CHAPTER-VII

ANALYSIS OF FORT AND FORTIFICATION AND ITS MILITARY IMPORTANCE
7. FORTS AND FORTIFICATION

7.1: INTRODUCTION

In the history of defence and warfare, fortified sites played a role of key significance, until the invention of the aeroplane and the modern engines of destruction reduced their efficacy; but they yet remain, great and grim reminders of bygone battles. Forts sheltered towns and villages and all that they contained, commanded roads and rivers as well as the adjacent territory, and served as refugee against pressure of raiders and invaders. Even non-military people and those unfit for the field could help man the defences of a fort, while the enemy needed double the strength of the garrison to invest it. The beginnings of fortification in India can be traced as far back as the prehistoric age. At Kot Diji, fifteen miles south of Khairpur and 25 miles east of Mohenjodaro, a fortified town of pre-Indus date has been laid bare by recent excavation, 'with a strongly walled citadel armed with rectangular towers of stone and mud-brick (Wheeler, Sir Mortimer: 1959). A burnt layer crowns the 'Kot Dijian' strata, a reminder, perhaps, of the site's destruction about 2400 B.C., when it was surmounted by an unfortified settlement of the Harappan type (Wheeler, Sir Mortimer: 1959).
7.2 AMRI-CULTURE FORT & FORTIFICATION

At Kohtrass Buthi, in Sind, N.C. Majumdar (1930–34) discovered a fortified site of the Amri culture, slightly earlier than Harappa. The ruins occupy the top of a hill steep and inaccessible on three sides, but gradually sloping down to only ten feet above the surrounding plain on the south. As one goes up the southern slope, he comes across first a low rampart wall, and next a second wall, larger and stronger than the first. This latter wall is made of cyclopean masonry, and shows traces of four ruined bastions with an entrance on the south-east. Professor Piggott (1950) likens the site to a 'promontory fort', and compares it with the fortifications on the Tharro hill, also in Sind. Here, too, the fortifications 'take the form of double walls, curved and of massive construction and 250 feet apart, cutting off the southern headland of the hill in true promontory-fort manner'. Amri ware was found on the surface, but plain red ware allied to that of Harappa, was also in evidence (Piggott, Stuart: 1950). Yet another Amri settlement in Sind, called Dhillanijo Kot, shows traces of a defensive wall surrounding the site (Piggott, Stuart, 1950).

At Toji and Mazena-damb in South Baluchistan, two sites probably of the Kulli culture, Stein noted the indications of a possible defensive wall around the settlement, and similar walls probably stood at the Siah-damb of Jhau (Piggott, Stuart: 1950). And at Mughal Ghundai, too, there are traces of a defensive wall to the settlement (Piggott, Stuart: 1950).
Not long ago, Sir Mortimer Wheeler's fieldwork and excavation at Harappa and Mohenjodaro proved the existence of lofty citadels at the two sites. 'We now know that each of them was dominated by a massively fortified citadel, and must therefore have been subjected to autocratic or bureaucratic citadel rule, its precise form at present unknown and unlikely to be known until perhaps some happy discovery unlocks the Harappa script (Wheeler, Sir M.: 1959).

The defences of Harappa (Wheeler, Sir M.: 1959) fell roughly within the limits of a parallelogram, 460 yards by 215 yards, and there was a complex western gate-system with terraces designed for ceremonial purposes, and provided with guard-rooms at the outer angles. The main entrance was perhaps represented by the gateway on the northern side.

The great rampart of mud and mud-brick was designed as an embankment against the inroads of the flood water. Ten to twenty feet high, it helped raise the base of the defences proper above flood level. On the bund stood the main wall of mud-brick battered externally and internally, with a basal width of 40 feet and a height of about 35 feet. It was revetted with a facing of baked brick on the outside, battered back to a slope of 23-31 degrees from the vertical, and reinforced by rectangular towers or salients, some of which were carried higher than the main wall, as suggested by the surviving masses of mud-brick core.

A long period of wear and tear necessitated the reconstruction of the original baked brick revetment, which was consider-
ably thickened in some places. This rebuilding with complete bricks instead of brick-bats was done in perfect fashion at the height of Harappa's glory. But in the next and the last phase of reconstruction, an additional salient was added to the north-west corner, and the two entrances of the western gate-system were wholly or partially blocked. The Harappans, as Wheeler said, were on the defensive.

The westernmost mound at Mohenjodaro was surrounded by similar defences (Wheeler Sir M.: 1960). It is actually surmounted by a Buddhist stupa of the second century A.D., which has hindered a proper excavation of the site. The artificial platform of the citadel, built of mudbrick and mud, dates from the phase to which great public buildings such as the Bath and the Granary also belong. At or near its south-eastern corner the citadel mound includes a system of solid burnt-brick towers, yet to be fully explored (Wheeler Sir M.: 1960). The brickwork of the earliest of these towers, 31 x 22 ft., contemporary with the platform, was originally reinforced by horizontal timbers; it tended to crumble as the wood decayed, and was partially repaired with bricks. The Great Granary, also contemporary with the citadel mound, was the only other building so constructed. The later builders of the adjacent towers did not repeat the mistake. 'It would almost appear that the mound and its buildings are the work of a new immigrant regime accustomed to the traditions of mud-brick rather than of baked-brick architecture (Wheeler Sir M.:1960).

Two of the rectangular bastions at the south-eastern corner seem to have flanked a postern gate, which was later blocked.
and replaced by a platform with a parapet. About a hundred baked-clay missiles were found in the debris on this platform (Wheeler, Sir M.: 1960). The towers, together with other foundations to their east yet uncovered, may be found to belong to a small fort or strongly-point.

A baked-brick tower or salient, still standing 10 feet high, has been partially exposed on the west side of the citadel, to the south of the Granary. A small postern has also been identified to the north of this tower. The citadel platform had defences throughout its circuit, even though they were not as uniform as those of Harappa.

A small site of the Harappa culture, Ali Murad in Sind, was surrounded by a stone wall three to five feet thick, which enclosed an irregularly rectangular area including houses and at least one well (Najumdar, N.C.: 1934). It is not far from the Phuslass, opening from the Kirthar range on to the lowland, and the fortification seems to have been a normal provision for safety from enemies and robbers (Wheeler, Sir M.: 1960).

At Sutkagen-dor in Makran, Stein found massive fortifications enclosing an area about 170 yards by 125 years, in association with Harappan pottery (Sten, Sir A.: 1931, 1937). The wall was built of roughly squared stone blocks in courses, 30 feet wide at the foot and with a vertical inner face, while the outer face was battered at an angle of 40 degrees. It must have been originally 20 to 25 feet high, and the whole site was indeed very strongly
fortified. In the south-western corner, there were traces of a
gateway only 8 feet wide, with probable flanking towers or guard-
houses; buildings once stood both inside and outside this gateway.
Suchagen-dor must have been an important trading post, as providing
contact with the sea-borne trade of the Persian Gulf and the Arabian
(Jiggott Stuart: 1950).

Recent excavations at Kalibagan on the left bank of the
Gange in Northern Rajasthan have brought to light an important
centre of the Harappan civilization (Indian Archaeology: 1960-61).
The larger mound revealed successive remains of ordinary houses.
But the smaller mound contained a massive mud-brick platform, over
which stood the relevant buildings. The latter mound perhaps re-
resents a citadel, the location of which facing the general
habitation area reminds one of both the Harappa and Mohenjodaro
citadel-mounds. And if these two cities were the provincial
capitals of a big empire, it is not impossible that Kalibagan
also enjoyed a metropolitan status in the Sarasvati valley (Indian
Archaeology: 1960-61).

Walter A. Fairbairn, Jr. (1961) asserts that religion
was the intensifying factor that created and gave form to the
Harappa civilization; Mohenjodaro was almost purely a ceremonial
centre, and the fortifications at Mohenjodaro and Harappa were
presumably defences against floods only (Walter A. Fairbairn
Jr.: 1961). But his hypothesis does not bear scrutiny. The pre-
vious hypothesis that the historic fortifications at the two famous sites and elsewhere cannot
be explained away as mere defences against floods. A man in his
house is safer than a man in the open, and it does not require a
great stretch of the imagination to seek safety behind a wall
against an enemy's onslaught. That the walls also guarded against
floods, does not by any means disprove the contemporary apprecia-
tion of their military value. Religion has been a vital factor in
Indian life across the centuries, but it has always sought harmony
with the political authority; the one could not fashion the pattern
of existence without the other. Lofty citadels such as those of
Harappa and Mohenjodaro, including great gateways and watchtowers,
clearly bespeak authority as well as the need for defence against
an alien enemy. The astonishing organisation and efficiency of
urban life, well planned streets and drainage system, great gran-
aries and coolies' barracks, alike betoken the whip of a coercive
power that formulated the laws of civic life and ensured their
observance. A certain measure of autocracy is plainly manifest
in the scheme of affairs, and the citadels presuppose a regular
organisation of defence, despite the poor quality of the Harappan
weapons. Large round balls of baked clay and sling pellets of round
and ovoid shape found in and around the enclosed area at Mohenjod-
aro (Marshall Sir J.: 1950, 1931) leave little doubt that the
fortifications stood as bulwarks of defence against the contingency
of human invasion.

The numerous references to forts and fortifications in
the Rgveda and the later Vedic literature were dismissed by
earlier scholars as being either mythical or at best referring
to primitive earth-works reinforced by palisades or possibly rarely by stone. The later discovery, however, of prehistoric fortifications, lent a character and reality to the Rgvedic puras and durgas that had never been visualised before. And the gap that yawned between Harappa and the later fortified sites, has been considerably narrowed by the archaeological labours of recent years. The advent of the Aryans in India synchronises with the death or destruction of the cities of the Indus valley. Some of the inhabitants of these cities were probably the Dasyus and Dasas of the Rgveda, proto-Australoids with dakr skins and flat noses, worshippers of the phallus—natural enemies of the Aryan intruder.

