

CHINA & JAPAN



kallgan. *Sunset of the Forbidden City, Beijing (northwest corner of the Forbidden City).*
http://en.wikipedia.org/wiki/File:Sunset_of_the_Forbidden_City_2006.JPG

ARCH 1121 - HISTORY OF WORLD ARCHITECTURE TO 1900

China & Japan

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Course Overview:

- What is architecture? What is history?
- Prehistoric, Mesopotamia, Egypt
- Early Aegean, Greece
- India & Southeast Asia, **China & Japan**
- Rome, Early Christian & Byzantine, Islamic
- Early Medieval, Romanesque, Gothic
- The Pre-Columbian Americas, Africa
- The Renaissance, Baroque, Rococo in Europe
- 18th Century & Neo-Classicism in Europe & America



<http://www.maps-of-the-world.net>

CHINA

- A vast territory 3,707,000square mile (9,600,000sq km)
- Nearly one-fifth of the world's population today
- Has maintained a high degree of cultural continuity over 4000 years of history
- China's architectural traditions likewise remained remarkably consistent stable The forms and principles of Chinese architecture have remained largely unchanged.
- Major influence on the architecture of Japan, Korea, Taiwan, Mongolia, and Vietnam.
- Significant building types: religious complexes, cities, houses, gardens

Great Wall

- A series of early stone and earthen fortifications
- Unified by the first Qin emperor in 221 BCE
- Largely rebuilt 14th – 17th centuries (Ming Dynasty)



"Map of the Great Wall of China." Emerson Kent. 2014. Accessed August 8, 2015 (Huppert/Way GAHTC)

Great Wall – Taipa Section



Remote western section of the Great Wall, Jiayuguan, Gansu, China (Wikimedia), [User:Doron](#))

Section of the Great Wall showing original rammed earth construction (Taipa) – earth, chalk, lime or gravel, using wooden formwork.

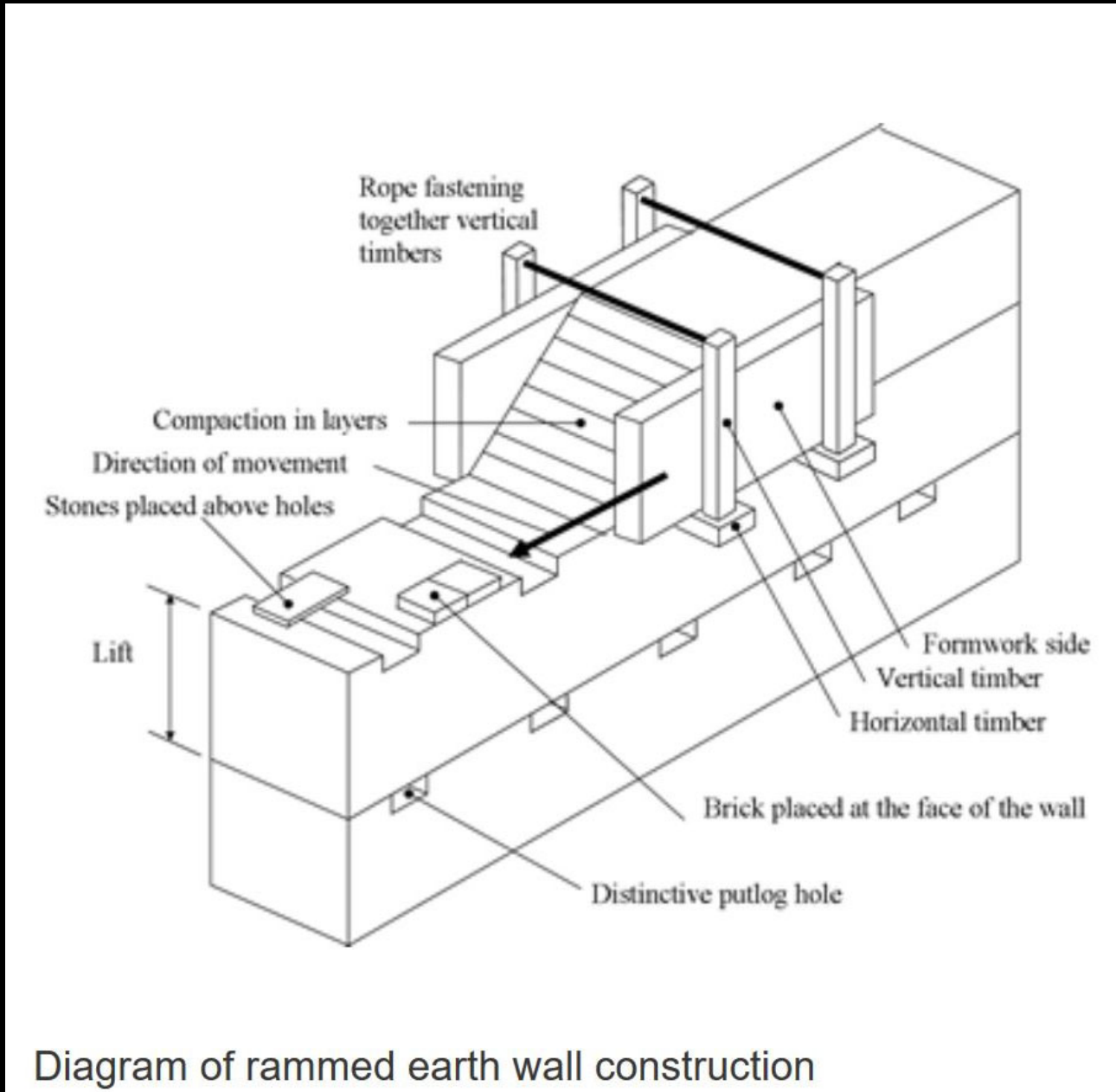


Diagram of rammed earth wall construction

historicroammedearth-wordpress-com (accessed 10.15.2019)

Great Wall, Qin: 221BCE - 1368CE

3,890 miles long, 19' to 39' high

Watchtowers →



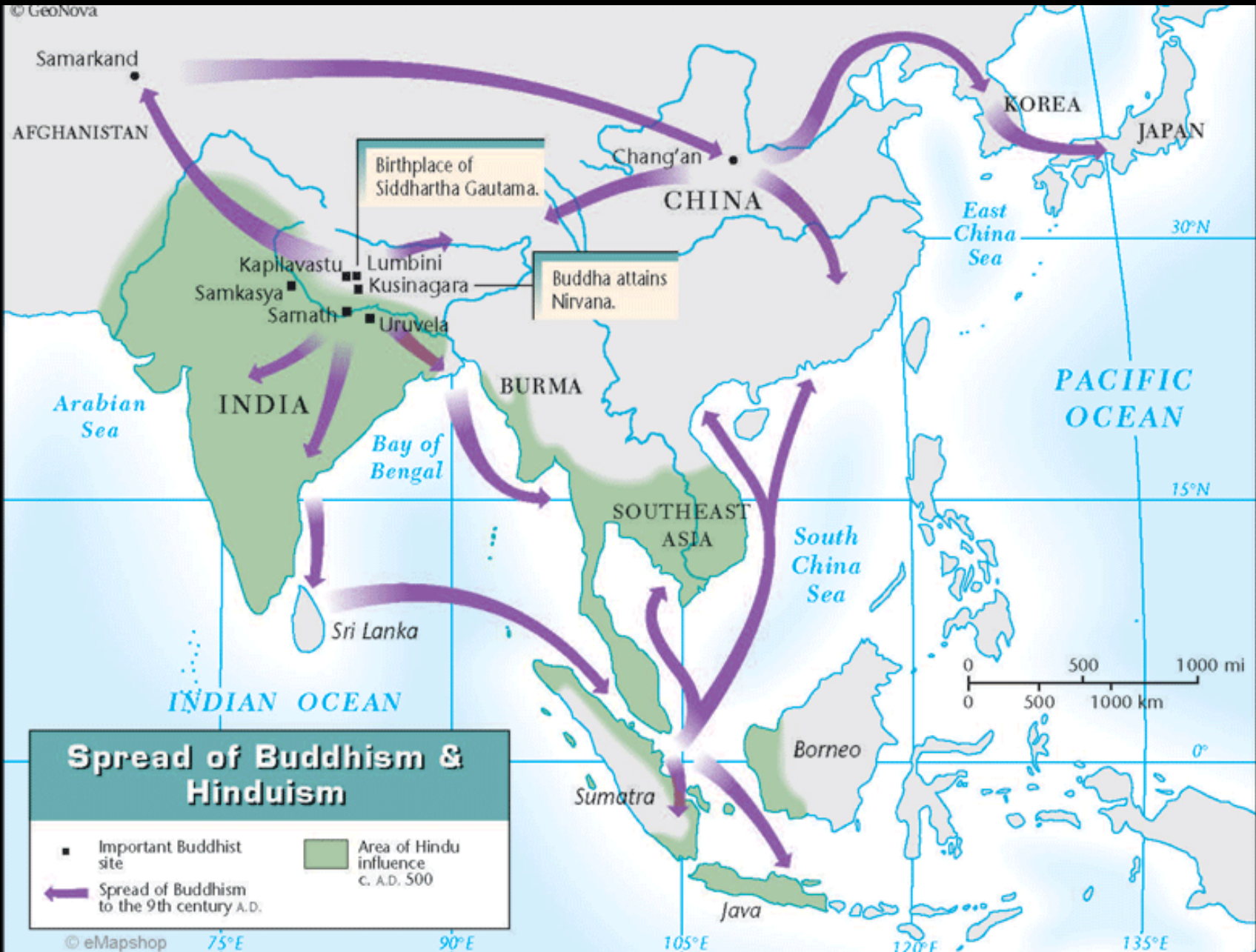
Great Wall, Qin: 221BCE - 1368CE



[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:Great_Wall_of_China_2013.jpg) by Σ sarege Σ ↓

[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:Great_Wall_of_China_2013.jpg) by Saad Akhtar ↑





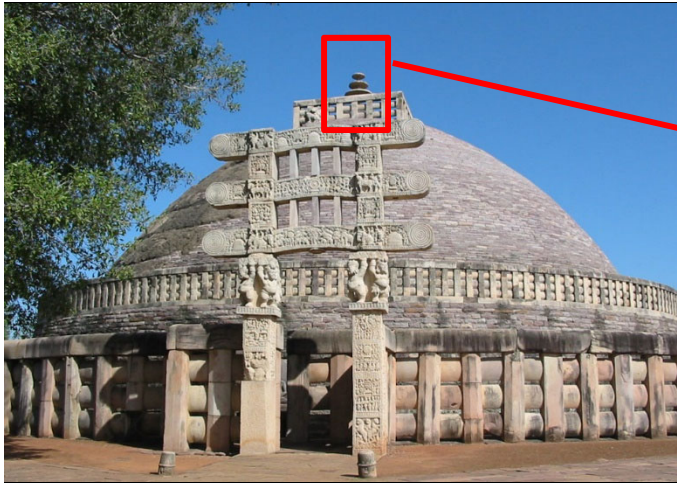
Spread of Buddhism & Hinduism

- Important Buddhist site
- Area of Hindu influence c. A.D. 500
- ← Spread of Buddhism to the 9th century A.D.

Songyue Pagoda, Dengfeng: 523 CE

- Oldest brick Pagoda
- Twelve-sided parabolic cylinder
- 15 tiers of roofs
- 131' high
- Built of yellowish brick and clay mortar
- Hollow inside but no access to the top

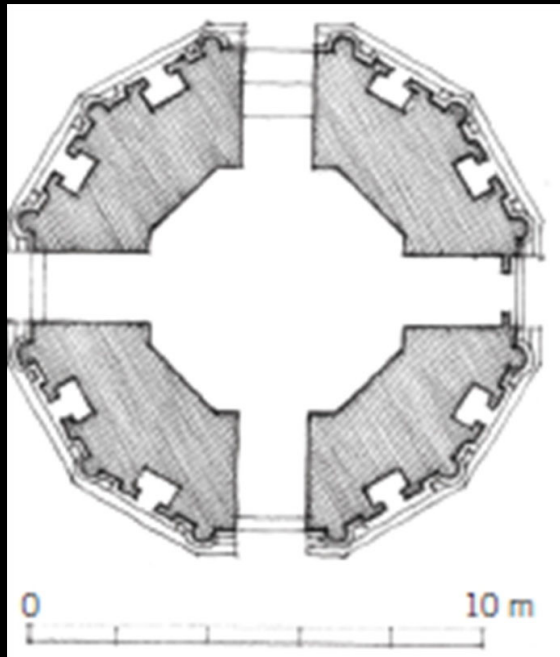




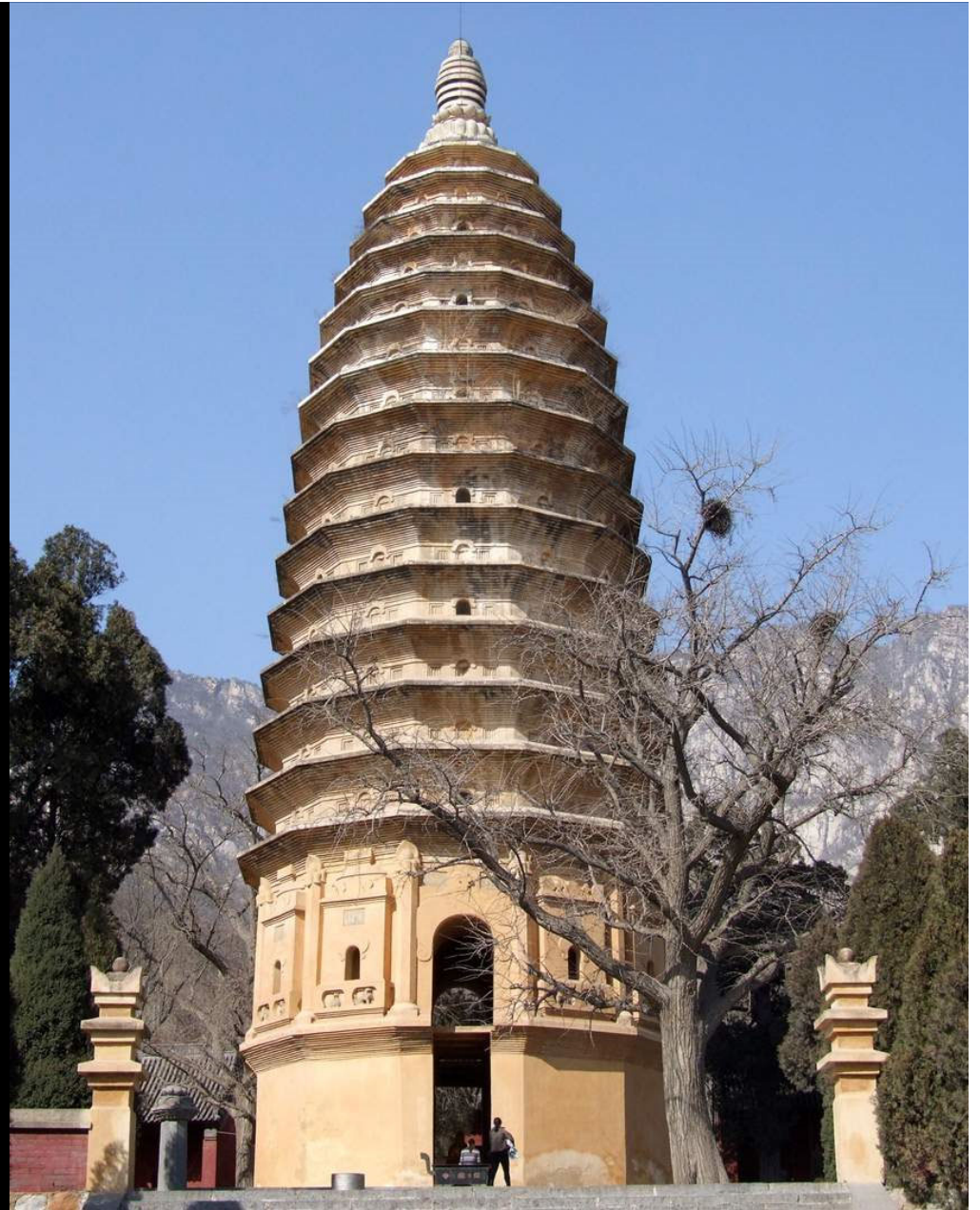
Chatra

E. Delhi

Great Stupa, Sanchi,
250 BCE – 250 CE



GHA



Songyue Pagoda, Dengfeng,
China, 523 CE

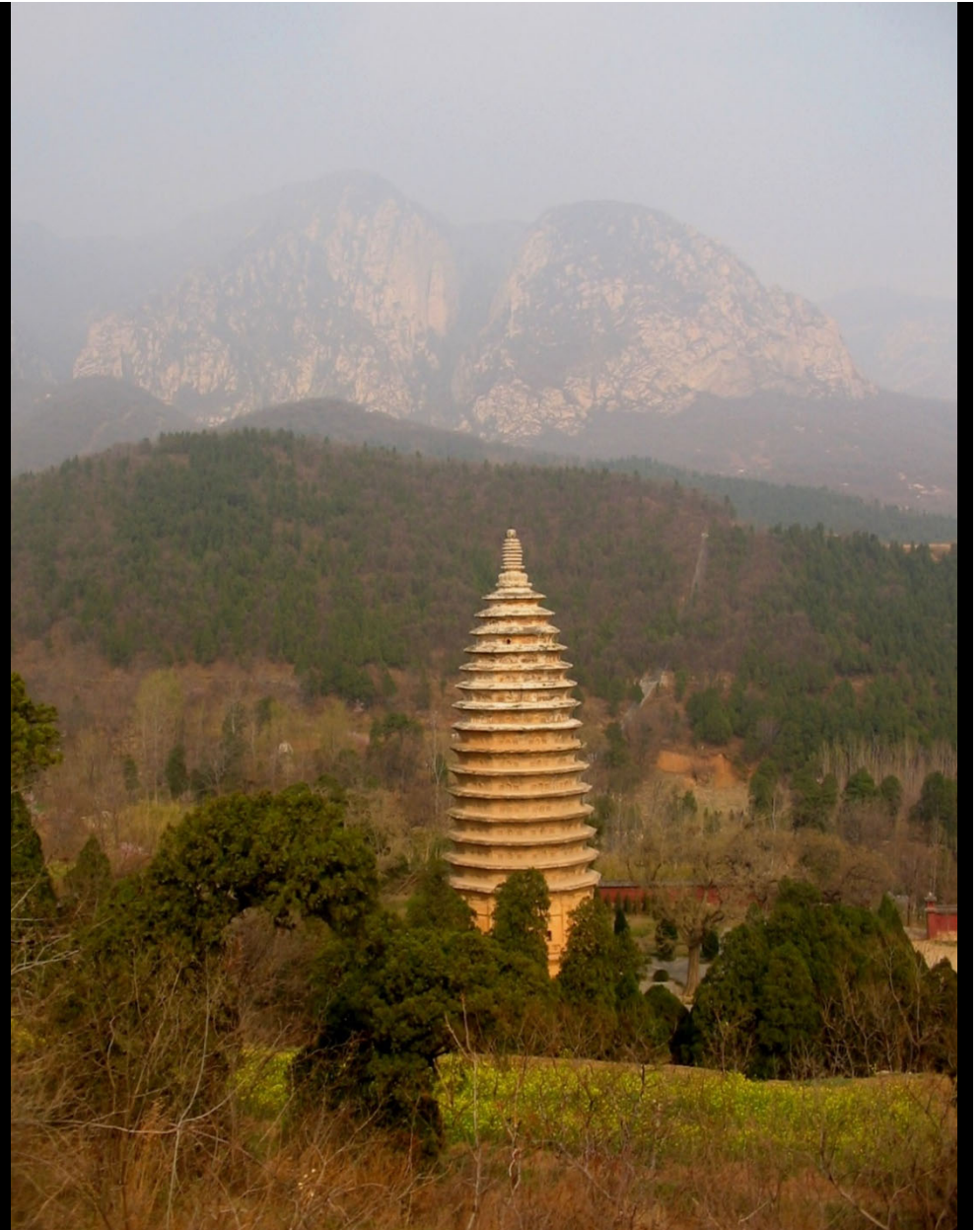
GHA

Hupert/ Way GAHTC



Mediaindia.eu

Asoka Columns – markers on the roads to Buddhist Shrines in India



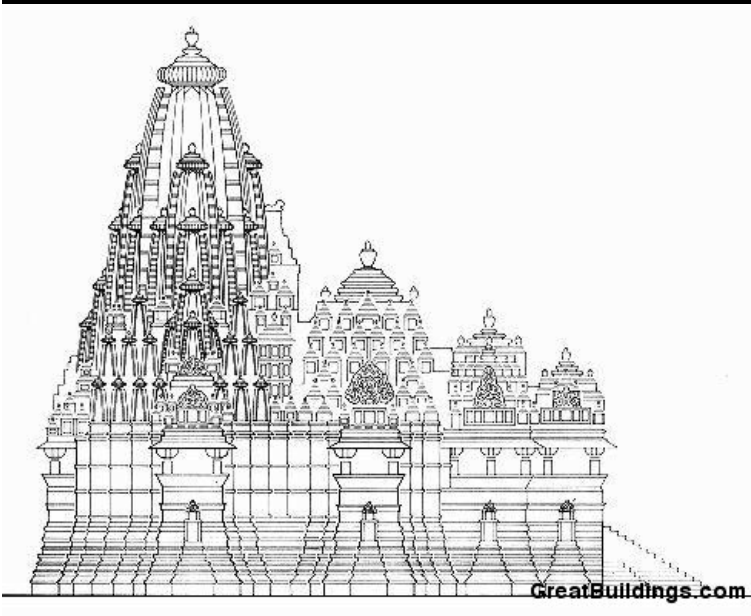
“A Mountain in China”

