

Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

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Assignment 1: Course Work Journal

Personal Statement:

What are your goals for this course?

My goals revolving the history of ideas in architecture are strong and absolute. Attempts I will make in understanding and applying knowledge gained throughout this course will prove to be the ultimate reward in both my academic and architectural career. I hope to gain a basic understanding of what political, geographical or religious factors influence ancient architecture and how these factors are similar and dissimilar throughout the evolution of prehistoric mankind. I aim to expand my knowledge of ancient building methods and compare them with modern technologies. Examining the needs of ancient society against the needs of today's society, I will be able to recognize what great influence an era may impose on architecture. Thinking critically, I will be able to offer an opinion and strong conclusion of each case and synopsis.

What does architectural history mean to you?

Architecture has undoubtedly played a major role in the creation of ancient and modern civilizations. The history of architecture not only teaches us about ancient culture and ideology but perhaps most importantly, expresses the value of artistry in the form of building design. No two structures look alike nor serve the same purpose. Whether a figure of government or religion, hierarchy atop any structure has always been an architect's goal. Hierarchy in the most simplest form, is showcased atop ancient structures, such as The Pyramids of Giza (Ching, 2011, pp. 39–46) or the Mohenjo-Daro (Ching, 2011, pp. 30–31). Structures such as these symbolize wealth and power, emphasizing the importance of nationalism, the ability to preserve religious ideology or defend against rival establishments. Hierarchy is only one method of expressing or symbolizing meaning in architecture. Form is also an important part of architecture, especially in the design of a tomb or sacred place.

What problems, issues, and real-life applications do you think this course might address?

Architectural history addresses many issues concerning both ancient and modern construction. Structurally a building must be able to support its own weight and bear the load it intends to carry. It must be able to endure natural forces including wind, rain, hot and cold temperatures. We can compare issues facing modern construction such as the Eiffel tower to the issues facing builders of the Ziggurat of Ur (Ching, 2011, pp. 34–38). We may notice the issue of weather protection in

today's buildings. The same issue has been faced by ancient architects, yet solved in different ways. The most evident difference between ancient and modern structures is life-expectancy. Many ancient tombs were intended to stand for eternity, whereas modern high-rises are expected to last only a century. Although longevity may not be a major concern of most modern architects, we may still be able to apply archaic construction techniques into modern design.

What are your personal interests in architectural history?

My personal interests in architectural history relate mostly to the longevity of ancient structures and their resistance to fatigue over several thousands of years. Mysteries of archaic building technologies and the abilities of ancient work-forces peak my curiosity. Stone, a material less commonly use in modern architecture is present in many of these ancient structures, such as the Stonehenge (Ching, 2011, pp. 47–49) and Caral-Supe (Ching, 2011, pp. 52–54). A difference of materials is perhaps one reason why some ancient structure still stands today. A difference of construction techniques and work-forces may also have contributed to a structures long life. I am also curious to learn how the influence of religion formed many ancient buildings such as shrines or tombs and why such monumental structures were created. This link between ideology and architecture seems to remain true today. As we notice, nearly any modern structure reflects a strong purpose related to ideologies of the time in which it is created. Modern structures excel in efficiency due to advancements in technology however, lack longevity. This observation may become more noticeable as we learn about the several, case studies outlined in the course.

What lessons are you hoping to learn from the case studies?

Ultimately, I wish to learn lessons of place and purpose, ideas pioneered by architects of the ancient world. I hope to link the intentions of ancient architects with those of today and understand why certain architectural styles may no longer be valid. I will observe the evolution of building technologies and discover ways in which these technologies and philosophies were spread via trade, travel and war throughout ancient history. I will study the change of approaches in design and construction. Our observations of how changes in government or ideology initiate new eras of design will support many links between modern and ancient architecture. I wish to gain a thorough comprehension of the case studies outlined in each unit and how they compare to one another. Finally, I aim to develop a better understanding of the prehistoric timeline (3500BCE – 1950CE) outlined in Francis Ching's book *A Global History of Architecture* and be able to identify ancient structures base on their year of creation.

What key questions will you answer by the end of the course?

At the end of this course I will be able to answer questions regarding ancient architectural styles and building techniques. I will discover the purpose of ancient architects whom build both rudimentary and complex structures in various locations for commonly similar purposes. I will discover how shapes and form acquire meaning and perhaps change over time. In an ancient context, I will evaluate the longevity of structures which seemingly do not fatigue. I hope to compare the treatment of structural components in modern architecture against ancient architecture and discover reasons why a structure based design was so important. I will discover reasons for symbolism and nationalism in ancient architecture and the meaning this added to each structure.

Potential Topics:

1. In many ways, the history of architecture has pioneered theories and ideas which shape our modern living environment. These principles such as form and function were commonly followed throughout ancient eras and may still be valid today.
2. We can notice the use of early construction technologies and their associated limitations or perhaps benefits to ancient architecture. In comparison, ancient architects used materials in their natural form, as seen in figure 1, prior to the invention of today's complex building assemblies.



Figure 1 - Photo of Ziggurat of Ur, Hardnfast, 2005, https://commons.wikimedia.org/wiki/File:Ancient_ziggurat_at_Ali_Air_Base_Iraq_2005.jpg

3. The transfer of theories and ideas throughout regions of the ancient world quickly became important to the advancement of ancient architecture. Spread via trade, travel or war these ideas could be attempted and improved upon by succeeding architects, thus building on a foundation of recorded knowledge.
4. In some cases, architecture has been influenced by celestial phenomenon's. Adopted by ancient Egyptians, interstellar alignment instills great meaning into the orientation of the Pyramids of Giza. It was believed that the three brightest stars in Orion's Belt were associated with Osiris, the god of afterlife (Wikipedia, 2017). Fascinated by astronomy, many ancient architects and religious leaders align and perhaps misalign structures for reasons which become evident as we study the various cases.
5. The relationship between ancient ideology and architecture becomes clear as we observe behaviors of early mankind. The construction of vast and sometimes detailed structures such as tombs, temples or shrines are commonly influenced by religious or political factors, as described in the required readings. These factors link the purpose of a building directly to the people whom it will serve. Nearly all ancient architecture possesses a Socioeconomic status, reflecting the disunion of working classes. For instance,

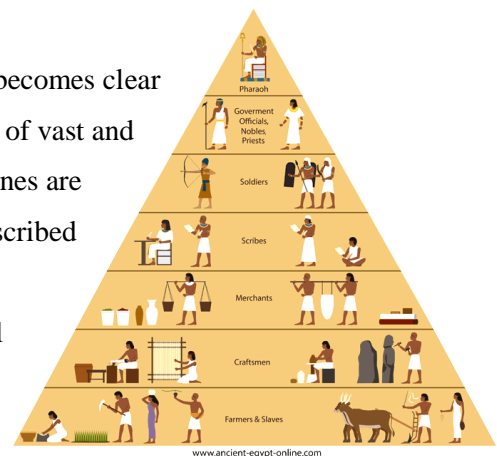


Figure 5 - diagram of Egyptian social hierarchy, n.d., 2017, <http://www.ancient-egypt-online.com/ancient-egypt-social-structure.html>

the social structure of fourth dynasty Egyptian civilization consisted of several tiers, as seen in figure 2. Similarly, hierarchy embodied by the Pyramids of Giza matches perfectly this same theme and order. This link between hierarchy in architecture and hierarchy in a social order may serve as the answer to many questions regarding the design of ancient structures.

Course Plan:

Month	Assignment	
October	1.	Personal Statement, Potential Topics, Course Plan
November	2.	Choose a Research Topic, Conduct Preliminary Research on your Topic Write a Research Plan, Attach a Preliminary Bibliography
December	3.	Choosing an article, Writing the review
January	4.	Short Essay and Sketch
February	5.	Long Research Essay
March	6.	Closing Statement

Unit 1 Study Questions:

1. *Using the Preface to A Global History of Architecture, explain how the author's decision to avoid "our post-19th century penchant to see history through the lens of the nation-state" and the "tendency of historians . . . to nationalize, localize, regionalize, and even microregionalize history" influences the organization of the text.*

Authors of the book, *A Global History of Architecture* avoid a regional organization and instead organize their text by chronological order, beginning at 3500BCE and end at 1950CE. These "Time-cuts" allow each case to be read non-selectively and compared to a greater extent, by era rather than by region. Chapters are arranged by date, separated by typically 1000 years. As mentioned on (Ching, 2011, p. xiv), readers are reminded that "the globe does not really begin in the East or the West but can indeed start and end anywhere". Within each chapter however, the cases are arranged by geographical adjacency (Ching, 2011, p. xiv).

2. *From the early evidence of human activity (40,000 BCE to 2000 BCE) we often witness significant instances of sudden regional or global climate change. What archaeological and architectural evidence is there for these events?*

Subsequent to the Ice Age, declining around 14,000 BCE, warmer temperatures allowed the exploration of the western Americas and enabled settlers to build extensive river and shore-oriented communities, depending on the existences of ocean resources. In the Peruvian Pacific coast of South America, settlers were proficient in drawing nutrition from the ocean and thus depending less on hunting (Ching, 2011, pp. 3-5). A volcanic eruption in Greenland rendered land inhabitable as acid rain fell and clouds blocked sunlight. However, the effects were short lived as the weather quickly recovered and so did the human spirit. Farming became possible in nearby England which sparked a new generation of tomb structures, called coves, typically consisting of three upright slabs in the formation of a U (Ching, 2011, p. 23).

3. *From this unit's case studies as covered in the text, what is the significance of settlement farming in the early development of "monumental" global construction activities?*

Settlement farming, enabled people to remain settled in one place. As crops were grown from the land and animals were domesticated, food no longer needed to be found. This in turn gave settlers the ability to colonize, thus building communities. Settlement farming initiated growth in the population of communities which would otherwise remain small.

Monumental structures were needed to facilitate such large populations and religious practices (Ching, 2011).

4. *What is the fundamental difference in social function between tomb and temple monuments? How is this expressed in structural form?*

The most obvious difference between a tomb and temple monument is how architecture is expressed through structural form. As a tomb is intended to protect the dead within and prohibit entry, it requires a defensive structural form. Whereas a temple, intended to be a place of congregation, requires an inclusive form, best suited to facilitate spiritual or sacrificial services. The Shang Tombs for example, showcase very little architectural significance, yet fulfill the purpose of which it was intended. On the other hand, the Megalithic Temples express symbolism presented by curvature in its several sacrificial areas (Ching, 2011).

5. *Explain the role of domesticated crop irrigation in the shaping of cities and ritual sites and complexes in the Americas, Africa, and East and Southeast Asia during the period 3500 BCE to 500 CE.*

In West Asia, the existence of natural levees created by the Tigris and Euphrates allowed water to rise above the surrounding land giving farmers the ability to divert some water through the levees and into their irrigation systems (Ching, 2011, p. 17). In south American water was diverted from the river through channels displace into the farmland (Ching, 2011, p. 52). In some cases, this allow farmers to move upstream, depending less on the ocean and expanding their agricultural businesses (Ching, 2011, p. 55). As seen in figure 8.38 on page 246 in the book A Global History of Architecture, water from the nearby river had been diverted into a moat which encompassed the city of Thayekhittaya (Ching, 2011, p. 246). This moat provided water to many areas within the city (Ching, 2011).

References:

Ching, F. D. (2011). *A Global History of Architecture* (Second ed.). Hoboken: John Wiley & Sons Inc.

Figure 1. (2005). *Figure 1 - Photo of Ziggurat of Ur, Hardnfast*. Retrieved from In wiki:
https://commons.wikimedia.org/wiki/File:Ancient_ziggurat_at_Ali_Air_Base_Iraq_2005.jpg

Figure 2. (2017). *Figure 2 - diagram of Egyptian social hierarchy, n.d.* Retrieved from Figure 2 - diagram of Egyptian social hierarchy, n.d., 2017, <http://www.ancient-egypt-online.com/ancient-egypt-social-structure.html>

Kruft, H.-W. (1994). *A History of Architectural Theory from Vitruvius to the Present*. New York, NY, USA: Zwemmer.

Wikipedia. (2017, July 2). *In w.* Retrieved from wikipedia.org:
https://en.wikipedia.org/w/index.php?title=Orion_correlation_theory&oldid=788574784

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Assignment 2: Research Plan and Preliminary Bibliography

Research topics:

Unit #	Case Study	Monument	Location	Theme
2	3	Temple at Abu Simbel	Egypt	The Rationalism of the Greeks and Sculptured Space, 1500 BCE–100 BCE
3	10	Baths of Caracalla	Italy	Architecture as Power Imagery: Imperial Rome, Han China, and Mesoamerica, 200 BCE–200 CE
4	5	Baalbek (Bel Temple)	Lebanon	Architecture as Power Imagery: Imperial Rome, Han China, and Mesoamerica, 200 BCE–200 CE
5	4	Candi Prambanan	Indonesia	Building in the Service of Belief: Monasteries, Pilgrimage Shrines, and Heavenly Monuments, 400 CE–1200 CE
6	15	Angkor Wat	Cambodia	Architecture as Mystical Experience: Cathedral, Mosque, Tomb, and Temple Architecture, 800 CE–1400 CE –
6	4	Chichen Itza	Mexico	Architecture as Mystical Experience: Cathedral, Mosque, Tomb, and Temple Architecture, 800 CE–1400 CE

Information on each monument is reflected in Ching's, *A Global History of Architecture* (2nd ed.) All journal articles are saved and can be accessed on my hard drive. "(PICK)" denotes the prime sources which will likely be cited in my essay. All webpages are accessed through wikipedia.org as listed below.

Preliminary Research & list of scholarly sources:

Temple at Abu Simbel



Figure 6 - Photo of Abu Simbel, n.d., n.d.,
https://en.wikipedia.org/w/index.php?title=Abu_Simbel_temples&oldid=805546264#/media/File:S10.08_Abu_Simbel_image_9930.jpg

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 71 Hoboken: John Wiley & Sons Inc.
- b) Spalinger, A. (1980). Historical Observations on the Military Reliefs of Abu Simbel and Other Ramesside Temples in Nubia. *The Journal of Egyptian Archaeology*, 66, 83-99.
doi:10.2307/3856392
- c) ALLAIS, L. (2013). Integrities: The Salvage of Abu Simbel. *Grey Room*, (50), 6-45.
- d) Abu Simbel temples. (2017, October 16). In Wikipedia, The Free Encyclopedia. Retrieved 02:32, November 6, 2017, from
https://en.wikipedia.org/w/index.php?title=Abu_Simbel_temples&oldid=805546264

Baths of Caracalla



Figure 9 - Photo of Baths of Caracalla, Ethan_Doyle_White, 2016,
https://upload.wikimedia.org/wikipedia/en/5/53/Baths_of_Caracalla%2C_facing_Caldarium.jpg

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 206-207 Hoboken: John Wiley & Sons Inc.
- b) Packer, J. (1999). *American Journal of Archaeology*, 103(1), 163-164. doi:10.2307/506616
- c) (PICK) Oetelaar, T. (2014). Reconstructing the Baths of Caracalla. *Digital Applications In Archaeology And Cultural Heritage*, 145-54. doi:10.1016/j.daach.2013.12.002
- d) Baths of Caracalla. (2017, October 17). In Wikipedia, The Free Encyclopedia. Retrieved 02:42, November 6, 2017, from https://en.wikipedia.org/w/index.php?title=Baths_of_Caracalla&oldid=805831878

Bel Temple



Figure 12 - Photo of The Temple of Bacchus, BlingBling10, 2007,
<https://en.wikipedia.org/w/index.php?title=Baalbek&oldid=808598820#/media/File:Baalbek-Bacchus.jpg>

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 210 Hoboken: John Wiley & Sons Inc.
- b) W., W., S., N., & G., F. (2016). COMBINING PUBLIC DOMAIN AND PROFESSIONAL PANORAMIC IMAGERY FOR THE ACCURATE AND DENSE 3D RECONSTRUCTION OF THE DESTROYED BEL TEMPLE IN PALMYRA. *ISPRS Annals of The Photogrammetry, Remote Sensing And Spatial Information Sciences*, Vol III-5, Pp 81-88 (2016), 81.
doi:10.5194/isprs-annals-III-5-81-2016
- c) (PICK) A., D. (2017). 3D VISUALIZATION AND PHOTO-REALISTIC RECONSTRUCTION OF THE GREAT TEMPLE OF BEL. *The International Archives of The Photogrammetry, Remote Sensing And Spatial Information Sciences*, Vol XLII-2/W3, Pp 225-229 (2017), 225.
doi:10.5194/isprs-archives-XLII-2-W3-225-2017
- d) Baalbek. (2017, November 3). In Wikipedia, The Free Encyclopedia. Retrieved 03:06, November 8, 2017, from <https://en.wikipedia.org/w/index.php?title=Baalbek&oldid=808598820>

Candi Prambanan



Figure 13 - Photo of Prambanan, Arabsalam, 2011,
[https://en.wikipedia.org/w/index.php?title=Prambanan&oldid=807671650#/media/
File:Prambanan_Java245.jpg](https://en.wikipedia.org/w/index.php?title=Prambanan&oldid=807671650#/media/File:Prambanan_Java245.jpg)

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 316-317 Hoboken: John Wiley & Sons Inc.
- b) Soeprapto, S. (2015). Creative by Way of Adaption: Ramayana Relief of Prambanan Temple. *Journal of Urban Society's Arts*, Vol 2, Iss 2, Pp 104-110 (2015), (2), 104.
doi:10.24821/jousa.v2i2.1447
- c) Totton, M. (2011). THE PANGOLIN. *Indonesia & The Malay World*, 39(113), 7-28.
doi:10.1080/13639811.2011.547727
- d) Prambanan. (2017, October 29). In Wikipedia, The Free Encyclopedia. Retrieved 03:07, November 7, 2017, from
<https://en.wikipedia.org/w/index.php?title=Prambanan&oldid=807671650>

Angkor Wat



Figure 14 - Drawing of Angkor Wat, Henri Mouhot, 1860,
https://en.wikipedia.org/w/index.php?title=Angkor_Wat&oldid=808987274#/media/File:Facade_of_Angkor_Wat.jpg

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 392–394 Hoboken: John Wiley & Sons Inc.
- b) (PICK) Evans, D., & Fletcher, R. (2015). The landscape of Angkor Wat redefined. *Antiquity*, (348), 1402-1419. doi:10.15184/aqy.2015.157
- c) Brotherson, D. (2015). The fortification of Angkor Wat. *Antiquity*, (348), 1456-1472. doi:10.15184/aqy.2015.140
- d) Angkor Wat. (2017, November 6). In Wikipedia, The Free Encyclopedia. Retrieved 01:45, November 8, 2017, from https://en.wikipedia.org/w/index.php?title=Angkor_Wat&oldid=808987274

Chichen Itza



Figure 15 - Photo of pyramid of Kukulcán, Daniel Schwen, 2009,
https://en.wikipedia.org/w/index.php?title=Chichen_Itza&oldid=809072679#/media/File:Chichen_Itza_3.jpg

Sources:

- a) Ching, F. D. (2011). *A Global History of Architecture* (2nd ed.). p.p. 432–434 Hoboken: John Wiley & Sons Inc.
- b) (PICK) Hoggarth, J. A., Breitenbach, S. F., Culleton, B. J., Ebert, C. E., Masson, M. A., & Kennett, D. J. (2016). The political collapse of Chichén Itzá in climatic and cultural context. *Global and Planetary Change*, 138(Climatic Change and Archaeology in Mesoamerica: A Mirror for the Anthropocene), 25-42. doi:10.1016/j.gloplacha.2015.12.007
- c) Ardren, T., Manahan, T. K., Wesp, J. K., & Alonso, A. (2010). Cloth production and economic intensification in the area surrounding Chichen Itza. *Latin American Antiquity*, (3), 274.
- d) Chichen Itza. (2017, November 6). In Wikipedia, The Free Encyclopedia. Retrieved 02:08, November 8, 2017, from https://en.wikipedia.org/w/index.php?title=Chichen_Itza&oldid=809072679

Research Plan:

There are many questions I will attempt to answer and explain as I develop informative and opinionative research on the above six monuments. I will first grasp a basic understanding of each monument and later examine further details. Comparing the monuments, I will identify similarities which may link some and differences which may disassociate others. For each monument, I will reference Franis Ching's *A Global History of Architecture*, two Scholarly articles and one website, although not all sources may be used. From these sources, I will begin to assemble general questions and ideas which will eventually frame a key topic and theme, ultimately becoming the thesis of my research essay. The following questions will help guide my research narrative. Although these questions may be general, their insight will aid in the creation of my thesis. In some cases, the answers to these questions may be similar, if not identical. In other cases, the answers may completely contrast.