Indra, the Aryan battle-god, goes on 'from fight to fight intrepidly, destroying fort after fort with strength (Rgveda Samhita: 1940). He overthrows the non-Aryan kings and rends their forts as age consumes a garment (Rgveda Samhita: 1940). He is the great leveller of the Dasas' towns (Rgveda Samhita: 1940) and all the circumstantial evidence, as Sir Mortimer Wheeler remarks, seems to brand him as the author of the destruction of great cities of the Harappan epoch. A verse of the Rgveda, describing how he slays the noseless Dasyus, and in their home overthrows the hostile speakers (Rgveda Samhita: 1940) reminds one of people massacred in their homes and streets at Mohenjodaro. And Hariyupiya, mentioned in the Rgveda as the scene of an Aryan victory, may be none other than Harappa itself (Wheeler Sir H.: 1960). This, though, is a mere conjecture, and proof is yet distant. Agni, too, like Indra, figures as a fort-destroyer (Rgveda Samhita: 1940) and indeed
helps him reduce ninety castles of the Dásas (Ṛgveda Sāmhitā: 1940). And the myth of Indra killing a demon to free the pent-up waters may symbolically signify the destruction of the river dams constructed by the Indus people, so that the waters turned against them (Riggott Stuart: 1950).

We can now understand the nature of the forts and strongholds (pur, dūrga) (Ṛgveda Sāmhitā: 1940) described in the Ṛgveda as made of ayas (Ṛgveda Sāmhitā: 1941) and of stone (Ṛgveda Sāmhitā: 1940). The epithet ama (Ṛgveda Sāmhitā: 1940) is used in the Ṛgveda, in the sense of ramparts or defensive walls, with palisades and a ditch. And the Acharva Veda uses vapra for 'rampart'. Forts are described as 'broad' (prthvi) and wide (urvi), or as consisting of a hundred walls, even in the Ṛgveda and the term maṇapura, 'great fort', occurs in the Yajur Veda Sāmhitās and the Brahmanas. The view of Mischel and Geldner (1899-01) that there were towns with wooden walls and ditches in the Vedic period, like Katalgutra of a later day as known to Megasthenes and the Pali texts, does not appear altogether improbable.

The significance of the autumnal forts mentioned in the Ṛgveda (1940) is somewhat difficult to explain. They must have served to guard the people against floods and human attack during autumn. But, as floods do not constitute a regular feature of the autumn, the forts presumably served their primary purpose of defence against man during the cool season of campaigns and
predatory activity. This possibly explains the epithet 'autumnal' as applied to the Vedic fortifications.

The Rgveda (1440) mentions the purpati, 'lord of the fort'. He may have been a ruler or governor, or a regular officer like the gramani at another level. Macdonell and Keith hold that he was the chief of a fort under attack. It was, as we know, a time of troubles and insecurity; sudden attacks and regular raids presented a permanent source of anxiety; and we should not be surprised if the purpati was the commander of a permanent garrison, the custodian of the fort's defence.

Forts were reduced by siege (upasad) and effective blockade (Taittiriya Samhita) and sometimes finally captured by breaching the walls (prabhid) and assault. The pur-carismu of a Rgvedic passage may have been some kind of a battering ram used in assaulting a fort. Fire doubtless played an important part in siege operations. Arrows tipped with flake must have been used to set fire to enemy strongholds. The Taittiriya Samhita speaks of the three citadels of the Asuras cleft by a shaft, whose point was Agni. Agni is not infrequently described as a destroyer of forts. The role of fire in war is well illustrated in a Rgvedic passage cited below:

'Transfix the fiends with darts that burn most fiercely; go in rapid flight thy whirling weapons follow them closely, glowing in the fury. Spread with thy tongue the winged flames, O Agni; unfettered, cast thy firebrands all around thee.'

(Rgveda, 1v-4.12)
...in kindled fire he (Indra) burnt up all their weapons, and made him rich with kine and carts and horses.

(Rgveda: 1940)

The Atharva Veda similarly speaks of 'tongues of fire' and 'tufts of smoke' left in the trail of a conquering army. (Atharva Veda: 1905).

That all the forts referred to in the Vedic literature were not Dasa strongholds, is proved alike by the internal evidence of the Vedas and the spadework of the archaeologist. The Rgveda contains repeated prayers to Agni to preserve the faithful with 'forts of ayas' (Rgveda Samhita: 1940) and to 'be unto us a wide, broad ample castle' (Rgveda Samhita: 1940). The excavations at Kausambi have brought to light the impressive fortifications of the town famous in antiquity. The mounds of the ancient rampart describe a peripheral circuit of roughly four miles, and girdled by a moat, form a semi-circle with the Yamuna as the base (Sharma, G.R.: 1960). Eleven gateways, five of which were the principal ones, pierce the eastern, northern and western sides of the rampart, which was reinforced by a series of towers and salients at regular intervals (Sharma, G.R.: 1960).

Incidentally, a passage of the Kathaka Upanisad uses ekadasadvara as an epithet of pura. Macdonell and Keith (1912) point out that the passage in question is metaphorical like another in the Svetasvatara Upanisad the number of gates depends on the nature of the body, and does not indicate the shape or size of cities.
They seem to forget that the metaphor would become inept and inaccurate, if the cities had invariably one gate only. The passages of the Satapatha Brahmana (xi-1-2-3) cited in their support do not necessarily prove that the city had one gate alone; they simply refer to an open or closed gate of the stronghold, and do not by any means preclude the possibility of more gates than one (A. Weber: 1895).

The first defences of Kausambi came into being in S.R. 1-3, two structural periods before the arrival of the Painted Grey Ware. 'A rampart of mud with sloping sides, revetted with a burnt brick wall battered back to about 30 to 40°, of which the courses are laid in the so-called English bond, leaving footings in successive courses, reinforced by bastions and towers square in plan, are elements of construction strongly reminiscent of the Harappan citadel (Sharma, C.R.: 1960). The earliest moat was dug in S.R. II-5, before the N.B. Ware made its appearance (Sharma, C.R.: 1960). We may note here that the Satapatha Brahmana (VII-1-1-13) knows of the moat as part of the defence architecture. The defences from S.R. I-3 up to S.R. III-12, followed a similar pattern but during S.R. III-11, a curved entrance was constructed, enclosing a corbelled underground passage (Sharma, C.R.: 1960). The changes effected in the subsequent periods of rebuilding do not form part of the present study. The latest excavations at the site have, however, led to the discovery of a stone fortress-palace of the old kings of Kausambi (Indian Archaeology: 1960-51). Standing on the Yamuna in the south-west corner of the ancient
walled city, the palace occupied an area of 1033 feet x 492 feet. The level of the area was raised by building a 8½ ft. high platform of mud-blocks and mud-bricks. The northern wall, about 427 feet in length and 19 feet in width, was built of stone set in lime of very fine quality (Indian Archaeology: 1960-61). The core consists of random rubble with well-dressed stones providing the facings of the two sides. This wall was joined at its eastern and western ends by two return walls, (Indian Archaeology: 1960-61) and had a circular tower at each junction, with a rectangular one in the middle. The circular stone towers had a diameter of about 26 feet, and the central oblong tower, added later, measured about 15 feet, in width and depth (Indian Archaeology: 1960-61).

Three main stages of architectural evolution are discernible. The earliest building has nearly the same plan as the later ones, but the walls are built entirely of random rubble, huge stones being laid in line. The sides of the wall were possibly plastered. Dressed stones mark the second phase of constructional activity; and brick core and stone facings characterise the rebuilding of the third phase after an extensive destruction of the palace. The first structure antedates the N.B.P. Ware, and has been tentatively identified with the palace of King Udayana and his descendants.

We must not fail to recall here the famous fortifications of Rajgir. The remains of the fortress may easily date back to the sixth century B.C., if not earlier still (Indian Archaeology: 1953-54). Local tradition identifies the site with Girivraja,
the capital of King Jarasandha according to the Mahabharata
(2.18.30; 2.19). And the Buddhist texts tell us how King Simbisa
ara left the old city in order to build a new one at the foot
of the hills. Girivraja, no doubt, belongs to the pre-Simbisarian
epoch of Indian history; the town nestled in the lap of an uneven
valley with hills that served as walls on all sides. And this
natural defence was further strengthened by artificial fortificat-
tions. Two lines of walls run round the city; the inner line measures
4½ miles in length, while the outer line goes up and down the
Vaihbaragiri, Sonagiri, Udayagiri, and along the southern range
of the hills to Giriyak, and then back at intervals over Sailagiri
Chethagiri, Ratnagiri and Vipulagiri. The faces of the walls are
built of massive undressed stones between three and five feet in
length, carefully fitted and bonded together, while the core
between them is composed of smaller blocks carefully cut and laid
with chips or fragments of stone packing the interstices between
them (M.S.I. Annual Report: 1905-6) on the west of Sonagiri, and
on the Vaihbaragiri, Vipulagiri and Ratnagiri, the walls are
much ruined and seldom rise higher than 7 or 8 feet. From the
fact that whenever the height of between 11 and 12 feet is
reached, the walls are invariably finished off with a course of
small stones, and that there are no fallen blocks of stone lying
near, we may assume that this was the original height of the
massive masonry described above. Above this substructure, there
was no doubt a superstructure composed either of smaller stone-
work or of bricks baked or unbaked, or possibly of wood and
stone or brick combined. The thickness of the fortifications on
the various hills varies from 14 feet to 17 feet and 6 inches. Castles were added to the outside of the walls to reinforce them at important points. Sixteen of them have been discovered, but there may have been more. They are solid rectangular structures measuring in plan 47 to 60 feet long by 34 to 40 feet broad, rising to the same height as the wall, they were doubtless provided with superstructures that have vanished with time (A.S.I. Annual Report: 1903-04). The outer walls are also characterised by stairs or ramps built in the thickness of the wall along its inner face, to provide access to the top. The nine ramps discovered so far measure roughly 5 feet 6 inches wide and 15 feet long.

Separate watch-towers erected at various prominent points on the hills, add to the efficacy of the defences. Two of these stand on the Vaibhara hill, four on the Vipula hill, and one on the easternmost peak of the Ratnagiri (A.S.I. Annual Report: 1905-06). The defences of old Rajgir cannot fail to remind one of the chalcolithic fortresses of North-western India and testify to the sagacity and strategical considerations of the ancients in the choice of a suitable site. Was the prehistoric tradition continuous? The discoveries of the future will furnish a definitive answer.

G.R. Sharma explored the site of Unchadah between 20 to 30 miles east of Allahabad. He found clear traces of a fortified habitation 170x110 feet, with corner-towers - a miniature model of Kausambi. The rampart was 30 feet high and faced with bricks on the outer side. There were signs of a moat about 25 feet
wide, with watch-towers on its outer side. Unchadira has Painted Grey Ware of the Kausambi type, and a few specimens are identical with those associated with the early periods of the Kausambi defences (Indian Archaeology: 1959-60).