Songyue Pagoda, 523 CE
marker in the landscape

Huppert/ Way GAHTC

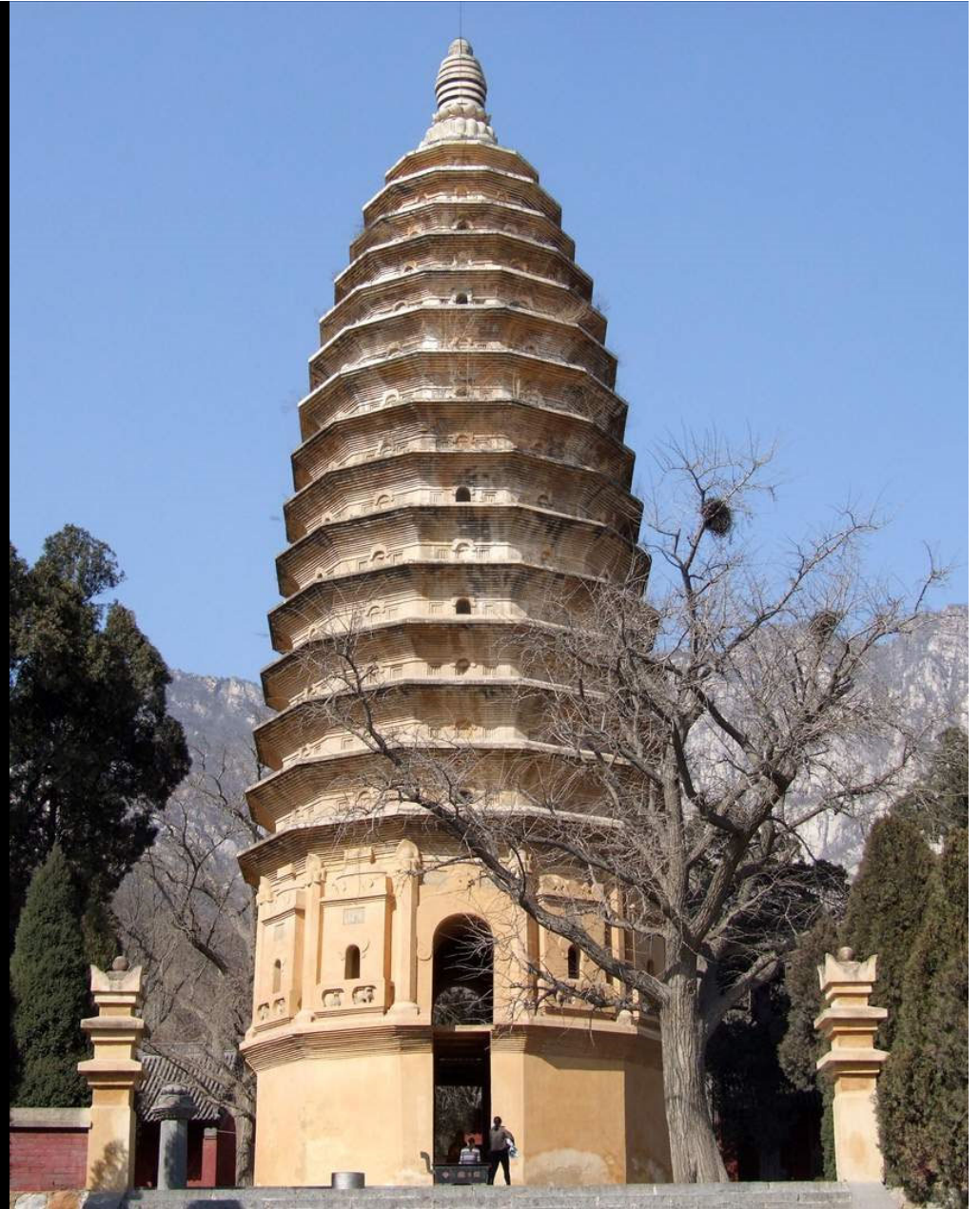


commons.wikimedia.org by Antorjal



GreatBuildings.com

Kandariya Mahadeva Temple
India: c. 1025 – 1050 CE



Songyue Pagoda, Dengfeng,
China, 523 CE

GHA

Hupert/ Way GAHTC

Chinese Pagodas (or towers)

- Evolved from the Indian Buddhist Stupa – erected over relics/sacred writings symbolic of Buddha's presence
- Multi-tiered roofs reflect the umbrella form of the stupa's CHATRA, symbolizing the bodhi tree under which the Buddha found enlightenment
- Served also as vertical markers in the landscape
- Most Pagodas from early periods were made of wood
- Parabolic shape of early Chinese Pagodas may have been inspired by Hindu temples

Pagoda, Fogong Monastery, Yingxian: 1056

220' tall – one of the tallest
wooden structures in the world

Oldest existing wooden Pagoda

Octagonal – tapers slightly to
the center giving the impression
of greater height

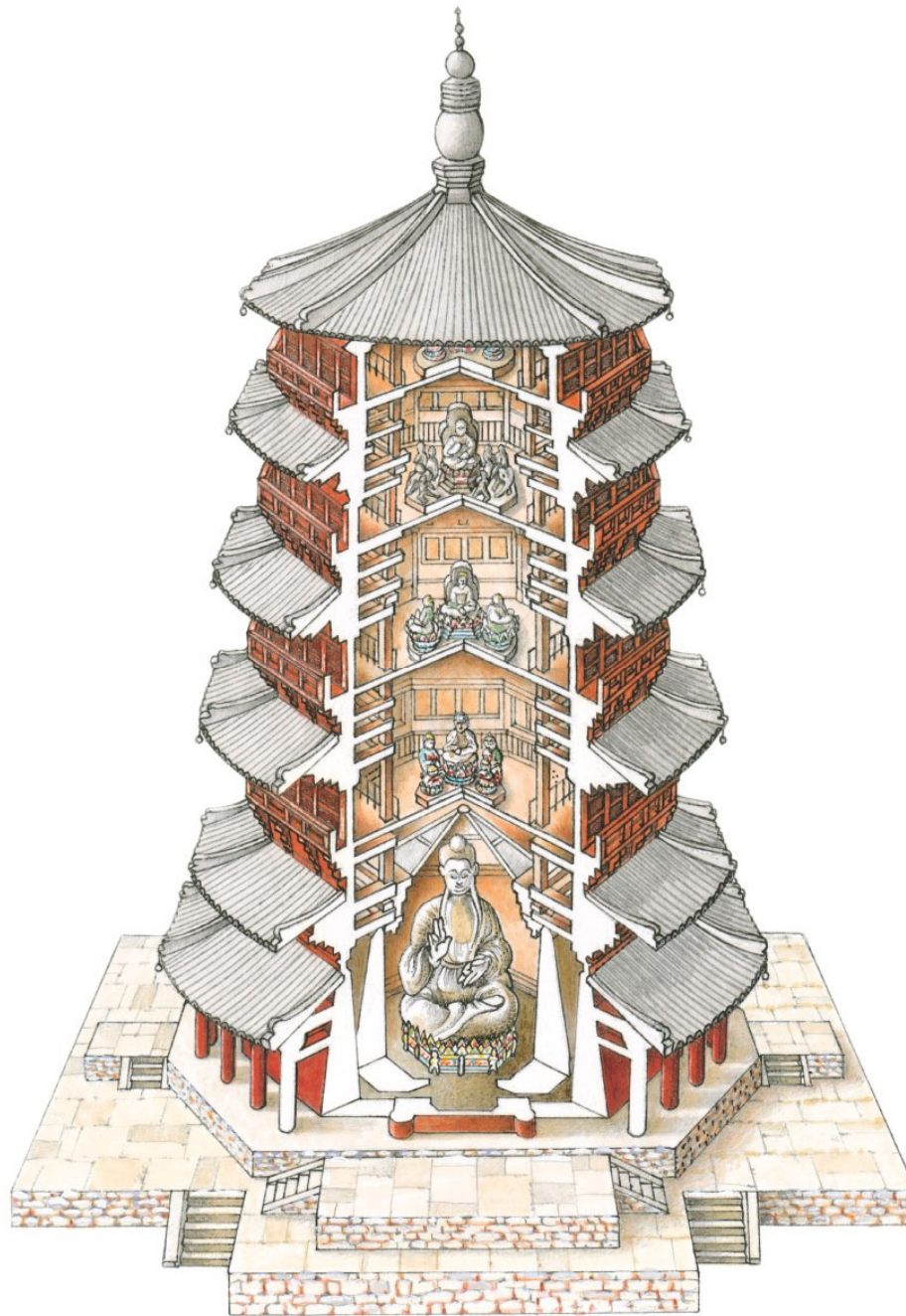
54 different kinds of interlocking
wooden bracket arms

Cantilevered roofs & balconies

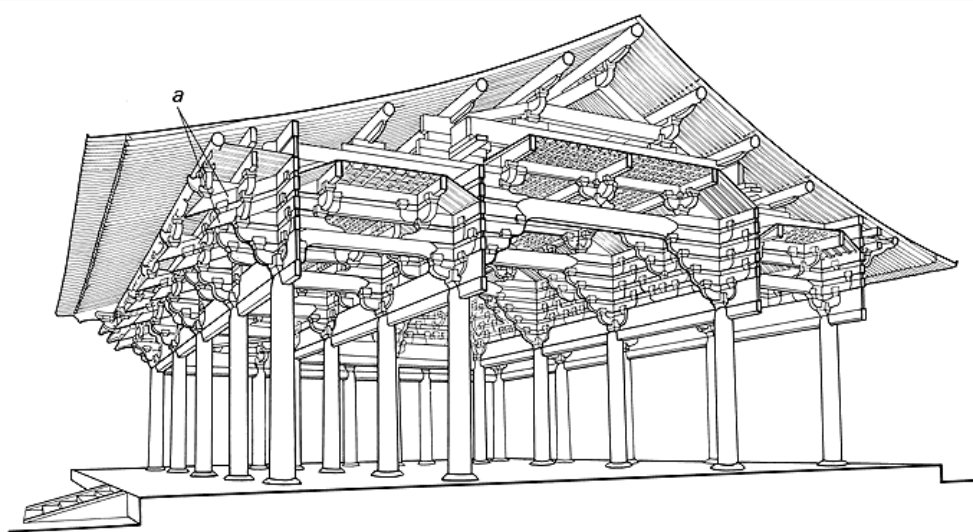


Pagoda, Fogong Monastery, Yingxian: 1

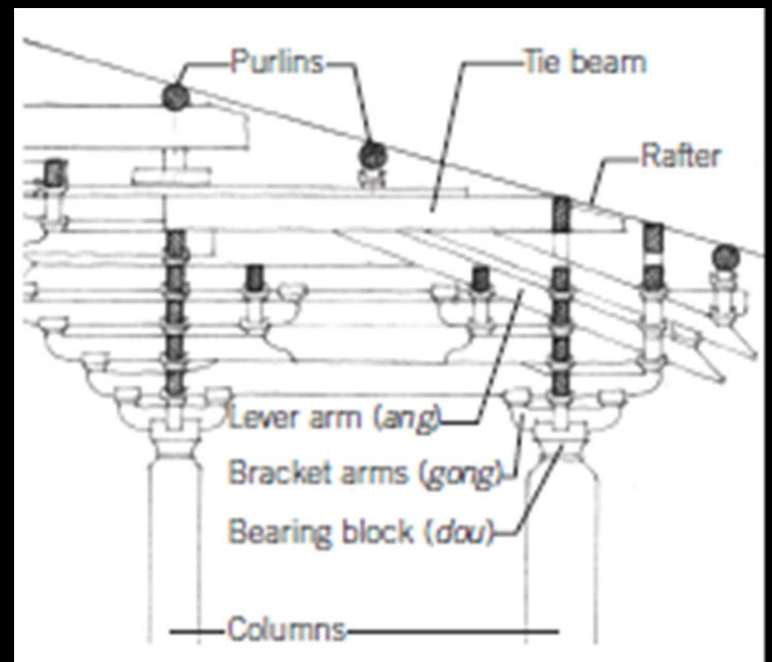




“Fogong Temple Pagoda” by [How It Works Team](https://www.skyscrapercity.com/showthread.php?t=1809284&langid=5) · 21/03/2013 (retrieved on 10.16.2019 from <https://www.skyscrapercity.com/showthread.php?t=1809284&langid=5>)



umphreak218.wordpress.com



"Diagram Showing How Brackets Support Roof." (Harvard University)



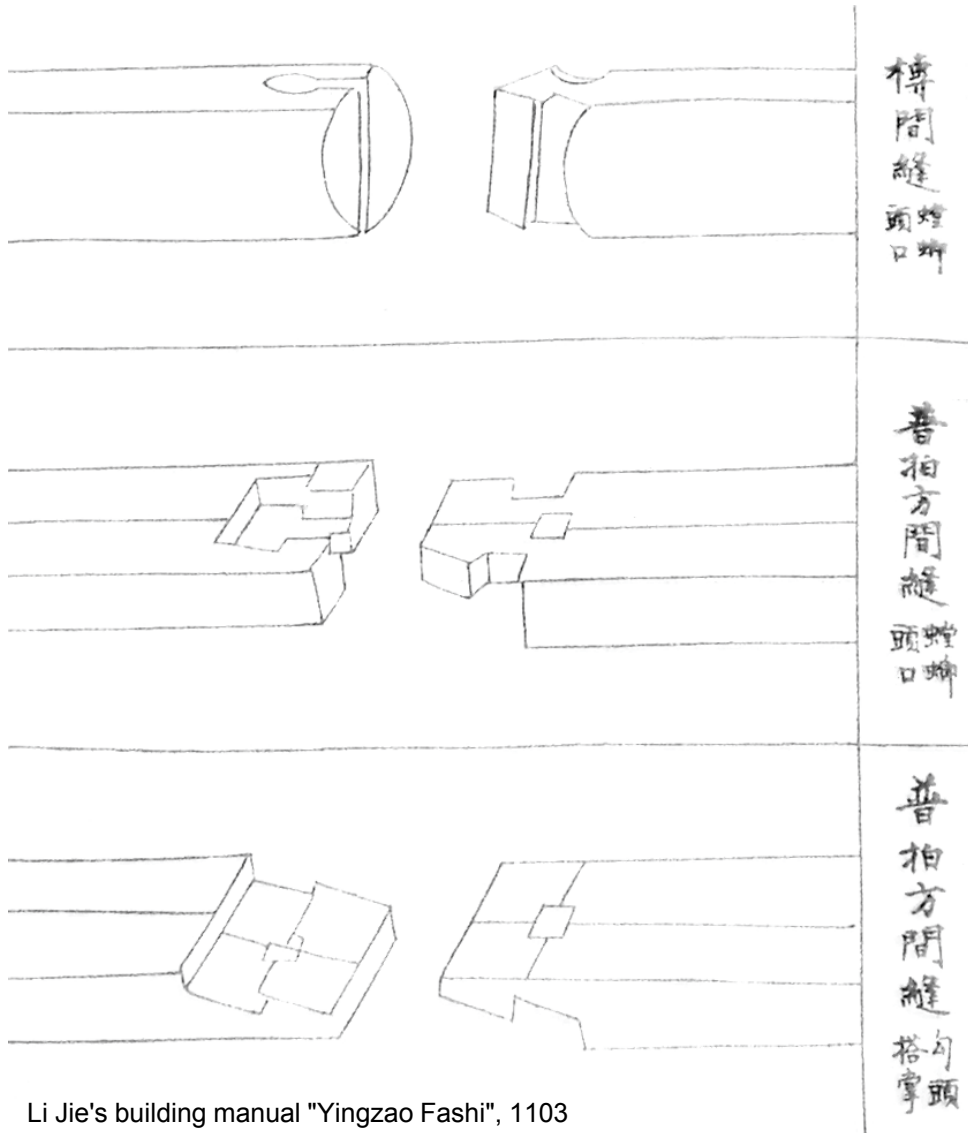
Wikimedia Commons

Bracket framing/ Dougong:
 roof eaves cantilever far outside the building posts and beams support the heavy terracotta roof

