Chapter IV
Comparison of Metropolises as Core of Civilization

Introduction

As mentioned by Le Corbusier, master planner-cum-designer of Chandigarh, Urbanism is “the activity of society”, and Capital is “the spirit of a nation”.¹ The state capital has been the most influential metropolis of civilization among centres for administration, military, trade and commerce, traffic, faith and pilgrimage, science and education, and arts and crafts. In ancient Japan, the emergence of metropolis was almost equal to the construction of capital with imperial palace for the Yamato Dynasty, following Chinese capitals as prototype. In ancient India, urbanization was progressed through two phases, i.e. the first urbanization in the period of mature Harappan culture and the second urbanization in the early historic period. Accordingly, discussion is started by the criteria of urbanization, the concept of city plans both in India and China and their influences on Japan. In ancient Japan, attempt is made to trace the construction and transfer of several capitals with their social, economic and cultural influences. In ancient India, attempt is made to search for the urbanization with its backgrounds and features at various excavated sites and the capital formation in Magadha as model case mainly from archaeological evidences. Overall, the progress of urban planning and infrastructure and the interaction with religious and cultural centres are analyzed.

Urbanization and City Plan

Criteria of Urbanization

V.G. Childe identifies ancient cities with ten criteria, i.e. extensive settlement with dense
population, surplus of production, non-food-producing class supported by surplus as rulers and priests, monumental buildings to symbolize focused surplus, long-distance foreign trade to purchase materials by surplus, non-food-producing class as full-time craftsmen and merchants, invention of recording system and science as written script and numeral, leisured clerks as geometer and astronomer, artisans as sculptors and painters, and secured state organization based on residence rather than kinship.²

V.K. Thakur refines the above criteria of Childe with thirteen features of urban centre, e.g. fortification, strong agricultural hinterland, widely different food resources, monetary exchange system and social stratification.³

A. Ghosh points out notable features of pre-industrial city, i.e. the restricted settlement area to stimulate dense population, the very limited agriculture area, the predominant population of non-agricultural occupation and the merchants to supply daily necessities.⁴

O.D. Duncan suggests the growth of towns by four fundamental factors, i.e. the size of population, the control of natural environment, the technological development and the development in social organization.⁵

M.C. Joshi opines that city, as a distinct habitational unit with such peculiar features as described above, actually developed after the Mauryan Age and a typical street plan with regular shops on side was realized possibly from the first century B.C.⁶

Overall, city can be regarded as a crossroad of human interchanges with materials, technologies and information and a cradle of cultures as a core of civilization. In other words, civilization can be formed through urbanization in each region.

**Concept of City Plan**

The ancient fortified capital was a place where king performed political affairs in
association with ritual ceremonies under the name of state. They were represented by palace, court, shrine, temple, etc. Whereas, the fortress of capital was a portion of military facility with city wall, moat, etc. However, capitals in Japan did not take any function of fortress. Both in India and China, the concept of ancient fortified capital was designed in association with cosmology and kingship. Neighboring countries in Southeast Asia and East Asia followed either of them.7

The fortified city in ancient India is regarded as an epitome to realize the Hindu cosmology in this world. Namely, human beings inhabit in the centre of Jambudvīpa. Mt. Meru stands as central axis of the world. On top of Mt. Meru, Brahmā, the Creator, resides in a central circular zone, surrounded by eight guardian deities in each circular zone towards eight directions. This sort of mandala divides the square eight by eight into 64 blocks each with 45 gods.8

The plan of city centred a shrine as core and divided the area into three zones, i.e. inner, middle and outer, each with a different kind of function.9 Kautilya’s Arthasastra refers to several conditions to build a fortified capital (sthāṇīya). Namely, along geographical setting, the capital is to be located at a confluence of rivers, on a bank of lake or pond, or at a junction point between inland route and water route. The pattern is of circular, rectangular or square shape, surrounded by triple moats. The rampart by heaping mud and built of bricks, with parapets and tower square, is to be separated from the most inner moat. Three royal roads east-west and north-south each, common streets and twelve city gates are constructed. The shrines are erected in the centre of city, with guardian deities in all quarters. The royal palace is located north from the centre of city, facing to east or north. Relevant facilities and residential area are to be allotted to a certain direction each from royal palace, e.g. royal teachers, priests, ministers, altar and reservoir to east by north, kitchen and granary to east by south, treasury and record and
account office to south by east, shops and hospitals to north by west; cremation grounds
to north or east; Kṣatriyas to east, Vaiśyas to south, and Śūdras to west; and a water
well made for every ten houses.\textsuperscript{10} The head of forts under the collector-general
administered town-clerk, superintendents of gods, coinage, and seals and passports,
corporation of artisans and handicraftsmen, warehouse of merchandise, building sites,
tolls, fines, weights and measures, etc.\textsuperscript{11}

In ancient China, a different capital plan was designed under its own cosmology.
Namely, the circular-shaped Heaven connects with the square-shaped Earth by erecting
the Heavenly Pole in the centre as the North Star. From the Heavenly Pole the cosmic
axis goes down to connect the Heaven with the Earth and a spiritual power of the
Heaven descending to the Earth was received by the emperor as son of the Heaven.
Accordingly, the royal palace where the emperor is seated becomes the centre of the
Earth. The capital is surrounded by square-shaped city wall. Inside is the civilized world
of Cathay and outside is the world of barbarians.\textsuperscript{12} The Shurai Kōkōki, Records of
Construction Plan in Chou Formalities compiled in the third century B.C., mentions
about the basic plan of fortified capital. Namely, each side of walls is equipped with
three gates and nine streets, the palace located in the centre, the ancestral mausoleum
and the shrine of Land God on both sides to the south in front of palace within palace
area, the court to the south in front of palace area, and the market to the north behind
palace area.\textsuperscript{13}

The concept of Chinese capital had some similarities to ancient India, i.e. three city
gates and three avenues on each side, and the area divided by sixteen blocks. Yet, they
had some differences. Ancient India emphasized the sacredness of waterside in pursuit
of purity, while ancient China considered first its cosmology that the imperial palace as
the centre of the Earth is connected with the centre of the Heaven. The city plan of
ancient India placed the divine zone in the centre. Accordingly, the sovereign of Kṣatriyas became subject to the religious authority of Brāhmaṇas. It designed the concentric circles of divine zone surrounded by three peripheral zones. Whereas, ancient China designed three north-south belts in line with the direction from the palace in the centre, symbolizing four sides of emperor’s body seated to the south at the palace. Ancient India divided a city by surrounding concentric circles into respective areas of four varṇas to serve for the central divine zone. Whereas, ancient China allocated commoners’ residential zone on both sides of north-south belts. 14

Lo-yang, capital of the Later Han and the Northern Wei, is regarded as an influential model on the capitals of Yamato court. Both inner and outer fortresses in royal and capital castles were fully surrounded by walls with gates. Inside the royal castle, the imperial palace, the Great Hall of State, and the royal garden were placed. Inside the capital castle, Buddhist temples were built. The capital maintained east and west markets, a residential zone, guest houses for foreign ambassadors and several waterways. The inner fortress located on the north-central side was divided by a road to connect east and west gates into two zones, i.e. the imperial palace on the north side and the ceremonial space including the Great Hall of State on the south side. The Central Avenue ran from the Great Hall of State to the sacred mound of Heavenly God in southern suburbs. The administrative offices were allocated on both sides of Central Avenue, and the mausoleum on the east side and the shrine on the west side near the southern end of inner fortress. 15

In Ch’ang-an, capital of Sui and T’ang, the city walls extended 8,65 kilometres north-south and 972 kilometers east-west, covering 8,408 hectares. The palace was located on the north-central side and the court of administrative offices was built south of palace, or for the emperor facing to south, separately as the first attempt. 54 blocks
(bō) were allocated each on east and west sides divided by Central Avenue. The north-south side was divided by three belts. The central belt, comprising nine blocks, was located south of the court. On both sides of Central Avenue running in the centre of central belt south of the palace area, two state temples of Buddhism and Taoism were built to solemnize the palace area. Two markets were located in east and west belts south of the palace. In the palace area, emperor’s palace was located in the centre, crown prince’s palace on the east side, and empress’s palace on the west side, and royal granary north of them. Though planned to act up to the tradition of the Shurai Kōkōki, Ch’ang-an realized the secularized capital derived from the concept of Holy King. On the other hand, Lo-yang of the Northern Wei was based on the ideal model of Chinese capital along the Shurai Kōkōki. However, during the Sui and T’ang periods, the western capital, Ch’ang-an, was much better planned than the eastern capital, Lo-yang. Thus, both Fujiwara-kyō and Heijo-kyō in Japan may have been designed with closer reference to Ch’ang-an in a reduced scale.