General Questions:

For each monument,

1. How does geographical location influence architecture?
2. How does specific religious or ideological values influence architecture?
3. How were ideas in architecture spread throughout the ancient world?
4. What was the purpose of such monumental tombs and temple structures?
5. What climatic factors effected the development of ancient monuments and how are these factors different today?
6. What was the impact of ancient building materials and techniques in the shaping of ancient monuments?
7. In what ways are some ancient monuments similar and dissimilar to each other?
8. Why are some monuments still standing today and others are not?
9. What are some noticeable differences in architecture between eras of ancient times and what major events had initiated these changes?
10. To what extent was effort, given to the creation such colossal monuments a representation of ideas embodied my ancient philosophers?

Key Questions:

1. Many ancient monuments contain large-scale structural elements such as columns, arches and sculptures. How does the treatment of these structural elements impact the overall architecture and what meaning may this add to each monument?
2. Religious ideology, reflecting in the architecture of many ancient monuments and has instilled sophistication into otherwise disorderly civilizations. In some cases, these monuments serve as the center of city growth, acting as a template for all surrounding architecture. In what ways have religious ideologies shaped architecture and subsequently the ancient cities surrounding these monuments?
3. Artwork in the form of sculptures, located on the facade of each monument is important to the purpose of which each structure serves. How does the display of art on these monuments invoke meaning and promote sophistication in ancient society?
4. In many ways, architecture has mimicked the socio-economic interface of ancient civilizations. In this context, these monuments aim to reflect culture and value in their designs. What impact did this instill upon the citizens of these civilizations? In what way had these monuments controlled their behaviour?

Preliminary Bibliography:

Temple at Abu Simbel:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) This article offers a historical observation of the military reliefs of this temple.
- Source c) This article discusses the proposed salvation of the temple by architects. It examines ways in which the temple may be preserved under threat of being submerged by the Nile.
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Baths of Caracalla:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) This article focuses on the design, construction and economics of this large-scale bath. It may provide reasons why size was important to the architects.
- Source c) (*PICK*) This article reconstructs the monument as a computer model. This model is useful as modern photos do not capture the building as it once was.
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Bel Temple:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) This article explores the Bel Temple as its re-created through multi-imagery and 3D data. It offers thorough documentation of the structure which still stands and will be useful when studying the spatial layout.
- Source c) (*PICK*) This article reconstructs the Bel Temple as a 3D computer model which offers insight of many absent pieces. In this way, it is easier to understand the monument.
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Candi Prambanan:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) This article discusses art and the elaboration of visually aesthetical aspects showcased on and within the temples. It provides insight into the ancient culture who built this monument.
- Source c) This well-rounded article examines the historical importance of animals and birds reflecting in the orientation of this monument.
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Angkor Wat:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) (*PICK*) This source provides geographical information of the city nearby Angkor Wat
- Source c) This source focuses on the role Angkor Wat plays as a Vishnuite temple during the twelfth and thirteenth centuries
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Chichen Itza:

- Source a) This excerpt from Ching's, *A Global History of Architecture* provides general information of the monument.
- Source b) (*PICK*) This article discusses the political collapse of Chichén Itzá due to both climatic and cultural factors. It expresses the values of this ancient society and demonstrates how the culture is reflected in architecture.
- Source c) This article presents the economic structure of this ancient society and infrastructure including the making of clothing grew as time proceeded.
- Source d) This webpage provides an array of specific knowledge including photos and maps of the monument.

Study Questions:

1. *Choose two case studies from the Study Guide for this unit. Find their sections in A Global History of Architecture, and then examine two online resources covering each of these cases. What is the difference in the organization of information, point of view, analysis, emphasis, visualization, and use of sources between your print textbook and the online media?*

Abu Simbel temples:

Initially, text in Franis Ching's *A Global History of Architecture* discusses the ruler Ramesses, builder of the Abu Simbel temples. It discusses his intentions and reasons which enabled him to carry out numerous large-scale building campaigns. It then describes the temple starting from the exterior and end with the interior. This source is short, only occupying one page (Ching, *A Global History of Architecture*, 2011, p. 71). The online resource at wikipedia.org begins describing the Abu Simbel temples, first by features, then location. It discusses historical information, construction, rediscovery, relocation, solar alignment, climate and finally presents images including photos and maps (temples, Abu Simbel, 2017). This source provides more extensive information on the temples rather than the ruler, Ramesses.

Temple of Amun-Re:

On page 68 of Franis Ching's *A Global History of Architecture* a plan of this monument is shown, labeling the seven main components. The text first denoted "the most important element in the design of this vast temple was the small shrine behind the fifth pylon" (Ching, *A Global History of Architecture*, 2011, p. 68). It discusses this temple, its history and its significances to the rest of the monument. The online resource at wikipedia.org summarizes nearly all information on this monument. It begins by describing the location and context, then an overview of the history. Each Temple or area of the complex is divided into sections which typically show an image and brief description (Precinct of Amun-Re, 2017).

2. *This unit notes a transition to the Bronze Age in the Americas, and the Iron Age in the West (forged iron) and in the East (cast iron). How did the development of these different metals impact societies and building technologies?*

The discovery of forged and cast-iron lead to advancement of building technologies (as well as the creation of many other technologies such as weapons and farming equipment) as the ancient Americas transitioned into the bronze age. This material was used in creating building tools

which made work faster and easier. The manufacture of stronger weapons reinforced ancient militaries whom could efficiently protect citizens, thus creating a better quality of life.

3. *Compare and contrast the development of the pillar in Egyptian and in Greek architecture. How does it reference earlier building traditions and what are its symbolic associations?*

The Djed pillar, emerging in ancient Egypt is believed to represent the creation myth which is the idea of stability and permanence. This pillar was important in the ceremonies and was associated with Osiris, the god of the dead (Ching, *A Global History of Architecture*, 2011, p. 72). In other cases, the raising of these pillars represented resurrection of the dead pharaoh (Ching, *A Global History of Architecture*, 2011, p. 41). Pillars of the Parthenon in Greece are large in diameter and run the entire height of the monument (Parthenon, 2017). They are positioned in series along the outer edge as well as within the monument serving as both expressive and structural elements. Some monuments such as the Asokan Pillars are comprised of freestanding pillars which do not support any physical structure but perhaps support spiritual philosophy. In the case of Abu Simbel pillars were transformed into statues which derived meaning from the gods. (Ching, *A Global History of Architecture*, 2011, p. 71). In all cases, pillars were large and tall and typically arranged in pillar halls or along the perimeter of a building. They represented the power of religious ideology through architectural expression.

4. *What is the fundamental difference between temple (e.g., Amun-Re, Solomon, Poseidon) and palace architecture (e.g., Persepolis, Babylon, Knossos)? How is this expressed in structural form, ritual use, and symbolic expression?*

The most evident difference between temple and palace architecture is the influence of religion. A palace is a residence and does not require any religious influence. On the other hand, a temple evokes substantial religious influence as it is intended to facilitate religious activities such as worship or sacrifice. These temple monuments or elements within are commonly symbolic of certain religious icons. For instance, the Temple at Abu Simbel embodies several sculptures portraying the ruler, Ramesses. The intent of this temple was to protect trade routes and spread Egyptian cosmological beliefs (Ching, *A Global History of Architecture*, 2011, p. 71).

5. *Many societies during this period carried out dramatic experiments in negative space: the Egyptian rock-cut temple at Abu Simbel; the Chaitya Hall (cave shrine) at Karli, India. What similarities and differences do these monuments exhibit as to how they were used for ritual and the expression of religious belief?*



Figure 7 - Interior of Temple at Abu Simbel, William Henry Goodyear, 2014, https://en.wikipedia.org/wiki/Abu_Simbel_temples#/media/File:S10.08_Abu_Simbel,_image_9499.jpg

Both rock-cut temples exhibit similar architecture in forms of spatial layout, scale and construction technique. In plan columns are placed in series along either side of the hall shaped room. The ceilings are high, approximately 45 feet in the case of Chaitya Cave (Karla Caves, 2017). Scale, parallels the importance of strong religious belief and imagery of the respective gods. Due to the strength of the rock material design was limitless. As such, structural integrity has been mimicked in the form of statues which seemingly hold up the ceiling of the temple at Abu Simbel (temples, Abu Simbel, 2017). The chaitya shrine also embodies several elements of structure such as the many columns and ceiling fins. These three main similarities also link the way in which the monuments were used. In both Egypt and India, religious

worship was very important. The ability to connect with the gods was enabled by the congregation of people and through symbolism illustrated within the monuments. Although both monuments are similar they do have some differences. On one hand, the design of the temple at Abu Simbel consists of only rectangularly shaped elements. Whereas the Chaitya Cave seem to demonstrate a spherical theme especially at the ceiling of main hall. It was these themes which identified ancient dynasty and distinguished the two monuments.

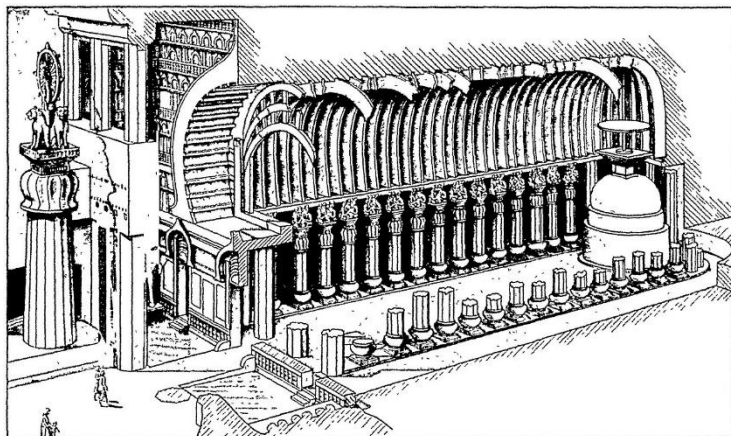


Figure 8 - Drawing of chaitya, Percy Brown, 1955, https://en.wikipedia.org/wiki/Karla_Caves#/media/File:Karli_Chaitya_section_in_perspective.jpg

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Figure 1 - Photo of Abu Simbel, n.d., n.d.,
https://en.wikipedia.org/w/index.php?title=Abu_Simbel_temples&oldid=805546264#/media/File:S10.08_Abu_Simbel,_image_9930.jpg page 2

Figure 2 - Photo of Baths of Caracalla, Ethan_Doyle_White, 2016,
https://upload.wikimedia.org/wikipedia/en/5/53/Baths_of_Caracalla%2C_facing_Caldarium.jpg page 3

Figure 3 - Photo of The Temple of Bacchus, BlingBling10, 2007,
<https://en.wikipedia.org/w/index.php?title=Baalbek&oldid=808598820#/media/File:Baalbek-Bacchus.jpg> page 4

Figure 4 - Photo of Prambanan, Arabsalam, 2011,
https://en.wikipedia.org/w/index.php?title=Prambanan&oldid=807671650#/media/File:Prambanan_Java245.jpg page 5

Figure 5 - Drawing of Angkor Wat, Henri Mouhot, 1860,
https://en.wikipedia.org/w/index.php?title=Angkor_Wat&oldid=808987274#/media/File:Facade_of_Angkor_Wat.jpg page 6

Figure 6 - Photo of pyramid of Kukulcán, Daniel Schwen, 2009,
https://en.wikipedia.org/w/index.php?title=Chichen_Itza&oldid=809072679#/media/File:Chichen_Itza_3.jpg page 7

Figure 7 - Interior of Temple at Abu Simbel, William Henry Goodyear, 2014,
https://en.wikipedia.org/wiki/Abu_Simbel_temples#/media/File:S10.08_Abu_Simbel,_image_9499.jpg

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Figure 8 - Drawing of chaitya, Percy Brown, 1955,
https://en.wikipedia.org/wiki/Karla_Caves#/media/File:Karli_Chaitya_section_in_perspective.jpg

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Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

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3D Visualization and Photo-Realistic Reconstruction of The Great Temple of Bel

This article revisits the Great Temple of Bel in Palmyra as it was in 32 AD, through the use of computer modeling. Significant architectural elements are identified as well as their relationship to the gods, rulers and citizens of Palmyra. Accompanied by images, the text visually describes the landscape, layout and key details of the monument. The wealth of Palmyra is argued to be a result of its location which made the trading of goods possible in the Syrian desert. It is stressed that this reconstruction of the ancient city is now, more than ever, an essential study as the Temple of Bel has recently been destroyed by ISIS in August of 2015 (A., D., 2017).

Palmyra was an Semitic city located in present-day Homs Governorate, Syria which initially acted as a place of congregation for caravan merchants (Palmyra, 2017). The streams, which existed in ancient times provided life and prosperity to many whom ventured the Syrian Desert. This in turn provided the ancient city with the growing wealth required to build such colossal monuments (A., D., 2017). Inhabitants of the city were largely influenced by Greco-Roman culture, speaking mainly Palmyrene as well as Greek. Reflected in the monument were both eastern and western styles of Mesoamerican and Phoenician architecture (Palmyra, 2017). The Temple of Bel, located in the center of the Palmyra compound consecrated to the Mesopotamian god Bel joined by the lunar god Aglibol and the sun god Yarhibol. The courtyard, spanning approximately 200 meters by 200 meters, held houses, protected by 15-meter stone walls. (Temple of Bel, 2017).

The most extensive resource in this article, an excerpt from Pliny the Elder, *The Natural History*, addresses Palmyra as a “stopping point for caravans traversing the Syrian Desert” and recognizes

the “fertile soil and pleasant streams” which also brought travelers to the city (Pliny the Elder, Natural History 5.88.1). The 3D renditions which form the basis of the article are provided by Archéologica 0.2. These images show Palmyra as a 3D textured computer model. Several aerial shots are taken as well as ground views capturing the interior of the compound. Details such as ancient treescapes and waterways are also considered in the model (Denker, A., 2016). In several instances, the author refers to the images when describing the monument. A publication by Dawkins and Wood discusses the rediscovery of the monument which had once been buried under sands of Syrian desert prior to the 1750’s. Enriching the theme of rebirth, this publication strengthens the author’s attempts to describe the monument as it originally stood (Wood, R., 1753).

In analysis of Palmyra, the author connects the cited publications and conveys a systematic description of the monument with reference to the computer model. It is explained how several of these publications had aided the reconstruction of the monument such as the 1972 publication of Seyrig which “compiled and presented almost everything we need to know for the restitution of the Temple of Bel” (Seyrig, 1975). The information provided by other sources, is assembled in an order which allows the monument to be described starting from its rediscovery in 1753 and ending with its destruction in 2015. In turn, these sources enable the author to answer questions such as, what did Palmyrian society look like? How was the monument designed? Why was it important? (A., D., 2017)

Ultimately this article aids our visual understanding and triggers our imagination. A revival of a current memory, it highlights the importance of a reconstruction by conveying a descriptive and unparalleled narrative, piecing together the ancient city of Palmyra. Through the use of computer modeling we can clearly see Palmyra, the Temple of Bel and consequently understand the

citizens of this ancient city. We can identify the layout, scale, landscape and purpose of the monument. The wealth of this ancient city was notably immense, relating to the prospering caravan merchants who traversed the Syrian Desert and are argued to be the reason why this wealth was reflected on the monuments in the form of bronze gilded Corinthian columns (A., D., 2017). Although this article describes Palmyra in-detail, it is not mentioned how the monument was originally constructed. Instead the text describes how the city was believed to look like at its peak in 32 AD. The ostentation of Palmyra's infrastructure is confirmed to be triggered by the abundance of trade in the Syrian desert and a once fertile landscape which provided an oasis. These two factors as well as the obvious importance of religious ideology are what ultimately determined the luxury and detail of each structure. It is argued that this monument, "the most eloquent and stupendous monument of the Roman East" should forever exist in our archive as a testament to ancient mankind (A., D., 2017).

The implications this article imposes are important to many who research this great monument. As nearly the entire city of Palmyra is now destroyed, the description of its in-tact and complete layout will certainly aid our understanding in ways which may have not been possible without this article. For instance, the computer model conveys a visual depiction of the landscape, showing how the tetrapylon marks the crossroads of *Cardo* and *Decumanus*, as seen in figure 1. These images are also useful when studying the Temple of Bel. Images captured from within the temple show us the intricacy of the many bronze gilded decorations which clad the ceilings, as seen in figure 9 and 10 (A., D., 2017). The insight provided by this article will certainly aid my own research and perhaps benefit my understanding of other ancient monuments which may be compared.

Study Questions:

1. *Choose two case studies from the Study Guide for this unit. Find their sections in A Global History of Architecture, and then examine two online resources covering each of these cases. What is the difference in the organization of information, point of view, analysis, emphasis, visualization, and use of sources between your print textbook and the online media?*

Baths of Caracalla:

Text of *A Global History of Architecture* discusses Roman Baths. The text begins explaining how the ancient Roman people use these baths, stating that most citizens were able to afford the entrance fee. It is explained how these baths, although a secular space, did not consecrate to any specific god, the purpose being purely for leisure. The text then describes the Baths of Caracalla, noting the many areas of the monument and accompanied by a floor plan. These areas are labeled 1-7 (Ching, F. D, 2011, pp. 206-207). Only two pages in the book are reserved for the Roman Baths, although several sketches help illustrate the monument.

The online resource wikipedia.org, begins describing the Baths of Caracalla as “the city's second largest Roman public baths, built between AD 212 (or 211) and 216/217”. The historical introduction explains who inhabited the monument, where it was located and how it was built. The text chronologically discusses how the monument was used throughout the 5th – 9th century and 12th – 19th century and the modern excavation and restoration period. A brief overview is outlined which explains the dimensions of the building. As the information transitions into further detail we discover more about the interior of the baths and the works of art once displayed within the building. Photos and drawings accompany each section of the webpage (Baths of Caracalla, 2017).

The lecture, presented by Professor Kleiner first discusses other Roman monuments which compare to the Baths of Caracalla. The architecture is noted to be consistent throughout ancient Rome, with the use of similar building methodologies implemented by the key architects. Exposed brick is commonly seen on many ancient structures. The

lecture concludes with a complete overview of the colossal Baths of Caracalla. Images of the present day ruin are shown as well as architectural drawings which indicate the layout of the building (YaleCourses, 2009).

The Pantheon:

The text in *A Global History of Architecture*, Begins describing Hadrian, a Roman emperor who erected numerous buildings in Rome such as the Pantheon (126CE). Notably, this temple undergoes many repairs as it has served as a church for centuries. The interior space is dominated by the impressive dome ceiling which covers the majority of the building. It is then explained how architects of the temple attribute the design of the dome structure to Greek and Egyptian heritage. The mathematics required to constructs such geometry were introduced to Hadrian who had once lived in Alexandria. Lastly, the text discusses the elaborate architectural expression of the interior spaces and materials used in construction (Ching, F. D, 2011, pp. 199-201). Throughout the section, images and sketches accompany text, showing a map, a section, and several interior photos.

