Bharhut also shed some light on the soldiers' dress in the first and second centuries B.C. At Sanchi the typical archer has always a head-dress, very much like a modern dhoti, with a large knot on the top. He wears a cotton cloth in the fashion of a kilt, and this is held by means of a belt. The belt is remarkably long and begins encircling just near the chest, till it comes down below the nave are in three tied in a long knot from the back of tying, as also from the successive encirclements round the body. It may be inferred that the belt is made of linen. The upper part of the archer's body usually looks bare, but was probably, as Cunningham (1854) says, covered by a long-fitting jacket or some kind. The mode of fastening the quiver on the back is peculiar and picturesque. The quiver is fastened to the right shoulder, and the fastenings, which are apparently leather straps, are passed over both shoulders, crossed in front, and carried to the back, where they were probably passed through a ring in the end of the quiver, and then carried to the front and again crossed, the ends being secured by loops to the upper straps (Cunningham: 1854).
At Bharat there is a figure of a foot-soldier, nearly life-size, and in such fine preservation that all the details of his costume can be distinguished with ease. We cannot do better than describe it in the words of Cunningham: *"His head is bare, and the short curly hair is bound with a broad band or ribbon, which is fastened at the back of the head in a bow, with its long ends streaming in the wind. His dress consists of a tunic with long sleeves, and reaching nearly to the mid-thigh. It is tied in the likeness of a corslet, at the throat by a cord with two tassels, and across the stomach by a double-looped bow. The arms and thighs are covered with a cloak which reaches below the knees, the ends hanging from to the ground in front of a series of artfully folded and formal folds. In the feet are boots, which reach half up the legs, and are either fastened or finished by a cord with two tassels, like those on the neck of the tunic. In his left hand the soldier carries a flint, and in his right a monstrously broad curved sword, sheathed in a scabbard, which is suspended from the left shoulder by a long flat belt. The extreme breadth of the sword may be judged by comparing it with the with the thickness of the man's arm, which is exceeds, while its length may be about 3½ feet, or perhaps somewhat more. The belt of the sword is somewhat straight, and without a guard. The face of the scabbard is ornamented with the favourite Buddhist omaggi symbol of tri-ratna, or the triple gem. The sword belt, after being passed through a ring attached to the side of the scabbard, appears to be twice crossed over the scabbard downwards, and then fastened to a ring at the tip, below which*
the broad ends hang down like the ends of a scarf (Cunningham 1879).

We hardly know anything about the equipment of foot-soldiers during the next few centuries. In the frescoes at Ajanta (1515) which are usually assigned to the Gupta period, the footmen are generally depicted as carrying swords or spears in their right hand and shields in their left. On the Sagar Stone Sculpture to find the infantry equipped on similar lines. In the same way, Bagan in his Saṃpañavadas (VIII, 4, 10, 71; XIX, 55) describes the infantry as armed with swords and shields. But that these were not the only weapons used by the infantry of the Gupta and post-Gupta periods is shown by the account of the Indian pilgrim, Adi Rājagīra, describing the equipment of the Indian infantry in the 7th century A.D. The pilgrim says: "They carry a long spear and a great shield; sometimes they hold a mace or some other kind of weapon in their hand. Their swords are sharp and pointed, some of them are short, some long, some with a round head, some with a nap, some with a spike, some with a crescent-shaped head, some with a twisted point, and various kinds of clubs." "These weapons," the pilgrim adds, "they have used for ages (Bell Samuel, 1926)."

5.3 It is difficult to decide when and how the bridle and the saddle came to form a part of the horse's equipment. Arrian (1926) says that in the fourth century B.C. the Indians had a
bit but no curb bit, are directed the horse by a spike outside, that is, behind the jaw. Hopkins points out that in the multi-
ferous heaps of articles described as abandoned on the battle-
field, the numnaharat makes no mention of bits or saddles.
Ferguson states that the presence of the bit in the sculptures at Sanchi is extremely doubtful.

It is probable that the greatNumhonass considered the subject too trivial to require sufficient attention; for, a closer examination of the Sanchi sculptures will reveal the presence of both bitless and unbitted horses. The former are especially noticeable in the north and west terraces, the latter in the north. More bits are used, and horses have bit in the hands in their traceries. But when the spike (behind the jaw) is included, the tracery has three bands, one passing over the nostrils, another beneath and a third above the eyes.

The same curious phenomenon is also noticed at Ajanta. In Cave No. 17, usually ascribed to the 6th century A.D., there are some finely painted horses, wearing bits, which plainly enter the mouth; on the other hand, in the procession of Cave No. 1 horses are represented as without bits. Similarly, in a large slab from Salvador, not deposited in the museum at Bangalore, there are two horses having the reins going plainly to the back of the jaw and not to the mouth. The stone is ascribed to the middle of the ninth century A.D. (c. 850 A.D. 1898). This representation of unbitted horses long after bits had become well-known
In the country may be due to the conservatism of religious art. It is not impossible, however, that two different modes of guiding the horse, with and without bit, continued side by side for centuries.