### Ancient Capitals of Japan

Capitals in ancient Japan were progressed through the construction of imperial palace at each enthronement, the concentration of palace area in Asuka and finally the completion of Chinese-style capital centring the imperial palace. Attempt is made to trace the constructions and transfers of several capitals in conjunction with various backgrounds, topographic location, foreign influence, palace and city plan, the way of life of city dwellers, etc. (Map 3)
City and Capital Formation

In the ancient capital of Japan, a portion of ruling classes was large enough, e.g. emperor and royal family, nobles, governmental officials and priests, in order to coerce the subjects by political power. The other residents were common dwellers, migrants from provinces, guards and odd-job men at palace, workers in noble residences and temples, hired laborers for capital construction, transporters, etc. Grasping the ancient capital means understanding the ancient state and sovereignty according to the relationship between the sovereign and the capital as well as between the commoners and the urban centre in ancient society. 18

The capital transition proceeded through five stages. Namely, at the early stage of the Yamato Dynasty, each Ohokimi, great king before the entitlement of Ten-no, ascended the throne at a newly built palace, probably under the tradition of tribal state of Wo. The next new step was taken by the construction of Fujiwara-kyō as the first capital of Ritsu-ryō state. At the third stage, Heijō-kyō was constructed in Nara to leave from Asuka, the original place of Yamato where leading clans had prevailed. At the fourth stage, the construction of Nagaoka-kyō was aimed to depart from the Nara Buddhism and to unite both Heijō-kyō and Naniwa-kyō, sub-capital in a coastal side. And at the final stage, the construction of Heian-kyō was desired to pacify the evil spell of violently dead prince and to avoid from the influence of local clan and noble.

The transformation of imperial palace was deeply reflected by state movement and capital formation, i.e. location, structure and function in state, and characteristics as urban city. Under certain political backgrounds, emperors built and shifted various capitals as temporary palace, sub-capital or detached palace. Even from the eighth century A.D. onwards, the transfer of capital was quite frequent and common phenomena. For instance, Emperor Shōmu ascended the throne at Heijō-kyō, transferred - 139 -
palace to three places and finally returned to Heijō-kyō, as called “five years of wander”.
The transfer of capital may have been aimed to solve the crisis of sovereignty by the
reestablishment of the virtual community headed by Ten-nō.\textsuperscript{19}

**Early Palaces**

Iware is located in two kilometers north-east of Asuka, Nara Prefecture. The early
centre of Yamato Dynasty was mostly located in this place besides its original palace
presumably at Makimuku, nearby to the north.\textsuperscript{20} Until the seventh century A.D. the
successive Ohokimi had transferred their capitals at each enthronement. The capital
(miya) meant the place where the palace of Ohokimi was located. Since the state
administration was shared by clans, who settled down their bases with man power and
organization at scattered places over Kinai, the capital was not needed so much in a
large scale and accordingly became easy for transfer.\textsuperscript{21} Both the Kojiki and the Nihongi
mention that during the reigns of fifteen emperors from the early fifth to the late sixth
centuries A.D., each emperor built his own palace (miya) in Iware and nearby Asuka.\textsuperscript{22}

**Asuka-kyō (A.D. 592 - 694)**

From the end of the sixth century to the beginning of the seventh century A.D., the
statewide administrative organization was enlarged and focused on the residential
palace of Ten-nō. During the reigns from Empress Suiko to Emperor Temmu, the
imperial palaces were mostly focused in Asuka besides Naniwa (modern Osaka) and
Ōmi (east of Kyoto), yet shifted to thirteen places by eight emperors and empresses.\textsuperscript{23}
Prince Shōtoku, regent of Empress Suiko, built his own palace in Ikaruga, 15 kilometers
north-west of Asuka, which became the base of his royal family. He also constructed the
Wakakusa complex, antecedent of Hōryū-ji, within the area.\textsuperscript{24} The unique Empress
Saimei built a new palace at the top of Mt. Tōno-mine, east of Asuka, being surrounded by stone fence. She further constructed a great stone fence at an eastern mountain from another palace by loading stones on 200 boats through a ditch newly dug from 10 kilometers north of Asuka. The ditch was called “the ditch of crazy mind” from its unusual image and difficulty of construction. In A.D. 663 Japanese navy to support Paekche was annihilated by allied T’ang and Silla at the mouth of Kum River in south-western Korea. Emperor Temmu revealed the plan to construct a grand capital. In A.D. 694 Empress Jitō transferred the imperial palace to Fujiwara-no-miya in a new capital of Aramashi-no-miyako to realize the will of Temmu.

Asuka was located in a suitable place for agrarian stability against floods and droughts and military stronghold, being surrounded by hills along river. There was no base of any peculiar leading clans around the area initially before Soga clan extended power. However, towards the largely unified state, Asuka reached a limit and a new capital was planned by Emperor Temmu.

In Asuka the political affairs were not yet centralized at the imperial palace, but rather royal families and major clan leaders took charge of their portions. This has been proved archaeologically as nearby the imperial palace various palaces and houses both of royal families and clan leaders have been collectively unearthed together with commoners’ settlements in a peripheral area. The area was designed by a square pattern of plan, but each palace and temple was just surrounded by earthen wall, fence, moat, or corridor only.

**Naniwa-kyō (A.D. 653 - 655)**

In A.D. 652 the imperial palace of Naniwa-nagara-no-toyosaki-no-miya was built (the early Naniwa-no-miya). Beforehand, the great state road was constructed to connect the
capital in Asuka with Naniwa port, and the new provincial office named Settsu-shiki was set up to administer and maintain markets and shops, measures and weights, roads and bridges, ports, wayleaves, official or horse-riding messengers, postal or horse stations and inspection of marine equipment. In A.D. 653 Emperor Kōtoku shifted to Naniwa-kyō but soon died lonely after Crown Prince and key ministers returned to Asuka as the safer place to defend from possible invasion of T’ang.

Around the area, Shitennō-ji functioned as common plaza where every kind or class of people could enter freely. The temple was originally founded as local clan temple, completed as protective temple of Naniwa-kyō, and later became the central temple to worship Prince Shōtoku. The temple contributed greatly to public welfare, i.e. a pharmaceutic centre (Seyaku-in) to grow herbs and to prepare medicines, a remedy centre (Hiden-in) to relieve the poor and solitary, and a retreat-cum-medical hospital for lonely sick people.30

**Fujiwara-kyō (A.D. 694 - 710)**

While shrine and temple reinforced religious authority as divine mediator, the impressive foreign-style capital symbolized the imperial sovereign in a prosperous yet sacred centre. Though some Chinese-style buildings had been already available in Asuka, Naniwa and Ōtsu, a full-fledged Chinese-style capital was finally built during the reign of Empress Jitō. Fujiwara-kyō was located in a plain just north of Asuka. The site faced to south, with hilly mountains on other three sides called Yamato-sanzan. Further to north-east, Miwa-yama, a holy pyramidal mountain in Shintō, is located. The wooden pillars of main buildings were erected on stone foundations, their roofs covered with tiles and the palace zone located on the north side of capital, all under Chinese style. The palace area occupied 105 hectares within a total capital area of 672
hectares at a distance of 2.1 kilometers to east-west and 3.2 kilometers to north-south. Fujiwara-kyo has been recently named among scholars, but only Aramashi-no-miyako appears in the *Shoku-Nihongi* (Continuation of Chronicles of Japan). Succeeding to the traditions of Asuka-kyō and Naniwa-kyō, attempt was made to create a new spacial area in capital to appeal the great imperial sovereign towards civilized state through acculturating the Chinese civilization, i.e. the appearance of Chōdō-in (Court of Government), the symmetrical allotment of a group of buildings inside Chōdō-in on the axis of north-south central line, and the erection of Daigoku-den located in the centre between Dairi (Emperor’s Residential Compound) and Chōdō-in, with the first introduction of the roof-tiled architecture on stone-foundations in imperial palace buildings.