The online source wikipedia.org begins describing the monument as it once was during the ancient Roman era and how it continues to be used as a church today. The text then explains the monument chronologically, starting at its birth in 29 BC. In the medieval era, the building was given to “Pope Boniface IV, who converted it into a Christian church”. In the renaissance era “Pope Urban VIII (1623 to 1644) ordered the bronze ceiling of the Pantheon's portico melted down”. It is explain how the structure changed shape as the ground elevation changed, with respect to the podium level. Today however the building has been excavated to its original elevation which unearthed the entrance staircase. The text concludes by describing the interior and the modifications made by several popes. Photos and drawings accompany each section of the webpage (Pantheon, Rome, 2017)

The article at ancient.eu describes the Pantheon, how it began, what its purpose was and where it was built, referencing the builder and emperor, Hadrian. The text is broken into five parts starting with the introduction, then an exterior description, then an interior description, then a video and finally a description of the modern history. The article is

somewhat brief, summarizing the monument. Although several images accompany the text as well as a short video (Cartwright, 2012).

2. *The Romans invented and perfected the use of concrete, while the Chinese built primarily using compacted-earth platforms supporting wooden structures. Why the difference in materials and method?*



Figure 1 - Travertine Brick, Ustill, 2008, https://en.wikipedia.org/wiki/Travertine#/media/File:Kalktuff-Block_Schloss-Tuebingen_2.jpg



Figure 2 - Rammed Earth Wall, Andrew Dunn, 2005, https://en.wikipedia.org/wiki/Rammed_earth#/media/File:Rammed_earth_wall_surface.jpg

In any case, the material of choice is always subject to its availability in the area which a building is being constructed. For instance, the Colosseum in Rome was built from of travertine, known to ancient Rome as *lapis Tiburtinus*, Tuff and brick-faced concrete (Colosseum, 2017). Travertine, as seen in figure 1, a form of limestone, was mined locally which made transportation considerably easier (Travertine, 2017). It also contains properties which allow it to withstand heavy loads and is resistant to erosion. Tuff is “a type of rock made of volcanic ash” which was also locally found and is a structural material (Tuff, 2017). The Great Wall of China is made of stone, brick, rammed earth (seen in figure 2) and wood, materials gathered from local sources. “Transporting the large quantities of materials required for construction was difficult, so builders always tried to use local resources.” (Great Wall of China, 2017) In the Plains rammed earth was a more suitable material as it was locally found, opposed to in the mountains where stone was more plentiful. “Before the use of bricks, the Great Wall was mainly built from rammed earth, stones, and wood.” (Great

Wall of China, 2017) Nearly the entire section of (rammed earth) Qin Walls have been eroded. The Ming construction, on the other hand was stronger. “Bricks were heavily used in many areas of the wall, as were materials such as tiles, lime, and stone.” (Great Wall of China, 2017) It seems brick and stone had replaced rammed earth as the main building material as ancient China transitioned into the Ming Dynasty, despite the uneasy transportation of a heavier material.

3. *If the Greeks perfected the architectural and symbolic use of the column, the Romans mastered the structural and decorative use of the arch and the wall. Using an illustrative sketch with notations, and citing two cases (e.g., the interior of the Pantheon in Rome; the exterior of the Colosseum in Rome; or the cella, the Temple of Bacchus; the Bel (Marduk) Temple at Baalbek; or any triumphal arch), explain how the Romans used this fornix system of ornamentation.*

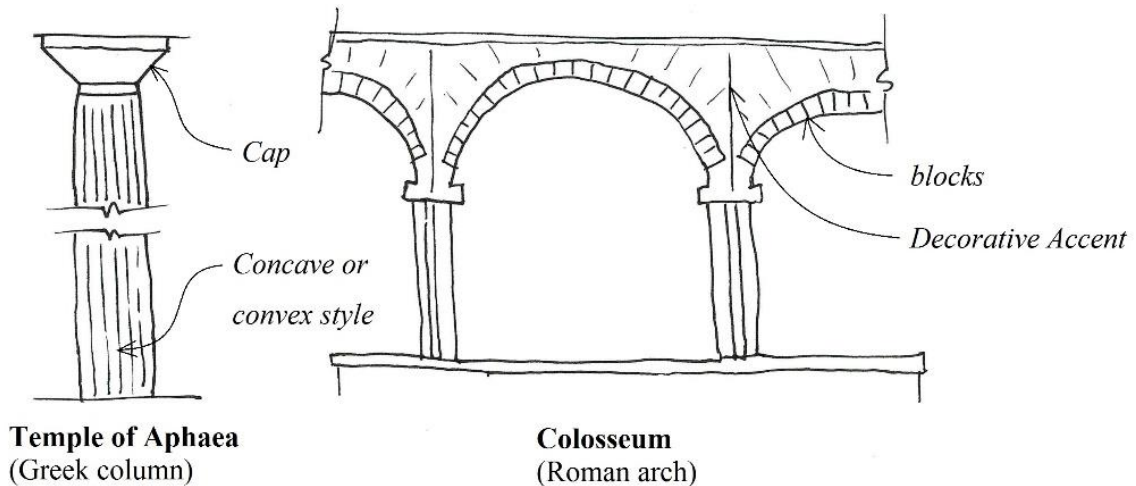


Figure 18 - Sketch of Greek versus Roman Architecture, Nolyn Caldwell, 2017

As we can notice from figure 3, many elements of design are shared between Greek and Roman architects. Temple of Aphaea is a prime example of Greek columns. The columns of this monument feature convex vertical bands which run the entire length. A cap merges the perpendicular shapes of the column and floor above (Temple of Aphaea, 2017). “The Romans first adopted the arch from the Etruscans” and it began appearing in Roman architecture in the 1st century AD. In many cases the arch was used in the form of a Triumphal arch, which is a “monumental structure in the shape of an archway with one or more arched passageways” (Ancient Roman architecture, 2017). These ornamental structures such as the Arch of Titus portrays architecture similar to the Temple in Jerusalem, depicting the golden candelabrum, engraved into the south panel (Arch of Titus, 2017). Commonly, the soffit of an arch seems to be an ideal place for artwork which in all Roman architecture is evident. The arches of the Colosseum are symmetrical and in this case the detail is not very elaborate. However the horizontal bands which run along the floor line certainly add some detail.

4. *This was the age of imperial states with aggressive colonial expansionist ambitions, the two dominant in the world order being Rome and China. Explain, giving examples, how these two imperial powers used architecture differently to control and define their colonial outposts.*

In both ancient Rome and ancient China architecture was used in ways which controlled and defined their colonial outposts. In Rome, Emperor Caracalla built the Baths of Caracalla as a monument of political propaganda which he anticipated would forever carry his legacy. These baths, open to the public, improved Caracalla's popularity as the leisurely and luxurious experience of the baths were associated with the ruler. The baths also instilled a sense of equality into ancient Roman society (BATHS OF CARACALLA, 2015). In China, The Great Wall of China "helped defend the empire against the Manchu invasions that began around 1600". The wall "held the heavily fortified Shanhai Pass, preventing the Manchus from conquering the Chinese heartland" (Great Wall of China, 2017). Apart from defence, the wall served to enable the implement of duties of goods traveling along the Silk Road. It also controlled the immigration and emigration of travelers and conveniently provided a transportation corridor along the wall.

5. *Between 200 BCE and 300 CE large urban concentrations developed the world over. One feature of these early cities was the integration of sacred and secular spaces. Explain the similarities and differences in how this was expressed in Teotihuacán, Diocletian's fortress palace in Roman Split, and the Chinese Mingtang and Biyong Complex. What was it about geography and climate that might have prompted the development of these quite different building technologies?*

There many differences and similarities of sacred or secular spaces between the cases of the Teotihuacan, Diocletian's fortress palace and the Chinese Mingtang and Biyong Complex, which were perhaps influenced by geography and climate. As the most popular religious centre in pre-Columbian Americas, Teotihuacan became what is known as an astronomical organization. The monument reflected cosmic signs focused by processional axial paths running east-west and the other, running north-south. The Temple of the Feathered Serpent, the site of many sacrificial ceremonies, was flanked by two apartment compounds where the city rulers likely lived. The temple was decorated

with murals and serpent heads with low-relief bodies which were integral to military iconography. The main building material used in the construction of Diocletian's palace were white limestone and marble which were locally found, taken from the nearby riverbeds. Although some finishing materials were imported such as fine marble and the several granite sphinxes, which were taken from the site of Egyptian Pharaoh Thutmose III. In addition to building his palace, Diocletian erected three temples to the west (Diocletian's Palace, 2017). One of these three, the Temple of Jupiter was "dedicated to the supreme Roman God and Diocletian's "divine father", Jupiter" (Temple of Jupiter, Split, 2017) Depictions of the gods Victoria, Triton, Helios, Hercules, Jupiter and Apollo are displayed above the entrance, attributing the beliefs of the ancient Croatia people. The Mingtang-Biyong Complex located in the Han Dynasty of ancient China, was an important ritual site for citizens. It facilitated sacrifices which were meant to be performed on only high grounds. The monument was sited adjacent to the Feng and Zao rivers. The Wei Valley was a fertile land, providing grain to other areas in the dynasty and thus large storehouses were built.

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Figure 1 - Rammed Earth Wall, Andrew Dunn, 2005,
https://en.wikipedia.org/wiki/Rammed_earth#/media/File:Rammed_earth_wall_surface.jpg

Figure 2 - Travertine Brick, Ustill, 2008,
https://en.wikipedia.org/wiki/Travertine#/media/File:Kalktuff-Block_Schloss-Tuebingen_2.jpg

Figure 3 - Sketch of Greek versus Roman Architecture, Nolyn Caldwell, 2017

Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

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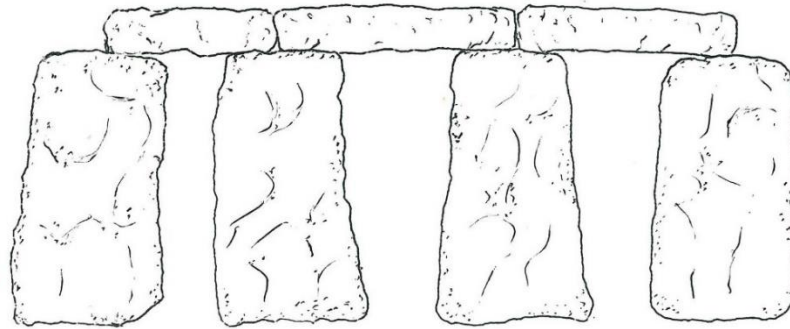


Figure 19 - Stonehenge Lintel Sketch, Nolyn Caldwell, 2018

In its most simplest form, the lintel which joins freestanding rock of the Stonehenge (figure 1), serves as a symbolic element, perhaps suggesting the upholding of cosmic figures (Ching, F. D, 2011, pp. 47-49). The 50-ton stone, towering 16ft above grade offers no bearing for any structure above. Its rudimentary form curves slightly inwards, retaining the cylindrical shape of the monument (Stonehenge, 2018). These stones are fastened by tongue and groove joints which are uncommon to many stone structures such as the Gate of the Sun (figure 3) (BUILDING STONEHENGE, 2018). In the presence of these colossal standing stones, the need for detail may not be as important as in the case of the Sun Temple (figure 2), where a structure is comprised of many small, less significant elements, which create a hierarchy. Although we may find the Stonehenge unsophisticated, its lack of detail perhaps emphasizes the unprecedented structure which would otherwise be unnoticed or at least undervalued by attributing detailed artwork.

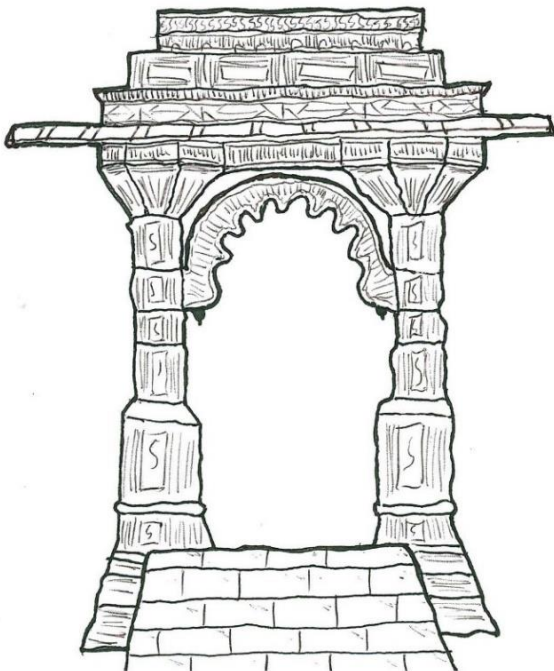


Figure 2 - Sun Temple Lintel Sketch, Nolyn Caldwell, 2018

As a purely ornamental element, this lintel illuminates a culture of great sophistication. On the Sun temple, depictions of Shiva, destroyer of evil and Vishnu, god of protection, are carved in various forms into the sandstone (Sun Temple, Modhera, 2017). Both figures represent defence and protection which was important to the ancient Bhima's region as invasions were not uncommon (Bhima I, 2017). The annotation is unique in both its style and symbology. The softer sandstone, unlike the solid stone of the Stonehenge and Tiwanaku, allowed a rich annotation of nearly every space on the Sun temple. The ease of materials in any case certainly effects an opportunity for detail.

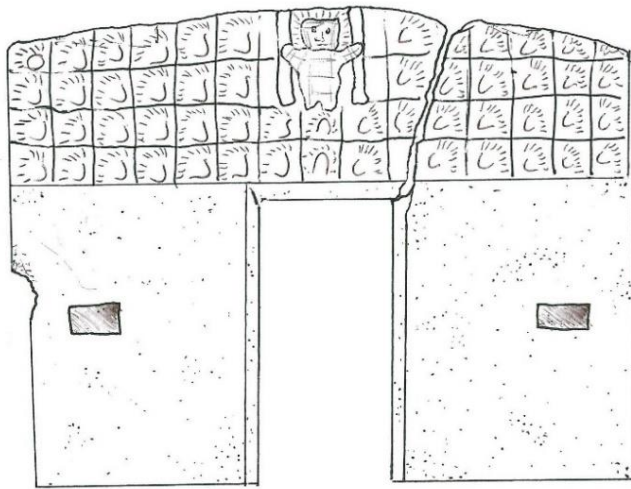


Figure 3 - Gate of the Sun at Tiwanaku sketch, Nolyn Caldwell, 2018

Dubbed the Gate of the Sun, (figure 3) this stone marked the entrance to the Kalasaya Mound of the ancient Tiwanaku empire, (Ching, F. D, 2011, p. 267). Yielded from a single piece of megalithic stone, it stands approximately ten feet tall and thirteen feet wide. The lintel is adorned by forty-eight characters, representing the form of winged effigy, centred by a figure of a man, believed to be the Sun God (Gate of the Sun,

2017). Unlike the Stonehenge, this simplistic structure annotates cultural figures, despite the difficulty of carving solid stone.

As an attempt in creating the largest enterprise seen by medieval Europe, the Chartres Cathedral, (figure 4) showcased French gothic architecture which played an important role as a Catholic church in 1200CE (Ching, F. D, 2011, p. 420). The three most impressive archways stand at its west façade. The shape of these archways are tiered multiple times, becoming smaller nearer to the interior, giving a larger overall appearance. Depictions of angels, an eagle, the twelve Apostles and Christ are carved in extraordinary detail into the stone lintel.

The way a culture represents themselves through art and architecture, whether sophisticated or unsophisticated, enlightens our understanding of the ancient civilizations which built these great monuments. On one hand, the Stonehenge and Gate of The Sun appear primitive, lacking

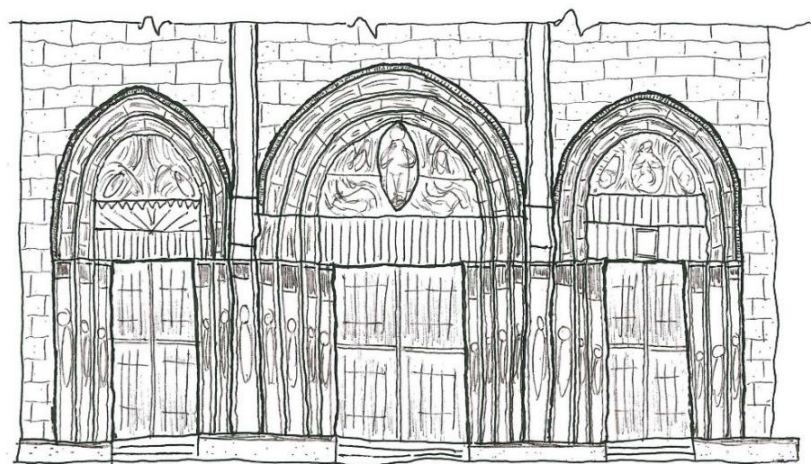


Figure 4 - Chartres Cathedral Lintel Sketch, Nolyn Caldwell, 2018

detail, yet impress us in both their scale and technique. The Sun Temple and Chartres Cathedral embody great amounts of symbology in forms of detail and artwork. A lintel may not only bear a

structural load, its primary purpose is perhaps in captivating the public eye as an influence of sorts, like we have seen in these three cases.

Study questions:

1. *Choose two case studies from the Study Guide for this unit. Find their sections in A Global History of Architecture, and then examine two online resources covering each of these cases. What is the difference in the organization of information, point of view, analysis, emphasis, visualization, and use of sources between your print textbook and the online media?*

Hagia Sophia:

Global History of Architecture:

This section describes a brief history of the monument, noting both the civilization which built it and the reason for its being. Accompanied by a floor plan, a section and an isometric sketch, the text describes how the structure works and how it may be vulnerable in the event of an earthquake (Ching, F. D, 2011, pp. 272-273).

Online resource:

1. The Wikipedia Hagia Sophia article is organized into chapters beginning with Ch 1. History, Ch 2. Timeline, Ch 3. Architecture, Ch 4. Notable elements and decorations. The text is written from an impartial point of view concentrating mainly on the evolution of the monument and its impact on the various societies who used the building over the period of many millennia (Hagia Sophia, 2018).
2. At hagiasophia.com information of the monument is primarily displayed visually, in the form of photos. The webpage labels the featured areas such as “Mosque Of Sultans”, “Tunnels Of Hagia Sophia” and “In The Depths Of Hagia”. For each, a brief outline is given which most concerns the spiritual aspect of the monument (Hagia Sophia, 2018).

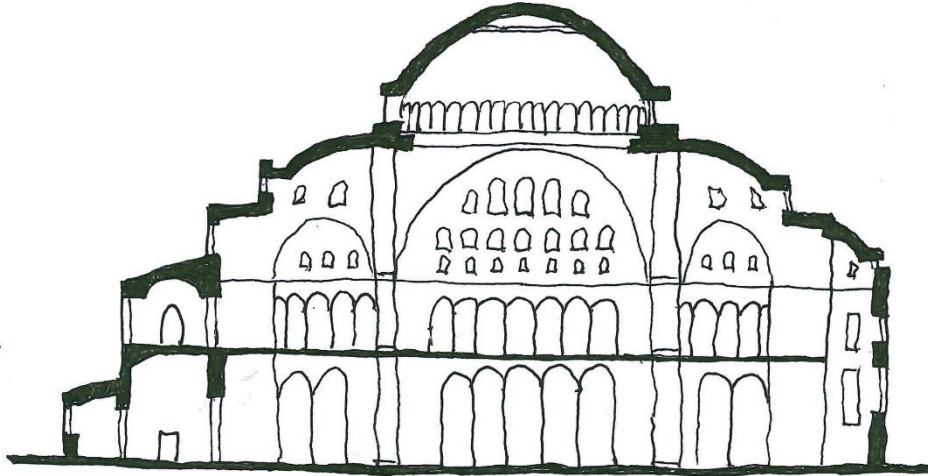
Jetavanarama Stupa:

Global History of Architecture:

The text begins describing Anuradhapura, its economy and what development took place during the 4th century BCE. The five major stupas are noted as been built by kings who were keen to support particular Buddhist sect, such as Thuparama (245BCE), Ruvanvelisaya (140BCE), Lankaram (85BCE), Abhayagiri (ca. 280 CE). Three images including a photo of Jetavanarama Stupa, a photo of Thuparama Stupa and a sketch of Thuparama Stupa support the text (Ching, F. D, 2011, p. 218).