Eighteen miles to the south of Allahabad is the little fortifed site of Bhita, about 400 yards square, which may have been the Vichi or Vicigrama mentioned on certain sealings found there (Wheeler Sir M.: 1959). The presence of the M.B.C. ware points to the antiquity of the site.

In the Bareilly district of U.P., the ruins of Ahicchatra, the capital of North Pancala in antiquity and mentioned in the Mahabharata, dominate the plain around with lofty ramparts \( \frac{3}{2} \) miles in circuit. Excavations in 1940-41 revealed two successive earthen ramparts below a stout wall of baked brick. Painted Grey Ware was found both below and within the earlier rampart, which can easily be placed earlier than the fifth century B.C. (Wheeler Sir M.: 1959).

Excavations at the Cern Kalika mound on the outskirts of Ujjain have laid bare the mud fortifications of the ancient town, flanked by a moat on two sides, and by the river Sipra on the other two. The colossal rampart is contemporaneous with the first period of the site's occupation, ascribed to c. 700-500 B.C. (Indian Archaeology: 1957-58). A shard of Painted Grey Ware found in the core of the rampart points to its possible association with the users of that type (Indian Archaeology: 1956-57). The rampart encloses an area measuring roughly 1x1 mile, and has a
maximum extent height of 42 feet (Indian Archaeology: 1956-57). Built of yellow and black earth with a gentle slope on the inner side, it was 245 feet broad at the base (Indian Archaeology: 1957-58). And a moat, excavated on the east and south, connected with the river on the north and west, provided a girdle of water as a further barrier (Indian Archaeology: 1956-57). The western or river-side wall was reinforced with wooden logs and sleepers during the 2nd. It itself, the fortifications there measuring more than 350 feet in breadth (Indian Archaeology: 1957-58).

Though the early Aryans were not used to city life, towns must have soon spring up, nestling under the protection of their forts; we hear of Assandivant, Kamila, Ayodhya and Kausambi; one Senini refers to town-planning, forts and ramparts, moats, gates and watch-towers (Agrawala, U.S.: 1913). The evidence of archaeology allied to that of literature, proves beyond doubt the great surge of civic life with regular defence structures in the Ganges valley and beyond, between c. 1000-300 B.C.

The Nikayas furnish a further corroboration of the Vedic and archaeological evidence. Valled and battlemented towns are now and then referred to in the discourses of the Buddha to provide glimpses of fortified defence lulling kings and their subjects into a repose of facied security. The Digha Nikaya (11-146) alludes to a border city defended by strong ramparts and towers, and provided with a single gate; a clever and expert watchman stationed by the king admits men only when they are well known, and refuses entry to all strangers. One gathers the impression
that strategic towns on the border were usually fortified, for they held the key to the interior of a kingdom. The Samyutta Nikaya (ii-182) speaks of a city with high walls, while the Anguttara (iv-106) specifies the seven requisites of a fortress, as also the four kinds of supplies necessary for its maintenance. A pillar aloft in a king's citadel symbolises strength and stability; a road and a moat around the citadel make it more inaccessible still while an armoury of swords and spears ensures the supply of weapons to the garrison, including elephant-drivers, horsemen, charioteers, bowmen, standard-bearers, billeting officers, soldiers of the supply corps, the king's sons, storm troops, warriors in cuirasses, and home-born slaves. The intelligent and resourceful gate-keeper keeps out all strangers; the rampart is high and wide, and covered with a coat of plaster. And great stores of grass, wood and water, rice and corn, sesame, beans, vetches and cereals, and medicines, including ghee, fresh butter, oil, honey, sugar and salt, are vital to withstand the rigours of siege.

The Epics too, as one would expect, support and supplement the information derived from other sources. The Mahabharata refers to fortifications not infrequently, while the Rama-Ravana, story revolves round the siege of Lanka. Both vrapa and caya occur in the Epic in the sense of earthen ramparts (Hopkins E.R.; 1889), but more elaborate citadels are not wanting. Thus the Adi Parva (1.199-29) describes the town of Indraprastha, surrounded by a wide moat, lofty walls and numerous gates, each furnished with stout gate-bars and hoists to open and close with a couple of doors. An abundant stock of weapons promises
a stout defence; the battlements bristle with sharp hooks and
satagnis and other machines (yantra) of war; and the walls are
manned along their length. Elsewhere, Narada asks Yudhisthira if
his forts are provided with treasure, food, water, weapons and
other contrivances of defence, as also with masons and bowmen
(Mahabharat: 11-5-25).

The Aranyakya parva furnishes an interesting account of
defence against siege (Mahabharata, 3-16-3). Gatesways and pennons,
walls and watch-towers, characterise the town of Dvaravati, fully
provided with stocks of food, weapons and other devices for hurling
fire and stone on the enemy. The tramp of the approaching enemy
rouses the inmates to a sense of danger; all the minstrels, dancers
and singers are driven out of the city, and drinking is prohibited
by proclamation in a bid to stamp out carelessness and frivolity.
Bridges (samkrana) are destroyed and boats forbidden to ply;
trenches around the town are spiked with poles at the bottom, and
the surrounding area rendered uneven and difficult of access.
No one leaves or enters the town without giving the requisite sign
(mudra). Such precautions are impressive even by modern standards.
The enemy replies with a blockade of all the roads and passages
leading to the town.

The Ramayana speaks of the firm gates of Ayodhya secured
by cross-bars (argala). Kiskindha's golden gates, moat and citadel
are also described. And the fortifications of Lanka are repeatedly
mentioned. Hanuman tells Rama how Ravana's soldiers defend the
city furnished with four huge gates and four bridges across the
moat running round the town. The gates and bridges are provided
with the usual yantras and sataghni. Hanuman adds that he has
broken the bridge, covered the moat, set fire to Lanka, and
dragged down the citadel. The use of fire in siegecraft is very
important, and thatched roofs were often plastered with mud to make
them reasonably proof against that danger (Hopkins, F.W.: 1889).

We must make a due allowance for the exuberance of the
poet and possible additions to the little details of the various
passages; but the view that all the descriptions of solid walls and
watch-towers to be found in the Epics are late interpolations,
justifiable perhaps when it was formulated (Hopkins F.W.: 1889)
had clearly had its day. Hopkins says that the Ramayana contains
not exact descriptions of fortifications, but standing epithets
and set formulae applied to the various towns in the text with but
slight modifications (Hopkins F.W.: 1889). It may indeed be perfect-
ly true that the poet followed a fixed pattern in describing the
cities figuring in a story; but it does not follow that a model
ever existed, and that solid walls and bastions found their way
into the Epics only at a later day. Words are superfluous; the
evidence of archaeology brooks no refutation. We now know that
both earthwork fortifications and masonry walls defended the Indian
towns of old, long before the rise of the Epics, and indeed conti-
nued to do so right into the modern period (Indian Archaeology;
1956-57).

Elephants were used for battering down walls and gateways,
as we know from their epithet purabhettarah (Mahabharata, 2.54.10).
The yantras so often described were presumably arrow-and-stone
scattering contrivances. While some of these yantras were furnished with bowstrings, others may have been catapults. In the Mulas, however, these mechanisms do not seem to play and significant part commensurate with their prominence in the accounts of fortifications. They do not inflict damage serious enough to deserve specific mention or affect the outcome of battle.

7.3: FORTS AND STRONGHOLDS IN THE 4TH CENTURY B.C.

The classical chronicles make it evident that when Alexander invaded India in the 4th century B.C., forts and strongholds held by Hindu chiefs were scattered thickly over the country. The capital of almost every state, however small, appears to have been fortified with defensive works of varying solidity. Where the ground offered natural barriers, full advantage of these was taken. Such, for instance, were Massaga or Hazaga, Bazira, Aurnos etc. With regard to Massaga, Curtius supplies us with an elaborate description of the defences with which both nature and man had provided the city. "An army of 35,000 infantry", he says, "defended the city which was strongly fortified both by nature and art. For on the east, an impetuous mountain-stream with steep banks on both sides barred approach to the city, while to the south and west nature, as if designing to form a rampart, had piled up gigantic rocks, at the base of which lay sloughs and yawning chasms hollowed in the course of ages to vast depths, while a ditch of mighty labour drawn from their extremity continued the line of defence. The city was besides surrounded with a wall of 35 stadia in circumference which had a basis of stonework supporting a
a superstructure of unburnt, sundried bricks. The brickwork was bound into a solid fabric by means of stones so interposed that the more brittle material rested upon the harder, while moist clay had been used for mortar. Test, however, the structure should all at once sink, strong beams had been laid upon these, supporting wooden floors which covered the walls and afforded a passage along them (McCrindle, J.W.: 1896) eminence and was strongly fortified in every quarter (McCrindle, J.W.: 1896). Aornos, again, was a place of extra-ordinary strategic strength, but does not appear to have had any artificial fortifications. Arrian says that the 'rock' had a circuit of about 200 stadia, and at its lowest elevation a height of eleven stadia. "It was ascended by a single path cut by the hand of man, yet difficult. On the summit of the rock there was, it is said, plenty of pure water which gushed out from a copious spring. There was timber besides, and as much good arable land as required for its cultivation the labour of a thousand men (McCrindle, J.W.: 1896). Diodorus describes the rock as a natural stronghold, 100 stadia in circumference, 16 stadia in height, and with a level surface forming a complete circle. The Indus washed its foot on the south; elsewhere it was surrounded by deep ravines and inaccessible cliffs (McCrindle J.W.: 1896). Sir Aurel Stein, who has successfully located Aornos on the rock-girt site adjoining Mount Una, observes: "The precipitous nature of that slope would lend itself to easy and effective defence, in particular by rolling down large stones, a formidable method of defence the actual use of which Curtius here specially mentions (Stein Sir Aurel: 1929)."
But towns which were not so favoured by nature were not left at the mercy of every invading or marauding band from outside. Nearly all of them were surrounded with defensive works, the size and character of which depended upon the situation, probable exposure to attack, and the wealth of the inhabitants. For instance, Arrian tells us that the city of the Aspasii was encompassed by a double line of walls. The outer wall was but rudely constructed, but the inner wall was remarkable strong (McCrindle, J.W.: 1896). With regard to Sangala, the capital of the Cathaean, the same writer says that it was "strongly fortified", and that its walls were of brick (McCrindle, J.W.: 1896). Similarly most of the towns in the territory of the Malloi and the Oxynakhoi were well fortified. Arrian speaks of the capital of the Malloi as "the strongest of all the cities that lay near". The city was defended by walls, and within them there was a citadel with gates, towers and parapet (McCrindle, J.W.: 1896). About another of their towns, unidentified by Cunningham but Rot-Kamelia, a small but ancient town situated on an isolated mound on the northern bank of the Navi (Cunningham Sir Alexander: 1871) we are informed that it was not only defended by a wall, but had within it a citadel, "seated on a commanding height and difficult of access (McCrindle, J.W.: 1896). The classical authors mention a third Malloi city, identified by Cunningham with Tulamba, which was defended by brick walls and enormous mounds of earthen ramparts (McCrindle J.W.: 1896).