Several innovations as new capital are found. The building plan of capital combined the palace area with surrounding capital area (*kyō*). The capital area was first realized as the urban space where government officers were provided with residences along the *jō-bō* (zone and quarter) blocks divided by grid street system. The creation of grand new-style capital was designed to appeal a new political direction towards the centralized bureaucratic government under the *Ritsu-ryō* institution instead of the collective governance among leading clans. The Daigoku-den was first built up as the hall where the emperor appeared in the state-level ceremonies. The construction of Chōdō-in centralized all administrative works, which had been scattered at domestic offices of leading clans. It was aimed to unite the capital with temples as sacred, purified and cultural space. The construction of two great temples, i.e. Daikan-daiji and Yakushi-ji, symbolized the establishment of Buddhism as state religion to protect the peace of state. Further, the new capital stimulated the concentration of population of non-producer and consumer from bureaucrats and urban dwellers.
Recent excavations have led to the new theory of square-pattern capital plan of 5.3 kilometers each. This prototype can be traced back to the ideal capital mentioned in the *Shurai Kōkōki*. Further similarities to the *Shurai Kōkōki* are the location of imperial palace in the centre and market possibly on the north, whereas differences are the plan of ten blocks divided by eleven roads on each side, unknown mausoleum and shrine, the imperial palace and the court unified in one area, and no fortified wall. Fujiwara-kyō seems to have made several references also to Ch’ang-an of T’ang and the capital of the Unified Silla in Kyŏngju.34

Although the roofs of Daigoku-den, Chōdō-in, palace gate and fence were tiled, other buildings were shingled with the barks of Japanese cypress or wooden plates. The palace was surrounded by the great fence with three gates on each side and inner and outer ditches. The palace area was separated from the outer surrounding zone by jō-bō streets. The Daigoku-den was open to the south as the centre of imperial palace. The Dairi was located north of Daigoku-den hall, erected by wooden pillars directly on dug ground, equipped with a single corridor only on the north side, and surrounded by inner and outer fences.35

About markets, neither the Nihongi nor the Shoku-Nihongi mentions, but only the Fusō-ryakuki adds a short article about opening East and West Markets, yet their locations and functions have remained unclear. According to the Man’yō-shū (anthology of ancient poems), two traditional markets both inside and outside the capital were still functional. There would not be so much need of state-administrated market in consideration of the undeveloped condition of government organization and the inadequate consumption of residents’ lives in capital. Overall, it would be a real situation for the new capital still to depend on the facilities of Asuka as adjacent place.36

The Shoku-Nihongi mentions that in A.D. 704 cloths were granted to 1,500
households of farmers residing in the capital area. Based on 164 persons as average member per household according to the *U-kyō-keichō* (*Statistic Record of Right Capital*) preserved at Shōsō-in, the population can be estimated around 25,000 residents. This figure suggests that the dwelling was not so focused that the wide area plan was hardly practised.37

Heijō-kyō (A.D. 710 - 784)

Empress Gemmei shifted capital to a newly built Heijō-kyō in Nara, 25 kilometers north of Fujiwara-kyō. According to the *Shoku-Nihongi*, the edict was proclaimed that the site complied with inhabitable places of four sacred animals, pacified by three mountains and followed by water stream together, i.e. eastern rivers of ‘blue dragon’, southern ponds of ‘vermillion sparrow’, western passes to Naniwa of ‘white tiger’ and northern hills of ‘snake combating tortoise’. Topographically the higher location on northern side could suit with the emperor’s position facing to the south.38 More concerned with strategic and economic conditions, Nara was close to big rivers which connected to Naniwa sea port, i.e. to the north Kizu River joining Yodo River, and to the south Saho River running through the capital into Yamato River.39

Several factors can be considered as the background of capital transfer, i.e. the desire for a new capital to match with the rapidly developing state since the enactment of *Taihō Ritsu-ryō* in A.D. 701; the centralization of administrative power to avoid old influential clans around Asuka; the information from the envoy to T’ang about the latest capital in China, Ch’ang-an; the political ambition of Fujiwara-no-Fuhito for the enthronement of Prince Obito, his grandson and future Emperor Shōmu, by inducing a new palace to his villa area; and the wish for fortune’s arrival against frequent famines and epidemics.40
Both Central and East Avenues directed to both West and East Avenues of Fujiwara-kyō. This may suggest such an aim that a sovereign in Heijō-kyō was honoured by a lineal descendant from Fujiwara-kyō. Many Buddhist temples were erected and shifted, e.g. Tōdai-ji, Hōkō-ji (Asuka-dera), Yakushi-ji, Daian-ji and Kōfuku-ji.41

The total capital area occupied 2,500 hectares at a distance of 4.3 kilometers to east-west and 4.8 kilometers to north-south with Ge-kyō (projected outer zone on the north-east side), about one-third of Ch’ang-an. The palace area covered 120 hectares at a distance of 1.3 kilometers to east-west and one kilometer to north-south with projected area to east.

Heijō-kyō adopted some similar concepts to Ch’ang-an, i.e. the palace area located at a north end of the middle, the capital area divided into two parts symmetrically by Central Avenue named Suzaku-ōji, and two markets allotted on the south side. Differences are also found, i.e. the uniformed town blocks by square pattern against Ch’ang-an in six patterns, only a short earthen wall built on both sides of main gate, though named Rajō-mon or Rampart Gate just as symbolic meaning, against Ch’ang-an fully fortified by thick wall, no plan of ancestral mausoleum and shrine of Land God, and no temple allocated in the central zone along Central Avenue.

There was a change of palace layout between the early half and the later half of the eighth century A.D. The early palace area consisted of three belts, i.e. Daigoku-den and Chōdō-in in central belt; Dairi, Daigoku-den-like building and another Chōdō-in in eastern belt; and a garden and other facilities in western belt. Hence central and eastern belts adjoined unsymmetrically, unlike Ch’ang-an. The Daigoko-den may have been used only for the most important state ceremonies, whereas Daigoku-den-like building for other ceremonies and daily routine administrations under the appearance of emperor.
The later palace area shifted *Daigoku-den* between *Dairi* and *Chödo-in* in the eastern belt. Thus Heijō-kyō took Ch’ang-an as a model but did not imitate Ch’ang-an.⁴²

The capital zoning was planned by the *jō-bō* grid system in contrast with the *jō-ri* of wet-rice fields. The area was divided by *Sa-kyō* (Left Capital to east) and *U-kyō* (Right Capital to west) on an central axis of Suzaku-ōji, or nine *jō* (east-west zone) and four *bō* (north-south quarter) respectively, besides *Ge-kyō* with four *jō* and three *bō*.⁴³

The capital dwellers did not always become *kyō-ko* (capital household with domicile) and *kyō-ko* did not all live in the capital. The number of officials has been estimated according to rank, i.e. about 120 nobles of the fifth rank and above, 600 senior officials of the sixth rank and below, and 6,000 junior officials. Despite an established theory of 200,000, the population would be around 100,000.⁴⁴

The salaries of officials were provided twice a year by silk, cotton, cloth and hoe. Moreover, officials of the third rank and above were provided with a half of *so* (rice tribute), and all of *yō* and *chō* (labour and crafts levies) from specially registered households. All officials were provided with rice field (*kubunden*) according to the law of public land allotment (*Handen-shiōju-no-hō*).⁴⁵

Both markets comprised the government office called *Ichii-no-tsukasa* (Market Supervisor) and a group of shops. Under the economy of commodity tributes, the levied commodities were sold and exchanged into coin currencies for purchase of necessary materials and products at the markets. The salaries for officials, paid by commodities, were similarly exchanged at the markets. The *Ichii-no-tsukasa* checked and set up three grades for commodity prices based on quality level, recorded them every ten days, and reported them to *Kyō-shiki* (Capital Offices) in every season, besides measures and weights inspected by *Ōkura-shō* (Ministry of Treasuries).⁴⁶ The nobles’ sales activities at the markets, leasing commodities by yearly contract with interest (*suiko*), and...
transactions outside the markets were not prohibited. The commercial hemp cloths were sold by nobles to the provincial clans who resold them in local areas.\textsuperscript{47}

The sons and brothers of local clan leaders were often sent to the capital to serve for the imperial palace as guard or house keeper for a couple of years, and sometimes assigned to district controller at homecoming. This organized a system of reproduction and circulation between junior government officers and provincial supervisors. The commoners were forced to serve for administrative offices in the court like as servant for three years and guard for one year.\textsuperscript{48}

The socially weak people increased and flowed in the capital. Some of laborers and carriers could not return home to remain in the capital after work. Epidemic diseases became prevalent and people feared curses of the dead and evil. Numbers of \textit{jufu-mokkan}, wooden plates with writing of spellbound words influenced by Taoism, have been unearthed at several capital sites.\textsuperscript{49}

