

Chapter 1 : History & Architecture | Shedd Aquarium

The history of architecture traces the changes in architecture through various traditions, regions, overarching stylistic trends, and dates. The branches of architecture are civil, sacred, naval, military, [1] and landscape architecture.

Society sets the goals and assigns to the architect the job of finding the means of achieving them. This section of the article is concerned with architectural typology, with the role of society in determining the kinds of architecture, and with planning—the role of the architect in adapting designs to particular uses and to the general physical needs of human beings. Architectural types Architecture is created only to fulfill the specifications of an individual or group. Economic law prevents architects from emulating their fellow artists in producing works for which the demand is nonexistent or only potential. So the types of architecture depend upon social formations and may be classified according to the role of the patron in the community. The types that will be discussed here—domestic, religious, governmental, recreational, welfare and educational, and commercial and industrial—represent the simplest classification; a scientific typology of architecture would require a more detailed analysis. Domestic architecture Domestic architecture is produced for the social unit: It provides shelter and security for the basic physical functions of life and at times also for commercial, industrial, or agricultural activities that involve the family unit rather than the community. The basic requirements of domestic architecture are simple: A single room with sturdy walls and roof, a door, a window, and a hearth are the necessities; all else is luxury. In the industrialized United States, for instance, barns are being built according to a design employed in Europe in the 1st millennium bce. The forces that produce a dynamic evolution of architectural style in communal building are usually inactive in the home and farm. The lives of average people may be unaltered by the most fundamental changes in their institutions. The people can be successively slaves, the subjects of a monarchy, and voting citizens without having the means or the desire to change their customs, techniques, or surroundings. Economic pressure is the major factor that causes average individuals to restrict their demands to a level far below that which the technology of their time is capable of maintaining. Frequently they build new structures with old techniques because experiment and innovation are more costly than repetition. But in wealthy cultures economy permits and customs encourage architecture to provide conveniences such as sanitation, lighting, and heating, as well as separate areas for distinct functions, and these may come to be regarded as necessities. The same causes tend to replace the conservatism of the home with the aspirations of institutional architecture and to emphasize the expressive as well as the utilitarian function. In almost every civilization the pattern of society gives to a few of its members the power to utilize the resources of the community in the construction of their homes, palaces, villas, gardens, and places of recreation. These few, whose advantages usually arise from economic, religious, or class distinctions, are able to enjoy an infinite variety of domestic activities connected with the mores of their position. These can include even communal functions: Power architecture may have a complex expressive function, too, since the symbolizing of power by elegance or display is a responsibility or a necessity and often a fault of the powerful. Since this function usually is sought not so much to delight the patrons as to demonstrate their social position to others, power architecture becomes communal as well as domestic. In democracies such as ancient Greece and in the modern Western world, this show of power may have been more reserved, but it is still distinguishable. Versailles, Palace of Versailles, France. Eric Pouhier Group housing A third type of domestic architecture accommodates the group rather than the unit and is therefore public as well as private. It is familiar through the widespread development of mass housing in the modern world, in which individuals or families find living space either in multiple dwellings or in single units produced in quantity. Group housing is produced by many kinds of cultures: The apartment house was developed independently by the imperial Romans of antiquity to suit urban conditions and by the American Indians to suit agricultural conditions. Group architecture may be power architecture as well, particularly when land values are too high to permit even the wealthy to build privately, as in the 17th-century Place des Vosges in Paris, where aristocratic mansions were designed uniformly around a square, or in the 18th-century flats in English towns and spas. Although most domestic architecture of the 20th century employed the style

and techniques of the past, the exceptions are more numerous and more important for the development of architecture than ever before. This is because the distribution of wealth and power is widespread in parts of the world where architecture is vital and because the modern state has assumed responsibility for much high-quality housing. Place des VosgesPlace des Vosges, Paris.

Chapter 2 : Architect - Wikipedia

Work in Ani & Shirak. Trdat is sometimes credited as the architect responsible for the construction of several churches at the Sanahin Monastery, the Haghpat Monastery, and the Marmashen Monastery, which are all located in present-day Armenia.

