



**SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

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**SCHOOL OF BUILDING AND ENVIRONMENT**

**DEPARTMENT OF ARCHITECTURE**

## **UNIT – I - EARLY MIDDLE AGE – SARA1301**

SARA1301	HISTORY CULTURE AND BUILT ENVIRONMENT -III	L	T	P	Credits	Total Marks
		2	0	0	2	100

**COURSE OBJECTIVES:**

- To comprehend the role of tangible and intangible parameters in determining the architectural expressions in diverse contexts of Dravidian architecture.
- To impart knowledge about the development of architecture from early middle age to late middle age.
- To explore the construction techniques adopted in Western and Indian context.

**UNIT 1 EARLY MIDDLE AGE****8 Hrs.**

Spread of Christianity - the evolution of early Christian Church form from the Roman basilica- Contribution of Byzantine architecture in the development of structural system with relevant examples-Evolution of artisanal craft and structural principal of Romanesque period- Medieval Monasteries - Influences & architectural character of Romanesque churches in Italy (Pisa complex), France (Abbey Aux Hommes) & Durham cathedral.

**UNIT 2 MIDDLE AGE: DRAVIDIAN ARCHITECTURE****8 Hrs.**

Evolution of Hindu Temple-fractals in temples - Early shrines of the Gupta and Chalukyan periods - Sangam Era keezadi-Tigawa temple, Ladh Khan temple and Durga temple - Development of Dravidian style and importance of the rulers, life and culture: Pallava style five Rathas, temple at Mahabalipuram: Chola style with temple examples: Evolution of Gopuram & temple complexes - Example of Pandyan style - Influence of Nayaks.

**UNIT 3 MIDDLE AGE: NAGARA ARCHITECTURE****4 Hrs.**

Classification of Indo-Aryan temples, examples of Orissa style - Lingaraja temple at Bhuvaneshwar & Sun temple at Konarak, Example of Gujarat style - Surya temple at Modhera, Madhyapradesh - Dilwara temple, Mt. Abu.

**UNIT 4 LATE MIDDLE AGE****6 Hrs.**

Political and social changes- Re-Emergence of the city - Crusades - Scholasticism-Development of Gothic Architecture in France, evolution of Gothic cathedral & structural system using vaulting & flying buttress, the example of Notre Dame cathedral at Paris. Gothic Architecture in Italy & the example of Milan cathedral. Development of English Gothic vaulting & the example of Westminster Abbey at London - wooden roofed churches.

**UNIT 5 CONSTRUCTIVE ASSIGNMENTS****4 Hrs.**

Map the role of tangible and intangible factors that shaped the architecture from early to late middle age. Sketches / models of different ages- built forms, columns, details and architectural developments. Comparative studies of Dravidian architecture and Indo-Aryan architecture.

**Max. 30 Hours****How did the spread of Christianity take place in Rome?**

Over time, the Christian church and faith grew more organized. In 313 AD, the Emperor Constantine issued the Edict of Milan, which accepted Christianity: 10 years later, it had become the official religion of the Roman Empire. The Christians were fighting the Romans against persecution and abuse, they also converted Romans to Christianity and Constantine was converted and stopped the violence. Although it is often claimed that Christians were persecuted for their refusal to worship the emperor, general dislike for Christians likely arose from their refusal to worship the gods or take part in sacrifice, which was expected of those living in the Roman Empire.

**The evolution of early christian church from Roman basilica:**

When Constantine became the patron of Christianity, he wanted to construct churches. Note how this motivation is like earlier Roman Emperors who also gave physical testament to their power and piety by constructing temples. Clearly the forms of the pre-Constantinian Christian buildings like the Dura-Europos Christian meeting house were inappropriate considering the new status of Christianity:



The traditional Roman temple type, as exemplified here by the Maison Carrée constructed during the reign of Augustus, was clearly inappropriate considering the association with Pagan cults:

Note that there is also a significant difference between the function of the Pagan temple and a Christian context. In Pagan practices the sacrifices and ceremonies generally occurred on the exterior. The temple served as the house of the cult. The cult statue and treasury could be housed there. The temple was a backdrop for the sacrifices. This exterior orientation of the Pagan temple reflects the openness and inclusive nature of Pagan religious practices. But Christianity was by definition a mystery religion, and thus needed to have a clear separation between the faithful and the unfaithful. This would lead to a significant reorientation of religious architecture from an architecture of the exterior to an architecture of the interior.

Constantine and his Church planners also needed an architecture that had meaning in the Roman world. Totally new architectural forms would not be as effective as architectural forms that carried meaning. This led to the use of a category of Roman building known as the Basilica. Roman basilicas served places for public gatherings: law courts, financial centers, army drill halls, reception rooms in imperial palaces. Roman cities would regularly have a Basilica as a central public building. It was, like our City Hall, a center of public power. These basilicas regularly had an architectural form we call an apse. The apse was a semi-circular projection usually off the short wall of the rectangular building. The apse was the site of the law court. It would be here that the magistrate would dispense the law. Adjacent to the seat of the magistrate would regularly appear the image of the Emperor. This clearly symbolized the translation of legal authority from the Emperor to the Magistrate. A miniature showing the judgement of Pilate from a sixth century manuscript called the Rossano Gospels is useful to examine here:

Note how the miniaturist has apparently suggested the apse context of this scene by enframing it within a semicircle. Pilate as magistrate is placed in the center and on either side of him appear imperial representations. For anyone brought up in the Roman world, the apse clearly carried with it connotations of imperial legal power.

The Basilica Ulpia constructed under Trajan at the beginning of the second century as part of his Forum in Rome is a good example of a civic basilica:

Basilicas were also adapted to function as audience halls as part of palace complexes. A good example of this is presented by the Palace Basilica of Constantine in the northern German town of Trier:

Although more recently converted to the function as a Christian church, this building was clearly designed as an imperial audience hall. Imagine coming into the presence of Constantine in this space, or imagine a grand entrance of Constantine into this space. Relate it to the texts included on the page entitled Imperial Panegyrics.

It was clearly this form that became the basis of the so-called Early Christian basilicas. Possibly within a month of Constantine's defeat of Maxentius at the battle of the Milvian Bridge, work began on the church which would be the official seat of the Bishop of Rome, St. John in the Lateran. The church was built on the site previously occupied by the barracks of his former rival. Adjoining the church was the Sessorian Palace, Constantine's Roman residence. This location clearly speaks of the control Constantine intended to have over the church. The church was 333 1/3 Roman feet long, thus longer than a football field. This size alone suggests the dramatic transformation Christianity underwent when it fell under Imperial patronage. 1) Propylaeum- the entrance building of a sacred precinct, whether church or imperial palace.

2) Atrium- in early Christian, Byzantine, and medieval architecture, the forecourt of a church; as a rule enveloped by four colonnaded porticoes.

3) Narthex- the entrance hall or porch preceding the nave of a church.

4) Nave- the great central space in a church. In longitudinal churches, it extends from the entrance to the apse (or only to the crossing if the church has one) and is usually flanked by side aisles.

5) Side Aisle- one of the corridors running parallel to the nave of a church and separated from it by an arcade or colonnade.

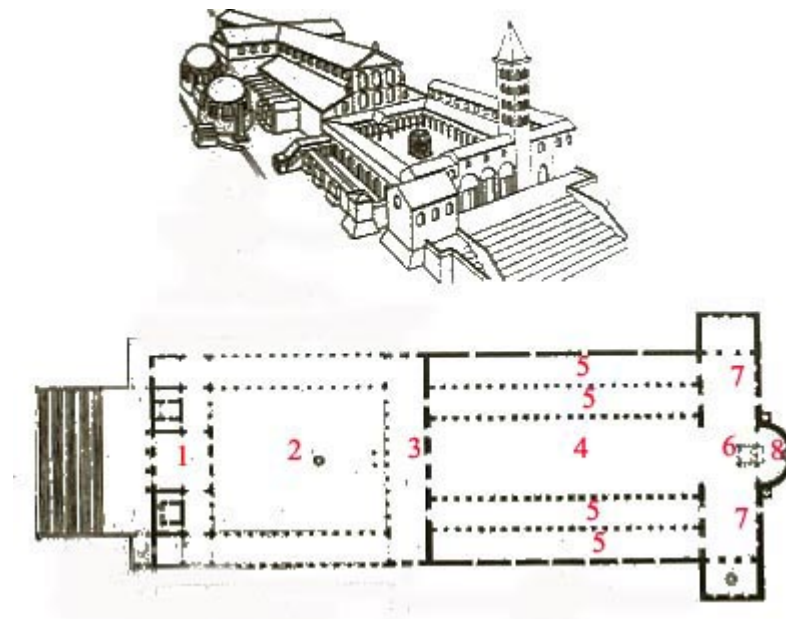
6) Crossing- the area in a church where the transept and the nave intersect.

7) Transept- in a cruciform church, the whole arm is set at right angles to the nave. Note that the transept appears infrequently in Early Christian churches. Old St. Peter's is one of the few examples of a basilica with a transept from this period. The transept would not become a standard component of the Christian church until the Carolingian period.

8) Apse- a recess, sometimes rectangular but usually semicircular, in the wall at the end of a Roman basilica or Christian church. The apse in the Roman basilica frequently contained an image of the Emperor and was where the magistrate dispensed laws. In the Early Christian basilica, the apses contained the "cathedra" or throne of the bishop and the altar.

9) Nave elevation- term which refers to the division of the nave wall into various levels. In the Early Christian basilica the nave elevation usually is composed of a nave colonnade or arcade and clerestory.

10) Clerestory- a clear story, i.e. a row of windows in the upper part of a wall. In churches, the clerestory windows above the roofs of the side aisles permit direct illumination of the nave.



By the beginning of the fourth century Christianity was a growing mystery religion in the cities of the Roman world. It was attracting converts from different social levels. Christian theology and art was enriched through the cultural interaction with the Greco-Roman world. But Christianity would be radically transformed through the actions of a single man. Rome becomes Christian and Constantine builds churches

In 312, the Emperor Constantine defeated his principal rival Maxentius at the Battle of the Milvian Bridge. Accounts of the battle describe how Constantine saw a sign in the heavens portending his victory. Eusebius, Constantine's principal biographer, describes the sign as the Chi Rho, the first two letters in the Greek spelling of the name Christos.

Colossus of Constantine, c. 312-15 (Palazzo dei Conservatori, Musei Capitolini, Rome)

After that victory Constantine became the principal patron of Christianity. In 313 he issued the Edict of Milan which granted religious toleration. Although Christianity would not become the official religion of Rome until the end of the fourth century, Constantine's imperial sanction of Christianity transformed its status and nature. Neither imperial Rome or Christianity would be the same after this moment. Rome would become Christian, and Christianity would take on the aura of imperial Rome.

The transformation of Christianity is dramatically evident in a comparison between the architecture of the pre-Constantinian church and that of the Constantinian and post-Constantinian church. During the pre-Constantinian period, there was not much that

distinguished the Christian churches from typical domestic architecture. A striking example of this is presented by a Christian community house, from the Syrian town of Dura-Europos. Here a typical home has been adapted to the needs of the congregation. A wall was taken down to combine two rooms: this was undoubtedly the room for services. It is significant that the most elaborate aspect of the house is the room designed as a baptistry. This reflects the importance of the sacrament of Baptism to initiate new members into the mysteries of the faith. Otherwise this building would not stand out from the other houses. This domestic architecture obviously would not meet the needs of Constantine's architects.

Emperors for centuries had been responsible for the construction of temples throughout the Roman Empire. We have already observed the role of the public cults in defining one's civic identity, and Emperors understood the construction of temples as testament to their pietas, or respect for the customary religious practices and traditions. So it was natural for Constantine to want to construct edifices in honor of Christianity. He built churches in Rome including the Church of St. Peter, he built churches in the Holy Land, most notably the Church of the Nativity in Bethlehem and the Church of the Holy Sepulcher in Jerusalem, and he built churches in his newly-constructed capital of Constantinople.

The basilica

In creating these churches, Constantine and his architects confronted a major challenge: what should be the physical form of the church? Clearly the traditional form of the Roman temple would be inappropriate both from associations with pagan cults but also from the difference in function. Temples served as treasuries and dwellings for the cult; sacrifices occurred on outdoor altars with the temple as a backdrop. This meant that Roman temple architecture was largely an architecture of the exterior. Since Christianity was a mystery religion that demanded initiation to participate in religious practices, Christian architecture put greater emphasis on the interior. The Christian churches needed large interior spaces to house the growing congregations and to mark the clear separation of the faithful from the unfaithful. At the same time, the new Christian churches needed to be visually meaningful. The buildings needed to convey the new authority of Christianity. These factors were instrumental in the formulation during the Constantinian period of an architectural form that would become the core of Christian architecture to our own time: the Christian Basilica.

The basilica was not a new architectural form. The Romans had been building basilicas in their cities and as part of palace complexes for centuries. A particularly lavish one was the so-called Basilica Ulpia constructed as part of the Forum of the Emperor Trajan in the early second century. Basilicas had diverse functions but essentially they served as formal public meeting places. One of the major functions of the basilicas was as a site for law courts. These were housed in an architectural form known as the apse. In the Basilica Ulpia, these semi-circular forms project from either end of the building, but in some cases, the apses would project off of the length of the building. The magistrate who served as the representative of the authority of the Emperor would sit in a formal throne in the apse and issue his judgments. This function gave an aura of political authority to the basilicas.

Basilica at Trier

Basilica at Trier



Basilicas also served as audience halls as a part of imperial palaces. A well-preserved example is found in the northern German town of Trier. Constantine built a basilica as part of a palace complex in Trier which served as his northern capital. Although a fairly simple architectural form and now stripped of its original interior decoration, the basilica must have been an imposing stage for the emperor. Imagine the emperor dressed in imperial regalia marching up the central axis as he makes his dramatic *adventus* or entrance along with other members of his court. This space would have humbled an emissary who approached the enthroned emperor seated in the apse.



The architecture of the Byzantine Empire (4th - 15th century CE) continued its early Roman traditions but architects also added new structures to their already formidable repertoire, notably improved fortification walls and domed churches. There was, as well, a much greater concern for the interiors of buildings rather than their exteriors. Christianity influenced developments such as the conversion of the secular basilica into a magnificent church with an impressive domed ceiling. Byzantine buildings, in general, continued to employ the Classical orders but became more eclectic and irregular, perhaps originally because old pagan buildings were used as quarries to provide eclectic stone pieces for new structures. This emphasis on function over form is a particular aspect of Byzantine architecture, which blended influences from the Near East with the rich Roman and Greek architectural heritage. Byzantine architecture would go on to influence Orthodox Christian architecture and so is still seen today in churches worldwide.

**Old St. Peter's Basilica** was the building that stood, from the 4th to 16th centuries, where the new St. Peter's Basilica stands today in Vatican City. Construction of the basilica, built over the historical site of the Circus of Nero, began during the reign of Emperor Constantine I. The name "old St. Peter's Basilica" has been used since the construction of the current basilica to distinguish the two buildings.

Construction began by orders of the Roman Emperor Constantine I between 318 and 322, and took about 40 years to complete. Over the next twelve centuries, the church gradually gained importance, eventually becoming a major place of pilgrimage in Rome.

Papal coronations were held at the basilica, and in 800, Charlemagne was crowned emperor of the Holy Roman Empire there. In 846, Saracens sacked and damaged the basilica. The raiders seem to have known about Rome's extraordinary treasures. Some holy—and impressive—basilicas, such as St. Peter's Basilica, were outside the Aurelian walls, and thus easy targets. They were "filled to overflowing with rich liturgical vessels and with jeweled reliquaries housing all of the relics recently amassed". As a result, the raiders destroyed Saint Peter's tomb<sup>[5]</sup> and pillaged the holy shrine. In response Pope Leo IV built the Leonine wall and rebuilt the parts of St. Peter's that had been damaged.

By the 15th century the church was falling into ruin. Discussions on repairing parts of the structure commenced upon the pope's return from Avignon. Two people involved in this reconstruction were Leon Battista Alberti and Bernardo Rossellino, who improved the apse and partially added a multi-story benediction loggia to the atrium facade, on which construction continued intermittently until the new basilica was begun. Alberti pronounced the basilica a structural abomination:

I have noticed in the basilica of St. Peter's in Rome a crass feature: an extremely long and high wall has been constructed over a continuous series of openings, with no curves to give it strength, and no buttresses to lend it support... The whole stretch of wall has been pierced by too many openings and built too high... As a result, the continual force of the wind has already displaced the wall more than six feet (1.8 m) from the vertical; I have no doubt that eventually some slight movement will make it collapse

At first Pope Julius II had every intention of preserving the old building, but his attention soon turned toward tearing it down and building a new structure. Many people of the time were shocked by the proposal, as the building represented papal continuity going back to Peter. The original altar was to be preserved in the new structure that housed it.

## Design

Bronze statue of Saint Peter by Arnolfo di Cambio, dating to the 13th century

The design was a typical basilica form with the plan and elevation resembling those of Roman basilicas and audience halls, such as the Basilica Ulpia in Trajan's Forum and Constantine's own Aula Palatina at Trier, rather than the design of any Greco-Roman temple. The design may have been derived from the description of Solomon's Temple in 1 Kings 6.

Constantine went to great pains to build the basilica on the site of Saint Peter's grave, and this influenced the layout of the building, which was erected on the sloped Vatican Hill, on the west bank of the Tiber River. Notably, since the site was outside the boundaries of the

ancient city, the apse with the altar was located in the west so that the basilica's façade could be approached from Rome itself to the east. The exterior, unlike earlier pagan temples, was not lavishly decorated.

The church was capable of housing from 3,000 to 4,000 worshipers at one time. It consisted of five aisles, a wide central nave and two smaller aisles to each side, which were each divided by 21 marble columns, taken from earlier pagan buildings. It was over 350 feet (110 m) long, built in the shape of a Latin cross, and had a gabled roof which was timbered on the interior and which stood at over 100 feet (30 m) at the center. An atrium, known as the "Garden of Paradise", stood at the entrance and had five doors which led to the body of the church; this was a sixth-century addition.

The altar of Old St. Peter's Basilica used several Solomonic columns. According to tradition, Constantine took these columns from the Temple of Solomon and gave them to the church; however, the columns were probably from an Eastern church. When Gian Lorenzo Bernini built his baldacchino to cover the new St. Peter's altar, he drew from the twisted design of the old columns. Eight of the original columns were moved to the piers of the new St. Peter's.

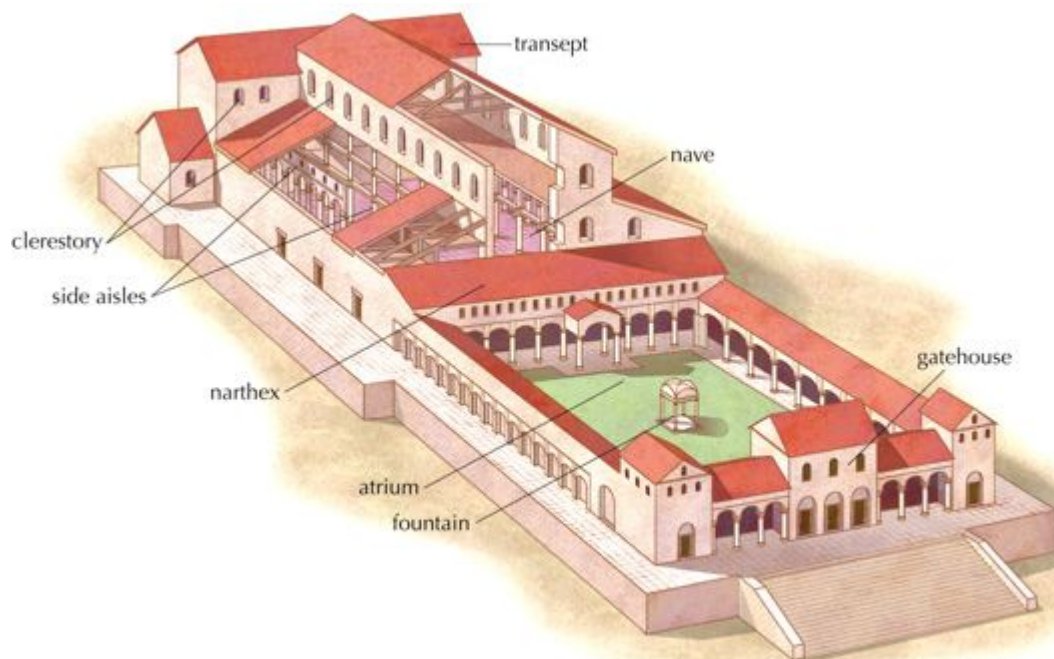
#### Mosaics

The great Navicella mosaic (1305–1313) in the atrium is attributed to Giotto di Bondone. The giant mosaic, commissioned by Cardinal Jacopo Stefaneschi, occupied the whole wall above the entrance arcade facing the courtyard. It depicted St. Peter walking on the waters. This extraordinary work was mainly destroyed during the construction of the new St. Peter's in the 16th century, but fragments were preserved. Navicella means "little ship" referring to the large boat which dominated the scene, and whose sail, filled by the storm, loomed over the horizon. Such a natural representation of a seascape was known only from ancient works of art.

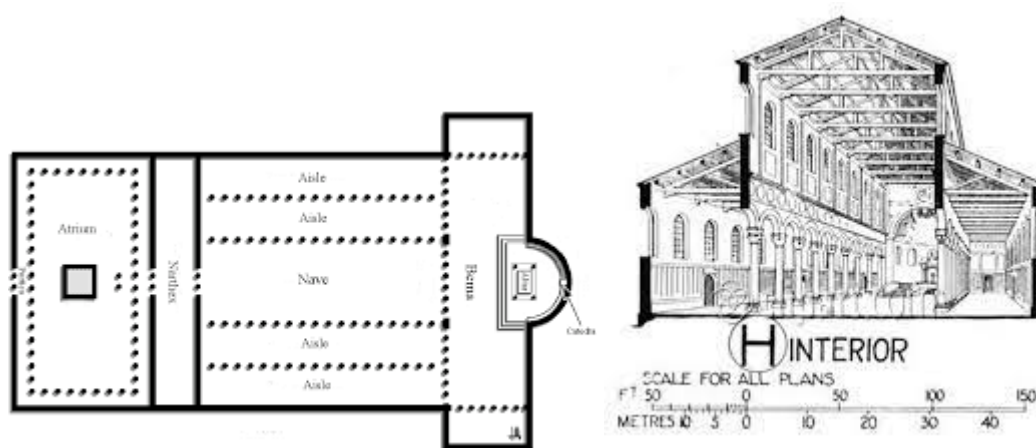
The nave ended with an arch, which held a mosaic of Constantine and Saint Peter, who presented a model of the church to Christ. On the walls, each having 11 windows, were frescoes of various people and scenes from both the Old and New Testament. According to combined statements by Ghiberti and Vasari, Giotto painted five frescoes of the life of Christ and various other panels, some of which Vasari said were "either destroyed or carried away from the old structure of St. Peter's during the building of the new walls."

The fragment of an eighth-century mosaic, the Epiphany, is one of the very rare remaining bits of the medieval decoration of Old St. Peter's Basilica. The previous fragment is kept in the sacristy of Santa Maria in Cosmedin. It proves the high artistic quality of the destroyed mosaics. Another one, a standing madonna, is on a side altar in the Basilica of San Marco in Florence.









## Roman Architecture

As Byzantium was the eastern half of the Roman Empire in its early period, it is not surprising that the Roman traditions continued in architecture as well as other facets of culture. Byzantine urban areas were characterised by strong evidence of town planning, large open spaces for commercial and public use, wide regular streets - most of which were paved and the important ones were given porticoes - and the use of public monuments such as statues of important figures and monumental arches and city gates. The staple public services provided by a hippodrome, amphitheatre, and public baths were all still present, but some Roman-era buildings fell out of use, notably the gymnasium and stadium for athletics and, eventually, too, the theatre as the bawdy pantomimes performed there met with the disapproval of the church. As these buildings, and especially the pagan temples, fell into disuse, their materials were reused, giving rise to new structures with an eclectic mix of columns and capitals within the same structure, which eventually became a defining feature of Byzantine buildings, and the strict uniformity of classical buildings was abandoned.

Roman villas with private inner courtyards continued to be the reserve of the wealthy while the poorer members of society lived in basic multi storey buildings (insulae) where the ground floors were often used as shops and taverns. Most of the population, though, benefitted from access to running water, fountains, and drainage systems, thanks to a well-planned system of pipes, aqueducts, and cisterns.

## Architects & Materials

The construction of Byzantine buildings was supervised by two specialists: the rarer and more exalted *mechanikos* (or *mechanopoios*), a sort of mathematical engineer, and the *architekton*, a master builder. One or the other of these figures supervised a large group of craftspeople skilled in masonry, carpentry, wall-painting, and making mosaics. As with Byzantine artists, architects were usually anonymous, and very few were named after the 6th century CE. If the construction project involved an imperial building or a church, then the emperor or bishop was involved, in the case of private sponsors, they too would have had a say in what the building looked like when finished. Design drawings seem to have followed established conventions and been sketchy, indicating a great deal of on-the-spot improvisation.

Capital with Protom of Pegasus

Capital with Protom of Pegasus

Osama Shukir Muhammed Amin (CC BY-NC-SA)

Like Roman architects, the Byzantines employed bricks for many buildings, and it became the basic element of construction. A little bigger than Roman bricks, those used in Constantinople, for example, were square and measured up to 38 cm (15 inches) along each side with a height of up to 6.5 cm (2.5 inches). Bricks were used to create walls by laying two faces and pouring rubble and mortar between them. The mortar was made from lime, sand, and crushed brick or pebbles. Every so often a strengthening layer made wholly of bricks runs through the entire wall. Unlike Roman walls, the Byzantine version did not use a concrete (pozzolana) core, and so if the facing became damaged, then, eventually, so too did the core. Another difference is Byzantine builders used a much thicker layer of mortar between bricks, probably as a cost-saving exercise as fewer bricks were then needed. An unfortunate consequence of this is that as the mortar dried, it warped, and so many Byzantine buildings suffered from distortion or even partial collapse. Bricks were also used for domes, arches and vaults, often then employing bricks of double the standard size.

An alternative to brick was ashlar stone blocks, which were more popular in the eastern half of the Byzantine Empire. Some buildings, particularly in the 6th century CE, combined the two and had a lower part in brick and an upper part in stone cut blocks. These materials and their use in Byzantine buildings remained virtually unchanged right up to the 14th century CE. Marble, an expensive material, was generally reserved for columns, capitals, cornices, architraves, and decorative features such as door frames, window grills, and paving.

Some building exteriors were plastered, but this was not common. Far more attention was paid to building interiors where generally all the walls were covered in plaster, stucco, thin marble plaques, paintings and mosaics. Imperial buildings and important basilicas were given more marble than anywhere else, with Proconnesian from the island of Proconnesus in the Sea of Marmara being the most common. The prestige of coloured marble continued from the western Roman tradition, and so it was imported from such places as Egypt and Phrygia. Roofing in churches and houses was most often made from timber.

## Churches

Starting with Constantine I (r. 306-337 CE) in the 4th century CE, churches were built everywhere to promote the new Christian religion and impose imperial authority on places far and wide, from the capital to Jerusalem. Another motivation to build churches and shrines (martyria) was to mark places of significance to the Christian story and its saints, tombs of saints and martyrs or their relics, and the site where a famed ascetic may have dwelt. Thus, churches from Thessalonica to Antioch became centres of pilgrimage in their own right. Many smaller churches and modest chapels were built to serve smaller communities. Other buildings closely associated with the church, especially basilicas,

were a baptistry, usually octagonal, and sometimes a mausoleum for the founder of the church and their descendants, a residence for a bishop, warehouses, administrative offices, perhaps a shrine containing a tomb of a saint, and baths.

Church of Saint Irene, Istanbul

Church of Saint Irene, Istanbul

Marsyas (Public Domain)

While brick, stone, or a mixture of both to create decorative patterns were the materials most often used for Byzantine churches, many were simply converted pagan temples or other secular buildings. A fine example is the Rotunda church of Thessalonica, probably originally meant as a mausoleum for Emperor Galerius and built during his reign of 305-311 CE but converted into a church in the 4th-6th century CE. Many more buildings liberally reused the high-quality stone blocks and column drums of Roman-era structures. Ancient capitals were also reused, although the Byzantines added more intricate and deeper carved decoration to their own Corinthian capitals, and they often added an impost (from the 4th century CE onwards) above the capital itself. This was a plain stone which gave the larger base needed to support heavy arches. Imposts are typically trapezoid in form and have a monogram or cross carved on them.

Most early churches followed the Roman basilica design, a building used for public gatherings, especially law courts and markets. The basilica's long hall and timber roof were supported by columns and piers on all sides. The columns created a central nave flanked on all sides by an aisle. A gallery ran around the first floor, and later there was an apse at one or both ends. From the 5th century CE, the basilica church was common throughout the Byzantine Empire. By the 6th century CE, the standard timber roof had given way to a dome-vaulted one in larger basilicas. There developed many variations in basilica design - they could have three, four, or five aisles, some have much darker interiors such as those in Armenia while others in Syria are much more monumental and use massive stone blocks. Several hundred basilicas were built across the empire, with one of the largest being at Lechaion near Corinth. There the basilica of Saint Leonidas was 110 metres (360 ft) long and 30 metres (99 ft) wide. One of the finest surviving basilicas is the Church of Saint Irene in Istanbul (mid-6th century CE and remodelled in the 8th century CE).

By the 9th century CE churches were still being built in numbers but on a smaller scale as urban populations diminished and the large basilica was no longer needed. Now a church only needed to accommodate around 100 worshippers. There was no official church blueprint imposed by the church hierarchy, but the cross-in-square plan became the most common with a dome built over four supporting arches using pendentives - curved triangular forms to bridge the gap between adjoining arches and convert a square base into a circular one. The square base of the building then branched into bays which might themselves have a half or full dome ceiling. Another common feature is a central apse with two side-apses at the eastern end of the church.

Over time, the central dome was raised ever higher on a polygonal drum, which in some churches is so high it has the appearance of a tower. A fine example of this style, and also of patterned brickwork, is the early 14th-century CE Church of the Apostles in Thessalonica. The dome, then, became a suitably impressive representation of heaven and was decorated as such, with a representation of Jesus Christ very often being painted there. In addition, the structural necessity of the four arches supporting the dome created a floor plan in the shape of a cross, another powerful symbol of the building's purpose. This type of church was built across the Byzantine Empire, and Greece, in particular, still has many fine examples in Athens, Thessalonica, Mistra, and many of the islands.

The Hagia Sophia is an enormous architectural marvel in Istanbul, Turkey, that was originally built as a Christian basilica nearly 1,500 years ago. Much like the Eiffel Tower in Paris or the Parthenon in Athens, the Hagia Sophia is a long-enduring symbol of the cosmopolitan city. However, as notable as the structure is itself, its role in the history of Istanbul—and, for that matter, the world—is also significant and touches upon matters related to international politics, religion, art and architecture.

The Hagia Sophia anchors the Old City of Istanbul and has served for centuries as a landmark for both Orthodox Christians and Muslims, as its significance has shifted with that of the dominant culture in the Turkish city.

Istanbul straddles the Bosphorus strait, a waterway that serves as a geographic border between Europe and Asia. The Turkish city of nearly 15 million residents thus lies in both continents.

### **What Is Hagia Sophia?**

The Hagia Sophia (Ayasofya in Turkish) was originally built as a basilica for the Greek Orthodox Christian Church. However, its function has changed several times in the centuries since.

Byzantine Emperor Constantius commissioned construction of the first Hagia Sophia in 360 A.D. At the time of the first church's construction, Istanbul was known as Constantinople, taking its name from Constantius' father, Constantine I, the first ruler of the Byzantine Empire.

The first Hagia Sophia featured a wooden roof. The structure was burned to the ground in 404 A.D. during the riots that occurred in Constantinople as a result of political conflicts within the family of then-Emperor Arkadios, who had a tumultuous reign from 395 to 408 A.D.

Arkadios' successor, Emperor Theodosios II, rebuilt the Hagia Sophia, and the new structure was completed in 415. The second Hagia Sophia contained five naves and a monumental entrance and was also covered by a wooden roof.



However, a little more than one century later, this would again prove to be a fatal flaw for this important basilica of the Greek Orthodox faith, as the structure was burned for a second time during the so-called “Nika revolts” against Emperor Justinian I, who ruled from 527 to 565.

#### Hagia Sophia History

Unable to repair the damage caused by the fire, Justinian ordered the demolition of the Hagia Sophia in 532. He commissioned renowned architects Isidoros (Milet) and Anthemios (Tralles) to build a new basilica.

The third Hagia Sophia was completed in 537, and it remains standing today.

The first religious services in the “new” Hagia Sophia were held on December 27, 537. At the time, Emperor Justinian is reported to have said, “My Lord, thank you for giving me the chance to create such a worshipping place.”

#### The Hagia Sophia’s Design

From its opening, the third and final Hagia Sophia was indeed a remarkable structure. It combined the traditional design elements of an Orthodox basilica with a large, domed roof, and a semi-domed altar with two narthex (or “porches”).

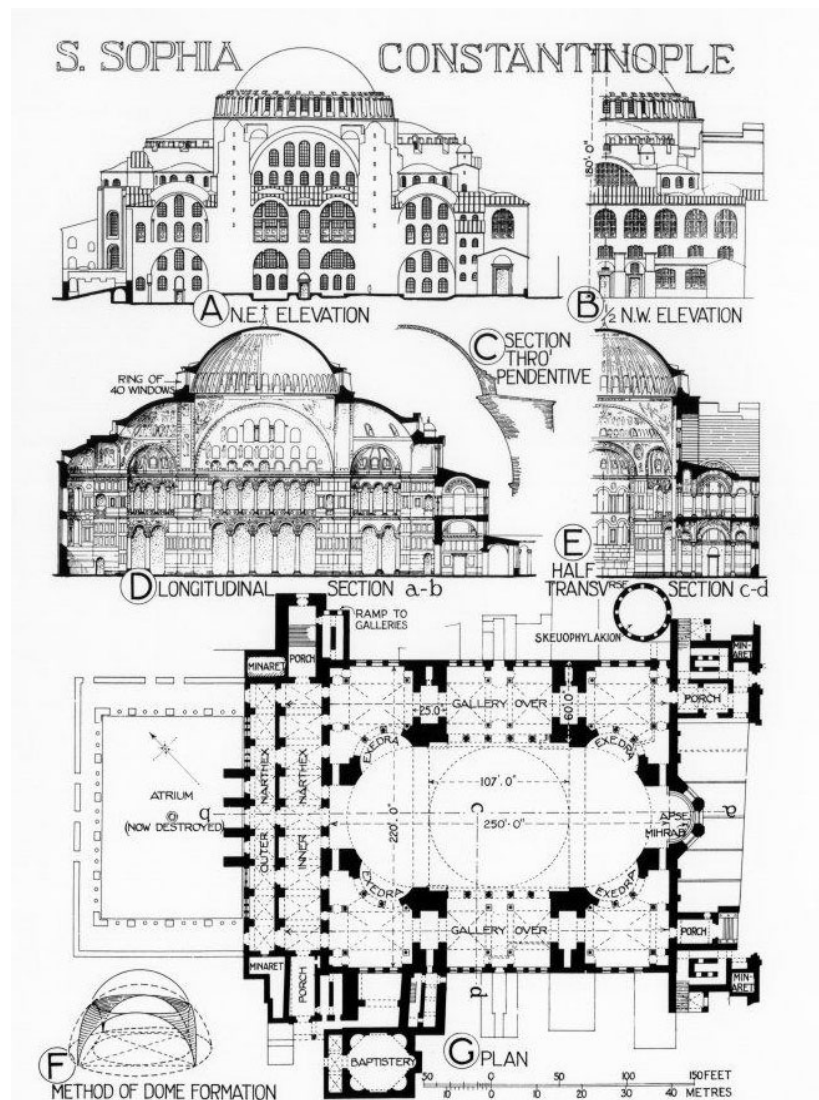
The dome’s supporting arches were covered with mosaics of six winged angels called hexapterygon.

In an effort to create a grand basilica that represented all of the Byzantine Empire, Emperor Justinian decreed that all provinces under his rule send architectural pieces for use in its construction.

The marble used for the floor and ceiling was produced in Anatolia (present-day eastern Turkey) and Syria, while other bricks (used in the walls and parts of the floor) came from as far away as North Africa. The interior of Hagia Sophia is lined with enormous marble slabs that are said to have been designed to imitate moving water.

And, the Hagia Sophia’s 104 columns were imported from the Temple of Artemis in Ephesus, as well as from Egypt.

The building measures some 269 feet in length and 240 feet in width and, at its highest point, the domed roof stretches some 180 feet into the air. When the first dome suffered a partial collapse in 557, its replacement was designed by Isidore the Younger (the nephew of Isidoros, one of the original architects) with structural ribs and a more pronounced arc, and this version of the structure remains in place today





Romanesque architecture, architectural style currently in Europe from about the mid-11th century to the advent of Gothic architecture. A fusion of Roman, Carolingian and Ottonian, Byzantine, and local Germanic traditions, it was a product of the great expansion of monasticism in the 10th–11th century. Larger churches were needed to accommodate the numerous monks and priests, as well as the pilgrims who came to view saints' relics. For the sake of fire resistance, masonry vaulting began to replace timber construction.

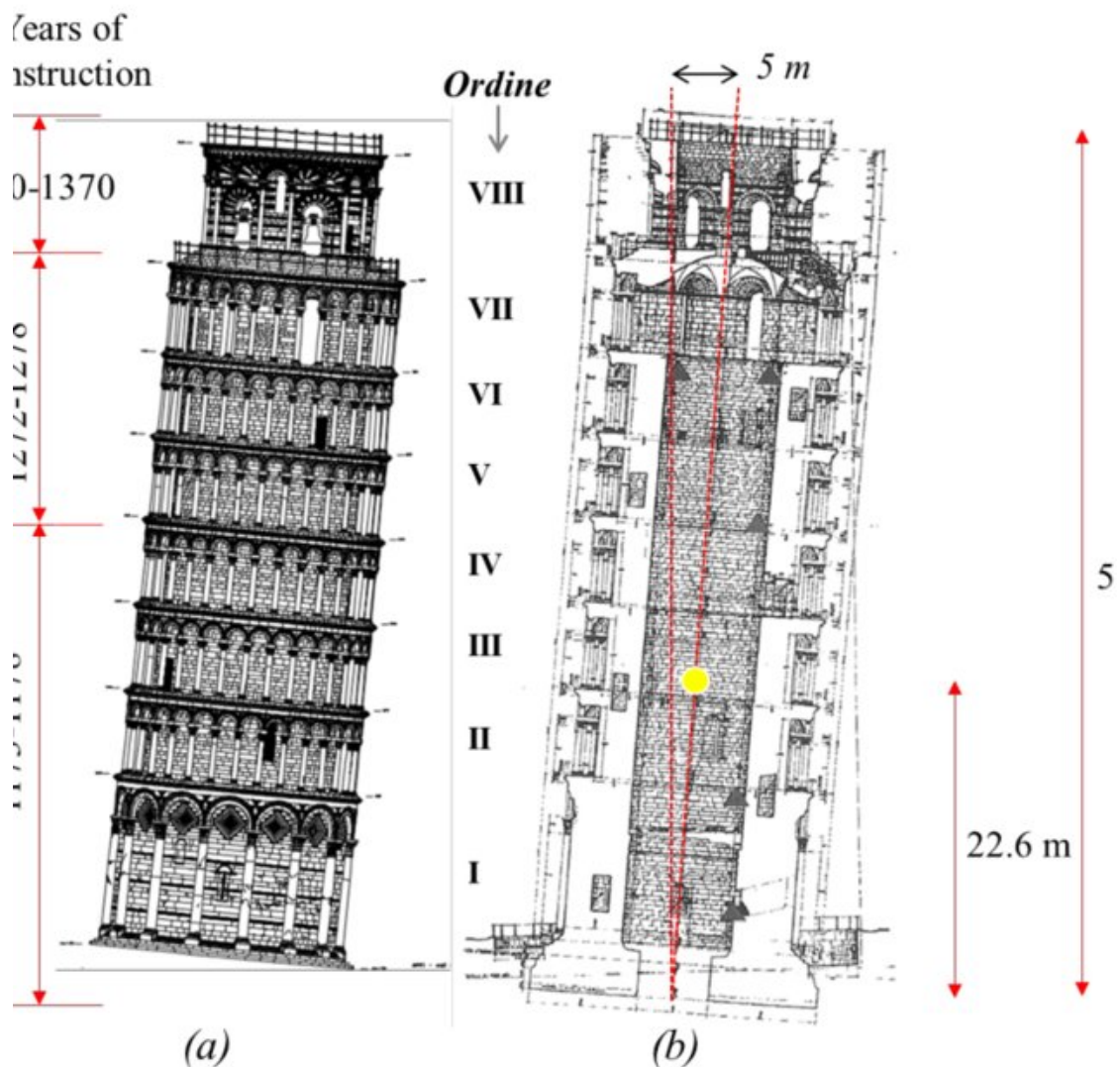
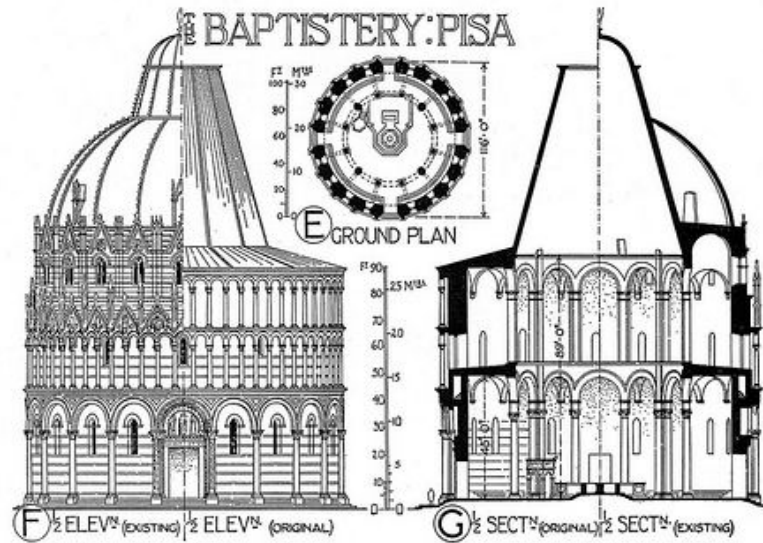
Romanesque churches characteristically incorporated semicircular arches for windows, doors, and arcades; barrel or groin vaults to support the roof of the nave; massive piers and walls, with few windows, to contain the outward thrust of the vaults; side aisles with galleries above them; a large tower over the crossing of nave and transept; and smaller towers at the church's western end. French churches commonly expanded on the early Christian basilica plan, incorporating radiating chapels to accommodate more priests, ambulatories around the sanctuary apse for visiting pilgrims, and large transepts between the sanctuary and nave.

### **Characteristics:**

The First Romanesque style, also known as Lombard Romanesque style, is characterized by thick walls, lack of sculpture, and the presence of rhythmic ornamental arches known as Lombard bands. The difference between the First Romanesque and later Romanesque styles is a matter of the expertise with which the buildings were constructed. First Romanesque employed rubble walls, smaller windows, and unvaulted roofs, while the Romanesque style is distinguished by a more refined style and increased use of the vault and dressed stone.

For example, Abbot Oliba ordered an extension to the Monastery of Santa Maria de Ripoll in 1032 mirroring the First Romanesque characteristics of two frontal towers, a cruise with seven apses , and Lombard ornamentation of blind arches and vertical strips.







against the Muslims in Sicily in 1063. It includes various stylistic elements: classical, Lombard-Emilian, Byzantine, and Islamic, drawing upon the international presence of Pisan merchants at that time. In the same year, St. Mark's Basilica began its reconstruction in Venice, evidence of a strong rivalry between the two maritime republics to see which could create the most beautiful and luxurious place of worship.

The church was erected outside Pisa's early medieval walls, to show that Pisa had no fear of being attacked.[citation needed] The chosen area had already been used in the Lombard era as a necropolis and at the beginning of the 11th century a church had been erected here, but never finished, that was to be named Santa Maria.[citation needed] Buscheto's grand new church was initially called Santa Maria Maggiore until it was officially named Santa Maria Assunta.[citation needed]

In 1092 the cathedral was declared a primatial church, archbishop Dagobert having been given the title of Primate by Pope Urban II. The cathedral was consecrated in 1118 by Pope Gelasius II, who belonged to the Caetani family which was powerful both in Pisa and in Rome.

In the early 12th century the cathedral was enlarged under the direction of architect Rainaldo, who increased the length of the nave by adding three bays consistent with the original style of Buscheto, enlarged the transept, and planned a new facade which was completed by workers under the direction of the sculptors Guglielmo and Biduino. The exact date of the work is unclear: according to some, the work was done right after the death of Buscheto about the year 1100, though others say it was done closer to 1140. In any case, work was finished in 1180, as documented by the date written on the bronze knockers made by Bonanno Pisano found on the main door.

The structure's present appearance is the result of numerous restoration campaigns that were carried out in different eras. The first radical interventions occurred after the fire of 1595, following which the roof was replaced and sculptors from the workshop of Giambologna, among whom were Gasparo Mola and Pietro Tacca, created the three bronze doors of the facade. In the early 18th century the redecoration of the inside walls of the cathedral began with large paintings, the "quadroni", depicting stories of the blessed and saints of Pisa. These works were made by the principal artists of the era, and a group of citizens arranged for the special financing of the project. Successive interventions occurred in the 19th century and included both internal and external modifications; among the latter was the removal of the original facade statues (presently in the cathedral museum) and their replacement with copies.