Online resource:

1. At wikipedia.org, the Jetavanaramaya is described in many sections. The first section outlines the physical parameters of the Stupa, such as its height, width and volume. The second section explains how, why and who constructed the building. The third section describes how the employment of creative engineering allowed this structure to become the worlds tallest Stupa. A small passage noting the late history and conservation of the monument is also included. Images accompany each section (Jetavanaramaya, 2018).
2. The willgoto.com travel guide displays photos, likely taken by tourist. The first photo shows the Stupa from a far. The second photo shows a close-up of the exterior cladding and the third photo captures cultural figures displayed within the building. Although the text is brief, it highlights the monument as an interesting destination given the unique scope of the architecture (willgoto, 2018).



2. *Hagia Sophia was one of the largest domed structures ever built, an engineering marvel in its day. Using either sectional or three-dimensional sketch diagrams, explain how the arcuate walls, roofing, and support systems worked.*

The structure of the Hagia Sophia is unique in the sense that the structure transforms shape from circular at the top, to rectangular at the base. As we see in section (figure 5), the combination of supporting half-domes, quarter-domes, and massive piers made the transfer of loads from the top dome possible. Located at the four corners, triangular shaped structural transitions called pendentives, bear the load of the scalloped dome above. Reinforced by the attached half-domes, on either side of the building, these pendentives are the most essential load-bearing element. At every opening, an arch supports structure, which may otherwise not withstand shear-forces, especially in the earthquake prone area of Turkey (Ching, F. D, 2011, pp. 272-274).

Figure 5 - Section of Hagia Sophia, Nolyn Caldwell, 2018

3. *St. Peter's, Rome; Monte Albán, Mexico; the stupa complex at Anuradhapura: all seemed to serve a secondary role, that of commemorating important people either via reliquaries or entombment. Explain how each structure accomplished this within the context of quite different beliefs and practices.*

In Rome, St. Peter's served to embrace the newly implemented Christianization of its society, whom had formerly serviced Greco-Roman polytheism. As a result, St. Peter's offered both a burial site for the wealthy and a sanctuary for family celebrations. Several Popes used their own architects when designing the structure, commemorating exclusively the Popes rather than the architects. Directed by Pope Julius II, architect Donato Bramante created many versions of the building plans which were eventually brought to fruition by architect Michelangelo many years later (Ching, F. D, 2011, p. 534). The ancient city of Monte Albán, in Mexico was undoubtedly a place of the elite, who occupied the several palaces and surrounding hillsides. The city intended to re-create the Zapotec conceptual order in ways of its high-class identity and sacred geographical representation. The Temple of the Dancers, stands at the center of the city, honouring the victims of human sacrifices and humiliation, which in some cases required the mutilation of the genitals. Statues of these "Dancers" are displaced in the temple (Ching, F. D, 2011, pp. 258-259). The Thuparamaya Stupa in Anuradhapura served as a Buddhist temple in the 200^{CE} era (Ching, F. D, 2011, p. 218). Built by King Devanampiya, the building aimed to preserve Gautama Buddha, also marking the introduction of Buddhism into the Sri Lanka region (Thuparamaya, 2018). This initiated the great building period which saw the creation of many structures such as the Jetavanarama Stupa built by King Mahasena (Anuradhapura, 2018). During this time, Buddhism seemed to influence the need for further development of the city and thus fortifications, including a wall and mote were made by King Vasabha. Each king appeared to make their mark when creating a structure, intended to serve the newly incorporated ideology of Sri Lanka (Ancient stupas of Sri Lanka, 2018).

4. *Using an elevation sketch, illustrate the structural and decorative elements of the pagoda at the Horyu-ji Temple. Annotate it with the names of the parts and their symbolic significance in Buddhist belief.*

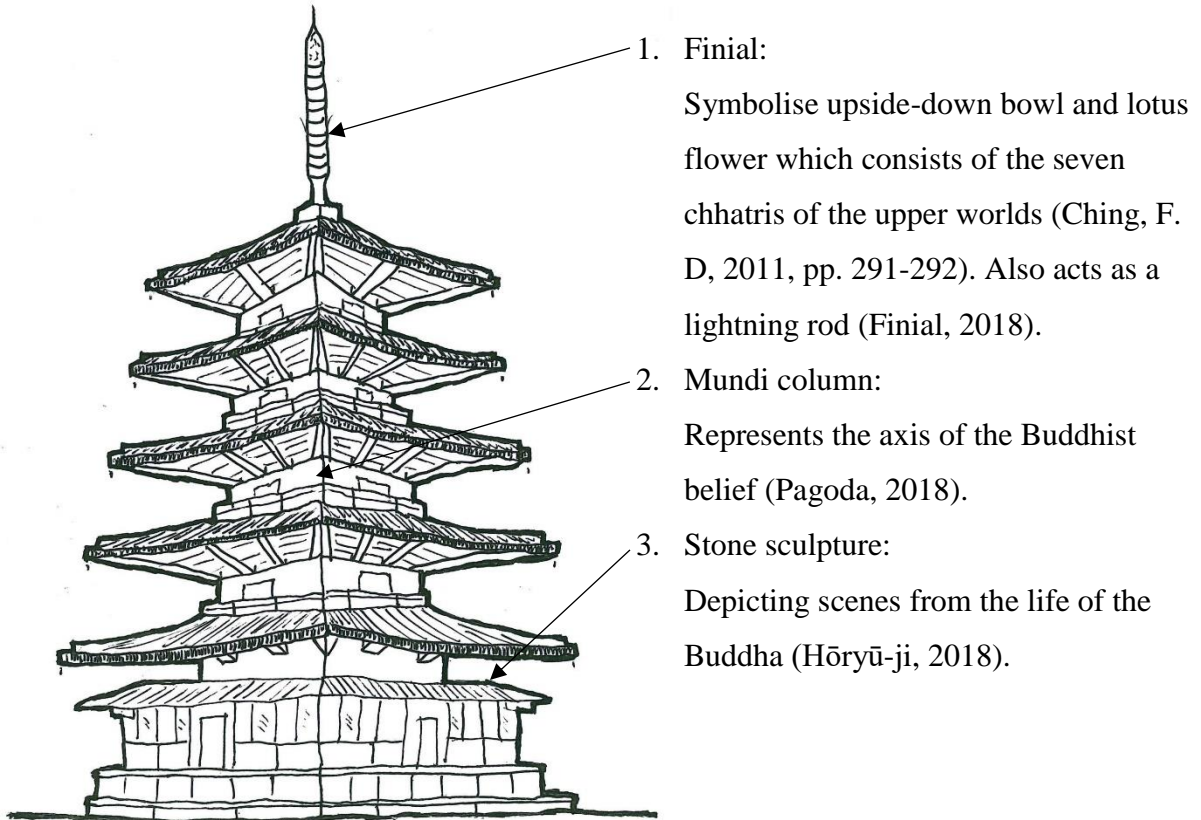


Figure 6 - Elevation of pagoda at the Horyu-ji Temple, Nolyn Caldwell, 2018

5. *The central-plan baptistery, attached or free-standing that developed in the early Christian church, both in the East and in the West, combined a number of powerful symbolic elements. Annotate a plan of the baptistery at Ravenna (A Global History of Architecture p. 253) indicating why this “sacramental rite” (baptism) was given special architectural treatment and how the building elements express the theology of this ritual.*

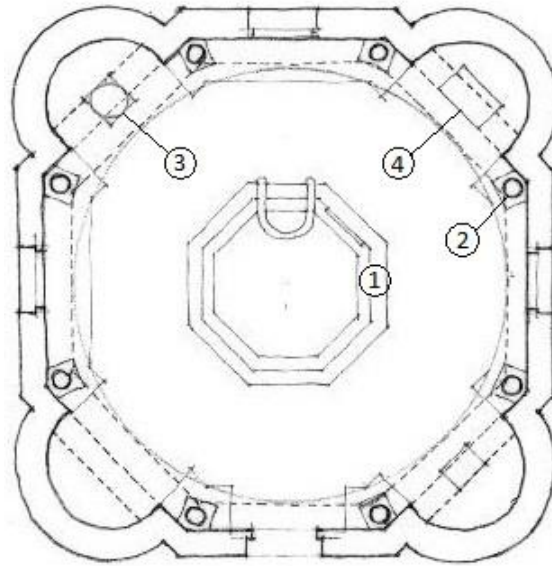


Figure 7 – Annotated plan of the baptistery at Ravenna, Francis D.K. Ching, 2011, *A Global History of Architecture* (2nd ed.), p. 253

The baptistery at Ravenna was unmistakably of place of great merit. As a sacred facility, baptisteries often expressed their own architectural symbology despite being built as additions to churches in many cases such as, St. John and St. Mary, Ephesus. Baptism was required as the first step in entering the Church community. Those who were not baptized were not entirely accepted by the Church. Unlike St. John, the baptistery at Ravenna is freestanding and embodies an octagonal shape. This shape, later emulated throughout Italy, originates from the holy fountain(1) placed at the center of the baptistery. Columns(2) at each joint also aid in defining this shape (Ching, F. D, 2011, p. 253). In one corner(3), a nook provides space for a urn and in the other corner(4) a nook provides space for a table, both of which were used during the baptizing ceremony (Ravenna Baptistery of Neon, 2018). Artwork clads the ceiling which depicts Baptist John baptizing Jesus in the Jordan River.

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Figure 1 - Stonehenge Lintel Sketch, Nolyn Caldwell, 2018

Figure 2 - Sun Temple Lintel Sketch, Nolyn Caldwell, 2018

Figure 3 - Gate of the Sun at Tiwanaku sketch, Nolyn Caldwell, 2018

Figure 4 - Chartres Cathedral Lintel Sketch, Nolyn Caldwell, 2018

Figure 5 - Section of Hagia Sophia, Nolyn Caldwell, 2018

Figure 6 - Elevation of pagoda at the Horyu-ji Temple, Nolyn Caldwell, 2018

Figure 7 – Annotated plan of the baptistery at Ravenna, Francis D.K. Ching, 2011, A Global History of Architecture (2nd ed.), p. 253

Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

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Tutor: Lenore Hietkamp
Date: April 11, 2018

In many ways the creation of ancient monuments initiated new forms of social structure, enabling the advancement, organization and sophistication of mankind. Ideology, whether as Christianity in Europe, Buddhism in Asia or Polytheism in Egypt posed to influence ancient civilizations through art and architecture. Consequently, social hierarchy is often reflected in early architecture, defining a division and control of the classes. These enterprises, embodying the most holy figures, showcased leading styles of architecture which became instilled upon the surrounding cityscape and in some cases mimicked by distant societies. Through elements of art integrated into the structure of these monuments, a message was conveyed to impress, protect or preserve faith in the state.

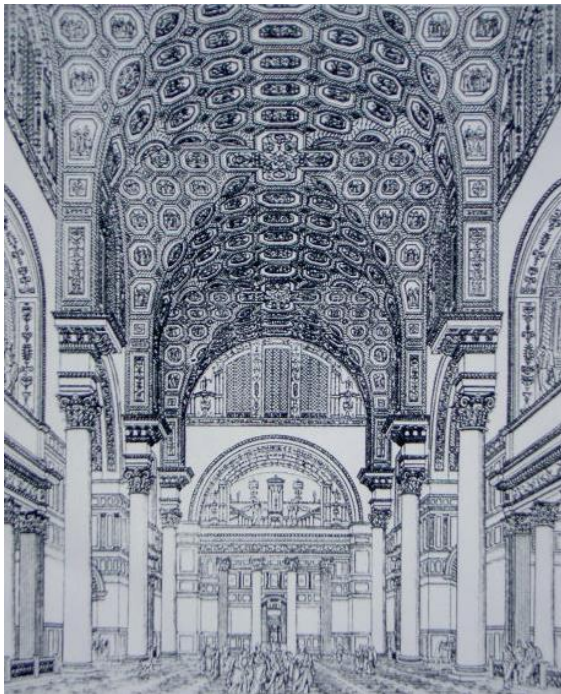


Figure 22 - reconstructive drawing from 1899, Dinah, 2006, https://upload.wikimedia.org/wikipedia/commons/2/2e/Caracalla_innen.png

Throughout time ancient regimes have used architecture as means of political propaganda intending to control and dictate the lives of their citizens. In imperial Rome, monuments such as the Baths of Caracalla, the Sant'Andrea al Quirinale and the Palace of Versailles were often used as vehicles for state propaganda. The scale of these buildings was unprecedented (figure 1). They were given lavish interiors, decorated with inscriptions, trophies, and sculptures which suggested nationalism, a healthy economy and a powerful empire (Ching, F. D, 2011, pp. 206, 536, 565). Embodying the imperial majestic, these decorations formed a hierarchy, highlighting the importance of spatial order. As discussed by Janet DeLaine in *The Baths of Caracalla: A Study in the Design, Construction, and Economics of Large-Scale*

Building Projects in Imperial Rome, spatial order was key in defining the function of the thermae. The most significant spaces; natatio, the palaestrae, the calidarium, and the frigidarium were treated with the most expensive finishes. While less significant rooms such as the apodyteria and the vestibules, showcased little flamboyance (Packer, 1999). The Baths of Caracalla also played an important role as a recreation facility for most citizens. It instilled the practice of hygienic rituals, resurrected from Greek culture which had stressed the importance of physical fitness. Sports and education were also associated. Although public baths were not new to ancient Romans, the Baths of Caracalla prompted class neutralization which had rarely been attempted in ways of infrastructure. As entrance fees were affordable for most, both the wealthy and poor could interact, thus embracing a collective Roman populist (Ching, F. D, 2011, p. 206).

On a larger scale, the Buddhist temple, Angkor Wat of Southeast Asia, initiated the militarization of the Khmer Empire in 1200CE (Angkor Wat, 2018). Built by King Suryavarman, this colossal monument was dedicated to Vishnu, one of the principal deities of Hinduism (Vishnu, 2018), but also served King Suryavarman as his buffer into the afterlife. The organization of architects, priests and labour men was unlike any other project of this scale and ultimately was the key to his success in completing the monument before his death in 1145-1150 AD (Ching, F. D, 2011, pp. 392-393). As the site was densely forested, an army of men were commissioned to prepare the land, a mammoth five-hundred acres, prior to construction. Despite the difficulties of primitive tools, the land was conquered and construction begun. In a short span of approximately thirty-five years the temple complex was established. The astonishing efficiency and organization of the Yasodharapura kingdom enabled a faster development period as compared to similar establishments of the era in Europe, which took nearly two-hundred or perhaps three-hundred years to erect (Geo, 2014).

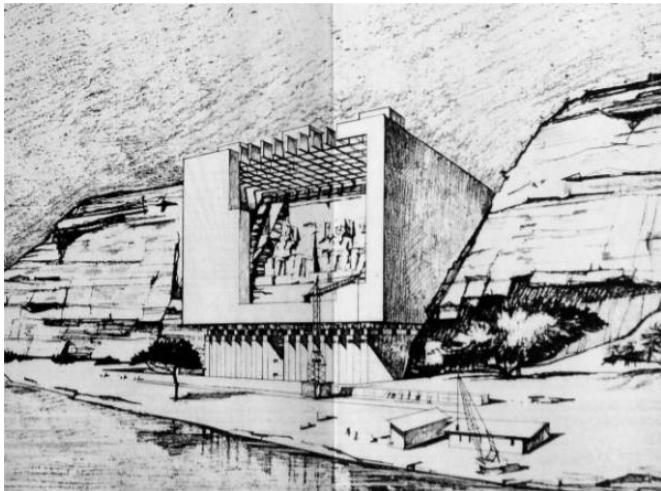


Figure 23 - purposed reconstruction of Abu Simbel, 1968, Torgny Säve-Söderbergh, *Integrities: The Salvage of Abu Simbel*

In modern-times the salvation of an ancient monument once again brings to life the comradery of a global culture in pursuit of preserving a lasting part of their antiquity. In Egypt the Abu Simbel temples stand nearly 200 meters higher and 600 meters back from where they are originally built in 1260BCE. Under threat of rising water levels due to the creation of the Aswan Dam, both the Temple of Ramesses II and Temple of Nefertari were posed to relocate (Abu

Simbel temples, 2018). Argued by Lucia Allais in her article; *The Salvage of Abu Simbel*, the establishment of the World Heritage Convention (Unesco), signed by the United Nations in 1972, saw a rise of political empowerment across the world. The political power of preservationists soon shifted from conserving individual monuments to preserving entire environments (Allais, 2013, p. 7). This would affect ancient buildings everywhere and overrule their local governments, in some cases prompting restoration work or a complete salvation (Allais, 2013, p. 8). The moving of Abu Simbel inevitably triggered much debate between ethical and scientific discourses (Allais, 2013, p. 14). The idea of preserving “the material wholeness of the work of art” as theorized by Cesare Brandi in his 1963 Theory of Restoration, was tested in this salvage. This theory often prompted the marriage of ancient and modern technologies, as in the case of the Tower of Pisa, where scaffolding around the tower was proposed by

Riccardo Morandi. The imagination of envisioners across the globe gave birth to new ideas revolving the relocation of the monument. Sketches such as figure 2 circulated the global community for funding, however were criticized for their over-dramatized new structure (Allais, 2013, pp. 16-17). The temples were ultimately reconstructed as they were, yet at a higher elevation. As a project of great merit, the salvage of Abu Simbel began the unification of a multinational team of archeologists, engineers and skilled heavy equipment operators, unlike ever before. UNESCO banner and the power of the preservationist became recognized around the globe (Abu Simbel temples, 2018).



Figure 24 - window 116 of Chartres cathedral, James Bugslag, 1998 *Ideology and Iconography in Chartres Cathedral: Jean Clément and the Oriflamme*, p.p. 493

In many cases, artistic elements such as paintings, stone sculptures or perhaps stained-glass, inform us in ways which the persuasion of architecture may lack. The Cathedral became influential as building technologies shaped new styles of French Gothic architecture in 13th-century Medieval Rome and in modern eras (Chartres Cathedral, 2018). In the case of the Chartres Cathedral, the flying buttress or arch buttress, allowed canyon like interior facades, bearing the load of walls from the exterior. This was done at the cost of the exterior elevations which dissolved by the addition of numerous flying buttresses. Nonetheless, these structural elements forced an immense presence on the many sacred spaces within the Cathedral (Ching, F. D, 2011, p. 420). Standing the testament of time, 176 stained-glass windows display numerous scenes portraying the Old Testament prophets and Christ (Chartres Cathedral, 2018). Suggested by James Bugslag in; *Ideology and Iconography in Chartres Cathedral*, “medieval art served as an ideological system, a representational matrix that both codified and strengthened social values and thus ensured social cohesion” (Bugslag, J, 1998, p. 491) However, much of this ideology is hidden, perhaps from audiences which remain disconnected from the social realities of Roman Catholicism. Oddly, the nature of religion is to be prominent, even to the world outside the church. The lancet windows generally depicted multiple figures linked by an action, as in figure 3, where St Deni hands a military banner to the knight (Bugslag, J, 1998, p. 493). The Cathedral its self served as a trading post governed solely by the Church. Merchants of all sorts were drawn to this marketplace as it was out of the reach of the Counts of Blois tax authority. The trading of produce, fuel and occasionally the changing of currency was abundant during the regular fairs (Chartres Cathedral, 2018).