Other fortified cities in the Punjab and Sind, referred to by classical writers, were the capital of the Brahmanas (McCrindle J.W.: 1896) Sindimans, the capital of Sambos (McCrindle
J.W.: 1896) the city in which Protagoras, king of Pseusti, shut himself up, (Maurand J.W.: 1896) and the capital of Sophytes (Maurand J.W.: 1896). Far the east, in the tongue of land formed by the junction of the Sen and the Ganges, was the city of Palibothra, Palimborthra or Pataliputra, the capital of Magadha. In the time of Megasthenes, it was considered to be by far "the largest city in India"—a long, narrow parallelogram in shape, measuring about nine and one-fifth miles in length and one and a half miles in breadth. It was not defended by any brick wall, but by a massive wooden palisade, pierced by sixty-four gates and crowned by five hundred and seventy towers. The palisade had loop-holes for the archers to shoot through, and outside there was a ditch, 30 cubits deep and 400 cubits (6 plethra) broad. The ditch was filled from the waters of the Sen (Maurand J.W.: 1896).

It is important to take note of the salient facts in the above account. First, though cities were surrounded with various defensive works, there was no uniformity in their character. As before stated, the character of defensive works depended on various factors, such as the situation of the city, probable exposure to attack and the wealth of the inhabitants. In this connection it is worth recalling a statement recorded by Arrian regarding Indian cities of this age. He says that those Indian towns "which are down beside the river or the sea are made of wood; for towns built of brick would never hold out for any length of time with the rains on the one hand, and, on the other, the rivers which rise above their banks and spread a sheet of water over the plains. But the
towns which are built on elevated places out of reach of these are made of brick and lime. This will explain why the defensive works round Pataliputra, the capital of a far-flung and prosperous empire, were built of timber and not of brick, as certain cities in the northwest appear to have been. Secondly, it is important to note that the age witnessed a significant development in the history of military architecture in India. Most of the towns mentioned above were defended by means of surrounding walls, but in some cases, as a measure of additional protection, strongly-fortified citadels were added within the walls. It will appear from a careful perusal of the texts that the citadel was built in one corner of the town—usually in the part which was most secure and well-defended—and that a continuation of the town wall formed its outer side. The citadel served as the ultimate refuge of the besieged, when the outer defences of the town were captured or destroyed by the assailant force. It was the last resort to which the garrison retired in desperate extremity.

7.4 **VARTHAYA SURATAYA DSPERICATION**

Nowhere perhaps are the ancient Hindu ideas on fortification better delineated than in the Arthasastra of Kautilya. In common with his predecessors in the field of political speculation, Kautilya considered the fort as one of the seven constituent elements of the state. Doubtless it was not the most important, but it was more important than the treasury, the friend and the army itself (Kautilya Arth.:1919). "For it is in the fort that the treasury and the army are safely kept, and it is from the fort that
secret war (intrigue), control over one's partisans, the upkeep of the army, the reception of allies and the driving out of enemies are successfully practised. In the absence of forts, the treasury is to the enemy, for it seems that for those who own forts, there is no destruction (Kautilya Arth.: 1919). Elsewhere he says that "the haven of the king and of his army is a strong fort (Kautilya Arth: 1919).

With these preliminary remarks about the importance of fortifications, Kautilya next goes on to classify forts on the basis of their location. In his view, forts might be classified under four principal heads, viz. paravata (hill fort), scudaka (water fort), chenavna (desert fort), and vanadurga (forest fort). He defines a hill fort as one which is either perched on a rocky precipice (prastaram) or built in a valley in the midst of an encircling range of hills (guha). A water fort, he says, may be situated on an island in the midst of a river (antaravipam), or on a plain surrounded by low ground or morass in which water is stagnated (nimnavaruddham sthalam). Similarly a forest fort is either encompassed by many bogs and fens, interspersed with trees and bushes (khazjanodakam), or is girt by thickly-set tall with undergrowth (stambagaham). Finally, a desert fort is one which is located either in the centre of a wild tract devoid of water or even of thickets (nirudaka-stambam), or in a region sterilised by desert salt (irina) (Kautilya Arth.: 1919).

Of these different varieties, Kautilya gives his preference to hill-forts and considers them as the most unassailable.
In Bk. VII, ch. 12, for instance, he says: "Of forts such as a fort on the plain, in the centre of a river and on a mountain, that which is mentioned later is of more advantage than the one previously mentioned (Kautilya Arth.: 1919). In a earlier chapter (ch. 10) of the same Bk., he explains the reasons which led him to this view. "Of two fortified kings," he says, "one who has his forts on a plain is more easily reduced than the other owning a fort in the centre of a river, for a fort in a plain can be easily assailed, destroyed or captured along with the enemy in it, whereas a fort surrounded by a river requires twice as much effort to capture, and supplies the enemy with water and other necessaries of life". Again, "of two kings, one owning a fort surrounded by a river, and another having mountainous fortifications, seizing the former's land is better, for a fort in the centre of a river can be assailed by a bridge formed of elephants made to stand in a row in the river, or by wooden bridges, or by means of boats; and the river will not always be deep and can be emptied of its water, whereas a fort on a mountain is of a self-defensive nature, and not easy to besiege or to ascend; and whereas if one portion of the army defending it is routed out, the other portions can escape unhurt, and such a fort is of immense service, as it affords facilities to throw down heaps of stone and trees over the enemy". (Kautilya Arth.: 1919).

With this estimate of the relative value of forts, Kautilya asks the ruler to create defensive works "on all the four quarters of the boundaries of the kingdom", "on grounds naturally best fitted for the purpose (Kautilya Arth: 1919). But apart
from these, the king must have in the centre of his kingdom, "in a locality naturally best fitted for the purpose, such as the bank or the confluence of rivers, a deep pool of perennial water or of a lake or tank", a fortified capital. This might be of any shape, circular, rectangular or square, in consonance with the requirements of the ground. It has to be surrounded by three successive ditches, the first 84 feet (14 dandas), the second 72 feet (12 dandas) and the third 60 feet (10 dandas) wide "with depth less by one-quarter or one-half of their width". The sides of the ditches were to be built of stones or bricks (pasanopahitah pasanestaka-baddha-parsvan), and they were to be filled with perennial flowing water drawn from some neighbouring river. Crocodiles and lotus plants were to be nurtured in the ditches so that no enemy could swim across them with impunity.

At a distance of 24 feet from the inner-most ditch, a rampart (vapra) 36 feet high and twice as broad, is to be erected "by heaping mud upwards and by making it square at the bottom, oval at the centre, pressed by the trampling of elephants and bulls". Caps in the rampart must be filled up with fresh earth. The intervening space between the rampart and the ditch is to be strewn with thorny bushes, sharp instruments and entanglements of various kinds.

Above the rampart are to be erected walls or parapets (prakara), built of brick. They might be of any number, with a space of 12 to 24 cubits between them; and they should be twice as high as they are broad. The parapets are to be interspersed
at regular intervals with towers or bastions (attalaka), square throughout and provided with movable staircases.

"In the intermediate space measuring 30 dandas between the towers, there shall be formed a broad street in two compartments covered with a roof and two and a half times as long as it is broad". This street appears to have been intended for patrol of the sentinels, protected overhead by the roofs. The bifurcation of the street is for facilitating the double movements, forward and backward, of the guards on duty. "Between the tower and the broad street shall be constructed an Indrakossa, which is made up by covering pieces of perforated wooden planks affording seats for three archers". The entrance gate to the fort should be "one-sixth as broad as the width of the street", and above the gateway should be constructed a turret, its face resembling a large lizard. Besides the main gate, there must also be special secret passages for flight or exit in an unassailable part of the rampart.

In addition to the above, the author gives other details regarding the construction of roads and buildings within the fort. He also speaks of the construction of canals (kulya) to hold weapons. "In these canals, there shall be collected stones, spades (kuddala), axes (kuthari), varietes of staffs, cudgels (musrathi) hammers (mudgara), clubs, discus, machines (yendra), and such weapons as can destroy a hundred persons at once (satagni), together with spears, tridents, bamboo-sticks with pointed edges made of iron, camel-necks, explosives (agni-sampogas) and whatever, else can be devised and formed from available materials (Kautilya..."
Arth. i. 1919). In the chapter on the Superintendent of Armoury (Sk. II, ch. 18), he gives a list of various immovable machines (sthira-yantra), which from the commentator's explanation appear to have been specially stored in forts to repulse assaults upon them. He further recommends that articles of food, fodder and fuel should be "stored (in the fort) in such quantities as can be enjoyed for years together without feeling any want". "Of such collection", he adds, "old things shall be replaced by new ones when received" (Kautilya Arth.: 1919).

7.5: The foregoing account will serve as an illustration of the typical ideas on fortification as they had developed in India till the time of Kautilya. To what extent, and in what respects, these ideas were altered or modified in the light of later experience, we have no means of knowing. During the next thousand years or more, there were no great inventions or mechanical developments to make any sudden changes in the art of war or any of its branches. One is, therefore, justified in inferring that such changes as did occur in the art of fortification were evolutionary rather than revolutionary. The evidence of the Chinese pilgrims and of the early Muslim chroniclers points to the conclusion that the character of the permanent defences constructed around cities remained in general unchanged during this period, although there was perhaps a gradual increase in the size of the walls and in the dimensions of the ditches, in order to combat the growing
efficiency of siege machinery. It is probable also that there were improvements in the height and strength of the towers, and of other arrangements for protecting the ditches along the weaker portions of the wall— that is, the curtains between the towers.