Other notable interventions include: the dismantling of Giovanni Pisano's pulpit between 1599 and 1601 that only in 1926 was reassembled and returned to the cathedral (with some original pieces missing, including the staircase); and the dismantling of the monument to Henry VII made by Lupo di Francesco that was found in front of the door of San Ranieri and later substituted by a simpler, symbolic version.

The rich exterior decoration contains multicolored marble, mosaic, and numerous bronze objects from the spoils of war, among which is the griffin which was taken in Palermo in 1061 and later placed on the eastern part of the roof. In the early 19th century the original sculpture, which can now be seen in the cathedral museum, was removed from the roof and replaced with a copy. The high arches show Islamic and southern Italian influence. The blind arches with lozenge shapes recall similar structures in Armenia. The facade of grey and white marble, decorated with colored marble inserts, was built by Master Rainaldo. Above the three doorways are four levels of loggia divided by cornices with marble intarsia, behind which open single, double, and triple windows.

The heavy bronze doors of the facade were made by different Florentine artists in the 17th century. Contrary to what might be thought, from the beginning the faithful entered the cathedral through the door of Saint Rainerius, found in the transept of the same name, which faces the bell tower. This was because the nobles of the city, who approached the cathedral via Santa Maria, would find themselves precisely at this entrance. This door was cast about 1180 by Bonanno Pisano, and it is the only door not destroyed by the fire of 1595 that heavily damaged the cathedral.

The door of Saint Rainerius is decorated with 24 bronze relief sculptures showing stories of the New Testament. This door is one of the first produced in Italy during the Middle Ages, after the importation of numerous examples from Constantinople (to Amalfi, Salerno, Rome, Montecassino, Venice, etc.), and a completely western sensibility, detached from the Byzantine tradition, can be admired. Above the doors are four open galleries, with, at the top, the Madonna and Child and, in the angles, the four evangelists. The tomb of Buschetto is found to the left of the north door of the facade.

### **Interior**

The interior, subdivided at the front into a central nave flanked by two side aisles on either side and with the transept and apse in three naves, is covered with white and black marble, with monolithic grey marble columns having corinthian capitals. It has a wooden 17th-century coffered ceiling, painted and decorated with gold leaf, made by Domenico and Bartolomeo Al Ticciati; it bears the Medici coat of arms. Presumably the earlier ceiling was a structure with wooden trusses.

The inside of the dome, found where the central nave and the transepts cross, is decorated using a rare painting technique called encaustic and depicts the Virgin in glory with saints by the Pisan artists Orazio and Girolamo Riminaldi (1627-1631). Restoration of the dome began in 2015 and was concluded in 2018.

The granite Corinthian columns between the nave and the apse come from the mosque of Palermo, and are Pisan spoils retained in 1063 after a successful joint attack with the Normans on the Muslims in that city.

The large mosaic in the apse of Christ enthroned between the Virgin and Saint John is famous for the face of Saint John, painted by Cimabue in 1302, which miraculously survived the fire of 1595. This is the last work painted by Cimabue and the only work of his for which we have certified documentation. The work evokes the mosaics of the Byzantine and Norman churches found in Cefalù and Monreale in Sicily. The mosaic, in large part made by Francesco da Pisa, was brought to completion by Vincino da Pistoia with the Madonna on the left side (1320).

Among the medieval works that avoided destruction during the fire of 1595 are the fresco of the Madonna with Child in the triumphal arch by the Pisan artist Maestro di San Torpè, as well as the cosmati pavement, work rarely found outside of Lazio. It was made using inlaid marble to create geometric patterns (mid-12th century). Other fresco fragments from the late medieval period have survived, among which is Saint Jerome on one of the four central pylons, as well as Saint John the Baptist, a Crucifixion, and Saints Cosmas and Damian on one of the pylons near the entrance, partially hidden by the entryway.

### **The pulpit**

The pulpit, a masterpiece made by Giovanni Pisano (1302-1310), survived the fire but was dismantled during the work of restoration and was not reassembled until 1926. With its intricate architecture and its complex sculptural decoration the work presents one of the most sweeping narratives of the 13th-century imagination which reflects the religious renewal and fervor of the era. On the slightly curved panels are sculpted with an expressive language the episodes of the life of Christ. The structure is polygonal (exactly as seen in the analogous works in the Baptistry of Pisa, in the Siena Cathedral Pulpit, and in the church of Saint Andrew); but this is the first example in a work of this type in which the panels are slightly curved. Other original features include:

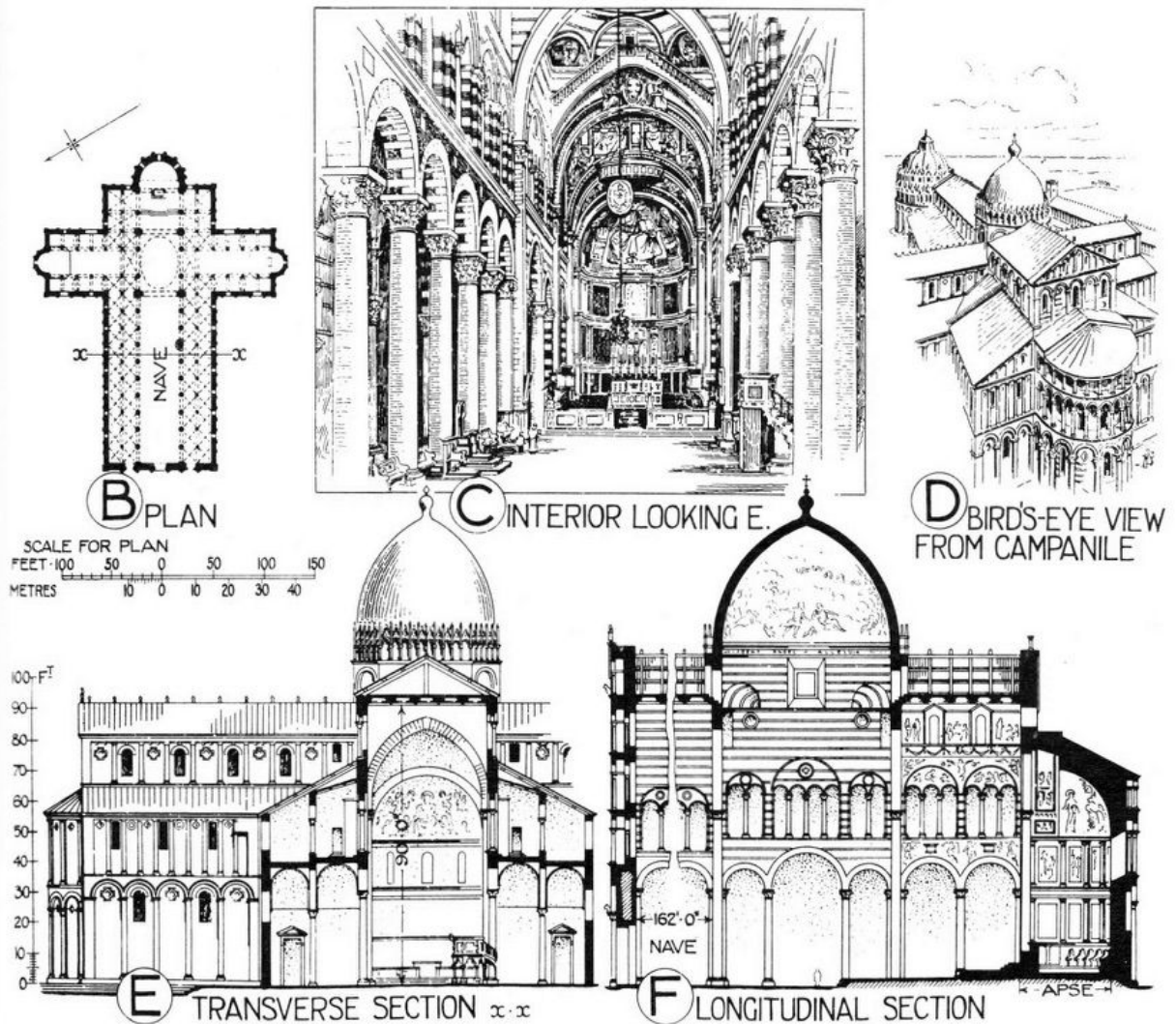
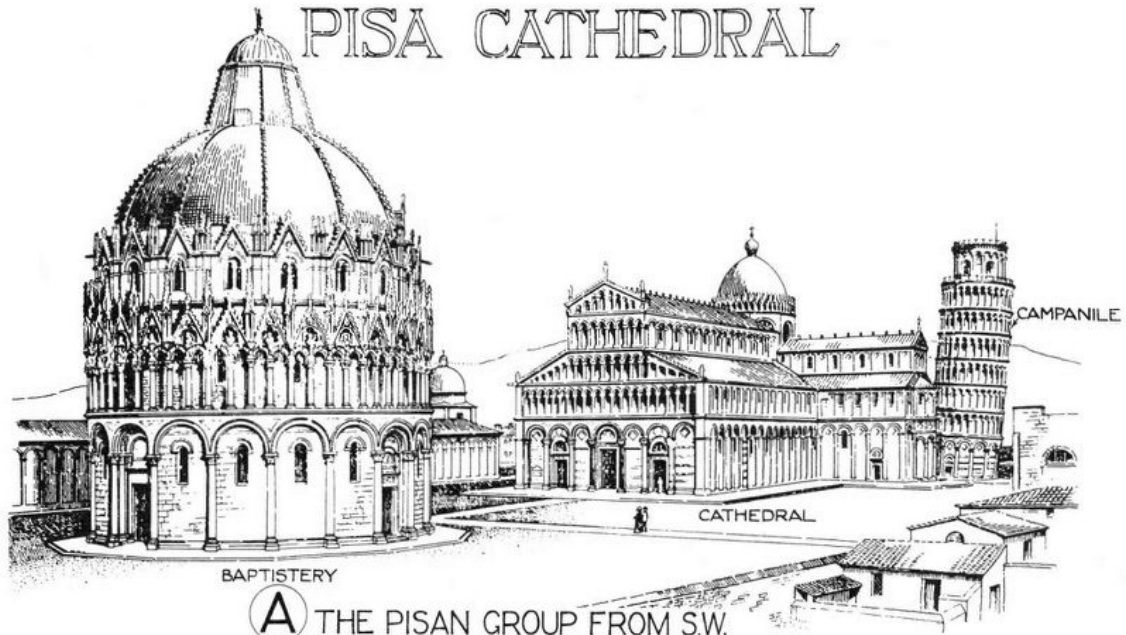
the presence of caryatids, sculpted figures in place of simple columns, that symbolize the Virtues;

the use of scrolled 'shelving' in place of arches to support the raised platform;

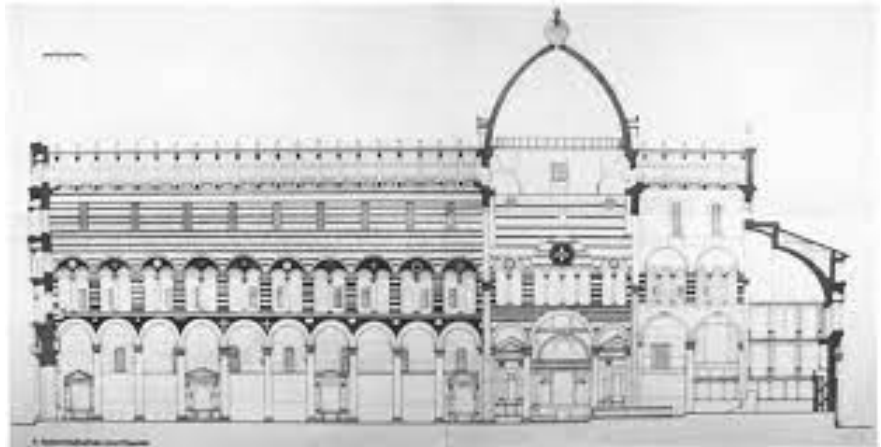
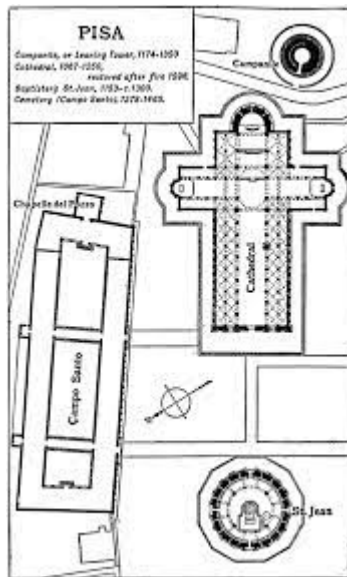
the sense of movement given by the numerous figures that fill up every empty space.

For these qualities united to the skillful narrative art of the nine scenes the pulpit is generally considered to be a masterpiece, but more broadly it is considered a masterpiece of Italian gothic sculpture. This pulpit substituted the previous one made by Guglielmo (1157-1162) that was sent to the Cagliari Cathedral. Given the lack of documentation prior to its dismantling, the pulpit was placed in a location different from its original spot, and without doubt, its parts are not in their original positions either. It is unknown if the original work possessed a marble staircase.

# PISA CATHEDRAL







The Leaning Tower of Pisa or simply the Tower of Pisa is the campanile, or freestanding bell tower, of the cathedral of the Italian city of Pisa, known worldwide for its nearly four-degree lean, the result of an unstable foundation. The tower is situated behind the Pisa Cathedral and is the third-oldest structure in the city's Cathedral Square (Piazza del Duomo), after the cathedral and the Pisa Baptistery.

The height of the tower is 55.86 metres (183.27 feet) from the ground on the low side and 56.67 metres (185.93 feet) on the high side. The width of the walls at the base is 2.44 m (8



ft 0.06 in). Its weight is estimated at 14,500 metric tons (16,000 short tons). The tower has 296 or 294 steps; the seventh floor has two fewer steps on the north-facing staircase.

The tower began to lean during construction in the 12th century, due to soft ground which could not properly support the structure's weight, and it worsened through the completion of construction in the 14th century. By 1990, the tilt had reached 5.5 degrees. The structure was stabilized by remedial work between 1993 and 2001, which reduced the tilt to 3.97 degrees.

### **Campo Santo:**

There has been controversy about the real identity of the architect of the Leaning Tower of Pisa. For many years, the design was attributed to Guglielmo and Bonanno Pisano, a well-known 12th-century resident artist of Pisa, known for his bronze casting, particularly in the Pisa Duomo. Pisano left Pisa in 1185 for Monreale, Sicily, only to come back and die in his hometown. A piece of cast bearing his name was discovered at the foot of the tower in 1820, but this may be related to the bronze door in the façade of the cathedral that was destroyed in 1595. A 2001 study seems to indicate Diotisalvi was the original architect, due to the time of construction and affinity with other Diotisalvi works, notably the bell tower of San Nicola and the Baptistry, both in Pisa.

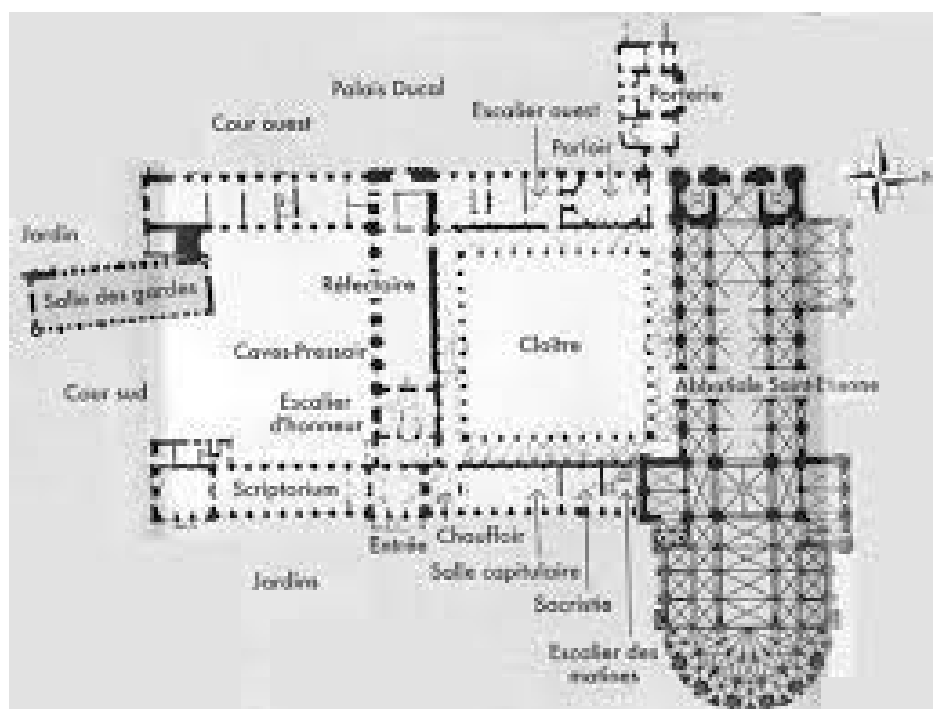
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### **Abbaye aux Hommes**

Consecrated in 1077, William built the Abbaye aux Hommes as atonement for his marriage to Matilda of Flanders, which the Pope had condemned due to their family connection. In 1087, upon his death, William was buried in the foundations. However his grave has been disturbed on multiple occasions, including during the Wars of Religion and later the French Revolution when his remains were scattered, resulting in only his thighbone remaining in the marked grave.

Through the centuries, the Abbaye aux Hommes has undergone many architectural renovations. The main abbey is made up of the original Romanesque nave and transept and the 13th century Gothic choir. A ribbed vault was added around 1120, making the abbey a forerunner of the Gothic architectural style, and the nine spires were a 13th century addition. Further additions occurred right up until the late 18th century. However, despite the many changes, much of the original Norman church remains and forms the core of what visitors see today.

The abbey buildings lead off from the south end of the church, including the refectory; they now house the town's museum and municipal offices. Impressive features of the church and grounds include the grand staircases, designed without cement to seem as if they are floating, the ceremonial 'Salle des Gardes' room and the large collection of 17th and 18th century art and furniture gathered in the monastery.



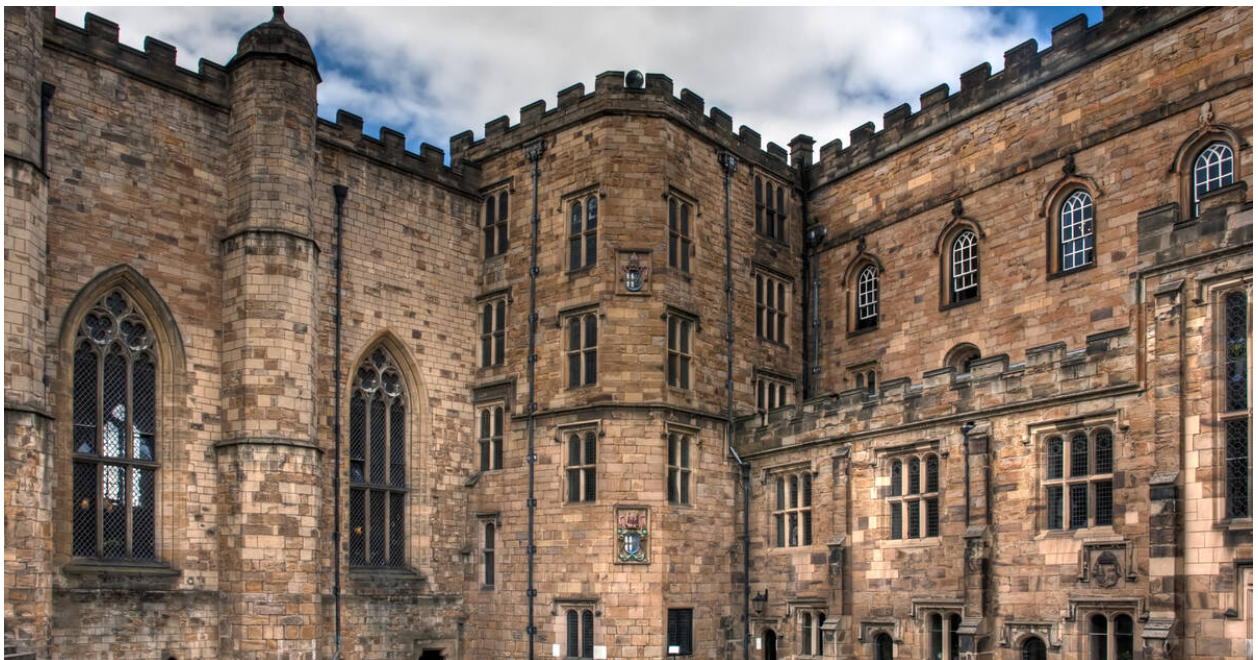
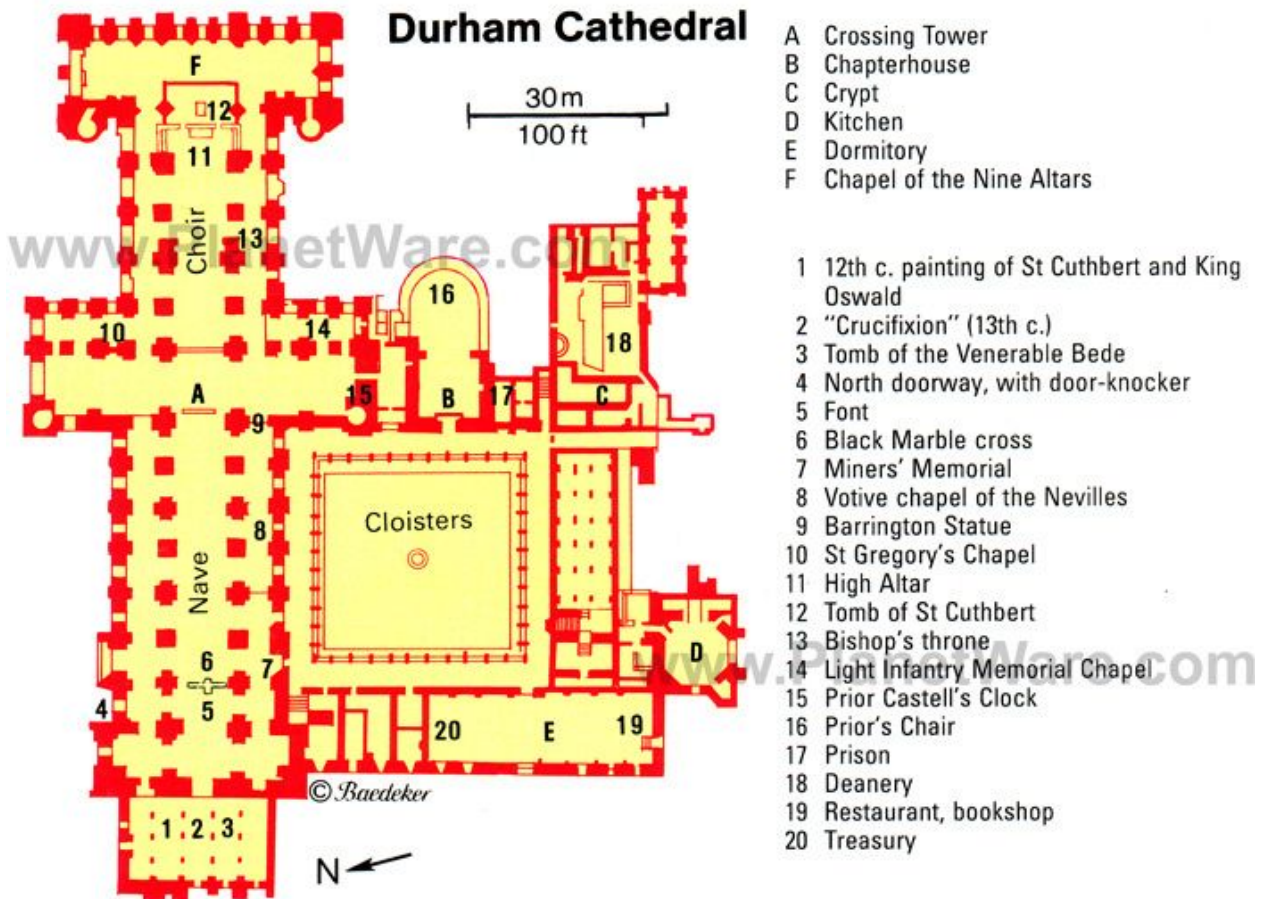
**Durham Castle and Cathedral**

Durham Cathedral was built in the late 11th and early 12th centuries to house the relics of St Cuthbert (evangelizer of Northumbria) and the Venerable Bede. It attests to the importance of the early Benedictine monastic community and is the largest and finest example of Norman architecture in England. The innovative audacity of its vaulting foreshadowed Gothic architecture. Behind the cathedral stands the castle, an ancient Norman fortress which was the residence of the prince-bishops of Durham. Durham Cathedral was built between the late 11th and early 12th century to house the bodies of St. Cuthbert (634-687 AD) (the evangeliser of Northumbria) and the Venerable Bede (672/3-735 AD). It attests to the importance of the early Benedictine monastic community and is the largest and finest example of Norman architecture in England. The innovative audacity of its vaulting foreshadowed Gothic architecture. The Cathedral lies within the precinct of Durham Castle, first constructed in the late eleventh century under the orders of William the Conqueror.

The Castle was the stronghold and residence of the Prince-Bishops of Durham, who were given virtual autonomy in return for protecting the northern boundaries of England, and thus held both religious and secular power.

Within the Castle precinct are later buildings of the Durham Palatinate, reflecting the Prince-Bishops' civic responsibilities and privileges. These include the Bishop's Court (now a library), almshouses, and schools. Palace Green, a large open space connecting the various buildings of the site, once provided the Prince Bishops with a venue for processions and gatherings befitting their status, and is now still a forum for public events.





The Cathedral and Castle are located on a peninsula formed by a bend in the River Wear with steep river banks constituting a natural line of defence. These were essential both for the community of St. Cuthbert, who came to Durham in the tenth century in search of a

safe base (having suffered periodic Viking raids over the course of several centuries), and for the Prince-Bishops of Durham, protectors of the turbulent English frontier.

The site is significant because of the exceptional architecture demonstrating architectural innovation and the visual drama of the Cathedral and Castle on the peninsula, and for the associations with notions of romantic beauty in tangible form. The physical expression of the spiritual and secular powers of the medieval Bishops' Palatinate is shown by the defended complex and by the importance of its archaeological remains, which are directly related to its history and continuity of use over the past 1000 years. The relics and material culture of three saints, (Cuthbert, Bede, and Oswald) buried at the site and, in particular, the cultural and religious traditions and historical memories associated with the relics of St Cuthbert and the Venerable Bede, demonstrate the continuity of use and ownership over the past millennium as a place of religious worship, learning, and residence in tangible form. The property demonstrates its role as a political statement of Norman power imposed on a subjugated nation and as one of the country's most powerful symbols of the Norman Conquest of Britain.

Criterion (ii): Durham Cathedral is the largest and most perfect monument of 'Norman' style architecture in England. The small astral (castle) chapel for its part marks a turning point in the evolution of 11th century Romanesque sculpture.

Criterion (iv): Though some wrongly considered Durham Cathedral to be the first 'Gothic' monument (the relationship between it and the churches built in the Île-de-France region in the 12th century is not obvious), this building, owing to the innovative audacity of its vaulting, constitutes, as do Spire [Speyer] and Cluny, a type of experimental model which was far ahead of its time.







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**SCHOOL OF BUILDING AND ENVIRONMENT**

**DEPARTMENT OF ARCHITECTURE**

## **UNIT – II- MIDDLE AGE –DRAVIDIAN ARCHITECTURE- SARA1301**



Temple architecture of high standard developed in almost all regions during ancient India. The distinct architectural style of temple construction in different parts was a result of geographical, climatic, ethnic, racial, historical and linguistic diversities. Ancient Indian temples are classified in three broad types. This classification is based on different architectural styles, employed in the construction of the temples. Three main styles of temple architecture are the Nagara or the Northern style, the Dravida or the Southern style and the Vesara or Mixed style. But at the same time, there are also some regional styles of Bengal, Kerala and the Himalayan areas.

One important part of the ancient Indian temples was their decoration. It is reflected in the multitude details of figured sculpture as well as in the architectural elements. Another important component of Indian temples was the garbha-griha or the womb chamber, housing the deity of the temple. The garbha-griha was provided with a circumambulation passage around. However, there are also many subsidiary shrines within temple complexes, more common in the South Indian temple.

In the initial stages of its evolution, the temples of North and South India were distinguished on the basis of some specific features like sikhara and gateways. In the north Indian temples, the sikhara remained the most prominent component while the gateway was generally unassuming. The most prominent features of South Indian temples were enclosures around the temples and the Gopurams (huge gateways). The Gopurams led the devotees into the sacred courtyard. There were many common features in the Northern and the Southern styles. These included the ground plan, positioning of stone-carved deities on the outside walls and the interior, and the range of decorative elements.

#### Design

The very essence of a Hindu temple is believed to have developed from the ideology that all things are one and everything is associated. The four essential and significant principles which are also aims of human life

according to Indian philosophy are the quests for artha - wealth and prosperity; kama - sex and pleasure; dharma - moral life and virtues; and moksha - self knowledge and realisation. The mathematically structured spaces, intricate artworks, decorated and carved pillars and statues of Hindu temples illustrate and revere such philosophies. A hollow space without any embellishments situated at the centre of the temple, usually below the deity, may also be at the side or above the deity symbolises the complex concept of Purusha or Purusa meaning the Universal principle, Consciousness, the cosmic man or self without any form, however, omnipresent and associates all things. The Hindu temples suggest contemplations, encouragement and further purification of mind and prompt the process of self-realisation in devotees; however the preferred process is left to the convention of individual devotees.

## Site

The areas of Hindu temple sites are usually vast with many of them built near water bodies, in the lap of nature. This is probably because according to ancient Sanskrit texts the most suitable site for a Hindu temple referred as 'Mandir' is at close proximity to water bodies and gardens where flowers blossom, chirping of birds and sounds of ducks and swans can be heard and animals can rest without any fear. These places exhibiting peace and tranquillity are recommended by the texts for building Hindu temples elucidating that Gods reside in such places. Although, leading Hindu temples are suggested near natural water bodies like confluence of rivers, river banks, seashores and lakes, according to the 'Puranas' and 'Bharat Samhita', Mandirs can even be constructed in sites devoid of natural water bodies. However, such suggestions include building up a pond with water gardens in front of the 'Mandir' or towards the left. In the absence of both natural and man-made water bodies, water remains typically present during consecration of the deity or the Mandir. Part III of Chapter 93 of the Hindu text Vishnudharmottara Purana also recommends building of temples within caves and chiselled out stones; atop hills amidst spectacular and serene views; within hermitages and forests; beside gardens; and at the upper end of a street of a town.

## Layout

Layout of a Hindu temple pursues a geometrical design known as vastu-purusha-mandala, the name of which is derived from the three vital components of the design namely Vastu meaning Vaas or a place of dwelling; Purusha, meaning the Universal principle; and Mandala meaning circle. Vastu Purusha Mandala is a mystical diagram referred to in Sanskrit as a Yantra. The symmetrical and self-repeating model of a Hindu temple demonstrated in the design is derived from the primary convictions, traditions, myths, fundamentality and mathematical standards.

According to Vastu Purusha Mandala, the most sacred and typical template for a Hindu temple is the 8x8 (64) grid Manduka Hindu Temple Floor Plan also referred to as Bhekapada and Ajira. The layout displays a vivid saffron centre with intersecting diagonals which according to Hindu philosophy symbolises the Purusha. The axis of the Mandir is created with the aid of the four fundamentally significant directions and thus, a perfect square is created around the axis within the available space. This square which is circumscribed by the Mandala circle and divided into perfect square grids is held sacred. On the other hand, the circle is regarded as human and worldly that can be perceived or noticed in daily life such as the Sun,

Moon, rainbow, horizon or water drops. Both the square and the circle support each other. The model is usually seen in large temples while an 81 sub-square grid is observed in ceremonial temple superstructures.

Each square within the main square referred as 'Pada' symbolises a specific element that can be in the form of a deity, an apsara or a spirit. The primary or the innermost square/s of the 64 grid model called Brahma Padas is dedicated to Brahman. The Garbhagruha or centre of the house situated in the Brahma Padas houses the main deity. The outer concentric layer to Brahma Padas is the Devika Padas signifying facets of Devas or Gods which is again surrounded by the next layer, the Manusha Padas, with the ambulatory. The devotees circumambulate clockwise to perform Parikrama in the Manusha Padas with Devika Padas in the inner side and the Paishachika Padas, symbolising facets of Asuras and evils, on the outer side forming the last concentric square. The three outer Padas in larger temples generally adorn inspirational paintings, carvings and images with the wall reliefs and images of different temples depicting legends from different Hindu Epics and Vedic stories. Illustrations of artha, kama, dharma and moksha can be found in the embellished carvings and images adorning the walls, ceiling and pillars of the temples.

Pillared outdoor halls or pavilions called Mandapa meant for public rituals with the ones in the east serving as waiting rooms for devotees adorn the large temples. The Mandir's spire, usually a tapering conical or pyramidal superstructure with a dome designed adhering principles of concentric squares and circles and referred in North India as Shikhaa and Vimana in South India is symmetrically aligned exactly above the Brahma Pada or the central core of the Mandir. Compounds of many larger temples house smaller temples and shrines that also follow fundamental aspects of grids, symmetry and mathematical perfection. Repetition and mirroring of fractal-like design structure forms a significant principle of Hindu temple designs.

The manuals comprising of Hindu temple layouts elucidates plans with squares in the count of 1, 4, 9, 16, 25 and thus, reaching up to 1024. Each plan of different Padas has individual significance, for instance in one pada plan the pada is regarded as the seat for a devotee or hermit to perform yoga, meditation or offer Vedic fire; a four Padas plan, also a meditative design represents a core at the center; and a nine Padas layout that generally forms model of smallest temples has a divine surrounded centre. Although the perfect square grid principle is primarily found in different temples of India, some others hold exceptions such as the Teli-ka-mandir and the Naresar temple in Madhya Pradesh and the Nakti-Mata temple in Rajasthan, indicating that Hinduism welcomed flexibility, creativity and aesthetic independence of artists.

### **Nagara**

The Nagara style that is palpable in different parts of India with varied elaborations in different localities has two particular features. The first being the presence of several graduated projections or rathakas in the centre of all sides of the square temple, thus bearing a cross-shape with several re-entrant angles on all sides. The second feature includes design of the spire or Shikhara that follow principles of concentric squares and circles and gradually taper in a convex curve while stretching upwards. The Kandariya Mahadeva Temple in Khajuraho in Madhya Pradesh is a fine example of this style.



### **Dravidian**

Dravidian temple architecture evolved in South India predominantly composed of temples built of sandstone, soapstone or granite. The square-shaped temple called Vimana has one or more storied pyramidal roof while its cell houses the image or emblem of the God. The Mandapas/Mandapams or porches are built in such a way that these precede and cover the door that leads to the cell. The Gopurams/Gopuras or elaborate gateway-towers or gate-pyramids enclose the temples. The Chaultris or pillared halls employed for different purposes forms one of the principal and constant features of this style. Temple tanks, wells, abodes of priests and other important buildings form part of this temple style. The famous Thanjavur temple of Tamil Nadu typifies this style.





## **Badami-chalukya**

Indian architecture saw an illustrious phase during the Badami Chalukyas rule. The foundation of cave temple architecture was laid by them on the banks of Malaprabha River in Karnataka during 500 and 757 CE. The Badami Cave temples situated in the town of Badami in northern Karnataka dating back to the 6th century is one of the finest examples of this architecture that consist of decorative pillars, finely chiselled ceiling panels and sculptures. More than 150 temples in the historic temple complex situated in the village of Aihole called 'Cradle of Indian architecture' and also Group of Monuments of Pattadakal are marked by UNESCO as World Heritage site comprising of architectural edifices like the Virupaksha temple and the Mallikarjuna temple are also brilliant examples of this style.

## **Gadag**

The Western Chalukya architecture or Gadag style of architecture is a specific style of decorative architecture that originated from the old dravida style and defines the Karnata dravida tradition. Evolved during the 11th century it prospered for around 150 years till 1200 CE during the reign of Western Chalukya Empire in the Tungabhadra region of Karnataka and saw construction of around 50 temples. A distinct feature of this style was articulation. Kasivisvesvara Temple at Lakkundi and Saraswati temple in the temple complex of Trikuteshwara at Gadag are some of the temples that illustrate this style.



## **Kalinga**

This style having three specific types of temples prospered in Odisha and Northern Andhra Pradesh. The three styles are Pidha Deula, Rekha Deula and Khakhara Deula with the first two linked with Shiva, Surya and Vishnu and the latter is predominantly associated with Goddesses Durga and Chamunda. Again the first type comprises outer halls for offerings and dancing while the latter two comprise of the sanctum sanctorum. The word Deula means temple. The famous Jagannath Temple of Puri and Lingaraj Temple of Bhubaneswar portray Rekha Deula style while Vaital Deula of Bhubaneswar typifies Khakhara Deula and the Sun Temple at Konark remains a prominent example of Pidha Deula.



## **Maru-Gurjara**

This temple architecture with two notable styles namely Maru-Gurjara and Maha-Maru originated in Rajasthan and its vicinity sometime around 6th century. Maru-Gurjara temple architecture is considered by scholars as an exclusive Western Indian architectural style that differs distinctly from temple architecture of North India. However, it is regarded to have some associative features with Hoysala temple architecture as sculpturally rich architecture is palpable in both the styles. The Nagda temple in Rajasthan illustrates this style.



Tigawa is a village in the Indian state of Madhya Pradesh and an archaeological site with a complex of about 36 Hindu temple ruins. Of these, the small but important and ancient Kankali Devi Temple is in good condition, and is usually dated to about 400-425 CE. Unless another building is mentioned, references to "the temple" below refer to this. Also referred to as Tigowa or Tigwan, the site is about 4 kilometres north of Bahoriband between Katni and Jabalpur. The Hindu temple ruins were badly damaged during a colonial era railway project when a contractor demolished and excavated the ruins as building material for the railway project.

Of the monuments, the Kankali Devi Temple is most notable and is a Gupta period temple. It is one of the oldest surviving Hindu temples, illustrating the formative stages of Hindu temple architecture and the essential elements found in the north Indian style through the modern era. It has a sanctum and an open portico supported on four pillars. The sides of the portico were filled in with walls containing panels at a later period. The sanctuary is, and always was, covered with a flat roof, and is generally very similar to the Gupta period Temple 17 at Sanchi. Despite its name, the temple was probably dedicated to Vishnu, with other elements added later. An image of him as Narasimha is placed inside the sanctum. The portico has an image of Sheshashai Vishnu (Narayana) and another one of Chamunda (Kankali Devi). Projecting from the front of the portico is a later relief of a seated Vishnu in the yoga asana position with a serpent hood above the head.

The Tigawa temples site is in the eponymous village Tigawa, also called Tiguan, in the Katni district and north of the town of Bahoriband. It is about 50 kilometres west of Katni, 70 kilometres north of Jabalpur, 350 kilometres east of Bhopal and 300 kilometres east of Sanchi and Udayagiri Gupta era monuments. The site is located on a plateau near the Kaimur range of hills, with belts of rocks, where ancient Indians used the local geology to build numerous small dams to harvest rainwater into water reservoirs that locals call jhils. These reservoirs extend from Bahoriband to the north of Tigawa. The local tradition is that there was in the distant past a large city in that location, which would explain the numerous mounds found in their region and when excavated, these mounds have yielded broken pottery and bricks. Alexander Cunningham speculated in 1879 that the Bahoriband (also Bahulaband, about 4 kilometres south of Tigawa) may have been the city that Ptolemy transliterated as Tholabana. The name Tigawa (Tigowa, Tigoan, Tigwan) may be derived from "Tri-gawa" or "three villages", referring to the neighboring villages of Amgowa and Deori.

Local tradition believes that it once had a fort and it was part of a major town named Jhanjhangarh, a suburb of ancient Bahoriband. The Tigawa site is a relatively small site consisting of a mound measuring about 30,000 square feet (2,800 m<sup>2</sup>) with a length of about 250 feet (76 m). The entire space was covered with over 36 temples of different sizes, the smallest one just 16 square feet (1.5 m<sup>2</sup>) built from square cut stones. All these small temples are gone, including some larger standing ones. The square cut stones of these temples were deemed a ready quarry for a railroad project by a late 19th-century railway contractor. They demolished and hauled away about 200 carts of the temple stones.[4][note 2] The local villagers submitted a petition to the British official in Jabalpur about 70 kilometers away, to stop the desecration. The official issued a halt order in the 1870s, thus helping preserve the remnants of the site. One stone temple that was too big for the railway project remained untouched, which locals call the Kankali Devi temple and further scholarship identified it to be one of the oldest Hindu temples of the Gupta era.[4] An upset Alexander Cunningham wrote, "to the railway contractor the finest temple is only a heap of ready squared stones", and "the temple of Jerusalem, a ready quarry is to him, and it is nothing more".

### **Kankali Devi temple: Vaishnavism tradition**

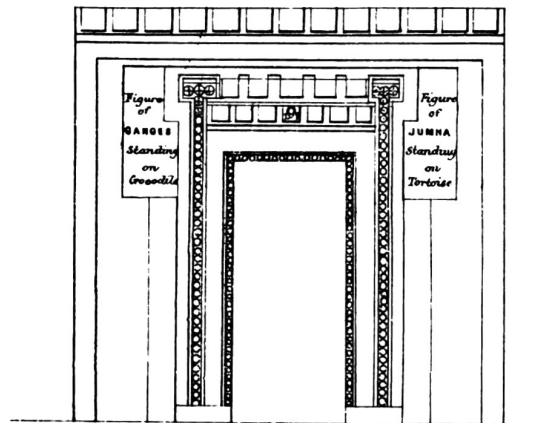
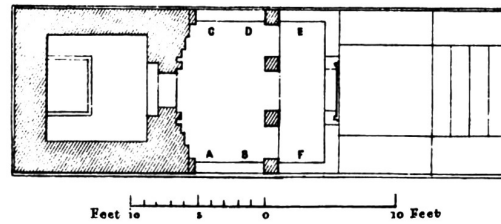
The Tigawa temple square plan and its sanctum's doorway design. The Kankali Devi temple has a square sanctum with a 12.5 feet (3.8 m) side outside and 8 feet (2.4 m) side inside. The sanctum does not open exactly to the east, but deviates by about 13 degrees, which Cunningham speculated may be intentional and related to "one nakshatra" (lunar house, Hindu calendar). The temple has an open portico supported on four pillars that projects 7 feet (2.1 m) in front of the sanctum. Both the pillared porch and the sanctum are on a raised plinth, its roof made from horizontal slabs of stone. The pillars of the mandapa are massive, shaped into three symmetric cross sections: a long square sectioned part close to the ground, above it an octagonal and sixteen-edged. Above these is a circular part capped with pot and foliage capitals. On top of the pillars are sculptures of two crouching lions with a tree separating them. The pillars are identical in all respects except the tree: one pillar has a mango tree, another a palm, while the other two trees are unclear. The portico was partially walled later, according to Percy Brown. The temple door jambs are intricately carved, in vertical bands that are concentric around the entrance. On top left of the entrance wall is river goddess Ganga holding a water vessel and riding her crocodile vahana, while the top right has river goddess Yamuna also holding a water vessel while riding her tortoise vahana. Goddess Ganga is plucking a fruit from custard-apple tree, while Yamuna is plucking one from a mango tree.

A Vishnu relief from the temple narrating the man-boar Varaha legend and the Samudra manthan mythology. The Kankali Devi Temple has reliefs showing Vishnu and generally considered to have been dedicated to Vishnu of Vaishnavism. An image of Narasimha, the man-lion avatar of Vishnu, is placed inside the sanctum.[19] The portico has an image of the Sheshashai Vishnu (Narayana). Another shows Varaha, the man-boar avatar of Vishnu. In front of the temple is a seated Vishnu image in yoga asana position with serpent hood above the head, similar to seated Tirthankaras and the Buddha. The temple also reverentially displays Shaktism and Shaivism themes, including a Chamunda (Kankali Devi) panel which gives the temple its name. On the wall opposite to Kankali Devi is Kali Devi (fierce form of Durga). Cunningham proposed that these Shaiva and Vaishnava reliefs were probably added around the 8th-century. The Kankali Devi temple is similar to the Gupta period Temple #17 at Sanchi, with both illustrating the basic elements of Hindu sacred architecture. The temple style is also similar to the Hindu cave temples of Udayagiri and the Eran temple, both of which can be dated to be from the Gupta era because of the inscriptions found there. A 7th or 8th-century CE Sanskrit inscription mentions the visit of a Umadeva of Kanyakubja, son of Samanya Bhatta, who had come to worship at the temple of Sitabhadra. There are also two inscriptions in Sankha Lipi.



PLAN OF OLD TEMPLE — SHADED.

MEDIEVAL ADDITIONS — PLAIN.