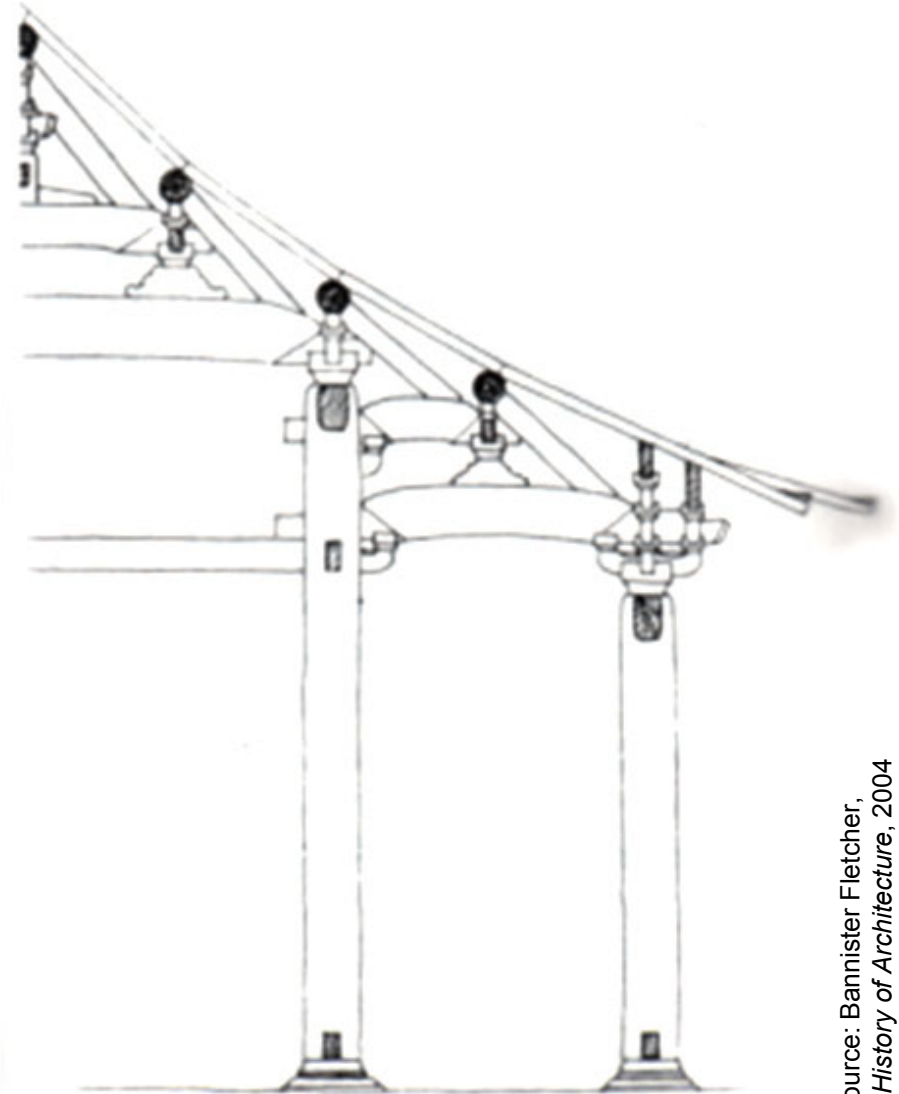
East Hall, Foguang Monastery,
 China, 857 CE

Chinese Timber Construction, Traditional

Forms of Jointing

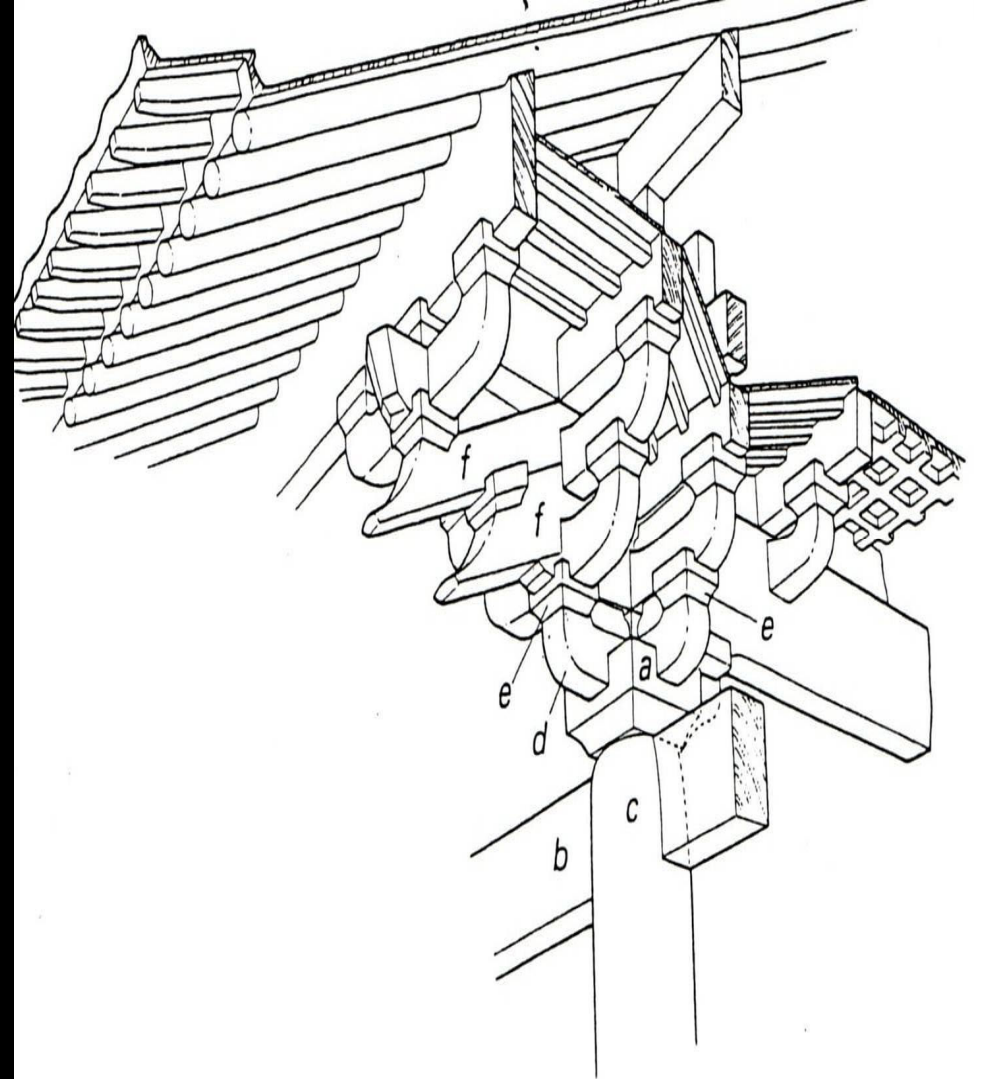


Section Bracket



Li Jie's building manual "Yingzao Fashi", 1103

Chinese bracket construction





Beijing Old Construction Museum (<https://thecarpentryway.blog/category/chinese-timber-framing/page/3/>) (accessed 10.16.2019)

Chinese nail-less wood construction



Giant Wild Goose Pagoda, Xi'an: 652 Tang Dynasty



Originally built in 652
with five stories

Built of rammed earth
with a stone exterior

Eventually collapsed &
reconstructed in brick
& ten stories in 704

Reduced to current
height of seven stories
after the 1556
earthquake

Horizontal emphasis

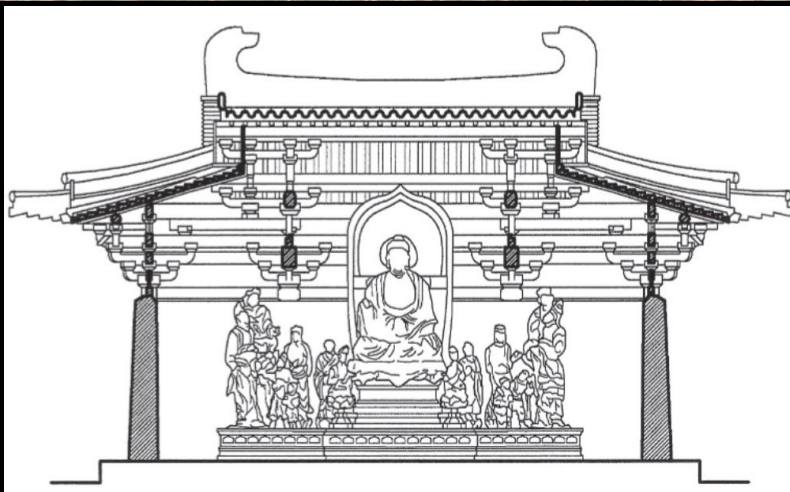
Liuhe Pagoda, Hangzhou: 1127-79 Song Dynasty

- 196' high octagonal wood and brick
- 13 exterior -7 interior stories
- Alternation of light and shade
- Permanent light house aiding sailors

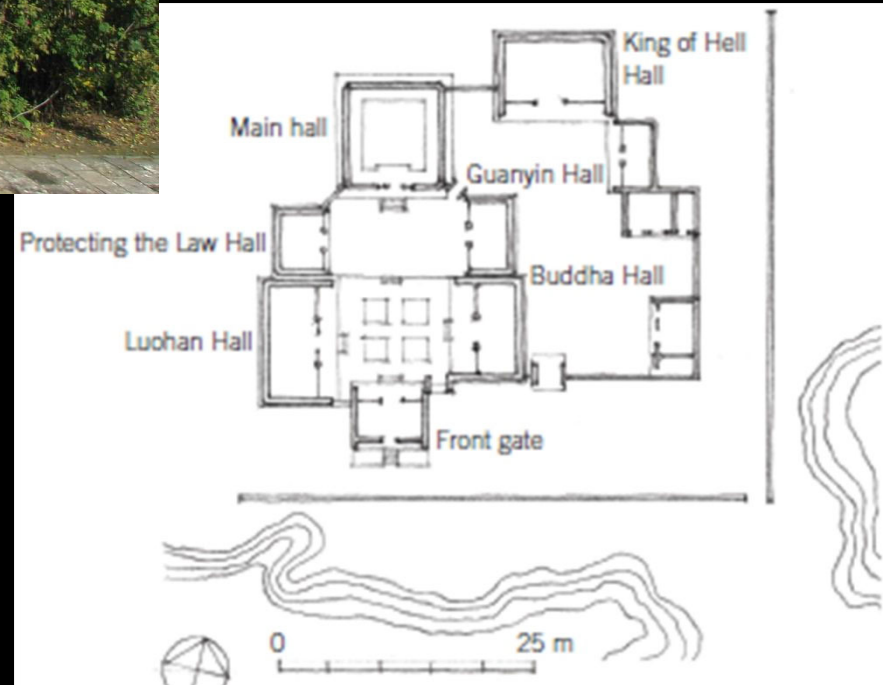




Main Hall,
Nanchan Monastery
Wutaishan, Shanxi
Province, China, 782 CE



Fazio fig. 4.6 (2019)



GHA 10.6-10.8

Huppert/ Way GAHTC (S.Smith, CityTech)

K'ung Fu Tzu (551 - 479 BCE)

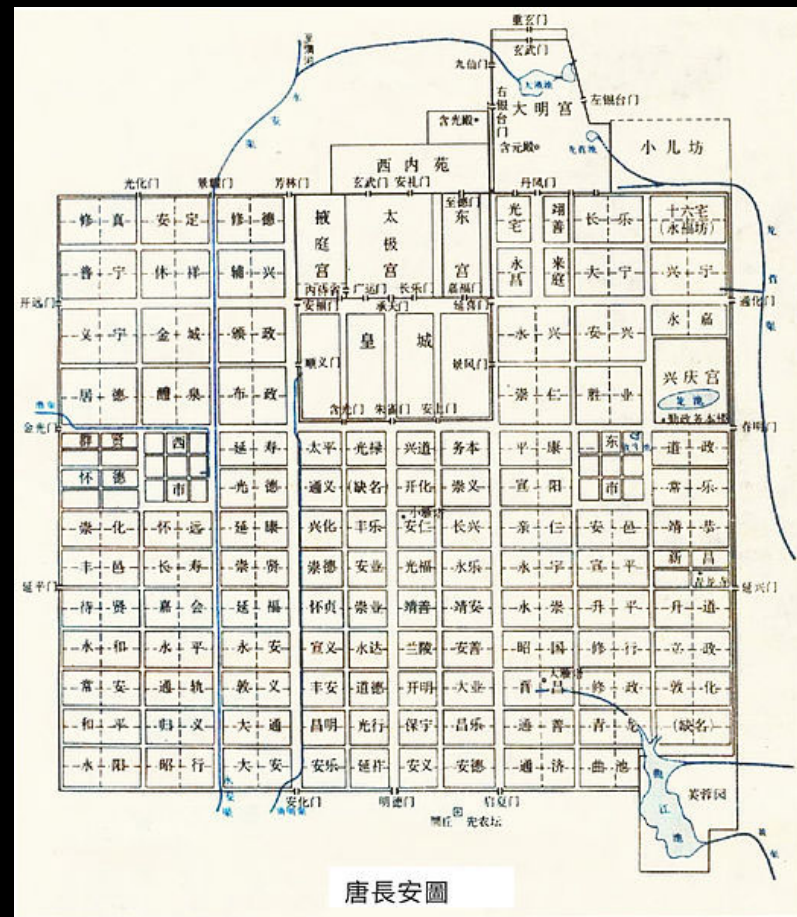
Confucianism

- "The School of the Scholars"; or 孔教 *Kǒngjiào*,
- 仁义礼智信 (Ren, Yi, Li, Zhi, Xin)
- Compassionate or kindhearted, just or righteous, to obey rituals or rites, wise, trustful
- "To govern by virtue, let us compare it to the North Star: it stays in its place, while the myriad stars wait upon it." (*Analects* II, 1)
- "He who learns but does not think is lost. He who thinks but does not learn is in great danger." (*Lunyu* 2.15)





Dadu, Capital of Yuan Dynasty (China Culture)



唐长安图

Map of Chang'an, Tang Dynasty (cnsxyl369)

Kao Gong Ji, 5th century CE – city planning guide based on Confucian teaching:

- City should be oriented to the cardinal directions
- Surrounded by a moat and walls with three gates on each side
- Gridded street system
- Palace complex to the north, with a courtyard flanked by places of worship

Xinian et al



New Chang'an, Emperor Wen, 582 CE



Reconstruction of Tang Period Chang'an

Forbidden City, Beijing, 15th century

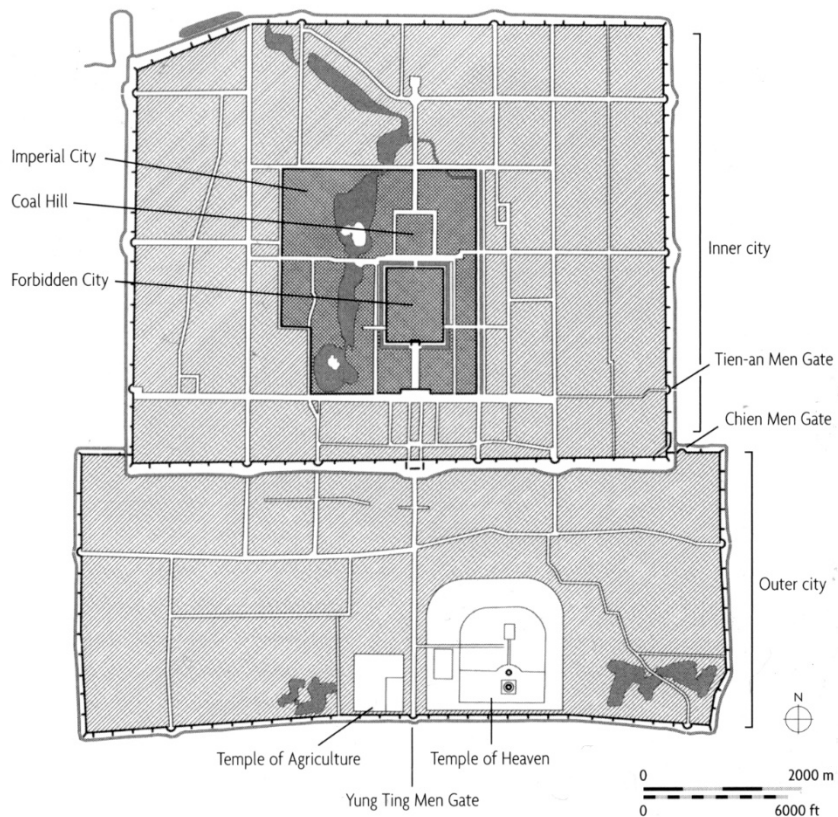


Forbidden City (紫禁城), Beijing, 15th century

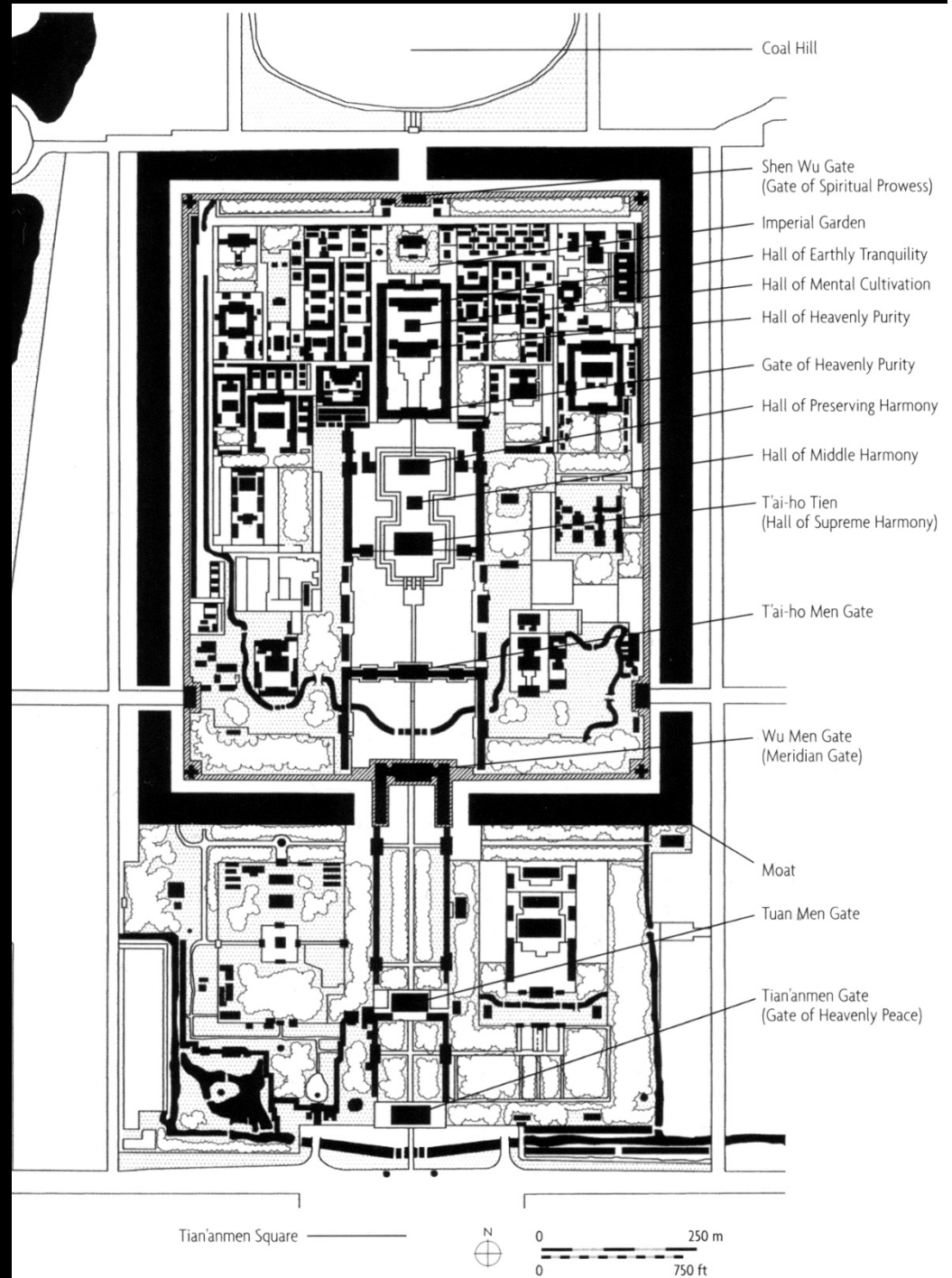
- The imperial palace from the Ming Dynasty the Qing Dynasty
- 980 surviving buildings by more than a million workers
- Rectangle 3,150' north-south X 2,470' east-west.
- Designed to be the center of the ancient walled city
- Outer Court ceremonial purposes
- Inner Court home of the Emperor and his family
- Designed, in layout and detail, to reflect Imperial power:
 - 3 mile sequence of gates, court, moats & bridges
 - yellow roof tiles, yellow having been the Imperial color