The compilation of \textit{Dai-tō-naiten-roku} (Records of Internal Ceremonies in Great T’ang) was started by a personal wish of one officer in Echizen Province, north-east of Kyoto. The transcription work was completed through the collaborations among provincial officials, court officials and Buddhist monks with transcription, proofreading, binding, etc. This anecdote suggests that many \textit{sutra} transcribers and handicraftsmen in association with temple architecture, Buddhist image and \textit{sutra} lived in the capital. Related administrative offices with handicraftsmen were set up as controllers for painters, founders, weavers, wood-workers, blacksmiths, etc.\textsuperscript{50}

There remained no Shintō shrine within the capital. Even Kasuga-taisha, worshipped by Fujiwara clan, was located east of \textit{Ge-kyō}. Yet, Shintō ceremonies, such as \textit{Oho-harae} (great purification), \textit{Michiae-no-matsuri} (street-feast) and \textit{Chinka-sai} (fire extinguishment), were conducted peculiarly for purification in the capital in every June...
and December. The *Yakujin-sai*, a temporary ceremony to avoid evil spirits of epidemics, was conducted at four corners of palace area as well as ten boundary spots in Kinai. The wooden plates like *hito-gata* (man-shape), *igushi* (skewer) and *koto-gata* (Japanese harp-shape), pottery with human faces in black ink, miniature potteries, *doba* (clay horse figurines) and copper and iron dolls have been unearthed at side-ditches of avenues, crossroads and around bridges. Sorcerous rituals were conducted there with those implements. A number of horse skulls and bones have been excavated from an earthen hole at side-ditch of street. The *Nihongi* mentions about the custom to sacrifice cattle and horse to pray for rain. The *Shoku-Nihongi* records that a god from China was worshipped by killing cattle. Burial remains by a single or double pottery pots have been revealed at or near crossroads, though burials in capital and around roads were prohibited.

**Nagaoka-kyō** (A.D. 784 - 794)

Emperor Kammu started the construction of new capital and shifted there though uncompleted. His enthronement meant the revival of the lineage of Tenji, a kingpin of the Taika Reform. He sought for the new capital in Yamashiro Province, 25 kilometers north of Nara by departing from Yamato as the base of the lineage of Temmu, a kingpin of civil war Jinshin-no-ran. The planning was concerned with the immigrant network of Haji and Hata clans. The new capital was located in a convenient traffic place on the side of Yodo River and a meeting point among national highways. The plan was in a rectangular shape with 4.3 kilometers to east-west and 5.3 kilometers to north-south. The southern part of Sa-kyō was all over damp ground, frequently damaged by water floods. The buildings of *Chōdō-in* were shifted from the late Naniwa-no-miya, which resulted in the abolition of sub-capital system.
Heian-kyō (A.D. 794 - 1869)

After the capital was shifted to Nagaoka-kyō, the deaths of related people with Emperor Kammu happened one after another. Soon the emperor proclaimed the edict to transfer the capital to Heian-kyō, and first the markets were shifted there. The capital was administrated under the control of Kyō-shiki (Capital Offices) and Kuni-no-mikomochi (Provincial Inspector) of Yamashiro. Both Nagaoka-kyō and Heian-kyō were closely related with a local clan of Hata, who had maintained a residence of clan’s founder at a place of coming Dai-dairi of Heian-kyō. The location was finally decided by the geomancy based on the Fengshui (air and water) concept of Taoism, such as the area with mountain and river closely integrated by eastern Kamo River standing for ‘blue dragon’, southern Ogura Pond for ‘vermillion sparrow’, western road San’in-dō for ‘white tiger’, and northern Kita-yama mountains for ‘snake combating tortoise’. Mountains and hills were located on east, west and north sides. Three rivers, i.e. Kamo from north-east, Katsura from north-west and Uji from east met together at Ogura Pond to Yodo River, which gave an easy water access to the Inland Sea via Naniwa port. However, major disadvantages of the site were its climate and inadequate drainage, i.e. hot and humid summer yet chilly winter, and so much wet and marshy land of western half.54

The plan of new capital was designed in an almost similar scale to Nagaoka-kyō with 4.5 kilometers to east-west and 5.3 kilometers to north-south, being divided into two parts on a symmetrical axis of Suzaku-ōji. Each part was divided by square blocks of jō-bō system into nine jō (east-west zone) and four bō (north-south quarter). The palace area was located at the north end of the middle of capital with 1.2 kilometers to east-west and 14 kilometers to north-south. The palace area comprised Dai-dairi (Greater Imperial Palace), unified and not divided by any earthen wall. From the north
along the central axis, Daigoku-den, Chōdō-in and Suzaku-mon were built. West to Chōdō-in as ceremonial hall, Buraku-in (Court of Abundant Pleasures) was built as feast hall. The Dairi (Emperor’s Residential Compound) was placed on the north-eastern side of Daigoku-den. Later, Shishin-den (Purple Sanctum Hall) inside the imperial palace was used as ceremonial hall, and Seiryō-den (Limpid Cool Hall) as hall of daily administrations. Hence, the imperial palace was changed into the space of offices directly administrated by the emperor. Within the capital area only two temples were erected on both east and west sides of Rajo-mon, i.e. Tō-ji (east temple) and Sai-ji (west temple). They were possibly planned to solemnize the capital by excluding other temples from capital area. Heian-kyō was unwalled besides a small structure about 1.8 metres high as a setting for Rajo-mon.55

The Daigoku-den was the most magnificent building in the entire palace complex, a rising Chinese-style edifice of vermillion pillars, green roof tiles and dolphin-like fish roof finials. On the contrary, the Dairi maintained the tradition of Shinden-zukuri by plain woodwork, cypress-bark roof, etc.56

The U-kyō soon decayed as the land sloped down to south-west to remain vast damped and open space. As a result, Sa-kyō developed as urban city. During the late Heian period of cloister government, further eastern side across Kamo River was developed with Rikushō-ji (six temples founded by emperor’s wish) and the residential area of Heike clan in Rokuhara. Accordingly, the north-eastern part of Sa-kyō became a densely yet highly residential area. The Kyō-shiki was organized by several administrators, officers and soldiers to conduct public works for report and record, security and order, and infrastructures in difficulties for worsening circumstances.57 The population would vary from 70,000 to 150,000 with majority of bureaucrats and merchants. Around 5,000 to 10,000 people held titles in government.58
Heian-kyō had continued to be an imperial capital until Tokyo (former Edo) was placed as a new capital at the Meiji Restoration. It was regarded as the prototype of city in pre-modern Japan. In the tenth century A.D., ordinary roads were also called by peculiar names instead of numbering, house gates were opened to roads and commoners’ houses were built on roadsides. The capital was really transformed into the metropolis with residencial functions and conveniences.59

Ancient Urban Centres in India

In the pre-historic period, the urbanization was equal to the emergence of civilization mainly as cultural process. In the historical period, it was inseparable from the rise of dynasties mainly as political process.60 Attempt is made to trace the periodical progress through the first and second urbanizations, to analyze the stimuli for urbanization and the major features of early historic cities and to grasp the emerging cities and capitals of Magadha, mainly from archaeological remains.

First Urbanization in Mature Harappan Culture

Under a clear city plan with uniformity, two major Harappan sites, Mohenjo-daro and Harappā, were densely settled with main streets laid out at right angles and various straight lanes. The constructions in Mohenjo-daro were often large in size, clustered together in blocks with floors or flat roofs supported on heavy beams of timber. Every larger house was equipped with a well-paved courtyard, well, bathroom and privy. Another remarkable feature was the excellent drainage system for carrying off rain water, bath water and sewage from house to cesspits. Such monumental buildings as palace, temple and tomb have not been identified yet besides the Great Bath and the
Granary. The Great Bath in Mohenjo-daro was a magnificent construction with bitumen water-proofing between baked brick layers, integrated system of drainage, surrounded by cells on three sides and filled with water drawn from a special adjacent well.61

Major large cities were dominated by a separate Citadel complex, generally located on the west side, probably for defence and rituals.62 On the other hand, a grid town plan itself has not been recognized in almost all sites. Further, no baked brick has been unearthed at many sites besides Mohenjo-daro, the only site made of all baked bricks.63