ELEVATION AND PLAN OF DOORWAY

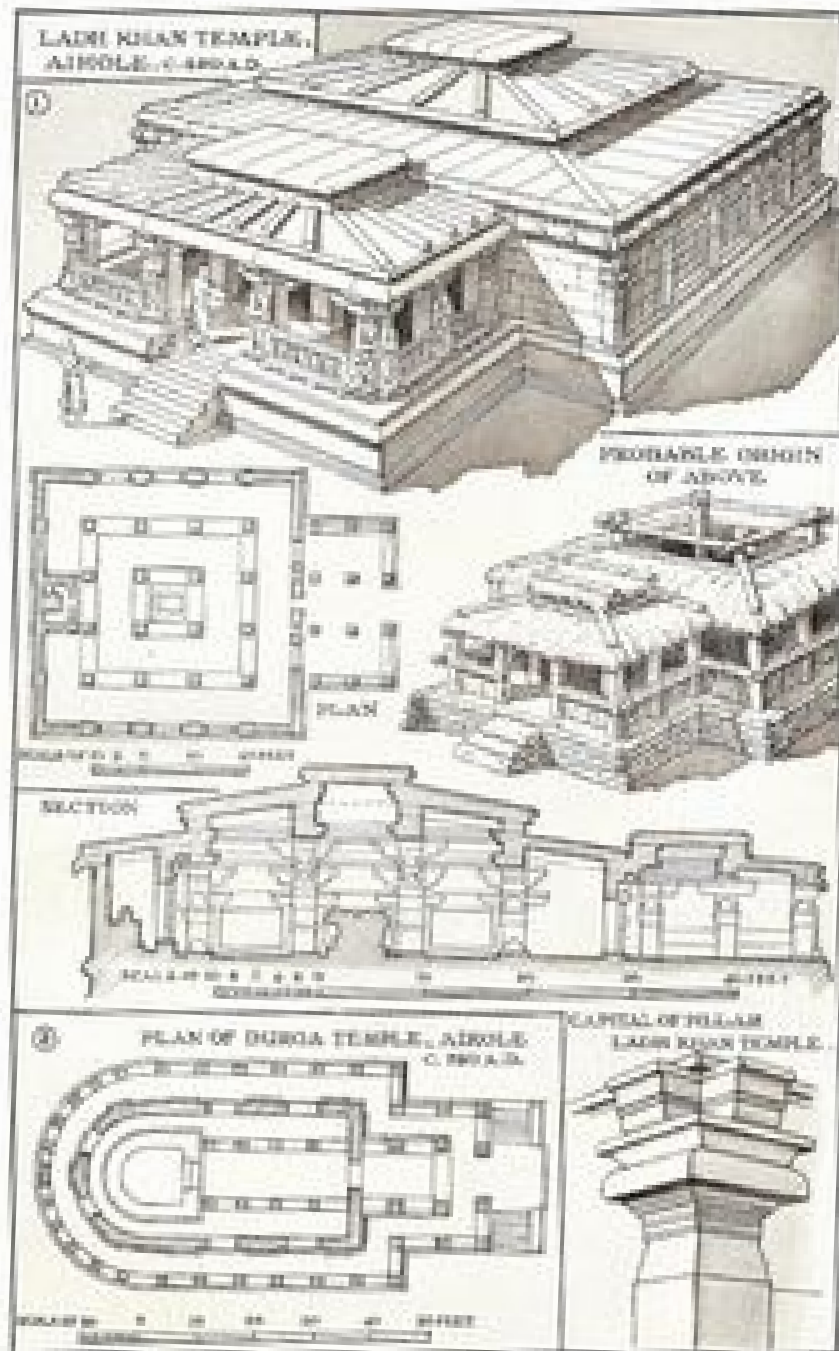


## **LADKHAN TEMPLE**

The Chalukya Shiva Temple (or Lad Khan temple), dedicated to Shiva, is one of the oldest Hindu temples and is located in the group of monuments at Aihole in the state of Karnataka, India. Formerly dated to the 7th or 8th century, it is now dated to about the 5th century. It is located to the south of the Durga temple, Aihole. The temple shows clear signs of following early timber models, none of which have survived. This is seen for example in the construction of the roof of the mandapa. The temple consists of a shrine (garbha griha) with a mandapa in front of it, and a covered path for circumambulating the sanctuary, seen in other very early temples. The mukha mandapa is situated in front of the sanctum and consists of a set of 12 carved pillars. The sabha mandapa leads to the maha mandapa and the pillars are arranged to form two concentric squares. The walls have floral patterns on them and the windows have lattice work done in the northern style. Facing the sanctum, a second smaller sanctum is situated above the center of the hall whose outer walls have many carved images.

Originally dedicated to Vishnu, now the main shrine houses a Shiva Linga with a Nandi. The temple was built in a Panchayatana style, indicating a very early experiment in temple construction. The special feature of this temple is that it starts with a rectangular structure and ends with a square structure. Based on a wooden construction design, the square and rectangular plan has a steep roof, which is an adaptation of wooden styles in stone. The maha mandapa is open to exterior by large windows between the pillars. The roof above the maha mandapa shows a turret as a first version of the future forms of tower: shikaras in north India and vimanas in the south.

The temple has a small shrine with a mandapa in front of it. The mandapa has a Mukha that's in front of the sanctum and comprises 12 carved pillars. From the sabha mandapa, one can enter maha mandapa, where the pillars are arranged to form two concentric squares. Floral patterns decorate the walls and the windows have a lattice made of Northern style. A smaller sanctum faces the main sanctum and is nested above the center of the hall. Previously, the temple was dedicated to Vishnu. Now, the temple holds Shiva Linga with a Nandi. The architecture of the temple falls under the category of Panchayatana style, which perhaps indicates some of the earliest experimentation in temple construction. The unique feature of this temple is that it has a rectangular structure and then as one progresses through the temple, it ends with a square structure. Both the square and rectangular plans have a steep roof, based on wooden construction design – the adaptation of wooden styles from stone. The maha mandapa then leads to the exterior by large windows between the pillars. Above the maha mandapa, there is a turret that shows the first version of future towers that became shikharas and vimanas.





### **Durga temple**

Durga Temple Aihole, the cradle of temple architecture in Karnataka built between the 7th – 8th centuries by the Chalukyas. Interestingly, this temple is not dedicated to the Goddess ``Durga". It takes the name after the word "Durg " or fortress which probably refers to a fort built close by . Almost all the monuments in this town are between 1200-1300 years old. We are celebrating Karnataka Rajyotsava of the day when Karnataka as a state was formed today. And what better way to celebrate than to visit a destination that is very ancient and filled with rich heritage.

"Aihole" is one among those places in India where the temples outnumber the houses. Aihole is considered as the "Cradle of Hindu Temple Architecture" or "Primary school for South Indian Temple Architecture". This place served as a capital to the Western Chalukya rulers. It can be also linked to pre historic age, Buddhist and Jainism. There are around 140 temples in this region and the sad part is that almost all are ruined. There is a continuous effort on the part of the ASI to improve and restore the place. Aihole can also be considered a Laboratory, since there was experimentation with various architectural styles in which the temples were constructed .This temple is the circumambulatory provision inside the temple (corridor around the shrine that continues to the Mandapa). The outer walls of the temple have intricately carved figures of Narasimha, Mahishasuramardini, Varaha, Vishnu, etc . Pierced windows are provided with pleasing patterns to allow light into the hall. The shikara seems to be influenced from the North Indian style of architecture

### **Mythological Origin:-**

One of the most notable places in the history of art in the State, Ayyavole and Aryapura are the names mentioned in the inscriptions. Now the place is called as Aihole, Aivalli and Ayyhole. Mythologically, It is believed that Saint Parusharama after fulfilling his vow of avenging his father's murder is said to have come down to the Malaprabha River and washed his blood stained hands and the Axe. The river water turned red due to the blood on the axe. A local lady saw the red water and shouted Ayyo, Hole! (Oh No, Blood!) and hence the name Aihole.



Agasthya is believed to have killed Vatapi's brother, the giant Ilvala, here and thus the name 'Ilavalapura' according to another version. Another version said that The name "Aihole" came from the words Ayya hole, or city of scholars (in Sanskrit, Arya Pura). The origin of the name is not the Durga goddess, but a fortress, maybe an enclosure which surrounded the temple or it was a part of fortification, probably of Maratha rulers. It is dedicated to either Vishnu or Shiva as the representations of Vishnu are as numerous as those of Shiva. The most original feature of the temple is a peristyle delimiting an ambulatory around the temple itself and whose walls are covered with sculptures of different gods or goddesses. Two staircases provide access to the porch at the entrance of the temple itself. The sober and square pillars are decorated with characters around the porch and the entrance to the peristyle. The parapet is carved with niches and small animals. The porch gives access to rooms with pillars ('mukha mandapa' and 'sabha mantapa') to get into the heart of the shrine (garbha griha).

#### Legend Of Durga Temple Aihole:-

Situated on the banks of River Nandini, amidst beautiful surroundings, is the spiritual energy center of South Kanara district. Goddess Durga is the loving and caring mother of the people of South Kanara. Surrounded by lush green fields and beautiful hills, Kateel has become a famous pilgrimage and a tourist center over the years. The legend behind this place of worship goes something like this. A severe drought hit this place and it had not rained for years. There was absolutely no vegetation and Even Brahmins were forced to eat meat and the people were on the verge of giving up their principles. The great Sage Jabaali disturbed by this situation used his 'Jnana Drishti', and found out that Arunasura the demon who escaped from death and fled when Goddess Durga killed Shambasura had made the people stop all yagas and yajnas as a revenge against the 'devas', thus leading to drought and scarcity for years.

In the meantime Arunasura acquired a boon from Brahma that he would not suffer death from any two legged or four legged being or from any weapon. Brahma also powered him with the Gayatri Mantra. After acquiring these powers, Arunasura defeated the devas and conquered heaven. The Devas prayed to Goddess Durga for help. One day Goddess appeared in Arunasura's garden as a beautiful woman. Seeing the lady, Arunasur Durga Temple, Durga Temple tours, Visit Durga Temple of Karnataka, Temple tour of Durga Temple, Religious place approached her. The beautiful lady reminded him that she had killed Shambasura and from whom Arunasura had escaped death. Arunasura gets angry and tries to kill the woman with a sword. The Goddess suddenly turned into a stone. Arunasura slashed the stone with the sword, then a vast swarm of bees emerged from the stone and stung him.

Devotees and followers from all over the world come to Kateel every year in huge numbers to participate in Simhamaasa, Navarathri and other holy occasions. Several educational institutions are also run through the temple's trust. The temple's trust also encourages several forms of arts. Notable among them is the yakshagana dashavatara mela, which was started as an offering to the goddess. During dussehra, navaratri and other annual celebrations several sacred rituals like, Chandika Havana, thula bhaara, Veda parayana, hari kathas etc are performed.

### Architecture Durga Temple, Aihole:-

The Durga temple is an example of southern (Dravidian) architectural type, with a later northern type superstructure imposed upon it-an incongruity apparent from the fact that the superstructure is a square structure clumsily fitted over an apsidal cella. The temple stands on a high moulded upapitha (sub-base), apsidal on plan and carrying a peripheral row of columns on its edge that surround the moulded adhisthana and walls of an apsidal vimana and its front mandapa. Thus the colonnade forms a covered circumambulatory with a sloping roof. The open mandapa is continued forward on a base of smaller width. The peripheral pillars of the front mandapa and those at the forward end of the circumambulatory have large statuary on them. The adhisthana inside is again apsidal, moulded with all the components, and carries the apsidal wall enclosing the inner apsidal wall of the cella or garbha-griha and a closed maha-mandapa in front of it, with two linear rows of four columns in each row that divide it into a central nave and lateral aisles. The central nave has a higher flat roof raised over a sort of clerestory in front of the cella-entrance, and two lateral aisles have sloping roofs, at a lesser height than the central roof. The aisles of the maha-mandapa are continuous on either side, with a closed inner circumambulatory between the inner or outer walls of the cella, which again has a sloping roof. The adhisthana of the apse is projected forward into the porch like a front mandap of a lesser width with four pillars in two rows.

The reliefs on the adhisthana and outer wall are cantoned by pilasters and enclose niches which are framed by shrine-fronts of all the patterns of northern and southern vimanas, kuta, sala, panjara, udugama, etc., and contain bold sculpture. The four recesses, two each between the three bays on the north and south sides and two more between the three bays round the apse-end, are provided with perforated windows. Over the inner wall of the cella perhaps rose the original apsidal griva and sikhara, as in the temples at Ter and Chejerla either with a wholly-solid core or supported by props inside. The advanced features of the temple, the variety of evolved shrine-fronts displayed in its niches, the style of its sculpture, its diverse corbel-forms and the existence in it of a chute, water-spout and the gargoyle-like pranala-a late feature-would justify placing the temple in the eighth century. This is also indicated by an inscription of Chalukya Vikramaditya II (733-46) on the ruined gopuram at the south-eastern part of the enclosing-wall. The name 'Durga' for the temple is misleading, since it was not dedicated to Durga, and is due to the fact that till the earlier part of the last century the temple formed part of a fortification (durga), probably of the Marathas. Oblong and apsidal plan marks the structure of this Durga temple. This ensures that the pillared corridor that is found between the porch and the main shrine contains the main sanctum sanctorum and has enough space for the devotees to do a circumambulation ritual around the principal shrine. The pillars have tiny openings through which the apse gives an outward view.

As per the ancient architectural definitions of the Hindu religion, the style of this Durga temple is classified as "Gaja Prishtha", meaning the backside of an elephant. This pattern is a little unusual for Hindu temples and it was believed that this style was an inspiration of architecture in Buddhist monasteries. However, it was later revealed that the Indian architecture had mentioned about this style years before the Buddhist style of architecture was formed. The Garba Griha or the main sanctum sanctorum has a huge tower which signaled the construction of future towers and vimanas.



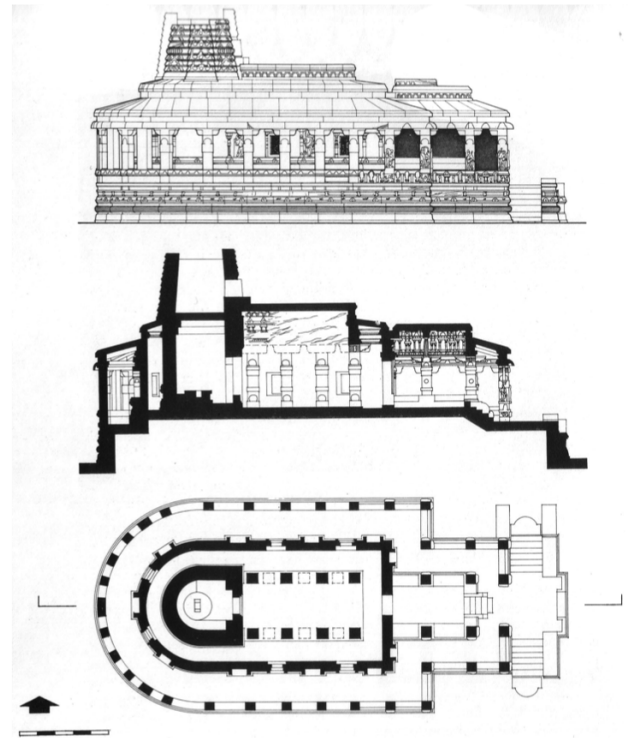
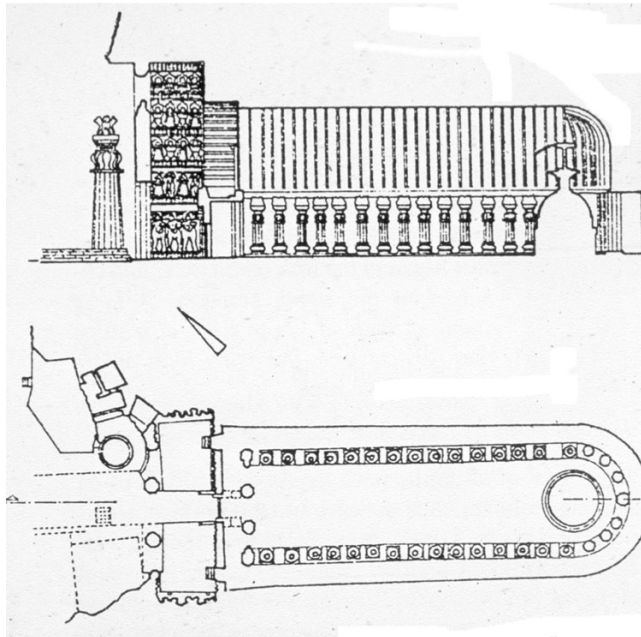
#### Significance of the Durga Temple Aihole:-

The Durga Temple Aihole is one of the architectural wonders of Aihole. The Durga Temple Aihole is quadrilateral in shape. The contour of the temple exhibits the Gajab Rasta style, that is, the backside of an elephant. Durga Temple Aihole is impressive with numerous pillar reliefs which exhibit the unique Chalukya architectural style. Also known as the fortress temple, the Durga Temple Aihole depicts a Buddhist chaitya and is adorned with exquisite carvings. One of the most beautiful sculptures of the Durga Temple Aihole is that of Goddess Durga.

The seven headed serpent carved at the ceiling of the Durga Temple of Aihole is another impressive work by the artisans. All the walls of the Durga Temple are decorated with sculptures of Hindu gods and goddesses. The temple also comes with a porch and an entrance to the epistle. Through the porch you can enter the rooms of the temple. There are several rooms within the Durga Temple along with a Garba Griha. This is the main part of the shrine where the spirit of the shrine is located. There are two main pillars of the temple, namely, the Mukha Mantapa and the Sabha Mantapa. The elevated plinth, the high galleries and the moulded adisthana are the other characteristics of the Durga Temple. The fine sculptures of Lord Narashima, Goddess Chamundi and Lord Shiva are the other attractions of the Durga Temple.

#### Nearby Temples:-

There are almost 125 temples at Aihole, the ancient capital of the Chalukya dynasty. Temple architecture of Aihole can be divided into two phases; one is the 4th and 5th century and the other is the 12th century. Numerous temples were built during this time span and every temple is unique in itself. Artisans experimented with the styles and created gems out of rock.



48 Durga temple, Aihole, eighth century: the semi-circular-ended plan is rare in structural architecture, deriving from rock-cut Buddhist sanctuaries

## Pallava Architecture

Pallava architecture was sub-divided into two phases: the rock cut phase and the structural phase. The rock cut phase lasted from the 610 AD to 668 AD and consisted of two groups of monuments, the Mahendra group and the Mamalla group. The Mahendra group is the name given to monuments constructed during the reign of Mahendravarman I (610 AD- 630 AD). The monuments of this group are invariably pillared halls hewn out of mountain faces. These pillared halls or mandapas follow the prototype of Jain temples of the period. The best examples of Mahendra group of monuments are the cave temples at Mandagapattu, Pallavaram and Mamandur.

The second group of rock cut monuments belonged to the Mamalla group in 630 to 668 AD. During this period free-standing monolithic shrines called rathas (chariots) were constructed alongside pillared halls. Some of the best examples of this style are the Pancha Rathas and Arjuna's Penance at Mahabalipuram. The second phase of Pallava architecture is the structural phase when free-standing shrines were constructed with stone and mortar brought in for the purpose. Monuments of this phase are of two groups - the Rajasimha group (690 to 800 AD) and the Nandivarman group (800 to 900 AD).[9] The Rajasimha group encompasses the early structural temples of the Pallavas when a lot of experimentation was carried out. The best examples of this period are the Shore Temple at Mahabalipuram and the Kanchi Kailasanathar Temple at Kanchipuram both constructed by Narasimhavarman II who was known as Rajasimha. The best example of the Nandivarman group of monuments is the Vaikunta Perumal Temple at Kanchipuram. During this period, Pallava architecture attained full maturity and provided the models upon which the massive Brihadeeswarar Temple of the Cholas at Thanjavur and GangaikondaCholapuram and various other architectural works of note were constructed.





### **Features of Pallava Architecture:**

Major Pallava rulers who built temples

Mantapas and pillars

Buddhist influence

Monolithic Indian rock cut architecture

Free standing temples

Gavaksha motif

Base of Dravidian shikhara

There was a major movement under Pallavas even before the imperial Cholas, and the art and architecture under Pallavas co-existed in South India along with Cholas, Chaukyas and Pandyas. We shall see the prominent features of art and architecture of the Pallava dynasty in this article.

### **Pallava Architecture**

The Pallava dynasty existed between the 3rd and 9th centuries CE, ruling a portion of what is today Andhra Pradesh (early Pallavas) and Tamil Nadu (later Pallavas). You may note here for comparison that early Chalukyas ruled in present day Karnataka. Kanchipuram was the capital of the Pallavas from 4th to 9th century. Huen Tsang had visited this city and wrote it was a glorious city.

The Pallava architecture shows the transition from the rock cut temples to the stone built temples. The earliest examples of the Pallava art are the rock cut temples of the 7th century AD, while the later examples are of structural temples built in the 8th and 9th century. The lasting monolithic temples known as rathas

and mandapas provide superb skill of sculptors of Pallava period. The monolithic temples (Eg: Five rathas) gave way to structural temples like the Shore temple in Mamallapuram.

Major Pallava rulers who built temples

Mahendravarman : Mandagapattu rock cut temple.

Rajasimha (Narsimhamvarman/Kalasamudra/Mammalia) : Kailasanathar Temple, Kanchipuram, Shore Temple Mahabalipuram (Mamallapuram)

Mantapas and pillars

The mantapas and pillars of rock cut temples and ratha temples bear their own distinctive characteristics.

Buddhist influence

The rock cut temples of the Mamallapuram show the influence of Buddhist rock cut caves. In ratha temples also, some ratha follow the Buddhist Vihara model central square hall supported by a pillared roof. Some rathas (Bhima, Sahadeva, Ganesh) follow Chaitya model with oblong shape bearing barrel roof and Chaitya gable.

Monolithic Indian rock cut architecture

The ratha temples or seven pagoda which are carved out in granite rock is the finest example of Indian monolithic rock cut architecture.

Free standing temples

The Pallava age shows the transition period from rock cut to structural temples. The ratha temples attempt to free themselves from the influence of rock cut 'Chaitya' and 'Vihara'. The structural detailing of the ratha temples that imitates wooden timber support, pilaster beams which are unnecessary in stone. This shows that they are not able to free totally from earlier wooden structured temples.

Gavaksha motif

It is a symbolic window through which deities are believed to be looked out. It is found in the Chaitya arches that consist of deities below the crown of entablature.

Base of Dravidian shikhara

The square ground storey with open verandas in Dharmaraja rathas forms the initiation of pyramidal square of Dravidian tradition. Pallava temples in Kanchi are a prototype of Vimana to be developed by the Cholas in the later period.

Base of Kalasa

In the pillars of the Mamallapuram group, above the kumbha or melon capital ( a particular element in pillars that supports the below structure) a padma flares up to the palagai (abacus) and in varaha mandapa this flaring element is surrounded by thinnest abacus which later took the form of kalasa in Chola temples.

Yalis

The base of pillars of some structural temples bears an architectural motif of a lion , later depicted by Cholas and this symbol of lion became the royal insignia of Pallavas.

## Kudus

In the facades of the walls, Buddhist chaitya motif kudus is seen (later to be adopted by the Chalukya).

## Decoration and ornamentation

The walls and pillars of cave temples and structural temple decorations with architectural designs are seen.

## Pillars

The pillars can be studied and understood as part of three stages of development.

First stage : This belongs to the pillars of rock cut mantapa with approximately 7 feet height. Here, brackets are seen towards the upper part of the pillar. Here, the pillar has a square shaft.

Second stage : Here, pillars were around 50 feet high with more ornate design. It shows the combination of shaft and capital. The lion motif is seen in the base of the shaft as well as in the capital.

Third stage: Here, pillars come under the mandapa of ratha temples. In this case, malasthana, a motif with a bend of a pearl festoon, is seen in the shaft. It rises up to the pillar separated by an incentive structure called kumbha or melon capital above which a padma flares up to the palagai or abacus.

## Regional influence

The architectural design of one ratha in mahabalipuram with square hall along with curvilinear, overhanging roof shows the influence of traditional bengali hut. It suggests that the origin of Dravidian shikhara had its origin from the bamboo hut.

## Beginning of gopura

The architecture of gopuram begins with the Pallava dynasty as the initiation is seen in the shore temple of mahabalipuram.

## Rock cut relief

The greatest sculptural development of the age is cutting out the cleft in Mamallapuram between the two huge granite boulders as descent of Ganga with presence of gods, demigods, kinnar etc. It is variously known as penance of arjuna, kiratarjuniya etc.

## Influence of Amaravati school of art

In the relief of the Mahabalipuram, the shape of gods in the form of clouds shows the influence of Amaravati art.

## Evidence of earliest portrait

In the Adivaraha cave , two portraits of a Pallava king accompanied by his son and queens are believed to be the earliest portrait sculpture after the Kushan images from Mathura.

## Influence of Shaivism and Vaishnavism

In the varaha mandapa of Adi Varaha cave, a panel showing varaha lifting the earth goddesses is seen. The brahma and shiva are also sculpted around the main varaha but in small size and disposition. In the panel of a Mahabalipuram cave, Durga as Korravai is depicted. Durga as Mahismardini is also a theme of the panel here.

#### The Descent of the Ganges /Arjuna's Penance

The huge sculpture of "The Descent of the Ganges" also known as Arjuna's Penance was related to the system of water supply. There are clear traces of a carefully designed system of water supply from the Palar River to the ancient city. The large cliff, thirty yards long and twenty three ft high, represents naga and naginis which symbolize water, adoring both sides of deities along with animals.

#### Animal sculpture

The animal sculpture, especially the relief of monkeys below the descent of Ganga, is a noticeable feature of Pallava art.

#### Shore temple mahabalipuram

Shore Temple is a granite made temple at Mahabalipuram built during the reign of Narsimhavarman. This group of temples is a UNESCO World Heritage Site and is the oldest structural temple (in contrast with rock cut temples) in India.

It is a beautiful 5 storey temple, which is a combined complex of 3 shrines; 2 dedicated to Shiva and one to Vishnu. The Shore Temple marks the culmination of the architectural efforts that began with the cave temples and monolithic rathas. 7 Pagodas is a term associated with the Shore Temple of Mahabalipuram. It is said that 6 more temples were associated with it, all now submerged in water. The term 'ratha' corresponds to free standing temples.

#### Summary

The Dravidian style of temple architecture began with the Pallava rule. It was a gradual evolution starting from the rock cut- cave temples to monolithic rathas which finally culminated in structural temples.

The Pallava period is an age when architecture showed grandeur and beauty. The period is also known as the age of "poetry in stone". The magnificent temple of Kailashnath, which is carved out in stone, bears the testimony of the period. The monolithic seven Pagodas or rathas named after Pandavas are architectural wonders, though sea-erosion has taken its toll.

#### **Chola Architecture**

The period of the imperial Cholas (c. 850 CE - 1250 CE) in South India was an age of continuous improvement and refinement of Chola art and architecture. They utilised the wealth earned through their extensive conquests in building long-lasting stone temples and exquisite bronze sculptures, in an almost exclusively Hindu cultural setting.



The Cholas built their temples in the traditional way of the Pallava dynasty, who were themselves influenced by the Amaravati school of architecture. The Chola artists and artisans further drew their influences from other contemporary art and architectural schools and elevated the Chola temple design to greater heights. The Chola kings built numerous temples throughout their kingdom, which normally comprised the plains, Central and Northern Tamil Nadu and at times the entire state of Tamil Nadu as also adjoining parts of modern Karnataka and Andhra Pradesh. In the evolution of the Chola temple architecture we can roughly see three major phases, beginning with the early phase, starting with Vijayalaya Chola and continuing till Sundara Chola, the middle phase of Rajaraja Chola and Rajendra Chola when the achievements scaled heights never reached before or since and the final phase during the Chalukya Chola period of Kulottunga Chola I till the demise of the Chola empire.

The Cholas in addition to their temples, also built many buildings such as hospitals, public utility buildings and palaces. Many such buildings find mention in their inscriptions and in contemporary accounts. The golden palace that Aditya Karikala supposedly built for his father Sundara Chola is an example of such a building. However, such buildings were of perishable materials such as timber and fired bricks and have not survived the ravages of time.

Pallavas were the first recognisable South Indian dynasty who indulged in the pursuit of architectural innovations. The first seeds of Chola temple architecture in Tamil Nadu were possibly sown during this period. The temple architecture evolved from the early cave temples and monolith temples of Mamallapuram to the Kailasanatha and Vaikuntaperumal temples of Kanchipuram. This architecture style formed the foundation from which the Cholas, who were in close contact with the Pallavas during their periods of decline, took some valuable lessons according to Nilakanta Sastri, in his A History of South India.

#### Vijayalaya Choleswaram

The early Cholas built numerous temples. Aditya I and Parantaka I were prolific builders for their faith. Inscriptions of Aditya I record that he built a number of temples along the banks of the river Kaveri. These temples were much smaller in comparison to the huge monumental structures of the later Cholas and were probably brick structures rather than stone.

The Vijayalacheswaram near Pudukkottai in Tamil Nadu is an example of a surviving early Chola building. The style of this structure clearly shows Pallava influences in the design. It has an unusual arrangement of a circular garbha griha (where the deity resides) within a square prakara - circumambulatory corridor. Above this rises the vimana or the tower in four diminishing storeys of which the lower three are square and the top circular. Each level is separated from the next by a cornice. The whole structure is surmounted by a dome which in turn is topped with a stone kalasa - a crest. Very faint traces of paintings can be seen inside on the walls. These paintings are dated not earlier than the 17th century. The little temple of Nageswara at Kumbakonam is also of the same period.

The Koranganatha Temple at Srinivasanallur near Agiripalli is an example of the period of Parantaka I. This temple is situated on the banks of the river Kaveri, and is a small temple with beautiful sculptures on every surface. The base of the wall has a row of sculpted mythical animals that were a unique feature of Chola architecture. The first floor is made of bricks which have been plastered.

Muvar Koil Temple in the Pudukkottai area was built by a feudatory of Parantaka Chola II during the second half of the tenth century. As the name suggests, the temple complex has three main shrines standing side by side in a row, along the north-south direction, facing west. Out of these three, only two, the central and southern vimanas (towers) are now extant. Of the third or the northern shrine, the basement alone remains. The architectural style of these shrines exhibit clear concordance with the later Chola temples.

Temple building received great impetus from the conquests and the genius of Rajaraja Chola and his son Rajendra Chola I. A number of smaller shrines were built during the early phase of this period. Notable amongst these is the Tiruvalisvaram temple near Tirunelveli. The temple is covered with exquisite well composed sculptures and friezes some containing comic figures. The entire cornice of the temple tower is embellished with designs of creepers and foliage. Other examples of such temples can be seen at the Vaidyanatha Temple at Tirumala Vadi and the Uttara Kailasa Temple at Thanjavur.

The maturity and grandeur to which the Chola architecture had evolved found expression in the two magnificent temples of Thanjavur and Gangaikondacholapuram. The magnificent Siva temple of Thanjavur, completed around 1009 is a fitting memorial to the material achievements of the time of Rajaraja. The largest and tallest of all Indian temples, it is a masterpiece constituting the high-water mark of South Indian architecture.

It is in this temple that one notices for the first time two gopuras (gateway towers, here oriented in the same direction). They are architecturally coeval with the main vimana and are referred to in inscriptions as Rajarajan tiruvasal and Keralantakan tiruvasal. In spite of the massive size of the gopuras, the vimana, rising majestically to a height of 190 feet, continues to dominate and it is only in the subsequent period that a change in the gradation of magnitude takes place.

Epigraphic evidence reveals that Rajaraja started building this temple in his 19th regnal year and it was completed on 275th day of his 25th regnal year, taking only 6 years. Rajaraja named this temple as Rajarajesvaram and the deity Shiva in Linga form as Peruvudaiyar, the temple is also known in the deity's name as Peruvudaiyarkovil. In later periods Maratha and Nayaks rulers constructed various shrines and gopurams of the temple. In later periods when the Sanskrit language was more popular during the Maratha rule the temple was named in Sanskrit as Brihadisvaram and the deity as Brihadisvara.

This temple carries on its walls the engraved evidence of the elaborate administrative and financial procedures concerning the day-to-day administration of the temple. The inscriptions give, apart from a comprehensive history of the times, a full enumeration of all the metallic images set up in the temple. Numbering about sixty-six, these icons are referred to with a description of the minutest details of size, shape and composition. This alone is a mine of information for the art historian.

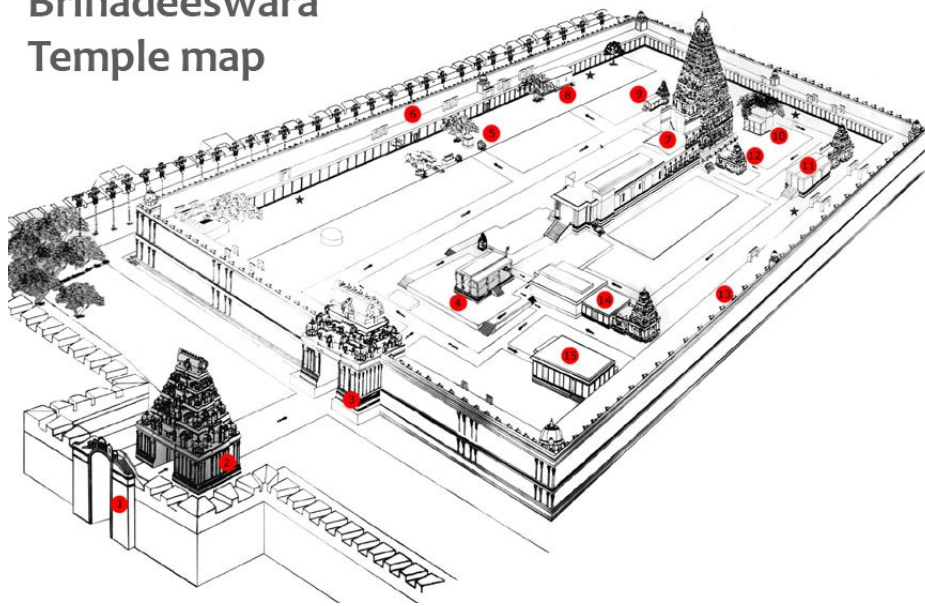
The temple stands within a fort, but 200 feet in height and is referred to as Dakshina Meru (Southern Mountain). The octagonal Shikharam (crest) rests on a single block of granite weighing 81 tons.[1][9] It is believed that this block was carried up a specially built ramp built from a site 6 kilometres away from the temple. Huge Nandis (figures of the sacred bull) dot the corners of the Shikharam, and the Kalasam on top by itself is about 3.8 metres in height. Hundreds of stucco figures bejewel the Vimanam, although it is possible that some of these may have been added on during the Maratha period. The main deity is a lingam

and is a huge, set in a two storeyed sanctum, and the walls surrounding the sanctum delight visitors as a storehouse of murals and sculptures. The temple is built entirely of granite in a place where there is no source of granite.

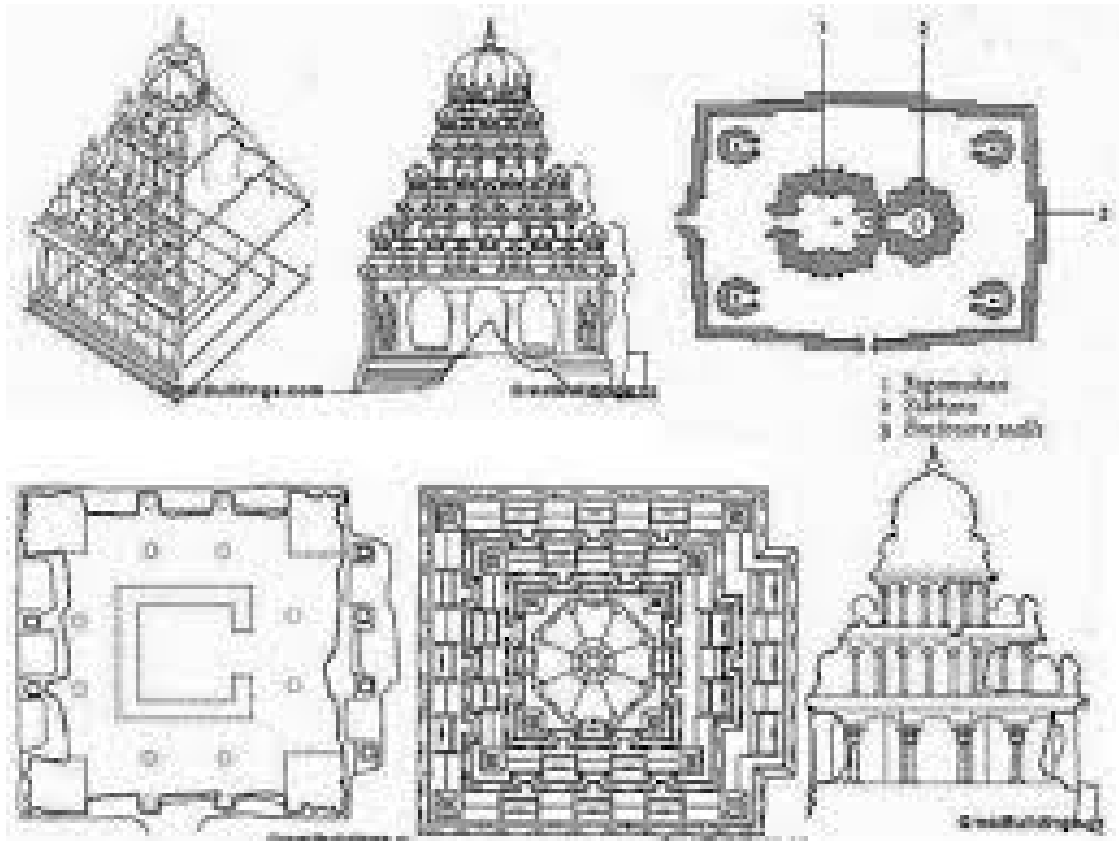
Though the temple of Gangaikonda Cholapuram follows the plan of the great temple of Thanjavur in most details it has characteristics of its own. From the remains it may be seen that it had only one enclosure wall and a gopura while the Thanjavur temple has two gopuras and enclosures. It is larger in plan though not as tall, the vimana being 100 feet square at the base and 186 feet high. The temple, which forms a large rectangle 340 feet long and 110 feet wide occupies the middle of an immense walled enclosure mainly built for defensive purposes. The vimana has the same construction as in Thanjavur, but the number of tiers making up the pyramidal body is only eight as against 13 in Thanjavur. The most important difference lies in the introduction of curves in the place of the strong straight lines of the Thanjavur vimana. The pyramidal body is slightly concave in its outline at its angles while the sides are curved to produce a somewhat convex outline. These curves enhance the beauty of the form of the vimana though they distract from its stateliness and power.



## Brihadeeswara Temple map



- 1 Maratha Entrance
- 2 Keralantakan Tiruvasal
- 3 Rajarajan Tiruvasal
- 4 Nandi Mandapam
- 5 Varahi Shrine
- 6 South Cloister Mandapam
- 7 Brihadeeswarar Temple
- 8 Intepretation Centre
- 9 Ganesha Shrine
- 10 Karuvur Devar Shrine
- 11 Subrahmanya Shrine
- 12 Chandikesvara Shrine
- 13 North Cloister Mandapam
- 14 Amman Shrine
- 15 Nataraja Mandapam





## Pandya Architecture

After the close of the Sangam age, the first Pandyan empire was established by Kadungon in the 6th century by defeating the Kalabhras. The empire ruled AD (6th – 10th century). Rock cut and structural temples are a significant part of Pandyan architecture. The Vimana and mandapa are some of the features of the early Pandyan temples. Groups of small temples are seen at Tiruchirappalli district of Tamil Nadu. The Shiva temples have a Nandi bull sculpture in front of the maha mandapa.[20] In the later stages of Pandya's rule, finely sculptured idols, gopurams on the vimanas were developed. Gopurams are the rectangular entrances and portals of the temples. Meenakshi Amman Temple in Madurai and Nellaiappar Temple in Tirunelveli were built during the reign of the Pandyas.

### Nellaiappar Temple

Nellaiappar Temple is a Hindu temple dedicated to the deity Shiva, located in Tirunelveli, built by Pandyas and the sanctums of the temple were constructed by Nindraser Nedumaran who reigned in the 7th century. The mani mandapam with its famous musical pillar was built by Later Pandyas in the 7th century. Nellaiappar temple is spread over 14 acres. The gopuram of this temple is 850 feet long and 756 feet wide. Sangili Mandapam built in 1647 by vadamalaiyappa pillayan connects the Ganthimathi Amman and Nellaiappar temples. From the inscriptions of Kulasekara Pandyan we learn that he defeated the Chera, Chola and Hoysala kings and built the outer walls of the temple with the war booty. The temples in Kalugumalai, a rocky hill in Thoothukudi district in southern Tamil Nadu. Kalugumalai houses the 8th century Jain Beds, Vettuvan Koil and Kalugasalamoorthy Temple, a Murugan temple at the foothills. The rock-cut temples, sculptures and the carvings are exemplary of early Pandyan architecture. The Jain beds are dedicated to the Jain and Hindu religious figures. Constructed in rock cut style, the unfinished temple was built during the reign of Pandyan king Parantaka Nedunjadaiya (768-800 CE). There are approximately 150 niches in the bed, that includes images of Gomateshwara, Parshvanatha and other Tirthankaras of the Jainism.

The carvings in the Vettuvan Koil show the top portion of the temple, with an unfinished bottom. The sculptures and the carvings are indicative of Pandyan art during the period. The granite rock looks like a blooming lotus, with hills surrounding it on three sides. The vimana (ceiling over the sanctum) has niches of Parsvadevatas, the attendant deities of Shiva, like ganas, Dakshinamurthy depicted playing a mridanga, Siva with his consort Uma, dancers, various niches of Nandi (the sacred bull of Shiva) and animals like monkeys and lions. Historian Sivaramamurti believes that this is the only place where Dakshinamurthy is depicted playing the Mridanga (a percussion instrument), while in all other places, he is depicted playing Veena.

The sanctum of the Kalugasalamoorthy temple is approached through a pillared hall near the gateway. The temple tank is located outside the temple. The sanctum is built in a rock-cut cave, which houses the image of Murugan in the form of Kazhugachalamurthi in seated posture. The sanctum faces West and the image of the presiding deity is 4 ft (1.2 m) tall. The image is supported with six hands with one of them holding Vel (divine spear), his left leg over the shoulder of the peacock and right is left hanging. There are separate shrines of his consorts Valli facing South and Deivanai facing North. There is a separate shrine for Shiva and Parvathi and all the Parsvatah Devatas (attendant deities) associated with Shiva temples. Usually in Murugan temples, his vehicle peacock would be heading towards his right, but it is supported on to the left

of Murugan in this temple. It is believed that Indra, the king of celestial deities, appeared as a peacock to worship Murugan. The image of the peacock is hence covered during the festivals.





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**SCHOOL OF BUILDING AND ENVIRONMENT  
DEPARTMENT OF ARCHITECTURE**

**UNIT – III- MIDDLE AGE –NAGARA ARCHITECTURE- SARA1301**

Lingaraja Temple is a Hindu temple dedicated to Shiva and is one of the oldest temples in Bhubaneswar, the capital of the Indian state of Odisha. The temple is the most prominent landmark of Bhubaneswar city and one of the major tourist attractions of the state.

The Lingaraja temple is the largest temple in Bhubaneswar. The central tower of the temple is 180 ft (55 m) tall. The temple represents the quintessence of the Kalinga architecture and culminates the medieval stages of the architectural tradition at Bhubaneswar. The temple is believed to be built by the kings from the Somavamsi dynasty, with later additions from the Ganga rulers. The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), nata mandira (festival hall) and bhoga-mandapa (hall of offerings), each increasing in the height to its predecessor. The temple complex has 50 other shrines and is enclosed by a large compound wall.

Bhubaneswar is called the Ekamra Kshetra as the deity of Lingaraja was originally under a mango tree (Ekamra) as noted in Ekamra Purana, a 13th-century Sanskrit treatise. The temple is active in worship practises, unlike most other temples in Bhubaneswar. The temple has images of Vishnu, possibly because of the rising prominence of Jagannath sect emanating from the Ganga rulers who built the Jagannath Temple in Puri in the 12th century. The central deity of the temple, Lingaraja, is worshipped both as Shiva and Vishnu. The harmony between the two sects of Hinduism, Shaivism, and Vaishnavism, is seen in this temple where the deity is worshipped as Harihara, a combined form of Vishnu and Shiva.

Lingaraja temple is maintained by the Temple Trust Board and the Archaeological Survey of India (ASI). The temple has an average of 6,000 visitors per day and receives lakhs of visitors during festivals. Shivaratri festival is the major festival celebrated in the temple and the event during 2012 witnessed 200,000 visitors. The temple compound is not open to non-Hindus, but there is a viewing platform beside the wall offering a good view of the main exteriors. This was originally erected for a visit by Lord Curzon when Viceroy.

## History

Lingaraja, literally means the king of Lingam, the iconic form of Shiva. Shiva was originally worshipped as Kirtivasa and later as Harihara and is commonly referred to as Tribhuvaneshwara (also called Bhubaneswar), the master of three worlds, namely, heaven, earth, and netherworld. His consort is called Bhuvaneshvari.