Imperial City & Forbidden City (紫禁城), Beijing, 15th century

Beijing, 15th century

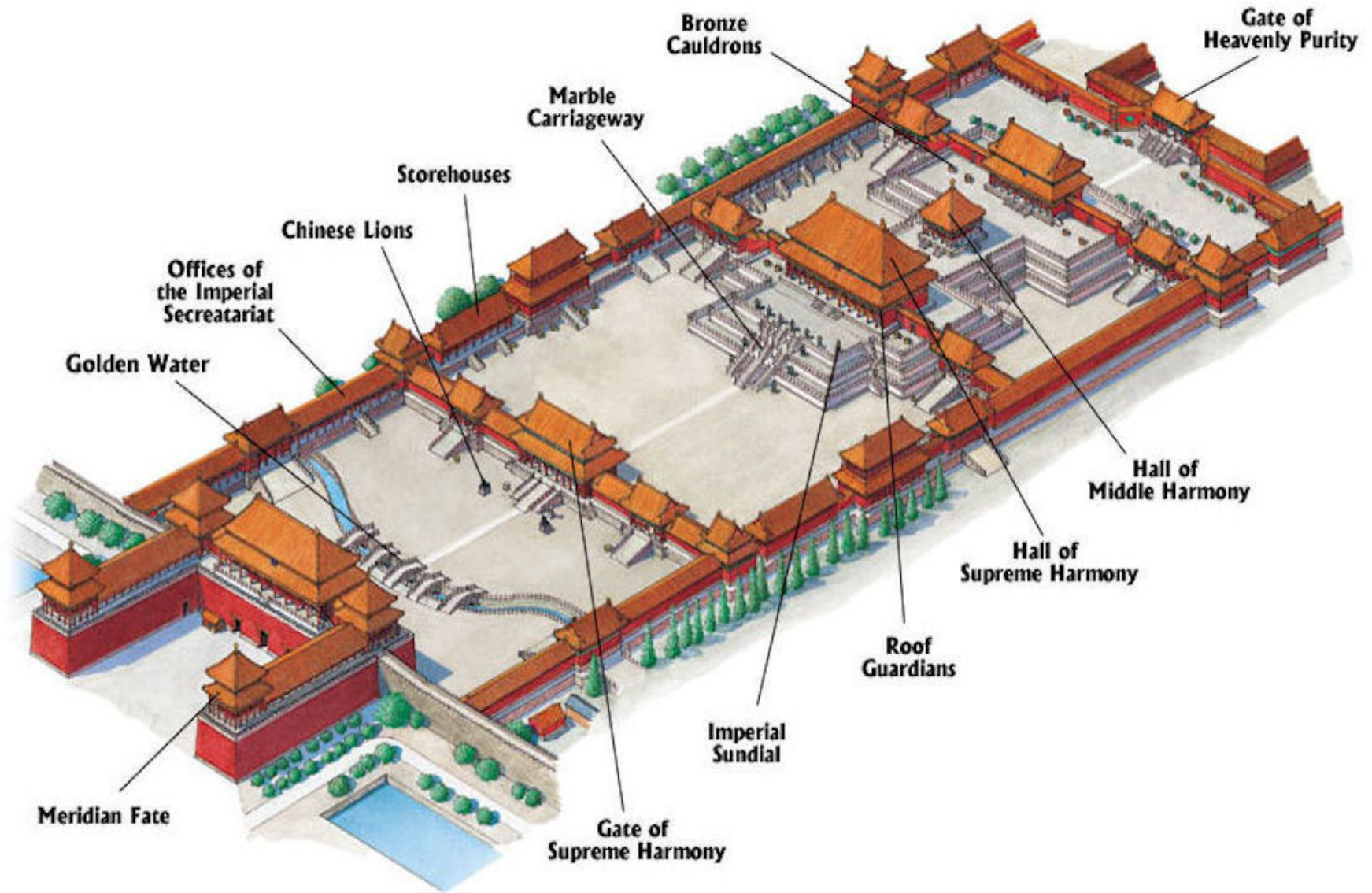


Fazio, fig. 4.13 & 4.14 (2019)



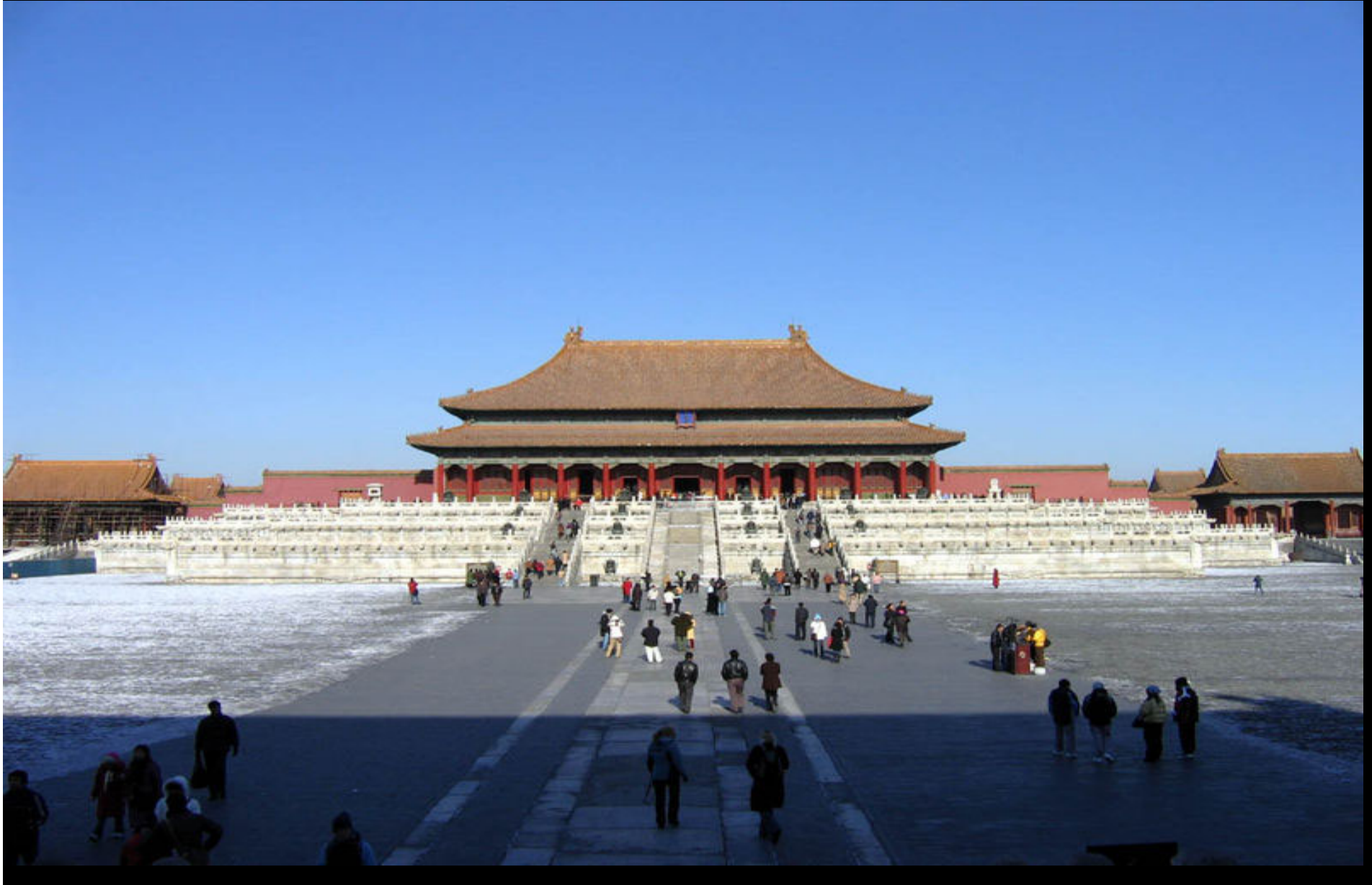
Forbidden City

Freepages.family.rootsweb.ancestry.com



Forbidden City - Beijing: 1406-20

Hall of Supreme Harmony 98.5' above height of square



Forbidden City, Beijing, 15th century

Hall of Supreme Harmony

Largest surviving wooden structure in China with 9 bays wide and 5 bays deep.



Forbidden City - Beijing: 1406-20



Forbidden City (Throne) , Beijing: 1406-20

At Palace of Heavenly Purity- Emperor's audience Hall



Temple of Heaven Park - Beijing: 1406-20

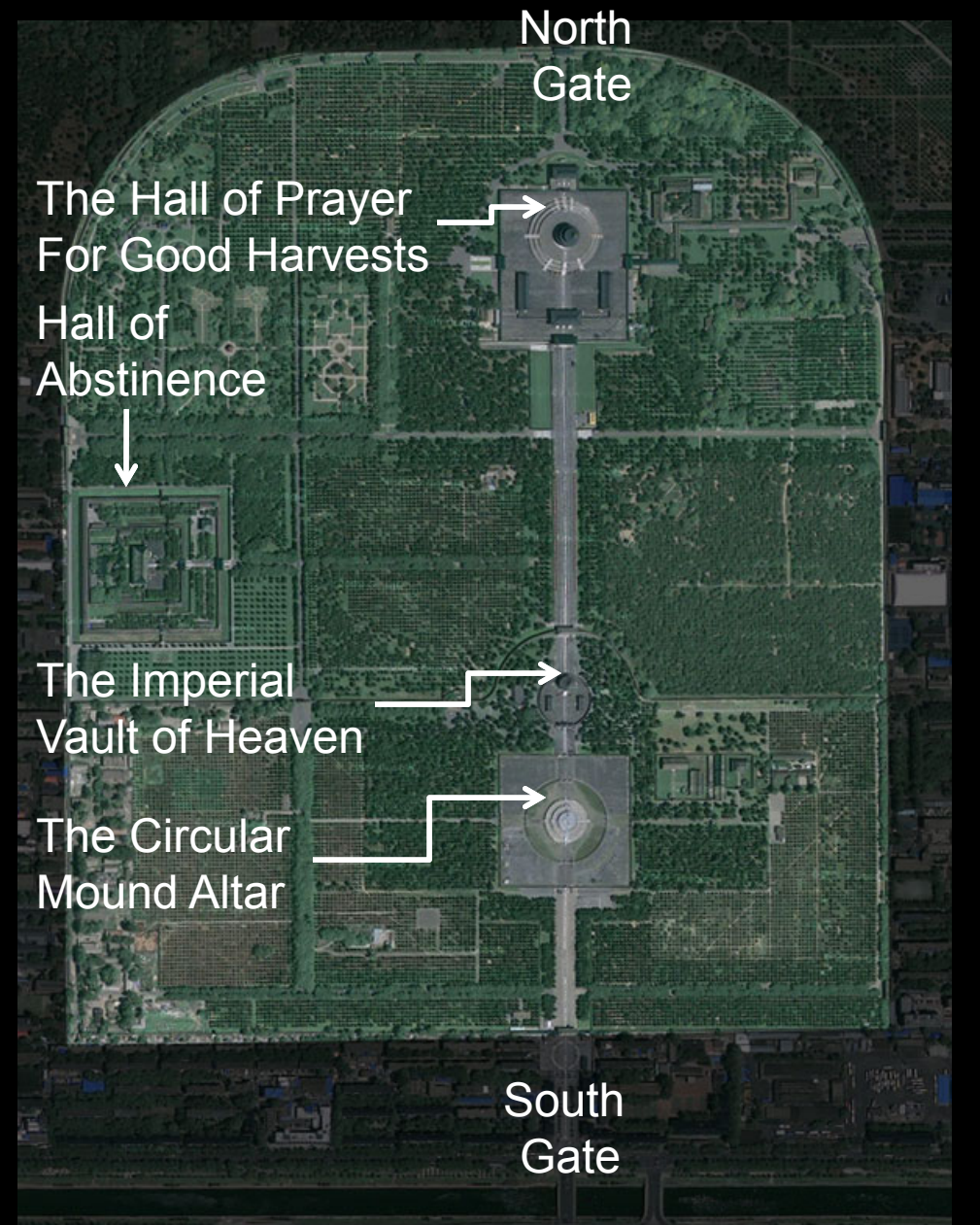
-A complex used by Emperors of the Ming & Qing dynasties to pray for good harvests

-A square mile of parkland

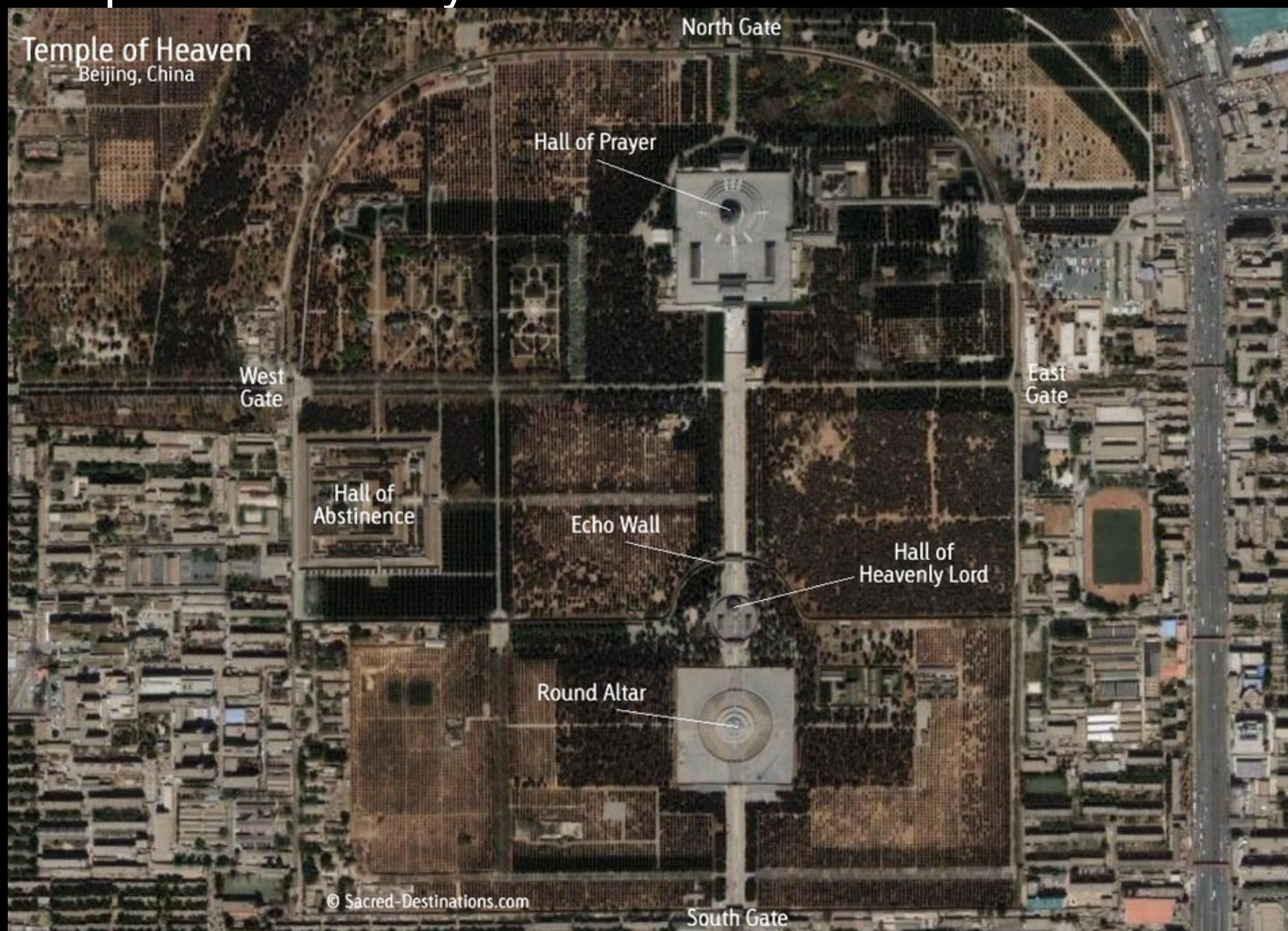
-The Hall of Prayer for Good Harvests: 105' in diameter and 125' tall