The question as to when the saddle first came into use in India is equally difficult to decide. In the Mahabharata we find frequent mention of such epithets as the pileata (Viratajauva, 21,33) vithmarana (Viratajauva, 21,32), khala (Sharmajauva, 54, 396), asvasara, carisara, rahana (Sharmajauva, 75, 74) etc. indicating thereby the existence of some covering for the horse's back. Hopkins suggests that these probably consisted of only blankets (Khala), which are often stated to be found on the field after a day's ride (1918). But the saddle, along with stirrups, is clearly mentioned on one of the horses of the goddess (Kasey, 1910). Sir John Marshall (1918) says that this "is the earliest example of some form of covering of the use of stirrups in any part of the world". The saddle is also represented on the Asvamedha type of the Padma Purana. The Purana plates of the Pallava king Varavaranavarman I mention that the royal horse bore a saddle and rich trappings (Pallava India; 1882). In the procession of the first cave of Ajanta, already referred to, the horses are provided with saddles. These are of the charjasa type with short stirrups. "There are leather straps round the throat and across the fore-head, and embroidered bands round the nose and across the muzzle" (El Yezdani, Ajanta: 1930). As against this, however, we have the statement of Al
"Reminiscent as late as the eleventh century... the Indians 'ride without a saddle, but if they put on a saddle they unseat the horse from its right side. The only way in which we can harmonise these two rival sets of evidence is on the supposition that though the use of the saddle was well-known in the country, the use of the people rode their horses without one. It is not impossible that the use of the saddle was regarded as a mark of distinction, and was consequently confined to the higher aristocratic classes.'

Horses were occasionally provided with a kind of armour. The "Kilad attu," a Tamil idyll, mentions "shields of protection for horses." The "ajastangini" (IV, 715) refers to 'armour-clad horses.' The "hamantini" (p. 119, p. 1167) speaks of horses 'well-protected by means of body-armour'-gutta-braka surakshaelayin savalam. (Interpretations of horsemanship in certain coins of the <C>upras and the Saini kings of Rajasthan</C> [792 to 1000 A.D.].) Further confirm the above view (Alian, John: 1914).

The riders themselves generally appear to wear ordinary tunics, but sometimes they are worn over plates or coats of mail and strong helmets. In the "vidhayambara" (<C>ch. 17: ch. 5</C>) Kautilya contemplated an army of pure cavalry, in which, he says, the centre is to be occupied by heavy armoured horsemens, and the flanks and wings by short lanced cavalry. "Representations of mailed horsemens may be seen on some <C>upra</C> coins and the "bull and horsemans" type of the kings of <C>blind</C> (Alian, John: 1914)."
For weapons they generally carried long lances for the charge and swords for the melee. Concerning the equipment of the Indian horsemen in the 4th century B.C., Arrian says that it consisted of two lances and a short buckler: "shorter than that carried by the infantry (boar-club, i.e. a 1326)." The chronicles usually describe them as armed with spears (safti), lances (prasa) and short swords (karni) (Akhmatara 37, 11, 12; Drum-para 113, 21, etc.). In Alexander, besides the above, they are assigned battle-axes (parawanda), maces (gada), and hammers (mudagar) (Danka-tamra, 62, 14). The horsemanship type of capitals coins depict the mounted kings as armed with swords and bows. In some of the frescoes at Ajanta (1st-5th) horsemen are equipped with spears. The Kusran al-Jami' mention "squadrons of horsemen connected by their swords that one struck each other's sides" (the "Shat-rasvada (VII, 23) speak of mounted troops as armed with swords (spears). Similarly, the kings of Champa are found on their coins as carrying heavy spears in their right hand. The Majestara-n-gini (VII, 547-53) contains a reference to "horsemen whose dress sabres formed a line." The Weber's translation of the Betae-vidara (VIII, 16) above i.e., the latter part of the 11th century) attributes females, horses and asses to horse-riders.

A close scrutiny of the records would appear to reveal, however, a grave defect in the equipment of the Indian horsemen. As does not seem to have ever developed any marked proficiency in mounted archery. The bow was indeed held in high esteem, but it was the weapon par excellence of the infantry and chariot-men,
not of the cavalry. The optics with all their wealth of details
regarding military matters are barely cognizant of such a thing
as horse-archery. The historians of *Alexander* make no mention of
Indian horse-warrior the *Ava-veli-kshod*, which gives detailed
views regarding the practice of archery in its different branches
is certainly cited not and many of horse-archers.

At the conquest and Saktianat matrikas, the invaded and
conquered north-eastern India in the first century A.D., appear
not to have been well-acquainted with the art of horse-archery. This
is shown by certain types of their coins: king Azes I, palliaces
and coins of the small, indistinct coin legends are collected
on their coins. It is generally agreed that they (Nahar 1948). It
is not required to make too much importance of cavalry in general
and of horse-archery in particular, but one of the causes which
facilitated their military success in India.