The temple in its present form dates back to the last decade of the eleventh century. There is evidence that part of the temple was built during the sixth century CE as mentioned in some of the seventh century Sanskrit texts. Ferguson believes that the temple might have been initiated by Lalat Indu Keshari who reigned from 615 to 657 CE. The Assembly hall (jagamohana), sanctum and temple tower were built during the eleventh century, while the Hall of offering (bhoga-mandapa) was built during the twelfth century. The natamandira was built by the wife of Salini between 1099 and 1104 CE. By the time the Lingaraja temple was completely constructed, the Jagannath (form of Vishnu) sect had been growing in the region, which historians believe, is evidenced by the co-existence of Vishnu and Shiva worship at the temple. The kings of Ganga dynasty were ardent followers of Vaishnavism and built the Jagannath Temple at Puri in the 12th century.



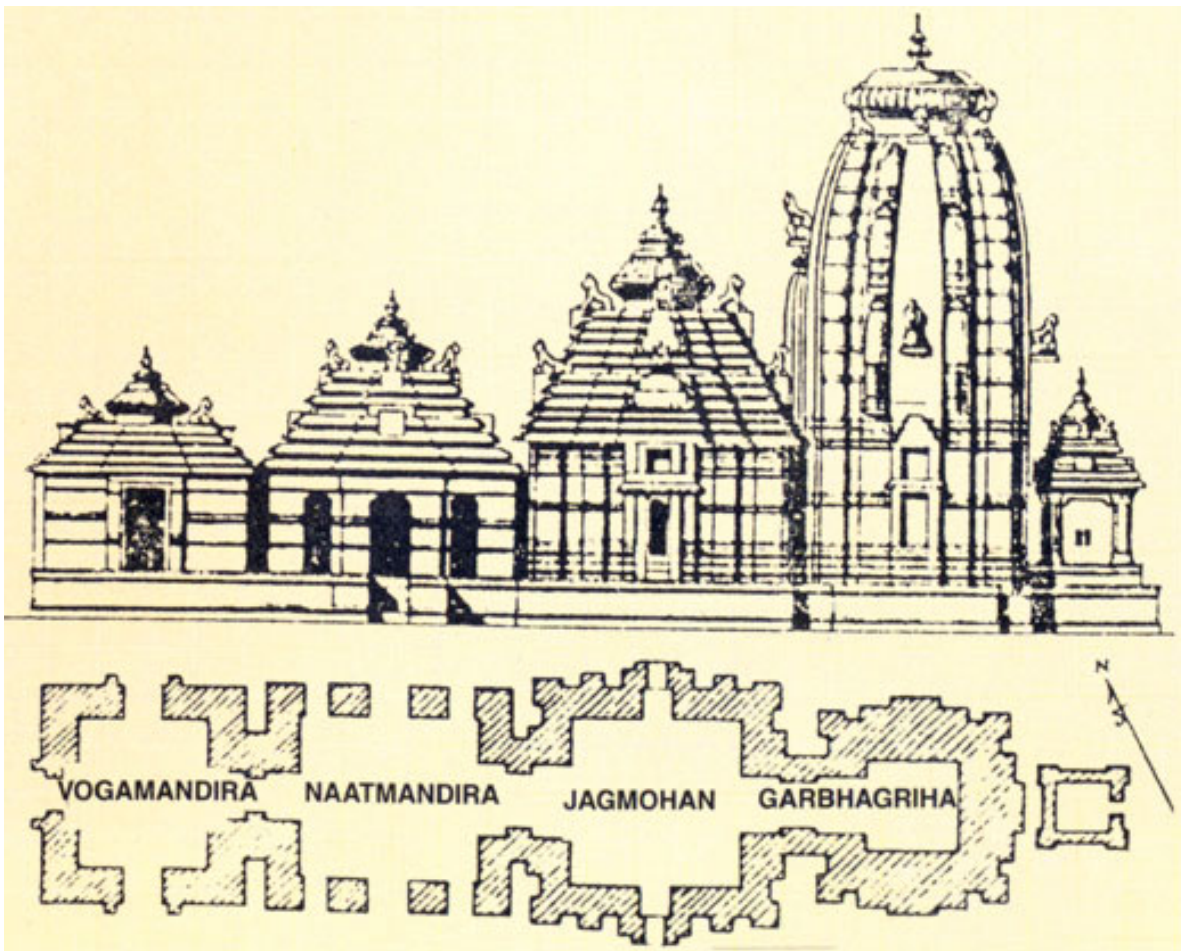
As per some accounts, the temple is believed to have been built by the Somavanshi king Yayati I (1025-1040), during the 11th century CE. Jajati Keshari shifted his capital from Jajpur to Bhubaneswar which was referred to as Ekamra Kshetra in the Brahma Purana, an ancient scripture. One of the Somavamsi queens donated a village to the temple and the Brahmins attached to the temple received generous grants.[8] An inscription from the Saka year 1094 (1172 CE) indicates gifts of gold coins to the temple by Rajaraja II.[9] Another inscription of Narasimha I from the 11th century indicates offer of betel leaves as tambula to the presiding deity. Other stone inscriptions in the temple indicate royal grants from Chodaganga to the nearby village people.

## Architecture

The Lingaraja temple is the largest temple in Bhubaneswar. James Fergusson (1808–86), a noted critic and historian rated the temple as "one of the finest examples of purely Hindu temple in India".[1] It is enshrined within a spacious compound wall of laterite measuring 520 ft (160 m) by 465 ft (142 m). The wall is 7.5 ft (2.3 m) thick and surmounted by a plain slant coping. Alongside the inner face of the boundary wall, there is a terrace to protect the compound wall against outside aggression.[4] The tower is 45.11 m (148.0 ft) high and the complex has 150 smaller shrines in its spacious courtyard. Each inch of the 55 m (180 ft) tall tower is sculpted.[1][12] The door in the gate of the entrance porch is made of sandalwood.[13]

The Lingaraja temple faces east and is built of sandstone and laterite. The main entrance is located in the east, while there are small entrances in the north and south. The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), nata mandira (festival hall) and bhoga-mandapa (hall of offerings), with all four in axial alignment with descending height.[12][14] The dance hall was associated with the raising prominence of the devadasi system that existed during the time.[5] The various units from the Hall of offering to the tower of the sanctum increase in height.

The bhoga mandapa (Hall of offering) measures 42 ft (13 m)\*42 ft (13 m) from the inside, 56.25 ft (17.15 m)\*56.25 ft (17.15 m) from the outside and has four doors in each of the sides. The exterior walls of the hall have decorative sculptures of men and beasts. The hall has a pyramidal roof made of up several horizontal layers arranged in sets of two with intervening platforms. It bears an inverted bell and a kalasa in the top. The nata mandira (festival hall) measures 38 ft (12 m)\*38 ft (12 m) from the inside, 50 ft (15 m)\*50 ft (15 m) from the outside, has one main entrance and two side entrances. The side walls of the hall have decorative sculptures displaying women and couples. It has a flat roof sloping in stages. There are thick pylons inside the hall. The jagamohana (assembly hall) measures 35 ft (11 m)\*30 ft (9.1 m) from the inside, 55 ft (17 m)\*50 ft (15 m) from the outside, entrances from south and north and has a 30 metres (98 ft) tall roof. The hall has a pyramidal roof made of up several horizontal layers arranged in sets of two with intervening platforms as in the Hall of offering. The facade to the entrances are decorated with perforated windows with lions sitting on hind legs. The inverted bell above second unit is adorned by kalasa and lions.[14][15] The rekha deula has a 60 m (200 ft) tall pyramidal tower over the sanctum and measures 22 ft (6.7 m)\*22 ft (6.7 m) from the inside, 52 ft (16 m)\*52 ft (16 m) from the outside over the sanctum. It is covered with decorative design and seated lions projecting from the walls. The sanctum is square in shape from the inside. The tower walls are sculpted with female figures in different poses.



Konark Sun Temple is a 13th-century CE (year 1250) Sun temple at Konark about 35 kilometres (22 mi) northeast from Puri on the coastline of Odisha, India. The temple is attributed to king Narasimhadeva I of the Eastern Ganga Dynasty about 1250 CE. Dedicated to the Hindu Sun God Surya, what remains of the temple complex has the appearance of a 100-foot (30 m) high chariot with immense wheels and horses, all carved from stone. Once over 200 feet (61 m) high,<sup>[1][5]</sup> much of the temple is now in ruins, in particular the large shikara tower over the sanctuary; at one time this rose much higher than the mandapa that remains. The structures and elements that have survived are famed for their intricate artwork, iconography, and themes, including erotic kama and mithuna scenes. Also called the Surya Devalaya, it is a classic illustration of the Odisha style of Architecture or Kalinga Architecture.

The cause of the destruction of the Konark temple is unclear and still remains a source of controversy. Theories range from natural damage to deliberate destruction of the temple in the course of being sacked several times by Muslim armies between the 15th and 17th centuries. This temple was called the "Black Pagoda" in European sailor accounts as early as 1676 because it looked like a great tiered tower which appeared black.<sup>[6][8]</sup> Similarly, the Jagannath Temple in Puri was called the "White Pagoda". Both temples served as important landmarks for sailors in the Bay of Bengal.<sup>[9][10]</sup> The temple that exists today was partially restored by the conservation efforts of British India-era archaeological teams. Declared a UNESCO world heritage site in 1984, it remains a major pilgrimage site for Hindus, who gather here every year for the Chandrabhaga Mela around the month of February. Konark Sun Temple is depicted on the reverse side of the Indian currency note of 10 rupees to signify its importance to Indian cultural heritage.

Temple is located in an eponymous village (now NAC Area) about 35 kilometres (22 mi) northeast of Puri and 65 kilometres (40 mi) southeast of Bhubaneswar on the Bay of Bengal coastline in the Indian state of Odisha. The nearest airport is Bhubaneswar airport. Both Puri and Bhubaneswar are major railway hubs connected by Indian Railway

The Konark Sun Temple was built in 1250 A.D. during the reign of the Eastern Ganga King Narasimhadeva-1 from stone in the form of a giant ornamented chariot dedicated to the Sun god, Surya. In Hindu Vedic iconography Surya is represented as rising in the east and traveling rapidly across the sky in a chariot drawn by seven horses. He is described typically as a resplendent standing person holding a lotus flower in both his hands, riding the chariot marshaled by the charioteer Aruna. The seven horses are named after the seven meters of Sanskrit prosody: Gayatri, Brihati, Ushnih, Jagati, Trishtubha, Anushtubha, and Pankti.<sup>[14]</sup> Typically seen flanking Surya are two females who represent the dawn goddesses, Usha and Pratyusha. The goddesses are shown to be shooting arrows, a symbol of their initiative in challenging the darkness. The architecture is also symbolic, with the chariot's twelve pairs of wheels corresponding to the 12 months of the Hindu calendar, each month paired into two cycles (Shukla and Krishna).

The Konark temple presents this iconography on a grand scale. It has 24 elaborately carved stone wheels which are nearly 12 feet (3.7 m) in diameter and are pulled by a set of seven horses. [When viewed from inland during the dawn and sunrise, the chariot-shaped temple appears to emerge from the depths of the blue sea carrying the sun.

The temple plan includes all the traditional elements of a Hindu temple set on a square plan. According to Kapila Vatsyayan, the ground plan, as well the layout of sculptures and reliefs, follow the square and circle geometry, forms found in Odisha temple design texts such as the Silpasarini. This mandala structure informs the plans of other Hindu temples in Odisha and elsewhere.

The main temple at Konark, locally called the *deul*, no longer exists. It was surrounded by subsidiary shrines containing niches depicting Hindu deities, particularly Surya in many of his aspects. The *deul* was built on a high terrace. The temple was originally a complex consisting of the main sanctuary, called the *rekha deul*, or *bada deul* (lit. big sanctum). In front of it was the *bhadra deul* (lit. small sanctum), or *jagamohana* (lit. assembly hall of the people) (called a *mandapa* in other parts of India). The attached platform was called the *pida deul*, which consisted of a square *mandapa* with a pyramidal roof. All of these structures were square at their core, and each was overlain with the *pancharatha* plan containing a variegated exterior. The central projection, called the *raha*, is more pronounced than the side projections, called *kanika-paga*, a style that aims for an interplay of sunlight and shade and adds to the visual appeal of the structure throughout the day. The design manual for this style is found in the *Silpa Sastra* of ancient Odisha.

A stone wheel engraved in the walls of the temple. The temple is designed as a chariot consisting of 24 such wheels. Each wheel has a diameter of 9 feet, 9 inches, with 8 spokes.

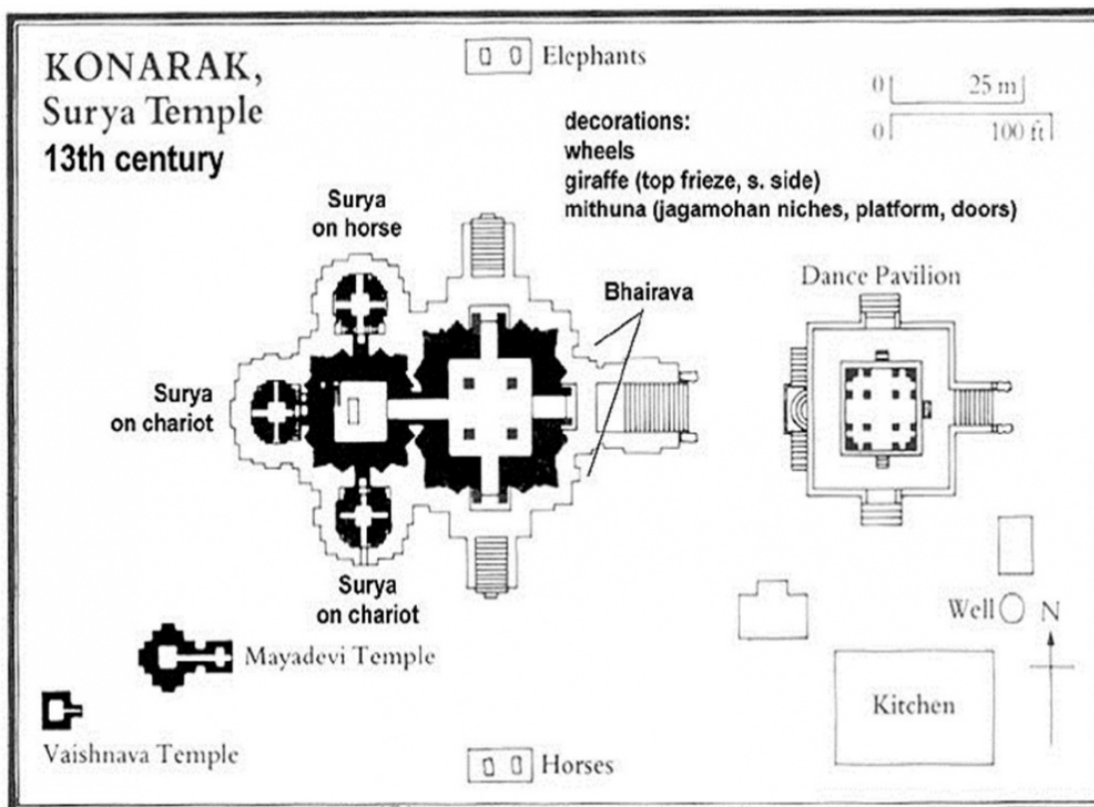
Twice as wide as they were high, the walls of the *jagamohana* are 100 feet (30 m) tall. The surviving structure has three tiers of six *pidas* each. These diminish incrementally and repeat the lower patterns. The *pidas* are divided into terraces. On each of these terraces stand statues of musician figures. The main temple and the *jagamohana* porch consist of four main zones: the platform, the wall, the trunk, and the crowning head called a *mastaka*. The first three are square while the *mastaka* is circular. The main temple and the *jagamohana* differed in size, decorative themes, and design. It was the main temple's trunk, called the *gandhi* in medieval Hindu architecture texts, that was ruined long ago. The sanctum of the main temple is now without a roof and most of the original parts.

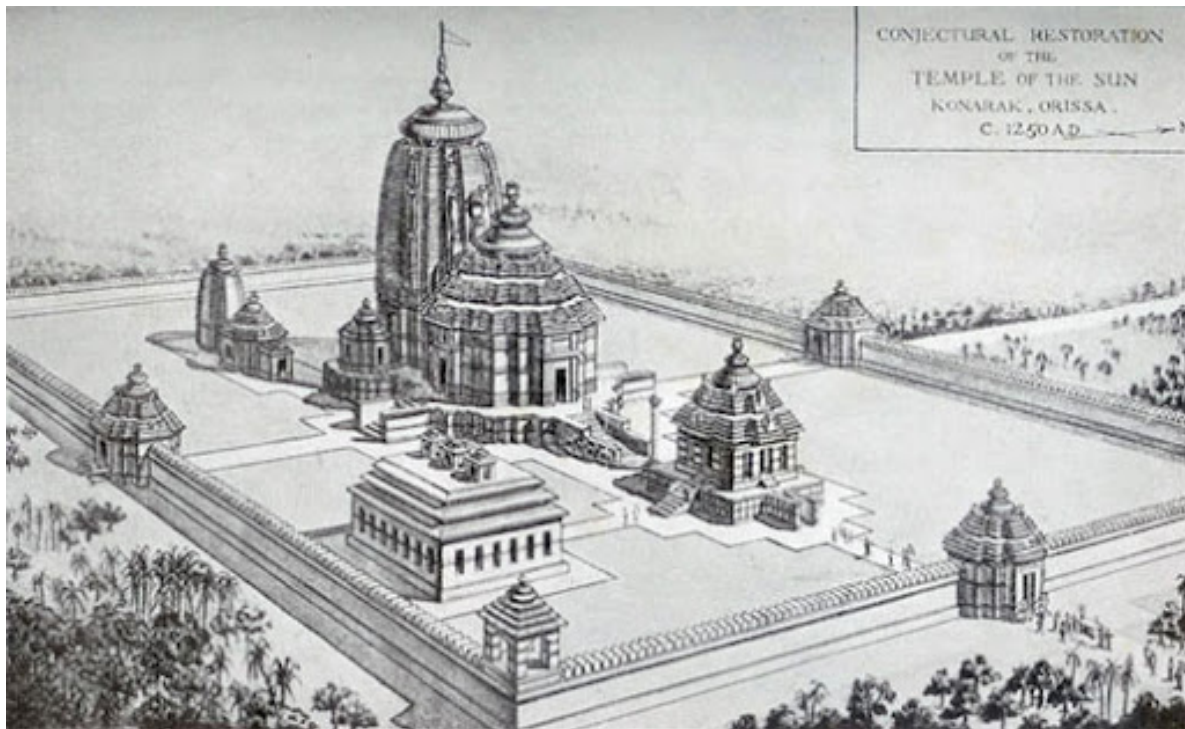
On the east side of the main temple is the *Nata mandira* (lit. dance temple). It stands on a high, intricately carved platform. The relief on the platform is similar in style to that found on the surviving walls of the temple. According to historical texts, there was an *Aruna stambha* (lit. Aruna's pillar) between the main temple and the *Nata mandira*, but it is no longer there because it was moved to the Jagannatha at Puri sometime during the troubled history of this temple.[5] According to Harle, the texts suggest that originally the complex was enclosed within a wall 865 feet (264 m) by 540 feet (160 m), with gateways on three sides.

The sun temple was made from three types of stone. Chlorite was used for the door lintel and frames as well as some sculptures. Laterite was used for the core of the platform and staircases near the foundation. Khondalite was used for other parts of the temple. According to Mitra, the Khondalite stone weathers faster over time, and this may have contributed to erosion and accelerated the damage when parts of the temples were destroyed. None of these stones occur naturally nearby, and the architects and artisans must have procured and moved the stones from distant sources, probably using the rivers and water channels near the site. The masons then created ashlar, wherein the stones were polished and finished so as to make joints hardly visible.



The original temple had a main sanctum sanctorum (vimana), which is estimated to have been 229 feet (70 m) tall. The main vimana fell in 1837. The main mandapa audience hall (jagamohana), which is about 128 feet (39 m) tall, still stands and is the principal structure in the surviving ruins. Among the structures that have survived to the current day are the dance hall (Nata mandira) and the dining hall (Bhoga mandapa).





### Surya Temple Modhera

The Sun Temple is a Hindu temple dedicated to the solar deity Surya located at Modhera village of Mehsana district, Gujarat, India. It is situated on the bank of the river Pushpavati. It was built after 1026-27 CE during the reign of Bhima I of the Chalukya dynasty. No worship is offered now and is a protected monument maintained by the Archaeological Survey of India. The temple complex has three components: Gudda Mandapa, the shrine hall; Sabha Mandapa, the assembly hall; and Kunda, the reservoir. The halls have intricately carved exterior and pillars. The reservoir has steps to reach the bottom and numerous small shrines.

The shrine proper of the Sun Temple was built during the reign of Bhima I of Chalukya dynasty. Earlier, during 1024-25, Mahmud of Ghazni had invaded Bhima's kingdom, and a force of around 20,000 soldiers had unsuccessfully tried to check his advance at Modhera. Historian A. K. Majumdar theorizes that the Sun Temple might have been built to commemorate this defense. On a block in western wall of cella, there is an inscription "Vikram Samvat 1083" upside down carelessly incised in Devnagari script which correspond to 1026-1027 CE. No other date is found. As the inscription is upside down, it evidences the destruction and reconstruction of the cella. Due to the position of the inscription, it is not firmly considered as the date of construction. On the stylistic ground, it is known that the Kunda with its corner shrines was built earlier at the beginning of the 11th century. The inscription is rather considered as the date of destruction by Ghazni instead of the construction. Soon after Bhima had returned to power. So the temple proper, the miniature and the niche shrines in the tank were built shortly after 1026 CE. The dancing hall was added much later in the third quarter of the 12th century along with the gateways, the porch of the temple proper and the doorframes of the temple and the cella during the reign of the Karna.

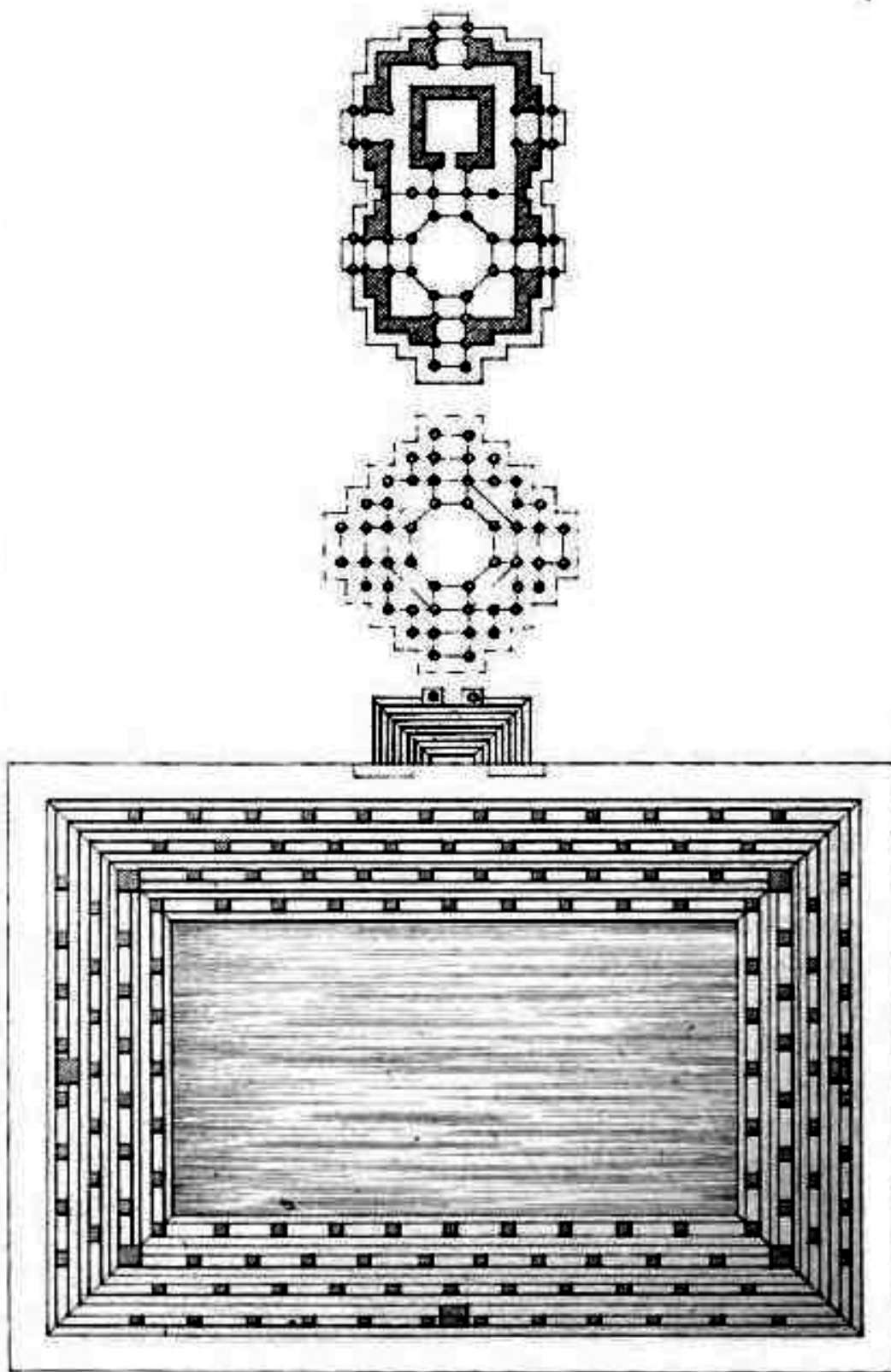
The temple is built on 23.6° latitude (approximately near Tropic of Cancer). The place was later known as Sita ni Chauri and Ramkund locally. No worship is offered here now. The temple is the Monument of National Importance and is maintained by the Archeological Survey of India.



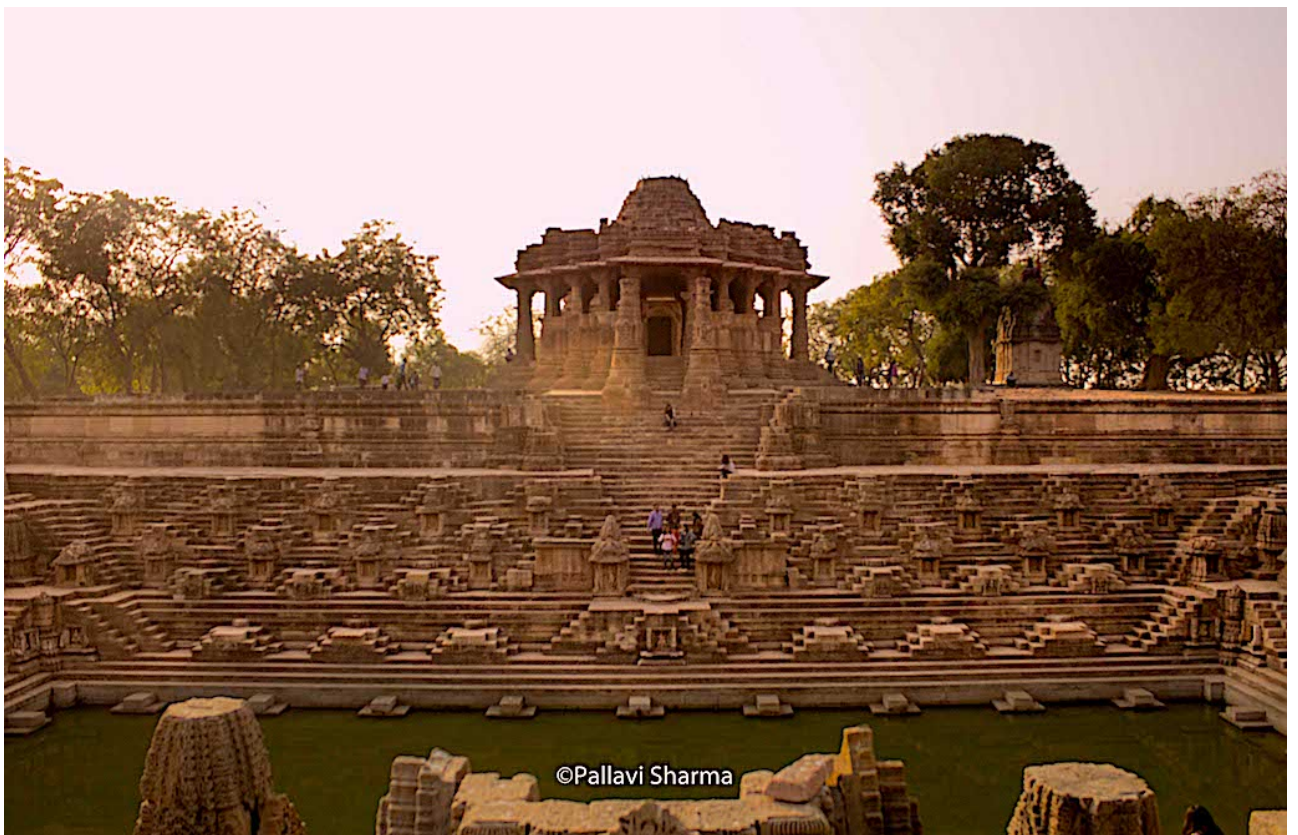
The temple complex is built in Māru-Gurjara style (Chalukya style). The temple complex has three axially aligned components; the shrine proper (garbhagriha) in a hall (gudda mandapa), the outer or assembly hall (sabha mandapa or ranga mantapa) and a sacred reservoir (kunda).

The Sabhamandap is not in continuation with Gudda Mandapa but is placed little away as a separate structure. Both are built on a paved platform. Their roofs have collapsed long ago leaving behind a few lower-most courses. Both roofs are 15' 9" in diameter but are constructed differently. The platform or plinth is inverted lotus-shaped.









Gudda Mandapa

The Gudhamandapa measures 51 feet 9 inches by 25 feet 8 inches. It is almost equally divided into Gudhamandapa, the hall and Garbhagriha, the shrine proper. Both are rectangular in plan with one projection on each of the smaller sides and two projections on each of the longer sides. These projections on the smaller sides form the entrance and the back of the shrine. The three projections of the outer wall of Gudda Mandapa had windows on each side and the east projection had the doorway. These windows had perforated stone screens; the northern is in ruins and the southern is missing. Pradakshina Marg is formed by the passage between the walls of Garbhagriha and the outer walls of Gudda Mandapa. The roof of the passage has stone slabs carved with rosettes. The Shikhara of it no longer exists.

#### Garbhagriha

The Garbhagriha, the shrine proper or sanctum sanctorum is square measuring 11 feet from inside.

The shrine had two cells; a cell below the level of the upper cell. The floor of the upper cell is now fallen which once housed the image of a deity. The seat of the image is now in a pit. The lower cell was probably used for storage.

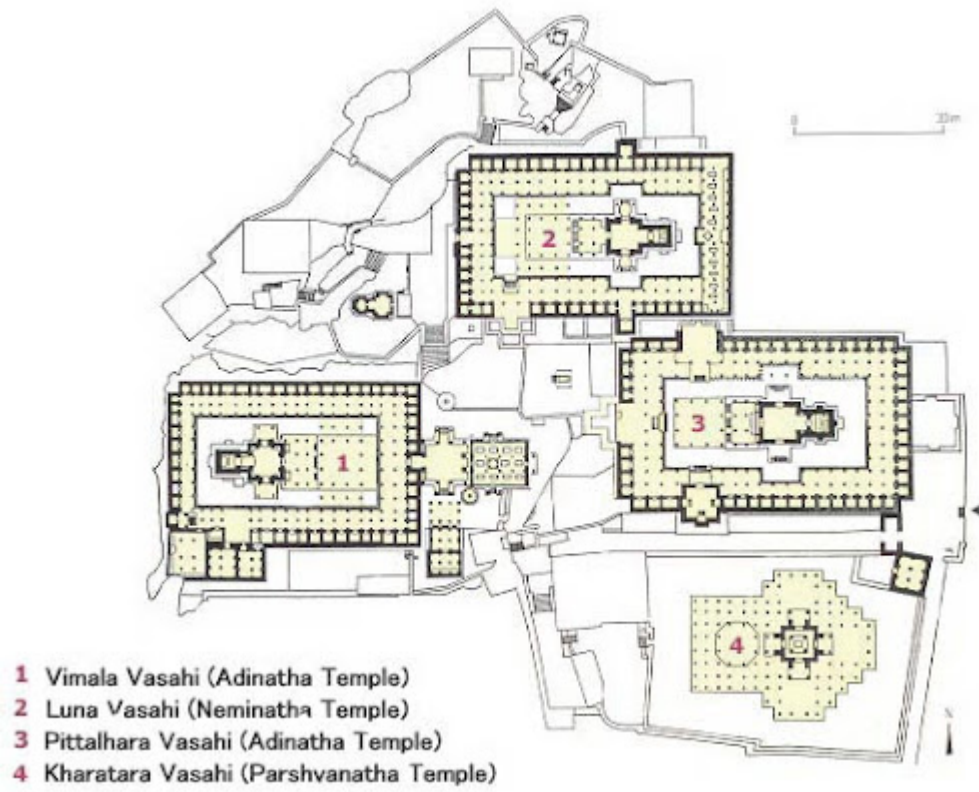
The walls inside the shrine are plain and the outer wall is decorated. The doorway has carved figures of seated Surya in panels surrounded by dancers and amorous couples. All figures are mutilated and the images on the door-lintel are completely destroyed.

The sanctum sanctorum is designed in a way that the first rays of rising sun lit up the image of Surya during solar equinox day and on summer solstice day, the sun shines directly above the temple at noon casting no shadow.

#### Gudda Mandapa Base moldings:

The outer walls of the shrine are highly decorated. The base and walls of the shrine and hall are divided into several stretches with unique carvings. The Pitha or adhisthana, the base has the two square members called Bhat followed by a cyma recta carving (lower part convex and upper part concave). It is followed by padma or padmaka, the molding in form of an inverted lotus. The next is antarita, a fillet or an astragal with a sharp edge between two recesses. Above this is patta having thin molding called chhaja at its lower edge. The next is another chhaja separated by neck, alinga. The next broadband, patti, is gajathara carved with elephants. The following band narathara has figures of men in different attitudes







The Dilwara Temples of Dilwara Temples are a group of svetambara Jain temples located about 2.5 kilometres from the Mount Abu settlement in Sirohi District, Rajasthan's only hill station. The earliest were built by Vimal Shah and supposedly designed or at least financed by Vastupala, Jain minister of Dholka. They date between the 11th and 16th centuries, forming some of the most famous monuments in the style of Māru-Gurjara architecture, famous for their use of a very pure white marble and intricate marble carvings. They are managed by Seth Shri Kalyanji Anandji Pedhi, Sirohi and are a pilgrimage place for Jains, and a significant general tourist attraction. Although Jains built many temples at other places in Rajasthan, the Dilwara temples are believed to be the most impressive.

#### Architecture:

The five Dilwara Temples are among the most famous Jain temples. The Vimal Vasahi is much the earliest, constructed by 1031, with the Luna Vasahi by 1230, and the others at intervals between 1459 and 1582. All are in a very white marble that adds greatly to their effect, and remain in use. The oldest and largest two have large amounts of intricate carving even by the standards of the style, reaching a peak in the Luna Vasahi temple. The main buildings of the first three named are surrounded by "cloister" screens of devakulikā shrines, and are fairly plain on the outer walls of these; in the case of the Vimal Vasahi this screen was a later addition, around the time of the second temple. These three have an axis from the sanctuary through a closed, then an open mandapa to an open rangamandira, or larger hall for dance or drama. Surrounding the main temple with a curtain of shrines was to become a distinctive feature of the Jain temples of West India, still employed in some modern temples.

In later temples in the Māru-Gurjara style, a very pure white marble like that at Dilwara came to be regarded as highly desirable, even essential. In modern times, when the style has become popular in other regions of India, and with Hindu and Jain communities in other countries, local Rajasthani marble is often carved and transported to the new building.

The temples have an opulent entranceway, the simplicity in architecture reflecting Jain values like honesty and frugality. The ornamental detail spreading over the minutely carved ceilings, doorways, pillars, and panels is considered to be remarkable. It is said that workmen were paid in gold according to the weight of marble powder scraped off.

#### Five Temples:

The temple complex is in the midst of a range of forested hills. There are five temples in all, each with its own unique identity. All the five temples are enclosed within a single high walled compound. The group is named after the small village of Dilwara or Delvara in which they are located. The five temples are:



- Vimal Vasahi, dedicated to the first Jain Tirthankara, Shri Adinatha
- Luna Vasahi, dedicated to the 22nd Jain Tirthankara, Shri Neminatha.
- Pittalhar, dedicated to the first Jain Tirthankar, Shri Adinatha.
- Parshvanath, dedicated to the 23rd Jain Tirthankara, Shri Parshvanatha.
- Mahavir Swami, dedicated to the last Jain Tirthankara, Shri Mahavir Swami.

Among the five marble temples of Dilwara, the most famous are the Vimal Vasahi and the Luna Vasahi temples.

#### Vimal Vasahi Temple

The Adinatha or Vimala Vasahi Temple is carved entirely out of white marble and was mostly built in 1032 by Vimal Shah, a minister of Bhima I, the Chaulukya king of Gujarat. The outer mandapa is an addition of the next century. The temple is dedicated to Lord Rishabha. The temple stands in an open courtyard surrounded by a corridor, which has numerous cells containing smaller idols of the tirthankaras. The richly carved corridors, pillars, arches, and 'mandaps' or porticoes of the temple are simply amazing.

The ceilings feature engraved designs of lotus-buds, petals, flowers and scenes from Jain mythology. The figures of animal life, life journey from dream to incarnation of tirthankaras are carved. There are 59 devakulikas (small shrines) facing the main image of Rishabhanatha. There are 7 additional cells are found, 1 cell houses image of Ambaji and 2 cells of Munisuvrat. The mulnayak idol of Rishabhanatha is finally carved with attendant deities and images of 4 tirthankar carved, giving the idol name Sapparikar Panchtirthi.

The Nav Chowki is a collection of nine rectangular ceilings, each containing carvings of different designs supported on ornate pillars. The Gudh mandap is a simple hall after stepping inside its heavily decorated doorway. The Gudh mandap, houses two idols of Parshvanatha in Kayotsarga position. Installed is the idol of Adi Nath or Lord Rishabdev, as he is also known. The mandap is meant for Aarti to the deity. The ceiling has carvings of horses, elephants, musician, dancers and soldier. The Hastishala (Elephant courtyard) was constructed by Prithvipal, a descendant of Vimal Shah in 1147-49 and features a row of elephants in sculpture with the members of the family riding them

#### Luna Vasahi

The Luna Vasahi or Neminatha temple is dedicated to Lord Neminath. This magnificent temple was built in 1230 by two Porwad brothers - Vastupal and Tejpal - both ministers of a Virdhaval, the Vaghela ruler of Gujarat.[16] The temple built in memory of Vastupal & Tejpal's late brother Lunig was designed after the Vimal Vasahi temple. The temple has a similar structure as Vimala Vasahi but the richness of the carving inside is even greater. The main hall or Rang mandap features a central dome from which hangs a big ornamental pendant featuring elaborate carving. Arranged in a circular band are 72 figures of Tirthankaras in sitting posture and just below this band are 360 small figures of Jain monks in another circular band. The Hathishala or elephant cell features 10 marble elephants, polished and realistically modelled. One of the special feature of temple is the two niches of Derani (wife of younger brother) and Jethani (wife of older brother), the wife of Vastupal and Tejpal. Both of the niches have the image of Lakshmi with sculptures of Sambhavanatha and Shantinatha respectively.

The Nav Chowki features some of the most delicate marble stone cutting work of the temple. The ceilings of the temple depict scenes of the life of Neminatha with images of Rajmathi (who was to marry Neminatha) and Krishna. The Gudh mandap features a black marble idol of the 22nd Tirthankara Neminatha. The Kirthi Stambha is a big black stone pillar that stands on the left side of the temple. The carvings of devkulikas and Chakreshvari in the ceiling of the temple are also noteworthy. The Kirti Stambh (pillar of pride) was constructed by Maharana Kumbha of Mewar. The remaining three temples of Dilwara are smaller.

### Pittalhar Temple

### Pittalhar Temple

This temple, also called the Adinatha temple, was built by Bhima Shah, a minister of Sultan Begada of Ahmedabad, between 1316-1432 AD. A massive metal statue of the first Tirthankara, Rishabha Dev (Adinath), cast in five metals, is installed in the temple. The main metal used in this statue is 'Pital' (brass), hence the name 'Pittalhar'. The name of the temple is also mentioned in an inscription dating back to 1432, found in Digambar shrine in Dilwara complex.

There are a total of 107 images in the main shrine. The Shrine consists of a main Garbhagriha, Gudh mandap and Navchowki with idols of yakshi Chakreshwari and yaksha Gomukha on both sides. It seems that the construction of Rang Mandap and the corridor was left unfinished. The old mutilated idol was replaced and installed in 1468-69 AD weighing 108 maunds (four metric tons) according to the inscription on it.[42] The image was cast by an artist 'Deta' which is 8 ft (2.4 m). high, 5.5 ft (1.7 m). broad and the figure is 41 inches (1,000 mm) in height. In Gudh Mandap on one side, a big marble Panch-Tirthi sculpture of Adinath is installed. Some shrines (devakulika) were constructed in 1474 and 1490, before construction was abandoned.[page needed]

### Parshvanatha Chaumukha Temple

This temple, dedicated to Lord Parshvanath, was built by Sangvi Mandlik and his family in 1458–59.[39] According to popular belief, masons offered free remaining stones of Vimala Vasahi and Luna Vasahi to add the marble since the temple was built by grey stone. It consists of a three-story building, the tallest of all the shrines at Dilwara. Not all the tower remains. On all the four faces of the sanctum on the ground floor are four big mandapas housing a Chaumukha idol of Parshvanatha. On the first floor, the Chaumukha idol the front iconography is of Chintamani Parshvanath, second Magalakar Parshvanatha and third Manoratha-Kalpadruma Parshvanatha all are depicted with hood of nine cobras. The fourth image of Parshvanatha is illegible. In the corridor there are images of 17 tirthankaras and paintings of flowers. There is depiction of 14 dreams the mother of tirthankars had before their births. On the second floor, the Chaumukha idol is of Sumatinatha, Parshvanatha, Adinatha and Parshvanatha. The idol of Goddess Ambika is also present. On the third floor, the Chaumukha idol is of Parshvanatha.

The outer walls of the sanctum comprise ornate sculptures in gray sandstone, depicting Dikpalas, Vidya Devis, Yakshinis, Shalabhanjikas and other decorative sculptures comparable to the ones in Khajuraho and Konark.

## Shri Mahaveer Swami Temple

This is a small structure constructed in 1582 and dedicated to Lord Mahavira. It is a small temple with carvings on its walls. On the upper walls of the porch there are pictures painted in 1764 by the artists of Sirohi. There are detailed carvings of flowers, pigeons, court-scene, dancing girls, horses, elephants, and other scenes. On each side of Mahavira, there are 3 idols of tirthankar. Outside the shrine, there is a marble slab of rectangular shape with a triangle stone over it containing 133 images of miniature-sized tirthankar with a larger image in center.

## Jirnodhar (Repairs)

The temples have undergone repairs from time to time. Allauddin Khilji had attacked and damaged the temples in 1311. In 1321, Bijag and Lalag of Mandore had undertaken repairs.

In 1906, Lallubhai Jaichand of Patan had the temples repaired and reconsecrated on April 25, 1906, under the supervision of Yati Hemasagar.[48] Extensive repairs were again undertaken during 1950-1965 by Anandji Kalyanji with the work done by the Sompura firm Amritlal Mulshankar Trivedi. The older marble has a yellow patina, whereas the newer marble is white.

The temples are currently administered by the Seth Kalyanji Paramanandji Pedi (not to be confused by Seth Anandji Kalyanji Pedhi of Ahmedabad). Seth Kalyanji Paramanandji Pedi also runs a Bhojanshala (dining hall) nearby.





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## **UNIT – IV- LATE MIDDLE AGE – SARA1301**



Notre-Dame de Paris (French: [notʁə dam də paʁi] (About this sound listen); meaning "Our Lady of Paris"), referred to simply as Notre-Dame,[a] is a medieval Catholic cathedral on the Île de la Cité in the 4th arrondissement of Paris. The cathedral was consecrated to the Virgin Mary and is considered to be one of the finest examples of French Gothic architecture. Its pioneering use of the rib vault and flying buttress, its enormous and colourful rose windows, as well as the naturalism and abundance of its sculptural decoration set it apart from the earlier Romanesque style.[5] Major components that make Notre Dame stand out include its large historic organ and its immense church bells.

The cathedral's construction began in 1163 under Bishop Maurice de Sully and was largely complete by 1260, though it was modified frequently in the following centuries. In the 1790s, Notre-Dame suffered desecration during the French Revolution; much of its religious imagery was damaged or destroyed. In the 19th century, the cathedral was the site of the coronation of Napoleon I and the funerals of many presidents of the French Republic.

Popular interest in the cathedral blossomed soon after the 1831 publication of Victor Hugo's novel *Notre-Dame de Paris* (better known in English as *The Hunchback of Notre-Dame*). This led to a major restoration project between 1844 and 1864, supervised by Eugène Viollet-le-Duc. The Allied liberation of Paris in 1944 was celebrated within Notre-Dame with the singing of the Magnificat. Beginning in 1963, the cathedral's façade was cleaned of centuries of soot and grime. Another cleaning and restoration project was carried out between 1991 and 2000.