-The Imperial Vault of Heaven: single-gabled circular and an Echo Wall

-The Circular Mound Altar: 3 circular platforms



Temple of Heavenly Park



Temple of Heaven Park - Beijing: 1406-20

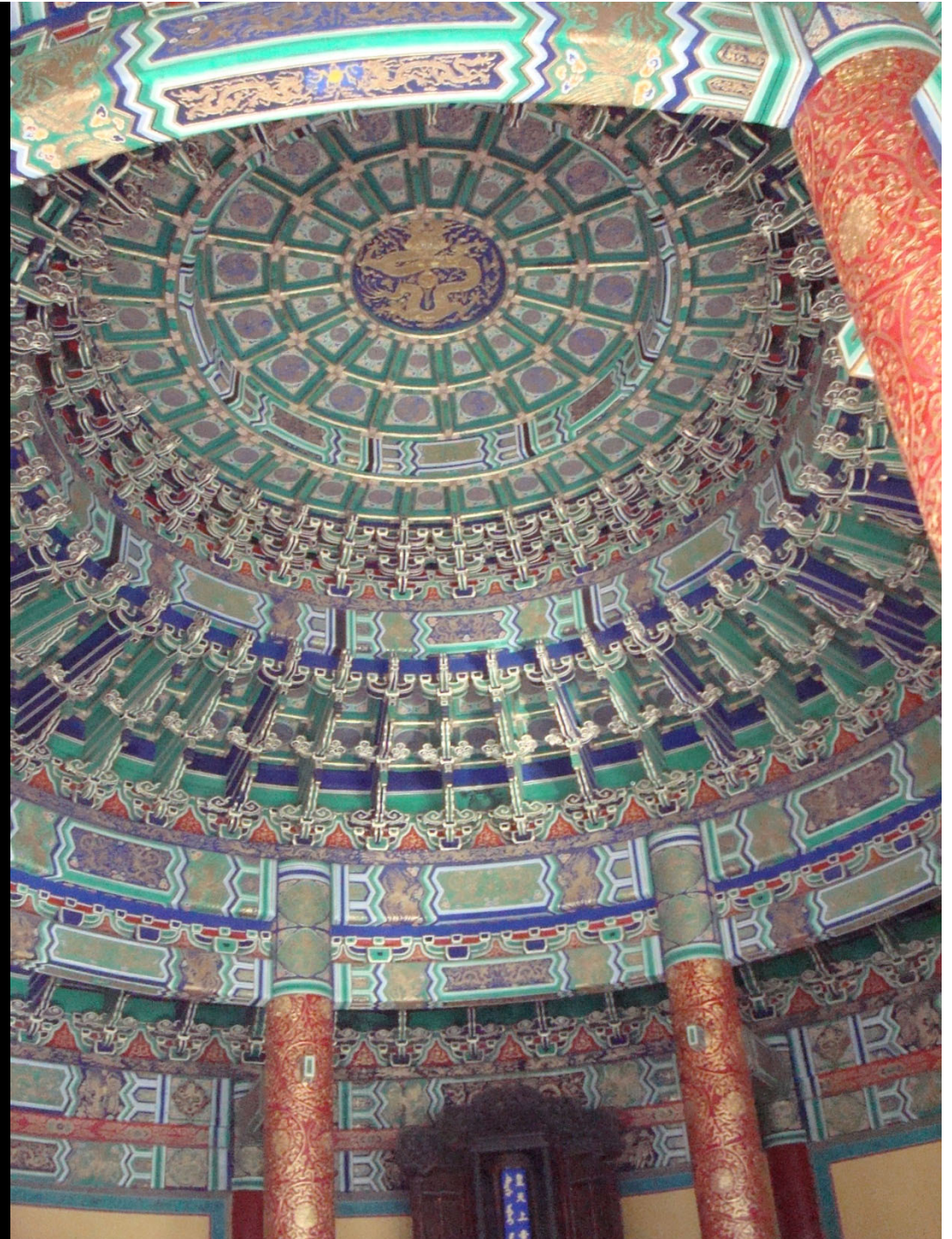
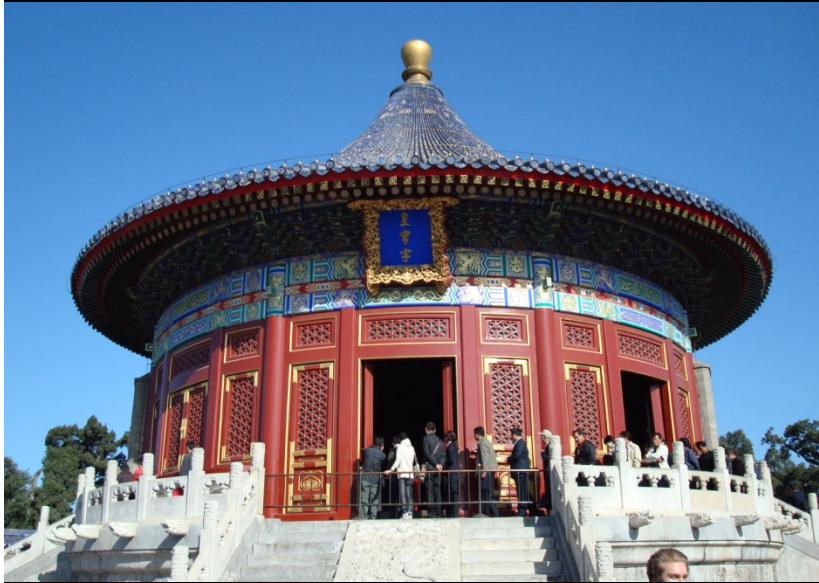
Circular Mound Altar



3 levels Marble Stones

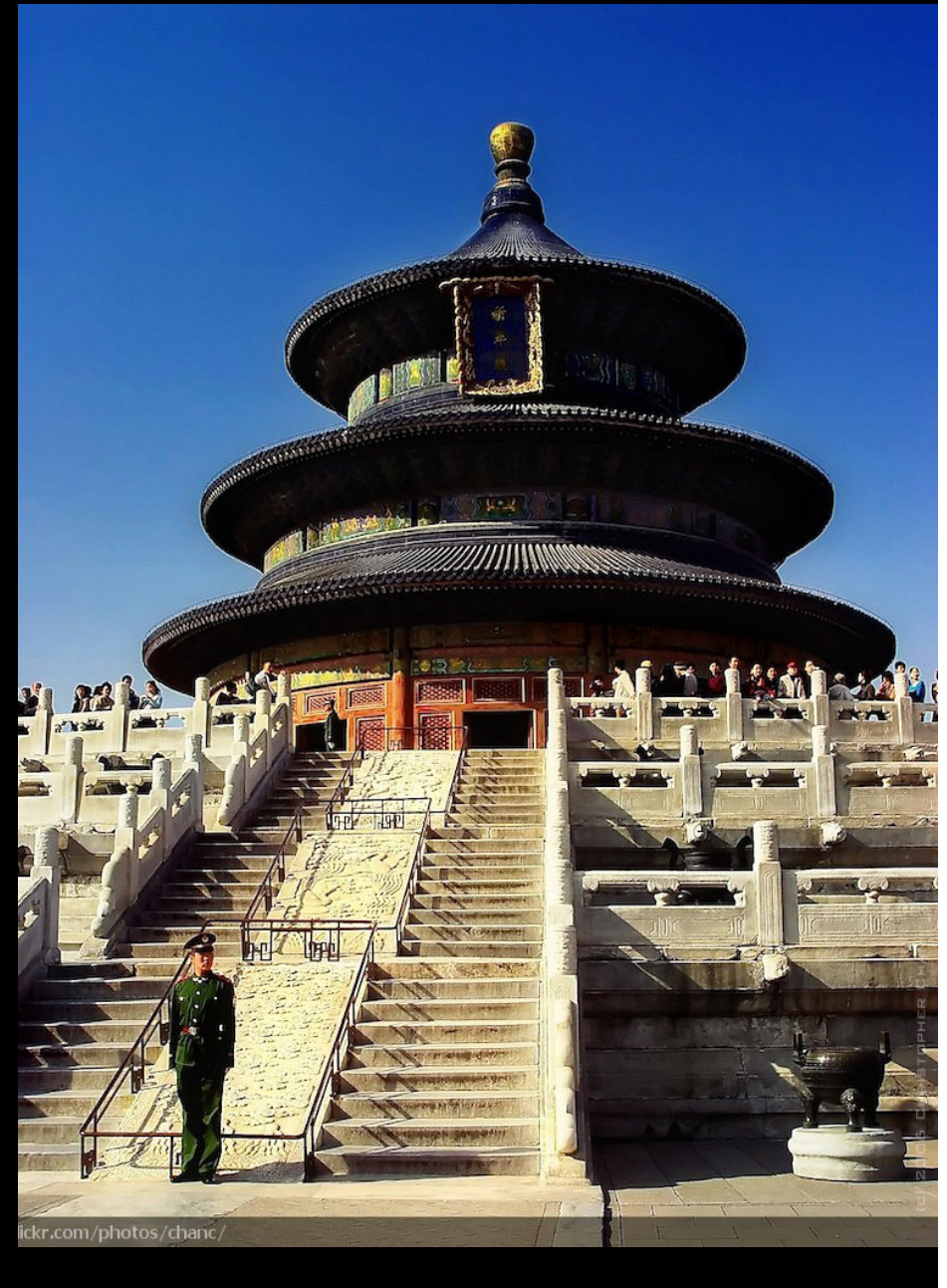
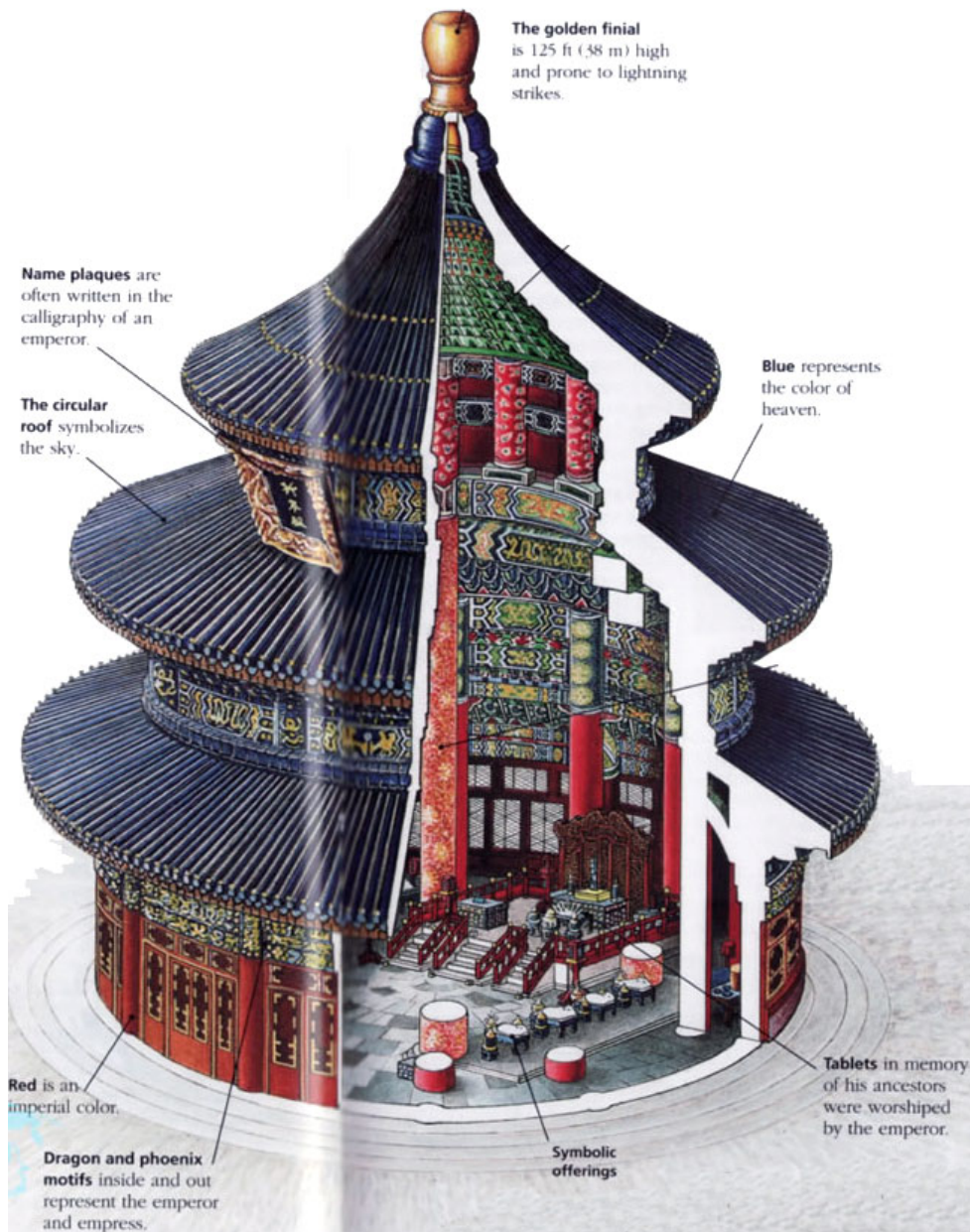


Temple of Heaven Park, Beijing: 1406-20



Temple of Heaven Park , Beijing: 1406-20

Hall of Prayer for Good Harvest



Temple of Heaven Park ,

Beijing: 1406-20

Symbolism:

The dark blue roof tiles on the Temple buildings represent 'Heaven'

The 4 inner pillars = seasons
The 12 middle pillars = hours
The 12 outer pillars = months



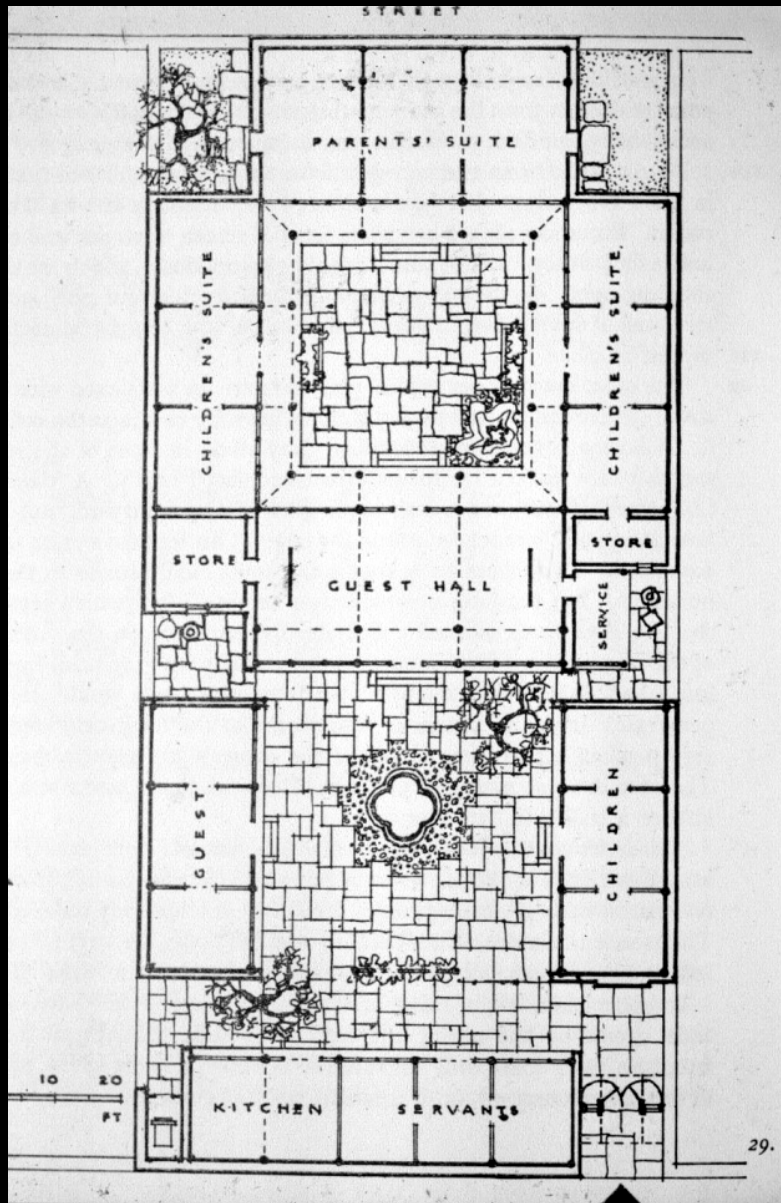
Zhaozhou (Anji) Bridge, Hebei Province: 595-605



-A circular segment less than half of a semicircle (84°) spans 164'
-28 thin, curved limestone slabs which are joined with iron dovetails

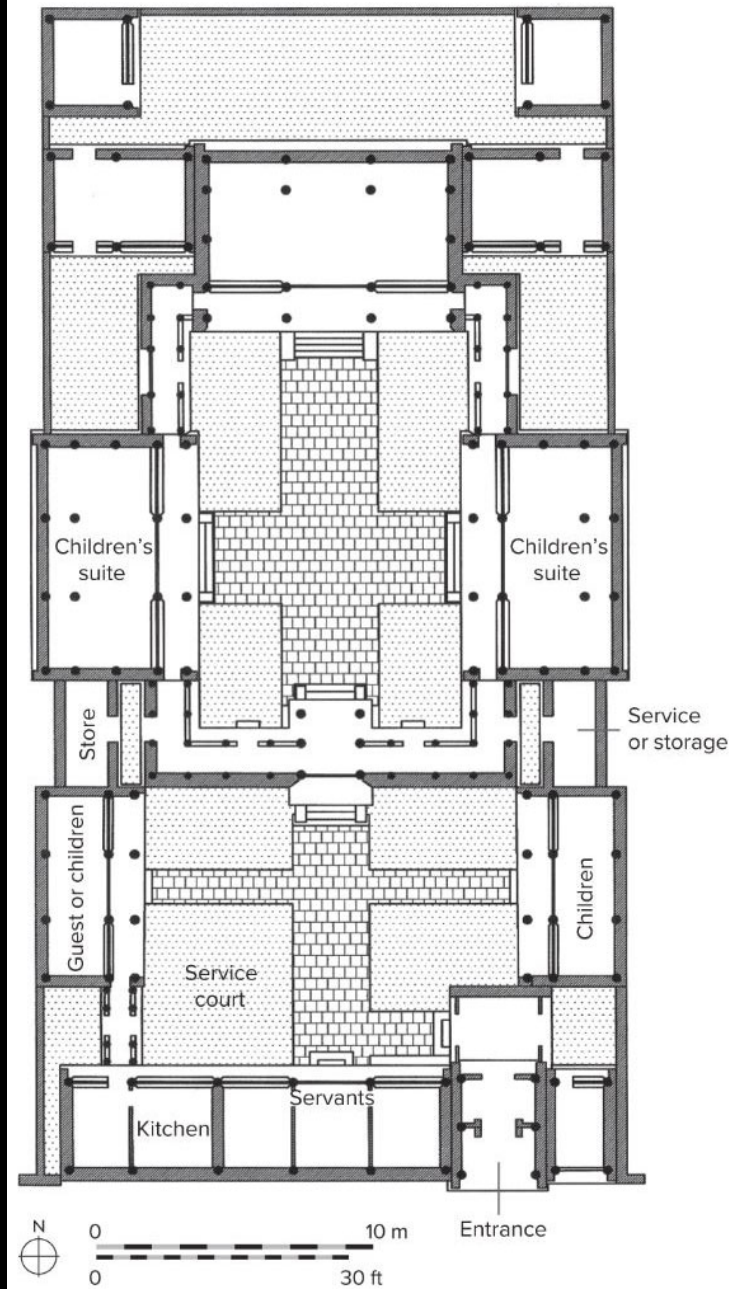


Houses and Gardens



Fazio, *Building Across Time* (2012) p.92

Plans of Chinese courtyard houses



4.17 Plan of a typical house, Beijing, 15th century.

This extended plan shows how the independent pavilions are organized around courts. Note that the entrance from the street is off axis, thus preventing those who called at the gate from intruding on family privacy. (Also see Fig. 4.4.)