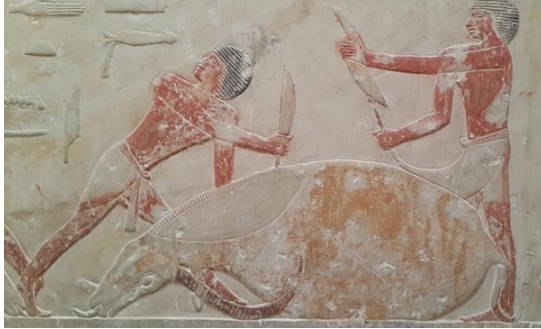
A social hierarchy in architecture may only become apparent as we look at ancient civilizations from an aerial context. In the Benin Kingdom, Edo (Bini) of Nigeria, urban design establishes a hierarchy centered upon the Oba Palace. A round-about (Ring Road) placed at the heart of the city radiates roads like spokes of a wheel. Suggested by Nevadomsky in; *An Ethnographic and Space Syntax Analysis of Benin Kingdom Nobility Architecture*, this design served as a hub for the early kings who required a formal town pattern of wards rather than a palace dichotomy (Nevadomsky, Lawson, & Hazlett, 2014, p. 62). Each ward contained blacksmiths, brass casters, drummers and weavers, under the authority of the palace. The notion of social spaces, gender segregation and religious organization is evident in the architecture of noble compounds, where several spaces were designated for a wife and her associated daily activities. The Edo philosophy of spatial organization merits both a symbolic and material situate of people, where spatial order consists of relative symmetrical values (Nevadomsky, Lawson, & Hazlett, 2014, pp. 75-83).



Figure 25 - Relief of an Ancient Egypt nobleman, Maia C, n.d., <http://www.ancient-egypt-online.com/ancient-egypt-social-structure.html>

In Ancient Egypt, social structure and political hierarchy is reflected and perhaps codified by the architecture of many great monuments which parallel both the form and scale of this system. The social system was alike many world kingdoms of the 2000 BCE era, though its symbolism in architecture was unique (Giza pyramid complex, 2018). The pyramids of Giza embody a hierarchical mass which personify a social class at each elevation. The large perimeter of its base reflects the servant and slave populist which manifested most of the Early Dynastic Period. Above them, were craftsmen who were recognised as skilled in the manufacturing of clothing or as artisans of stone carvings. These were free individuals. Scribes were above craftsmen as they were literate and held the records of the Egyptian regime. Soldiers were also considered part of the upper-middle class for their bravery. The very few noble and government officials (figure 4) were among the highest class as they directly served and communicated with the gods. The fourth dynasty Egyptian Pharaoh Khufu, a monarchical god on earth, assumes the top of the social system (Social Pyramid, 2018).

The ancient Egyptian social system enabled a systematic approach to the construction of the pyramids of Giza. A large slave population allowed the swift movement of materials up two ramps which ran along opposing sides of the pyramids. These ramps are suggested by James Frederick Edwards, in *Building the Great Pyramid: Probable Construction Methods Employed at Giza*, to have been 5 meters wide, becoming longer and narrower as the pyramid took shape. This methodology allowed sufficient space for



teams assigned to move stone up the ramps as well as teams moving stone on top of the pyramid. Though as the pyramid grew taller the work space shrunk (Edwards, 2003).

In ancient Egypt food was not only essential for the existence of life, but also as sustenance of the gods.

Animal sacrifices of gazelles, antelopes, geese, ducks, and pigeons were not uncommon as portrayed in figure 5. The slaughtering of these animals was administered by the priests and hidden from the gods, as per Mesopotamian and Egyptian tradition. This tradition maintained political solidarity on all levels of the social structure (Ching, F. D, 2011, p. 46)

Figure 26 - The Opening of the Mouth Ceremony, n.d., n.d., <http://www.experience-ancient-egypt.com/egyptian-religion-mythology/egyptian-afterlife/opening-of-the-mouth-ceremony>

In all regions of the ancient world, successful architectural symbolism of religious adoration, social cohesion or political discourse, ultimately enabled the

advancement, organization and sophistication of ancient mankind in ways which are perhaps still valid in modern-times. Used as forms of political propaganda in Rome, or political sovereignty in Southeast Asia, these monuments highlight the importance of social hierarchy and ideological consistency in both a spiritual and geographical context. In ancient Egypt the sociocultural climate consisted of many tiers which divided and classified social status (Social Pyramid, 2018). Yet in the Benin Kingdom social hierarchy was determined by location (Nevadomsky, Lawson, & Hazlett, 2014). Alike social order in ancient Egypt, spatial order of ancient Roman thermaes such as the Baths of Caracalla, reflected the importance of organisation in social culture as it had been done in architecture, balancing place and purpose. In this case however, the organization of social culture conveyed a sense of equality rather than inequality (Packer, 1999). The organisation of ancient cultures through social hierarchy enabled the successful completion of these monuments. Without state enforcement of social cohesion, these mammoth structures may not have been constructed in such brief periods. This is especially true in the construction of Angkor Wat, where we see the extensive organization of architects, priests and labour men unlike ever before (Geo, 2014). The power of imagery in the forms of artwork, stone sculptures, stain-glass windows or reliefs, also influenced the advancement of societies where religious monarchies governed. In 13th-century Medieval Rome, the stain-glass windows of the Chartres Cathedral strengthened social values and preserved faith in the state by conveying iconography of Roman Catholicism (Ching, F. D, 2011, p. 420). Decorations which gilded many thermaes, palaces and other government buildings suggested nationalism, a healthy economy and a powerful empire (Ching, F. D, 2011, pp. 206, 536, 565). These monuments have not only established sophistication in ancient culture,

but perhaps empower cultures of modern-times as well. At Abu Simbel the salvation of the Temple of Ramesses II and the Temple of Nefertari, triggered the creation of UNESCO which has manufactured new approaches of environmental preservation (Allais, 2013).

Study Questions:

1. *Choose two case studies from the Study Guide for this unit. Find their sections in A Global History of Architecture, and then examine two online resources covering each of these cases. What is the difference in the organization of information, point of view, analysis, emphasis, visualization, and use of sources between your print textbook and the online media?*

Temple of Tiwanaku:

Page 267 of *A Global History of Architecture*, discusses the importance of the highland valley in which Tiwanaku is located. A map clarifies where Tiwanaku is located, in comparison with other ancient regimes such as the Huari Empire. In ancient times there was a lake (*Titicaca*), springs, rivers, rocks, and trees occupied by the guardians of sacred order. The lake also provided water for the mote which surrounded Akapana. An image of the entrance to the Kalasasaya captures a piece of the fallen city and adds to the insight which this passage embodies. The complex drainage system and sunken court are suggested to be related to the spring equinox, where sun rays intersects the below ground temple (Ching, F. D, 2011, p. 267).

The tiwy.com page on Tiwanaku is written as to intrigued travelers who may visit this ancient site. Arthur Posnansky is explained as being the first scientist to study the Tiwanaku ruins at the end of the 19th century. Exhibits which are located at a nearby museum are shown with an image. Multiple photos, taken in recent years, show different angles of the ruins and are accompanied by brief captions. Nearly all the details, including the Ponce Monolith, Gates of the Sun and El Fraile Monolith are photographed and described. The most obvious difference in the delivery of information seems to be the viewpoint rather than the content. On one hand, *A Global History of Architecture* discussed Tiwanaku culture by highlighting the importance of spatial order and the city's reliance on the nearby lake (Ching, F. D, 2011, p. 267). Whereas, tiwy.com only give small descriptive paragraphs which do not seem to have an overall purpose other than annotating the many photos which the page features (tiwy.com, 2018).

Dome of the Rock:

The differences between *A Global History of Architecture* and the online media of 360cities.net, are clear. On one hand, the Dome of the Rock is described in its architecture and culture. The

buildings purpose of enclosing a rock at its center is suggested to be linked to the prophet Muhammed, who ascended to heaven at the end of his Isra. Its form, which is symmetrical, blurs the distinction between square and circular geometry. The building site, first consecrated by the Israelites, initially saw the creation of the First and Second Temples in 70CE. After which, another temple was built by Emperor Hadrian, perhaps serving as inspiration for octagonal shape of the Dome of the Rock (Ching, F. D, 2011, pp. 302-303). 360cities.net, on the other hand, showcases interactive images which capture 360 views of nearly all corners of the site. No written information is present; however these virtual realities embody the true beauty of the monument which may otherwise not be translated into words (Strajin, 2011).

2. *In note form, describe the main architectural elements of the Church of the Holy Sepulchre and the Dome of the Rock, Jerusalem. Then note the practical and symbolic functions of these elements, and the role each plays in accommodating the pilgrim visitors, whether Christian, Jewish, or Muslim.*

Church of the Holy Sepulchre:

Entrance:

- leading to the courtyard and inner atrium (Ching, F. D, 2011, p. 374)

Parvis:

- Within the parvis (courtyard) were, The Monastery of St Abraham, The Chapel of St John and The Chapel of St Michael (Church of the Holy Sepulchre, 2018)

The Rotunda:

- Accommodates the chapel of Aedicule, which holds the Holy Sepulchre
- Used to celebrate the Divine Liturgy or Holy Mass
- At the rear of the Rotunda, Syriac Chapel contains an ancient Jewish tomb (Church of the Holy Sepulchre, 2018)

The Catholicon:

- Contains the main altar of the Church
- Historically believed to be located at the center of the world
- The Golgotha Crucifix sits atop the peak of the structure, iconic and symbolic of the Christian faith (Church of the Holy Sepulchre, 2018)

Ambulatory:

- The prison which Christ was allegedly held
- Contains Greek Chapel of Saint Longinus
- Contains Armenian Chapel of Division of Robes
- Contains Greek Chapel of the Derision (Church of the Holy Sepulchre, 2018)

Stone of Anointing:

- Believed to be the preparation site for Jesus's burial
- A mosaic depicts the anointing of Jesus's body
- The wall which now blocks the view of the rotunda is used to support the arch above and lies atop the desecrated graves of Godfrey of Bouillon and Baldwin I of Jerusalem
- This wall may have identified the lowering of Jesus from the cross (Church of the Holy Sepulchre, 2018)

Dome of the Rock:

The golden dome:

- Originally cladded with gold the dome was retrofitted with copper then aluminum, however is now cladded with gold leaf (Dome of the Rock, 2018)

full moon:

- The ornamental element symbolic of the Islam crescent moon, is suggested to aim towards Mecca (Dome of the Rock, 2018)

Turkish tile:

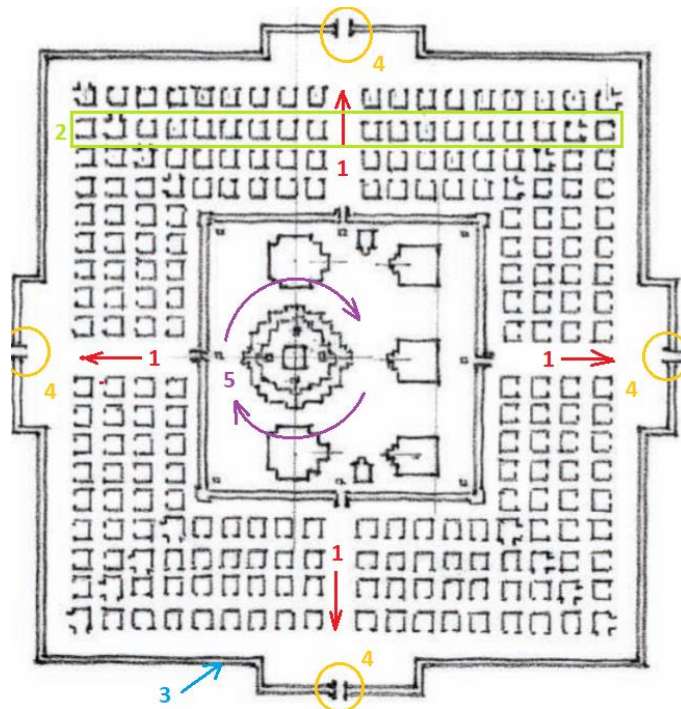
- The multicolored Turkish tile attempts to replicate Persian tile which originally cladded the uppermost exterior
- White tile adorns the lower section (sacred-destinations, 2018)

The Rock:

- Is believed to be the place where the Islamic prophet Muhammad ascended to Heaven
- symbolises the prayer of Abraham, Moses, and Jesus
- May also suggest the story of the Isra and Mi'raj, where Prophet Muhammad Journeys from Mecca to the farthest mosque
- Believed to be the holiest place on Earth (sacred-destinations, 2018)

Octagonal form:

- The octagonal shape of the podium is doubled by another set of walls offset towards the interior approximately five meters (sacred-destinations, 2018)



- Within the third structural layer lies a cylindrical mass which rises above the podium and supports the dome (Ching, F. D, 2011, pp. 302-303).

3. *Using sketch plans of Loro Jonggrang, Java, and Borobudur, both in Indonesia, indicate how traffic flow and the sequencing of the ritualistic experience were designed into these sites.*

The symmetrical layout of the Loro Jonggrang complex (figure 6) funneled the ingress and egress of traffic through four main roads which lie at opposing facades (1). smaller shrines, which surround the Shiva, Brahma and Vishnu temples, are assembled into rows of eighteen (2). They are equally spaced and arrayed in a linear fashion. A perimeter wall (3), which measured about 390 meters on each side, encompassed the complex (Ching, F. D, 2011, p. 316). Four gates (4) allowed entry towards the main roads. The sequencing of the ritualistic experience were designed to focalize the statue of Shiva Mahadeva, located within the Shiva temple. The narrative bas-reliefs, which adorned the temple, depicted the story of Ramayana and Bhagavata Purana. As visitors enter the complex from the east they turn left moving in a clockwise direction (5). Performed by pilgrims, the ritual of circumambulation, a Buddhist devotional practice, intended to keep the temple to their right while moving clockwise (Prambanan, 2018).

Figure 27 - Illustrated Plan of Loro Jonggrang, Ching, F. D, A Global History of Architecture (2nd ed.), p.p. 316



Figure 7 - Stone reliefs of the Gate of the Sun, Arthur Posnansky, between 1903 and 1904, https://en.wikipedia.org/wiki/Gate_of_the_Sun#/media/File:Centro_de_la_puerta_1903-1904.jpg



Figure 8 - Gate of the Sun, Arthur Posnansky, 1903, [https://en.wikipedia.org/wiki/Tiwanaku#/media/File:Puerta_monolitica_\(Puerta_del_Sol.\)_1903-1904.jpg](https://en.wikipedia.org/wiki/Tiwanaku#/media/File:Puerta_monolitica_(Puerta_del_Sol.)_1903-1904.jpg)



Figure 9 - One of Very First Photos of Pagan, Linnaeus Tripe, 1902, https://en.wikipedia.org/wiki/Shwezigon_Pagoda#/media/File:Shwezigon_1855.jpg

4. *In illustrated note form, explain how cosmological belief systems were “built into” the temple complexes at Akapana, Bolivia, and Shwezigon Dagoba (pagoda), Burma*

Cosmological iconography at the temple complexes of Akapana, is evident in many forms. Stone reliefs adorned by the Gate of the Sun depict 48 characters of winged effigy which face the center figure, believed to be the Sun god or perhaps a variation of the Inca god Viracocha. Posing astronomical significance, these reliefs (figure 7) were influential to civilizations throughout Peru and parts of Bolivia, who shared this belief system (Gate of the Sun, 2018). A sunken courtyard located at the summit of Akapana was orientated to allow the bisection of sun light to appear at

the center of the Kalasasaya’s staircase. An artificial moat which surrounded the complex defined the sacred space of the Akapana temple within. The crossing of the moat evoked the changing of time and ordinary life to that of the gods (Ching, F. D, 2011, p. 267). Dedicated to Buddha, Shwezigon Pagoda

temple (figure 8) served as a prototype of Burmese stupas in the 1200CE era. Gilded in copper, the temple aimed to enshrine a bone and tooth of Gautama Buddha, which are believed to be held inside. Four bronze statues of Buddha also stand within the temple, depicting his current age (Shwezigon Pagoda, 2018). The interior of the temple is only illuminated by high windows on the exterior walls, allowing little light at the core. This clerestory light is unlike other Hindu temples, which

allow light through walls at the base (Ching, F. D, 2011, p. 397).

5. Annotate a ground plan or map of Chang'an, China, and explain how the city developed to accommodate and express the interests of Buddhist belief, civic administration, commerce, and imperial power.

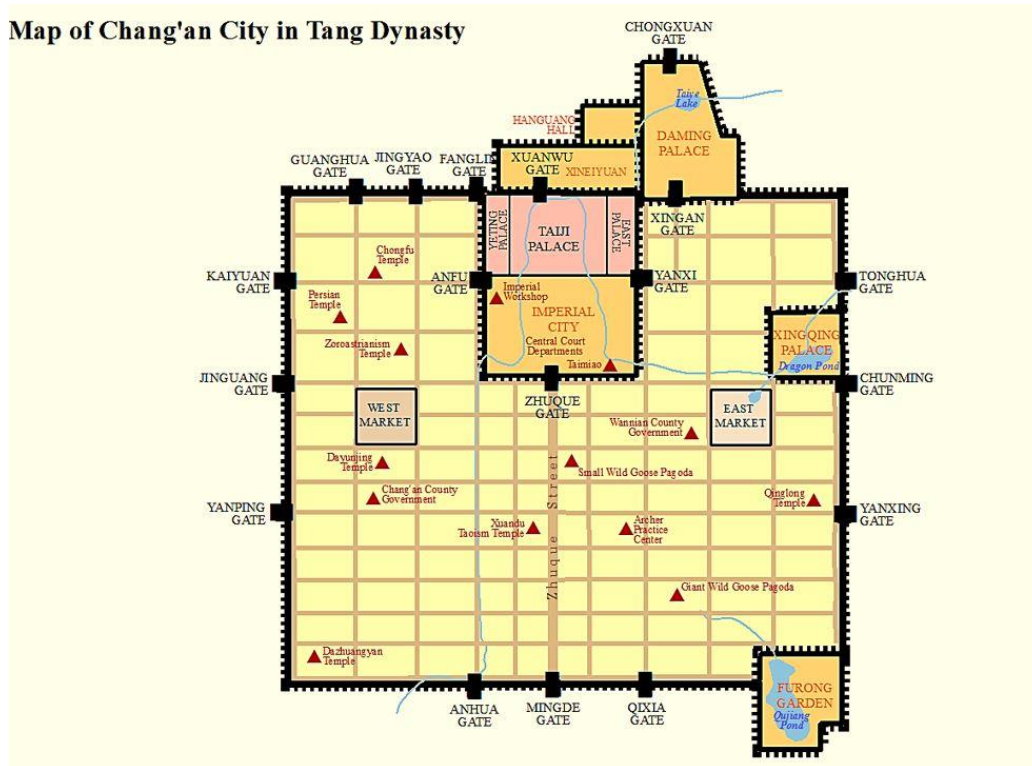


Figure 10 - Map of Chang'an in Tang Dynasty, SY, 2017,
https://en.wikipedia.org/wiki/Chang%27an#/media/File:Chang%27an_of_Tang.jpg

The Qin dynasty ruled a large area which encompassed nine states including Handan, Dang, Xue and Guangyang. The philosophy of Legalism, endorsed by statesman Lord Shang Yang, introduced an advantageous military which made the construction of the Qin capital and other warring states possible. This land was sought through ruthless warfare (Qin dynasty, 2018). The city of Chang'an was surrounded by a wall twelve meters high and sixteen meters at its base. A total of twelve gates, three per side allowed the passage of merchants who would frequently travel between cities. The initial square shape of the city began irregular as infrastructure such as the Daming Palace and Hanguang Hall were built. This irregular shape is thought to have mimicked the form of the Big Dipper, yet the shape was more likely a result of the nearby Wei River. Nine districts which held between fifty and one-hundred families, subdivided the city (Chang'an, 2018). In 200BC Palaces began to appear as Chang'an experienced its first development phase. Appointed by Liu Bang, Xiao unfolded a design and development plan of the new capital. The former Apex Temple, of the Qin

Dynasty was to be reconstructed and expanded seven times in size. It was named Changle Palace. Another palace, Weiyang Palace was built nearly two years later. These Palaces were essential to Prime minister Xiao He, as the excessive size and multiplicity conveyed the extent of power which his empire manifested. The second development phase saw the creation of the perimeter wall, which was built by Emperor Hui, son of Prime minister Xiao He, in 195BC. The wall dismayed further expansion of the city for quite some time. It wasn't until 100BC that construction began again. Incited by Wu-ti, new infrastructure was built including many palaces, the nine temples complex and Shanglin Park (Chang'an, 2018).