The cathedral is one of the most widely recognized symbols of the city of Paris and the French nation. As the cathedral of the Archdiocese of Paris, Notre-Dame contains the cathedral of the archbishop of Paris (Michel Aupetit). In 1805, Notre-Dame was given the honorary status of a minor basilica. Approximately 12 million people visit Notre-Dame annually, making it the most visited monument in Paris. The cathedral was renowned for its Lent sermons, founded by the Dominican Jean-Baptiste Henri Lacordaire in the 1830s. In recent years, an increasing number have been given by leading public figures and state-employed academics.

The cathedral has been progressively stripped of its original decoration and works of art. Several noteworthy examples of Gothic, Baroque, and 19th-century sculptures and a group of 17th- and early 18th-century altarpieces remain in the cathedral's collection. Some of the most important relics in Christendom, including the Crown of Thorns, a sliver of the true cross and a nail from the true cross, are preserved at Notre-Dame. While undergoing renovation and restoration, the roof of

Notre-Dame caught fire on the evening of 15 April 2019. Burning for around 15 hours, the cathedral sustained serious damage, including the destruction of the flèche (the timber spirelet over the crossing) and most of the lead-covered wooden roof above the stone vaulted ceiling. Contamination of the site and the nearby environment resulted. Following the fire, many proposals were made for modernizing the cathedral's design. However, on 29 July 2019, the French National Assembly enacted a law requiring that the restoration must preserve the cathedral's 'historic, artistic and architectural interest'. Stabilizing the structure against possible collapse was completed in November 2020, and the reconstruction began in 2021. The government of France hopes the reconstruction can be completed by Spring 2024, in time for the opening of the 2024 Summer Olympics in Paris. President Emmanuel Macron confirmed on 14 April 2021 that the cathedral site will be formally returned to the church on 15 April 2024, and the first mass will be held in the cathedral nave on that day, even if the reconstruction is not finished by then.

## Construction

The chronicler Jean de Saint-Victor [fr] recorded in the *Memorial Historiarum* that the construction of Notre-Dame began between 24 March and 25 April 1163 with the laying of the cornerstone in the presence of King Louis VII and Pope Alexander III. Four phases of construction took place under bishops Maurice de Sully and Eudes de Sully (not related to Maurice), according to masters whose names have been lost. Analysis of vault stones that fell in the 2019 fire shows that they were quarried in Vexin, a county northwest of Paris, and presumably brought up the Seine by ferry. Cross-section of the double supporting arches and buttresses of the nave, drawn by Eugène Viollet-le-Duc as they would have appeared from 1220 to 1230.

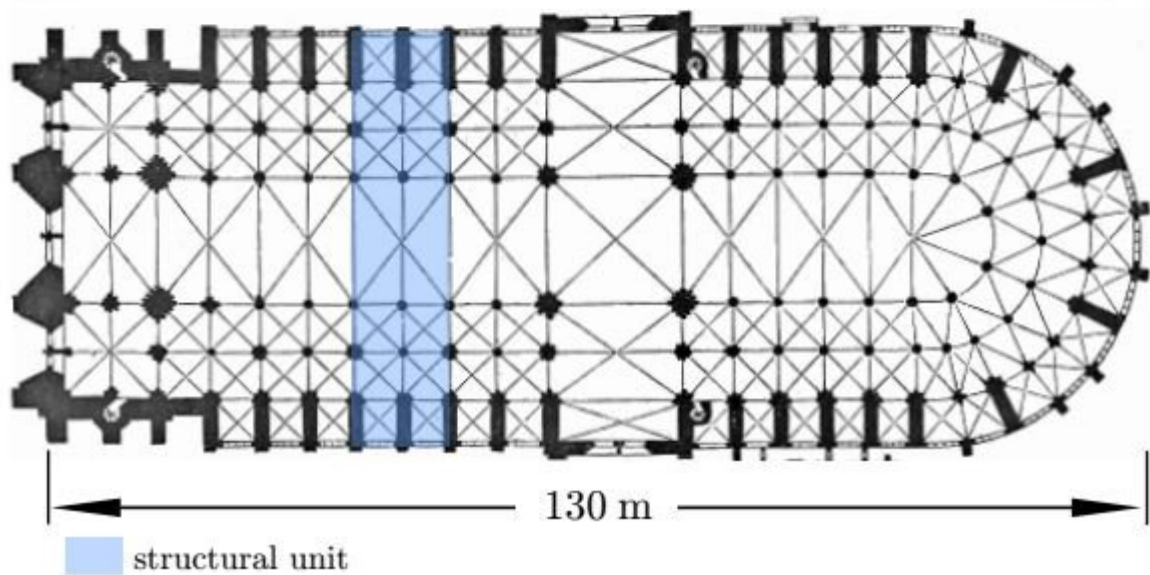
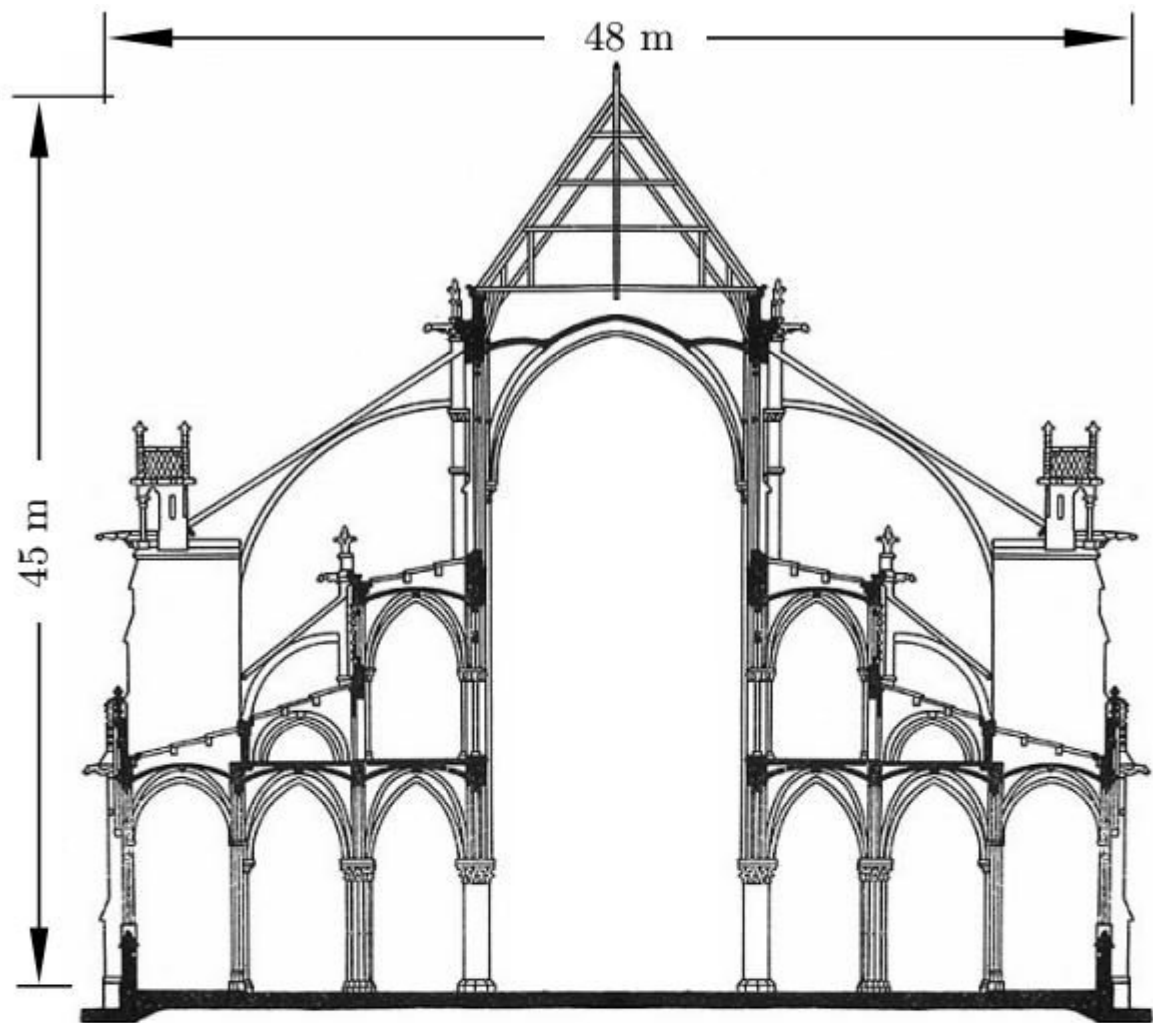
The first phase began with the construction of the choir and its two ambulatories. According to Robert of Torigni, the choir was completed in 1177 and the high altar consecrated on 19 May 1182 by Cardinal Henri de Château-Marçay, the Papal legate in Paris, and Maurice de Sully. The second phase, from 1182 to 1190, concerned the construction of the four sections of the nave behind the choir and its aisles to the height of the clerestories. It began after the completion of the choir but ended before the final allotted section of the nave was finished. Beginning in 1190, the bases of the façade were put in place, and the first traverses were completed. Heraclius of Caesarea called for the Third Crusade in 1185 from the still-incomplete cathedral.

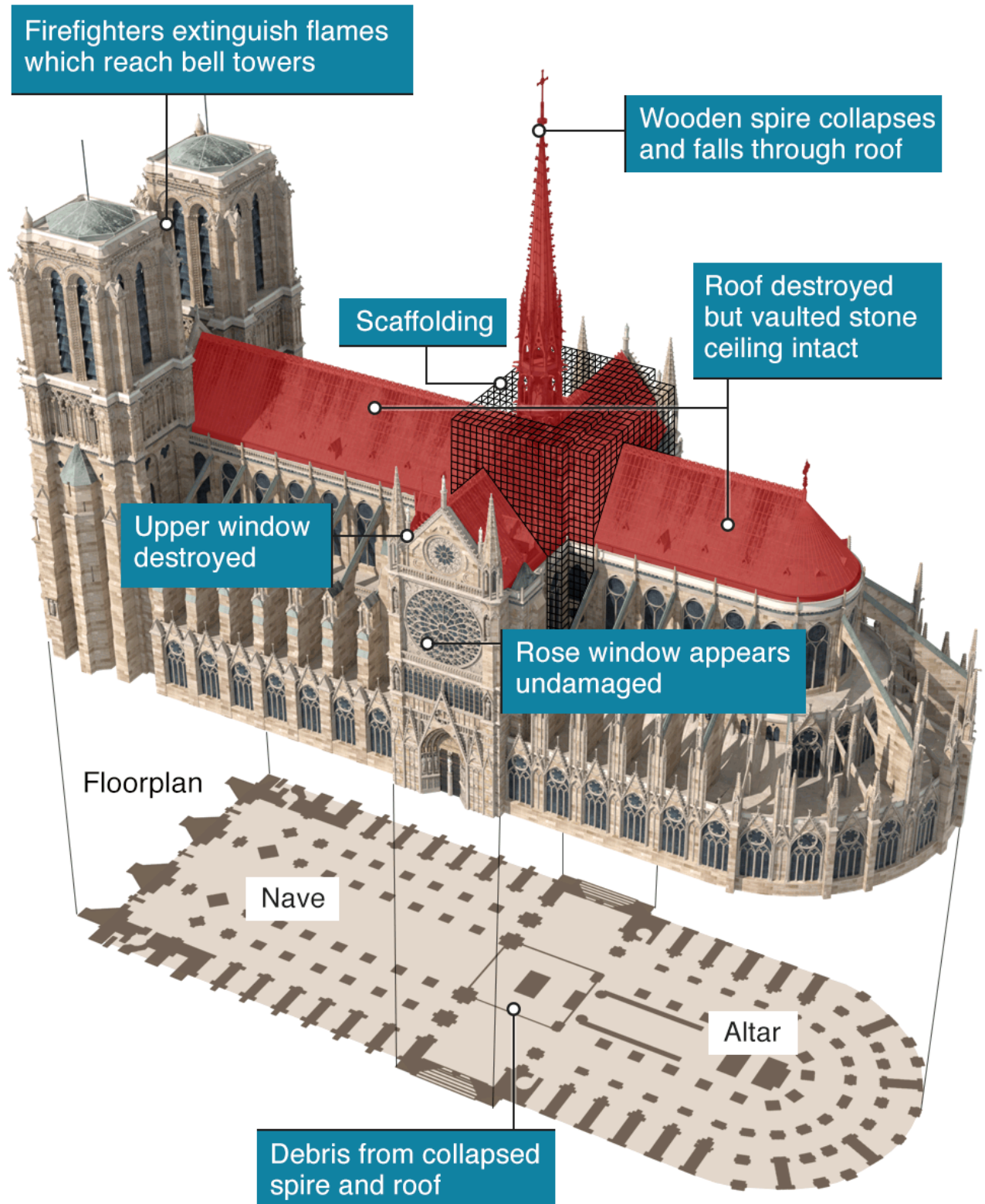
Louis IX deposited the relics of the passion of Christ, which included the Crown of thorns, a nail from the Cross and a sliver of the Cross, which he had purchased at great expense from the Latin Emperor Baldwin II, in the cathedral during the construction of the Sainte-Chapelle. An under-shirt, believed to have belonged to Louis, was added to the collection of relics at some time after his death.

The decision was made to add transepts at the choir, where the altar was located, in order to bring more light into the centre of the church. The use of simpler four-part rather than six-part rib vaults meant that the roofs were stronger and could be higher. After Bishop Maurice de Sully's death in 1196, his successor, Eudes de Sully oversaw the completion of the transepts, and continued work on the nave, which was nearing completion at the time of his own death in 1208. By this time, the western façade was already largely built, though it was not completed until around the mid-1240s. Between 1225 and 1250 the upper gallery of the nave was constructed, along with the two towers on the west façade.

Another significant change came in the mid-13th century, when the transepts were remodelled in the latest Rayonnant style; in the late 1240s Jean de Chelles added a gabled portal to the north transept topped off by a spectacular rose window. Shortly afterward (from 1258) Pierre de Montreuil executed a similar scheme on the southern transept. Both these transept portals were richly embellished with sculpture; the south portal features scenes from the lives of Saint Stephen and of various local saints, while the north portal featured the infancy of Christ and the story of Theophilus in the tympanum, with a highly influential statue of the Virgin and Child in the trumeau. Master builders Pierre de Chelles, Jean Ravy [fr], Jean le Bouteiller, and Raymond du Temple [fr] succeeded de Chelles and de Montreuil and then each other in the construction of the cathedral. Ravy completed de Chelles's rood screen and chevet chapels, then began the 15-metre (49 ft) flying buttresses of the choir. Jean le Bouteiller, Ravy's nephew, succeeded him in 1344 and was himself replaced on his death in 1363 by his deputy, Raymond du Temple.

An important innovation in the 13th century was the introduction of the flying buttress. Before the buttresses, all of the weight of the roof pressed outward and down to the walls, and the abutments supporting them. With the flying buttress, the weight was carried by the ribs of the vault entirely outside the structure to a series of counter-supports, which were topped with stone pinnacles which gave them greater weight. The buttresses meant that the walls could be higher and thinner, and could have much larger windows. The date of the first buttresses is not known with any great precision beyond an installation date in the 13th century. Art historian Andrew Tallon, however, has argued based on detailed laser scans of the entire structure that the buttresses were part of the original design. According to Tallon, the scans indicate that "the upper part of the building has not moved one smidgen in 800 years," whereas if they were added later some movement from prior to their addition would be expected. Tallon thus concluded that flying buttresses were present from the outset. The first buttresses were replaced by larger and stronger ones in the 14th century; these had a reach of fifteen metres (50') between the walls and counter-supports.





Chartres Cathedral, also called Notre-Dame de Chartres or the Cathedral of Notre-Dame, Gothic cathedral located in the town of Chartres, northwestern France. Generally ranked as one of the three chief examples of Gothic French architecture (along with Amiens Cathedral and Reims Cathedral), it is noted not only for its architectural innovations but also for its numerous sculptures and its much-celebrated stained glass. The cathedral's association with the Virgin Mary (the supposed veil of the Virgin is kept in the cathedral treasury) made it the destination of pilgrims in

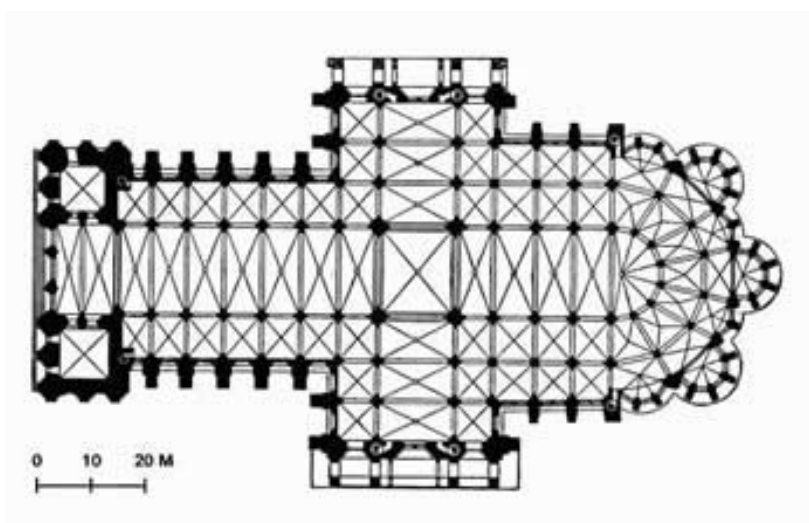


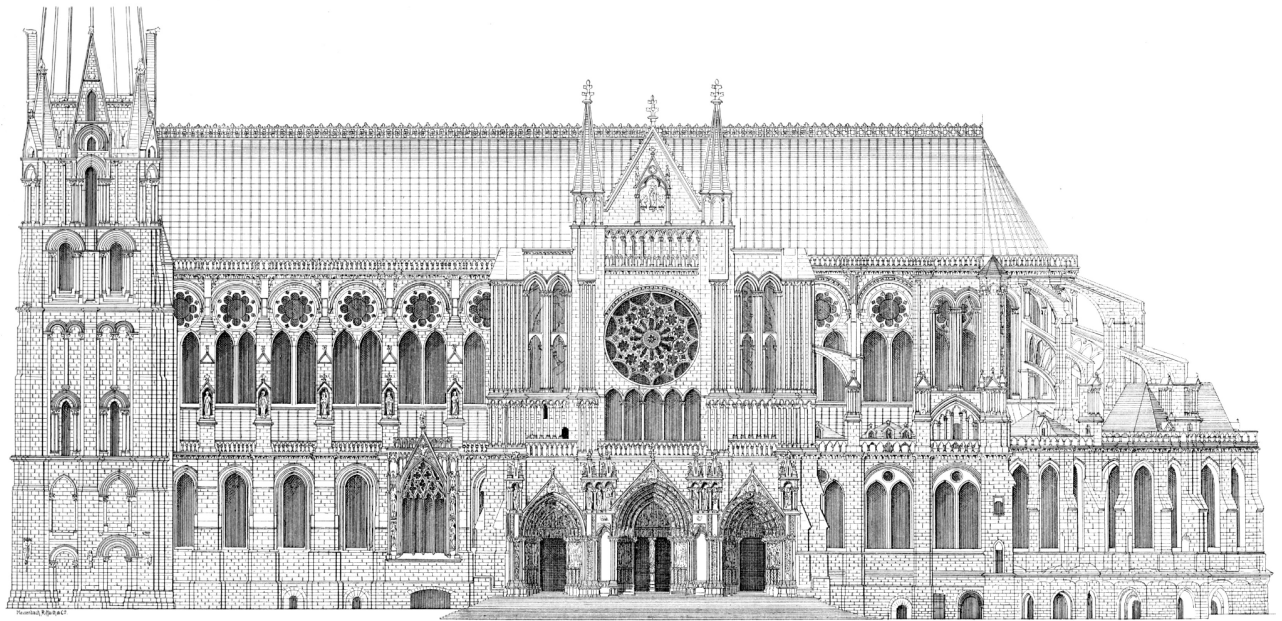
the Middle Ages, many of them invalids seeking a cure for their afflictions. It continues to be a pilgrimage site for Roman Catholics in the 21st century.

The oldest parts of the cathedral are its crypt and the west portal, or Royal Portal, which are remnants of a Romanesque church that was mostly destroyed by fire in 1194. The present cathedral was constructed on the foundations of the earlier church and consecrated in 1260. It is built of limestone and stands some 112 feet (34 metres) high and is 427 feet (130 metres) long. In many ways, the cathedral's design resembles those of its contemporaries, especially Laon Cathedral, but it displays innovations with its tall arcades, unusually narrow triforium, and huge clerestory—the massive weight of which required using flying buttresses in an unprecedented manner.

The cathedral contains an immense amount of sculpture, particularly figure sculpture, ranging from large column statues to miniatures. As the purpose of the sculptures was to preach and instruct, they mainly depict scenes and figures from the Old and New Testaments. The sculptures from the Royal Portal were executed about mid-12th century and reveal the Gothic era's growing interest in naturalism. This is evident in the kings and queens that decorate the jambs. Their bodies are elongated, echoing the form of the columns to which they are attached, yet they have benevolent expressions distinct from the neutral gaze of Romanesque figures. Meanwhile, the sculptures of the south transept, constructed after 1194, are even more expressive. The figures of saints that decorate the jambs of the right doorway (Porch of the Confessors, c. 1220–30) have individual facial features that sometimes communicate with their neighbours. Notably, Saint Theodore (from the Porch of the Martyrs, c. 1230) is more fully in the round, practically detached from the architecture, and more dynamic, with swaying hips and shoulders that recall the contrapposto pose that ancient Greek sculptors had perfected.

Several alterations have been made to the cathedral. The northwest tower's distinctive spire, for example, was added in the early 1500s. Chartres emerged with relatively little damage from the political and religious upheavals of the 16th century and sustained less damage than most cathedrals during the French Revolution (1787–99). After a fire damaged the roof in 1836, a series of restorations were carried out during the 19th century. In 1979 Chartres Cathedral was designated a UNESCO World Heritage site. During the late 20th century preservation efforts concentrated on protecting the cathedral's stained glass from air pollution damage, and the interior underwent a controversial cleaning and restoration in the early decades of the 21st century.





3. CHARTRES: KATHEDRALE. 1 : 400.



**Milan Cathedral:**

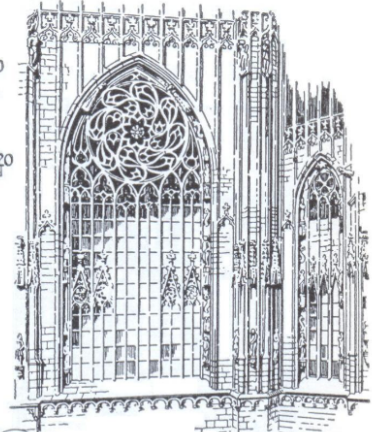
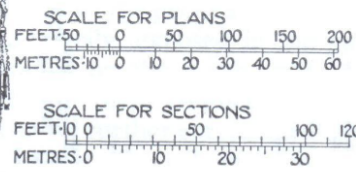




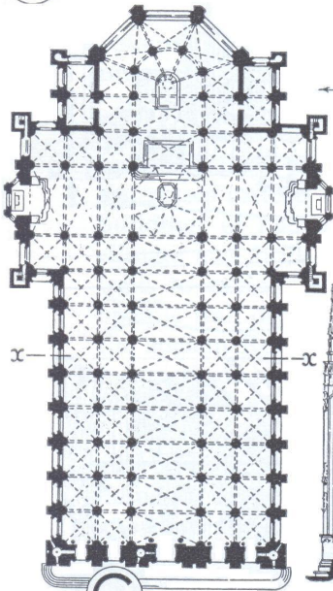
## MILAN CATHEDRAL



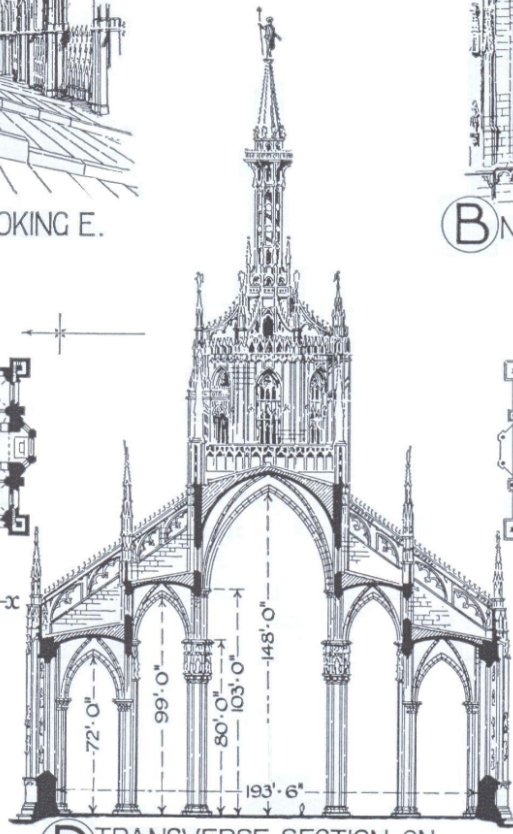
A VIEW OF ROOF LOOKING E.



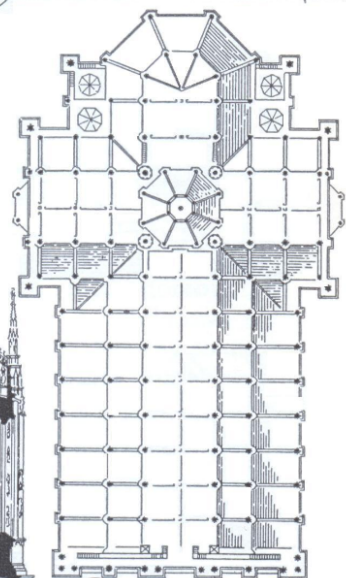
B N.E. APSIDAL WINDOW (EXT.)



C PLAN



D TRANSVERSE SECTION ON x-x



E ROOF PLAN



F LONGITUDINAL SECTION

The Milan Cathedral (Italian: Duomo di Milano ['dwo:mo di mi'la:no]; Lombard: Domm de Milan or Metropolitan Cathedral-Basilica of the Nativity of Saint Mary (Italian: Basilica cattedrale metropolitana di Santa Maria Nascente), is the cathedral church of Milan, Lombardy, Italy. Dedicated to the Nativity of St Mary (Santa Maria Nascente), it is the seat of the Archbishop of Milan, currently Archbishop Mario Delpini.

The cathedral took nearly six centuries to complete: construction began in 1386, and the final details were completed in 1965. It is the largest church in Italy—the larger St. Peter's Basilica is in the State of Vatican City, a sovereign state and the second largest in Europe and the third largest in the world.

In 1386, Archbishop Antonio da Saluzzo began construction of the cathedral. Start of the construction coincided with the ascension to power in Milan of the archbishop's cousin Gian Galeazzo Visconti, and was meant as a reward to the noble and working classes, who had suffered under his tyrannical Visconti predecessor Barnabò. Before actual work began, three main buildings were demolished: the palace of the Archbishop, the Ordinary Palace and the Baptistry of St. Stephen at the Spring, while the old church of Sta. Maria Maggiore was exploited as a stone quarry. Enthusiasm for the immense new building soon spread among the population, and the shrewd Gian Galeazzo, together with his cousin the archbishop, collected large donations for the work-in-progress. The construction program was strictly regulated under the "Fabbrica del Duomo", which had 300 employees led by first chief engineer Simone da Orsenigo. Orsenigo initially planned to build the cathedral from brick in Lombard Gothic style.

Visconti had ambitions to follow the newest trends in European architecture. In 1389, a French chief engineer, Nicolas de Bonaventure, was appointed, adding to the church its Rayonnant Gothic. Galeazzo gave the Fabbrica del Duomo exclusive use of the marble from the Candoglia quarry and exempted it from taxes. Ten years later another French architect, Jean Mignot, was called from Paris to judge and improve upon the work done, as the masons needed new technical aid to lift stones to an unprecedented height.[8] Mignot declared all the work done up till then as in pericolo di ruina ("peril of ruin"), as it had been done sine scienza ("without science"). In the following years Mignot's forecasts proved untrue, but they spurred Galeazzo's engineers to improve their instruments and techniques. Work proceeded quickly, and at the death of Gian Galeazzo in 1402, almost half the cathedral was complete. Construction, however, stalled almost totally until 1480, for lack of money and ideas: the most notable works of this period were the tombs of Marco Carelli and Pope Martin V (1424) and the windows of the apse (1470s), of which those extant portray St. John the Evangelist, by Cristoforo de' Mottis, and Saint Eligius and San John of Damascus, both by Niccolò da Varallo. In 1452, under Francesco Sforza, the nave and the aisles were completed up to the sixth bay.

In 1488, both Leonardo da Vinci and Donato Bramante created models in a competition to design the central cupola; Leonardo later withdrew his submission.[9] In 1500 to 1510, under Ludovico Sforza, the octagonal cupola was completed, and decorated in the interior with four series of 15 statues each, portraying saints, prophets, sibyls and other Figures from the Bible. The exterior long remained without any decoration, except for the Guglietti dell'Armadio ("Amadeo's Little Spire"), constructed 1507–1510. This is a Renaissance masterwork which nevertheless harmonized well with the general Gothic appearance of the church.



During the subsequent Spanish domination, the new church proved usable, even though the interior remained largely unfinished, and some bays of the nave and the transepts were still missing. In 1552 Giacomo Antegnati was commissioned to build a large organ for the north side of the choir, and Giuseppe Meda provided four of the sixteen pales which were to decorate the altar area (the program was completed by Federico Borromeo). In 1562, Marco d' Agrate's St. Bartholomew and the famous Trivulzio candelabrum (12th century) were added.

#### Completion:

On 20 May 1805, Napoleon Bonaparte, about to be crowned King of Italy, ordered the façade to be finished by Pellicani. In his enthusiasm, he assured that all expenses would fall to the French treasurer, who would reimburse Fabbrica for the real estate it had to sell. Even though this reimbursement was never paid, it still meant that finally, within only seven years, the Cathedral's façade was completed. Pellicani largely followed Buzzi's project, adding some neo-Gothic details to the upper windows. As a form of thanksgiving, a statue of Napoleon was placed at the top of one of the spires. Napoleon was crowned King of Italy at the Duomo.

In the following years, most of the missing arches and spires were constructed. The statues on the southern wall were also finished, while in 1829–1858, new stained glass windows replaced the old ones, though with less aesthetically significant results. The last details of the cathedral were finished only in the 20th century: the last gate was inaugurated on 6 January 1965. This date is considered the very end of a process which had proceeded for generations, although even now, some uncarved blocks remain to be completed as statues. The Allied bombing of Milan in World War II further delayed construction. Like many other cathedrals in cities bombed by the Allied forces, the Duomo suffered some damage, although to a lesser degree compared to other major buildings in the vicinity such as the La Scala Theatre. It was quickly repaired and became a place of solace and gathering for displaced local residents.



## **Reims Cathedral:**

Notre-Dame de Reims meaning "Our Lady of Reims" ),[a] sometimes known in English as Reims Cathedral, is a Roman Catholic cathedral in the French city of the same name, the archiepiscopal see of the Archdiocese of Reims. The cathedral was dedicated to the Virgin Mary and was the traditional location for the coronation of the kings of France.

The cathedral church is thought to have been founded by the bishop Nicasius in the early 5th century. Clovis was baptized a Christian here by Saint Remigius, the bishop of Reims, about a century later. He was the first Frankish king to receive this sacrament. Construction of the present Reims Cathedral began in the 13th century and concluded in the 15th century. A prominent example of High Gothic architecture, it was built to replace an earlier church destroyed by fire in 1210. Although little damaged during the French Revolution, the present cathedral saw extensive restoration in the 19th century. It was severely damaged during World War I and the church was again restored in the 20th century.

Since the 1905 law on the separation of church and state, the cathedral has been owned by the French state, while the Catholic church has an agreement for its exclusive use. The French state pays for its restoration and upkeep. The cathedral, a major tourist destination, receives about one million visitors annually. It has been a UNESCO World Heritage Site since 1991.

### **5th century – the Merovingian Cathedral**

The settlement of a tribe of Gauls called the Remes, named Durocortorum, had been recorded by Julius Caesar in his accounts of the Gallic Wars. During the High Roman Empire, it became the capital of a province extending to the delta of the Rhine, and in the 3rd century A.D. was capital of the Roman province known as Second Belgium. The first Christian church there was founded by the first bishop, Saint Sixtus of Reims between 250 and 300.

At the beginning of the 5th century, in the Merovingian period, the Bishop Nicasius transferred the cathedral its present location, the site formerly occupied by Gallo-Roman bath built by the Emperor Constantine. The new church was dedicated to the Virgin Mary, anticipating the decision of the Council of Ephesus in 431 establishing her enhanced status. The new cathedral, with the plan of a square exterior and a circular interior, measured approximately 20 m (66 ft) by 55 m (180 ft). In the 1990s, the Baptistry of this original Merovingian church, directly under the present cathedral, was excavated and fragments of the old structure were brought to light.

### **9th century – The Carolingian cathedral**

In 816, Louis the Pious, the King of the Franks and co-Emperor, with his father Charlemagne, of the Holy Roman Empire, was crowned in Reims by Pope Stephen IV. The coronation and ensuing celebrations revealed the poor condition and inadequate size of the early cathedral. Beginning in about 818, the archbishop Ebbo and the royal architect Rumaud began to build a much larger church from the ground up on the same site, using stone from the old city ramparts.

The work was interrupted in 835, then resumed under a new archbishop, Hincmar, with the support of Emperor Charles the Bald. The interior of the church was adorned with gilding, mosaics, paintings, sculptures and tapestries.[12] On 18 October 862, in the presence of the Emperor, Hincmar dedicated the new church, which measured 86 m (282 ft) and had two transepts.

At the beginning of the 10th century, an ancient crypt underneath the original church was rediscovered. Under the archbishop Heriveus, the crypt (which had been the initial centre of the previous churches above it) was cleared, renovated, and then rededicated to the sainted bishop Remigius. The Cathedral altar is still in the same place, directly over the crypt, where it has been for 15 centuries.

Beginning in 976, the archbishop Adalbero began to enlarge the Carolingian cathedral. The historian Richerus, a pupil of Adalbero, gives a very precise description of the work carried out by the archbishop. The prestige of the Holy Ampulla, the sacred vial filled with myrrh with which French Kings were anointed, the fact that Clovis I had been baptised there, and the political power of the archbishop of Reims led to Reims becoming the regular site of the coronation of the French monarch. Henry I of France was crowned in Reims 1027, which established the tradition. All but seven of France's future kings were crowned at Reims.

Restoration work on the church has continued since 1938, repairing the damage caused by the war and by pollution. In 1955 Georges Saupique made a copy of the Coronation of the Virgin, which can be seen above the cathedral entrance and with Louis Leygue copied many of the other sculptures on the cathedral façade. He also executed a statue of St Thomas for the north tower.

Beginning in 1967, many of the statues from the exterior, such as the smiling angel, were moved to the interior of the Tau Palace for protection, and replaced by copies

The Franco-German reconciliation was symbolically formalized in July 1962 by French president Charles de Gaulle and German Chancellor Konrad Adenauer, where, in 1914, the Imperial German Army deliberately shelled the cathedral in order to shake French morale. The cathedral, former Abbey of Saint-Remi, and the Palace of Tau were added to the list of UNESCO World Heritage Sites in 1991.

On his 74th Pastoral Visit, Pope John Paul II visited Reims on 26 September 1996 for the 1500th anniversary of the baptism of Clovis.[61] While there, the Pope prayed at the same chapel where Jean-Baptiste de La Salle celebrated his first Mass in 1678.

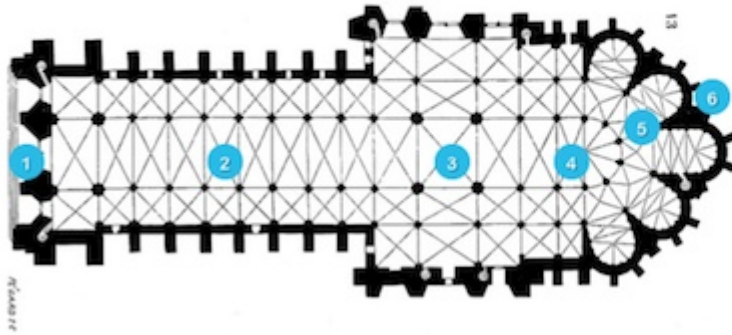
On 8 October 2016, a plaque bearing the names of the 31 kings crowned in Reims was placed in the cathedral in the presence of the archbishop Thierry Jordan and Prince Louis-Alphonse, Duke of Anjou, one of many pretenders to the French throne.







Map of Reims Cathedral



- 1 Western Facade
- 2 Nave
- 3 Transept
- 4 Choir
- 5 Ambulatory
- 6 Chevet





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Temple architecture of high standard developed in almost all regions during ancient India. The distinct architectural style of temple construction in different parts was a result of geographical, climatic, ethnic, racial, historical and linguistic diversities. Ancient Indian temples are classified in three broad types. This classification is based on different architectural styles, employed in the construction of the temples. Three main style of temple architecture are the Nagara or the Northern style, the Dravida or the Southern style and the Vesara or Mixed style. But at the same time, there are also some regional styles of Bengal, Kerala and the Himalayan areas.



One important part of the ancient Indian temples was their decoration. It is reflected in the multitude details of figured sculpture as well as in the architectural elements. Another important component of Indian temples was the garbha-griha or the womb chamber, housing the deity of the temple. The garbha-griha was provided with a circumambulation passage around. However, there are also many subsidiary shrines within temple complexes, more common in the South Indian temple.

In the initial stages of its evolution, the temples of North and South India were distinguished on the basis of some specific features like sikhara and gateways. In the north Indian temples, the sikhara remained the most prominent component while the gateway was generally unassuming. The most prominent features of South Indian temples were enclosures around the temples and the Gopurams (huge gateways). The Gopurams led the devotees into the sacred courtyard. There were many common features in the Northern and the Southern styles. These included the ground plan, positioning of stone-carved deities on the outside walls and the interior, and the range of decorative elements.

## Design

The very essence of a Hindu temple is believed to have developed from the ideology that all things are one and everything is associated. The four essential and significant principles which are also aims of human life according to Indian philosophy are the quests for artha - wealth and prosperity; kama - sex and pleasure; dharma - moral life and virtues; and moksha - self knowledge and realisation. The mathematically structured spaces, intricate artworks, decorated and carved pillars and statues of Hindu temples illustrate and revere such philosophies. A hollow space without any embellishments situated at the centre of the temple, usually below the deity, may also be at the side or above the deity symbolises the complex concept of Purusha or Purusa meaning the Universal principle, Consciousness, the cosmic man or self without any form, however, omnipresent and associates all things. The Hindu temples suggest contemplations, encouragement and further purification of mind and prompt the process of self-realisation in devotees; however the preferred process is left to the convention of individual devotees.

## Site

The areas of Hindu temple sites are usually vast with many of them built near water bodies, in the lap of nature. This is probably because according to ancient Sanskrit texts the most suitable site for a Hindu temple referred as 'Mandir' is at close proximity to water bodies and gardens where flowers blossom,

chirping of birds and sounds of ducks and swans can be heard and animals can rest without any fear. These places exhibiting peace and tranquillity are recommended by the texts for building Hindu temples elucidating that Gods reside in such places. Although, leading Hindu temples are suggested near natural water bodies like confluence of rivers, river banks, seashores and lakes, according to the 'Puranas' and 'Bharat Samhita', Mandirs can even be constructed in sites devoid of natural water bodies. However, such suggestions include building up of a pond with water gardens in front of the 'Mandir' or towards left. In the absence of both natural and man-made water bodies, water remains typically present during consecration of the deity or the Mandir. Part III of Chapter 93 of the Hindu text Vishnudharmottara Purana also recommends building of temples within caves and chiselled out stones; atop hills amidst spectacular and serene views; within hermitages and forests; beside gardens; and at the upper end of a street of a town.

## Layout

Layout of a Hindu temple pursues a geometrical design known as vastu-purusha-mandala, the name of which is derived from the three vital components of the design namely Vastu meaning Vaas or a place of dwelling; Purusha, meaning the Universal principle; and Mandala meaning circle. Vastupurushamandala is a mystical diagram referred in Sanskrit as a Yantra. The symmetrical and self-repeating model of a Hindu temple demonstrated in the design is derived from the primary convictions, traditions, myths, fundamentality and mathematical standards.

According to Vastupurushamandala, the most sacred and typical template for a Hindu temple is the 8x8 (64) grid Manduka Hindu Temple Floor Plan also referred as Bhekapada and Ajira. The layout displays a vivid saffron centre with intersecting diagonals which according to Hindu philosophy symbolises the Purusha. The axis of the Mandir is created with the aid of the four fundamentally significant directions and thus, a perfect square is created around the axis within the available space. This square which is circumscribed by the Mandala circle and divided into perfect square grids is held sacred. On the other hand, the circle is regarded as human and worldly that can be perceived or noticed in daily life such as the Sun, Moon, rainbow, horizon or water drops. Both the square and the circle support each other. The model is usually seen in large temples while an 81 sub-square grid is observed in ceremonial temple superstructures.

Each square within the main square referred as 'Pada' symbolise a specific element that can be in the form of a deity, an apsara or a spirit. The primary or the innermost square/s of the 64 grid model called Brahma Padas is dedicated to Brahman. The Garbhagruha or centre of the house situated in the Brahma Padas houses the main deity. The outer concentric layer to Brahma Padas is the Devika Padas signifying facets of Devas or Gods which is again surrounded by the next layer, the Manusha Padas, with the ambulatory. The devotees circumambulate clockwise to perform Parikrama in the Manusha Padas with Devika Padas in the inner side and the Paishachika Padas, symbolising facets of Asuras and evils, on the outer side forming the last concentric square. The three outer Padas in larger temples generally adorn

inspirational paintings, carvings and images with the wall reliefs and images of different temples depicting legends from different Hindu Epics and Vedic stories. Illustrations of artha, kama, dharma and moksha can be found in the embellished carvings and images adorning the walls, ceiling and pillars of the temples.

Pillared outdoor halls or pavilions called Mandapa meant for public rituals with the ones in the east serving as waiting room for devotees adorns the large temples. The Mandir's spire, usually a tapering conical or pyramidal superstructure with a dome designed adhering principles of concentric squares and circles and referred in North India as Shikhaa and Vimana in South India is symmetrically aligned exactly above the Brahma Pada or the central core of the Mandir. Compounds of many larger temples house smaller temples and shrines that also follow fundamental aspects of grids, symmetry and mathematical perfection. Repetition and mirroring of fractal-like design structure forms a significant principle of Hindu temple designs.

The manuals comprising of Hindu temple layouts elucidates plans with squares in the count of 1, 4, 9, 16, 25 and thus, reaching up to 1024. Each plan of different Padas has individual significance, for instance in one pada plan the pada is regarded as the seat for a devotee or hermit to perform yoga, meditation or offer Vedic fire; a four Padas plan, also a meditative design represents a core at the center; and a nine Padas layout that generally forms model of smallest temples has a divine surrounded centre. Although the perfect square grid principle is primarily found in different temples of India, some others hold exception such as the Teli-ka-mandir and the Naresar temple in Madhya Pradesh and the Nakti-Mata temple in Rajasthan, indicating that Hinduism welcomed flexibility, creativity and aesthetic independence of artists.

## Different Styles

### **Nagara**

The Nagara style that is palpable in different parts of India with varied elaborations in different localities has two particular features. The first being presence of several graduated projections or rathakas in the centre of all sides of the square temple, thus bearing a cross-shape with several re-entrant angles on all sides. The second feature includes design of the spire or Shikhara that follow principles of concentric squares and circles and gradually taper in a convex curve while stretching upwards. The Kandariya Mahadeva Temple in Khajuraho in Madhya Pradesh is a fine example of this style.



## **Dravidian**

Dravidian temple architecture evolved in South India predominantly comprise of temples built of sandstone, soapstone or granite. The square-shaped temple called Vimana has one or more storied pyramidal roof while its cell houses the image or emblem of the God. The Mandapas/Mandapams or porches are built in such a way that these precede and cover the door that leads to the cell. The Gopurams/Gopuras or elaborate gateway-towers or gate-pyramids encloses the temples. The Chaultris or pillared halls employed for different purposes forms one of the principal and constant features of this style. Temple tanks, wells, abodes of priests and other important buildings form part of this temple style. The famous Thanjavur temple of Tamil Nadu typifies this style.





### **Badami-chalukya**

Indian architecture saw an illustrious phase during the Badami Chalukyas rule. The foundation of cave temple architecture was laid by them on the banks of Malaprabha River in Karnataka during 500 and 757 CE. The Badami Cave temples situated in the town of Badami in northern Karnataka dating back to the 6th century is one of the finest examples of this architecture that consist of decorative pillars, finely chiselled ceiling panels and sculptures. More than 150 temples in the historic temple complex situated in the village of Aihole called 'Cradle of Indian architecture' and also Group of Monuments of Pattadakal are marked by UNESCO as World Heritage site comprising of architectural edifices like the Virupaksha temple and the Mallikarjuna temple are also brilliant examples of this style.