Nelson-Atkins Museum

Han Dynasty pottery house model

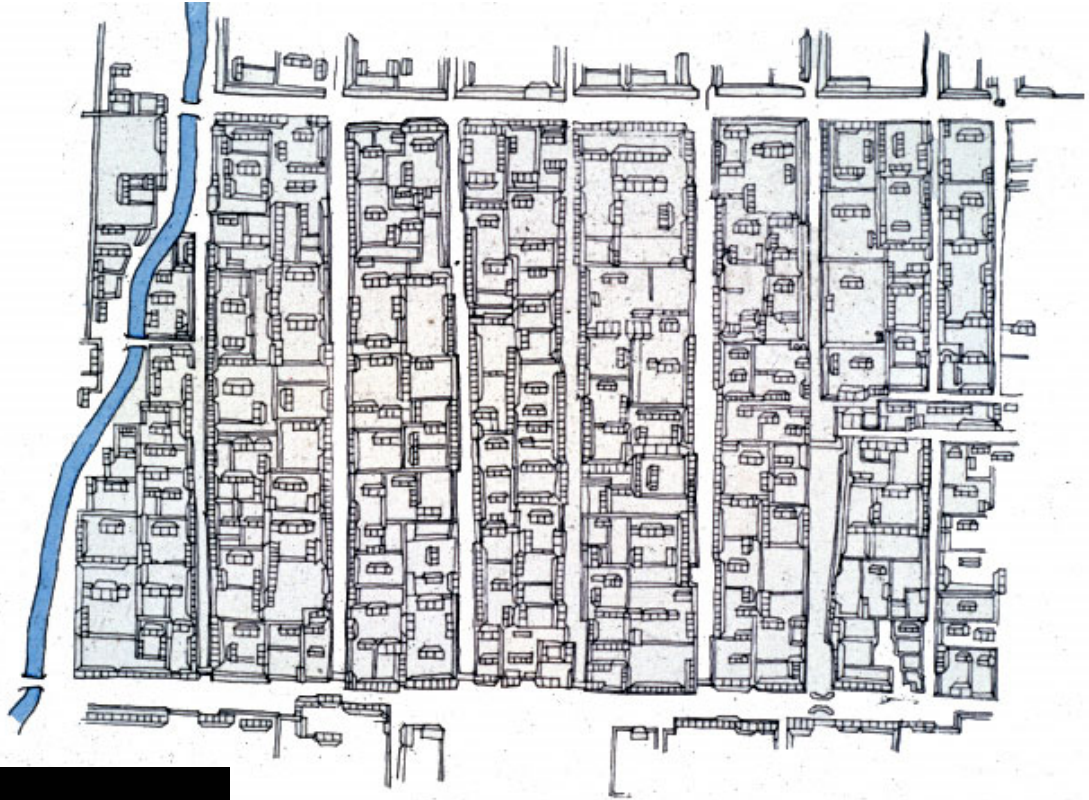
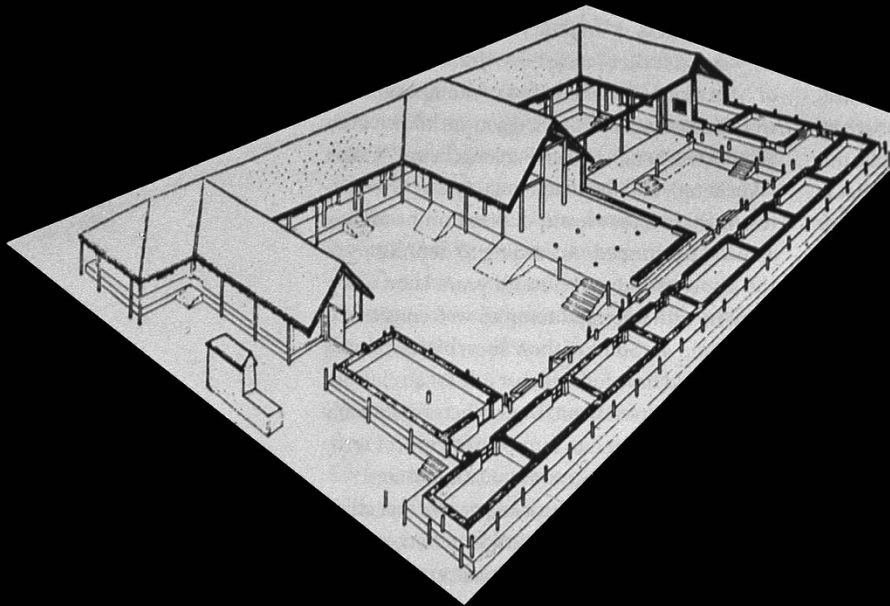


ChinaCulture.org

Typical Chinese house, Sui Dynasty

Clay Models – 1st and 6th centuries CE
show the same columns, bracket framing, and heavy ornamented
tile roof used for centuries

Reconstruction of Temple-Palace
Structure and Courtyard, Fengchu,
Shaanxi Province, ca. 11th c. BCE
(Cheng)



△ Beijing, typical
residential blocks, Ming and

Chinese Architecture

The Chinese courtyard house
is organized similar to the
Chinese temple and city

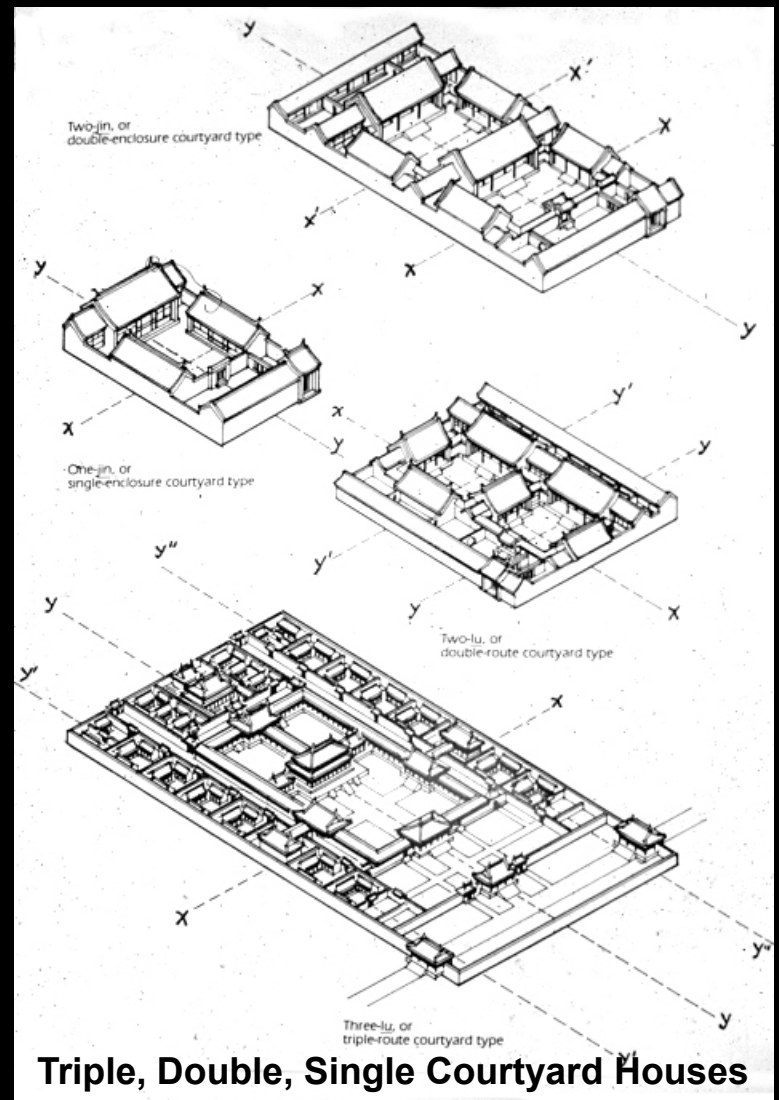
Detail of Ming dynasty *Carpenter's Manual*



Carpentry and Building



Chinese Architecture



Triple, Double, Single Courtyard Houses

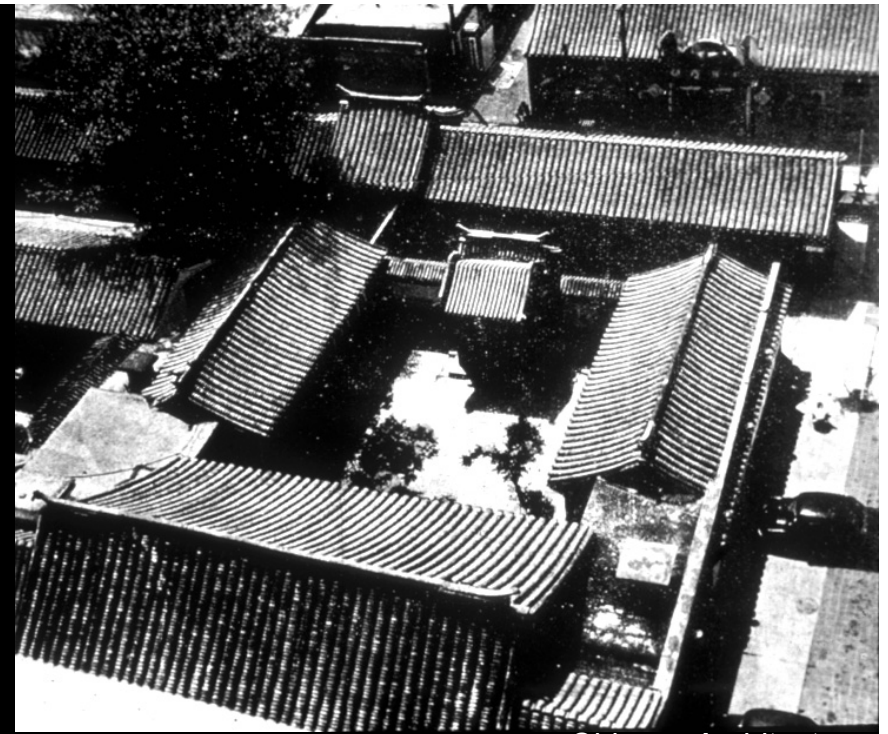
Chaz.org

"If there is a rock resembling a wine jar, the house changes into a 'site of fullness.' The family will be rich and as soon as a wish is pronounced, gold and silver will come pouring out."

Huppert/ Way GAHTC



VRC-UW



Chinese Architecture



VRC-UW

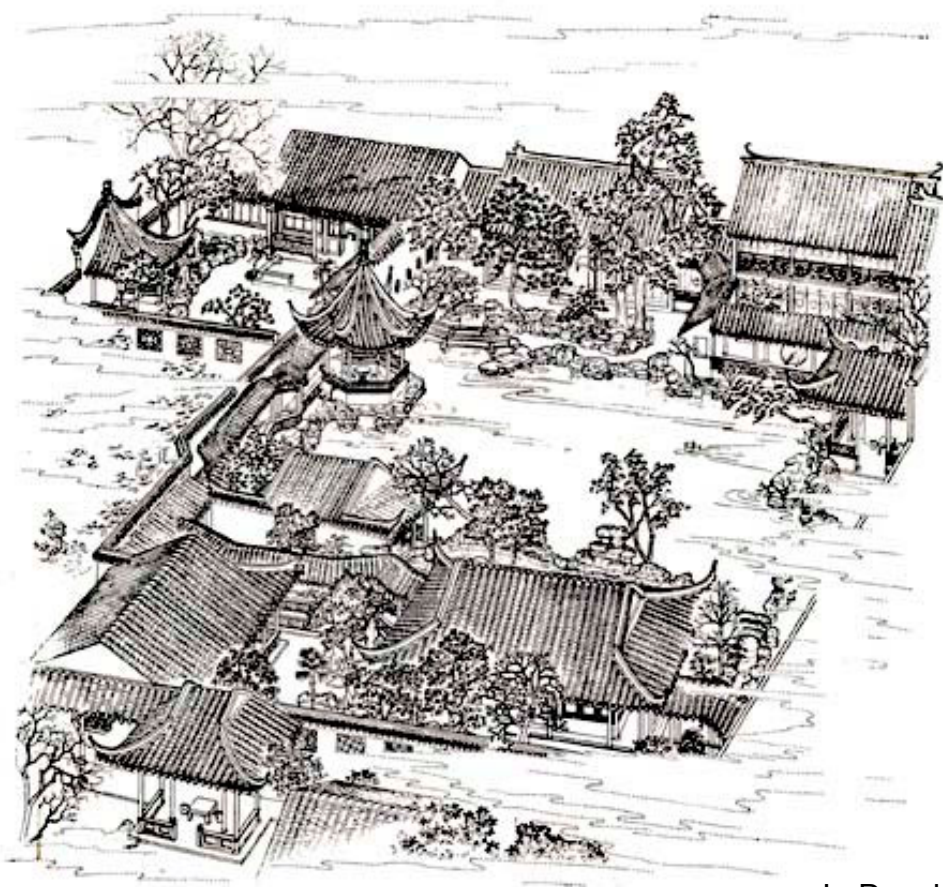
Courtyard House:
walled on the street
courtyard is used for light and
air in the house -- no windows
look out to street
courtyard serves as a private
outdoor room



Wang Shi Yuan – Garden of the
Master of the Fishing Nets, Suzhou,
1140 CE, Southern Song Dynasty
(1127-1279), restored in 1770 (Qing
Dynasty)



T. Way



L. Dunzhen



T. Way

Huppert/ Way GAHTC

The Humble Administrator's Garden- Suzhou: 1509 CE

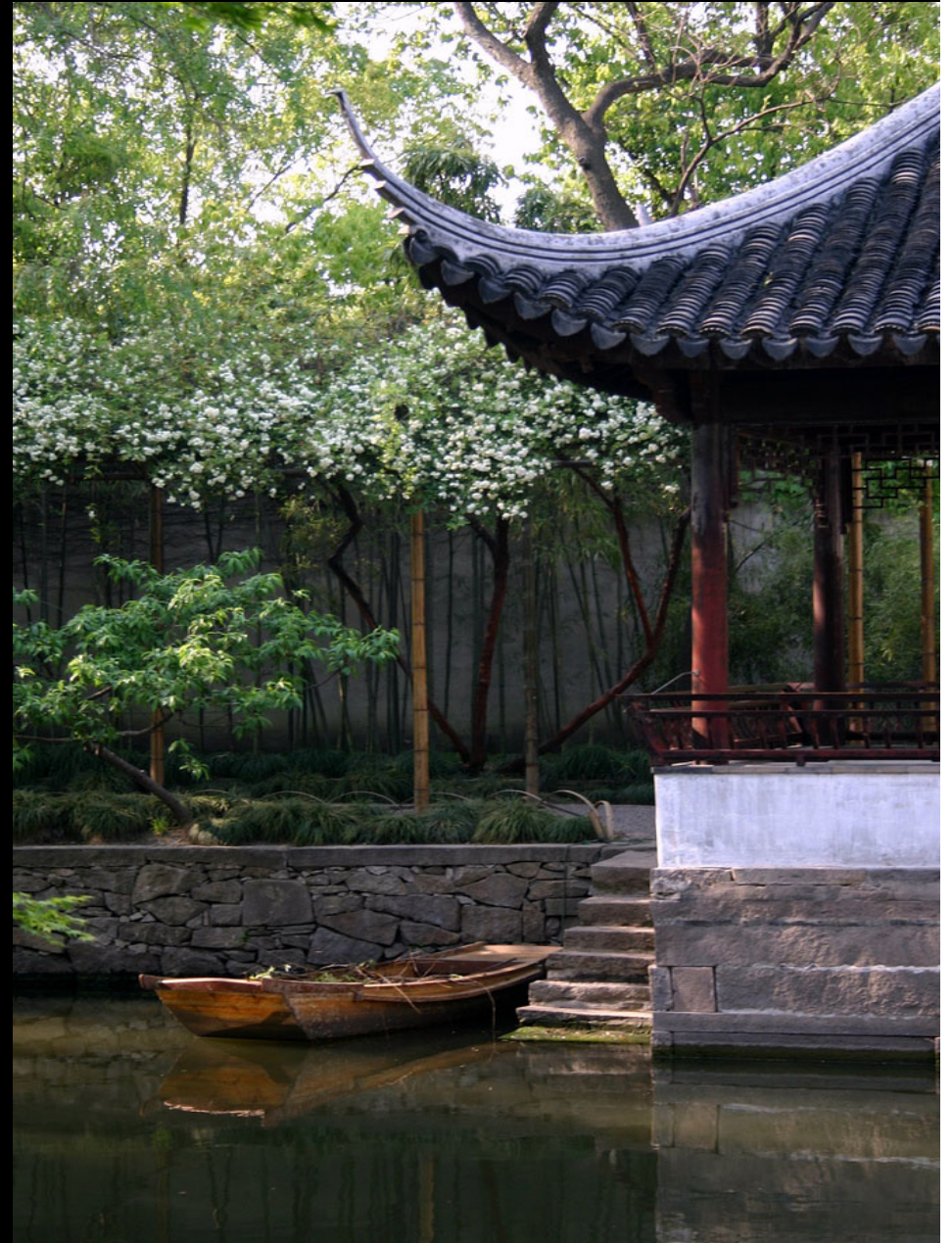


The Humble Administrator's Garden - Suzhou: 1509 CE

Scholar garden for men of letters, and the arts:
559,190 square feet

Containing 48 different buildings, 21 precious old trees, numerous pavilions and bridges set among a maze of connected pools and islands so that it is impossible to view the whole scene.

Garden scenes are all constructed to be best viewed from a pavilion.





WEN Zhengming (文徵明), An Old Chinese Garden : A Three-fold Masterpiece of Poetry, Calligraphy and Painting, by Wen Chen Ming (《文待詔拙政園圖[全]》), studied by Kate Kerby, textes translated by MO Zung Chung, Shanghai上海, Chung Hwa Book Company (中華書局), 1922.

The Humble Administrator's Garden - Suzhou: 1509 CE

Three major Gardens:
Eastern, Central & Western



The Humble Administrator's Garden - Suzhou: 1509 CE



The Humble Administrator's Garden Suzhou:1509 CE



The Potala Palace, Lhasa, Tibet: 1645-49



The Potala Palace, Lhasa, Tibet: 1645-49 CE

1,300' x 1,150' & 384' high

Sloping stone 16' to 12'

Poured copper foundation

Two rows of blank windows are added to exaggerates the height

The White Palace -The living quarters of the Dalai Lama

The Red Palace - Prayer and religious study



The Potala Palace, Lhasa, Tibet: 1645-49 CE



Inward sloping walls broken at upper Parts by row of windows



Japanese Architecture



Originally heavily influenced by Chinese and Korea architecture.

Unification of Japan in the 8th century under the Emperor

Arrival of Buddhism and its Temple Architecture 552c.

It has also developed many unique differences and indigenous aspects as a result of dynamic changes throughout its history.