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Figure 1 Reconstructive drawing from 1899, Dinah, 2006, https://upload.wikimedia.org/wikipedia/commons/2/2e/Caracalla_innen.png

Figure 2 Purposed reconstruction of Abu Simbel, 1968, Torgny Säve-Söderbergh, *Integrities: The Salvage of Abu Simbel*

Figure 3 Window 116 of Chartres cathedral, James Bugslag, 1998 *Ideology and Iconography in Chartres Cathedral: Jean Clément and the Oriflamme*, p.p. 493

Figure 4 Relief of an Ancient Egypt nobleman, Maia C, n.d., <http://www.ancient-egypt-online.com/ancient-egypt-social-structure.html>

Figure 5 - The Opening of the Mouth Ceremony, n.d, n.d., <http://www.experience-ancient-egypt.com/egyptian-religion-mythology/egyptian-afterlife/opening-of-the-mouth-ceremony>

Figure 6 - Illustrated Plan of Loro Jonggrang, Ching, F. D, *A Global History of Architecture* (2nd ed.). p.p. 316

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Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

Name: Nolyn Caldwell
Student #: 3319032
Tutor: Lenore Hietkamp
Date: March 25th 2018

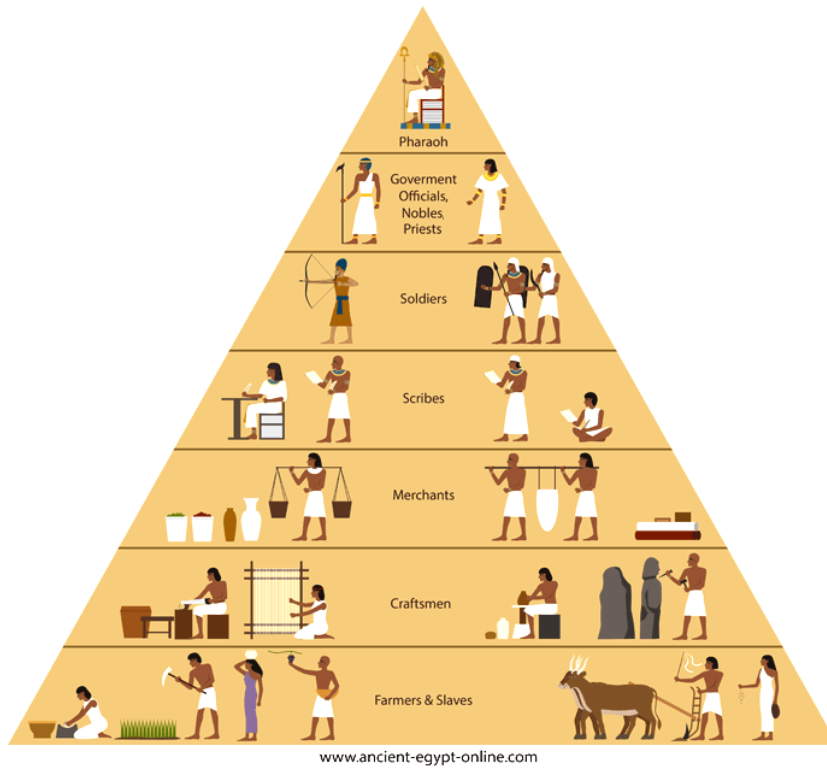


Figure 1 - Photo of Ziggurat of Ur, Hardnfast.

Assignment 1



Figure 2 - Diagram of Egyptian social hierarchy, n.d., 2017

Figure 3 - Photo of Abu Simbel, n.d., n.d.,



Figure 4 - Photo of Baths of Caracalla, Ethan_Doyle_White, 2016



Assignment 2

Figure 5 - Photo of The Temple of Bacchus, BlingBling10, 2007



Figure 6 - Photo of Prambanan, Arabsalam, 2011



Figure 7 - Drawing of Angkor Wat, Henri Mouhot, 1860



Figure 8 - Photo of pyramid of Kukulcán, Daniel Schwen, 2009



Figure 9 - Interior of Temple at Abu Simbel, William Henry Goodyear, 2014

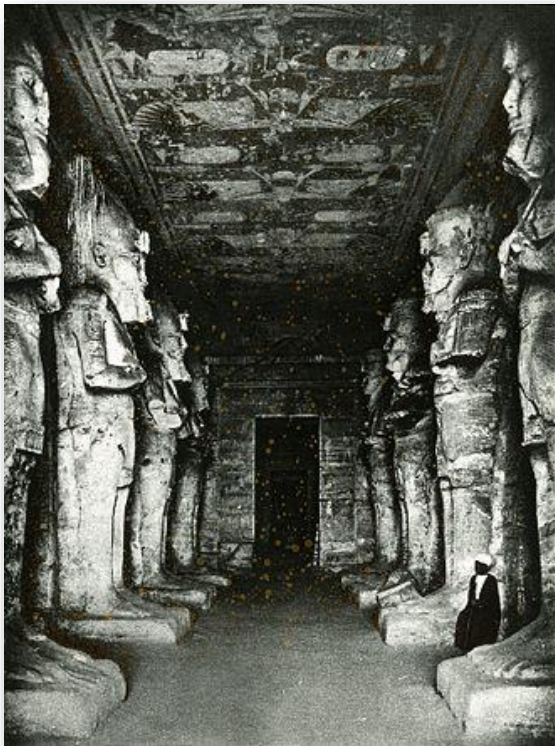
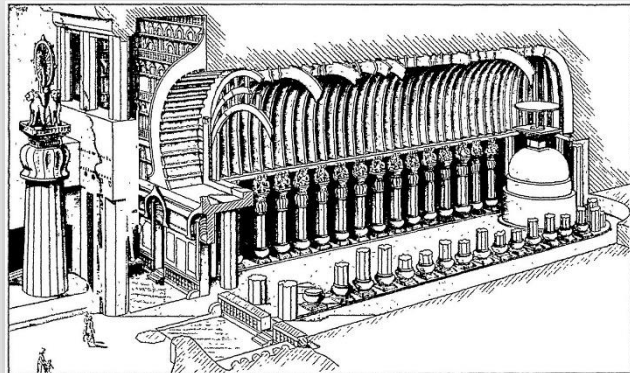


Figure 10 - Drawing of chaitya, Percy Brown, 1955



Assignment 3

Figure 11 - Rammed Earth Wall, Andrew Dunn, 2005



Figure 12 - Travertine Brick, Ustill, 2008

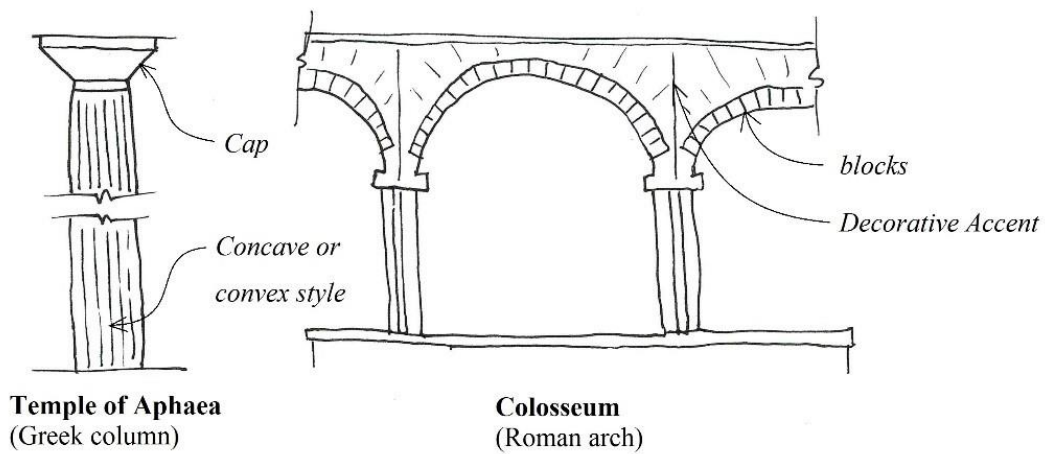
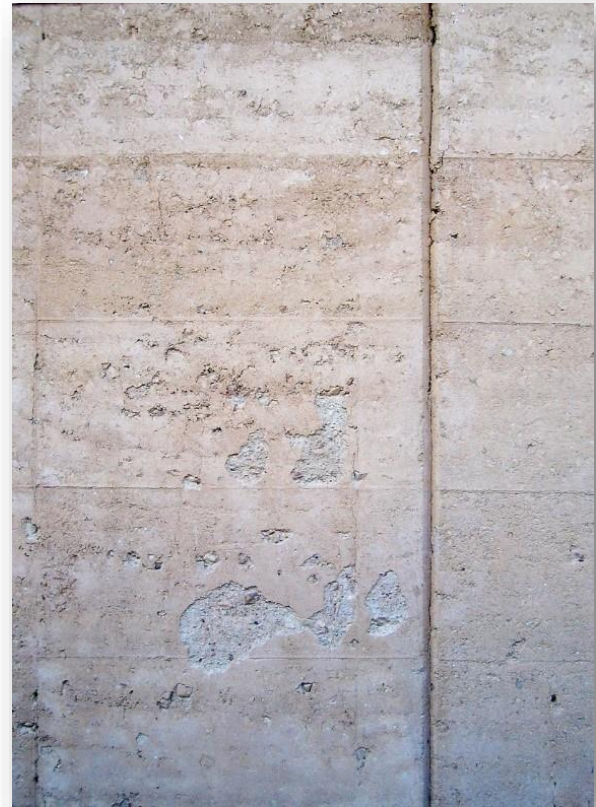


Figure 13 - Sketch of Greek versus Roman Architecture, Nolyn Caldwell, 2017

Assignment 4

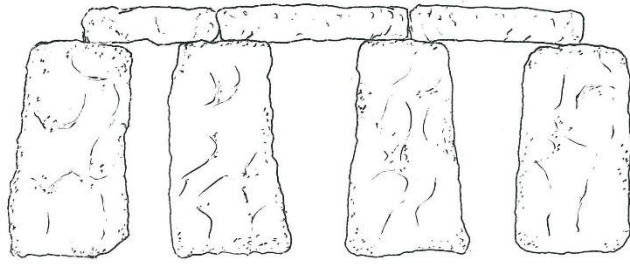


Figure 14 - Stonehenge Lintel Sketch, Nolyn Caldwell, 2018

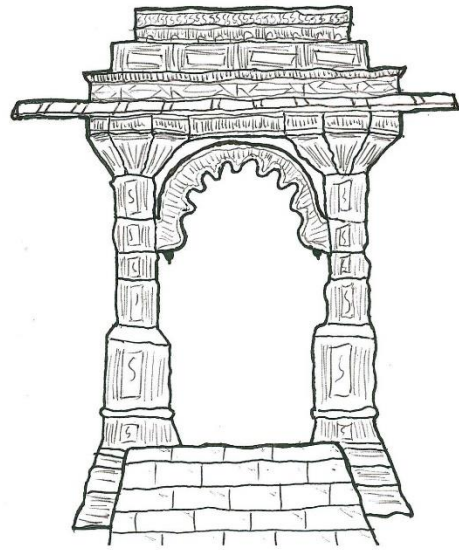


Figure 15 - Sun Temple Lintel Sketch, Nolyn Caldwell, 2018

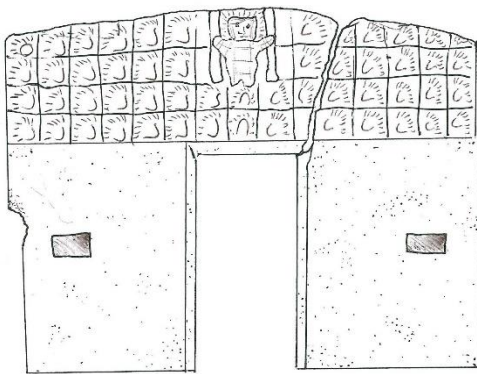


Figure 16 - Gate of the Sun at Tiwanaku sketch, Nolyn Caldwell, 2018

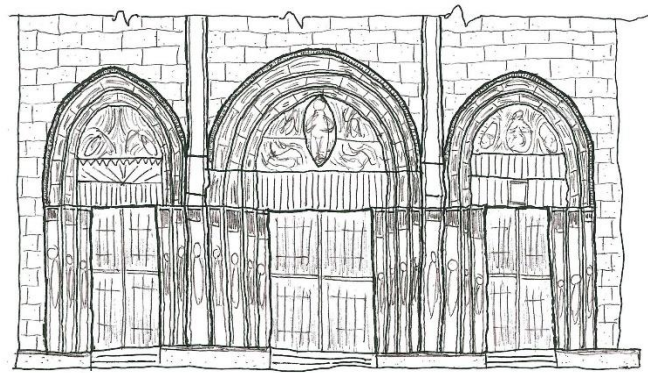


Figure 17 - Chartres Cathedral Lintel Sketch, Nolyn Caldwell, 2018

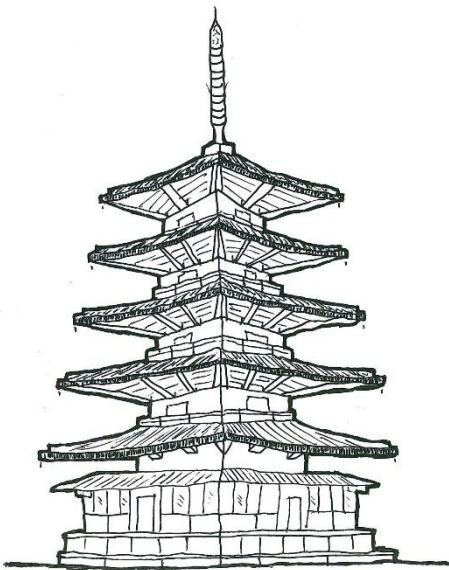


Figure 18 - Section of Hagia Sophia, Nolyn Caldwell, 2018

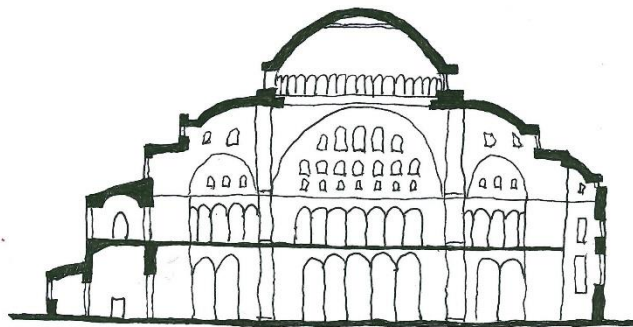


Figure 19 - Elevation of pagoda at the Horyu-ji Temple, Nolyn Caldwell, 2018

Figure 20 - Map of Chang'an in Tang Dynasty, SY, 2017

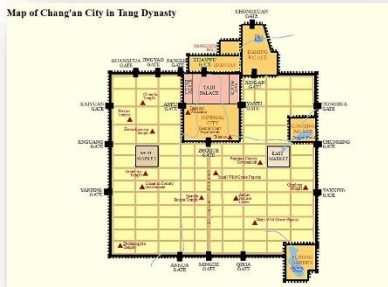


Figure 21 - Gate of the Sun, Arthur Posnansky, 1903



Figure 22 - One of Very First Photos of Pagan, Linnaeus Tripe, 1902



Figure 23 - Stone reliefs of the Gate of the Sun, Arthur Posnansky, between 1903 and 1904



Figure 24 - Relief of an Ancient Egypt nobleman, Maia C, n.d.



Assignment 5

Figure 25 - The Opening of the Mouth Ceremony, n.d., n.d.,



Figure 26 - Illustrated Plan of Loro Jonggrang, Ching, F. D, A Global History of Architecture (2nd ed.), p.p. 316

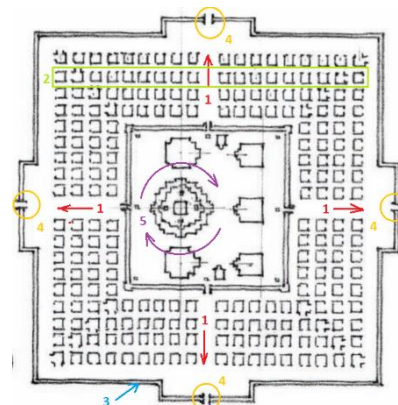


Figure 27 - Reconstructive drawing from 1899, Dinah, 2006

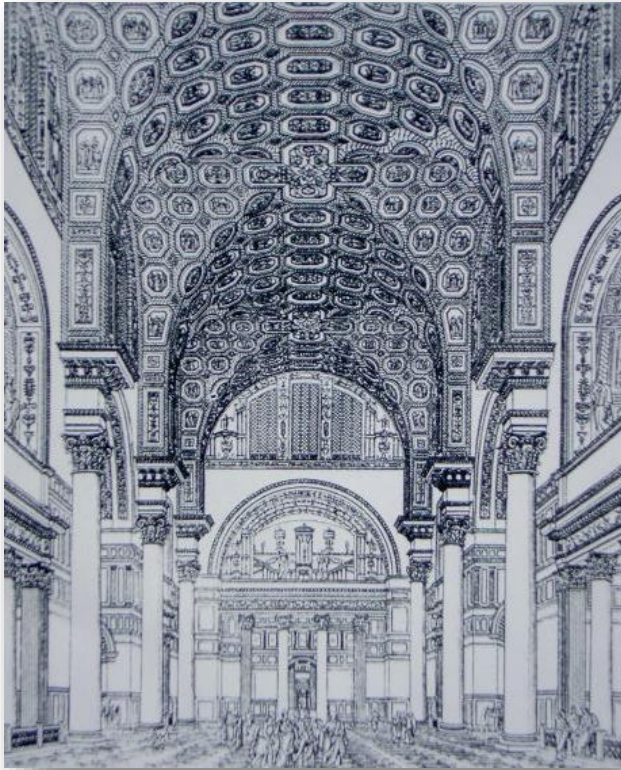


Figure 28 - Window 116 of Chartres cathedral, James Bugslag, 1998 Ideology and Iconography in Chartres Cathedral: Jean Clément and the Oriflamme, p.p. 493

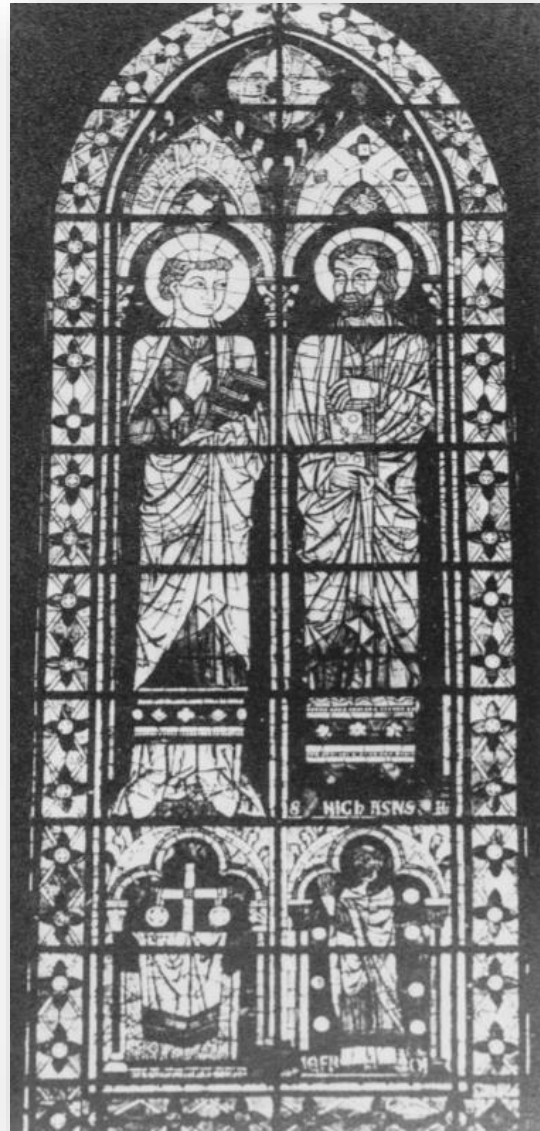


Figure 29 - Purposed reconstruction of Abu Simbel, 1968, Torgny Säve-Söderbergh, Integrities: The Salvage of Abu Simbel