The dominant principle and social structure of civilization have been revealed through archaeological evidences. Different size and locality of sites represent two types of city plan, i.e. Citadel and Lower Town separated mainly at the sites in central area and the both zones enclosed within a city wall mainly at the sites in peripheral area. Some sites in peripheral area were possibly colonized settlements with a particular production centre.64 Major sites are Harappā (rectangular Citadel west, the Great Granary north of citadel, four major mounds surrounded each by massive mud-brick wall, in total area of around 100 to 200 hetares), Mohenjo-daro (rectangular Citadel west including the Great Bath slightly north-central, the Granary west of the Great Bath and the Pillared Hall south-central, Lower Town east, about 100 hectares), Rakhigarhi (seven mounds each fortified by mud-brick wall veneered by burnt bricks, around 80 hectares), Ganweriwala (around 80 hectares), Dholavira (square outer fort and inner fort dividing into five blocks like Castle and Middle Town around 60 hectares), Kālibangan (rectangular Citadel west and Lower Town east each surrounded by wall), Lothal (square fort enclosing acropolis east-central and Dockyard) and Banāwalī (square-like fort divided by a half-circular-shaped wall plan on the south side, placing acropolis inside).65
Second Urbanization in Early Historic Period

A. Uesugi grasps the progress of urbanization in North India from archaeological stratifications. Namely, the village cultures after decline of Harappan culture (c. 1800 - 1000 B.C.), the activation of regional interchange (c. 1300 B.C. onwards), the introduction of iron implements (c. 1000 B.C.), the society of chieftainship and early kingship (c. 1000 - 600 B.C.), the formation of proto-urban settlements (c. 800 - 600 B.C.), the sixteen Mahājanapadas towards urban cities (c. 600 - 500 B.C) and the Maurya Empire at the stage of matured cities (317 B.C. onwards).66

Between the Harappan phase and the early historic phase, there was a gap of urbanization for about a millennium. The ritualistic culture was dominated by the Brāhmaṇas in the Vedic society. Urbanization took place with the state formations under the Kṣatriyas. The new religious movements by Buddhism and Jainism rejected the Brāhmaṇical rituals to attract urban dwellers among the Vaiśyas and the Śūdras. Yet the Brāhmaṇas maintained the highest ritualistic rank in varṇa system. Thus the early historic urbanization generated three types of cities, i.e. capitals ruled by the Kṣatriyas, commercial centres occupied by the Vaiśyas and sacred centres dominated for a time by Buddhists and Jains but later by the Brāhmaṇas.67

The urbanization in the early historical period (c. the eighth century B.C. - c. A.D. the third century) is defined as a movement governing regional economy and operating the balance between supply and demand in towns and villages through a common medium of exchange.68 The Achaemenian occupation in the North-West as the twentieth Satrapy may have served for stimulating the second urbanization on top of expanding agriculture over the Gaṅgā Plain and growing Mahājanapadas with iron implements.69

The Buddhist texts give a typology of cities in the period of Mahājanapadas, i.e. rājadhanīya nagara (large capital city), sthāniya nagara (capital of janapadas), kharvata...
nagara (focal point), kheta (smaller but located in hostile territory), putabhedana (large commercial centre specialized in wholesale trade), nigama (ordinary market centre), paṭṭana (coastal trading town), droofamukha (port city located at the mouth of river), centres of learning and religion, arts and crafts, etc.}

Excavations have revealed the fortified capitals of Mahājanapadas, e.g. Ahicchatra of North Pañcāla (rolling mounds), Mathurā of Matsya (crescent plan by mud wall), Ujjayinī of Avanti (pentagon-shaped plan by mud rampart and moat), Rajghāṭ (Vārāṇasī) of Kāśi (earthen embankment and wooden platform), Vaiśālī of Licchavis and Vṛjji (mud rampart), Campā of Aṅga (rampart wall and moat), etc.

The early formation of state was theorized by the elements of sovereignty in the Arthasastra, i.e. king, ministers, country, fort, treasury, army and friend, and enemy. Both states and cities emerged as part of a complex process.

F.R. Allchin suggests that the cities under the Maurya Empire may have been divided into five Provinces where princes resided as Provincial Governors besides Pāṭaliputra and Āparānta, i.e. Gangā Province (centred in Pāṭaliputra), North-Western Province (Takṣaśilā), Central Province (Ujjayinī), Southern Province (Suvarṇagiri (Maski)), Western Coastal Province (Āparānta) and Eastern Coastal Province (Toṣālī (Śiśupālgarh)). Further ministers were allotted in Kauśāmbi, Samāpā (Jaugada), Isila (Brahmagiri) and Mahāsthangarh. The sizes of several cities became larger than the ones of Harappan sites in the first urbanization, i.e. about 340 hectares of Pāṭaliputra; 240 to 181 hectares of Rājagṛha, Kauśāmbi and Vidiśā; 180 to 121 hectares of Ahicchatra, Śravasti, Toṣālī and Mahāsthangarh, etc.

The Dravidian phase of urbanization in the South started around the fifth century B.C. The trade between the Maurya Empire and Kāñchipuram and Madura grew in the third century B.C. A few port cities flourished in international trade with Arabs and later
Greeks and Romans mainly by such local products as steels, glass and stone beads, pearls and spices. Major kingdoms built two capital cities in coastal as well as inland areas to enhance sea trade and to defend central functions, i.e. Puhār and Uraiyur of the Colas, Korkai and Madura of the Pāṇḍyas, Musiri and Vanji (Karur) of the Ceras, Tonoḍaimaṇḍalam as inland capital of Kāṇṭi. Temples became centre points in cities. Streets extended from four gates (gopurams) of temple mostly used for commercial activities, linking inner city with peripheral and rural areas.74

**Stimuli for Urbanization**

Both puch-marked coins and cast copper coins have appeared at most sites in association with NBPW.75 M.C. Joshi suggests that the only decisive factor of urbanization was the emergence of coinage, in which punch-marked coins really reflected the beginning of urbanization.76 Similarly, some scholars emphasize that the early historic urbanization started in the third century B.C. at the late NBPW phase rather than the sixth century B.C. at the beginning of the NBPW.77 However, the third century B.C. may be positioned as the stage to activate urbanization by the advent of the Maurya Empire with well-organized state administration and mining operation, contacts with the West, Brāhmi scripts, more popular money economy by punch-marked coins, fortification system, terracotta ring-wells, etc.78

It has been widely admitted that the iron technology caused easier clearance of thick forests, expansion of cultivable land and finally vital surplus for urbanization in the Gaṅgā Plain. However, both ethnographic and archaeological evidences indicate that the introduction of iron could not bring any substantial social change and economic development, as seen in the Megalithic culture of the South.79 Land could be cleared by burning forests. Iron implements may have been useful to clear stumps of burnt trees.

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Even bronze, when properly alloyed with tin, became much harder than wrought iron. Iron became important due to its abundance and easy access also. Yet a large part of the Gaṅgā Plain remained forested as late as the Mughal period. The role of iron should not be overestimated but considered just as a major factor to lead to urbanization.

**Major Features of Early Historic Cities**

Archaeologically the features of urban centres are identified with unearthed structures and artifacts, i.e. the extensive area of settlement and the network of roads; the form of residential houses, drainage and sanitary devices, e.g. terracotta ring well, soakage jar and brick-laid drain; the existence of impressive non-residential, palatial or administrative building structures, e.g. the Mauryan Pillared Hall at Pātaliputra, stūpa, apsidal brick temple, granary and warehouse, and workshop; the defence structures by fortification, e.g. mud or brick-made embankment with watch tower, guard room, approaching stair, etc., stone-faced walls at Rājagrha and wooden upright walls at Pātaliputra; an impressive number of tools and implements used for various industries or products, e.g. iron implements, weights and beads of lapis-lazuli or coral; the evidence of writing on top of Aśokan inscriptions, e.g. inscribed seal, potsherd and casket; an impressive number of punch-marked coins and cast copper coins.

With the maturity of urbanization, a simple social structure became complicated, stratified and contrasted between the rich and the poor. This can be exemplified by potteries and beads. The crude Red Ware and Grey Ware represent commoners. The crude NBPW and incised and appliqued Red Ware represent middle classes. The deluxe PGW and NBPW represent elites. Terracotta beads relatively represent ornamental objects for the poor.