Japan

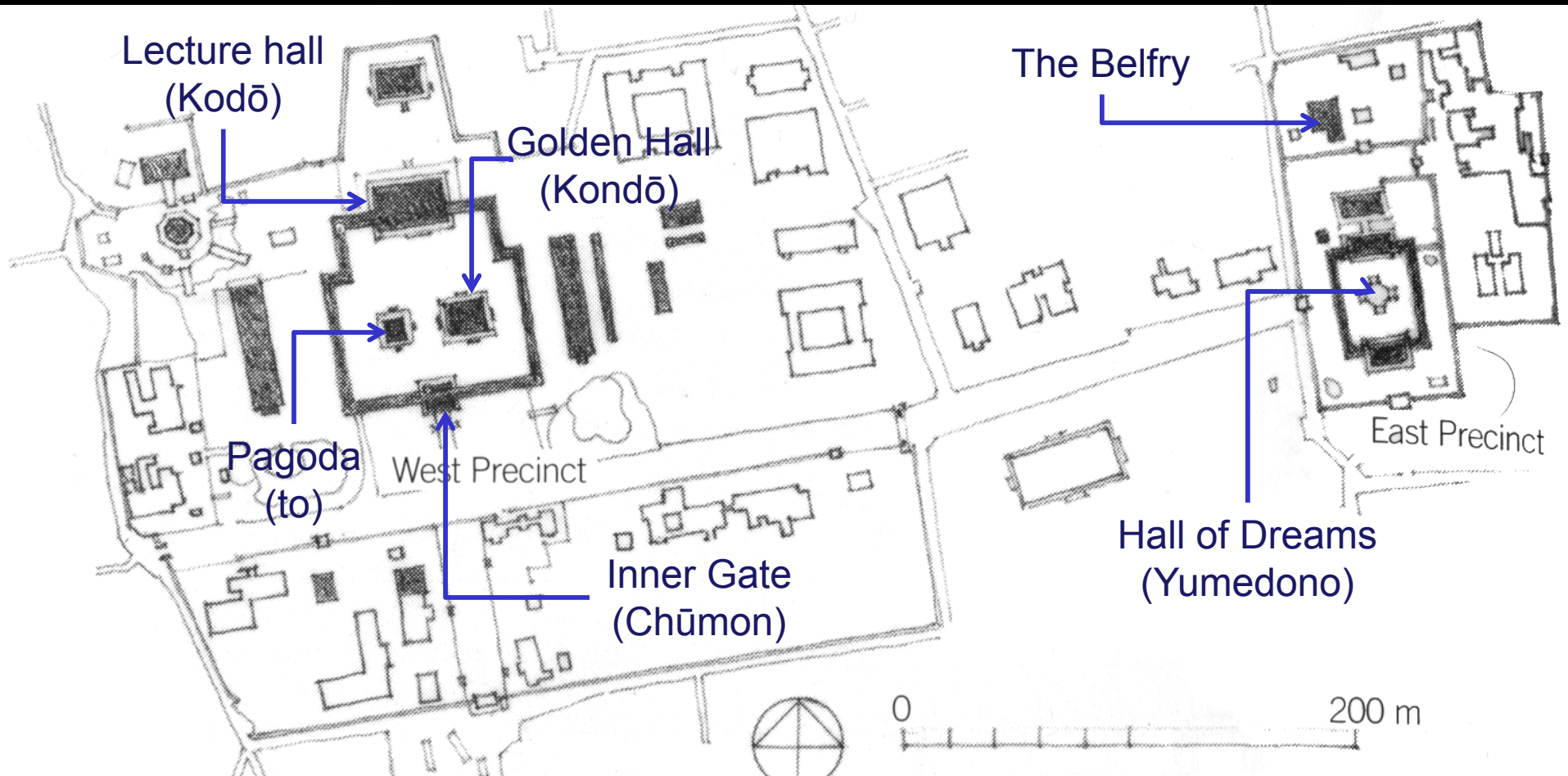
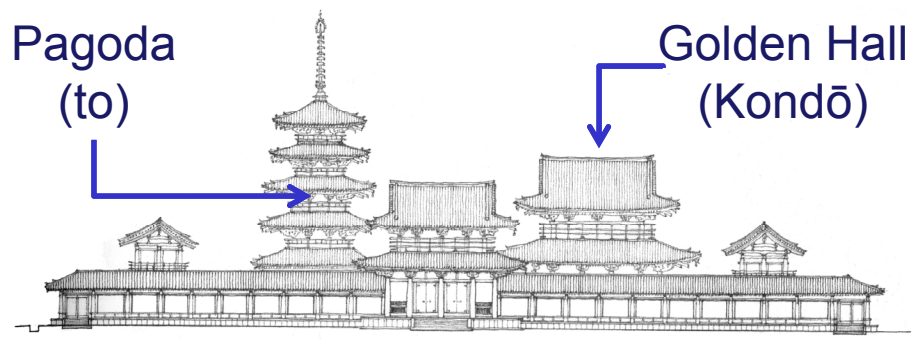
<http://www.maps-of-the-world.net>

Hōryū Gakumonji, Ikaruga : 607-711



Hōryū Gakumonji, Ikaruga : 607-711

Oldest wooden buildings
Unique plan
The entasis in the columns



Hōryū Gakumonji, Ikaruga : 607-711 Golden Hall (kondo)

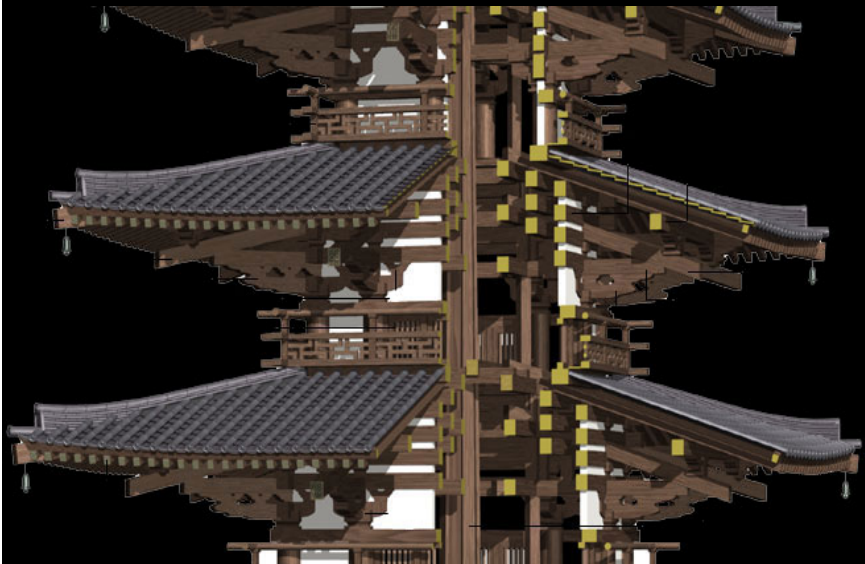
Hall measures 61' X 50'
Two stories with roofs curved
at corners



Hōryū Gakumonji,

Ikaruga : 607-711

- Pagoda (to), five-story and 122' height
- Oldest wooden buildings in the world
- Believed to have some of Buddha's bones buried inside



Hōryū Gakumonji, Ikaruga : 607-711



The Belfry



Inner Gate (Chūmon)



Hall of Dreams (Yumedono)

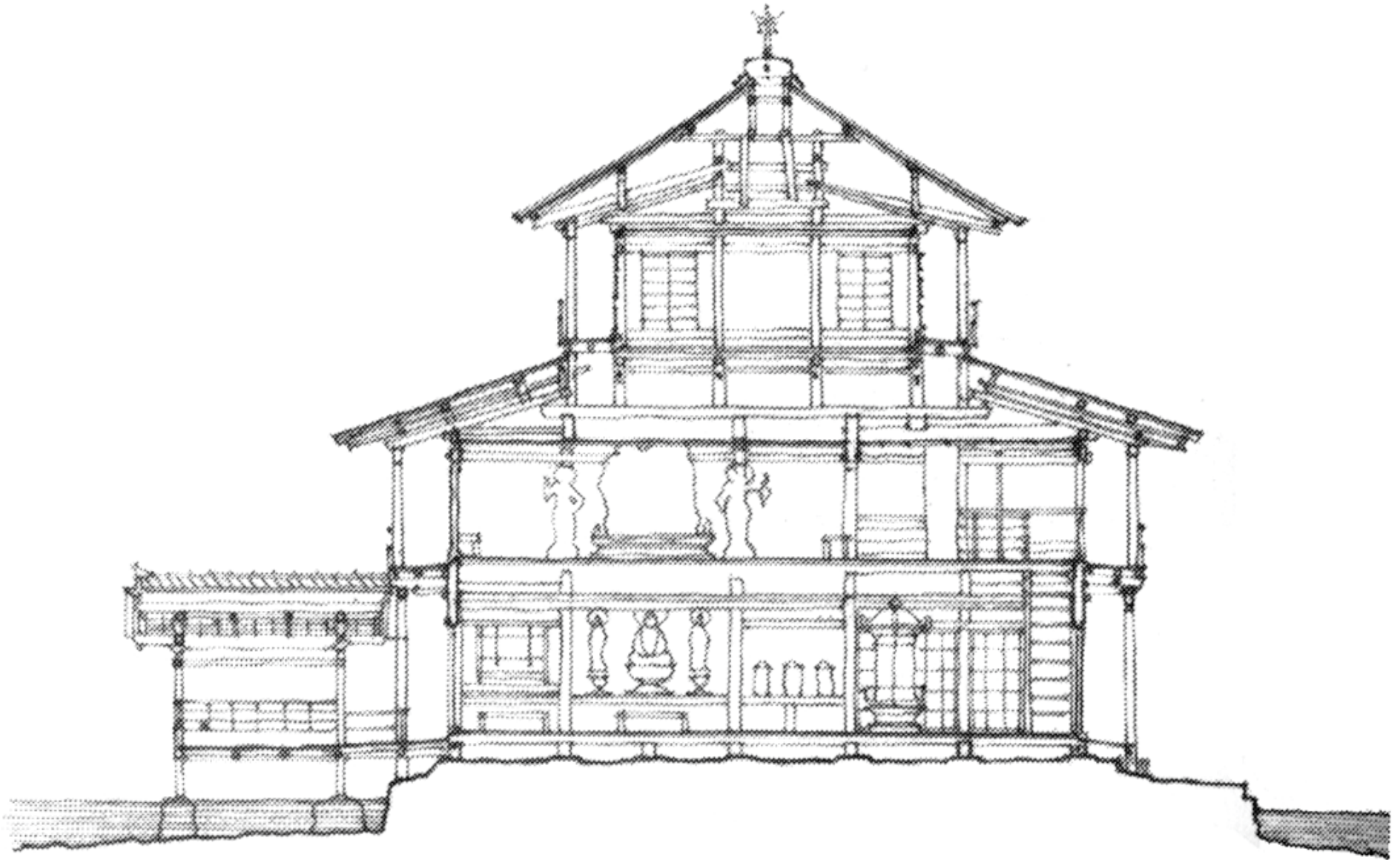
Kinkaku-ji (Temple of the Golden Pavilion), Kyoto: 1397



- Three story building with the top two stories covered with pure gold leaf.
- Each floor uses a different architectural style: shinden, samurai and zen.
- Walls made of shutters to let light in.



Kinkaku Ji (Temple of the Golden Pavilion) Kyoto



Kinkaku-ji (Temple of the Golden Pavilion), Kyoto: 1397



The Phoenix Hall - Byōdō-in, Uji: 1053 CE



The Phoenix Hall, Byōdō-in , Uji: 1053



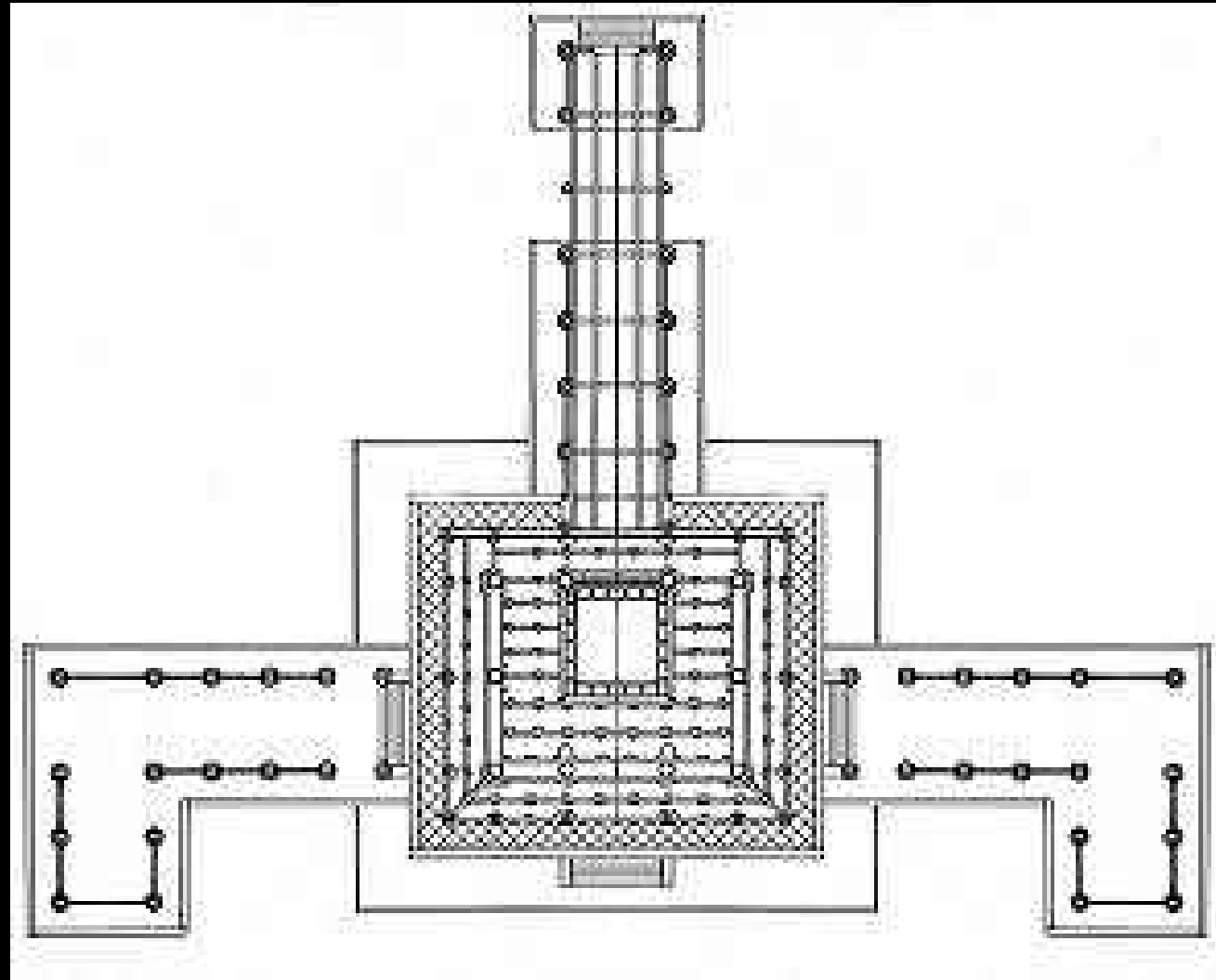
- Ancient Chinese-oriented style
- This is one of the few surviving wooden buildings in Japan.
- A Buddhist complex, formerly a private country retreat for an emperor & now a national religious monument/park

The Phoenix Hall- Because its shape resembled the mythical bird which was supposed to be a protector of Buddha.

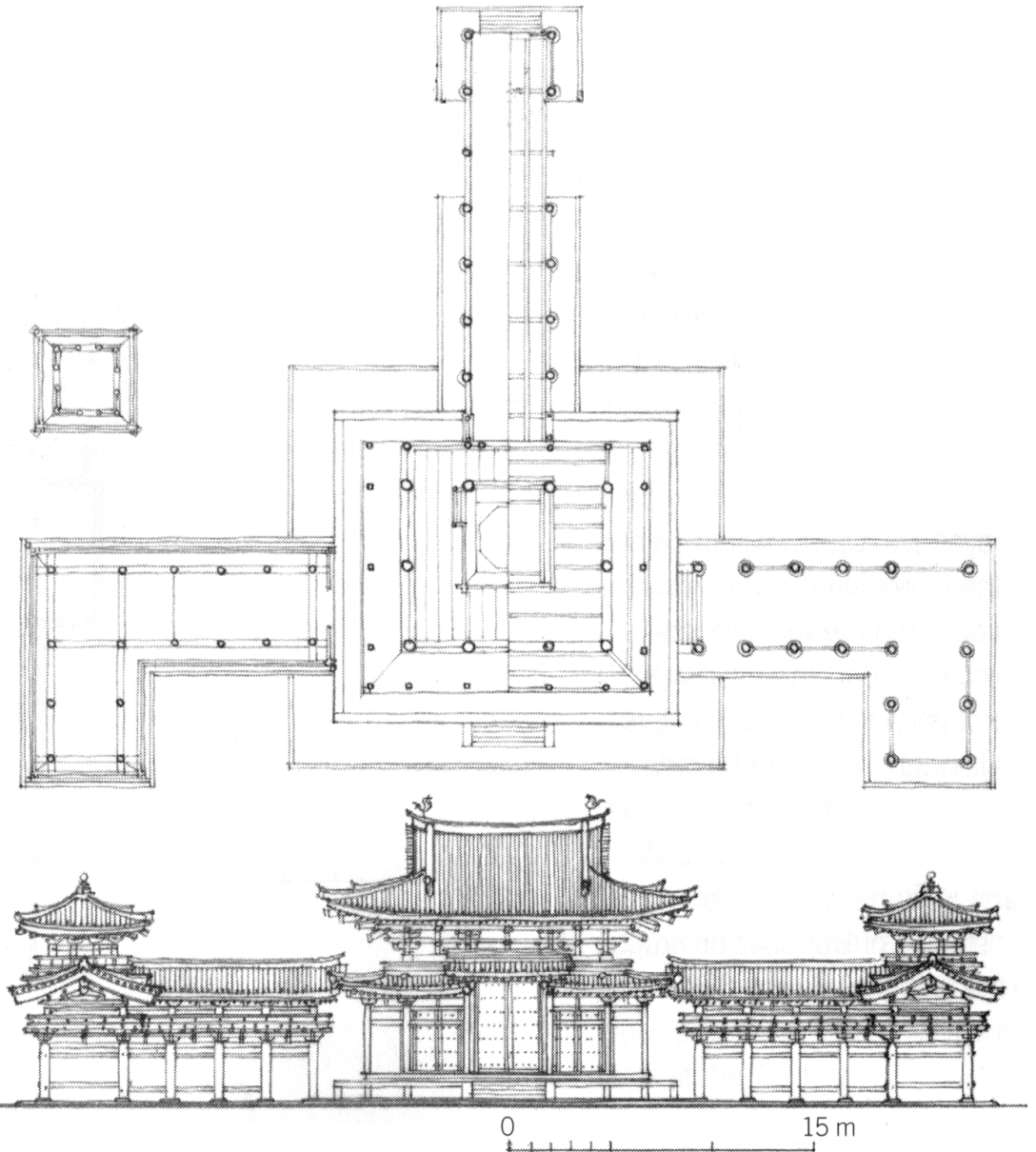
- A rectangular structure flanked by two L-shaped wing corridors and a tail corridor.

- Graceful lines & elegant style.