### **Gadag**

The Western Chalukya architecture or Gadag style of architecture is a specific style of decorative architecture that originated from the old dravida style and defines the Karnata dravida tradition. Evolved during 11th century it prospered for around 150 years till 1200 CE during the reign of Western Chalukya Empire in the Tungabhadra region of Karnataka and saw construction of around 50 temples. A distinct feature of this style was articulation. Kasivisvesvara Temple at Lakkundi and Saraswati temple in the temple complex of Trikuteshwara at Gadag are some of the temples that illustrate this style.



## Kalinga

This style having three specific types of temples prospered in Odisha and Northern Andhra Pradesh. The three styles are Pidha Deula, Rekha Deula and Khakhara Deula with the first two linked with Shiva, Surya and Vishnu and the latter is predominantly associated with Goddesses Durga and Chamunda. Again the first type comprises of outer halls for offerings and dancing while the latter two comprise of the sanctum sanctorum. The word Deula means temple. The famous Jagannath Temple of Puri and Lingaraj Temple of Bhubaneswar portray Rekha Deula style while Vaital Deula of Bhubaneswar typifies Khakhara Deula and the Sun Temple at Konark remains a prominent example of Pidha Deula.



### **Maru-Gurjara**

This temple architecture with two notable styles namely Maru-Gurjara and Maha-Maru originated in Rajasthan and its vicinity sometime around 6th century. Maru-Gurjara temple architecture is considered by scholars as an exclusive Western Indian architectural style that differs distinctly from temple architecture of North India. However, it is regarded to have some associative features with Hoysala temple architecture as sculpturally rich architecture is palpable in both the styles. The Nagda temple in Rajasthan illustrates this style.



Tigawa is a village in Indian state of Madhya Pradesh and an archaeological site with a complex of about 36 Hindu temple ruins. Of these, the small but important and ancient Kankali Devi Temple is in good condition, and is usually dated to about 400-425 CE. Unless another building is mentioned, references to "the temple" below refer to this. Also referred to as Tigowa or Tigwan, the site is about 4 kilometres north of Bahuriband between Katni and Jabalpur. The Hindu temple ruins were badly damaged during a colonial era railway project when a contractor demolished and excavated the ruins as building material for the railway project.

Of the monuments, the Kankali Devi Temple is most notable and is a Gupta period temple. It is one of the oldest surviving Hindu temples, illustrating the formative stages of Hindu temple architecture and the essential elements found in the north Indian style through the modern era. It has a sanctum and an open portico supported on four pillars. The sides of the portico were filled in with walls containing panels at a later period. The sanctuary is, and always was, covered with a flat roof, and is generally very similar to the Gupta period Temple 17 at Sanchi. Despite its name, the temple was probably dedicated to Vishnu, with other elements added later. An image of him as Narasimha is placed inside the sanctum. The portico has an image of the Sheshashai Vishnu (Narayana) and another one of Chamunda (Kankali Devi). Projecting from the front of the portico is a later relief of a seated Vishnu in the yoga asana position with a serpent hood above the head.



The Tigawa temples site is in the eponymous village Tigawa, also called Tigwan, in the Katni district and north of the town of Bahuriband. It is about 50 kilometres west of Katni, 70 kilometres north of Jabalpur, 350 kilometres east of Bhopal and 300 kilometres east of Sanchi and Udayagiri Gupta era monuments. The site is located on a plateau near the Kaimur range of hills, with belts of rocks, where ancient Indians used the local geology to build numerous small dams to harvest rainwater into water reservoirs that locals call jhils. These reservoirs extend from Bahuriband to the north of Tigawa. The local tradition is that there was in the distant past a large city in that location, which would explain the numerous mounds found in their region and when excavated, these mounds have yielded broken pottery and bricks. Alexander Cunningham speculated in 1879 that the Bahuriband (also Bahulaband, about 4 kilometres south of Tigawa) may have been the city that Ptolemy transliterated as Tholabana. The name Tigawa (Tigowa, Tigoan, Tigwan) may be derived from "Tri-gawa" or "three villages", referring to the neighboring villages of Amgowa and Deori. Local tradition believes that it once had a fort and it was part of a major town named Jhanjhangarh, a suburb of ancient Bahuriband. The Tigawa site is a relatively small site consisting of a mound measuring about 30,000 square feet (2,800 m<sup>2</sup>) with a length of about 250 feet (76 m). The entire space was covered with over 36 temples of different sizes, the smallest one just 16 square feet (1.5 m<sup>2</sup>) built from square cut stones. All these small temples are gone, including some larger standing ones. The square cut stones of these temples were deemed a ready quarry for a railroad project by a late 19th-century railway contractor. They demolished and hauled away about 200 carts of the temple stones.[4][note 2] The local villagers submitted a petition to the British official in Jabalpur about 70 kilometers away, to stop the desecration. The official issued a halt order in the 1870s, thus helping preserve the remnants of the site. One stone temple that was too big for the railway project remained untouched, which locals call the Kankali Devi temple and further scholarship identified it to be one of the oldest Hindu temples of the Gupta era.[4] An upset Alexander Cunningham wrote, "to the railway contractor the finest temple is only a heap of ready squared stones", and "the temple of Jerusalem, a ready quarry is to him, and it is nothing more".

### **Kankali Devi temple: Vaishnavism tradition**

The Tigawa temple square plan and its sanctum's doorway design. The Kankali Devi temple has a square sanctum with a 12.5 feet (3.8 m) side outside and 8 feet (2.4 m) side inside. The sanctum does not open exactly to the east, but deviates by about 13 degrees, which Cunningham speculated may be intentional and related to "one nakshatra" (lunar house, Hindu calendar). The temple has an open portico supported on four pillars that projects 7 feet (2.1 m) in front of the sanctum. Both the pillared porch and the sanctum are on a raised plinth, its roof made from horizontal slabs of stone. The pillars of the mandapa are massive, shaped into three symmetric cross sections: a long square sectioned part close to the ground, above it an octagonal and sixteen-edged. Above these is a circular part capped with pot and foliage capitals. On top of the pillars are sculptures of two crouching lions with a tree separating them.

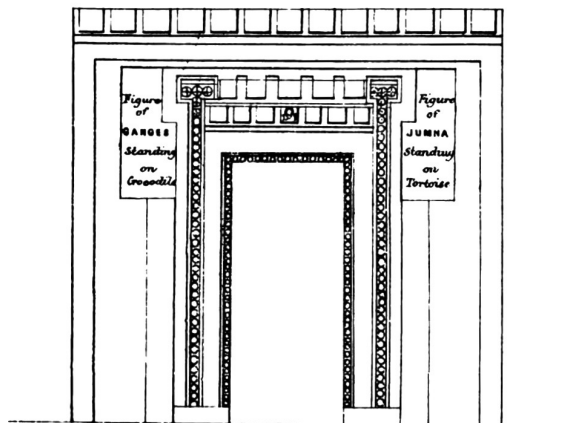
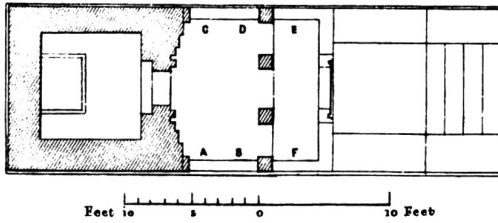
The pillars are identical in all respects except the tree: one pillar has a mango tree, another a palm, while the other two trees unclear. The portico was partially walled later, according to Percy Brown. The temple door jambs are intricately carved, in vertical bands that are concentric around the entrance. On top left of the entrance wall is river goddess Ganga holding a water vessel and riding her crocodile vahana, while the top right has river goddess Yamuna also holding a water vessel while riding her tortoise vahana. Goddess Ganga is plucking a fruit from custard-apple tree, while Yamuna is plucking one from a mango tree.

A Vishnu relief from the temple narrating the man-boar Varaha legend and the Samudra manthan mythology. The Kankali Devi Temple has reliefs showing Vishnu and generally considered to have been dedicated to Vishnu of Vaishnavism. An image of Narasimha, the man-lion avatar of Vishnu, is placed inside the sanctum.[19] The portico has an image of the Sheshashai Vishnu (Narayana). Another shows Varaha, the man-boar avatar of Vishnu.

In front of the temple is a seated Vishnu image in yoga asana position with serpent hood above the head, similar to seated Tirthankaras and the Buddha. The temple also reverentially displays Shaktism and Shaivism themes, including a Chamunda (Kankali Devi) panel which gives the temple its name. On the wall opposite to Kankali Devi is Kali Devi (fierce form of Durga). Cunningham proposed that these Shaiva and Vaishnava reliefs were probably added around the 8th-century. The Kankali Devi temple is similar to the Gupta period Temple #17 at Sanchi, with both illustrating the basic elements of Hindu sacred architecture. The temple style is also similar to the Hindu cave temples of Udayagiri and the Eran temple, both of which can be dated to be from the Gupta era because of the inscriptions found there. A 7th or 8th-century CE Sanskrit inscription mentions the visit of a Umadeva of Kanyakubja, son of Samanya Bhatta, who had come to worship at the temple of Sitabhadra. There are also two inscriptions in Sankha Lipi.

PLAN OF OLD TEMPLE — SHADED.

MEDLEVAL ADDITIONS — PLAIN.



ELEVATION AND PLAN OF DOORWAY



## LADKHAN TEMPLE

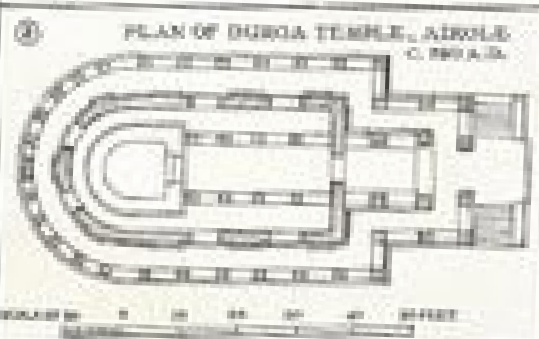
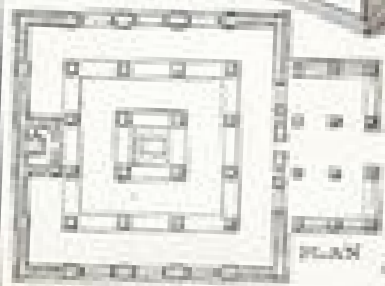
The Chalukya Shiva Temple (or Lad khan temple), dedicated to Shiva, is one of the oldest Hindu temples and is located in the group of monuments at Aihole in the state of Karnataka, India. Formerly dated to the 7th or 8th century, it is now dated to about the 5th century. It is located to the south of the Durga temple, Aihole. The temple shows clear signs of following early timber models, none of which have survived. This is seen for example in the construction of the roof of the mandapa. The temple consists of a shrine (garba griha) with a mandapa in front of it, and a covered path for circumambulating the sanctuary, seen in other very early temples. The mukha mandapa is situated in front of the sanctum and consists of a set of 12 carved pillars. The sabha mandapa leads to the maha mandapa and the pillars are arranged to form two concentric squares. The walls have floral patterns on them and the windows have lattice work done in the northern style. Facing the sanctum, a second smaller sanctum is situated above the center of the hall whose outer walls have many carved images.

Originally dedicated to Vishnu, now the main shrine houses a Shiva Linga with a Nandi. The temple was built in a Panchayatana style, indicating a very early experiment in temple construction. The special feature of this temple is that it starts with a rectangular structure and ends with a square structure. Based on a wooden construction design, the square and rectangular plan has a steep roof, which is an adaptation of wooden styles in stone. The maha mandapa is open to exterior by large windows between the pillars. The roof above the maha mandapa shows a turret as a first version of the future forms of tower: shikharas in north India and vimanas in the south.



The temple has a small shrine with mandapa in front of it. The mandapa has a Mukha that's in front of the sanctum and comprises of 12 carved pillars. From the sabha mandapa, one can enter maha mandapa, where the pillars are arranged to form two concentric squares. Floral patterns decorate the walls and the windows have lattice made of Northern style. A smaller sanctum faces the main sanctum and is nested above the center of the hall. Previously, the temple was dedicated to Vishnu. Now, the temple holds Shiva Linga with a Nandi. The architecture of the temple falls under the category of Panchayatana style, which perhaps indicates some of the earliest experimentation in temple construction. The unique feature of this temple is that it has a rectangular structure and then as one progresses through the temple, it ends with a square structure. Both the square and rectangular plans have steep roof, based on wooden construction design – the adaptation of wooden styles from stone. The maha mandapa then leads to the exterior by large windows between the pillars. Above the maha mandapa, there is a turret that shows the first version of future towers that became shikharas and vimanas.

LADHI KUAN TEMPLE,  
AIHOLE, C. 600 A.D.





### **Durga temple**

Durga Temple Aihole, the cradle of temple architecture in Karnataka built between the 7th – 8th centuries by the Chalukyas. Interestingly, this temple is not dedicated to the Goddess “Durga”. It takes the name after the word “Durg” or fortress which probably refers to a fort built close by . Almost all the monuments in this town are between 1200-1300 years old. We are celebrating Karnataka Rajyotsav or the day when Karnataka as a state was formed today. And what better way to celebrate than to visit a destination that is very ancient and filled with rich heritage.

"Aihole" is one among those places in India where the temples outnumber the houses. Aihole is considered as the "Cradle of Hindu Temple Architecture" or "Primary school for South Indian Temple Architecture". This place served as a capital to the Western Chalukyan rulers. It can be also linked to pre historic age, Buddhist and Jainism. There are around 140 temples in this region and the sad part is that almost all are ruined. There is a continuous effort on the part of the ASI to improve and restore the place. Aihole can also be considered a Laboratory, since there was experimentation with various architectural styles in which the temples were constructed .This temple is the circumambulatory provision inside the temple (corridor around the shrine that continues to the Mandapa). The outer walls of the temple have intricately carved figures of Narasimha, Mahishasuramardini, Varaha, Vishnu, etc . Pierced windows are provided with pleasing patterns to allow light into the hall. The shikara seems to be influenced from the North Indian style of architecture

### **Mythological Origin:-**

One of the most notable places in the history of art in the State, Ayyavole and Aryapura are the names mentioned in the inscriptions. Now the place is called as Aihole, Aivalli and Ayyhole. Mythologically, It is believed that Saint Parusharama after fulfilling his vow of avenging his father's murder is said to have

come down to the Malaprabha River and washed his blood stained hands and the Axe. The river water turned red due to the blood on the axe. A local lady saw the red water and shouted Ayyo, Hole! (Oh No, Blood!) and hence the name Aihole.

Agasthya is believed to have killed Vatapi's brother, the giant Ilvala, here and thus the name 'Ilvalapura' according to another version. Another version said that The name "Aihole" came from the words Ayya hole, or city of scholars (in Sanskrit, Arya Pura). The origin of the name is not the Durga goddess, but a fortress, maybe an enclosure which surrounded the temple or it was a part of fortification, probably of Maratha rulers. It is dedicated to either Vishnu or Shiva as the representations of Vishnu are as numerous as those of Shiva. The most original feature of the temple is a peristyle delimiting an ambulatory around the temple itself and whose walls are covered with sculptures of different gods or goddesses. Two staircases provide access to the porch at the entrance of the temple itself. The sober and square pillars are decorated with characters around the porch and the entrance to the peristyle. The parapet is carved with niches and small animals. The porch gives access to rooms with pillars ('mukhamantapa' and "sabhamantapa") to get into the heart of the shrine (garba griha).

#### Legend Of Durga Temple Aihole:-

Situated on the banks of River Nandini, amidst beautiful surroundings, is the spiritual energy center of South Kanara district. Goddess Durga is the loving and caring mother of the people of South Kanara. Surrounded by lush green fields and beautiful hills, Kateel has become a famous pilgrimage and a tourist center over the years. The legend behind this place of worship goes something like this. A severe drought hit this place and it had not rained for years. There was absolutely no vegetation and Even Brahmins were forced to eat meat and the people were on the verge of giving up their principles. The great Sage Jabaali disturbed by this situation used his 'Jnana Drishti', and found out that Arunasura the demon who escaped from death and fled when Goddess Durga killed Shambasura had made the people stop all yagas and yajnas as a revenge against the 'devas', thus leading to drought and scarcity for years.

In the mean time Arunasura acquired a boon from Brahma that he would not suffer death from any two legged or four legged being or from any weapon. Brahma also powered him with Gayatri Mantra. After acquiring these powers, Arunasura defeated the devas and conquered heaven. The Devas prayed Goddess Durga for help. One day Goddess appeared in Arunasura's garden as a beautiful woman. Seeing the lady, Arunasura approached her. The beautiful lady reminded him that she had killed Shambasura and from whom Arunasura had escaped death. Arunasura got angry and tries to kill the woman with sword. The Goddess suddenly turned into a stone. Arunasura slashed the stone with the sword, then a vast swarm of bees emerged from the stone and stung him.

Devotees and followers from all over the world come to Kateel every year in huge numbers to participate in Simhamaasa, Navarathri and other holy occasions. Several educational institutions are also run through the temple's trust. The temple's trust also encourages several forms of arts. Notable among them is the yakshagana dashavathara mela, which was started as an offering to the goddess. During



dussera, navaratri and other annual celebrations several sacred rituals like, Chandika Havana, thula bhaara, Veda parayana, hari kathas etc are performed.

Architecture Durga Temple, Aihole:-

The Durga temple is an example of southern (Dravidian) architectural type, with a later northern type superstructure imposed upon it-an incongruity apparent from the fact that the superstructure is a square structure clumsily fitted over an apsidal cella. The temple stands on a high moulded upapitha (sub-base), apsidal on plan and carrying a peripheral row of columns on its edge that surround the moulded adhishtana and walls of an apsidal vimana and its front mandapa. Thus the colonnade forms a covered circumambulatory with a sloping roof. The open mandapa is continued forward on a base of smaller width. The peripheral pillars of the front mandapa and those at the forward end of the circumambulatory have large statuary on them. The adhishtana inside is again apsidal, moulded with all the components, and carries the apsidal wall enclosing the inner apsidal wall of the cella or garbha-griha and a closed maha-mandapa in front of it, with two linear rows of four columns in each row that divide it into a central nave and lateral aisles. The central nave has a higher flat roof raised over a sort of clerestory in front of the cella-entrance, and two lateral aisles have sloping roofs, at a lesser height than the central roof. The aisles of the maha-mandapa are continuous on either side, with a closed inner circumambulatory between the inner or outer walls of the cella, which again has a sloping roof. The adhishtana of the apse is projected forward into the porch like front mandapa of a lesser width with four pillars in two rows.

The reliefs on the adhishtana and outer wall are cantoned by pilasters and enclose niches which are framed by shrine-fronts of all the patterns of northern and southern vimanas, kuta, sala, panjara, udgama, etc., and contain bold sculpture. The four recesses, two each between the three bays on the north and south sides and two more between the three bays round the apse-end, are provided with perforated windows. Over the inner wall of the cella perhaps rose the original apsidal griva and sikhara, as in the temples at Ter and Chejarla either with a wholly-solid core or supported by props inside. The advanced features of the temple, the variety of evolved shrine-fronts displayed in its niches, the style of its sculpture, its diverse corbel-forms and the existence in it of a chute, water-spout and the gargoyle-like pranala-a late feature-would justify placing the temple in the eighth century. This is also indicated by an inscription of Chalukya Vikramaditya II (733-46) on the ruined gopura at the south-eastern part of the enclosing-wall. The name 'Durga' for the temple is misleading, since it was not dedicated to Durga, and is due to the fact that till the earlier part of the last century the temple formed part of a fortification (durga), probably of the Marathas. Oblong and apsidal plan marks the structure of this Durga temple. This ensures that the pillared corridor that is found between the porch and the main shrine contains the main sanctum sanctorum and has enough space for the devotees to do a circumambulation ritual around the principal shrine. The pillars have tiny openings through which the apse gives an outward view.

As per the ancient architectural definitions of the Hindu religion, the style of this Durga temple is classified as “Gajaprastha”, meaning the backside of an elephant. This pattern is a little unusual for Hindu temples and it was believed that this style was an inspiration of architecture in Buddhist monasteries. However, it was later revealed that the Indian architecture had mentioned about this style years before the Buddhist style of architecture was formed. The Garba Griha or the main sanctum sanctorum has a huge tower which signaled the construction of future towers and vimanas.



#### Significance of the Durga Temple Aihole:-

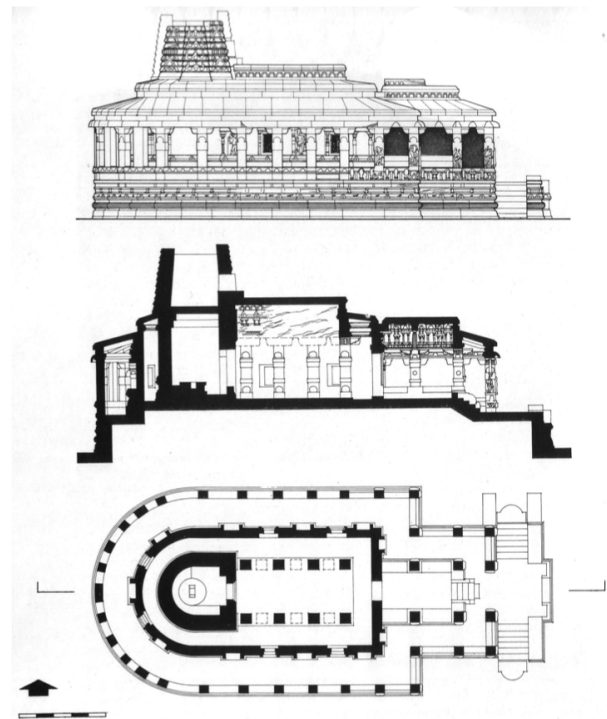
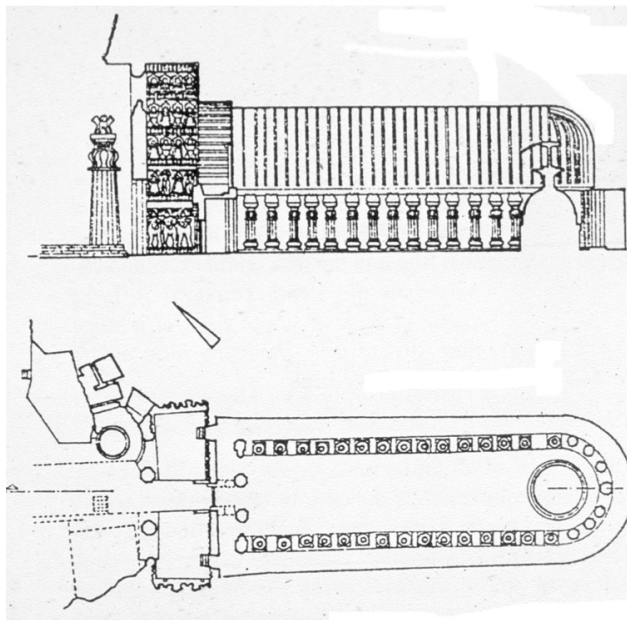
The Durga Temple Aihole is one of the architectural wonders of Aihole. The Durga Temple Aihole is quadrilateral in shape. The contour of the temple exhibits the Gajaprastha style, that is, the backside of an elephant. Durga Temple Aihole is impressive with numerous pillar reliefs which exhibit the unique Chalukya architectural style. Also known as the fortress temple, the Durga Temple Aihole depicts a

Buddhist chaitya and is adorned with exquisite carvings. One of the most beautiful sculptures of the Durga Temple Aihole is that of Goddess Durga.

The seven headed serpent carved at the ceiling of the Durga Temple of Aihole is another impressive work by the artisans. All the walls of the Durga Temple are decorated with sculptures of Hindu gods and goddesses. The temple also comes with a porch and an entrance to the epistle. Through the porch you can enter the rooms of the temple. There are several rooms within the Durga Temple along with a Garba Griha. This is the main part of the shrine where the spirit of the shrine is located. There are two main pillars of the temple, namely, the Mukha Mantapa and the Sabha Mantapa. The elevated plinth, the high galleries and the moulded adisthana are the other characteristics of the Durga Temple. The fine sculptures of Lord Narashima, Goddess Chamundi and Lord Shiva are the other attractions of the Durga Temple.

Nearby Temples:-

There are almost 125 temples at Aihole, the ancient capital of the Chalukya dynasty. Temple architecture of Aihole can be divided into two phases; one is the 4th and 5th century and the other is the 12th century. Numerous temples were built during this time span and every temple is unique in itself. Artisans experimented with the styles and created gems out of rock.



48 Durga temple, Aihole, eighth century; the semi-circular-ended plan is rare in structural architecture, deriving from rock-cut Buddhist sanctuaries

## Pallava Architecture

Pallava architecture was sub-divided into two phases: the rock cut phase and the structural phase. The rock cut phase lasted from the 610 AD to 668 AD and consisted of two groups of monuments, the Mahendra group and the Mamalla group. The Mahendra group is the name given to monuments

constructed during the reign of Mahendravarman I (610 AD- 630 AD). The monuments of this group are invariably pillared halls hewn out of mountain faces. These pillared halls or mandapas follow the prototype of Jain temples of the period. The best examples of Mahendra group of monuments are the cave temples at Mandagapattu, Pallavaram and Mamandur.

The second group of rock cut monuments belong to the Mamalla group in 630 to 668 AD. During this period free-standing monolithic shrines called rathas (chariots) were constructed alongside pillared halls. Some of the best examples of this style are the Pancha Rathas and Arjuna's Penance at Mahabalipuram. The second phase of Pallava architecture is the structural phase when free-standing shrines were constructed with stone and mortar brought in for the purpose. Monuments of this phase are of two groups - the Rajasimha group (690 to 800 AD) and the Nandivarman group (800 to 900 AD).[9] The Rajasimha group encompasses the early structural temples of the Pallavas when a lot of experimentation was carried out. The best examples of this period are the Shore Temple at Mahabalipuram and the Kanchi Kailasanathar Temple at Kanchipuram both constructed by Narasimhavarman II who was known as Rajasimha. The best example of the Nandivarman group of monuments is the Vaikunta Perumal Temple at Kanchipuram. During this period, Pallava architecture attained full maturity and provided the models upon which the massive Brihadeeswarar Temple of the Cholas at Thanjavur and Gangaikonda Cholapuram and various other architectural works of note were constructed.



#### **Features of Pallava Architecture:**

Major Pallava rulers who built temples



Mantapas and pillars

Buddhist influence

Monolithic Indian rock cut architecture

Free standing temples

Gavaksha motif

Base of Dravidian sikhara

There was a major movement under Pallavas even before the imperial Cholas, and the art and architecture under Pallavas co-existed in South India along with Cholas, Chaukyas and Pandyas. We shall see the prominent features of art and architecture of the Pallava dynasty in this article.

#### Pallava Architecture

The Pallava dynasty existed between the 3rd and 9th centuries CE, ruling a portion of what is today Andhra Pradesh (early Pallavas) and Tamil Nadu (later Pallavas). You may note here for comparison that early Chalukyas ruled in present day Karnataka. Kanchipuram was the capital of the Pallavas from 4th to 9th century. Huen Tsang had visited this city and wrote it a glorious city.

The Pallava architecture shows the transition from the rock cut temples to the stone built temples. The earliest examples of the Pallava art are the rock cut temples of the 7th century AD, while the later examples are of structural temples built in 8th and 9th century. The lasting monolithic temples known as rathas and mandapas provide superb skill of sculptors of Pallava period. The monolithic temples (Eg: Five rathas) gave way to structural temples like the Shore temple in Mammalapuram.

Major Pallava rulers who built temples

Mahendravarman : Mandagapattu rock cut temple.

Rajsimha (Narsimhamvarman/Kalasamudra/Mammalla) : Kailasanathar Temple, Kanchipuram, Shore Temple Mahabalipuram (Mammallapuram)

Mantapas and pillars

The mantapas and pillars of rock cut temples and ratha temples bear own distinctive characteristics.

### Buddhist influence

The rock cut temples of the Mamallapuram show the influence of Buddhist rock cut caves. In ratha temples also, some ratha follows the Buddhist Vihara model central square hall supported by pillared roof. Some rathas (Bhima, Sahadeva, Ganesh) follows Chaitya model with oblong shape bearing barrel roof and Chaitya gable.

### Monolithic Indian rock cut architecture

The ratha temples or seven pagoda which are carved out in granite rock is the finest example of Indian monolithic rock cut architecture.

### Free standing temples

The Pallava age shows the transition period from rock cut to structural temples. The ratha temples are attempt to free itself from the influence of rock cut 'Chaitya' and 'Vihara'. The structural detailing of the ratha temples that imitates wooden timber support, pilaster beams which are unnecessary in stone. This shows that they are not able to free totally from earlier wooden structured temples.

### Gavaksha motif

It is a symbolic window throughout which deities are believed to be looked out. It is found in the Chaitya arches that consists of deities below the crown of entablature.

### Base of Dravidian sikhara

The square ground storey with open verandas in Dharmaraja rathas forms the initiation of pyramidal square of Dravidian tradition. Pallava temples in Kanchi are prototype of Vimana to be developed by the Cholas in the later period.

### Base of Kalasa

In the pillars of the Mammalapuram group, above the kumbha or melon capital ( a particular element in pillars that supports the below structure) a padma flares up to the palagai (abacus) and in varaha mandapa this flaring element is surrounded by thinnest abacus which later took the form of kalasa in Chola temples.

### Yalis

The base of pillars of some structural temples bears architectural motif of lion later depicted by Cholas and this symbol of lion became the royal insignia of Pallavas.

### Kudus

In the facades of the walls, Buddhist chaitya motif kudur is seen (later to be adopted by the Chalukya).

### Decoration and ornamentation

The walls and pillars of cave temples and structural temples decoration with architectural designs are seen.

### Pillars

The pillars can be studied and understood as part of three stages of development.

First stage : This belongs to the pillars of rock cut mantapa with 7 feet height approximately. Here, brackets are seen towards the upper part of the pillar. Here, pillar has square shaft.

Second stage : Here, pillars were around 50 feet height with more ornate design. It shows the combination of shaft and capital. The lion motif is seen in the base of the shaft as well as in the capital.

Third stage: Here, pillars come under the mandapa of ratha temples. In this case, malasthana, a motif with bend of pearl festoon is seen in the shaft. It rises up to the pillar separated by an indentive structure called kumbha or melon capital above which a padma flares up to the palagai or abacus.

### Regional influence

The architectural design of one ratha in mahaballipuram with square hall along with curvilinear, overhanging roof shows the influence of traditional bengali hut. It suggests that the origin of Dravidian shikhara have had its origin from the bamboo hut.

### Beginning of gopura

The architecture of gopura begins with the Pallava dynasty as the initiation is seen in shore temple of mahaballipuram.

### Rock cut relief

The greatest sculptural development of the age is cutting out the cleft in Mamallapuram between the two huge granite boulders as descend of Ganga with presence of gods, demi gods, kinnar etc. It is variously known as penance of arjuna, kiratarjuna etc.

### Influence of Amaravati school of art

In the relief of the Mahaballipuram, the shape of gods in the form of clouds shows the influence of Amaravati art.

### Evidence of earliest portrait

In the Adivaraha cave , tow portraits of a Pallava king accompanied by his son and queens are believed to be earliest portrait sculpture after the Kushan images from Mathura.

### Influence of Shaivism and Vaishnavism

In the varaha mantapa of Adivaraha cave , a panel showing varaha lifting the earth goddesses is seen. The brahma and shiva is also sculpted around the main varaha but in small size and disposition. In the panel of a Mahabalipuram cave, Durga as Korravai is depicted. Durga as Mahismardini is also a theme of panel here.

### The Descent of the Ganges /Arjuna's Penance

The huge sculpture of "The Descent of the Ganges" also known as Arjuna's Penance was related to the system of water supply. There are clear traces of carefully designed system of water supply from Palar River to the ancient city. The large cliff, thirty yards long and twenty three ft high, represents naga and naginis which symbolize water, adoring both sides of deities along with animals.

### Animal sculpture

The animal sculpture, specially the relief of monkey below the descent of Ganga, is noticeable feature of Pallava art.

### Shore temple mahabalipuram

Shore Temple is a granite made temple at Mahabalipuram built during the rein of Narsimhavarman. This group of temples is a UNESCO World Heritage Site and is oldest structural temple (in contrast with rock cut temples) in India.

It is a beautiful 5 storyed temple, which is a combined complex of 3 shrines; 2 dedicated to Shiva and one to Vishnu. The Shore Temple marks the culmination of the architectural efforts that began with the cave temples and monolithic rathas. 7 Pagodas is a term associated with the Shore Temple of Mahabalipuram. It is said that 6 more temples were associated with it, all now submerged in water. The term 'ratha' corresponds to free standing temples.

### Summary

The Dravidian style of temple architecture began with the Pallava rule. It was a gradual evolution starting from the rock cut- cave temples to monolithic rathas which finally culminated in structural temples.



Pallava period is an age when architecture showed grandeur and beauty. The period is also known as the age of “poetry in stone”. The magnificent temple of Kailashnath, which is carved out in stone, bears the testimony of the period. The monolithic seven Pagodas or rathas named after Pandavas are architectural wonders, though sea-erosion has taken its toll.

### **Chola Architecture**

The period of the imperial Cholas (c. 850 CE - 1250 CE) in South India was an age of continuous improvement and refinement of Chola art and architecture. They utilised the wealth earned through their extensive conquests in building long-lasting stone temples and exquisite bronze sculptures, in an almost exclusively Hindu cultural setting.

The Cholas built their temples in the traditional way of the Pallava dynasty, who were themselves influenced by the Amaravati school of architecture. The Chola artists and artisans further drew their influences from other contemporary art and architectural schools and elevated the Chola temple design to greater heights. The Chola kings built numerous temples throughout their kingdom, which normally comprised the plains, Central and Northern Tamil Nadu and at times the entire state of Tamil Nadu as also adjoining parts of modern Karnataka and Andhra Pradesh. In the evolution of the Chola temple architecture we can roughly see three major phases, beginning with the early phase, starting with Vijayalaya Chola and continuing till Sundara Chola, the middle phase of Rajaraja Chola and Rajendra Chola when the achievements scaled heights never reached before or since and the final phase during the Chalukya Chola period of Kulottunga Chola I till the demise of the Chola empire.

The Cholas in addition to their temples, also built many buildings such as hospitals, public utility buildings and palaces. Many such buildings find mention in their inscriptions and in contemporary accounts. The golden palace that Aditya Karikala supposedly built for his father Sundara Chola is an example of such a building. However, such buildings were of perishable materials such as timber and fired bricks and have not survived the ravages of time.

Pallavas were the first recognisable South Indian dynasty who indulged in the pursuit of architectural innovations. The first seeds of Chola temple architecture in Tamil Nadu were possibly sown during this period. The temple architecture evolved from the early cave temples and monolith temples of Mamallapuram to the Kailasanatha and Vaikuntaperumal temples of Kanchipuram. This architecture style formed the foundation from which the Cholas, who were in close contact with the Pallavas during their periods of decline, took some valuable lessons according to Nilakanta Sastri, in his A History of South India.

## Vijayalaya Choleswaram

The early Cholas built numerous temples. Aditya I and Parantaka I were prolific builders for their faith. Inscriptions of Aditya I record that he built a number of temples along the banks of the river Kaveri. These temples were much smaller in comparison to the huge monumental structures of the later Cholas and were probably brick structures rather than stone.

The Vijayalacheswaram near Pudukkottai in Tamil Nadu is an example of a surviving early Chola building. The style of this structure clearly shows Pallava influences in the design. It has an unusual arrangement of a circular garba griha (where the deity resides) within a square prakara - circumbulatory corridor. Above this rises the vimana or the tower in four diminishing storeys of which the lower three are square and the top circular. Each level is separated from the next by a cornice. The whole structure is surmounted by a dome which in turn is topped with a stone kalasa - a crest. Very faint traces of paintings can be seen inside on the walls. These paintings are dated not earlier than the 17th century. The little temple of Nageswara at Kumbakonam is also of the same period.

The Koranganatha Temple at Srinivasanallur near Hirapalli is an example of the period of Parantaka I. This temple is situated on the banks of the river Kaveri, and is a small temple with beautiful sculptures on every surface. The base of the wall has a row of sculpted mythical animals that were a unique feature of Chola architecture. The first floor is made of bricks which have been plastered.

Muvarkovil Temple in the Pudukkottai area was built by a feudatory of Parantaka Chola II during the second half of the tenth century. As the name suggests, the temple complex has three main shrines standing side by side in a row, along the north-south direction, facing west. Out of these three, only two, the central and southern vimanams (towers) are now extant. Of the third or the northern shrine, the basement alone remains. The architectural style of these shrines exhibit clear concordance with the later Chola temples.

Temple building received great impetus from the conquests and the genius of Rajaraja Chola and his son Rajendra Chola I. A number of smaller shrines were built during the early phase of this period. Notable amongst these is the Tiruvalisvaram temple near Tirunelveli. The temple is covered with exquisite well composed sculptures and friezes some containing comic figures. The entire cornice of the temple tower is embellished with designs of creepers and foliage. Other examples of such temples can be seen at the Vaidyanatha Temple at Tirumalavadi and the Uttara Kailasa Temple at Thanjavur.

The maturity and grandeur to which the Chola architecture had evolved found expression in the two magnificent temples of Thanjavur and Gangaikondacholapuram. The magnificent Siva temple of Thanjavur, completed around 1009 is a fitting memorial to the material achievements of the time of Rajaraja. The largest and tallest of all Indian temples, it is a masterpiece constituting the high-water mark of South Indian architecture.

It is in this temple that one notices for the first time two gopuras (gateway towers, here oriented in the same direction). They are architecturally coeval with the main vimana and are referred to in inscriptions as Rajarajan tiruvasal and Keralantakan tiruvasal. In spite of the massive size of the gopuras, the vimana, rising majestically to a height of 190 feet, continues to dominate and it is only in the subsequent period that a change in the gradation of magnitude takes place.

Epigraphic evidence reveals that Rajaraja started building this temple in his 19th regnal year and it was completed on 275th day of his 25th regnal year, taking only 6 years. Rajaraja named this temple as Rajarajesvaram and the deity Shiva in Linga form as Peruvudaiyar, the temple is also known in the deity's name as Peruvudaiyarkovil. In later period Maratha and Nayaks rulers constructed various shrines and gopurams of the temple. In later period when the Sanskrit language was more popular during the Maratha rule the temple was named in Sanskrit as Brihadisvaram and the deity as Brihadisvara.

This temple carries on its walls the engraved evidence of the elaborate administrative and financial procedures concerning the day-to-day administration of the temple. The inscriptions give, apart from a comprehensive history of the times, a full enumeration of all the metallic images set up in the temple. Numbering about sixty-six, these icons are referred to with a description of the minutest details of size, shape and composition. This alone is a mine of information for the art historian.

The temple stands within a fort, 200 feet in height and is referred to as Dakshina Meru (Southern Mountain). The octagonal Shikharam (crest) rests on a single block of granite weighing 81 tons.[1][9] It is believed that this block was carried up a specially built ramp built from a site 6 kilometres away from the temple. Huge Nandis (figures of the sacred bull) dot the corners of the Shikharam, and the Kalasam on top by itself is about 3.8 metres in height. Hundreds of stucco figures bejewel the Vimanam, although it is possible that some of these may have been added on during the Maratha period. The main deity is a lingam and is a huge, set in a two storeyed sanctum, and the walls surrounding the sanctum delight visitors as a storehouse of murals and sculptures. The temple is built entirely of granite in a place where there is no source of granite.

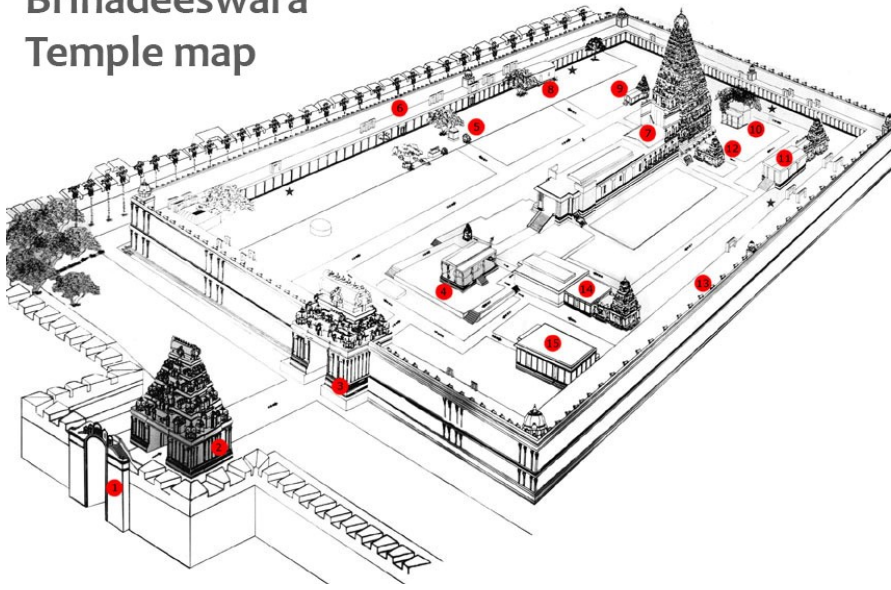
Though the temple of Gangaikonda Cholapuram follows the plan of the great temple of Thanjavur in most details it has characteristics of its own. From the remains it may be seen that it had only one enclosure wall and a gopura while the Thanjavur temple has two gopuras and enclosures. It is larger in plan though not as tall, the vimana being 100 feet square at the base and 186 feet high. The temple,

which forms a large rectangle 340 feet long and 110 feet wide occupies the middle of an immense walled enclosure mainly built for defensive purposes. The vimana has the same construction as in Thanjavur, but the number of tiers making up the pyramidal body is only eight as against 13 in Thanjavur. The most important difference lies in the introduction of curves in the place of the strong straight lines of the Thanjavur vimana. The pyramidal body is slightly concave in its outline at its angles while the sides are curved to produce a somewhat convex outline. These curves enhance the beauty of form of the vimana though they distract from its stateliness and power.

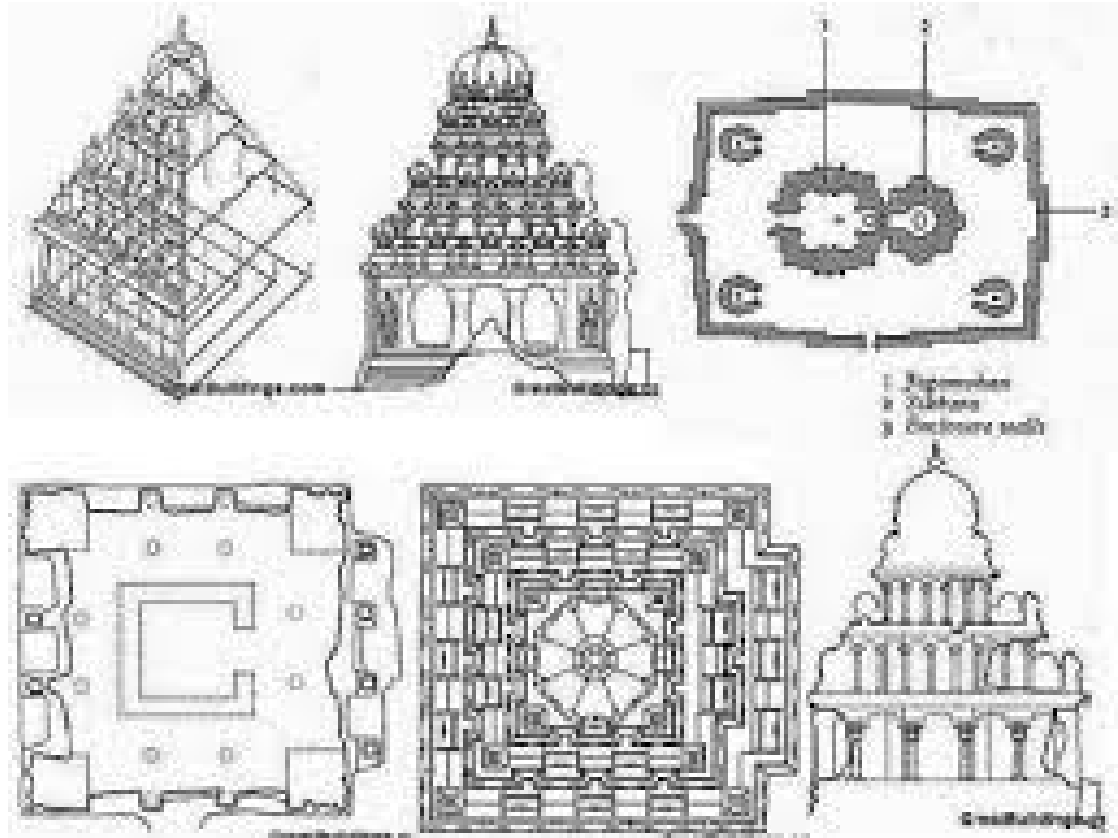




## Brihadeeswara Temple map



- 1 Maratha Entrance
- 2 Keralantakan Tiruvasal
- 3 Rajarajan Tiruvasal
- 4 Nandi Mandapam
- 5 Varahi Shrine
- 6 South Cloister Mandapam
- 7 Brihadeeswarar Temple
- 8 Intepretation Centre
- 9 Ganesha Shrine
- 10 Karuvur Devar Shrine
- 11 Subrahmanya Shrine
- 12 Chandikesvara Shrine
- 13 North Cloister Mandapam
- 14 Amman Shrine
- 15 Nataraja Mandapam



## Pandya Architecture

After the close of the Sangam age, the first Pandyan empire was established by Kadungon in the 6th century by defeating the Kalabhras. The empire ruled AD (6th – 10th century). Rock cut and structural temples are significant part of Pandyan architecture. The Vimana and mandapa are some of the features of the early Pandyan temples. Groups of small temples are seen at Tiruchirappalli district of Tamil Nadu. The Shiva temples have a Nandi bull sculpture in front of the maha mandapa.[20] In the later stages of Pandya's rule, finely sculptured idols, gopurams on the vimanas were developed. Gopurams are the rectangular entrance and portals of the temples. Meenakshi Amman Temple in Madurai and Nellaiappar Temple in Tirunelveli were built during the reign of the Pandya's.