But the chief note in the history of military architecture of this period was the increased tendency to construct hill forts. This was in consonance with the teachings of Kautilya and other military writers. The typical site preferred for a hill fortress was a precipitous cliff sloping to a river on one, two or even three sides and with steep slopes falling away on the other side. At the highest point was built a fort serving as a citadel (Annual Report of the Archaeological Survey of India: 1905). Some of these were like eagles nests on lofty cliffs, places of last refuge rather than strategic positions. But others were of real strategic strength, commanding the countryside or the approaches to a state. Muhammadan historians acknowledge the Sultan Mahmud could not accomplish his design of conquering Kashmir owing to the impregnable nature of the fortresses of Rajāgiri and Lehur, described by Beruni as "the two strongest places I have ever seen (Sachan: 1901). It is also a matter of common knowledge that the eight forts of Bundelkhand, along with the natural ruggedness of the country, long enabled the rulers of this territory— first the Chandellas and later the Bundelas— to maintain their independence against powerful foreign invaders.

Of the numerous hill fortresses established in Northern India during the last five or six centuries of our period, the
most celebrated at the time of the Muhammadan invasions were Kalinjar (Kalanjar), Gwalior, Ajayagarh and Maniyagarh in Central India; Chitorgarh, Rathorbhor and Mandor in Rajputana; Shira (Shitra) and Kangra (Nagarkot, Shhimnagar, etc.) in the Punjab; and Lahorokotta, Banasala and Sirahsila in Kashmir. It is noteworthy that the early Muhammadan historians have referred to some of these forts in terms of enthusiastic admiration. In connection with the fortress of Kalinjar, for instance, Hasan Nizami says that it was "celebrated throughout the world for being as strong as the wall of Alexander (Eliot: 1772). The same writer describes the fort of Gwalior as "the pearl of the necklace of the castles of Hind, the summit of which the nimble-footed wind from below cannot reach and on the bastion of which the rapid clouds have never cast their shade". Utbi refers to the fort of Shatia as follows: "The walls of which the wings of an eagle could not surmount, and which was surrounded as by the ocean with a ditch of exceeding depth and breadth". Regarding the fort of Rathorbhor again, Minhajus Siraj says that it "is celebrated in all parts of Hindustan for its great strength and security. It is related in Hindu histories that it had been invaded by more than seventy kings, and no one had been able to take it (Eliot: 1772)."

But beyond vague generalisations and hyperboles, the Muhammadan historians give us no useful details as to the manner in which these hill forts were originally constructed. Nor can we know these details from other sources. This is chiefly because some of these forts have now disappeared, others are lying
rolling heaps of brick debris, while the few which are still standing have been so completely transformed during the Middle Ages as to retain little of their original character. Unfortunately, moreover, the military architecture of this period has received comparatively little attention from archaeologists, and the data at present available are not sufficient to enable us to discriminate with confidence between successive periods of building, or to determine which parts are attributable to the Hindu founders and which to the Muhammadan dynasties that followed them (Annual Report of the Archaeological Survey of India: 1905).

Owing to this two-fold difficulty, we can only guess the outline of these structures as they originally stood. They were usually constructed by running massive stone walls round the summit or top contour of the hills. The walls, built of large blocks of stone, laid without cement, usually rose from the very edge of the hill, being a continuation of the scarp of the rock. Occasionally, too, walls of masonry appear to have been erected to guard against access at places where the difficulties of the ascent in its natural state might possibly be overcome. The walls were further strengthened by bastions or towers constructed at irregular intervals (Rajputana Gazetteer: 1906). But whatever their original character, these hill forts were looked upon as the best that the engineering skill of the age could produce. In contemporary estimation they were well-nigh impregnable. This need not cause any surprise. A hill with steep sides might be easily made unapproachable by such cumulous structures as towers and ramps, while the height of the
hill, added to the height of the walls, would be too much for besiegers' missiles. If the sides of the hill were precipitous and rocky, mining became impossible and the site was perfect for defence.

Despite this general preference for hill forts, the old practice of creating defensive works around cities in the plains was continued. The account of Hiuen Tsang, the Chachnana and other early Muhammadan chronicles go to show that towns, even of a small size, were often enclosed by walls. The most celebrated of these walled towns in northern India at the time of Muhammadan invasion were Delhi, Kanauj, Ajmir, Multan, Jalar (Jalewar), Asni, Thangar, Kol, Meerut (Mirat) etc. The Muhammadan historians have referred to the fortifications of these cities in general terms. Thus Delhi is described as "among the chief (mother) cities of Hind", consisting of "a fortress which in height and breadth had not its equal nor second throughout the length and breadth of the seven climes". Kanauj is said to have had seven detached forts. The fort of Ajmir, "one of the most celebrated in Hind", is spoken of as enclosed with four walls. Regarding Multan, Idrisi says that it was large city commanded by a citadel, which had four gates and was surrounded by a moat. Kizwini speaks of the city as "large, fortified and impregnable" (Elliot: 1772). Jalar (Jalewar) is described as a strong fort with gates and bastions, and Thangar as a "fortress which assembled a hill of iron" (Elliot: 1772).

It must not be supposed for a moment that these walled towns over the entire country. Some of them in Kathiawad and
Gujarat have been described by Mr. Altekar (1927) Mr. V. Kanakasabhan had likewise described the fortifications of certain ancient towns of the Tamil land, such as Uraiyyur, Madura, Sanchi or Karur Kanappar and Takadur. We are told, for instance, that Madura was a fortified city. "There were four gates to the fort, surmounted by high towers, and outside the massive walls which were built of rough-hewn stone was a deep moat, and surrounding the moat was a thick jungle of thorny trees. The roads leading to the gates were wide enough to permit several elephants to pass abreast, and on the walls on both sides of the entrance there were all kinds of weapons and missiles concealed, ready to be discharged on an enemy. Likewise, Sanchi was also "strongly fortified, and on the battlements were mounted various engines to throw missiles on those who attacked the fort. Over the gates in the walls were towers plastered with white mortar and adorned with flags. Surrounding the walls was a broad moat in which man-eating alligators of large size abounded. Contemporary epigraphic records also throw light on the defences of a few cities. For instance Kanci or Kanciipura, the Pallava capital, is thus described in one inscription. "Whose high walls were insurmountable, and hard to be broken, which was surrounded by a huge moat that was unfathomable and hard to be crossed, and which resembled the girdle of the southern region. The Cadirol plates of Vikramaditya I refer to the city in almost similar terms. Again, the town of Vilanam is referred to as follows in the Madras Museum plates of the early Pandya King, Nedunjadaiyan (Jatilavarman) "Which has the three waters of the sea for its ditch, whose strong and high walls which rub against the inner part of the receding
sky, rise so high that the sun has to retire in his course, which
is (as strong as) the fort in the beautiful (island of) Ilangai
(Tamks) (Epigraphic Indics: 1872).

It is perhaps clear from the above- and this is also
the testimony of archeology- that to the last days of our period,
the wall with towers remained the leading idea of fortification.
The towers provided flanking fire along the front; they also
afforded refuges for the garrison in case of a successful escalade,
and from them the platform could be easily enfiladed. Usually, too,
but not invariably, the wall was reinforced by a ditch, which had
three advantages; in increased the height of the obstacle, made
the bringing up of the engines of attack more difficult, and supp-
lied material for the filling of the wall.

7.6: SIEGECRAFT

The military science of ancient India seems to have
been more skillful in defence than in attack. The fortresses of
the age could usually withstand the most powerful siege weapons
known to the people. Of the tools of siegecraft but little is
known. It is probable that the use of scaling ladders and battering
rams was known though there is no clear evidence to prove this
(Kautilya Arth.:1919). Further, elephants were occasionally emp-
loved to batter in the gates of a fort. As stated before, ancient
military writers considered this as one of the most important
functions of war-elephants. Both Sanskrit and Tamil literature
contain allusions to this mode of siegecraft. In the Mahabherata,
for instance, elephants have been described as pura-bhettarah
(town-breakers). The Tamil poetess Avvaiyar speaks of 'brigades of war elephants', 'with their tusks blunted by battering they enemy's forts (Muirhead J.W.: 1882).

Another device occasionally employed was mining. In Bk. XIII, ch. 4 of the Arthasastra, while describing the various devices by which an enemy fort could be captured, Kautilya remarks that a besieging king "may assail the rampart and parapets by making use of underground tunnels and iron rods". But it does not seem that mining ever came into general vogue. It is probable that as most of the Indian fortresses were built on high ground or upon a foundation of solid rock, mining was considered entirely useless as a tool of siege-craft. But the word suranga with its military implication continued to be known, and ultimately passed over into Hindi vocabulary. The ordinary Hindi word for a mine is surang and surang urana is to spring a mine (Irvine, K.: 1903).

The use of fire, too, for the reduction of a fortified place was not unknown. In this Kautilya supplies us with the following account: "Having captured the birds, such as vulture, crow, naptr, bhasa, parrot, maina, and pigeon, which have their nests in the fort walls, and having tied to their tails inflammable powder (agniyoga), he may let them fly to the forts, if the camp is situated at a distance from the fort and is provided with an elevated post for archers and their flags, then the enemy's fort may be set on fire. Spies, living as watchmen of the fort, may tie inflammable powder to the tails of mungooses, monkeys, cats and dogs and let them go over the thatched roofs of the houses."
A splinter of fire kept in the body of a dried fish may be caused to be carried off by a monkey, or a crow, or any other bird (to the thatched roofs of the houses) (Kautilya Arthāśāstra: 1919). The author further describes the ingredients of which various inflammable compounds might be prepared and utilized for setting fire to an enemy fort. But he concludes with the following salutary advice: "When a fort can be captured by other means, no attempt should be made to set fire to it; for fire cannot be trusted; it not only Offends gods, but also destroys the people, grains, cattle, gold, raw materials and the like. Also the acquisition of a fort, with its property all destroyed, is a source of further loss (Kautilya Arthāśāstra: 1919). His advice, however, did not always restrain belligerents from resorting to this infamous method. Both literature and inscriptions record instances of towns and fortified places being burnt down by ruthless conquerors. Thus in an inscription of the 29th year of Rajaraja the Great, (dated 1047 A.D.), it is recorded that the Cōla monarch set fire to Kolippak, (42 miles from Secunderabad in the Nizam's dominions), one of the capitals of Jayasimha. The Vichayiram pillar inscription of Nallapadeva (Saka 1124) states that Cunaga-Vijayaditya of the Eastern Calukya dynasty burnt down a place called Cakrakuta (probably the same as Cakrakotta, which appears to have been situated in the dominions of the king of Bharā, the capital of Kanava). Kalhana (VII.766-772) records how Vijayamalla, a brother to king Utkarsa, invested a fortified place and burnt "the houses with his troops, who had fixed fire-brands at the points of their darts". Elsewhere (VIII, 971-1004) the same author describes with harrowing details
how during the reign of Bussala, the Damaras set fire to the famous temple of Cakradhara, in which many people of the neighbourhood "with their women, children, animals, rich stores and property sought an asylum".