The evidence of numismatic literature indicates that the
art that introduced by the Sakas and Sakas invaders long
continued their political domination in India. It seems even
probable that is survived at the time of the reign of certain
types of their coins, introduced by Hiratamupta and Takasaditya
are represented as horse-archers. Hiratamupta and Takasaditya
are seen riding fully equipped horse and holding their bows
in their hands (Nahar 1948). *Takasaditya* is portrayed as
mounted on his horse, with a sword in his right hand which he
thrusts at a leaping lion, and a bow round his body with its
string resting on his left shoulder (Allen John 1914). It is
not impossible that these scenes were merely the products of a
servile initiative tendency on the part of the Cypriots, but the
more probable hypothesis seems to be that they bear on them the
imprint of a military custom which was well known to, and practised
in, Gupta India.

Nevertheless, this art of unchained archery did not strike
deaT headphones by the Cypriots and
containing for a time as a sickly autos, itnamely away shortly
after the Gupta period. This is the impression that one gathers
from a study of the records of Pundareka. If it be otherwise we
readily understand the attachment to it as by the Chinese pilgrims
and barbarians elsewhere (in the Northern Indian literature,
inscription, and relate) in many of the later Gupta period, we
will surely find a reference to the art. Nonetheless, the
conclusion is, historically immeasurable and short a short endea-
vor to form this important branch of the art of war, the Cypriots
had been from their old parents and4 and brought into their traditio-
nal archery (see p. 159).

Thus lack of horsemanship as another fatal flaw in
the military system of Greece and, etc., was especially so,
because the Turks, who invaded India in the 16th and 17th cent-
uries, were post-masters in that art. They had inherited it as
a legacy from the old Persians, and the demonstrated its eff-
ectiveness on many a field in the west, the Battle of Kazikert
and Doryles... had proclaimed to the world the excellent fighting skill of the Turkish horse-archers, and IndiaNever as easy a victim to their onslaught as the Byzantine empire after the extinction of the Bagdad sultane. The Indian horse-archers, with their iron collar arm and steel treenailed arrows, were no match for the swift-moving light Turkish horse-archers.

5:9: **Artillery and Indian Armies**

Unlike our horses, the elephants can usually ridden by several warriors. Seckeddes says that in his time the usual practice was for a war-elephant to carry three fighting men, of whom the shot from the side, while the third shot from behind.

There is also a fourth man, the carrer on the back. The quad thorax will guides the elephant, while the two men at the pilot and captain of a war-elephant are called into the hills. Wilson recently says this seems agreed will take the eye as the pilot and the two men for the elephant are the eyes. From incidental passages of accounts ex-plains, in the sculptures at Beahray, Behan, at the island near the city of Terna, seated on a war-elephant, the head of this which in the frescoes at 

James the Reasentless, on the elephant, appears of the warriors in riding on elephant, almost said in his account (25) 11) mentions that every war-elephant, shall carry the mahabheras, the anchors and the howdahs (114648-1967).

The elephants fought with both missile and short-arm weapons. In the mahabhera, the ghajrosh or hanti-sadnahn, (who, by the way, were generally low-born soldiers, and knights),
are described as armed with knives, daggers, pots of oil, stones and other weapons and missiles. But from the Gupta period onwards, their principal weapon appear to have been bows and arrows. At times, they are usually depicted as equipped with quivers. In one instance, we find an elephant-cum-carrier actually shooting from his how. In the Nagar stone sculpture, the leader on the elephant is shown as wielding a spear; but he is attended by an archer in the howda. Nagha in his Vimalakirtti (CXXI, 24, 39) speaks of bowmen discharging their arrows from the back of elephants. While describing Vasudeva's combat with the Juddha king, the author of the Mahabharata Mahabharatam (CXXII, 11) says that the latter "cried to protect himself by showers of arrows irresistible arrows, standing on kingly inrusted elephants, that were marching along like covering forests mountains. The heroes of Yavana (Yavana-vahana) or Yavana-vahana heroes holding bows and their mighty elephants. (Mahabharatam, 1977),

Besides the warriors, the Yavana carried a driver called armahara, seated in an eye-carriage in a howda or hook on which and direct the course. In the Mahabharata (149, 46) the hook is described as 'flared' like the hook of a fish. The Tamil poet Kalidasa (CXXI, 14) says that beautiful sculptural representations of the hook as nakkhi are common. Kalidasa (CXXI, 34) says that the armahara and /specific names are attached to it. According to skrt., again, the hook had the function for driving one and another for drawing back. The latter, mentioned in the Mahabharata and the Arthasastra (1922) appears to have been
another instrument used for the same purpose.

The elephants themselves appear to have been elaborately equipped from very early times. In the Vasastra-cataka they are described as wearing ornaments on the four feet and on their sides, a blanket under their belly, a rug on their back and ornaments on the frontal globes. In the Vedas, they are referred to as armed with shields and iron vases, and wearing a kavaya or girth about their sides, stuckshastra, drums, truncheons, noses, umbrellas, and blankets, jointly with rings about the feet. Kautilya gives the following account about the and adorning of elephants: "A body, a harness and javelins (gadha) are in common. And there be also ring and loincloth, and cloth and covering are the ornaments of elephants. All except (varna), usacc, conch, age are ornaments and arm instruments. In the first and second, the cloth is wrapped about a housing on the feet, which is called the plain and worn alike amongst.

The rest of the arm is exactly included by a string of pearis with "plastic caps". The bells are attached to the front corners of the housing; but when the housing is very small, the bells are hung down the elephant's tail. A string of cord is tied to the narden itself. And the elephant's tail a twisted cord is firmly tied, and people mount in the most quickly and so with its help.