Many were Ivy-league educated, all accomplished in their own right. However, sprinkled throughout the service were a handful of OSSers who became very well-known and who achieved great fame. Counted among their ranks is Eero Saarinen pronounced air-oh , the prodigious Finnish American architect and industrial designer known for his neo-futuristic style. He lent his services to the spy agency before achieving world-wide fame as one of the masters of American 20th-century architecture. Saarinen was a prolific architect who designed national memorials, corporate campuses, and airport terminals. His most widely recognized design is the iconic Gateway Arch in St. Louis, MO, the tallest man-made national monument in the United States. MIT chapel interior, designed by Eero Saarinen. An intensely serious architect, Eero flawlessly designed buildings to make expressive statements. He was creative, open-minded, and original in his designs. He paid close attention to every minute detail in the design process. His originality, creativity, and pursuit of perfection landed him on the cover of Time Magazine, earned him first place in numerous architectural contests, and caused his work to be showcased on the silver screen. He was the son of Loja Saarinen, a renowned textile designer, and Eliel Saarinen, a famous National Romantic style architect. Eero grew up in the countryside of Finland in a house designed by his father and two others: The residence, located deep in the forest, was built of logs and stone, and it was surrounded by thick woods, wild nature, and the banks of the White Lake. Inspired by his placement, the Saarinen family moved to an estate in Bloomfield Hills, Michigan the following year. Eero was 13 years old. Thus, Eero moved from one enchanted manor to the next. Eliel Saarinen Eero attended Cranbrook Academy where his father became the first president as well as chief architect. In , Eero moved to Paris, France, to study sculpture. A year later he returned to the US to attend Yale University, where he graduated from the Department of Architecture in He was then awarded a scholarship that funded his travel to Europe and North Africa. And the Winner isâ€¦! After his European tour, Eero joined his father at Cranbrook to teach, work on furniture designs, and compete in architecture contests. It was very common in those days for architecture competitions to be held. Though ultimately the design was rejected by the Commission of Fine Arts, Eero, just 29, was prominently featured in the press for his winning design that beat out other entries. The prize packet included exhibition of their work and contracts with major department stores. He was recruited by a former classmate at Yale to join the OSS where he worked until He was responsible for designing and constructing military schools and situation rooms, along with the display equipment used in the various War Department conference rooms. He created a revolutionary three-dimensional organization chart that was instrumental in presenting problems of procedure and work-flow through various parts of the organization. Eero also used his creative talents to build true-to-scale models. He built models of weapons for use in training scenarios, and he created models and props for use in films. Saarinen lent his creative talents to other government organizations as well throughout the war. His architecture firm was chosen by the National Capitol Housing Authority to aid the war housing program by designing the Hillside Dwelling. While undertaking this project, Eero continued to work for the OSS twice a week. His experience and experiments during his time with the OSS are reflected in his later design work. Because of his unique talents and specialized experience, Eero was deemed irreplaceable. Their first major undertaking together was designing the General Motors Technical Center which was constructed in That same year, Eero landed on the cover of Time magazine, a rare accomplishment for an architect to achieve. His work was featured in other magazines such as Vogue, Esquire, and Playboy. Sydney Opera House at dusk. A year after appearing in Time Magazine, Saarinen was asked to be one of four judges to choose the winning entry for the international design competition for the Sydney Opera House in Australia. There were over entries to choose from, the majority of which had already been eliminated by the time Eero sorted through them. Eero was impressed by the design, which bore similarities to his own work. Louis Gateway Arch In , the Jefferson

National Expansion Memorial Association held a competition to choose a design that would commemorate the massive flow of pioneers through St. Louis during the s. Eero and his father Eliel entered the competition, individually. They were now rivals. Both worked tirelessly on their own designs and felt confident with their submissions. Eero Saarinen with Gateway Arch model. Eliel was elated to learn his design had been chosen, and he commenced celebrating. Three days into the victory festivities, however, Eliel discovered a discrepancy in the telegram that had announced the winner. It was the younger Saarinen whose design had been chosen. It signified the beginning of his career independent of his fathers, and it validated his creative aspirations and ideas. The grounds themselves were carefully landscaped with ponds, trees and walkways to reflect the gentle curve of the foot tall arch. He died while undergoing an operation to remove a tumor from the creative center of his brain. Along with the arch, there were numerous other projects left to be completed by his colleagues. Louis Gateway Arch, he was responsible for numerous other projects as well. Eero drew inspiration for the TWA design one morning while eating a grapefruit. He split the fruit in half and flipped it upside down and pressed on the center. As he did this, the sides of the grapefruit bulged up and thus was born his inspiration for the famed curved concrete shells of TWA. The terminal sat vacant for the next 15 years. Further Accomplishments Chair designed by Eero Saarinen. He designed the American embassies in London and Oslo. Eero was famously known for being obsessed with revision. He was also known to build large models that would accommodate his peering inside for a complete inspection. He did the same with his furniture designs, building hundreds of models and full scale mock-ups to achieve the perfect curve, to find the right line, and derive the most pleasing proportions. The Wombchair and the Tulip series of chairs and tables were symbols of the space age and were particularly popular. Eero was also elected a member of the National Institute of Arts and Letters in If you would like to learn more about the women and men, like Eero, who made the Office of Strategic Services extraordinary, see our collection of OSS 75th Anniversary stories. Dec 21,

Chapter 3 : History of the Architect of the Capitol | Architect of the Capitol

A Roman architect sets out the principles of his craft in ten volumes. He deals with all aspects, from general principles to materials, and from the Orders of architecture to stucco work, painting, aqueducts and machinery.