But the most usual method employed to get over the resistance of a fortress was by strict investment and starving out. The besiegers tried to cut off the besieged from communication with the outside world and thus to prevent them from receiving reinforcements or supplies and to make them dependent upon such stores as they may have been able to lay in beforehand, or might be able to produce within the town. In the Maha-Ummagga Jataka there is a very realistic description of how King Udayana besieged the capital of the King of Vrisha and sought to capture the city by cutting off its water supply. A strict and protracted blockade often led to the starvation of the garrison, and starvation in its turn to surrender. In the Chandamama it is related that Rai Dach conquered the fort of Sabiya by following this method: "The chief of the place (Sabiya) gave battle, but after great fighting and bloodshed, the king of Sabiya fled and entered the fort. Rai Dach was victorious, and encamped in the field of battle for a time. Then the store of provisions was exhausted, and grass and wood and fuel were all consumed, the enemy being in distress left the fort at the time when the world had covered itself with the blanket of darkness, and the king of the stars concealed himself in the gloom of the night". The Rajatarangini also provides us with several instances of this sort.
then King Harsha (1069-1101 A.D.), for instance, laid siege to the fort of Prathvigiri he sought to starve out the garrison. "When he had stopped there for more than a month, the defenders of the fort became distressed owing to their food and other supplies being exhausted. How large were not the tribute and supplies which king Samagrunapala offered in order to save that garrison?" Harsha was obstinate and rejected those offers. Thereupon the besieged chief-tain bribed an officer of the hostile army, who instigated the soldiers to claim a marching allowance and thus fell into disorder, and at the same time spread a false and alarming report of an attack from the Aurasakes. Harsha was thus compelled to raise the siege and march off. On another occasion an attempt to take the fort of Budhanaghati by starvation was frustrated by a sudden fall of snow. But the investment of the castle of Sirahsila by Dhanya was more successful. At the outset Dhanya took up his position on the bank of the Vadhavati, near Sardi. And "though the troops thus stoutly kept their ground for three or four months, yet they were unable to seize those who were in the castle, because no such acts of hostility, as the cutting off of food supplies by means of an investment were undertaken, which might have reduced those arrogant (opponents) to straits". But Dhanya soon perceived this loophole and, moving his troops closer to the castle occupied its main approach. Here he fortified his position, and constructing a line of block-houses round the castle-ridge from the south, effectually cut off the besieged rebels from the scanty supplies they were previously able to collect from the neighbouring hamlets. "Then unceasing encounters ensued at every moment in which both sides a
lost countless men . . . . Those in the castle were few, while those in the (besieging) camp were many. Hence the former, though they killed many, were easily made to suffer. After the castle had been harassed with two or three assaults, it appeared with the closed folds of its gates as if shutting its eyes from fear. Those in the castle lost their confidence when they saw that Dhanya and other (ministers) were trying to win over the guards, create internal dissension and otherwise take advantage of a weak point. At night they did not sleep but shouted to each other to keep themselves awake. In the day-time, again, when they slept, they made the castle appear silent and deserted. Even the sound of the kettle-drums (beaten) by the several corps between the right-tackles, made them tremble at night, as the thunder (makes tremble) the sparrows in the hollows of the trees. The royal troops kept them in excitement day and night by all possible means and blocked (their access to) the water by boats which were moving about. Cut off from the river, they put up somehow with the pain of thirst, but they became disheartened when their food-supply became exhausted owing to their inability to get outside. Thus cut off from supplies, and deprived of water, the Damara lord of the castle agreed through messengers "to sell the king's enemies".

As the investment of a fortress did not in general consist of anything beyond a blockade, sieges were often long and protracted. It is stated in the Chachnama that the siege of Afghan Lohara by Rai Chach "lasted for the period of one year". After the first battle of Tarain in 1191 A.D. the Rajputs under
Arthviraj laid siege to the fort of Garhind; but it took them thirteen months to compel the garrison to capitulate.

The methods of repelling a siege or assault must have varied from age to age, and to some extent, from locality to locality. The Sataparva enjoins that on the occasion of a siege all thatch-covered houses within the fort should be plastered with mud as a protection against fire. According to Kautilya, all possible impediments were to be placed before the enemy to prevent a close investment. Grass and firewood round the fortress were to be set on fire and destroyed as far as a yojana (five and five-fortyfourth miles); all water channels or pools were also to be either destroyed or vitiated; and a system of secret wells, hidden pits and barbed iron wires should be devised all around the fort (Kautilya, arth., 1919). From his chapter on Sruchagrahdhyaksa (Sk. II, ch. 10) it appears that heavy, immovable machines, worked by mechanical power, were placed over the gates and walls, kept in readiness for projecting large shafts at the foe or dumping rocks upon them. But the evidence of the early Muhammadan chroniclers proves that either these machines were crude and ineffective or that in general and except for the arrows, stones and other missiles thrown from the walls against the attackers, the defenders trusted rather to the size and strength of their walls and tried little in the way of an active defence.

As against mining, the best device which the besieged could employ was to countermine, and then attack the diggers below
ground, drive them back, and fill up the hole they had excavated.
The term for the countermine was prati-surunga. We have the follow-
ing account in the Arthasastra as to how and when it was to be
constructed: "When the enemy attempts to dig an underground tunnel
for the capture of the fort, the besieged should dig a ditch inside
the walls so deep as to make water come out of the earth. If the
digging of a ditch is considered impracticable, a number of wells
may be constructed along the walls. In suspicious places along the
parapet, empty pots or bronze vessels may be placed in order to
find out the direction in which a tunnel is being dug by the enemy.
When the direction of the tunnel is discovered, a counter-tunnel
should be constructed; or having made a hollow passage to the tunnel,
it may be filled with poisonous smoke or water (Kautilya Arth: 1919).

Then the fort was on an eminence and stones were available
in plenty, these latter were stored and rolled down the slopes upon
the besiegers. As already mentioned, one of the reasons which
Kautilya adduces in favour of hill-forts was the enormous advantage
of this method of defence. We find an early instance of this kind
in the defence of Hornus against Alexander. Curtius says: "As the
barbarians rolled down massive stones upon them while they climbed,
such as were struck fell headlong from their insecure and slippery
positions (Curtinde: 110). The chronicle of Kalhana shows
that in Kashmîr, where fortresses were almost invariably constructed
on hills, this was a favourite mode of defence. In connection with
the siege of Duggaghata (VII, 1181), for instance, we are told
that the defenders (Brahm soldiers) "threw down big boulders and
other missiles" on their assailants. A more detailed account of the
The use and effect of this mode of defence is given in connection with the siege of Senasela. The royal troops were throwing stones from catapults, showers of arrows and various (other) missiles. And those in the castle defended themselves by rolling down stones. The royal army, though large, could not attack those in the castle, while stones were falling and arrows marked with Bhishu's name. Notwithstanding their great number they were so repulsed by the hail of stones from those (in the castle) that they became convinced of this (undertaking) not being achievable by sheer prowess. The heads which the stones carried off from the bodies of brave soldiers, appeared, with their streams of blood, like sycamores, (thrown down by stone-hits) from the tops of trees with bees rising from them.

7.7: **THE STRATEGICAL IMPORTANCE OF FORTS IN CHANDELA LAND**

Forts constituted one of the most important elements of the early medieval state; and ancient authorities have stressed their necessity and importance at length.

The importance of the forts of Kalajara Ajaygadh, Barigarth, Kamyagarh, Toraha, Naushagarha, Yahiyr in the Chandela state is clearly evident from its political history. The whole history of the dynasty has centred round the historic fort of Kalanjara and to a lesser degree, the fort of Ajaygadh. Time and again the fortune of the dynasty depended on the possession of Kalanjara. The extraordinary importance of forts in the Chandela state was due to the geographical situation of the country and
the method of warfare followed in that period. Dr. P.V. Kane
(1941) rightly observes that "the capital mirrored the prosperity
of the country and if properly walled also provided security.
Central India is mountainous, crossed by the ranges of the
Vindhyas, Shevarur, and Kailur and the whole region is interlaced
with innumerable rivers. The mountain fortresses of Kalanjara
Ajaygadh, Manoba and other provided security for the state and
its people and made access to the heart of the country very
difficult. So the physical features of the country gave unusual
importance to the construction and maintenance of forts in the
Chandela Kingdom and hence the kings paid much attention to this
aspect of administration and national security. The Ajaygadh
stone inscription of Bhojevarman praises Trailokyavarman as a
very creator in providing strong places 'Kurge Pravidhanavendat' (Epigraphic Indica: 1,327). A minister of Bhojevarman is
recorded to have built the fort of Kirtigiri (Indian Antiquary
xviii, 238, 239).

The fort were governed by an officer appointed by the
king. The Ajaygadh rock inscription of the time of Bhojevarman
states that the Ananda, born in the vastra kayastha family
of Tajuka, was appointed by Trailokyavarman as the governor
of the fort of Ajaygara (Purgadhikari). Ananda is credited
for reducing to submission the wild tribes of Shillas, Savaras
and Pulindas (Epigraphic Indica: 1,334).

Mahesvara, an ancestor of the same family, was
thoroughly familiar with every branch of letter and possessed
many other good qualities. After serving Kirtivarman, he received the title of vasis of Kalanjara along with the grant of a village from the king. (Epigraphic Indices: 1,333). Ananda's elder brother was called vasa for his excellent qualities and "the minds of the people as well as that of king Trailokyavarman were about to prove submissive to him. Considering him competent for the work, Trailokyavarman appointed him in the office of vasisa over the fort named Daya, and gave him a village for ever. Vasa built a beautiful temple and a tank. He is also praised for defeating and killing Shujaka, an enemy of Trailokyavarman (Epigraphic Indices: 1,334).

The office of vasisa is not known to have been found in the inscriptions of any other dynasty. Dr. Tay believes it to be an administrative post, but he does not offer any suggestion as to the exact nature and duties of this officer (Tay, H.C.: 1936). The vasisa does not seem to have been a civil officer for both Mahesvara and vasa were appointed vasisas of the forts of Kalanjara and Ajaygadh and not of any administrative divisions. The vasisa cannot have been the governor of the fort, because the same inscription specifically mentions Chand (Vasa's brother) as the Burugadhikari of Ajaygadh fort. Dr. Altekar believes that in ancient Indian states there was probably an inspector-general of forts at the capital (Altekar: A.Š.: 1934). The vasisas of the Ajaygadh inscription may have had some such office, but on the other hand vasa appears to have been appointed over one fort only.
It may well be that the rank of visist was rather a title of honour or a sinecure than governmental post.