In his Harashastra, Jone refers to "ready housings on elephants," "kept right on their neck by means of girth-hands,"
to "beils used to chalk mala", and again, to "girdles", which "confining on either side the ends of the sash, kept their cloth creations medallions and gave a firm seat". From the accounts of Khen Rasang and the lama-student of Paga, it may be inferred that the important inventions, now made as the equipment of war-vehicles in the late centuries of our period, one of these, referred by the Chinese a pilgrim, to that the marks of elephants came to be provided with sharp tusks. The same, and all of by Paga, was the adoption of a practice of covering the eyes of elephants by means of cloths, which were not removed until the commencement of the conflict (Kalpakar, 1977).

On account of the suit of elephant as also often referred to in early times, and certainly, the cloths needed in which they were used as a weapon will, besides of the army, shoes with only one leg by a band could often covered with iron or brass pieces (Khal, 1977).

5:10: KALPAKAR

5:10:1: Kalpakar (Kalpakar, 1977, p. 126): The king was expected to rule the kingdom according to the law of the sacred texts, and the shaman-lords interpreted this fact. A "Kajrapa inscription states that here the most excellent of rulers was afraid to offend against the law (Epigraphic Indices: Vol. 1, p. 126). Hence he also procured for acting in accordance with the law (Indian antiquity, Vol. XVIII. p. 304). It can hardly
be expected that all the Chandela kings possessed all the high qualities demanded of them. But that kings like Prana, Vidyadhara, Kirtivarman and others had qualities of statesmanship, heroism, self-confidence and intelligence is evident from their achievements both in the political field and in other respects. Besides being the administrative head of the state, the king was the military leader of the country and led continuous dynastic struggles for supremacy and sometimes even for existence, thus the generalship of the king was of great importance.

The Chandela's king had absolute authority on all the affairs of the state, but like other rulers, the Chandela king had also a council of ministers, of whom one was the chief minister (mantrimukha). In military and foreign affairs he was assisted by the senapati and the minister for peace and war (sadhivigranika).

5.10:11. The Position of Ministers, General and Deputy Under the Chandela Rulers

5.10:11:1. Military

a) senapati. The head of the army was the senapati. According to the Agni and Parasurama Puranas, the Commander-in-chief must be either a Brahma or a Ksatriya. (P.V. Kane: 1930). Lakra says that a Ksatriya should be preferred as senapati, but if a valiant Ksatriya be not
available a Brahman may be chosen, but a Vaisyas or a Sudra should not be selected (Brahmsi, ii p. 255-266). Reference to a Senapati is found in one chapeela inscription, where King Paramara is records to have granted land to a Brahman Senapati named Madanapaladamar (Indian Numismatic, Vol. III, p. 267). Other military officers were as follows:

b) Mahārājarna: Secretary crisp of a higher rank.

c) Mahārājarna: Secretary crisp of a lower rank.

d) Potarana or Darpanacharya or Durmatadari: Officer in-charge of forts.

e) Patacharya or Brahmacharya: Officer in-charge of frontier.

f) Anadha: Officer whose duty was responsible military duties.

g) Brahmacharya: Officer in-charge of colonies.

11. MAHAIRAM: The king lived in a very small court and was probably maintained no standing army. He had a small retinue of personal attendants, an attendant to his body-guard, served him in hall and bower, and went out on his errands. After any expedition for offensive or defensive purposes was necessary, local levies were raised from the people-castes (Vishak or Vaisyas). These brought
their own arms and weapons, and were probably commanded by their own chiefs (Hdt. Bk. 1.123).

It was from the nucleus of a body of king's personal retainers that there grew up a standing army of the state. We do not know when this great change took place. It is certain, however, that in the fourth century B.C., when Alexander invaded India, standing armies had become a normal feature of Indian military life. The causes which led to this development seem to have been mainly two-first, the increasing unwillingness on the part of cultivators to leave their plough for an indefinite length of time, and second, the ambition of rulers to conquer new territories and expand and increase their growing empires. A standing army only is the very picture of a state desiring, organized for war and equipped with the most effective military methods. Since the fifth century B.C., the state growing out of the confederacy founded by the Greeks has been a constant feature of Indian history. 

Classical authors often give a picture of the sort of life led by the army of Alexander's time. Xenophon says that when not engaged in active service, the soldiers passed their time in idleness and drinking: "They are maintained at the king's expense, and hence are always ready, when occasion calls, to take the field, for they carry nothing of their own with them but their bodies." Arrian reports that they lived a life of supreme freedom and enjoyment. "They have only military duties to perform. Others make their arms, others supply them with..."
horses, and they have others to attend on them in the camp, who take care of their horses, clean their arms, drive their elephants, prepare their chariots and act as their charioteers. As long as they are required to fight, they fight; and when peace returns, they abandon themselves to enjoyment—the pay which they receive from the state being so liberal that they can with ease maintain themselves and others besides" (Sastri 1926).