## Nellaiappar Temple

Nellaiappar Temple is a Hindu temple dedicated to the deity Shiva, located in Tirunelveli, built by Pandya's and the sanctums of the temple were constructed by Nindraser Nedumaran who reigned in the 7th century. The mani mandapam with its famous musical pillar was built by Later Pandya's in the 7th century. Nellaiappar temple is spread over 14 acres. The gopuram of this temple is 850 feet long and 756 feet wide. Sangili Mandapam built on 1647 by vadamalaiyappa pillayan connects the Ganthimathi Amman and Nellaiyappar temples. From the inscriptions of Kulasekara Pandiya we learn that he defeated the Chera, Chola and Hoysala kings and built the outer walls of the temple with the war booty. The temples in Kalugumalai, a rocky hill in Thoothukudi district in southern Tamil Nadu.

Kalugumalai houses the 8th century Jain Beds, Vettuvan Koil and Kalugasalamoorthy Temple, a Murugan temple at the foothills. The rock-cut temples, sculptures and the carvings are exemplary of early Pandyan architecture. The Jain beds are dedicated to the Jain and Hindu religious figures. Constructed in rock cut style, the unfinished temple was built during the reign of Pandyan king Parantaka Nedunjadaiya (768-800 CE). There are approximately 150 niches in the bed, that includes images of Gomateshwara, Parshvanatha and other Tirthankaras of the Jainism.

The carvings in the Vettuvan Koil show the top portion of the temple, with an unfinished bottom. The sculptures and the carvings are indicative of Pandyan art during the period. The granite rock looks like a blooming lotus, with hills surrounding it on three sides. The vimana (ceiling over the sanctum) has niches of Parsvadevatas, the attendant deities of Shiva, like ganas, Dakshinamurthy depicted playing a mridanga, Siva with his consort Uma, dancers, various niches of Nandi (the sacred bull of Shiva) and animals like monkeys and lions. Historian Sivaramamurti believes that this is the only place where Dakshinamurthy is depicted playing the Mridanga (a percussion instrument), while in all other places, he is depicted playing Veena.

The sanctum of the Kalugasalamoorthy temple is approached through a pillared hall near the gateway. The temple tank is located outside the temple. The sanctum is built in a rock-cut cave, which houses the image of Murugan in the form of Kazhugachalamurthi in seated posture. The sanctum faces West and the image of the presiding deity is 4 ft (1.2 m) tall. The image is sported with six hands with one of them holding Vel (divine spear), his left leg over the shoulder of the peacock and right is left hanging. There are separate shrines of his consorts Valli facing South and Deivanai facing North. There is a separate shrine for Shiva and Parvathi and all the Parsvatah Devatas (attendant deities) associated with Shiva temples. Usually in Murugan temples, his vehicle peacock would be heading towards his right, but it is sported on to the left of Murugan in this temple. It is believed that Indra, the king of celestial deities, appeared as peacock to worship Murugan. The image of the peacock is hence covered during the festivals.









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**SCHOOL OF BUILDING AND ENVIRONMENT**

**DEPARTMENT OF ARCHITECTURE**

**UNIT – III- MIDDLE AGE –NAGARA ARCHITECTURE- SARA1301**

Lingaraja Temple is a Hindu temple dedicated to Shiva and is one of the oldest temples in Bhubaneswar, the capital of the Indian state of Odisha. The temple is the most prominent landmark of Bhubaneswar city and one of the major tourist attractions of the state.

The Lingaraja temple is the largest temple in Bhubaneswar. The central tower of the temple is 180 ft (55 m) tall. The temple represents the quintessence of the Kalinga architecture and culminating the medieval stages of the architectural tradition at Bhubaneswar. The temple is believed to be built by the kings from the Somavamsi dynasty, with later additions from the Ganga rulers. The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings), each increasing in the height to its predecessor. The temple complex has 50 other shrines and is enclosed by a large compound wall.

Bhubaneswar is called the Ekamra Kshetra as the deity of Lingaraja was originally under a mango tree (Ekamra) as noted in Ekamra Purana, a 13th-century Sanskrit treatise. The temple is active in worship practises, unlike most other temples in Bhubaneswar. The temple has images of Vishnu, possibly because of the rising prominence of Jagannath sect emanating from the Ganga rulers who built the Jagannath Temple in Puri in the 12th century. The central deity of the temple, Lingaraja, is worshipped both as Shiva and Vishnu. The harmony between the two sects of Hinduism, Shaivism, and Vaishnavism, is seen in this temple where the deity is worshipped as Harihara, a combined form of Vishnu and Shiva.

Lingaraja temple is maintained by the Temple Trust Board and the Archaeological Survey of India (ASI). The temple has an average of 6,000 visitors per day and receives lakhs of visitors during festivals. Shivaratri festival is the major festival celebrated in the temple and the event during 2012 witnessed 200,000 visitors. The temple compound is not open to non-Hindus, but there is a viewing platform beside the wall offering a good view of the main exteriors. This was originally erected for a visit by Lord Curzon when Viceroy.

## History

Lingaraja, literally means the king of Lingam, the iconic form of Shiva. Shiva was originally worshipped as Kirtivasa and later as Harihara and is commonly referred to as Tribhuvaneshwara (also called Bhubaneswar), the master of three worlds, namely, heaven, earth, and netherworld. His consort is called Bhuvaneshvari.

The temple in its present form dates back to the last decade of the eleventh century. There is evidence that part of the temple was built during the sixth century CE as mentioned in some of the seventh century Sanskrit texts. Fergusson believes that the temple might have been initiated by Lalat Indu Keshari who reigned from 615 to 657 CE. The Assembly hall (jagamohana), sanctum and temple tower were built during the eleventh century, while the Hall of offering (bhoga-mandapa) was built during the twelfth century. The natamandira was built by the wife of Salini between 1099 and 1104 CE. By the time the Lingaraja temple was completely constructed,

the Jagannath (form of Vishnu) sect had been growing in the region, which historians believe, is evidenced by the co-existence of Vishnu and Shiva worship at the temple. The kings of Ganga dynasty were ardent followers of Vaishnavism and built the Jagannath Temple at Puri in the 12th century.

As per some accounts, the temple is believed to have been built by the Somavanshi king Yayati I (1025-1040), during the 11th century CE. Jajati Keshari shifted his capital from Jajpur to Bhubaneswar which was referred to as Ekamra Kshetra in the Brahma Purana, an ancient scripture. One of the Somavamsi queens donated a village to the temple and the Brahmins attached to the temple received generous grants.[8] An inscription from the Saka year 1094 (1172 CE) indicates gifts of gold coins to the temple by Rajaraja II.[9] Another inscription of Narasimha I from the 11th century indicates offer of beetel leaves as tambula to the presiding deity. Other stone inscriptions in the temple indicate royal grants from Chodaganga to the nearby village people.

## Architecture

The Lingaraja temple is the largest temple in Bhubaneswar. James Fergusson (1808–86), a noted critic and historian rated the temple as "one of the finest examples of purely Hindu temple in India".[1] It is enshrined within a spacious compound wall of laterite measuring 520 ft (160 m) by 465 ft (142 m). The wall is 7.5 ft (2.3 m) thick and surmounted by a plain slant coping. Alongside the inner face of the boundary wall, there is a terrace to protect the compound wall against outside aggression.[4] The tower is 45.11 m (148.0 ft) high and the complex has 150 smaller shrines in its spacious courtyard. Each inch of the 55 m (180 ft) tall tower is sculpted.[1][12] The door in the gate of the entrance porch is made of sandalwood.[13]

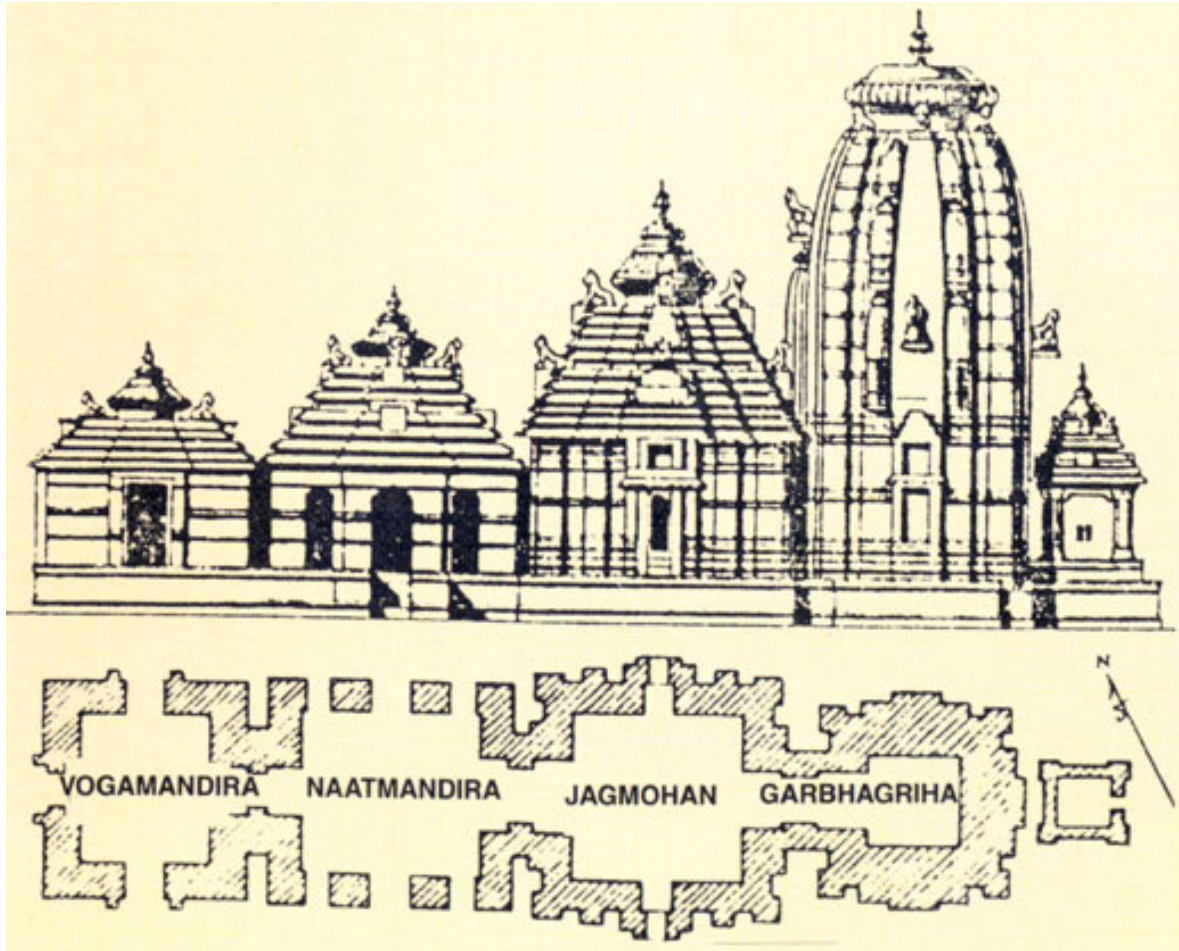
The Lingaraja temple faces east and is built of sandstone and laterite. The main entrance is located in the east, while there are small entrances in the north and south. The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings), with all four in axial alignment with descending height.[12][14] The dance hall was associated with the raising prominence of the devadasi system that existed during the time.[5] The various units from the Hall of offering to the tower of the sanctum increase in height.

The bhogamandapa (Hall of offering) measures 42 ft (13 m)\*42 ft (13 m) from the inside, 56.25 ft (17.15 m)\*56.25 ft (17.15 m) from the outside and has four doors in each of the sides. The exterior walls of the hall has decorative sculptures of men and beast. The hall has a pyramidal roof made of up several horizontal layers arranged in sets of two with intervening platform. It bears an inverted bell and a kalasa in the top. The natamandira (festival hall) measures 38 ft (12 m)\*38 ft (12 m) from the inside, 50 ft (15 m)\*50 ft (15 m) from the outside, has one main entrance and two side entrances. The side walls of the hall has decorative sculptures displaying women and couples. It has a flat roof sloping in stages. There are thick pylons inside the hall. The jagamohana (assembly hall) measures 35 ft (11 m)\*30 ft (9.1 m) from the inside, 55 ft



(17 m)\*50 ft (15 m) from the outside, entrances from south and north and has a 30 metres (98 ft) tall roof. The hall has a pyramidal roof made of up several horizontal layers arranged in sets of two with intervening platform as in the Hall of offering. The facade to the entrances are decorated with perforated windows with lion sitting on hind legs. The inverted bell above second unit is adorned by kalasa and lions.[14][15] The rekha deula has a 60 m (200 ft) tall pyramidal tower over the sanctum and measures 22 ft (6.7 m)\*22 ft (6.7 m) from the inside, 52 ft (16 m)\*52 ft (16 m) from the outside over the sanctum. It is covered with decorative design and seated lion projecting from the walls. The sanctum is square in shape from the inside. The tower walls are sculpted with female figures in different poses.





Konark Sun Temple is a 13th-century CE (year 1250) Sun temple at Konark about 35 kilometres (22 mi) northeast from Puri on the coastline of Odisha, India. The temple is attributed to king Narasimhadeva I of the Eastern Ganga Dynasty about 1250 CE. Dedicated to the Hindu Sun God Surya, what remains of the temple complex has the appearance of a 100-foot (30 m) high chariot with immense wheels and horses, all carved from stone. Once over 200 feet (61 m) high,[1][5] much of the temple is now in ruins, in particular the large shikara tower over the sanctuary; at one time this rose much higher than the mandapa that remains. The structures and elements that have survived are famed for their intricate artwork, iconography, and themes, including erotic kama and mithuna scenes. Also called the Surya Devalaya, it is a classic illustration of the Odisha style of Architecture or Kalinga Architecture.

The cause of the destruction of the Konark temple is unclear and still remains a source of controversy. Theories range from natural damage to deliberate destruction of the temple in the course of being sacked several times by Muslim armies between the 15th and 17th centuries. This temple was called the "Black Pagoda" in European sailor accounts as early as 1676 because it looked like a great tiered tower which appeared black.[6][8] Similarly, the Jagannath Temple in Puri was called the "White Pagoda". Both temples served as important landmarks for sailors in the Bay of Bengal.[9][10] The temple that exists today was partially restored by the conservation efforts of British India-era archaeological teams. Declared a

UNESCO world heritage site in 1984, it remains a major pilgrimage site for Hindus, who gather here every year for the Chandrabhaga Mela around the month of February. Konark Sun Temple is depicted on the reverse side of the Indian currency note of 10 rupees to signify its importance to Indian cultural heritage.

Temple is located in an eponymous village (now NAC Area) about 35 kilometres (22 mi) northeast of Puri and 65 kilometres (40 mi) southeast of Bhubaneswar on the Bay of Bengal coastline in the Indian state of Odisha. The nearest airport is Bhubaneswar airport. Both Puri and Bhubaneswar are major railway hubs connected by Indian Railway

The Konark Sun Temple was built in 1250 A.D. during the reign of the Eastern Ganga King Narsimhadeva-1 from stone in the form of a giant ornamented chariot dedicated to the Sun god, Surya. In Hindu Vedic iconography Surya is represented as rising in the east and traveling rapidly across the sky in a chariot drawn by seven horses. He is described typically as a resplendent standing person holding a lotus flower in both his hands, riding the chariot marshaled by the charioteer Aruna. The seven horses are named after the seven meters of Sanskrit prosody: Gayatri, Brihati, Ushnih, Jagati, Trishtubha, Anushtubha, and Pankti.[14] Typically seen flanking Surya are two females who represent the dawn goddesses, Usha and Pratyusha. The goddesses are shown to be shooting arrows, a symbol of their initiative in challenging the darkness. The architecture is also symbolic, with the chariot's twelve pairs of wheels corresponding to the 12 months of the Hindu calendar, each month paired into two cycles (Shukla and Krishna).

The Konark temple presents this iconography on a grand scale. It has 24 elaborately carved stone wheels which are nearly 12 feet (3.7 m) in diameter and are pulled by a set of seven horses.[When viewed from inland during the dawn and sunrise, the chariot-shaped temple appears to emerge from the depths of the blue sea carrying the sun.

The temple plan includes all the traditional elements of a Hindu temple set on a square plan. According to Kapila Vatsyayan, the ground plan, as well the layout of sculptures and reliefs, follow the square and circle geometry, forms found in Odisha temple design texts such as the Silpasarini. This mandala structure informs the plans of other Hindu temples in Odisha and elsewhere.

The main temple at Konark, locally called the deul, no longer exists. It was surrounded by subsidiary shrines containing niches depicting Hindu deities, particularly Surya in many of his aspects. The deul was built on a high terrace. The temple was originally a complex consisting of the main sanctuary, called the rekha deul, or bada deul (lit. big sanctum). In front of it was the bhadra deul (lit. small sanctum), or jagamohana (lit. assembly hall of the people) (called a mandapa in other parts of India. The attached platform was called the pida deul, which consisted of a square mandapa with a pyramidal roof. All of these structures were square at their core, and each was overlain with the pancharatha plan containing a variegated exterior. The central projection, called the raha, is more pronounced than the side projections, called

kanika-paga, a style that aims for an interplay of sunlight and shade and adds to the visual appeal of the structure throughout the day. The design manual for this style is found in the Silpa Sastra of ancient Odisha.

A stone wheel engraved in the walls of the temple. The temple is designed as a chariot consisting of 24 such wheels. Each wheel has a diameter of 9 feet, 9 inches, with 8 spokes.

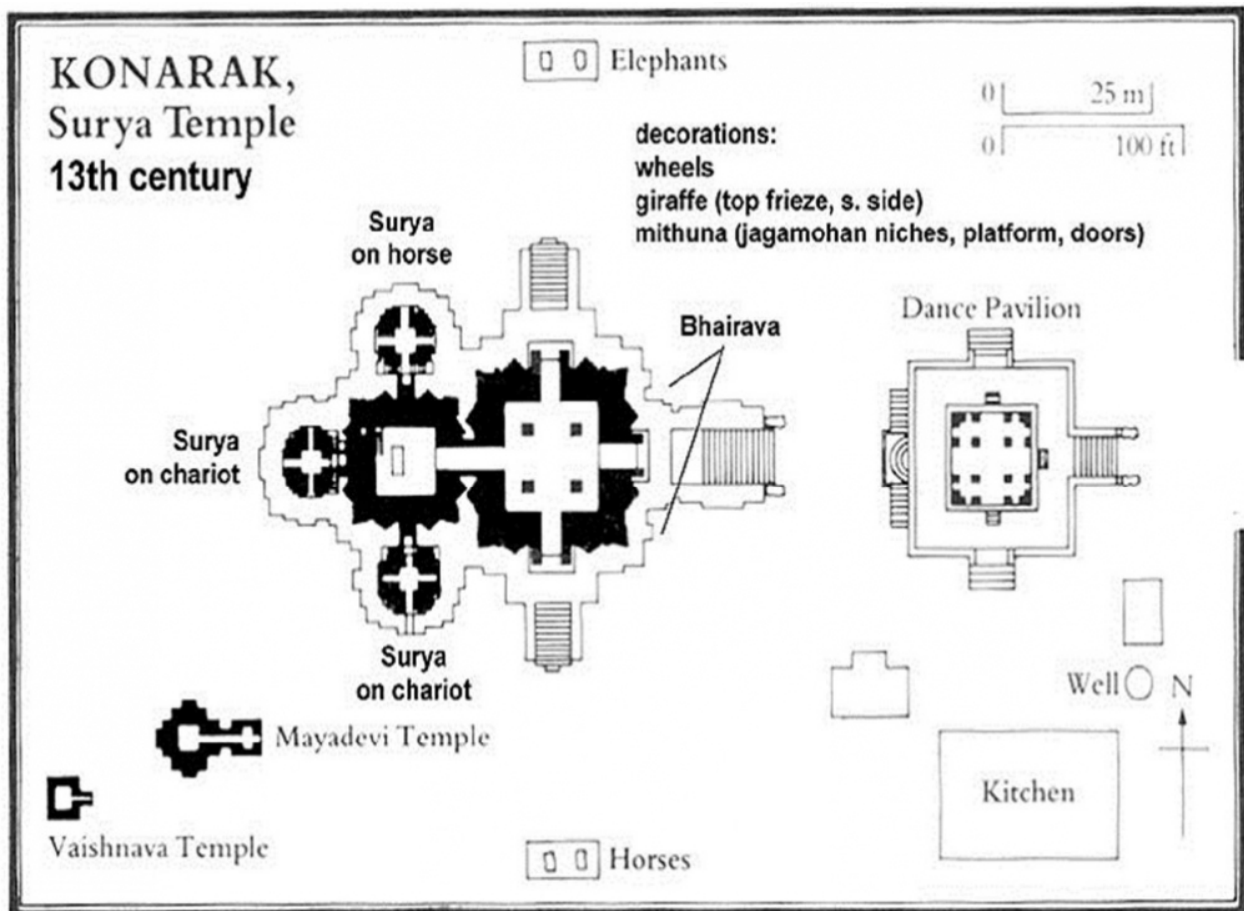
Twice as wide as they were high, the walls of the jagamohana are 100 feet (30 m) tall. The surviving structure has three tiers of six pidas each. These diminish incrementally and repeat the lower patterns. The pidas are divided into terraces. On each of these terraces stand statues of musician figures. The main temple and the jagamohana porch consist of four main zones: the platform, the wall, the trunk, and the crowning head called a mastaka. The first three are square while the mastaka is circular. The main temple and the jagamohana differed in size, decorative themes, and design. It was the main temple's trunk, called the gandhi in medieval Hindu architecture texts, that was ruined long ago. The sanctum of the main temple is now without a roof and most of the original parts.

On the east side of the main temple is the Nata mandira (lit. dance temple). It stands on a high, intricately carved platform. The relief on the platform is similar in style to that found on the surviving walls of the temple. According to historical texts, there was an Aruna stambha (lit. Aruna's pillar) between the main temple and the Nata mandira, but it is no longer there because it was moved to the Jagannatha at Puri sometime during the troubled history of this temple.[5] According to Harle, the texts suggest that originally the complex was enclosed within a wall 865 feet (264 m) by 540 feet (160 m), with gateways on three sides.

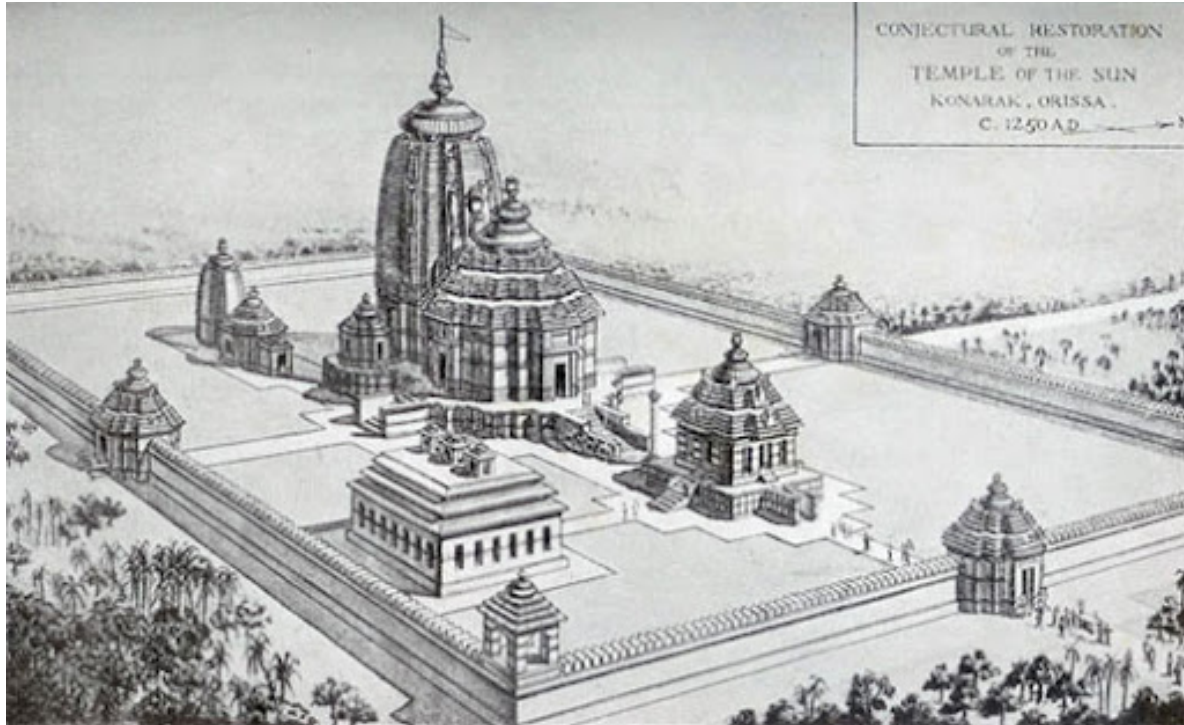
The sun temple was made from three types of stone. Chlorite was used for the door lintel and frames as well as some sculptures. Laterite was used for the core of the platform and staircases near the foundation. Khondalite was used for other parts of the temple. According to Mitra, the Khondalite stone weathers faster over time, and this may have contributed to erosion and accelerated the damage when parts of the temples were destroyed. None of these stones occur naturally nearby, and the architects and artisans must have procured and moved the stones from distant sources, probably using the rivers and water channels near the site. The masons then created ashlar, wherein the stones were polished and finished so as to make joints hardly visible.

The original temple had a main sanctum sanctorum (vimana), which is estimated to have been 229 feet (70 m) tall. The main vimana fell in 1837. The main mandapa audience hall (jagamohana), which is about 128 feet (39 m) tall, still stands and is the principal structure in the surviving ruins. Among the structures that have survived to the current day are the dance hall (Nata mandira) and the dining hall (Bhoga mandapa).









## Surya Temple Modhera

The Sun Temple is a Hindu temple dedicated to the solar deity Surya located at Modhera village of Mehsana district, Gujarat, India. It is situated on the bank of the river Pushpavati. It was built after 1026-27 CE during the reign of Bhima I of the Chaulukya dynasty. No worship is offered now and is protected monument maintained by Archaeological Survey of India. The temple complex has three components: Gudhamandapa, the shrine hall; Sabhamandapa, the assembly hall and Kunda, the reservoir. The halls have intricately carved exterior and pillars. The reservoir has steps to reach the bottom and numerous small shrines.

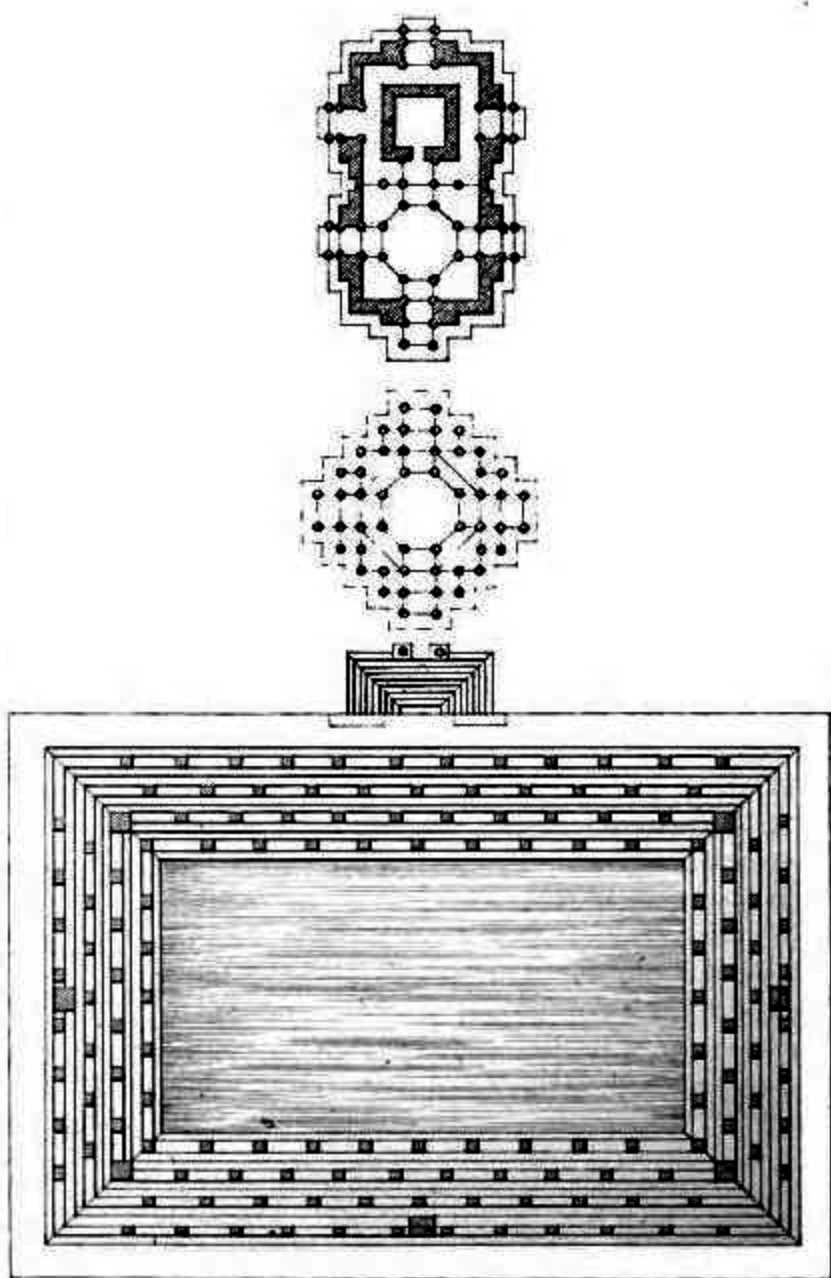
The shrine proper of the Sun Temple was built during the reign of Bhima I of Chaulukya dynasty. Earlier, during 1024-25, Mahmud of Ghazni had invaded Bhima's kingdom, and a force of around 20,000 soldiers had unsuccessfully tried to check his advance at Modhera. Historian A. K. Majumdar theorizes that the Sun Temple might have been built to commemorate this defense. On a block in western wall of cella, there is an inscription "Vikram Samvat 1083" upside down carelessly incised in Devnagari script which correspond to 1026-1027 CE. No other date is found. As the inscription is upside down, it evidences the destruction and reconstruction of the cella. Due to the position of the inscription, it is not firmly considered as the date of construction. On the stylistic ground, it is known that the Kunda with its corner shrines was built earlier at the beginning of the 11th century. The inscription is rather considered as the date of destruction by Ghazni instead of the construction. Soon after Bhima had returned to the power. So the temple proper, the miniature and the niche shrines in the tank were built shortly after 1026 CE. The dancing hall was added much later in the third quarter of the 12th century along with the gateways, the porch of the temple proper and the doorframes of the temple and the cella during the reign of the Karna.

The temple is built on 23.6° latitude (approximately near Tropic of Cancer).The place was later known as Sita ni Chauri and Ramkund locally.No worship is offered here now.The temple is the Monument of National Importance and is maintained by the Archeological Survey of India.

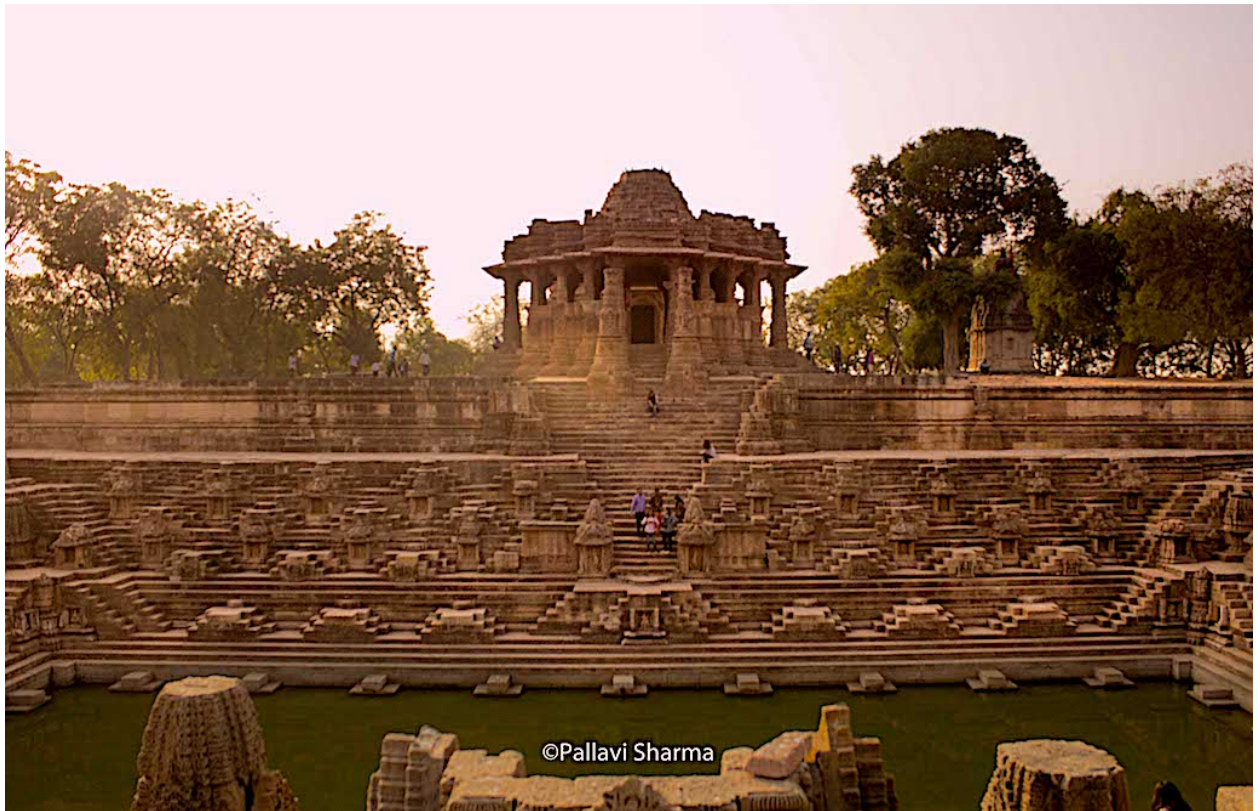
The temple complex is built in Māru-Gurjara style (Chaulukya style). The temple complex has three axially aligned components; the shrine proper (garbhagriha) in a hall (gudhamandapa), the outer or assembly hall (sabhamandapa or rangamandapa) and a sacred reservoir (kunda).

The Sabhamandapa is not in continuation with Gudhamandapa but is placed little away as a separate structure. Both are built on a paved platform.Their roofs have collapsed long ago leaving behind a few lower-most courses. Both roofs are 15' 9" in diameter but are constructed differently.The platform or plinth is inverted lotus-shaped.











## Gudhamandapa

The Gudhamandapa measures 51 feet 9 inches by 25 feet 8 inches. It is almost equally divided into Gudhamandapa, the hall and Garbhagriha, the shrine proper. Both are rectangular in plan with one projection on each of the smaller sides and two projections on each of the longer sides. These projections on the smaller sides form the entrance and the back of the shrine. The three projections of the outer wall of Gudhamandapa had windows on each side and the east projection had the doorway. These windows had perforated stone screens; the northern is in ruins and the southern is missing. Pradakshinamarga is formed by the passage between the walls of Garbhagriha and the outer walls of Gudhamandapa. The roof of passage has stone slabs carved with rosettes. The Shikhara of it no longer exists.

## Garbhagriha

The Garbhagriha, the shrine proper or sanctum sanctorum is square measuring 11 feet from inside.

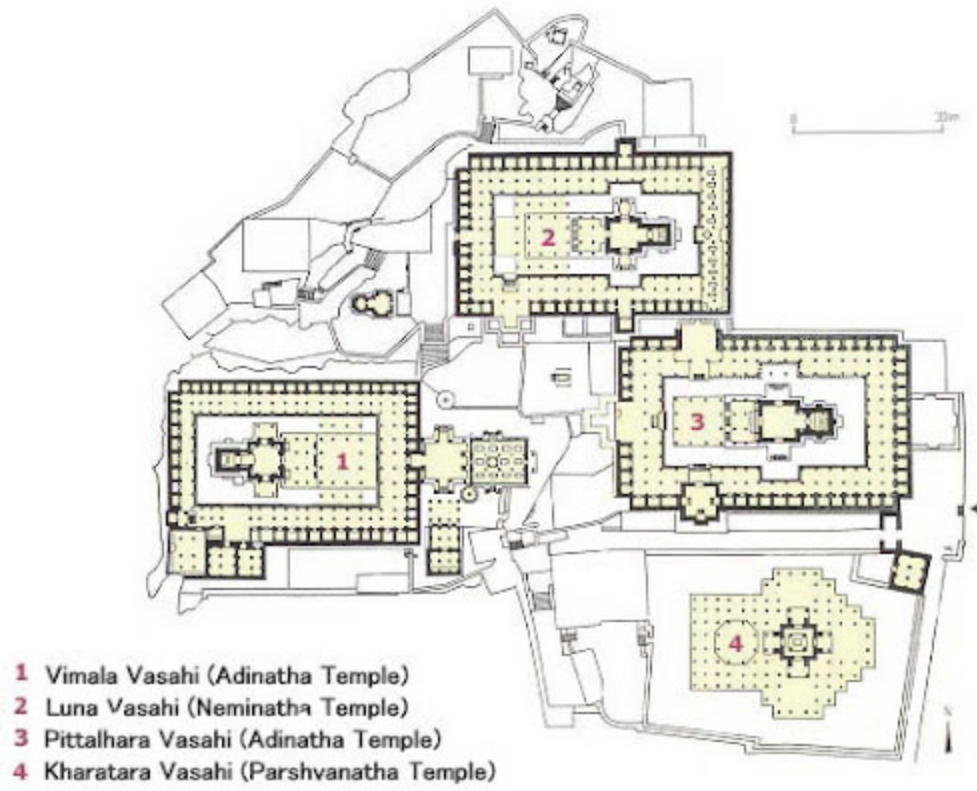
The shrine had two cells; a cell below the level of the upper cell. The floor of the upper cell is now fallen which once housed the image of a deity. The seat of the image is now in a pit. The lower cell was probably used for storage.

The walls inside the shrine are plain and the outer wall is decorated. The doorway has carved figures of seated Surya in panels surrounded by dancers and amorous couples. All figures are mutilated and the images on the door-lintel are completely destroyed.

The sanctum sanctorum is designed in a way that the first rays of rising sun lit up the image of Surya during solar equinox days and on summer solstice day, the sun shines directly above the temple at noon casting no shadow.

## Gudhamandapa Base moldings:

The outer walls of the shrine are highly decorated. The base and walls of the shrine and hall are divided into several stretches with unique carvings. The Pitha or adhisthana, the base has the two square members called Bhat followed by a cyma recta carving (lower part convex and upper part concave). It is followed by padma or padmaka, the molding in form of an inverted lotus. The next is antarita, a fillet or an astragal with a sharp edge between two recesses. Above this is patta having thin molding called chhaja at its lower edge. The next is another chhaja separated by neck, alinga. The next broad band, patti, is gajathara carved with elephants. The following band narathara has figures of men in different attitudes.





The Dilwara Temples or Delvada Temples are a group of svetambara Jain temples located about 2.5 kilometres from the Mount Abu settlement in Sirohi District, Rajasthan's only hill station. The earliest were built by Vimal Shah and supposedly designed or at least financed by Vastupala, Jain minister of Dholka. They date between the 11th and 16th centuries, forming some of the most famous monuments in the style of Māru-Gurjara architecture, famous for their use of a very pure white marble and intricate marble carvings. They are managed by Seth Shri Kalyanji Anandji Pedhi, Sirohi and are a pilgrimage place for Jains, and a significant general tourist attraction. Although Jains built many temples at other places in Rajasthan, the Dilwara temples are believed to be the most impressive.

#### Architecture:

The five Dilwara Temples are among the most famous Jain temples. The Vimal Vasahi is much the earliest, constructed by 1031, with the Luna Vasahi by 1230, and the others at intervals between 1459 and 1582. All are in a very white marble that adds greatly to their effect, and remain in use. The oldest and largest two have large amounts of intricate carving even by the standards of the style, reaching a peak in the Luna Vasahi temple. The main buildings of the first three named are surrounded by "cloister" screens of devakulikā shrines, and are fairly plain on the outer walls of these; in the case of the Vimal Vasahi this screen was a later addition, around the time of the second temple. These three have an axis from the sanctuary through a closed, then an open mandapa to an open rangamandapa, or larger hall for dance or drama. Surrounding the main temple with a curtain of shrines was to become a distinctive feature of the Jain temples of West India, still employed in some modern temples.

In later temples in the Māru-Gurjara style, a very pure white marble like that at Dilwara came to be regarded as highly desirable, even essential. In modern times, when the style has become popular in other regions of India, and with Hindu and Jain communities in other countries, local Rajastani marble is often carved and transported to the new building.

The temples have an opulent entranceway, the simplicity in architecture reflecting Jain values like honesty and frugality. The ornamental detail spreading over the minutely carved ceilings, doorways, pillars, and panels is considered to be remarkable. It is said that workmen were paid in gold according to the weight of marble powder scraped off.

#### Five Temples:

The temple complex is in the midst of a range of forested hills. There are five temples in all, each with its own unique identity. All the five temples are enclosed within a single high walled

compound. The group is named after the small village of Dilwara or Delvara in which they are located. The five temples are:

- Vimal Vasahi, dedicated to the first Jain Tirthankara, Shri Adinatha
- Luna Vasahi, dedicated to the 22nd Jain Tirthankara, Shri Neminatha.
- Pittalhar, dedicated to the first Jain Tirthankar, Shri Adinatha.
- Parshvanath, dedicated to the 23rd Jain Tirthankara, Shri Parshvanatha.
- Mahavir Swami, dedicated to the last Jain Tirthankara, Shri Mahaviraswami.

Among the five marble temples of Dilwara, the most famous are the Vimal Vasahi and the Luna Vasahi temples.

### Vimal Vasahi Temple

The Adinatha or Vimala Vasahi Temple is carved entirely out of white marble and was mostly built in 1032 by Vimal Shah, a minister of Bhima I, the Chaulukya king of Gujarat. The outer mandapa is an addition of the next century. The temple is dedicated to Lord Rishabha. The temple stands in an open courtyard surrounded by a corridor, which has numerous cells containing smaller idols of the tirthankaras. The richly carved corridors, pillars, arches, and 'mandaps' or porticoes of the temple are simply amazing.

The ceilings feature engraved designs of lotus-buds, petals, flowers and scenes from Jain mythology. The figures of animal life, life journey from dream to incarnation of tirthankars are carved. There are 59 devakulikas (small shrine) facing the main image of Rishabhanatha. There are 7 additional cells are found, 1 cell houses image of Ambaji and 2 cells of Munisuvrata. The mulnayak idol of Rishabhanatha is finally carved with attendant deities and images of 4 tirthankar carved, giving the idol name Saparikar Panchtirthi.

The Navchowki is a collection of nine rectangular ceilings, each containing carvings of different designs supported on ornate pillars. The Gudh mandap is a simple hall after stepping inside its heavily decorated doorway. The Gudh mandap, houses two idols of Parshvanatha in Kayotsarga position. Installed is the idol of Adi Nath or Lord Rishabdev, as he is also known. The mandap is meant for Aarti to the deity. The ceiling has carvings of horses, elephants, musician, dancers and soldier. The Hastishala (Elephant courtyard) was constructed by Prithvipal, a descendant of Vimal Shah in 1147-49 and features a row of elephants in sculpture with the members of the family riding them

### Luna Vasahi

The Luna Vasahi or Neminatha temple is dedicated to Lord Neminath. This magnificent temple was built in 1230 by two Porwad brothers - Vastupal and Tejpal - both ministers of a Virdhaval, the Vaghela ruler of Gujarat.[16] The temple built in memory of Vastupal & Tejpal's late brother Lunig was designed after the Vimal Vashi temple. The temple has a similar structure as Vimala Vasahi but the richness of the carving inside is even greater. The main hall or Rang mandap



features a central dome from which hangs a big ornamental pendant featuring elaborate carving. Arranged in a circular band are 72 figures of Tirthankars in sitting posture and just below this band are 360 small figures of Jain monks in another circular band. The Hathishala or elephant cell features 10 marble elephants, polished and realistically modelled. One of the special feature of temple is the two niches of Derani(wife of younger brother) and Jethani(wife of older brother), the wife of Vastupal and Tejpal.Both of the niches have the image of Lakshmi with sculptures of Sambhavanatha and Shantinatha respectively.