Sukra mentions the treasurer as one of the ministers of the king and a Chandela inscription shows that this was the case in their state. The Ajaygadh Rock inscriptions of Bhojevarman states that Subhata, one of the members of Cajuca's family, "eagerly striving to benefit others (and) accomplishing his objects by what he engaged in, became permanently the chief superintendent of the treasury (tasadhikaradhipati) of the illustrious king Bhojevarman. The next verse praises Subhata, the lord of the treasury (Chandagarapati) whose only thought was for right and prosperity, and who, though at the head of all mighty affairs is both trustworthy and full of knowledge and, who as minister (sadiva) of the illustrious king Bhaja is widely famed for qualities and who delights in bestowing on others benefits without end, and is a very store of benevolence (Chandragupta, 1, 335).

Kalanjara fort (Latitude 25° 1'N., and Longitude 80° 29'S.) situated on the lofty crag of precipitous rock of hard sandstone on an outlying branch of the Venna range is at a distance of 56km to the south-east of the headquarters of Banda district (U.P.) (D.L. Drake Brockman; 1929). Although it has a long antiquity as an abode of stone age man (P.C. Pant; 1982) the settlements and fortification, according to Alexander Cunningham, started in the first century A.D. The settlements at the site became substantial
Rock-cut Nandi with Siva Linga near Neelkantha Temple, Kalanjara.
by the Gupta period between A.D. fourth and sixth centuries
(N.L. Nigam: 1967) and it became an important religious centre.
Inscriptions and other archaeological remains show that the real
importance of Kalanjara as a fort and urban centre started in the
tenth century A.D. under the Candalas, about this time we find
stone structures and fortification etc. (K.S. Bose: 1956) Kalanjara
became a strong military and administrative centre where garrison
of soldiers were maintained under the Candalas. (Fig.7:1).

Kalanjara hill has an elevation of 375 metres from the
mean sea level and of some 215 metres from the surrounding plain
(P. C. Frank Proctor: 1939) The summit of the hill is a table
land slightly undulating and between 6 and 8 Kms. in circuit. The
total area of Kalanjara hill is about 2050 hectares. On the
Kalanjara hill we have numerous reservoirs, tanks and ponds, ruins
of several buildings and the remains of structural and some rock-
cut temples. The fort of Kalanjara was provided with walls and
gates built in stone. The town Kalanjara was situated at the foot
of the hill. It also contains numerous relics of the past. Remains
of ramparts and three city gates at the town are the significant
elements of city architecture of the Candalas. The positions of
ancient gates are sufficiently indicated by their names; the
KANTA (Chitrakut) gate lying to the north, the MADGA gate to the
south-west and BHAGA gate in the south-east of the town. The town
Kalanjara is locally known as TAREMAT, the name is derived from
the word TARE which means below and refers to the location of town
FIG 7.5 Rock-cut Eknukha Lingas with Devoitees, Kalanjara.
at the foot of the hill. Farahati contained four muballas now known as Sadar Bazar, Phurd Bazar, Gopal Bazar and Minnah.

Nejoining Farahati there is a village called Katra-Kalinjera which is also generally included under the town Kelanjera. Beyond the immediate neighbourhood, the name Kelanjera is applied indiscriminately to the villages of Najhagar, Siddhpur and Nayagaon situated at the foot of the hill. Kelanjera town appears to represent an early medieval military centre and a township (H.L. Bhandarkar: 1929) (Fig. 72).

In the study of settlement patterns at Kelanjera under the Chandellas. The economic importance of Kelanjera has derived from its hinterland and productive diamond resources. It roughly corresponds to Banda district of Uttar Pradesh and covers an area of 7545 sq. km. (H.L. Bhandarkar: 1929). The marked feature of the northern hinterland is the bad-land topography. The general feature is the succession of narrow gorges formed by numerous streams that carry the drainage to the Varan. Much of the land along the back of the streams is badly gullied. The plain is floored by detritus and hill wash, generally with light thin top soils. It is covered by mar, kaber, parua and raker soils. The mar is black soil suitable for growing wheat, gram and cotton. The kaber soil is a variety of lighter black soil suitable for rice and gram. Parua is ordinary loam soil, occurs in many parts of Banda district and is suitable for wheat, barley and millets. Raker is waste land, unsuitable for cultivation. The plain is known as Jurar tract and is one of the most fertile plain of Bundelkhand (C.L. Singh: 171).
The Ken, Kaghain and Reisuni are the main perennial streams. All these rivers exhibit dendritic patterns. The general slope is from the south-west to the north-east. The climate of the hinterland is characterized by three main seasons: the monsoon season from the mid June or early July to mid October, winter from November to February followed by summer from March to mid June. Mean temperature in January is around 15°C to 20°C, and May-June 35°C to 45°C. The summer is harsh in the extreme. The rainy season begins in the second half of the June or early July and continues up to September. The mean precipitation varies from 800 mm to 1000 mm of which nearly 50% falls between July and August. Rainfall is often very local and sporadic, both at any one time and over a run of years. There is a strong tendency to spells of ineffective rainfall or absolute drought. In the nutshell, rainfall is scanty and unreliable and uncertainty is the dominant note (Fig. 73).

Probably the hinterland produced sugarcane, cotton, coarse millets (Kacchi) and hemp during the Candella rule as these crops are mentioned in almost all the land grants issued by rulers of the dynasty (Epigraphia Indica: Vol. XXII, p. 120). It is really surprising that cultivation of barley, gram, wheat and millets are not mentioned in the grants at all. We have no idea about the agricultural methods prevalent in the Kalanjar region. On the Kalanjar hill, at Khajuraho, Mahoba and other places throughout the Candella kingdom, we have numerous reservoirs, tanks and ponds for religious and other purposes. We have some inscriptions recording the construction of wells (nirjaras and vapis) with perennial supply.
of water (Epigraphia Indica: Vol. I, p. 327). It is not unlikely that the practice of providing water facilities may have also been followed in the countryside where it promoted the supply of water both for drinking and irrigation. Such facilities may have been organized individually and collectively, the state under the Chandellas seems to have played an important part. The Khajuraho Inscription of Bhanga, dated Samvat 1011 (A.D. 953-54) refers to the construction of embankments to divert the course of a river (Epigraphia Indica: Vol. I, p. 126). Terms like Kulya (canal), Bushterani (tank) and bhiti (embankment) are met with in different Chandella records (G.K. Mitra: 1977). Some of the Chandella kings are remembered for having created reservoirs and tanks at Vahuta, viz. Rahilya (A.D. 1265-53) for Kirtivarman (A.D. 1266-1100) for Kirti-Sagar and Padanavarman (A.D. 1129-1163) for Padana-Sagar (G.K. Mitra: 1977). Valanjara enjoyed special advantages from the agrarian point of view. It was located in the comparatively fertile central segment of Bundelkhand (G.K. Mitra: 1977). The rural base of Valanjara was a strong support for the urban settlement.

Ajayagadh Rock Inscription at the time of Kirtivarman (A.D. 1266-1100) (Epigraphia Indica: XXXI, p. 145) and another Ajayagadh Rock Inscription at the time of Bhogavarman (A.D. 1266-1268) (Epigraphia Indica: Vol. I, p. 334) mention prosperous villages named Buguada and Vipalanika granted to certain officials of Valanjara fort. These villages were apparently situated in fertile areas and not very far from Valanjara (G.K. Pandey: 1990-91).
The great economic importance of Kalanjara was derived from its south-western hinterland where precious diamond mines were located. There is a diamond mine at a village named SARASJAGHMI-PUR situated about 15 km. south of Kalanjara on the Baghain river (D.L. Drake Flocken, 1925). The diamond mines of Panna are located at a distance of about 45 km. south-east of Kalanjara. Sandstone including red sandstone occurs in and around Kalanjara. Semi-precious stones including agate of great variety and variety are found in the bed of Ken river (D.L. Drake Flocken, 1925).

It was certainly situated at the centre of cross-roads. Kalanjara obviously owed its growth to a fort and urban settlement to its physical and strategic position well connected with major cities of north India through trade routes. Much of the long-distance trade seems to have been in luxury and precious items. Kalanjara was famous for its iron tools and weapons (N.C. Yadav, 1973). Probably the Kalanjara artisans produced some iron and luxury goods for local use and sale. Various types of iron lances, swords and daggers are known from Candelas' epigraphs and sculptures. The extant epigraphic records testify that there were markets (apālās) in the town in which there were bazaars of shops where wares were kept for sale (vanijam vithipath). (Epigraphia Indica: Vol. I, p. 34).

We have no means to show that the taxes collected from the peasants were sufficient to maintain administrative and other establishments at Kalanjara under the Candelas. Archaeological and other sources of evidence indicate continuous progress at
calanjara in structures between 11th and 12th centuries. How did this happen: whether the land revenue was sufficient to support
and sustain large scale building activity at calanjara for more
than one hundred years, is difficult. It was rich mineral resources
including metal diamonds which supported stupendous building

In the post-Gupta period, students of economic history is
surprised at the almost complete absence of gold coins for four
centuries and paucity of coins in general in north India. self-
sufficient economic units precluded the use of coins by rural
precarious and rendered the use of money less important (S. I.
Sarma: 1968). Reference to gold coins in four-granta and four
but coins are not physically available. Gold and copper coinage
revived in the second half of the 11th century. The earliest coinage belongs to Mularaja (998-1006) and his
successors. This comprises of gold drachmas (ouave 4.15 grains),
coinage (above 8 grains) and quarter drachmas (15 grains) and
copper quarter drachmas (H. Hilar: 1977). The revival of coinage
in the 11th century, however tardy, has to be accounted for. The
exploitation of metal diamonds enabled the surgeons to
mint gold coins. The copper gold coins, then compared with
Cupra gold coins appear to be little pieces. It means that even
at this stage the supply of gold was limited (Fig: ).

A brief survey of main economic trends reflected in
the inscriptions and other sources indicates that agriculture was
the main source of economic life. It was supplemented by other
adequate evidence including income from mining of gems and precious metals.