It may be assumed that most of the post- Mauryan dynasties maintained standing armies of their own, the number and strength of which, of course, depended upon the extent of territory they controlled and their economic resources. But simultaneously with this reliance of standing army, the old Tamil custom of raising local levies on the occasion of a grave emergency seem to have continued, according the military aspects prevailing in the 7th century AD. Thus Velāiyar says: "The soldiers are levied according to the requirements of service; they are provided with arms, and are actually enrolled (oral tradition)." In order to quote, "The summons are issued according to circumstances, an after declaration of the reward and punishment, to muster (oral tradition).

Both literary and inscribed records prove that the army was not always composed of local inhabitants alone, but was strengthened by the following of foreign mercenaries. To this latter category probably belonged the kumaras or mercenaries mentioned in the Arthasastra and other politico-military manuals. Ancient Tamil authors sometimes speak of the Yavana bodyguard of Pandya kings. We learn from the Chachnana that in the 6th
The popular notion that the military protection was the exclusive monopoly of the Asuriga caste is wholly without
identification. Quially erroneous is one assertion made by Wheeler (1905) that "except in some mildly supernatural legends, the Brahmanas are not represented as warriors". He need not recount here the formal law according to which any priest might serve as a soldier if unable to support himself as a priest (Chudam Dharmastra, VIII-6). It is well-known that some of the most celebrated warriors in the Brahmanas, such as Draupadi, Asvatthama and Darsakarma were born in the priestly class. The Samavedha sixaka relates the story of a Brahman priest of Benares sending his son to Taxila for training in archery (Lowell, 1:5.1: 1905).

It is stated in the classical chronicles that Alexander in the course of his campaigns in India met with the most stubborn resistance from the brahman communities in the Indus valley. They renounced their priests' profession to the Alexander, and passed to their states the Brahmins' duties a "colony of the brahmanas", to assist Alexander take siege. For some time the inhabitants were successful and ambushed with vigour and determination. But at length the brahmanas, the situation desperate, set fire to their houses, and when they were seized and killed, the Bassas were put to flight. More than 5,000 in all were killed, and as they were not in a hurry, a few only were taken prisoners (similarly 1925). However, regarded the brahmanas as his worst enemies, and his Bassas fell heavily upon them. As the Greek historian says: "They were put to death wholesale; their heads were hung up for the rabbits and vultures by the roads—and the unspeakable horror, to my belief, of the people of the land."
The records of succeeding centuries point definitely to the conclusion that the brahmans continued to serve as soldiers and commanders of armies throughout our period. The names and exploits of Pushyamitra, the brahman commander-in-chief of the last Mauryan monarch, Chandragupta, and of Hayagravardhana, the founder of the Kadamba dynasty of Banavasi, are too well-known to need recapitulation. Epigraphic records disclose the names of a host of other brahman generals, who figured prominently in the military history of Gupta and post-Gupta India. A few instances are cited below:

1. Prthivisesa- In the Kusumanda inscription of the reign of Kumargupta, he has been described as the mantrin, Kumaramatya and maha-baladhiréka (commander-in-chief) of the emperor. That he was a brahman by birth will be apparent from the fact that his grandfather has been referred to as "a teacher of the Mandala (veda), of the gurus Asva and Vajra (Epigraphic Indica, x-72)."

2. Mandalika Vanaapatra. He was a brahman of the atreya sect, and a general of Rajaraja of the Canga dynasty. The Dirghashila inscription, dated 1075-76 A.D., says that he led the king's forces, won a victory over the contemporary Cola king (Rajendra-cola or Pulast yawga-cola I), and subdued the kings of Vangi, Kalmii (now a tehsili in the Ganjan district). Kotla (corresponding to the upper valley of the Mahanadi and its tributaries), Gorisinghi and Odda (Orissa) (Epigraphic Indica, IV-314).

3. Gopala. He was a brahman general of the Chandela king
Kirti Verma. A Chandela Inscription from Mahoba says that he vanquished the Padi monarch, Karna, and re-instated his master on his rightful throne. (Epigraphic India: I-220).

6. Madana, grandson of a general under the Chandela king, Paramardideva. We learn from the Ichchavor plates, dated 1171 A.D., that his father Mahakuta Mahesvara was “a Brahman of the Krsanatreya gotra, who studied the sakha of the Chandogyas”.

5. Nedamarya, a commander in the army of Vira-coda-deva (also known as Vasuverdhanas).

6. Krsna Ram, the great commander-in-chief of Kasa-raja the Great and Kasa-raja-deva. One who is a Brahman by birth is apparent from his title Prabhatra-Brahmanarayan.

7. Valgaradhra, the minister of Kumarapala-deva. He is credited with having won two notable victories for his master—one in the southern part of Vende and one other in the East. (Epigraphic India, II-16).

8. Surabhatra, the minister of Krsnapala. In the Jaunar Pillar inscription, he is referred to as follows: “In the assemblies of the learned he at once confounded the pride of self-conceit of opponents by his speeches to which the constant study of the sastras imparted deep meaning, just as, possessed of boundless wealth of valour, he did in battle the conceit of bravery of enemies.”
9. Brähna or Brahman, the Brahman general of the last Calukya emperor, Jñanesvara IV. In an inscription of 1175 A.D., he is described as the maha-pradhana, cmdanayaka and senadhipati of the king.