The fortifications may have served initially as political centres and soon attracted
merchants for security of wealth. They were constructed in the sixth century B.C. and restarted from the second century B.C. when the Maurya Empire broke up and local dynasties struggled.\textsuperscript{85}

The early Indian cities seem not to have remained any monumental religious edifice as main part probably due to buildings made of perishable material like timber.\textsuperscript{86} The Mauryan Pillared Hall excavated at Kumrahar in Patna (Pātaliputra) is an outstanding example of urban secular architecture and the first major free-standing stone masonry in India.\textsuperscript{87}

The burnt bricks appeared in the late NBPW period and became common in the second century B.C.\textsuperscript{88} The gradual development from mud wall through mud-brick wall to burnt-brick wall suggests social classification. Burnt-clay roof tiles were fixed by nails with wooden or bamboo rafter. Bath room or bathing platform was made of burnt-brick structure and drain. Central courtyard was brick-laid or rammed with brickbats. Verandah and galleries were attached. The plan of housing complex can be categorized into three types besides bigger types for elites.\textsuperscript{89}

Various structures for storage devices have been excavated, i.e. wedge-shaped barn structure, shallow pits with terracotta rings, big trough buried in a pit, granaries divided into three cells, a series of small brick tanks and underground granaries.\textsuperscript{90}

The drainage was settled with \textit{kucca} drains, burnt-bricks or terracotta drain pipes. The wooden drains have been unearthed at Bulandibagh in Patna.\textsuperscript{91} Terracotta ring-wells first appeared around the sixth centuries B.C., used as pit-latrines, soak-pits, refuse-pits, draw-wells and granaries.\textsuperscript{92} They may be the only noticeable feature to identify a town archaeologically.\textsuperscript{93}

Notable early historical sites are Bhir Mound of Taxila (Takṣaśilā) (regular grid pattern of main streets), Sirkap of Taxila (fully planned and fortified city with central
avenue, Citadel south-west, palaces south and north-central, and monasteries and temple south-east and north-east), Hastināpura (street drain), Ahicchatra (fortified in equilateral triangle plan), Atranjikhera (significant iron tools), Sānkāśya (circular rampart), Kausāmbi (fortified by massive mud-rampart in regular rectangular plan with gateways and stone-built palace), Bhita (roughly square rampart), Śrāvastī (crescent-shaped rampart), Pātaliputra (east-west-long rectangular zone surrounded by the Gaṅgā and moats), Old Rājagrha (surrounded by outer fort and boot-shaped inner fort), New Rājagrha (surrounded by inner and outer forts), Mahāśāṅgarh (fortified in nearly square plan), Tāmralipti (brick-built stepped tank), Candraketugarh (rampart wall), Toṣāli (well-planned city in right square plan with grid pattern surrounded by massive clay rampart with two gates on each side), Ujjainī (north-south-long rhombus-shaped fort), Tripuri (rampart wall), Pratiṣṭhāna (palace), Nāgārjunakoṇḍa (north-south-long rectangular Citadel, stadium-like construction and temples outside Citadel), Amarāvatī (stupa), Banavāsi (huge brick fortification), Arikamedu (warehouse), Kāveripāṭṭinaṁ (brick-made wharf and water reservoir), etc.\(^9^4\)

Types of Early Historic Cities

Early historic cities linked with trade routes, political units, religious centres, etc., creating a large network of communication lines. Major cities selected among numerous archaeological sites are broadly categorized as below, though they developed more or less multiple functions of urban centre.

1. Capital or administrative centre: Toṣāli (Śiśupālgarh) and Samāpā (Jaugada) in Orissa; Campā, Rājagrha, Pātaliputra and Vaiśālī in Bihār; Maheth (Śrāvastī), Kapilavastu (Piprahwa-Ganwaria), Kausāmbi, Kānyakubja (Kanauj), Ahicchatra, Ayodhyā, Hastināpura, Indrapraṣṭha, Kāmpilya, Sānkāśya, Vailāṇja (presumably

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Atranjikhera), Kāśīpura, Vārāņasī and Mathurā in Uttar Pradesh; Harsh-ka-Qila (Thāneśwar) in Haryana; Śākala (Sialkot) in western Punjāb; Akra Dheri and Takṣaśīlā (Taxila) in the North-West; Viratanagara ( Bairāṭ ), Sakambhari ( Sambhar ) and Madhyamika ( Nāgarī ) in Rājasthān; Vidiśā and Ujjayinī in Madhya Pradesh; Kauṇḍinyapura and Pratiṣṭhāna ( Paithan ) in Mahārāṣṭra; Sannaṭī, Isila ( Brahmagiri ) and Talakāḍ in Kārnāṭaka; Vijayapura ( Nāgārjunakoṇḍa ) and Dantapura ( Dantavakrtrunikota ) in Āndhra; Tirvanjikulam ( Vanji ) in Keralā; Uraiyyur and Kāṅchipuram in Tamil Nādu.

2. Trade centre or port: Puṇḍranagara ( Mahāśthāngarh in Bangladesh), Candraketugarh and Tāmralipi ( Tamluk ) in Bengal; Vicchigrama ( Bhiita ) and Manikpur in Uttar Pradesh; Agrodaka ( Agroha ) in Haryana; Srughna ( Sūgh ), Sunetra ( Sunet ), Sanghol and Ropar in Punjāb; Puṣkalāvati ( Chārsada ) in the North-West; Bharukaccha ( Barygaza ) in Gujerāṭ; Nāsikya ( Nāsik ), Śūrprāraka ( Sopārā ), Tagara ( Ter ), Karaviṇapura ( Brahmapuri ) and Kalyāṇa in Mahārāṣṭra; Vaijayanātipura ( Banavāsi ) in Kārnāṭaka; Musiris ( Paṭṭinam ) in Keralā; Korkai, Kāveripatīṇam ( Pūmpuhār ) and Podouke ( Arikamedu ) in Tamil Nādu.

3. Religious and pilgrimage centre: Rājghaṭ, Prayāga, Mathurā, and Saheth ( Śrāvasti ) in Uttar Pradesh; Dwārakā and Prabhāspattan ( Somnāth ) in Gujerāṭ; and Dhānayakatāka ( Amarāvatī ) in Āndhra.

4. Takṣaśīlā was also well-known for learning centre inclusive of medicine.5

However, by and large there is a lack of horizontal excavations except Shahi Khan Dheri of Chārsada, Taxila, Bhiita and Nāgārjunakoṇḍa. Those four sites are outlined as below, together with Śiśupālgar which has preserved well-planned city walls, probably associated with the fortified city plan of the Arthasaśtra.
Shahi Khan Dheri

The site is one of four major mounds of Chârsada (Puškalâvatî) spread over 64 square kilometers in total. The city is said to have been founded by Menander and continued till the reign of Vâsudeva of the Kušâṇas from the middle of the second century B.C. to the close of the second or the middle of the third century A.D. It declined with the growth of Puruṣapura but maintained its share in trade from Kâbul, Kâšmir and sub-Hindû Kush to Barygaza. The city plan is rectangular and grid patterned with a temple located in the centre, three parallel streets, side streets crossing at right angle, etc.  

Taxila (Taḵšašilâ)

The site holds three historic cities, i.e. Bhîr Mound (c. 425 B.C. to the first century A.D), Sîrkap (c. 190 B.C. to A.D. 150) and Sîrsukh (A.D. 80 onwards). Bhîr Mound covers an area of about 1.1 by 0.6 kilometers. Houses were built of stone rubbles and less regular. The building of pillared hall has been recently identified as a wealthy Greek residence rather than the earliest Brâhmanical temple. Sîrkap, located north-east of Bhîr Mound, had four periods under the pre-Greeks, the Bactria-Greeks, the Śakas and Parthians, and the Kušâṇas. The Hippodamian city plan is irregular but fully grid-patterned with stone walls extending 4.8 kilometers, gateways, inner defence for Citadel and Upper City. Two main streets extend to the north-south and about thirteen narrow streets to the east-west cross at right angle in Lower City. Notable structures are the royal residence and monasteries in Upper City, and another palace with court of public audience, ladies’ quarter, etc., two temples (one of apsidal plan), several stûpas and large houses with courtyards in Lower City. Selection of the site reflects the Seleucid tradition especially for its location on the river bank and the backing for hills. The fortifications have many points common with other Hellenic cities like Kâpiśá. The plans of two palaces were borrowed from Graeco-Babylonian types of palaces as adopted by the Parthians. The
Hellenistic influence became limited to certain architectural details and decorative motif in the course of time. Several shrines and monasteries like at Jandial and Mohra Moradu are located nearby outside the city. Sirsukh, north-east of Sirkap, was constructed by the Kuśāṇas as the third city, surrounded by masonry rampart wall with bastions. Inside two open courts with attached chambers have been excavated.97

Bhita (Vicchigrama)
The site is located south-west of Allāhābād near the right bank of the Yamunā, covering the periods from NBPW up to the Gupta age. The extensive mounds probably with fortification are of roughly square plan with nearly a half kilometer on each side. The regular lines of streets and houses go back to the Mauryan period. Excavation has revealed two major streets, so-called High Street and Bastion Street, large houses in square plan with 15 rooms at maximum and a large courtyard arranged on three sides, paved with bricks and roofed with terracotta tiles.98