The sign dates to , after Gladys Schondorf, who owns the Somers, N. Working with the town historian, she learned that her 2. Sutton ever lived within its walls. As Schondorf discovered, tracing the history of an old house is like making your way through an overgrown garden maze. In most cases, unless you are a descendant of the original owners and have an attic full of memorabilia, finding out when your house was built, who lived within its walls, and what changes various homeowners wrought can be a challengingâ€”but fascinatingâ€”journey. Anyone who undertakes it will need to be equal parts architectural historian, oral historian, research librarian and genealogist. The first step in compiling a house history is to identify the era in which the structure was built. With the help of an architecture book or two, most home owners can discern a core styleâ€”even among a century or two of renovations and additionsâ€”by examining the silhouette of the house and its layout, as well as the style of the windows, doors, and other features. A mansard roof, for example, may be of the Second Empire style of the late 19th-century, while a hip roof might indicate a Queen Anne house built a decade later. But keep in mind that while looking at visible features reveals a lot, there may be a hidden chapter to the story. Many a contractor has been surprised to uncover an old wall, a few stair steps, or some other vestige during a renovation. If you are not inclined to dismantle your house, a tour of the neighborhood to scope out similar homes can suggest the original blueprint lying within altered walls. Photo by John Kerick Understanding how any home got from there to here requires careful observation. Some design elements and craftsmanship clearly point to a particular era, while other details that seem original can throw research off track. Like most old houses, the Schondorf house in Somers, N. Schondorf took her research several steps further and invited some local experts to assess her home. As they studied the exterior and interior of the Schondorf house, John Massengale, an architect and historian from nearby Bedford, N. There was, for instance, a column motif indoors and out, as well as a casing detail around the front door, interior doors, and mantels. The original house may have gone up earlier and received a stylistic facelift, or it may have been built later, after the style waned. When Massengale and Gengo descended to the cellar of the Schondorf house, the consistent foundation under both the "old" and "new" parts told them the whole house was built at one time. A closer look at the floor joists, foundation, and timbers supported their conclusion. Massengale and Gengo maintained that the milled boards used in the frame came into use too late for even the center part of the house, assumed by the Schondorfs to be the 18th-century core, to have been built then. Though the timbers are clearly hewn, the joists supporting the center section have the straight and parallel teeth marks typical of a 19th-century water-milled board. The portico columns on this Greek Revival house seem to be poorly designed 20th-century additions because they are set in too far from the entablature above. Other details that help rough-date a house include nails, paint colors, and molding and muntin profiles. Before the 20th century, all of these had styles particular to certain eras. The manufacture of building materials became fairly standardized by the late 19th century. The type of nails in the frame, for exampleâ€”wrought, cut, or wireâ€”direct the fastener-educated to a particular period. Professionals can help date elements of a house by examining a cross section of a paint chip, says Brian Powell, an architectural conservator with Building Conservation Associates. If Powell finds that a room had 10 layers of paint, for example, but a door casing only had the last eight, he would then know that the casing probably appeared around the same time as the third layer of paint on the walls. Chemical qualities of that layer might link it to a period of manufacture. Hardware also tells a storyâ€”albeit a difficult one to decipher because sophisticated hinges and bolts were available from Europe at the same time that early local hardware remained relatively crude. But if a hinge design, for example, matches the estimated date of a door, and that hinge shows no sign of having been changed paint irregularities and superfluous screw holes are big clues , then it may confirm the estimate. On the other hand, if the hardware is from the days of mass productionâ€”from the Victorian era onâ€”old catalogs, available in many university libraries or historical societies, become a great resource. When all the