10. Khalesvara. He was a minister-general of the Yadava king Bhojara (c. 1116-47 A.D.). The same inscription says that he "humiliated the Gurjaras and the Belavars and destroyed the race of the 'heroic Shilahara king'. His worthy son, Prana, is also said to have led an expedition against the Gurjaras, but was slain.

Moreover, there are a few passages in the Rajatarangini which go to show that Brahman troops were often enlisted in the Kastriyar army. It is noteworthy that Kshetra sometimes eulogizes the fidelity and resolution of Brahman troops in contradistinction with the treachery and futility of other classes of soldiers. After Chandra's death, for instance, the relatives of the king, as well as his troops, broke away, and only the Brahmanas Leveraraja and Tosteraja, who were skilled in military exercises, and the chief of Kanda were the only three who fell bravely fighting (Rajatarangini, VIII-1343). Elsewhere we read: "The whole force ran away, and only the Brahman Kalyanaraja, who was well versed in military exercises, was killed fighting with his face to (the enemy) (Rajatarangini, VIII-1071).

In the kingdom of Trisha during the period of Western and Ganga dynasties, the Maharashana Brahmas used to contribute a
largely recruited from the Left hand and Right hand (Idanaiyar and Valanaiyar) castes. Similarly the Noyelle army consisted, among others, of gold-smiths, barbers and a large number of peddars. These last are described in contemporary inscriptions as "the confidential agents of the Noyelle camp" to remark the same phenomenon in the north-western state of Mala. Kalhara mentions that there were occasions in the history of this kingdom when cultivators, artisans, and even cattle were recruited for the army, occasionally as men of even lower classes rushing their way to positions of importance in the army. The Brasahana inscription of Kulasekaera recalls the most famous services rendered to that general by the wife of his generals, a lady named Veeramala, -allowed her discretion, as described as the 'new queen' of the Cool Purana. It is also well-known that the Cool Purana were among the upper castes of the Noyelle.

The facts and examples cited above totally disprove the contention that the military profession was the exclusive monopoly of any one caste. It was imperative that captains and leaders of armies were, whether they were members of the higher castes. "Career according to talent" was not an ideal of the social or political system. In choosing the qualifications of the senaaj, most ancient writers have emphasized that he must be a man of high social standing, not one from the gutter.
5.12 DISCIPLINE, DRILL AND EXECUTION

We have scanty information about rules connected with the maintenance of discipline in the army. In the Arthashastra (bk. II. ch. 33) there is a statement that the commander-in-chief should pay special heed to the maintenance of discipline in his army "not merely in camping and marching, but in the time of battle. In the Sandiparni (77, 26-22) there is cited a rule that a deserter from the ranks might be killed, and might even be burnt to death. The "Iti-prakarika (vii. 50-63) advocates summary punishment to soldiers, guilty of disobedience or treachery. "A king should in time of war", says the author, "put to death those who oppose his orders, the soldiers. He must not and do not keep their weapons, envious generals the fight treacherously, men who do not face the enemy, he fights against each other, who deceitfully tell the enemy the designs of the king, who give way to the enemy and enjoy the king's destruction". The Arthashastra (vii. 752-770) lays down that military regulations should be communicated to the soldiers not every eighth day, but that the troops "should always foresee violence, rivalry, procrastination over state affairs, indifference to the injuries of the king, conversation as well as friendship with the enemies", that they must never enter a village without a royal "permis", and that there should be no credit-transactions between them and the village-folk. It is further enjoined that soldiers themselves were to be held responsible for the tidiness and careful handling of
arms and uniforms. "They should keep the arms, weapons and uniforms quite bright (and ready for use)". A subsequent verse (11: 777-778) perhaps implies that those who disobeyed military regulations were punished with death.

The importance of drill and exercises for the army seems to have been realized from very early times. A pro-Kantiliyan political thinker maintained the view that a small army of trained troops was better than a large army of "effete persons". Kantiliya argues that it is possible to infuse spirit and enthusiasm even in the timid "by means of discipline and training". Elsewhere (Ch. v. ch. 3) he says: "Footmen, horsemen, chariots and elephants shall be given necessary training in the art of war at marches of all days but those of conjunction (of planets); on these occasions of training, the king shall ever be present and witness the exercise". Jaimesava in his 'Nithashira' puts in a vigorous plea for the daily exercises of troops. "By constant practice", he says, "one cannot be saved in fighting from chariots, horses, elephants and beasts, and a less master in archery; by constant and regular practice (nithashira) an intelligent man can perform the difficult feats". Kshemavata enjoins that even when the army is in a camp, the daily drill should not be discontinued. On the contrary, "every day the drill and exercises of soldiers should be performed with various appliances and on grounds cleared of shrubs, stones, trunks, earthen mounds and water (Kshemavata Nitisara: 1072, M-50, MVII, 16,16,19). Sukra
also lays the utmost emphasis on the drill and training of troops.

"The untrained, inefficient and raw recruits," he says, "are all
like bales of cotton, the wise should assign them to other tasks
besides warfare" (Arthasastra, V.4.33; II.2.12, 32,33).