Nāgarjunakonda (Vijayapura)
The site is located on the right bank of River Krishna. It was the capital city of the Ikṣväkus from the third to fourth centuries A.D. The Citadel, facing to the river on the west side, has nearly an oblong plan with about 600 by 800 metres, enclosed by ramparts with two gates and moats outside. The most notable structure excavated inside Citadel is the bathing establishment attached to a palace complex, with a square stepped tank and a tortoise-shaped tank with underground drains, wells and rooms. Outside Citadel, various structural remains have been unearthed. Namely, the residential houses follow a linear pattern, constructed along broad roads intercepted by crossroads and by-lanes. They are made of brick with flat roof of slabs or of rubble with tiled roof. The house plan consists of rooms with a common verandah. The unique brick-built structure is the Roman-type Amphitheatre with tiered gallery on all four sides. Other
remains are bathing and burning ghāts, public assembly hall, places for recreation, rest-houses with flat-roofed pillared halls, public baths, masonry tanks, canals, etc. Nine Brāhmaṇical temples have been excavated. Remarkable is the stepped masonry tank with a pavilion close to a group of temples. More than thirty Buddhist establishments have been revealed. The Mahā-caitya stūpa has a wheel-shaped plan with about 275 meters in diameter. Architecturally some Buddhist monasteries adopted the apsidal shrine, most probably inspired by the Gandhāra form, and further developed the most elaborate complex, i.e. stūpa erected on square platform, two apsidal shrines, quadrangular monastery enclosing a pillared hall, miniature stūpas, etc. Also the stūpa architecture was uniquely transformed, i.e. a high cylindrical drum encased with sculptured slabs, enshrined in chaitya-grha, and a wheel-shaped plan with spokes; and the āyaka platforms at four cardinal directions each surmounted by five pillars.

Śiśupālgarh (Toṣāli)

The site is located south-east of Bhubaneswar in the Mahānadī Delta, covering the periods from c. 500 B.C. to A.D. 200. It is said to have been the capital of King Śiśupāla Kesari, and became one of provincial headquarters of the Maurya Empire. Kharavela of the Cedis extended a water channel to the city in the latter half of the first century B.C. The site is under a square plan with about 1.1 kilometers on each side or 130 hectares closely to the due north, surrounded by a massive rampart and moat. Two gateways on each wall have revealed elaborate structures of massive blocks of local laterite.

Cities of Magadha

The Attamahāthanāni, the eight sacred places in the Buddhist order, are Lumbinī where the Buddha was born, Bodh Gayā where he attained enlightenment, Sārnāth where he preached the first sermon, Kuśinagara where he entered into mahāparinirvāṇa, Śrāvastī
where he displayed miraculous power, Sānkāśya where he descended from the Trayastrīṃśa heaven, Rājagrha where he tamed an infuriated elephant and Vaiśālī where he was offered a bowl of honey by monkeys. They were mostly typical cities flourishing during the time of the Buddha and later became major places for pilgrimage, as suggested by the Buddha himself, with temples, vihāras, stūpas, Asokan pillars, etc. Particularly in Magadha centred in the North, Rājagrha and Pātaliputra as capitals and Nālandā as academic centre may provide the true nature of urban network through political, economic and cultural interactions with neighboring towns and centres.

Rājagrha

The valley around Rājagrha was enclosed by hills and two passes served as gate on north and south sides. Rājagrha had been a capital of Magadha till the fifth century B.C. It had the immediate source of iron at its disposal from Dharwar outcrop. It was also located along a main route to Dhalbhum and Singhbhum Districts, the heaviest deposits of iron and copper in India.

Buddhaghosa says that there were two portions of the city, inner and outer city walls and 32 large gates and 64 smaller gates. Rājagrha was a favourite resort for the Buddha, particularly at the Vulture’s Peak, as well as Mahāvīra. The first Buddhist council was held at a place in front of the Saptaparnī cave. Bimbisāra ruled over Magadha from Old Rājagrha. Ajātaśatru founded New Rājagrha outside hills in the late fifth century B.C. Even after the capital transfer to Pātaliputra, Rājagrha continued to prosper in association with the origins of Buddhism and Jainism.

At Old Rājagrha, a stone compound-wall containing a cylindrical brick structure and low brick altars (probably shrine of Maṇi-nāga cult), elliptical structures (probably monasteries), brick stūpas, etc. were uncovered. Outer walls extend over about 40 to 48 kilometers along the crest of hills. Faces of walls are built of massive stones.
Bastions are attached to the outside of wall. Inner city wall had a circuit of nearly seven kilometers under roughly pentagonal plan. On the other side of the east gate, there is a deep moat. New Rājagrha is located outside the north gate of valley. The occupation had continued till the first century A.D. The site is surrounded by a massive earthen wall in irregular pentagon shape with a circuit of almost five kilometers. Excavation has revealed granary-like buildings made of earthen rings and well. Other remains are stūpas, tank, vihāra, temples, stone house, etc. The south-western corner of enclosed area was cut off by a stone wall with bastions, built over rampart, to form Citadel.

Pātaliputra

Initially, traders had to pay tolls twice for Magadha and Licchavis at river-crossing of the Gaṅgā. Action was taken by the foundation of Pātaliputra. As it was at a junction of land route with river, a complete blockade was set up. The place was fortified by Ajātaśatru in the first half of the fifth century B.C. Udayin transferred a capital there from Rājagrha. The city had maintained its importance till the sixth century A.D. It was about 14.5 kilometers in length and 24 kilometers in breadth, shaped like parallelogram and surrounded by a wooden wall with 570 towers and 64 gates and a ditch. Excavations have revealed remains of wooden beams arranged in double rows and wooden drains, and the ruined brick walls dated to the eighth century A.D.

At Bulandibagh, abundant timbers were used to raise a core of defence wall. The elaborate devices ensured to military defence as well as flood protection. Excavations have revealed the remarkable wooden structure consisting of two parallel walls of wooden uprights and floor composed of long square timbers. The site may be identified with the timber palisade of Megasthenes. Further extension of palisade was found at Kankarbagh and Gosainkhanda. These excavated wooden remains formed probably an inner core of earthen wall. Entire city seems to have well connected with an
extensive network of timber-made drains with side planks.\textsuperscript{112}

The pillared hall at Kumrahar was constructed by digging 80 foundation pits. The pillars were erected on timber platforms. A thick layer of burnt material and wood ash suggests that the stone pillars supported a massive timber superstructure or roof.\textsuperscript{113}

Judging from its location at the southern outskirts of Patna, it may have been presumably an assembly hall of the third Buddhist Council patronized by Asoka rather than a durbar hall of Candragupta Maurya.\textsuperscript{114}

\textbf{Nālandā}

Nālandā is located 11 kilometers north-east of Rājgir and 85 kilometers south-east of Patna. Excavations have revealed monuments and artifacts mostly during the Pālas from the eighth century A.D. Temples and monasteries were located in two parallel rows. Temple No. 3 is the tallest monument of Nālandā, with seven accumulations, façade on the fifth stage ornamented with Buddhist stucco images of the Gupta style.\textsuperscript{115}

The learning and monastic foundation was laid down in the early fifth century A.D. Nālandā enjoyed the continuous patronage from the Guptas, Hārsa-vardhana, the Pālas, the Cāhamānas, the Gāhaḍavālas, the Senas and the Gurjara-Pratīhāras.\textsuperscript{116} However, Nālandā was destroyed by the Muslims around A.D. 1205.\textsuperscript{117}

Various unearthed seals show that Nālandā was also a major trade and administrative centre.\textsuperscript{118} At the visit of Yuan Chwang about 10,000 monks studied at Nālandā. Courses of study were varied as Buddhist and Brāhmanical, sacred and secular, philosophical and practical, science and arts, etc.\textsuperscript{119} After passing through all the phases of Mahāyāna, Nālandā became the great centre of Tāntric studies. Tāntrism not only furthered the knowledge of theology but also helped the rise of new school of art. Yuan Chwang and I-ting from China, and Āryavarmā and Hwui Yieh from Korea came to study there. Several Nālandā scholars settled down in foreign countries, e.g. Kumārajīva,
Paramärtha, Šubhakara Śīrha and Dharmadeva all in China.\textsuperscript{120}