- Contains ornate
- Ceilings as well as Buddhist images



The Phoenix Hall, Byōdō-in , Uji: 1053

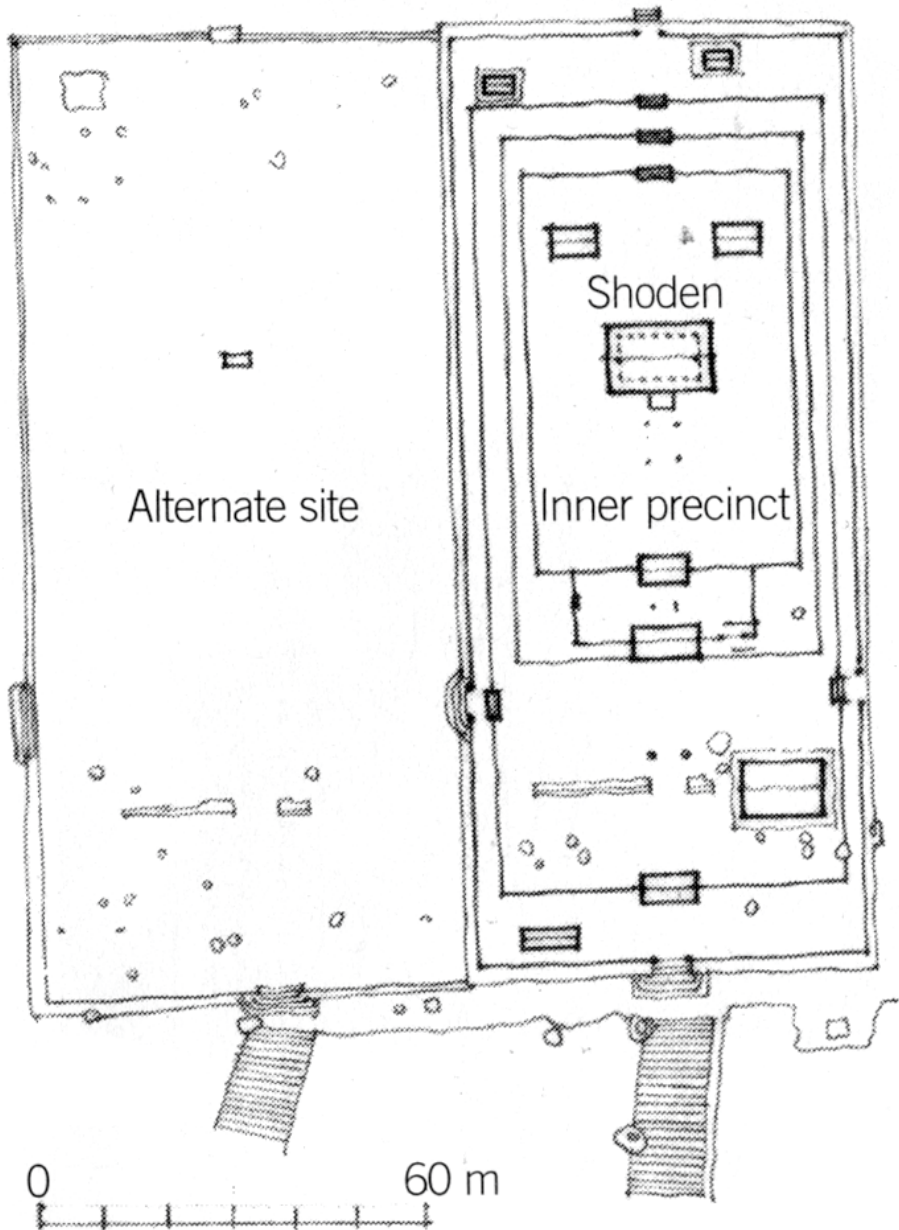


Ise

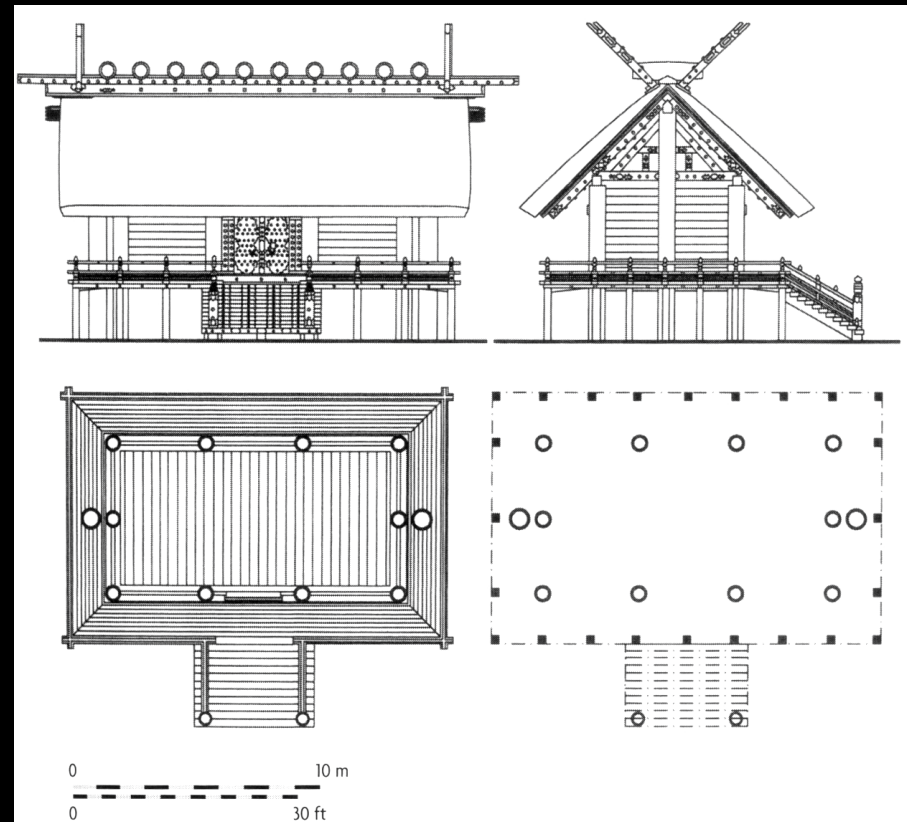
123 Shinto shrines in Ise City, 4 miles between the two shrines



The Inner Shrine, Ise: 690

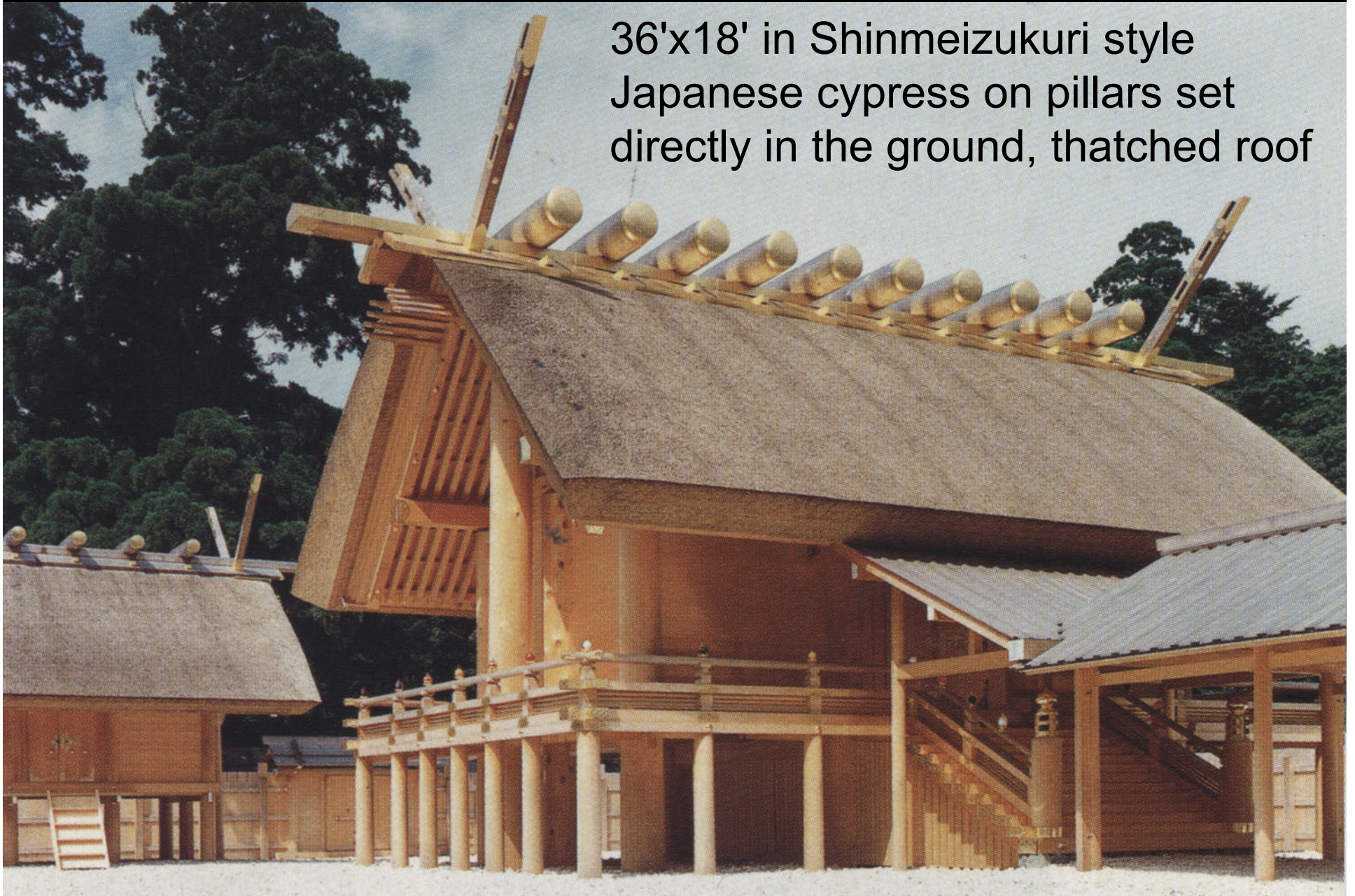


Every 20 this shrine is rebuilt, so that the buildings will be forever new and forever ancient This is the 61st time. The next scheduled time 2013.



The Inner Shrine, Ise: 690

36'x18' in Shinmeizukuri style
Japanese cypress on pillars set
directly in the ground, thatched roof



Kōfuku-ji Temple - Nara: 669-710



Kōfuku-ji Temple - Nara: 669-710

Kōfuku-ji is one of 8 shrines of Nara form "Historic Monuments of Ancient Nara" (a UNESCO World Heritage Site)

The Goju-no-to (five-story pagoda) wooden 150': 730CE
It was destroyed 4 times over.



Himeji Castle, Himeji: 1346

Main keep

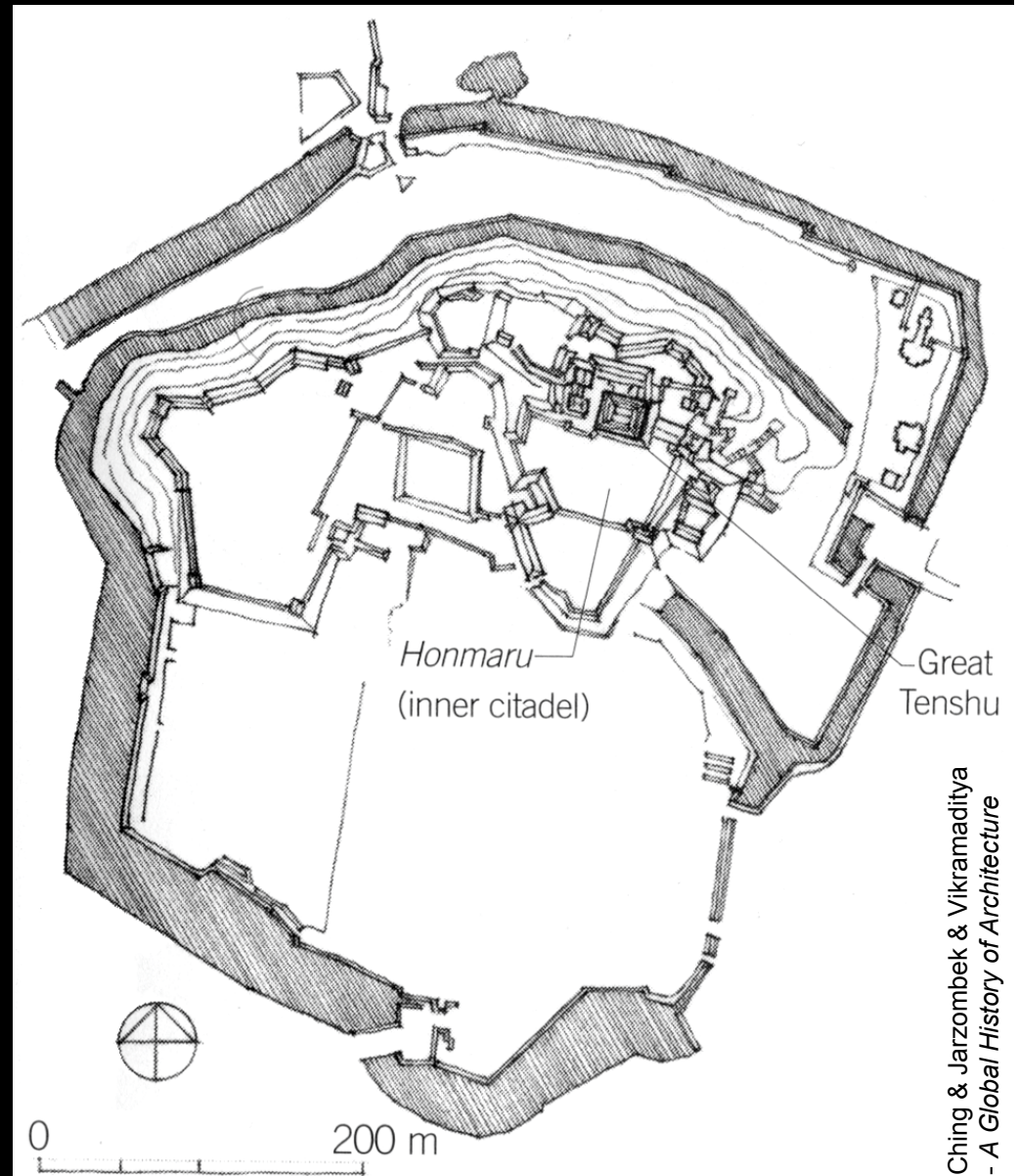


Himeji Castle, Himeji: 1346

Construction materials:
Wood, stone, plaster, & tile

A maze of paths leading to the
main keep

In use until 1868



The Katsura Imperial Villa, Kyoto: 1616-60

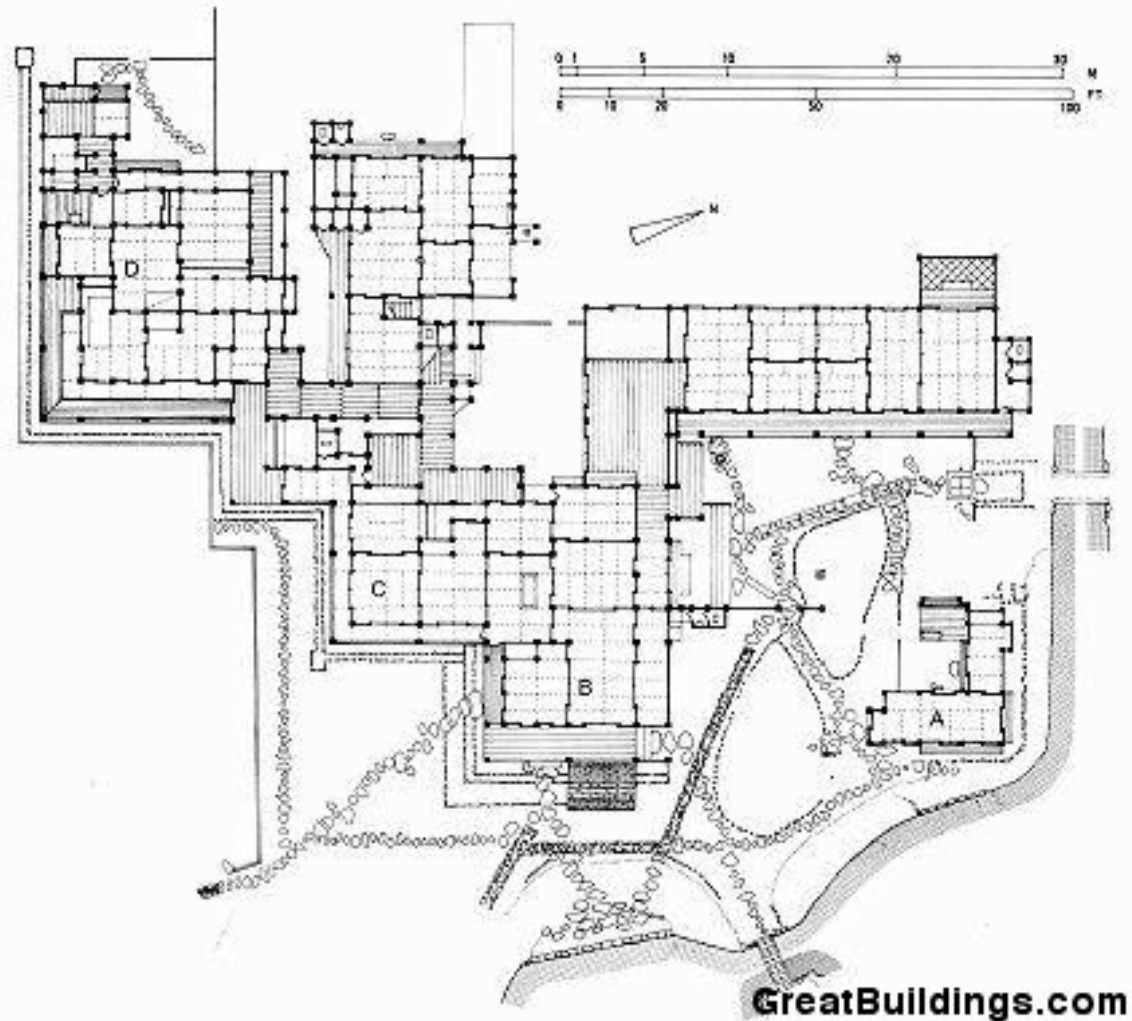


Franca, Raphael Azevedo. *Shokin-tei tea pavillion*. <http://upload.wikimedia.org/wikipedia/commons/0/09/Shokin-tei.jpg>

The Katsura Imperial Villa, Kyoto: 1616-60



The rooms and bays were laid out in multiples of the tatami, mats.



The Katsura Imperial Villa, Kyoto: 1616-60

No pillars or brackets.



Framed in light timbers, triangular truss in the roof, and closed by plain walls.



The Katsura Imperial Villa, Kyoto: 1616-60



Reading: Fazio, Moffet & Wodehouse
A World History of Architecture or Buildings Across Time
Chapter 4



www.flickr.com by le niners