The methods followed in the training of troops must
have differed from age to age, and perhaps also from region to
region. Elsewhere we have sought to give an idea of the elaborate
scheme of training devised for elephants and horses. In the
Arthasastra (V.4.33; II.2.12), Kautiya says: "The myelo or the brigadier
will, by means of trumpets, drums, flags and ensigns (yuga-pasa-
patakeśhīha), signal to the components of his army as to
when they are to form into divisions (anga-kappa), then to unite
into a compact body (sainya), then to halt (sāhāya), then to
turn back from the combat and then to make onslaughts." It is
only logical to conclude that troops were trained in times of
peace in the technique of movements according to signs and sounds.

In the Sāmpikāsāstra (VI.36) it is stated that "the king should
instruct his troops in those thirty-two movements of war which
are acknowledged by policy." But these thirty-two movements were
not known to the Vedic Śrauṣṭrīya, however, previous to a long list of technical movements and poses, in which the archers
were trained. But it will be too tedious to reproduce them here.

The Dhanurveda-gāthā of Varāha says that besides the different
poses of archery, the foot-soldiers "should be trained in
moving backward (pasaṣṣadgamanam), standing still (sthīrakramam)
lying (tayana), running space (chavanam), rushing headlong
into the hostile army, and moving in different directions in
accordance with signals."

5.13: ATRI AND PUNyawaresa DIGNITARIES AND MILITARY

Most ancient writers strongly emphasize the necessity
of regular payment to troops. In the Mahabharata (5.44-49),
a sage asks a king, "Do you give to your troops the sanctioned
rations and wages at the appointed time, or do you cause resen-
tment by withholding them? Do you know that the irritation caused
by arrears of pay and irregularity in the distribution of rations
pushes the troops to mutiny? In the Mandala (53-5), Dharmasa
emphasizes the supreme importance of feeding the army contented
and satisfied, for discontent among troops is a source of grave
danger to the state. In the Kathasaritsara (VI. VIII. Ch. 5).
Varahila considers the withholding of soldiers' pay as one of
the primary causes that lead discontent and casue in the army.
According to the Agni Purana (336, 31), again, regular payment
to troops is a factor of great importance contributing to the
growth of a strong army (Chaturvarga, 5.1. 196).

It may be presumed that the practice of giving cash
payment to troops was continued in the Gupta and post-Gupta
periods. Referring to the prince of Malhara, Pulainma writes
that he gave regular pay to his troops, "as is the practice among
the Arabs (Eliot, 1772)." Senuni writes that as a rule the hindu
kings in the 11th century A.D. encouraged prostitution. "The
kings," he continues, "make them an attraction for the cities,
a bait of pleasure for their subjects, for no other but financial
reasons. By the revenues which they derive from the business
both as fines and taxes, they want to recover the expenses which
the treasury has to spend on the army (Sachau, 1904: 1901)."

Besides salaries and wages in cash, officers and privates
in the army were sometimes rewarded with exemptions from land-
revenue, sometimes with assignments of land. In a previous
chapter it has already been noted how Kautilya speaks of villages
which were exempted from taxation in lieu of military
services which they rendered to the state. "Take here in the Artha-
shastra (Sk. III. ch. 1), while describing the measures and measures
for colonisation of lands, the author says: "The dependents,
accountants, gazers, samtikas, veterinary surgeons, physicians,
horse-trainers, and messengers shall be endowed with lands,
which they shall have no right to alienate by sale or mortgage". In
another context (Sk. V. ch. 3), however, he remarks that a
king, who wants to maintain some uniformity of standard through-
out his kingdom, must on no account employ his officers and
servants with villages.

Whether Kautilya approved the system of paying officers
with endowments of land is not quite clear. Probably he did not.
But whether he liked it or not, the system came to prevail. As
early as the 2nd century A.D., an inscription of Sili Pulumayi
shows military officers holding large plots of land (epigraphic
Indices: XIV:9). Describing the political practices of the 7th
century A.D., the Chinese historian, Hsin Ts'iang, says that “the
king reserved one-fourth of the crown-lands to be bestowed on
great public servants (Seal Samuels 1911) and that ministers of
state and other officials all have their portion of land, and
are maintained by the cities assigned to them (after Thomas 1965).