The Nālandā School of art, or the Pāla art, produced various images and sculptures in stone, bronze and mural paintings, e.g. the image of Avalokiteśvara at Caitya No. 12, the 24-metre-tall copper image installed by Pūrṇavarman according to an inscription dated to the seventh or eighth century A.D., the polychrome mural paintings at temple remains of Sarai Mound in the tenth and eleventh centuries A.D., and a large number of manuscripts on palm-leaves illustrated with Buddhist images. The Pāla art extended to Tibet, Southeast Asia and China.\textsuperscript{121} The Brāhmaṇical deities, unearthed at site No. 2, point to the existence of Brāhmaṇical temples. The ruins of a temple behind site Nos. 7 and 8 hold a sanctum with a pillared hall in the ninth century A.D. The most interesting feature of excavated plinth is its dado consisting of 211 sculptured panels with relevant themes mostly from Hindu mythology.\textsuperscript{122} The copper-plate inscription of Devapāladeva in the ninth century A.D. refers to a vihāra established in Nālandā by Bālaputradeva of the Śailendra Dynasty of Java.\textsuperscript{123}

The second phase of urbanization in the early historic period shows a large growth and spread of civilization over the subcontinent through the process of state formation, unification by the Maurya Empire and rise of regional dynasties. Accordingly, various cities remarkably grew with regional features in accordance with political and economic movements. This phenomenon has been evidenced by the archaeological remains of settlement sites spread over the subcontinent. However, the difficulty of systematic analysis of urban centres with city plan, function and areal network has still lain in the limited cases of horizontal excavations of major sites. Yet, they have provided valuable information about city plan, structures and buildings to examine city function and features, on top of several cities in Magadha suggesting useful hints for urban network.
Urban Centres from Gupta Period Onwards

The urban decay from the Gupta or post-Gupta period has been a controversial issue. M.K. Dhavalikar suggests “the second deurbanization” in the North particularly in the upper Gaṅgā Plain after the third century A.D. from the archaeological evidences of sites. R.S. Sharma also points out the decline in urban settlements in Mahārāṣṭra, Āndhra and Tamil Nādu after the Sātavāhana phase. The urban decline may have been caused by several changes of natural, political, economic and social circumstances, i.e. repeated natural calamities, decline of empires, rise of feudalism, decrease of royal support for crafts and industries, etc. However, M.C. Joshi objects to the general decline of urban centres as towns continued to survive even after the Gupta period. R. Thapar also opines that the decline of towns was not a subcontinental phenomenon and the reasons for decline varied. During the visit of Fa-hien in the early fifth century A.D., Sāṅkāśya and Magadha showed high prosperities. The Mandāsor Inscription dated to A.D. 437-8 and 473-4 describes Daśapura (Mandāsor) as “an abundantly prosperous town” where a guild of silk-weavers migrated from Gujarāt. However, at the time of Yuan Chwang in the seventh century A.D., Gandhāra, Śrāvasti, Kapilavastu, Rāmagrāma and Kuśinagara lay deserted. The post-Gupta economy showed two simultaneous trends, i.e. the prosperity at a few ports and capitals like Pāṭaliputra, and the decline of greater cities in general. The decline of Sino-Indian trade in the seventh century A.D. was possibly one of main factors to cause the urban decay in India. Hūnas destroyed or damaged major cities like Takṣaśilā, Kauśāṃbi and Pāṭaliputra. However, later Rājput kings established numerous towns in the West. Brāhmanical kingdoms emerged and their capitals prospered in the South. Thus the rise and decline of urban centres show regional variations along political and economic movements. The third phase of urbanization, as termed by B.D. Chattopadhyaya, may
have appeared in the eleventh century A.D. through formation of new networks of exchange, new phase of money circulation and trade guilds. Major cities around the eleventh century A.D. were Dhillikā, Mathurā, Kanauj, Prayāga, Vārāṇasī, Tamluk, Ujjain, Broach, Añahilapattana, Mālkhed, Kalyāṇi, Wārangal, Kāñchipuram, Tanjore, Madura, etc.

**Progress of Urban Planning and Infrastructure**

In ancient capitals of Japan, non-fortification wall was the most remarkable difference from Indian cities. Only respective areas and buildings at imperial palace were surrounded by fences and ditches. Since the capitals were located in relatively narrow basins, they may have depended on the natural surroundings for defence, i.e. mountains, rivers and ponds. Further, the capitals aimed at more openness to neighboring regions as the metropolises for anyone to come and go freely. Ultimately, non-fortification wall in the capital may symbolize a peculiar characteristic of Japanese sovereign system under the *Ten-no* with spiritual authority rather than military power. Hence, ideologically and architecturally the imperial palace may have been constructed just as the Shintō shrine built under natural surroundings through coexistence with the whole creation.

However, as an exceptional case, Empress Saimei attempted to erect a new palace on a mountain close to Asuka with a construction of stone fence. This project may have been planned in order to consolidate a defence facility against the growing fear of invasion from T’ang China. However, behind her preference of large construction, there seems to have been some heterogeneous ideas against Buddhism, e.g. Taoism, Zoroastrianism and Mithraism, as different kinds of remains have been unearthed in Asuka, e.g. rich water facilities with pond and ditch and stone constructions and
monuments.

Later, during the medieval period of Warring States, each lord constructed a castle-fort at the top of mountain or on a high stone mound surrounded by moats to strengthen defensive ability. Yet the lower town surrounding castle was not fortified but kept open to activate free market.

Another difference in the concept of city plan is that the shrine as religious authority was centred in Indian city whereas the palace as secular power was centred, or located on the north-central side, in Japanese capitals in accordance with the concept of Chinese capital. However, considering the religious character of the Ten-nō as mediator of Shintō gods, the imperial palace in Japan may have appealed more spiritual dignity so that ideologically the capital plan in ancient Japan can be regarded as intermediate position between India and China.

**Interaction with Religious and Cultural Centres**

In and around ancient capitals of Japan, Buddhist temples played a dominant role as religious and cultural centres to introduce exotic notions, knowledges and arts. In Asuka period, the Ikaruga area, holding a palace of Prince Shōtoku and Hōryū-ji, became a religious-cum-scholarly centre in close connection with Asuka-kyō. Further, temples supported welfare works for the sake of the Buddha’s compassion and salvation by setting up remedy centres and medical hospitals in their precincts, like Shitennō-ji patronized by Prince Shōtoku and Kōfuku-ji by Empress Kōmyō. In Heijō-kyō, Tōdai-ji reached the peak of Nara Buddhism as principal temple for state protection, where the theoretical studies about the Six Sects of Southern Capital were advanced. Few priests like Gyōki took direct steps to spread Buddhism among the populace and supported
social welfares through public works. In Heian-kyō, esoteric Buddhism was introduced and prospered under the imperial patronage, i.e. Tendai sect at Enryaku-ji of Mt. Hiei, north-east of capital, and Shingon sect at Tō-ji inside capital, where Kūkai founded a school named Shugei-shuchi-in to popularize commoners’ education. However, the placement of Buddhist temples in the capital was carefully selected and limited to avoid the interference to political affairs, not allocated in the centre of capital. Yet the government was sometimes involved in political conflicts by Buddhist monks, e.g. Dōkyō who attempted the enthronement of Ten-nō in the late Nara period, and Sō-hei (armed monks) who repeated violent demonstrations in the capital in the late Heian period. On the other hand, Shintō, though the shrine itself was allotted outside the capital, was incorporated with state-level ceremonies conducted by the Ten-nō as well as prayers and customs among capital dwellers.

In urban sites of ancient India, several monuments and buildings have been excavated. However, of their roles and functions in cities and interlinks among neighboring towns and villages, more collective verifications are required together with literary sources. Nālandā, Bodh Gaya and Vaiśāli in Magadha region may possibly provide adequate data on the contribution of religio-cultural centres to capital cities, Rājagṛha and Pātaliputra. A similar interaction may have been expected between Takṣaśilā and Puruṣapura during the Kuśāṇa period.

Although the Arthasaśtra in the concept of city plan places shrines in the centre, in reality the royal patronage to a certain religious sect changed from time to time according to a king’s personal devotion rather than an authorized state religion. Moreover, the political history of India repeated unity and disintegration. Accordingly, each religious authority of temple probably adopted a neutral and unbiassed stance from the political power in the capital, though several Brāhmaṇas were engaged in ministers.
etc. Further, a variety of urban centres causes the difficulties to converge into a common pattern of capital cities in ancient India. The full-fledged capital with synthesis may have been realized by the foundation of the Mughal Empire, a politico-religious sovereignty of Islam in its principle.

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