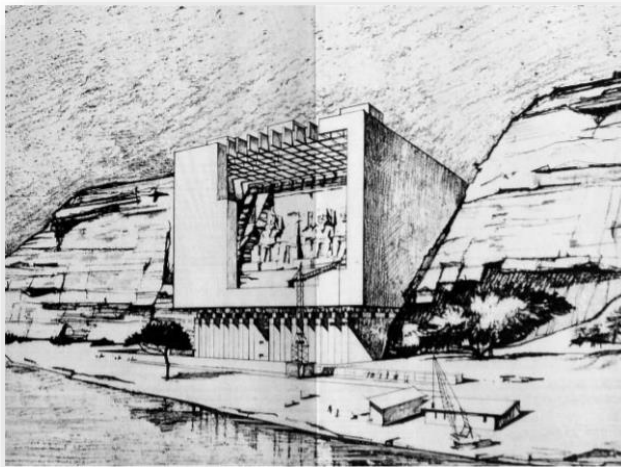


Figure 30 - Photo of Taj Mahal, Estefania Simón, 2014

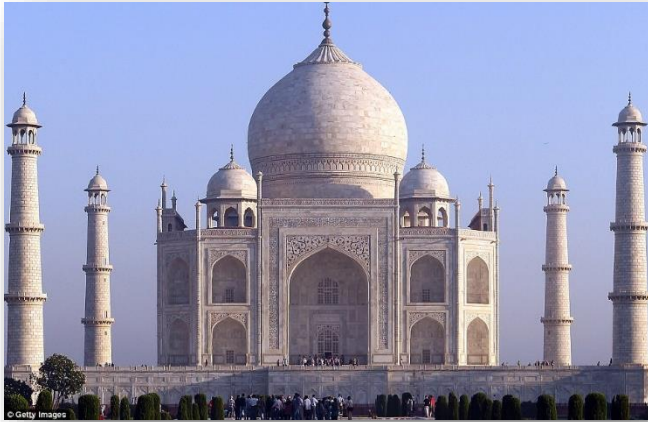


Figure 32 - Ground Plan of St. Gall, Francis Ching D.K., 2011, from A Global History of Architecture, p.p. 325

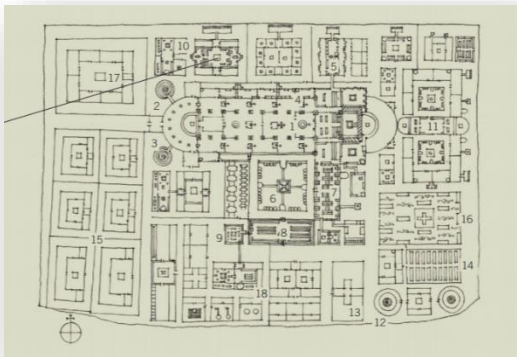


Figure 33 - Plan of Mahabodhi Temple, Francis Ching D.K., 2011, from A Global History of Architecture, p.p. 325

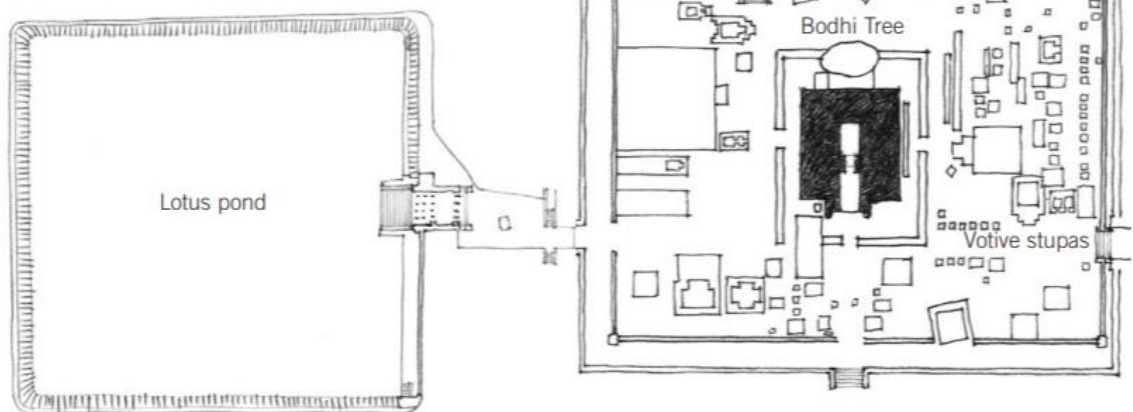
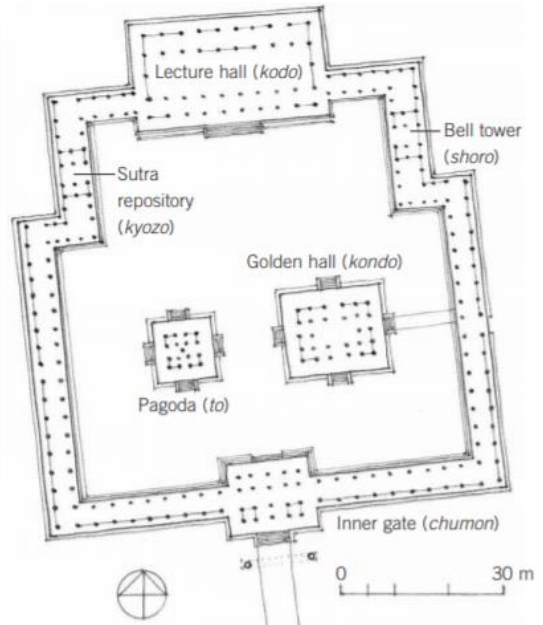


Figure 31 - Ground Plan of Horyu-ji Temple, Ching D.K., 2011, from A Global History of Architecture, p.p. 291



Assignment 6

References:

- Figure 1 - Photo of Ziggurat of Ur, Hardnfast. Retrieved from In wiki:
https://commons.wikimedia.org/wiki/File:Ancient_ziggurat_at_Ali_Air_Base_Iraq_2005.jpg
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- Figure 5 - Photo of The Temple of Bacchus, BlingBling10, 2007,
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- Figure 6 - Photo of Prambanan, Arabsalam, 2011,
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- Figure 7 - Drawing of Angkor Wat, Henri Mouhot, 1860,
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- Figure 8 - Photo of pyramid of Kukulcán, Daniel Schwen, 2009,
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- Figure 9 - Interior of Temple at Abu Simbel, William Henry Goodyear, 2014,
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- Figure 10 - Drawing of chaitya, Percy Brown, 1955,
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- Figure 11 - Rammed Earth Wall, Andrew Dunn, 2005,
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Athabasca University

ARCH 200 History of Ideas in Architecture I

A Collection of Assignments 1 - 6

Name: Nolyn Caldwell
Student #: 3319032
Tutor: Lenore Hietkamp
Date: March 25th 2018

Opening Statement: *(With Revisions)*

My goals revolving the history of ideas in architecture are strong and absolute. Attempts I will make in understanding and applying knowledge gained throughout this course will prove to be the ultimate reward in both my academic and architectural career. I hope to gain a basic understanding of what political, geographical or religious factors influence ancient architecture and how these factors are similar and dissimilar throughout the evolution of prehistoric mankind. I aim to expand my knowledge of ancient building methods and compare them with modern technologies. *I will discover links between social cohesion and architecture, where society has been shaped by religion, and how this effected the advancement of mankind.* Examining the needs of ancient society against the needs of today's society, I will be able to recognize what great influence an era *and its associated belief system* may impose on architecture. Thinking critically, I will be able to offer an opinion and strong conclusion of each case and synopsis.

Architecture has undoubtedly played a major role in the creation of ancient and modern civilizations. The history of architecture not only teaches us about ancient culture and ideology but perhaps most importantly, expresses the value of artistry in the form of building design. No two structures look alike nor serve the same purpose. Whether a figure of government or religion, hierarchy atop any structure has always been an architect's goal. Hierarchy in the most simplest form, is showcased atop ancient structures, such as The Pyramids of Giza (Ching et al., 2011, pp. 39–46) or the Mohenjo-Daro (Ching et al., 2011, pp. 30–31). Structures such as these symbolize wealth and power, emphasizing the importance of nationalism, the ability to preserve religious ideology or defend against rival establishments. Art adorned by nearly all ancient monuments reflects religious integrity and political power. *This iconography was essential to religious values which brought to life an otherwise intangible spirit.* Hierarchy is only one method of expressing or symbolizing meaning in architecture. Form is also an important part of architecture, especially in the design of a tomb or sacred place.

Architectural history addresses many issues concerning both ancient and modern construction. Structurally a building must be able to support its own weight and bear the load it intends to carry. It must be able to endure natural forces including wind, rain, hot and cold temperatures. We can compare issues facing modern construction such as the Eiffel tower to the issues facing builders of the Ziggurat of Ur (Ching et al., 2011, pp. 34–38). We may notice the issue of weather protection in today's buildings. The same issue has been faced by ancient architects, yet solved in different ways. The most evident difference between ancient and modern structures is life-expectancy. Many ancient tombs were intended to stand for eternity, whereas modern high-rises are expected to last only a

century. Although longevity may not be a major concern of most modern architects, we may still be able to apply archaic construction techniques into modern design.

My personal interests in architectural history relate mostly to the longevity of ancient structures and their resistance to fatigue over several thousands of years. Mysteries of archaic building technologies and the abilities of ancient work-forces peak my curiosity. Stone, a material less commonly use in modern architecture is present in many of these ancient structures, such as the Stonehenge (Ching et al., 2011, pp. 47–49) and Caral-Supe (Ching et al., 2011, pp. 52–54). A difference of materials is perhaps one reason why some ancient structure still stands today. A difference of construction techniques and work-forces may also have contributed to a structures long life. I am also curious to learn how the influence of religion formed many ancient buildings such as shrines or tombs *and how these monuments define ancient social hierarchy*. This link between ideology and architecture seems to remain true today, *although to a less extent*. As we notice, nearly any modern structure reflects a strong purpose related to ideologies of the time in which it is created. Modern structures excel in efficiency due to advancements in technology however, lack longevity. *These observations have become increasingly noticeable after reviewing the several, case studies outlined in the course.*

Ultimately, I wish to learn lessons of place and purpose, ideas pioneered by architects of the ancient world. I hope to link the intentions of ancient architects with those of today and understand why certain architectural styles may no longer be valid. I will observe the evolution of building technologies and discover ways in which these technologies and philosophies were spread via trade, travel and war throughout ancient history. I will study the change of approaches in design and construction. Our observations of how changes in government or ideology initiate new eras of design will support many links between modern and ancient architecture. I wish to gain a thorough comprehension of the case studies outlined in each unit and how they compare to one another. *I will learn how cosmological belief systems affected the orientation and form of some ancient monuments, such as the Stonehenge.* Finally, I aim to develop a better understanding of the prehistoric timeline (3500BCE – 1950CE) outlined in Francis Ching’s book *A Global History of Architecture; how ancient mankind advanced through social cohesion and religious iconography.*

At the end of this course I will be able to answer questions regarding ancient architectural styles and building techniques. I will discover the purpose of ancient architects whom build both rudimentary and complex structures; *in some case adorned by immense decoration*, in various locations for commonly similar purposes. I will discover how shapes and form acquire meaning and perhaps

change over time, *where we see the renovation, reconstruction or perhaps salvation of ancient monuments*. In an ancient context, I will evaluate the longevity of structures which seemingly do not fatigue. I hope to compare the treatment of structural components in modern architecture against ancient architecture and discover reasons why a structure based design was so important. I will discover reasons for symbolism, nationalism and political propaganda in ancient architecture and the meaning this added to each structure.

Closing Statement:

Alike the examination of ancient fossils by archeologist, or the deciphering of prehistoric languages by a philologist, premodern architecture can be explored with enumerate discourse. From this course I have developed knowledge revolving the history of ideas in architecture. Questions which initially materialize and others that subsequently arose during the course, have now been answered. Through my continual learning processes I have discovered the many links between architecture and humanity. I have become familiar with the ancient monuments outlined in this course, in both a chronological and geographical context. Examining Francis D.K. Ching's *A Global History in Architecture*, scholarly articles and a variety of online media, I have directed my studies and argued a clear research topic.

Nowhere else has the influence of art and architecture been as powerful nor beneficial to the advancement of mankind, than in our ancient world. As we analyze prehistoric culture, we begin to understand how civilizations acquired sophistication through religion and social order. In ancient Egypt, the pyramids of Giza reflected social hierarchy which incited cohesion of the Early Dynastic Period (Social Pyramid, 2018). In Imperial Rome, political power was gained through propaganda manifested in the architecture of many monuments, intended to promote social equality (Ching et al., 2011, pp. 206, 536, 565). Iconography, whether as stained-glass windows of the Chartres Cathedral or stone figures of the Abu Simbel temples, played an important role as a religious matrix, reinforcing social values. As philosophical spirit could not be felt nor touched, Iconography compounded the link between reality and theory for the citizens and visitors of ancient cities; thus strengthening the legitimacy of the church in the eyes of its audience. It was used in ways which preserved faith in the state and showcased immense power; as in the case of Angkor Wat, where the militarization of the Khmer Empire led to the creation of arguably the most impressive monument complex in Southeast Asia (Ching et al., 2011, pp. 392-393).

The knowledge I have gained throughout this course will benefit my future architectural design and construction career, as well as my continued education in the RAIC Syllabus program. Issues regarding place, purpose, form and function, which have been addressed, will be applied in my future analysis of premodern architecture. Architecture undoubtedly bids a great influence in both our modern and prehistoric world. The lessons I have learnt are perhaps still valid in the design of contemporary infrastructure. I believe a key consideration, which is increasingly overlooked in modern design, is the use of natural and raw materials. Ancient monuments often reflect an exceptional sense of place as their natural materials reflect the geographical context in which they inhabit. For instance, the Pagoda stupa of the Horyu-ji complex was constructed from timber which merits the arboraceous environment of South Asia (Ching et al., 2011, pp. 291-292). The absence of

political propaganda in most contemporary architecture suggests the merits of a modernist. Although some current infrastructure may still contain iconography, such as The Chrysler Building in New York or The Cathedral of Lights in Nazi Germany (Architectural propaganda, 2018). In any case, whether with intent of control or simply as the captivation of beauty, architecture has the power to shape our consciousness.

I believe the spirit of premodern architecture is best felt up close and in person. Traveling to Europe I would like to visit the Baths of Caracalla. I am excited to see the colossal display of artwork adorned on the interior walls of the *thermae*. The craftsmanship of ancient Roman stone carvers and masons is said to be unlike any of its kind. I would also like to visit the Pyramids of Giza, as to truly appreciate their immense scale and social value. My journey to Egypt, perhaps in search of answers to the many unexplained mysteries regarding the construction of these pyramids, will confirm the theories I have explored throughout this course. Lastly, I would like to travel to Syria, where I would explore the sparse remains of the once great Temple of Bel. Although most of the monument has been destroyed by ancient Palmyrain adversaries, looters and the Islamic State of Iraq and the Levant (ISIL) of late, plans of reconstruction are in the works.

Although my initial interests in the history of architecture were clearly outlined in my opening statement, new concepts have arose which have changed the path of my material analysis. Originally prospecting the concept of, ancient mankind shaping architecture, I have discovered that perhaps early architecture had in fact shaped mankind. Investigating ancient social systems, iconography and religious monarchies, I have gathered evidence which supports this statement. Whether by way of hierarchy in the social ladder of ancient Egypt, or as social cohesion instated by the Roman Catholic church, the dictation of human discourse is undoubtedly clear.

Course Work Journal:

Course Plan:

Month	Assignment	
October	1.	Personal Statement, Potential Topics, Course Plan
November	2.	Choose a Research Topic, Conduct Preliminary Research on your Topic Write a Research Plan, Attach a Preliminary Bibliography
December	3.	Choosing an article, Writing the review
January	4.	Short Essay and Sketch
February	5.	Long Research Essay
March	6.	Closing Statement

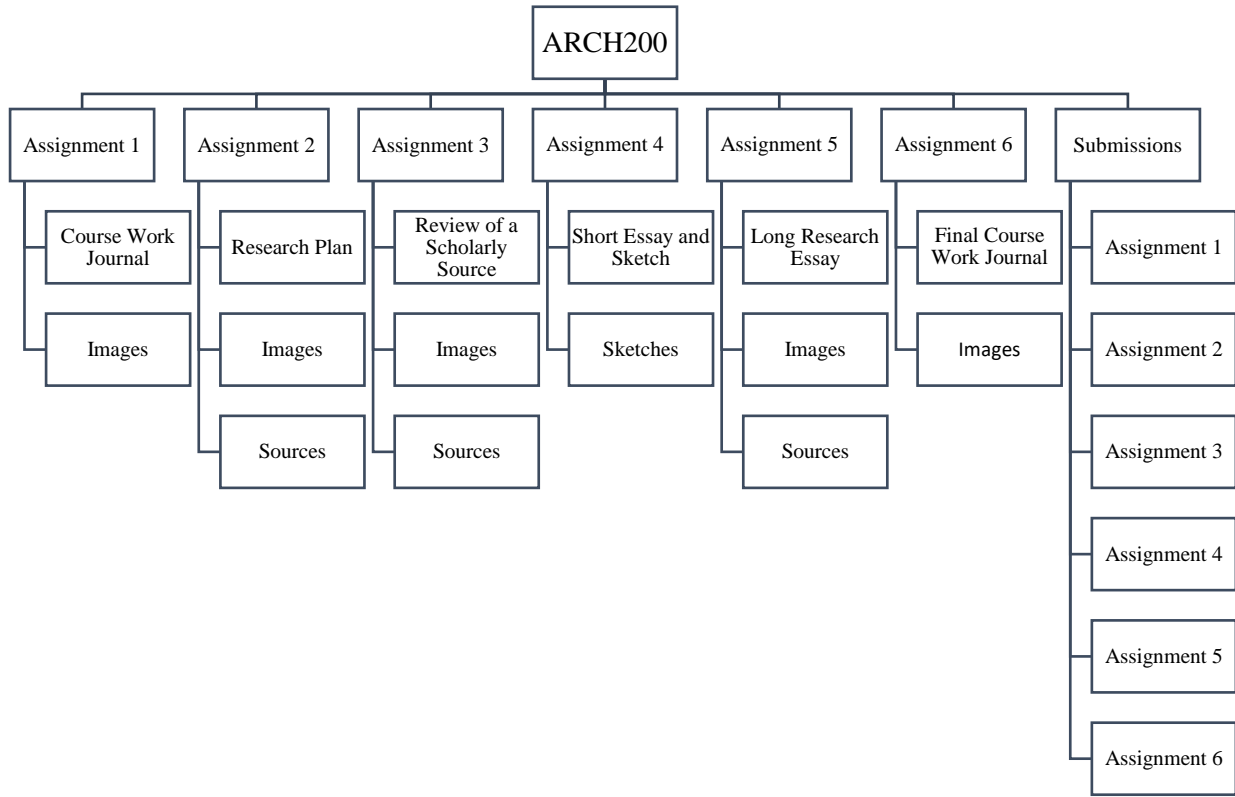
Diary of Activities:

- Oct. 2-30 Start course. Read course introduction and browse through materials. Review unit one and analyze case studies 1-11. Read Ching pp. VI – XVI, 22-24. Complete five study questions. Start assignment 1. Draft five Potential Topics for Personal Statement. Complete essay. Create a Course Plan. Gather and assemble notes and materials, including images. Once again, consult the required readings and complete the Personal Statement. Ensure all information is cited correctly and organized as per instructions. Do a final review. Check for grammatical errors. Submit assignment 1.
- Nov. 1-29 Review unit two and analyze case studies 1-9. Read Ching pp. 85-150. Complete five study questions. Start assignment 2; Research Plan and Preliminary Bibliography. Choose a Research Topic. From the six units, chose six most interesting monuments which may be examined later in the course. Locate and assemble four sources, two of which are scholarly articles, for each monument. Choose one image for each monument. Consider the questions outlined in the instructions tab, when writing the research plan. Complete research plan. develop many general questions and some key questions, pertaining to the preliminary research topic. Assemble a preliminary bibliography. Discuss how each source is useful and “pick” the sources which are most relevant. Ensure all information is cited correctly and organized as per instructions. Check for grammatical errors. Finalize document. Submit assignment 2.
- Dec. 4–Jan. 3 Review unit three and analyze case studies 1-11. Read Ching pp. 150-228. Complete five study questions. Start assignment 3; Review of a Scholarly Source. Choose a monument and an associated article to review. Consult the essay instructions outlined on the Assignment 3 tab, for the format, Content and evaluation. Write within the guidelines of the essay structure provided. Check for grammatical

errors. Ensure all information is cited correctly and organized as per instructions. Finalize document. Submit assignment 3.