Further, epigraphic evidence proves that in the post-
Harshavardhana land-grants were frequently made by kings to their
successful generals. For instance, an inscription of the eastern
Kalakya king, name 1 (R. 916-917 A.D.) describes how his general
Samadala “also when once established the army’s army”, but now
the victorious king reserved his general’s land; the grant of the
village of Tuanjura to the Raitanakshatras (epigraphic Indices:
V-131). Another inscription records the same king awarding the
village of Tuanjura, together with other other villages, to a
general named Kshamakshya (Salva Kshamakshya), who had a
glorious record of service to the state. In still another epigraphic record, originally found in Tirupur and now preserved in
the Mysore Government Museum, it is stated that in recognition
of the valour displayed in battle by Velsave, Ganga II gave
him the circle of villages known as the Raktur twelve and also
a village named Vadiyar or Yadiyar in the Bevole district. This
grant is described in the record as a kalyashcha or “sword-
weaving grant”, meaning, no doubt, that it was accompanied by
the ceremony of laying Nanakera's sword (Epigraphic Inscriptions vi-53). Similarly, the carakshri plate of the Caudela king, Viravikramadeva (dated 1234 A.D.), mentions the grant of a village in the Chavissa to one Ratha Vinchu in recognition of a special act of valor performed by him in the battle of Jorchi (Epigraphic Inscriptions k-293). Sometimes also these land-grants were made in favour of vessel chiefs in recognition of their military services. Thus in the Pithaguran inscription of Kurivisavan (c. 1168), it is stated that prince Kudiyavarmar II of Velanarun, a vessel of the western Satapar, renders considerable military aid to his over-lord, Viramaditya-deva. There, chased by his enemies, king Viramaditya received a prince Kudiyavarmar II in 'panavesevagam', that is, the four districts called 'panavesevagam'. For similar military service, prince Adira II, a subordinate chief, claims in the same 'panavesevagam', that the king vice-roy conferred on him the Kudiyavarmar-deva title in the military capacity equal to three and one quarter (Epigraphic Inscriptions iv-16).

The above instances, however, show that land-grants were usually made in favour of vessels who had distinguished records of service to their crown. Land-grants to officers in normal circumstances, perhaps in line of descent, were not unknown. The Kuchchar plate, already referred to, states that the Caudela king, Paramandadeva, granted the village of Nandini in the Nandavasa visayas to his general (cennapal).
Narada-palaganana. A Rock Inscription of the time of Anavarman
(end of the 13th century) says that one Mahasvara was appointed
by the Sandala-Anavarman as the warden of Melanara, and
endowed with the grant (of the village) of Ayapana. Similarly
another officer named Vase or Vasaka, on being appointed as the
warden of the forest of Ayapana, received the village of
Varamani (Epigraphic Index, X-338-827).

Besides pay, either in the shape of salaries or land
assumptions, officers and troops were occasionally given special
allowances on the eve of an expedition. Officers who
displayed special zeal and courage in the course of a battle
were sometimes rewarded with an increase in their pay and rations,
sometimes with special monetary allowances, and, in the case of
officers, by promotion in rank and honour. A recommendation to
this effect in the Kshatrapa inscription, with words like...', in the
orthographic list of monetary rewards to be given to troops for acts of special merit.
"A hundred thousand (panas), says Kalidasa, "for slaying the
king (enemy); fifty thousand for slaying the commander-in-chief
and the half-adjutant; ten thousand for slaying the chief of the
brave; five thousand for destroying an elephant or a chariot; a
thousand for killing a horse, a hundred (panas) for slaying the
chief of the infantry; twenty for bringing a head; and twice the
pay in addition to whatever is seized'. There are similar
recommendations in the inscriptions of Yashodaka (ibid., 19-21), the
Agni Purana (242, 34-35), and the Miti-prakasika (VI, 86-99).

The last-named work adds that this system of monetary rewards to
trials in excess of their regular pay would inspire them to
special feats of valour.

Further, it seems to have been considered a prime duty
of the state to support the wives and dependants of soldiers
dying young while on duty. The Varintha-Sadhika (c. IX, 20)
proscribes the rule that "the wives (of slain soldiers) should
be provided for." Kautilya (V, v, ch. 3) says the same thing though
in more general terms: "The sons and wives of those who die while
on duty shall get subsistence and clothes. Infants, aged persons,
or diseased persons related to the deceased servants shall also
be shown favour. In cases of famine, sickness, or wild-
birth, the king shall give presents and it his servants concerned
therein." In the Miti-yakshana (c. II, 20) it is stated that "the
king incurs a debt if he does not maintain the relations of an
officer, who has died in the service of the state." The Carra
Plates of the Gandhara (declared, ca. 150? t.e. = 228-6
A.D.), show that occasionally large grants were made for the
maintenance of the dependants of slain soldiers. They record
the grant of two villages by king Dayaka for the
maintenance of a person whose father had been killed in a battle
with the Turks. It is extremely stated in the plates that the
grant was made "by way of maintenance for the heirs of the..."
suffered death on the field of battle (Epigraphic Insulae XVI-273).

It may be added that officers and commanders who had won laurels on the battlefield were sometimes rewarded with titles and other marks of distinction. One such mark of distinction was the right of going in public with a special hand playing called janso-mahasabda (because it was produced by the five primary musical instruments). Occasionally also huge-sounding titles were conferred on a victorious general. The Buda inscription of Sultan II (dated c. 908) provides us with an example of this kind. It says that King Jalse, after being immensely pleased with the success of his general, Subhanap, conferred on the latter a string of titles, such as karadaleganda, the wrestler of mountain karadale, the expert-jewel of karadale, the dense karadale, and karadale (Epigraphic Insulae XIV, 208). In the food a kingdom of two girls a special form of conferring distinction on a soldier or general was so great as to accept a son's lid at the royal hands (Plut., Louis, 1900).
CHAPTER V


6. Landor, John (Calcutta, 1876) The literary remains of India, University, p. 164.


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38. Tajjudin, Gazetteer, vol. 1, 27, 116...


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