The Navchowki features some of the most delicate marble stone cutting work of the temple. The ceilings of the temple depicts scenes of the life of Neminatha with image of Rajmathi (who was to marry Neminatha)and Krishna.The Gudh mandap features a black marble idol of the 22nd Tirthankara Neminatha. The Kirthi Stambha is a big black stone pillar that stands on the left side of the temple. The carvings of devkulikas and Chakreshvari in the ceiling of temple is also noteworthy.The Kirti Stambha(pillar of pride) was constructed by Maharana Kumbha of Mewar.The remaining three temples of Dilwara are smaller.

### Pittalhar Temple

### Pittalhar Temple

This temple, also called the Adinatha temple, was built by Bhima Shah, a minister of Sultan Begada of Ahmedabad, between 1316-1432 AD. A massive metal statue of the first Tirthankara, Rishabha Dev (Adinath), cast in five metals, is installed in the temple. The main metal used in this statue is 'Pital' (brass), hence the name 'Pittalhar'. The name of the temple is also mentioned in an inscription dating back to 1432, found in Digambar shrine in Dilwara complex.

There are a total of 107 images in the main shrine. The Shrine consists of a main Garbhagriha, Gudh mandap and Navchowki with idol of yakshi Chakreshvari and yaksha Gomukha on both sides. It seems that the construction of Rangmandap and the corridor was left unfinished. The old mutilated idol was replaced and installed in 1468-69 AD weighing 108 maunds (four metric tons) according to the inscription on it.[42] The image was cast by an artist 'Deta' which is 8 ft (2.4 m). high, 5.5 ft (1.7 m). broad and the figure is 41 inches (1,000 mm) in height. In Gudh Mandap on one side, a big marble Panch-Tirthi sculpture of Adinath is installed. Some shrines (devakulika) were constructed in 1474 and 1490, before construction was abandoned.[page needed]

### Shri Parshvanatha Temple

### Parshvanatha Chaumukha Temple

This temple, dedicated to Lord Parshvanath, was built by Sangvi Mandlik and his family in 1458–59.[39] According to popular belief, masons offered free remaining stones of Vimala

Vasahi and Luna Vasahi to add the marble since the temple was built by grey stone. It consists of a three-story building, the tallest of all the shrines at Dilwara. Not all the tower remains. On all the four faces of the sanctum on the ground floor are four big mandapas housing a Choumukha idol of Parshvanatha. On the first floor, the Chaumukha idol the front iconography is of Chintamani Parshvanath, second Magalakar Parshvanatha and third Manoratha-Kalpadruma Parshvanatha all are depicted with hood of nine cobras. The image of fourth image of Parshvanatha is illegible. In the corridor there are images of 17 tirthankaras and paintings of flowers. There is depiction of 14 dreams of mother of tirthankars had before their births. On the second floor, the Chaumukha idol is of Sumatinatha, Parshvanatha, Adinatha and Parshvanatha. The idol of Goddess Ambika is also present. On the third floor, the Chaumukha idol is of Parshvanatha.

The outer walls of the sanctum comprise ornate sculptures in gray sandstone, depicting Dikpals, Vidhyadevis, Yakshinis, Shalabhanjikas and other decorative sculptures comparable to the ones in Khajuraho and Konark.

#### Shri Mahaveer Swami Temple

This is a small structure constructed in 1582 and dedicated to Lord Mahavira. It is small temple with carvings on its walls. On the upper walls of the porch there are pictures painted in 1764 by the artists of Sirohi. There are detailed carvings of flowers, pigeons, court-scene, dancing girls, horses, elephant, and other scenes. On each side of Mahavira, there are 3 idols of tirthankar. Outside the shrine, there is a marble slab of rectangular shape with a triangle stone over it containing 133 images of miniature-sized tirthankar with a larger image in center.

#### Jirnoddhar (Repairs)

The temples have undergone repairs time to time. Allauddin Khilji had attacked and damaged the temples in 1311. In 1321, Bijag and Lalag of Mandore had undertaken repairs.

In 1906, Lallubhai Jaichand of Patan had the temples repaired and reconsecrated on April 25, 1906, under the supervision of Yati Hemasagar.[48] Extensive repairs were again undertaken during 1950-1965 by Anandji Kalyanji with the work done by the Sompura firm Amritlal Mulshankar Trivedi. The older marble has a yellow patina, whereas the newer marble is white.

The temples are currently administered by the Seth Kalyanji Paramanandji Pedi (not to be confused by Seth Anandji Kalyanji Pedhi of Ahmedabad). Seth Kalyanji Paramanandji Pedi also runs a Bhojanshala (dining hall) nearby.





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**SCHOOL OF BUILDING AND ENVIRONMENT**  
**DEPARTMENT OF ARCHITECTURE**

**UNIT – IV- LATE MIDDLE AGE – SARA1301**



Notre-Dame de Paris (French: [nɔtʁə dam də paʁi] (About this soundlisten); meaning "Our Lady of Paris"), referred to simply as Notre-Dame,[a] is a medieval Catholic cathedral on the Île de la Cité in the 4th arrondissement of Paris. The cathedral was consecrated to the Virgin Mary and is considered to be one of the finest examples of French Gothic architecture. Its pioneering use of the rib vault and flying buttress, its enormous and colourful rose windows, as well as the naturalism and abundance of its sculptural decoration set it apart from the earlier Romanesque style.[5] Major components that make Notre Dame stand out include its large historic organ and its immense church bells.

The cathedral's construction began in 1163 under Bishop Maurice de Sully and was largely complete by 1260, though it was modified frequently in the following centuries. In the 1790s, Notre-Dame suffered desecration during the French Revolution; much of its religious imagery was damaged or destroyed. In the 19th century, the cathedral was the site of the coronation of Napoleon I and the funerals of many presidents of the French Republic.

Popular interest in the cathedral blossomed soon after the 1831 publication of Victor Hugo's novel *Notre-Dame de Paris* (better known in English as *The Hunchback of Notre-Dame*). This led to a major restoration project between 1844 and 1864, supervised by Eugène Viollet-le-Duc. The Allied liberation of Paris in 1944 was celebrated within Notre-Dame with the singing of the Magnificat. Beginning in 1963, the cathedral's façade was cleaned of centuries of soot and grime. Another cleaning and restoration project was carried out between 1991 and 2000.

The cathedral is one of the most widely recognized symbols of the city of Paris and the French nation. As the cathedral of the Archdiocese of Paris, Notre-Dame contains the cathedra of the archbishop of Paris (Michel Aupetit). In 1805, Notre-Dame was given the honorary status of a minor basilica. Approximately 12 million people visit Notre-Dame annually, making it the most visited monument in Paris. The cathedral was renowned for its Lent sermons, founded by the Dominican Jean-Baptiste Henri Lacordaire in the 1830s. In recent years, an increasing number have been given by leading public figures and state-employed academics.

The cathedral has been progressively stripped of its original decoration and works of art. Several noteworthy examples of Gothic, Baroque, and 19th-century sculptures and a group of 17th- and early 18th-century altarpieces remain in the cathedral's collection. Some of the most important relics in Christendom, including the Crown of Thorns, a sliver of the true cross and a nail from the true cross, are preserved at Notre-Dame. While undergoing renovation and restoration, the roof of Notre-Dame caught fire on the evening of 15 April 2019. Burning for around 15 hours, the cathedral sustained serious damage, including the destruction of the flèche (the timber spirelet over the crossing) and most of the lead-covered wooden roof above the stone vaulted ceiling. Contamination of the site and the nearby environment resulted.

Following the fire, many proposals were made for modernizing the cathedral's design. However, on 29 July 2019, the French National Assembly enacted a law requiring that the restoration must preserve the cathedral's 'historic, artistic and architectural interest'. Stabilizing the structure against possible collapse was completed in November 2020, and the reconstruction began in 2021. The government of France hopes the reconstruction can be completed by Spring 2024, in time for the opening of the 2024 Summer Olympics in Paris. President Emmanuel Macron confirmed on 14 April 2021 that the cathedral site will be formally returned to the church on 15 April 2024, and the first mass will be held in the cathedral nave on that day, even if the reconstruction is not finished by then.

## Construction

The chronicler Jean de Saint-Victor [fr] recorded in the *Memorial Historiarum* that the construction of Notre-Dame began between 24 March and 25 April 1163 with the laying of the cornerstone in the presence of King Louis VII and Pope Alexander III. Four phases of construction took place under bishops Maurice de Sully and Eudes de Sully (not related to Maurice), according to masters whose names have been lost. Analysis of vault stones that fell in the 2019 fire shows that they were quarried in Vexin, a county northwest of Paris, and presumably brought up the Seine by ferry. Cross-section of the double supporting arches and buttresses of the nave, drawn by Eugène Viollet-le-Duc as they would have appeared from 1220 to 1230.

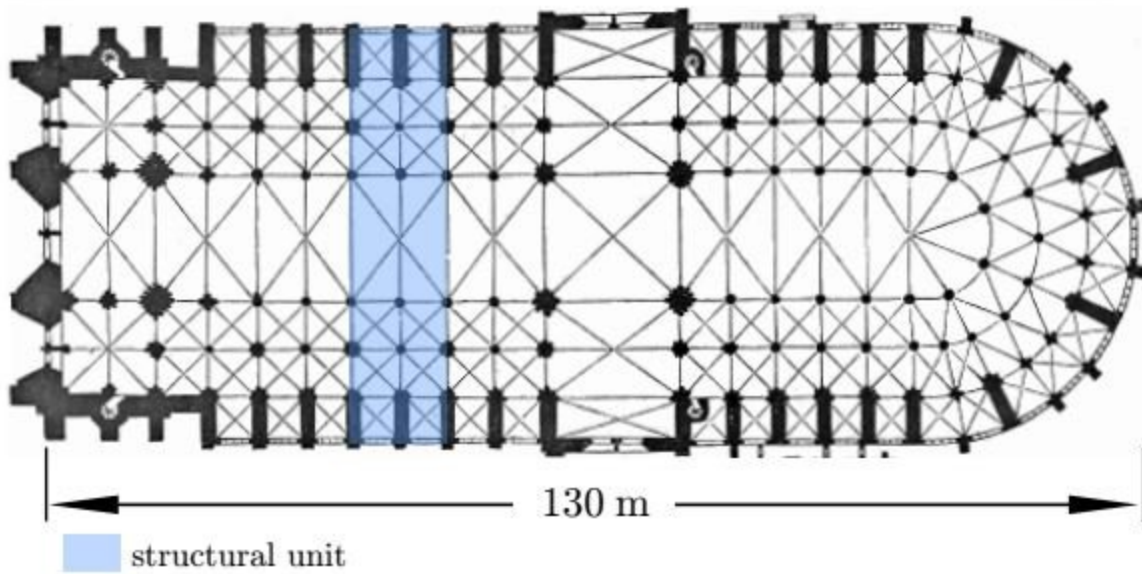
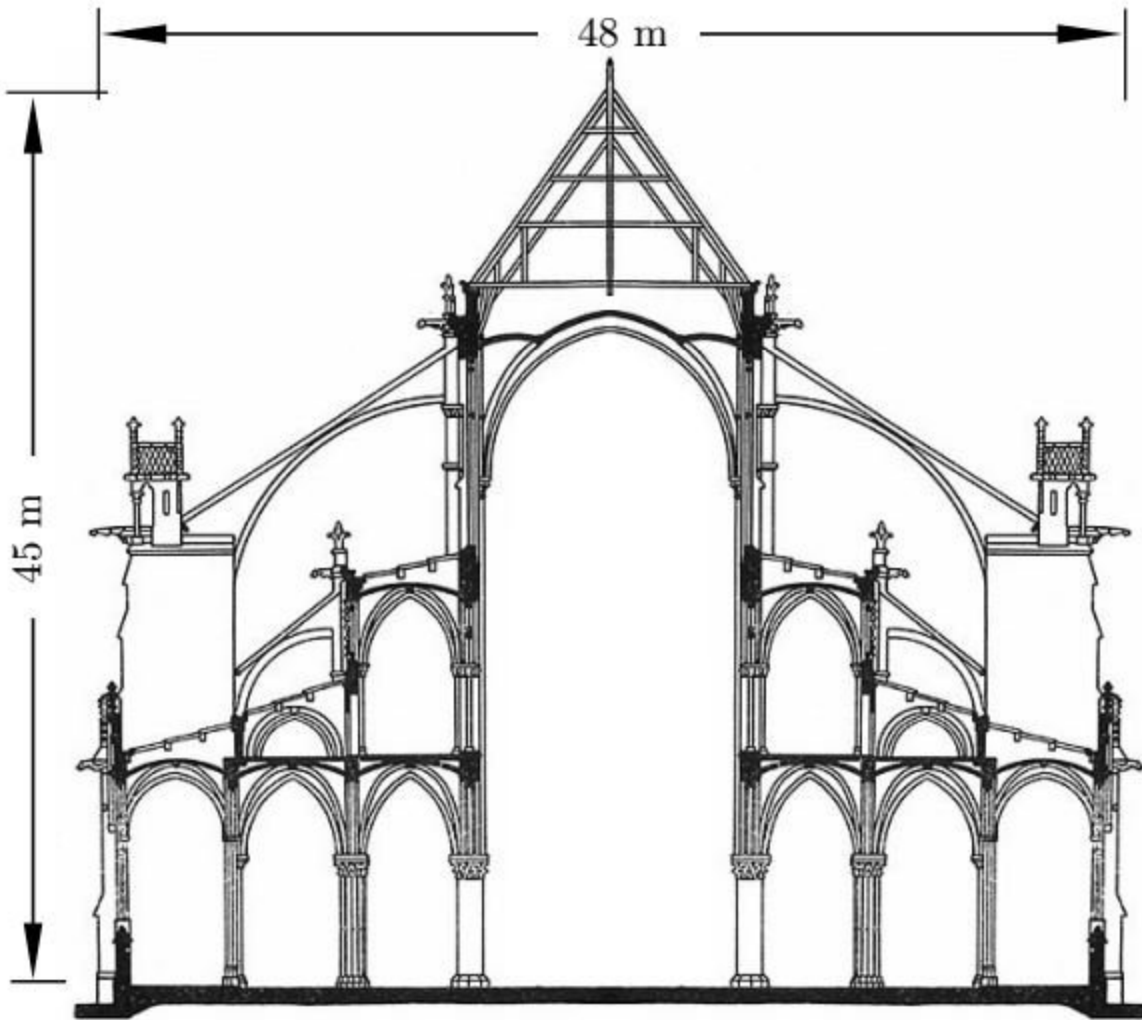
The first phase began with the construction of the choir and its two ambulatories. According to Robert of Torigni, the choir was completed in 1177 and the high altar consecrated on 19 May 1182 by Cardinal Henri de Château-Marçay, the Papal legate in Paris, and Maurice de Sully. The second phase, from 1182 to 1190, concerned the construction of the four sections of the nave behind the choir and its aisles to the height of the clerestories. It began after the completion of the choir but ended before the final allotted section of the nave was finished. Beginning in 1190, the bases of the façade were put in place, and the first traverses were completed. Heraclius of Caesarea called for the Third Crusade in 1185 from the still-incomplete cathedral.

Louis IX deposited the relics of the passion of Christ, which included the Crown of thorns, a nail from the Cross and a sliver of the Cross, which he had purchased at great expense from the Latin Emperor Baldwin II, in the cathedral during the construction of the Sainte-Chapelle. An under-shirt, believed to have belonged to Louis, was added to the collection of relics at some time after his death.

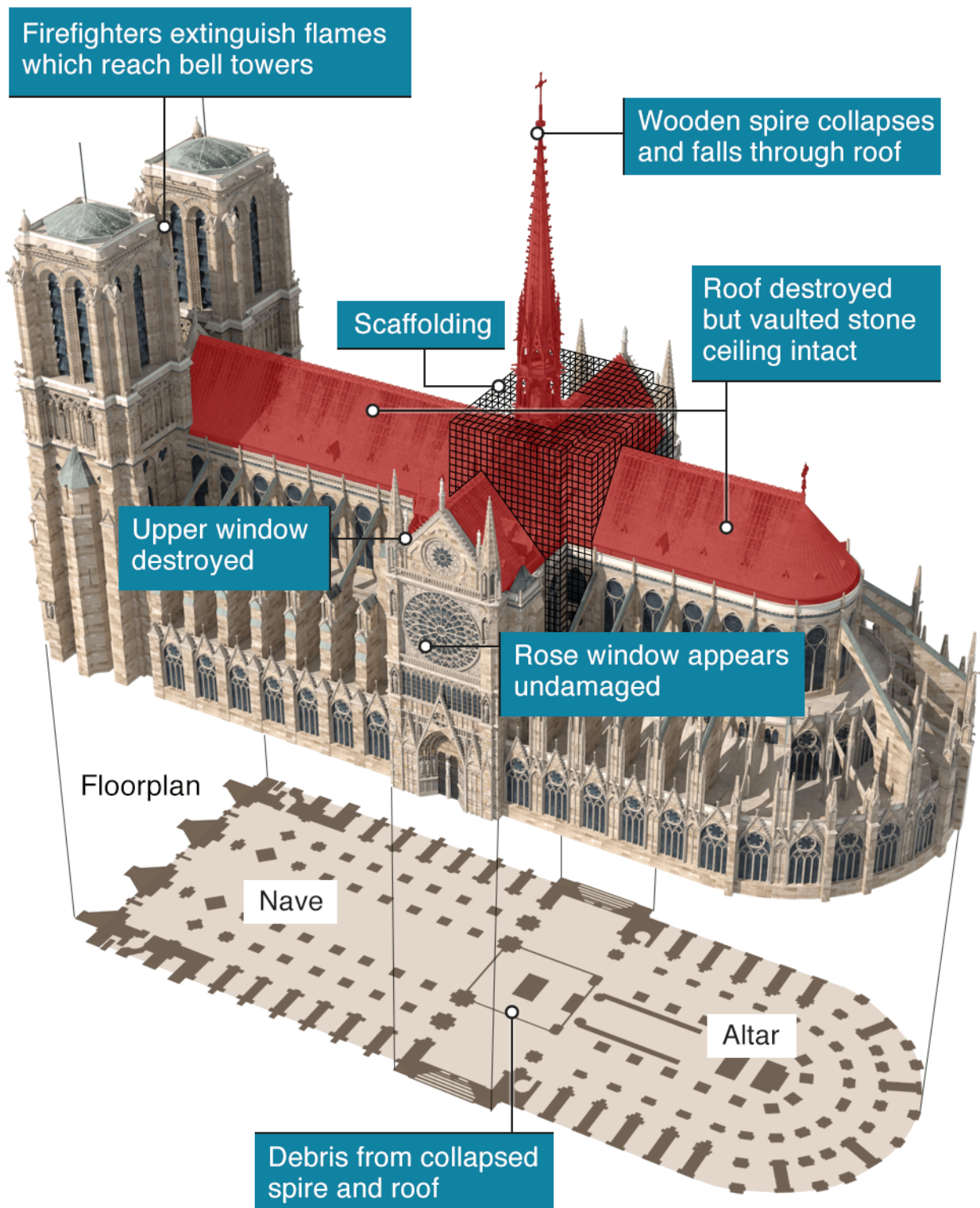
The decision was made to add transepts at the choir, where the altar was located, in order to bring more light into the centre of the church. The use of simpler four-part rather than six-part rib vaults meant that the roofs were stronger and could be higher. After Bishop Maurice de Sully's death in 1196, his successor, Eudes de Sully oversaw the completion of the transepts, and continued work on the nave, which was nearing completion at the time of his own death in 1208. By this time, the western façade was already largely built, though it was not completed until around the mid-1240s. Between 1225 and 1250 the upper gallery of the nave was constructed, along with the two towers on the west façade.

Another significant change came in the mid-13th century, when the transepts were remodelled in the latest Rayonnant style; in the late 1240s Jean de Chelles added a gabled portal to the north transept topped off by a spectacular rose window. Shortly afterward (from 1258) Pierre de Montreuil executed a similar scheme on the southern transept. Both these transept portals were richly embellished with sculpture; the south portal features scenes from the lives of Saint Stephen and of various local saints, while the north portal featured the infancy of Christ and the story of Theophilus in the tympanum, with a highly influential statue of the Virgin and Child in the trumeau. Master builders Pierre de Chelles, Jean Ravy [fr], Jean le Bouteiller, and Raymond du Temple [fr] succeeded de Chelles and de Montreuil and then each other in the construction of the cathedral. Ravy completed de Chelles's rood screen and chevet chapels, then began the 15-metre (49 ft) flying buttresses of the choir. Jean le Bouteiller, Ravy's nephew, succeeded him in 1344 and was himself replaced on his death in 1363 by his deputy, Raymond du Temple.

An important innovation in the 13th century was the introduction of the flying buttress. Before the buttresses, all of the weight of the roof pressed outward and down to the walls, and the abutments supporting them. With the flying buttress, the weight was carried by the ribs of the vault entirely outside the structure to a series of counter-supports, which were topped with stone pinnacles which gave them greater weight. The buttresses meant that the walls could be higher and thinner, and could have much larger windows. The date of the first buttresses is not known with any great precision beyond an installation date in the 13th century. Art historian Andrew Tallon, however, has argued based on detailed laser scans of the entire structure that the buttresses were part of the original design. According to Tallon, the scans indicate that "the upper part of the building has not moved one smidgen in 800 years," whereas if they were added later some movement from prior to their addition would be expected. Tallon thus concluded that flying buttresses were present from the outset. The first buttresses were replaced by larger and stronger ones in the 14th century; these had a reach of fifteen metres (50') between the walls and counter-supports.







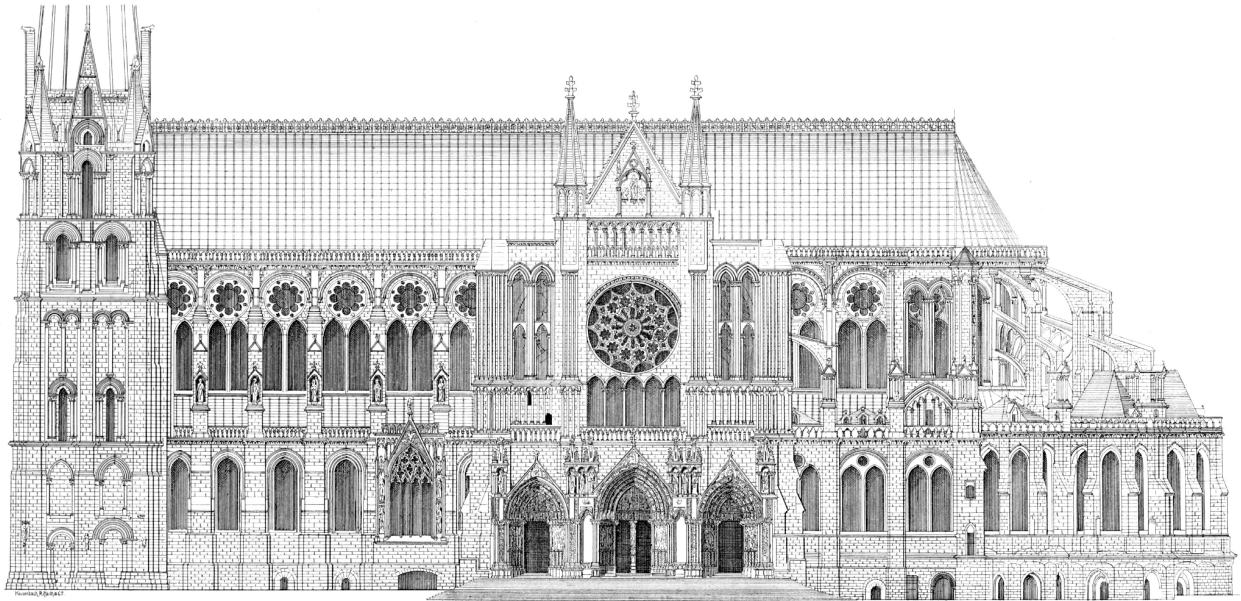
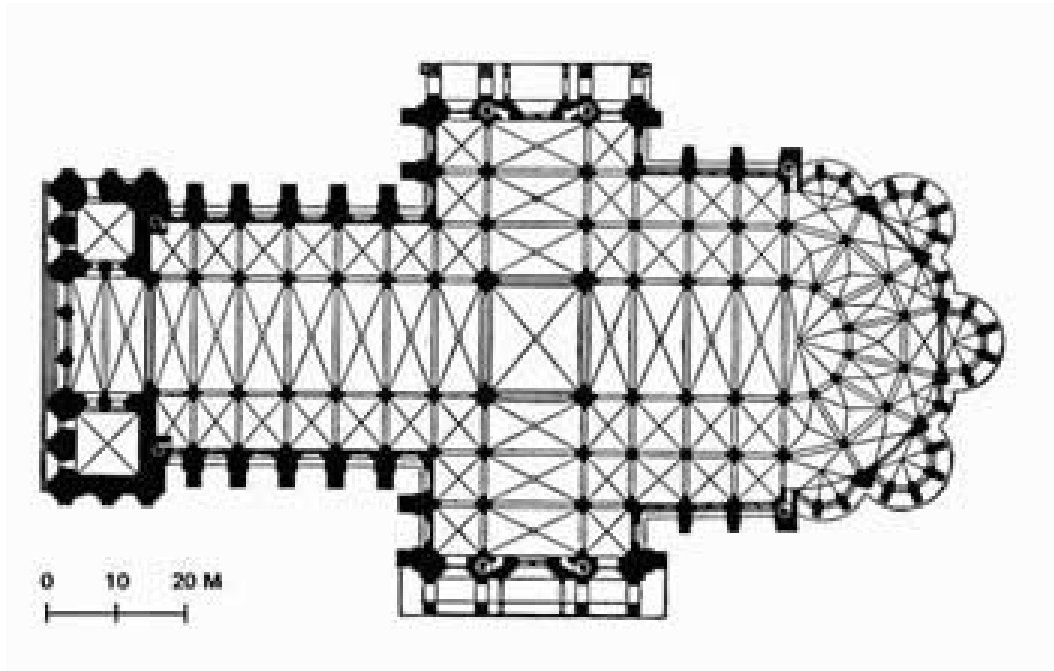
Chartres Cathedral, also called Notre-Dame d'Chartres or the Cathedral of Notre-Dame, Gothic cathedral located in the town of Chartres, northwestern France. Generally ranked as one of the three chief examples of Gothic French architecture (along with Amiens Cathedral and Reims

Cathedral), it is noted not only for its architectural innovations but also for its numerous sculptures and its much-celebrated stained glass. The cathedral's association with the Virgin Mary (the supposed veil of the Virgin is kept in the cathedral treasury) made it the destination of pilgrims in the Middle Ages, many of them invalids seeking a cure for their afflictions. It continues to be a pilgrimage site for Roman Catholics in the 21st century.

The oldest parts of the cathedral are its crypt and the west portal, or Royal Portal, which are remnants of a Romanesque church that was mostly destroyed by fire in 1194. The present cathedral was constructed on the foundations of the earlier church and consecrated in 1260. It is built of limestone and stands some 112 feet (34 metres) high and is 427 feet (130 metres) long. In many ways, the cathedral's design resembles those of its contemporaries, especially Laon Cathedral, but it displays innovations with its tall arcades, unusually narrow triforium, and huge clerestory—the massive weight of which required using flying buttresses in an unprecedented manner.

The cathedral contains an immense amount of sculpture, particularly figure sculpture, ranging from large column statues to miniatures. As the purpose of the sculptures was to preach and instruct, they mainly depict scenes and figures from the Old and New Testaments. The sculptures from the Royal Portal were executed about mid-12th century and reveal the Gothic era's growing interest in naturalism. This is evident in the kings and queens that decorate the jambs. Their bodies are elongated, echoing the form of the columns to which they are attached, yet they have benevolent expressions distinct from the neutral gaze of Romanesque figures. Meanwhile, the sculptures of the south transept, constructed after 1194, are even more expressive. The figures of saints that decorate the jambs of the right doorway (Porch of the Confessors, c. 1220–30) have individual facial features that sometimes communicate with their neighbours. Notably, Saint Theodore (from the Porch of the Martyrs, c. 1230) is more fully in the round, practically detached from the architecture, and more dynamic, with swaying hips and shoulders that recall the contrapposto pose that ancient Greek sculptors had perfected.

Several alterations have been made to the cathedral. The northwest tower's distinctive spire, for example, was added in the early 1500s. Chartres emerged with relatively little damage from the political and religious upheavals of the 16th century and sustained less damage than most cathedrals during the French Revolution (1787–99). After a fire damaged the roof in 1836, a series of restorations were carried out during the 19th century. In 1979 Chartres Cathedral was designated a UNESCO World Heritage site. During the late 20th century preservation efforts concentrated on protecting the cathedral's stained glass from air pollution damage, and the interior underwent a controversial cleaning and restoration in the early decades of the 21st century.



3. CHARTRES: KATHEDRALE. 1:400.

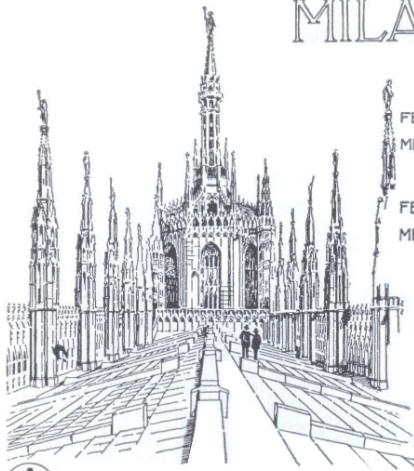


**Milan Cathedral:**

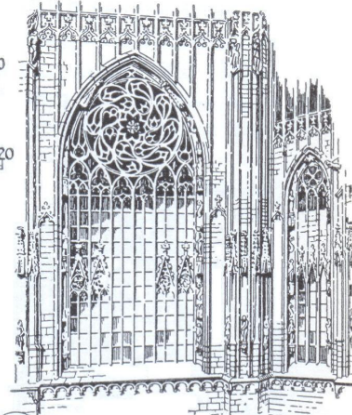
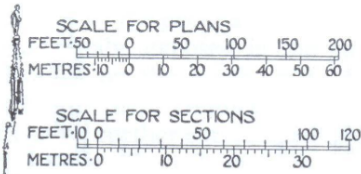




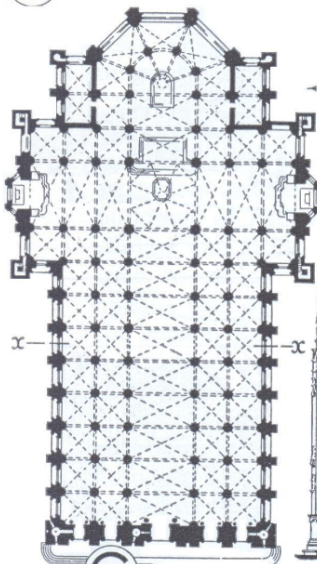
## MILAN CATHEDRAL



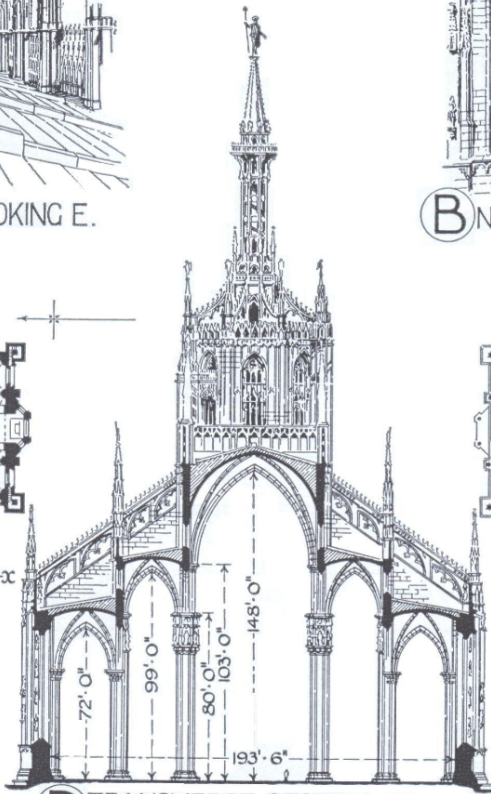
(A) VIEW OF ROOF LOOKING E.



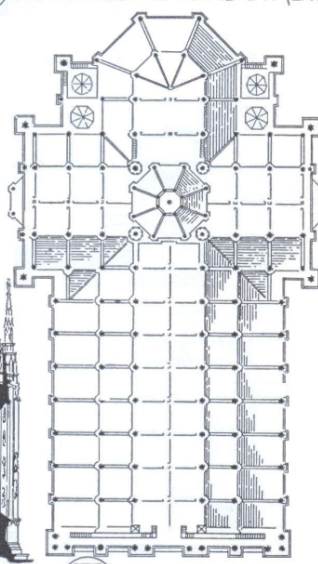
(B) N.E. APSIDAL WINDOW (EXT.)



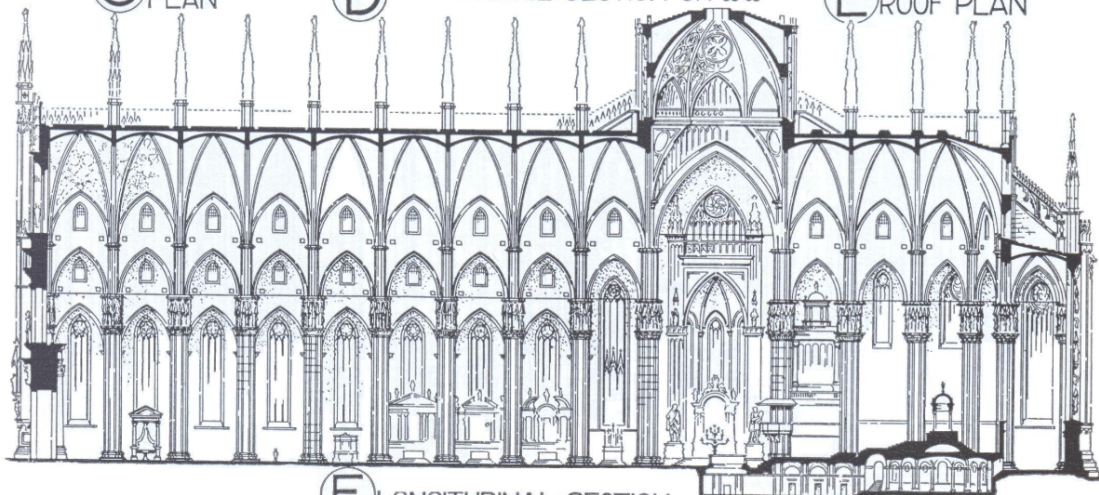
(C) PLAN



(D) TRANSVERSE SECTION ON x-x



(E) ROOF PLAN



(F) LONGITUDINAL SECTION

The Milan Cathedral (Italian: Duomo di Milano ['dwɔ:mo di mi'la:no]; Lombard: Domm de Milan or Metropolitan Cathedral-Basilica of the Nativity of Saint Mary (Italian: Basilica cattedrale metropolitana di Santa Maria Nascente), is the cathedral church of Milan, Lombardy, Italy. Dedicated to the Nativity of St Mary (Santa Maria Nascente), it is the seat of the Archbishop of Milan, currently Archbishop Mario Delpini.

The cathedral took nearly six centuries to complete: construction began in 1386, and the final details were completed in 1965. It is the largest church in Italy—the larger St. Peter's Basilica is in the State of Vatican City, a sovereign state and the second largest in Europe and the third largest in the world.

In 1386, Archbishop Antonio da Saluzzo began construction of the cathedral. Start of the construction coincided with the ascension to power in Milan of the archbishop's cousin Gian Galeazzo Visconti, and was meant as a reward to the noble and working classes, who had suffered under his tyrannical Visconti predecessor Barnabò. Before actual work began, three main buildings were demolished: the palace of the Archbishop, the Ordinari Palace and the Baptistry of St. Stephen at the Spring, while the old church of Sta. Maria Maggiore was exploited as a stone quarry. Enthusiasm for the immense new building soon spread among the population, and the shrewd Gian Galeazzo, together with his cousin the archbishop, collected large donations for the work-in-progress. The construction program was strictly regulated under the "Fabbrica del Duomo", which had 300 employees led by first chief engineer Simone da Orsenigo. Orsenigo initially planned to build the cathedral from brick in Lombard Gothic style.

Visconti had ambitions to follow the newest trends in European architecture. In 1389, a French chief engineer, Nicolas de Bonaventure, was appointed, adding to the church its Rayonnant Gothic. Galeazzo gave the Fabbrica del Duomo exclusive use of the marble from the Candoglia quarry and exempted it from taxes. Ten years later another French architect, Jean Mignot, was called from Paris to judge and improve upon the work done, as the masons needed new technical aid to lift stones to an unprecedented height.[8] Mignot declared all the work done up till then as in pericolo di ruina ("peril of ruin"), as it had been done sine scienza ("without science"). In the following years Mignot's forecasts proved untrue, but they spurred Galeazzo's engineers to improve their instruments and techniques. Work proceeded quickly, and at the death of Gian Galeazzo in 1402, almost half the cathedral was complete. Construction, however, stalled almost totally until 1480, for lack of money and ideas: the most notable works of this period were the tombs of Marco Carelli and Pope Martin V (1424) and the windows of the apse (1470s), of which those extant portray St. John the Evangelist, by Cristoforo de' Mottis, and Saint Eligius and San John of Damascus, both by Niccolò da Varallo. In 1452, under Francesco Sforza, the nave and the aisles were completed up to the sixth bay.

In 1488, both Leonardo da Vinci and Donato Bramante created models in a competition to design the central cupola; Leonardo later withdrew his submission.[9] In 1500 to 1510, under Ludovico Sforza, the octagonal cupola was completed, and decorated in the interior with four series of 15 statues each, portraying saints, prophets, sibyls and other Figures from the Bible. The exterior long remained without any decoration, except for the Guglietto dell'Amadeo

("Amadeo's Little Spire"), constructed 1507–1510. This is a Renaissance masterwork which nevertheless harmonized well with the general Gothic appearance of the church.

During the subsequent Spanish domination, the new church proved usable, even though the interior remained largely unfinished, and some bays of the nave and the transepts were still missing. In 1552 Giacomo Antegnati was commissioned to build a large organ for the north side of the choir, and Giuseppe Meda provided four of the sixteen pales which were to decorate the altar area (the program was completed by Federico Borromeo). In 1562, Marco d' Agrate's St. Bartholomew and the famous Trivulzio candelabrum (12th century) were added.

#### Completion:

On 20 May 1805, Napoleon Bonaparte, about to be crowned King of Italy, ordered the façade to be finished by Pellicani. In his enthusiasm, he assured that all expenses would fall to the French treasurer, who would reimburse the Fabbrica for the real estate it had to sell. Even though this reimbursement was never paid, it still meant that finally, within only seven years, the Cathedral's façade was completed. Pellicani largely followed Buzzi's project, adding some neo-Gothic details to the upper windows. As a form of thanksgiving, a statue of Napoleon was placed at the top of one of the spires. Napoleon was crowned King of Italy at the Duomo.

In the following years, most of the missing arches and spires were constructed. The statues on the southern wall were also finished, while in 1829–1858, new stained glass windows replaced the old ones, though with less aesthetically significant results. The last details of the cathedral were finished only in the 20th century: the last gate was inaugurated on 6 January 1965. This date is considered the very end of a process which had proceeded for generations, although even now, some uncarved blocks remain to be completed as statues. The Allied bombing of Milan in World War II further delayed construction. Like many other cathedrals in cities bombed by the Allied forces, the Duomo suffered some damage, although to a lesser degree compared to other major buildings in the vicinity such as the La Scala Theatre. It was quickly repaired and became a place of solace and gathering for displaced local residents.







## **Reims Cathedral:**

Notre-Dame de Reims meaning "Our Lady of Reims"),[a] sometimes known in English as Rheims Cathedral, is a Roman Catholic cathedral in the French city of the same name, the archiepiscopal see of the Archdiocese of Reims. The cathedral was dedicated to the Virgin Mary and was the traditional location for the coronation of the kings of France.

The cathedral church is thought to have been founded by the bishop Nicasius in the early 5th century. Clovis was baptized a Christian here by Saint Remigius, the bishop of Reims, about a century later. He was the first Frankish king to receive this sacrament. Construction of the present Reims Cathedral began in the 13th century and concluded in the 15th century. A prominent example of High Gothic architecture, it was built to replace an earlier church destroyed by fire in 1210. Although little damaged during the French Revolution, the present cathedral saw extensive restoration in the 19th century. It was severely damaged during World War I and the church was again restored in the 20th century.

Since the 1905 law on the separation of church and state, the cathedral has been owned by the French state, while the Catholic church has an agreement for its exclusive use. The French state pays for its restoration and upkeep. The cathedral, a major tourist destination, receives about one million visitors annually. It has been a UNESCO World Heritage Site since 1991.

### **5th century – the Merovingian Cathedral**

The settlement of a tribe of Gauls called the Remes, named Durocortorum, had been recorded by Julius Caesar in his accounts of the Gallic Wars. During the High Roman Empire, it became the capital of a province extending to the delta of the Rhine, and in the 3rd century A.D. was capital of the Roman province known as Second Belgium. The first Christian church there was founded by the first bishop, Saint Sixtus of Reims between 250 and 300.

At the beginning of the 5th century, in the Merovingian period, the Bishop Nicasius transferred the cathedral its present location, the site formerly occupied by Gallo-Roman bath built by the Emperor Constantine. The new church was dedicated to the Virgin Mary, anticipating the decision of the Council of Ephesus in 431 establishing her enhanced status. The new cathedral, with the plan of a square exterior and a circular interior, measured approximately 20 m (66 ft) by 55 m (180 ft). In the 1990s, the Baptistry of this original Merovingian church, directly under the present cathedral, was excavated and fragments of the old structure were brought to light.

### **9th century – The Carolingian cathedral**

In 816, Louis the Pious, the King of the Franks and co-Emperor, with his father Charlemagne, of the Holy Roman Empire, was crowned in Reims by Pope Stephen IV. The coronation and ensuing celebrations revealed the poor condition and inadequate size of the early cathedral. Beginning in about 818, the archbishop Ebbo and the royal architect Rumaud began

to build a much larger church from the ground up on the same site, using stone from the old city ramparts.

The work was interrupted in 835, then resumed under a new archbishop, Hincmar, with the support of Emperor, Charles the Bald. The interior of the church was adorned with gilding, mosaics, paintings, sculptures and tapestries.[12] On 18 October 862, in the presence of the Emperor, Hincmar dedicated the new church, which measured 86 m (282 ft) and had two transepts.

At the beginning of the 10th century, an ancient crypt underneath the original church was rediscovered. Under the archbishop Heriveus, the crypt (which had been the initial centre of the previous churches above it) was cleared, renovated, and then rededicated to the sainted bishop Remigius. The Cathedral altar is still in the same place, directly over the crypt, where it has been for 15 centuries.

Beginning in 976, the archbishop Adalbero began to enlarge the Carolingian cathedral. The historian Richerus, a pupil of Adalbero, gives a very precise description of the work carried out by the archbishop. The prestige of the Holy Ampulla, the sacred vial filled with myrrh with which French Kings were anointed, the fact that Clovis I had been baptised there, and the political power of the archbishop of Reims led to Reims becoming the regular site of the coronation of the French monarch. Henry I of France was crowned in Reims 1027, which established the tradition. All but seven of France's future kings were crowned at Reims.

Restoration work on the church has continued since 1938, repairing the damage caused by the war and by pollution. In 1955 Georges Saupique made a copy of the Coronation of the Virgin, which can be seen above the cathedral entrance and with Louis Leygue copied many of the other sculptures on the cathedral façade. He also executed a statue of St Thomas for the north tower.

Beginning in 1967, many of the statues from the exterior, such as the smiling angel, were moved to the interior of the Tau Palace for protection, and replaced by copies

The Franco-German reconciliation was symbolically formalized in July 1962 by French president Charles de Gaulle and German Chancellor Konrad Adenauer, where, in 1914, the Imperial German Army deliberately shelled the cathedral in order to shake French morale. The cathedral, former Abbey of Saint-Remi, and the Palace of Tau were added to the list of UNESCO World Heritage Sites in 1991.

On his 74th Pastoral Visit, Pope John Paul II visited Reims on 26 September 1996 for the 1500th anniversary of the baptism of Clovis.[61] While there, the Pope prayed at the same chapel where Jean-Baptiste de La Salle celebrated his first Mass in 1678.

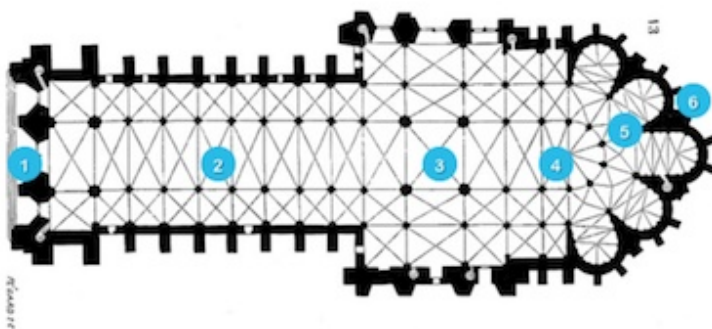
On 8 October 2016, a plaque bearing the names of the 31 kings crowned in Reims was placed in the cathedral in the presence of the archbishop Thierry Jordan and Prince Louis-Alphonse, Duke of Anjou, one of many pretenders to the French throne.







Map of Reims Cathedral



- 1 Western Facade
- 2 Nave
- 3 Transept
- 4 Choir
- 5 Ambulatory
- 6 Chevet