A short elaborate description regarding site planning and construction of forts in the literary forms particularly in the Agamas. The earliest literary reference is found in the

Vedic period of India. However, there are terms such as

Uraga, Chakraga, and Hrudag (in the Upanishads, 3:4:1) and (7:10) ofrinta and

Ritivarna and others, namely mahavarga or large fort, maharaja-

gaha, Chakraga (water barricade), and Uraga (fort, fort, fort, etc.,

from which the term for a fort is derived). The Uraga

(3:1:5) and the Ritivarna are described as forts built at hilltops

and covered with large stores and stores of food, and being the central nuclei of many

as a network of forts at one place; each type of a network is

again a network of forts at another place, and eighteen

types of forts are referred to in the Vedas, (1:10:3:1033).

The large number of fortresses had been taken by scholars as an

unmistakable evidence of feudal organization (c. 1065). The

number and importance of forts increased considerably during

the second half of the first millennium B.C. In the wake of the

spells of virtual absence or weakness of central authority, the

extension of the Sanskrit system, invasions, and frequent wars

(3:1:5:8:102:1934). (Fig. 7.5)

The method of planning of a fort shows that a number of

roads are to be built to demarcate the plots for various buildings.
The Archasastra (2.4.1) mentions six royal roads, three running from east to west and three from north to south. According to the Archasastra, there should be one to twelve large structures in a fortified town (p. 15; Asharya: 1933). Works on silpasastra, called a basically Archasastra, give minute descriptions about the different buildings of a fort. It should have a number of gates, generally four gates, facing the four cardinal directions were built (Archasastra: 2.4.1-11).

A fort generally has the palace of king, queen, ministers, judges, store house, kitchen (mahanees), residences of ministers, army officers and other private and public audience halls, temples, stables for horses, elephant-shed and cow-shed; (all and are given their due place. Water reservoirs like vaal (suger well), tanks (well), bejgela (tank) and kunda (deep pools) should be built on the exterior direction within the wall of a fortified area. The conscription of a fort tank (Kalisaarai) is recorded from 7th to 12th century by Varuna (L: K. Dubey: 1967) (Fig 7.6).

The rampart and gates at Kelanjarah hill are an important element of architecture. Among the other archaeological remains, mention may be made of the tanks, ponds and temples inside the fortified area on the hill. The walls of the rampart are built of great blocks of sandstone with heavy bastions and entrances in which odd stones and sculptures from old ruined temples are found embedded. This evidence suggests additions, modifications and repairs of rampart walls from time to time. There were four gates facing the four cardinal points; one each on the north, east, west, and south. The eastern gate was closed sometimes during the Canggal period.
Mahishmardini near Neelkantha Temple, Kalanjara.

FIG: 7.10
The northern part with seven gateway leaves to the main gate of
king's palace has been for the most part rebuilt in traditional
style and finally repainted by the Simela. The details of the
present structures of northern gate exhibit an impact of Sudan
or Mughal architecture but it is not unlikely that it was designed
and constructed sometimes during the Simela period if not earlier.
The Simela dynasty is called also the Alim Darbaar. The most of
the outer walls are Chandi Darbaar, Ekichi Darbaar, and
Katar Darbaar. But Darbaara of main Darbaar and bars Darbaara
of Darbaar Darbaar. The Darbaar gate was located in the north
western corner of the fort. In the recce they were three
three gate, one on the border, one before the entrance
of the Darbaar. The third a little to the east, the latter two
had been chopped up in 1919. (State documents 1919). The northern gate
was the main gate (No. 77).

There is no actual version of palace architecture inside
the fort but in some there were the palaces of Simela period,
and now the foundation tank and the outer structures of the eastern
part of the fort near a Simela building called Alim ki-Simela.
Most of the houses around the village possibly to Simela
palace. . most part of the settlement could be associated with
Alim ki-Simela. Residential houses and some temples were situated
around the tank. Settlements at Kuditzipa have no planned layout;
the structures were mainly made of sandstone blocks. The structures,
largely of rubble show poor construction. There is hardly any
traces of the building named Pormal-ki-Simela now, it is said
Rock-cut Huge Image of Kalabhairava, Kalanjara.
that its destruction was completed under the British rule to furnish materials for a tomb to Haushola, collector of tehsil Chand, who died at Kalanjara in 1806 ... (67.67)

There are five rock-cut caves on the hill at Kalanjara. The general arrangement was not preplanned, as the caves were excavated sporadically in different periods. The rock-cut caves are not located in a particular locality, they are distributed in different parts of the hill. Near the seventh gateway of the fort is located a rock-cut cell called Sita Sej. The cell has one stone bed and one raised stone pillow. The door of the cell has plain pillars and two more holes above, seemingly for posts to block it. At some time, its front portion has completely disappeared. Close to Sita Sej is Sita Kund, a natural reservoir. It is a pool of clear water in small cavity under sluicing rocks and is reached by the six stone steps (Fig. 7.9.46).

At some distance from the Sita Sej on the eastern part of the hill there are two rock-cut cells known as Siddha-ki-gupha and Shagwan Sej. Siddha-ki-gupha is merely a small excavation in a perpendicular rock most probably for performing penance. It contains one small inscription. Shagwan Sej is a rock-cut cell under a projection of a rock. The cell is provided with one stone bed and has a raised stone pillow as well. Its front has perished. There is a small cistern now called Pani-ki-aman, with a narrow mouth. The roof of the cistern is supported by four decorated small pillars. The single cells with stone bed are primitive in character.
The rock-cut sanctuary might have been in existence from the 13th century, but the tank was of the time of "Vishvanatha III" in 1100 AD. The tank is built into the wall of the temple of Kukke Subramanya. The tank was built by king Sthanuvarman (1030-1100 AD) in the year of 1100 AD. The tank is of granite stone and is rectangular in shape. The pillars of the tank are in their original position and it has
Erotic Sculptures, Bhencana area, Kalanjara.
In the sanctum sanctorum of the temple were the offerings of sacred documents, curiously, records of devotional songs, and, above all, the daily sacrifice known as the temple samadhi, performed daily. This act occurs at a temple in the Western Ghats of Western India, dedicated to Amãnasvara, in the year 1196 (A.D. 1129-30) in the reign of Pratihara. The Samanta Maha Pratihara, a member of the Pratihara dynasty, refers to the sanctum sanctorum as the place of the temple of Amãnasvara. The sanctum sanctorum was hallowed with the entrance of the temple and its eternal priest, who performed the rituals. The sanctum sanctorum of the temple is 33 meters (111 feet) wide, with a height of 30 meters (98 feet). The sanctum sanctorum could accommodate only a small number of people. Additionally, it is said that in the event of an emergency, anyone entering the sanctum sanctorum would not have enough time to escape (Plate 7.14).

At the eastern end of the plateau is the temple of a higher level, reached by a flight of steps, is a large reservoir known as the Kaalakshetra tank of the temple. This water is supported by four neatly cut stone pillars that rest on solid rock. The water is clear, pure and sweet, and the water is constantly trickling into it from the overhanging rocks.

There were more than a dozen monolithic temples on the hill-top at Kalanjara. All these temples were located near tanks...
Nrisinha carved on a Rock near Neelkantha Temple, Kalanjara.

FIG: 7-14
The reservoirs in different parts of the hill. These temples have been moved to the ground. In the east of the Bhiravna temple, there are ruins of several temples and an image of the Yami goddess (not illustrated) in good state of preservation. The monument of the goddess is fashioned on a lime-grained black stone and highly polished. In the same temple are three smaller temples, one small in a very dark crypt, with open space in between these.

Reservoirs or several canals and vaishnavite temples are also preserved near Vaidavindra tank. There is still a small temple in the northern and western part of the tank. On the eastern part of the hill, there are remains of some raised terraces, which are marked on the map. In 1951, nature of a temple was not known. It is said that a rural temple was also located in a small plot of water covered by hill above tanks. The base of the rock under some hill and the fifth gateway is covered with sculptures of Lanklala and others. A high wall runs known as the iron wall near the fifth gateway. This is an artificial wall about 41 metres long, about 120 metres above
Camunda carved on a Rock near Neelkantha Temple, Kalanjar. FIG: 7·15
The tank seems to have been built somewhere about 3 meters high and in one side tanks of the same style are carved in them and on one side the swamps or leveling tanks are taken into the tank and each side and a line running across the tank could be taken as the smooth gateway. It is a natural reservoir, perhaps a little enlarged. All steps inside remain very intricate and smooth sides and walls. Possibly in the middle of the north to southwest slope of the hill is a large reservoir 3.51 meters called "Aeigayne". It is about 78.6 meters, measured with a 12 and 18 meter bamboo and equal to 77.9. It is rectangular in shape and rock-cut tank, probably the most ancient. It is 3 meters deep and 6.34 meters wide. It is said to have been built up as required. From the other end, another tank, te 267 meters, is in the eastern part of the hill. It is shallow, almost 1 meter and about 3.75 meters in diameter, but occasionally intricately cut into a kind between flat stones of rock (77, 577).
Another tank, known as Wotitirtha or Wotitirtha, is situated almost in the center of the hill. It is a large tank nearly 90 acres in area. The tank is fed directly by a spring. A mound or mound-like formation on the north side of the tank, which is similar in appearance to a spring-like feature, probably forms an old tank or a natural spring. This feature adds aesthetic value to the tank.

There are several flights of steps leading down to several different platforms in an important place of pilgrimage. Inside a large mandapa, several buildings and temples are constructed around this area.

The main body of the tank is about 100 feet long and is bordered on the left and right by a large embankment. The embankment is about 20 feet high and 25 feet wide. The embankment serves as a retaining wall and is only a few feet above the tanks. It is the base of the hill on the north-east side of the tank. The embankment is large, resembling a rock-cut tank. Since the area is large, this is a large (5000 cubic feet) artificial tank. The tank is round in shape and was originally probably embellished with sculptures as part of which will remain. In the area were some big temples beside the tank. The Wotitirtha temple had been situated in the western corner of the hill. It has several steps leading to it. The temple was not only near the tanks but also in different parts of the hill. Systematic excavation at Wotitirtha and its environs reveals the temple.


27. *Arthasastra* (Pali: 1000 AD), ed. by Subhendu and Other, 178, 179, 176.


38. "History of India," (1967-68) Central Board of Archaeology, p. 44.
42. "A Survey of India," (1967-68) Central Board of Archaeology, p. 44.
44. "A Survey of India," (1967-68) Central Board of Archaeology, p. 44.