- Jan. 8-Feb. 4 Review unit four and analyze case studies 1-7. Read Ching pp. 228-292. Complete five study questions. Start assignment four; Short Essay and Sketch. Choose one of the learning activities. (*Sketch four different lintels found in four monuments in the six units of this course. Describe their differences in material, function, and decoration, and suggest reasons for these differences*) Choose four monuments which best suit the criteria of this learning activity. From an image of each monument, sketch a lintel. Scan the sketches and discuss their difference in material, function, and decoration. Offer an opinion and suggest reasons for the differences. Arrange sketches in a manner which makes sense. Check for grammatical errors. Ensure all information is cited correctly and organized as per the instructions. Finalize document. Submit assignment 4.
- Feb. 5-Mar. 12 Review unit five and analyze case studies 1-11. Read Ching pp. 292-330. Complete five study questions. Start assignment five; Long Research Essay. Verify the “approved research topic” with the tutor. Note the instructions outlined on the Assignment 5 tab. Begin writing the essay. Formulate a key idea of which the essay will circle. Choose at least four monuments from at least two continents. Locate at least five scholarly sources. Gather images; one per monument and organize them in the essay. Write a conclusion. Check for grammatical errors. Ensure all information is cited correctly and organized as per instructions. Finalize document. Submit assignment 5.
- Mar. 13-28 Review unit six and analyze case studies 1-22. Read Ching pp. 330-460. Complete five study questions. Start assignment six; Final Course Work Journal. Revise opening statement. Write the closing statement. Use the questions outlined on the Assignment 6 tab and refer to the opening statement. Gather all course work. Check for grammatical errors. Ensure all information is cited correctly and organized as per instructions. Finalize document. Submit assignment 6. Re-read all submitted assignments and tutor’s comments. Celebrate!

File Structure Diagram:



The information gathered and assignments submitted throughout this course are organized via the above file structure and stored on my hard drive.

Studies questions:

1. Choose two case studies from the Study Guide for this unit. Find their sections in *A Global History of Architecture*, and then examine two online resources covering each of these cases. What is the difference in the organization of information, point of view, analysis, emphasis, visualization, and use of sources between your print textbook and the online media?

Durham Cathedral:

Text of Ching's *A Global History of Architecture* describes the many architectural elements and decorations of the Durham Cathedral. Who, how, and why this monument was built are noted as well as the reasons for certain architectural details adorned on the cathedral. It is discussed that the *Gothic style* became important in ancient England. The adoption of French technique in the design is discussed. Images of the exterior, interior as well as sketches which show interior elevations, sections and plans, accompany the text (Ching et al., 2011, pp. 270-271).

At wikipedia.org the Durham Cathedral is described in its context and the ways which it was used in between 1093 and 1133. Unlike the text of Ching's *A Global History of Architecture*, the cathedrals history is outlined in chronological order. The information notes each historic event rather than focusing on the architecture. The text notes the dissolution in the late 1530's, as well as its repurpose in the 17th, 18th, and 19th centuries; none of which is mentioned in *A Global History of Architecture* (Durham Cathedral, 2018). In comparison, the online web page at wikipedia.org embodies more information, however expresses little architectural significance as we see in *A Global History of Architecture*.

Speyer Cathedral:

Text of Ching's *A Global History of Architecture* describes the implications of rapidly growing infrastructure in the early 1030's. Stone vaulting became increasingly popular, as the technique formed a profound spatial identity. The vaults allowed a structure to seem compressed and measured, as one whole piece, as compared to elements upon elements. As compared to the earlier Romanesque style architecture, stone vaulting relied less on the buttresses and more on the thickness of the walls to support the building. Though short lived, this technique improved upon previous flying buttress systems. Sketches and an image accompany the text (Ching et al., 2011, p. 269).

At wikipedia.org the Speyer Cathedral is described in chronological order, from the middle ages to present. The cathedrals early history is examined in its politics, construction and religious devotion. Late periods between the 1600's and 1800's are noted, as well as its present day condition (Speyer Cathedral, 2018). The difference in organization between the two sources is clear. On one hand Ching's *A Global History of Architecture* mentions only the role in which emerging architectural techniques of the early 1000CE era shaped the Speyer Cathedral. Whereas wikipedia.org encapsulates nearly all significant historical information, yet offers little information on these seemingly important architectural techniques.

2. *During this period, 800 CE to 1400 CE, we note a structural change in the world economy, from agrarian-village societies to urban mercantile economies based on large-scale agriculture. What were some of the technical advances in the agriculture and economy of China, South East Asia, and Europe and how did they impact the development of cities?*

In western Asia, iron, which had primarily been used in the manufacturing of weapons, became fundamental to the growth of the agricultural economy, in 800 BCE. The invention and technical advancement of farming technologies such as the plow and wheel allowed the quick gathering and processing of crops, thus yielding a more profitable harvest. The dependence of grain from Mesopotamia and Egypt soon dissolved following this discovery. In sub-Saharan Africa these technologies also expedited the land clearing process, which previously obstructed the expansion of farming. However, this led to deforestation and the exhaustion of resources which caused irreversible environmental degradation (Ching et al., 2011, p. 98). In Central America, cultivation extended beyond the land to the sea, where fish, clams, and turtles were harvested, by use of natural dams. Dredging allowed waterways to remain flooded, yielding a greater bounty for the Olmecs. The Olmecs genetically engineered foods such as corn, rice, millet and many other grains as well as the rubber tree. Most importantly, the development of maize became essential to the advancement of Mesoamerican agriculture. As compared to Eurasia, where farmers switched between crops each year, the Mesoamericans created a system of natural succession, where different species of crops could be intermixed. This system prolonged the life of the soil to nearly an infinite amount of time. The system was adopted by farmers across the continent and in Peru, which quickly conceived organized culture (Ching et al., 2011, p. 88).

- Using annotated ground plans, compare and contrast how belief, ritual, and function were accommodated in the following two monastic establishments: the (planned but never realized) monastery of St. Gall, Switzerland, and the Horyu-ji Temple, Nara, Japan.

There are many differences in the way which belief, ritual and function were accommodated in the spatial layout of St. Gall and the Horyu-ji Temple. On one hand, the envisioned monastery at St. Gall contained numerous buildings, including a granary, cloister, garden, guest lodge and several workshops which surrounded the church. Each building served a unique purpose, though were located within close proximity of one another and shared similar building heights, perhaps confusing their individual identities. The dormitory, south of the church, sanctioned about 110 monks and an equal amount of supporting workers, called *laypeople*. The monk's cloister opened on all sides to the surrounding buildings, yet maintained privacy for the monks who could access the altar without being seen by the public (Ching et al., 2011, pp. 324-325). On the other hand, the Horyu-ji Temple complex evoked a dynamic contrast between vertical and horizontal masses. This balanced the architecture, suggesting a clash of hierarchy between the height and width of the structure. The Pagoda and Golden hall are situated within the complex walls, with generous space between, as compared to St. Gall. Thus, these structures appear to have their own spatial identities. The inner gate, located on the south wall is slightly off axis, giving precedence to the Pagoda tower as one enters. (Ching et al., 2011, pp. 291-292).

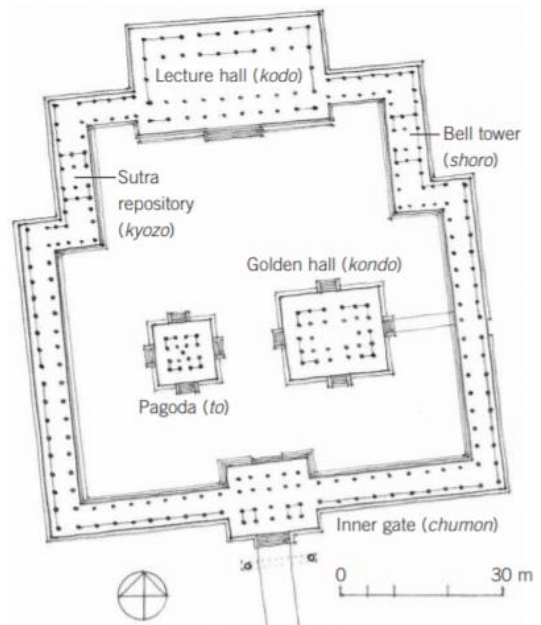


Figure 1 - Ground Plan of Horyu-ji Temple, Ching D.K., 2011, from A Global History of Architecture, p.p. 291

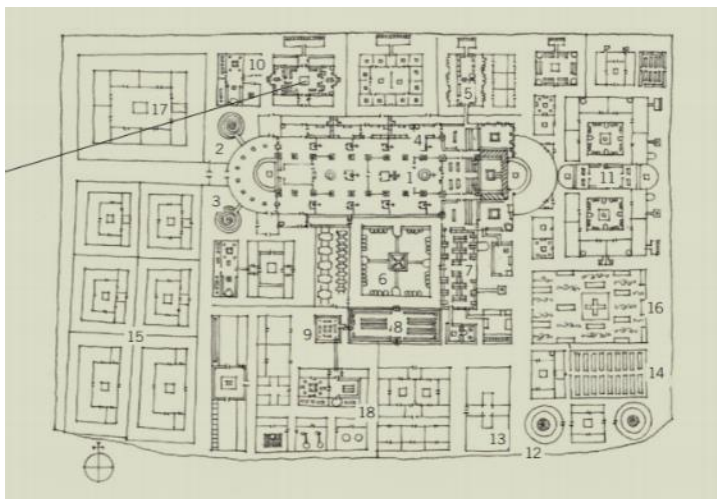


Figure 2 - Ground Plan of St. Gall, Francis Ching D.K., 2011, from A Global History of Architecture, p.p. 325

4. *The development of monastic institutions supported both civic and economic order as well as religious institutionalization. Focusing on the plans for the monastery of St. Gall, Switzerland, and on those for the Mahabodhi Temple, India (A Global History of Architecture p. 242), describe how these purposes were served in both symbolic and practical terms.*

The plan of St. Gall, a monastic institution, conveyed both civic and economic order. Organized into three zones; the open area to the west, the monastery in the middle and the garden, infirmary and cemetery to the east, the institution allocated space for both the foreseeable public and resident Monk's. Some forty buildings were earmarked for the Monk's and *laypeople*. The separation of monastic's from the community came in the form of special entrances and walkways to the church, which isolated the public. Symbolism in the alter atop freestanding towers located at the entrance, consecrated to St. Michael and St. Gabriel, whom were celestial guardians (Ching et al., 2011, pp. 324-325). In south Asia, the Mahabodhi Temple conceived religious institutionalization and civic order. Built adjacent to the pipal tree, believed to be the spot where Buddha sat, the temple complements the Bodh Gaya garden complex. Though substantial restoration work has been done to the temple, it remains as described by Hsuan Tsang in 637CE. The temple adorns carvings of gems topped by a copper gilded stupa (Ching et al., 2011, p. 242). Within the central Chamber sits a statue of the enthroned Buddha (Mahabodhi Temple, 2018). On the grounds of the monastery were several stupas and shrines which honored royal officials (Ching et al., 2011, p. 242).

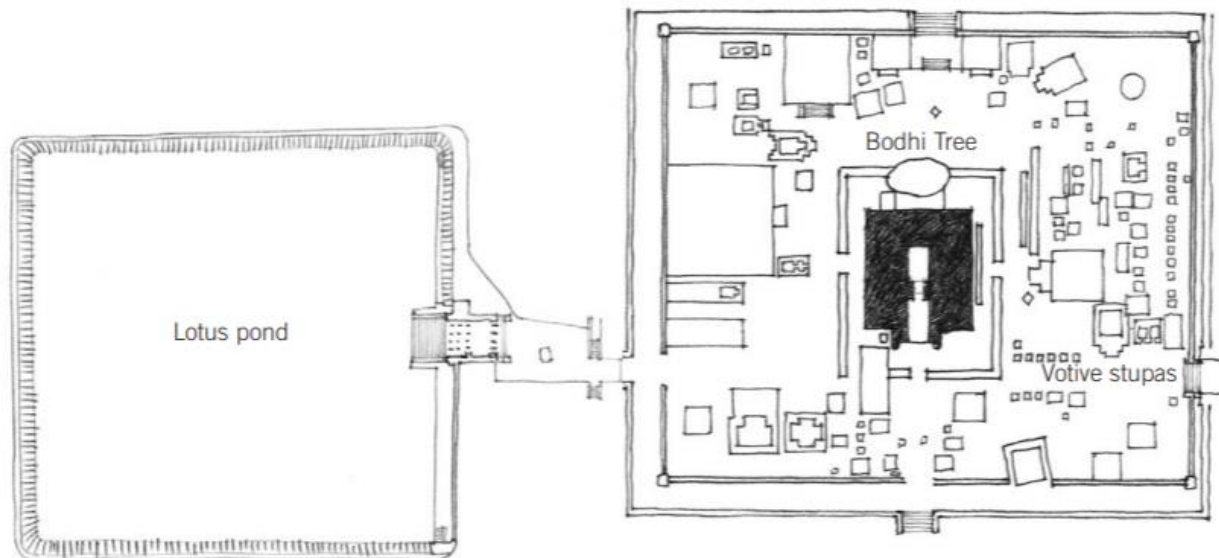


Figure 3 - Plan of Mahabodhi Temple, Francis Ching D.K., 2011, from A Global History of Architecture, p.p. 325

5. *The minaret, (e.g., Qutb Minar), either attached to a mosque or free-standing, became a symbol of Islam from West Asia to India. What were its distinguishing characteristics and what practical functions did it serve?*

Built by Qutb-ud-din Aibak around 1192, the Qutb Minar exceeded all victory towers of the era. As primarily a symbol figure of Islam's victory the tower adorned red and grey sandstone, as well as white marble at its top (Ching et al., 2011, p. 407). Alike Minaret of Jam, in Afghanistan, engravings in Parso-Arabic and Nagari characters symbolize the birth of the tower. Within the tower was a spiral staircase of 379 steps, giving access to the top of the minaret (Qutb Minar, 2018). The Mosque of Samarra, located in Iraq, measures 171 feet tall and for some time was the tallest mosque in the world. It is suggested to reflect the progression of early Islamic culture from an autonomous society to a hierarchical social order, in the Abbasid period. The increasingly popular concept of a monarchy was employed by Islamic rulers around 850CE, and thus the mosque as an establishment became disjoined from these rulers. This perhaps indicates a separation between Islamic monarchies and religious institutions (Ching et al., 2011, p. 305). At Taj Mahal, minarets (figure 4) imply the containment of the complex, existing at each corner. In this sense the complex acquired a three-dimensional shape. Though the three-story towers were dominated by the tomb of Mumtaz Mahal which rose above a imaginary building plain, towards the heavens (Ching et al., 2011, p. 508).

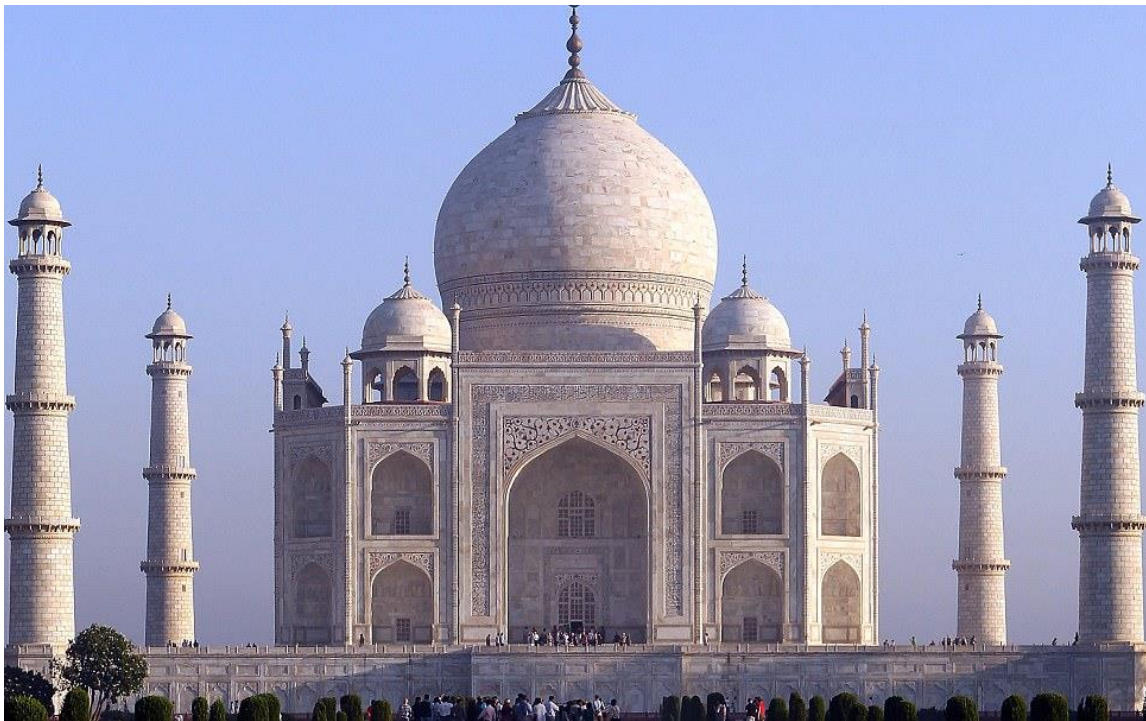


Figure 4 - Photo of Taj Mahal, Estefania Simón, 2014, <http://forbes.es/listas/5187/que-pais-tiene-mas-dias-festivos/>

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Figure 1 - Ground Plan of Horyu-ji Temple, Ching D.K., 2011, from *A Global History of Architecture*, p.p. 291

Figure 2 - Ground Plan of St. Gall, Francis Ching D.K., 2011, from *A Global History of Architecture*, p.p. 325

Figure 3 - Plan of Mahabodhi Temple, Francis Ching D.K., 2011, from *A Global History of Architecture*, p.p. 325

Figure 4 - Photo of Taj Mahal, Estefania Simón, 2014, <http://forbes.es/listas/5187/que-pais-tiene-mas-dias-festivos/>