available clues are taken into consideration, the possible construction date of a house ideally falls into a one or two year window: A Concise Guide, agreed that the authentic Greek Revival style meant a post construction. Photo by John Kerick Exterior inconsistencies can point up structural changes. Official records should back up any guesstimate about construction dates and alterations, especially for a house built in the 1800s. Every state has a preservation officer who can guide a homeowner to the right resources: The latter will have the best catalogs of municipal information, including maps, local newspapers, and the genealogical information that reveals fascinating details about the people who lived their lives in your home. Florence Oliver, the town historian for Somers, did the deed trace for Gladys Schondorf in 1925, working backward from the current owners. She was able to trace the sale of the property through the previous 23 owners, as far back as the initial colonial landowner at the turn of the 18th century. The house itself is first mentioned specifically in a deed dated 1785, in which a man named George Van Kleek bought an acre lot from his sister Theresa "with the provision that their mother, Sarah, could occupy and enjoy during her lifetime one kitchen, two bedrooms, one parlor, privilege in the garret and cellar in the dwelling house and the use of a quarter of an acre for a garden. Looking at maps in chronological order, a researcher can pinpoint the date a house first appears in a town survey. For homes built after 1850, Sanborn maps—named for the firm in Pelham, New York, that created them—give excellent descriptions of size, layout, and materials for houses in more densely populated areas the maps were used by insurance companies. They are usually on file with historical societies or available through the Sanborn company, which still exists. Historical societies or libraries usually have them, and they are available through the present day. City directories exist even from the days before phones—as far back as the 1800s or earlier. Newspapers also sometimes yield surprising information. This vertical piece of wood was once part of a corner board that ran between the original rooflines of two sections of the house. When the roof was raised on the smaller section, only the face of the board remained. A patch to the lower end of the board reveals that something changed. Old photographs provide an unambiguous source of evidence, documenting both small and large changes to the footprint of a house. Lacking such a gold mine, a researcher can plumb photo archives in local libraries and historical societies. Lauren Glant was so delighted with the information she uncovered about her Brooklyn, N. Presumably this is when the Greek Revival house was built. It just means that this particular house most likely dates to that time. She imagines total renovations, and somewhere underneath all the plaster and facelifts, a rough little cottage. After all, what did those previous landowners live in? But what if she finally concludes that the house was definitely built in 1850? A tiny sample or plug from a wall is removed, cast in resin, and polished perpendicular to the layers. An examination under high magnification and ultraviolet light will help distinguish between even "a million shades of white," says Brian Powell of Building Conservation Associates in Boston, Massachusetts. Because colors tend to fade over time, paint conservators look for drips and other thick areas that have a more protected core. Once the right color is identified, the experts fingerprint it by measuring it on a chromometer. Then they match it to a paint chip from a modern-day manufacturer. Home owners can use a cruder technique called cratering. Slice a small patch of paint away from the wood, then lightly sand around it. Layers of color will feather away from the center and gradually reveal the earliest coats. The recessed panel on this front door plants it squarely in the 1800s a lesser quality door, the other side has only flush panels. Raised panels were typical in the 1800s. Where to Find It.

Chapter 4 : Eero Saarinen: A Place in Architectural History – Central Intelligence Agency

An architect is a person who plans, designs, and reviews the construction of www.nxgvision.com practice architecture means to provide services in connection with the design of buildings and the space within the site surrounding the buildings, that have as their principal purpose human occupancy or use.

The largest, Sparta, controlled about square miles of territory; the smallest had just a few hundred people. However, by the dawn of the Archaic period in the seventh century B. They all had economies that were based on agriculture, not trade: Also, most had overthrown their hereditary kings, or basileus, and were ruled by a small number of wealthy aristocrats. Visit Website These people monopolized political power. For example, they refused to let ordinary people serve on councils or assemblies. They also monopolized the best farmland, and some even claimed to be descended from the gods. Land was the most important source of wealth in the city-states; it was also, obviously, in finite supply. The pressure of population growth pushed many men away from their home poleis and into sparsely populated areas around Greece and the Aegean. By the end of the seventh century B. Each of these poleis was an independent city-state. In this way, the colonies of the Archaic period were different from other colonies we are familiar with: The people who lived there were not ruled by or bound to the city-states from which they came. The new poleis were self-governing and self-sufficient. The Rise of the Tyrants As time passed and their populations grew, many of these agricultural city-states began to produce consumer goods such as pottery, cloth, wine and metalwork. Trade in these goods made some people—usually not members of the old aristocracy—very wealthy. These people resented the unchecked power of the oligarchs and banded together, sometimes with the aid of heavily-armed soldiers called hoplites, to put new leaders in charge. These leaders were known as tyrants. Some tyrants turned out to be just as autocratic as the oligarchs they replaced, while others proved to be enlightened leaders. Pheidon of Argos established an orderly system of weights and measures, for instance, while Theagenes of Megara brought running water to his city. However, their rule did not last: The colonial migrations of the Archaic period had an important effect on its art and literature: Sculptors created kouroi and korai, carefully proportioned human figures that served as memorials to the dead. Scientists and mathematicians made progress too: Anaximandros devised a theory of gravity; Xenophanes wrote about his discovery of fossils; and Pythagoras of Kroton discovered his famous theorem. The economic, political, technological and artistic developments of the Archaic period readied the Greek city-states for the monumental changes of the next few centuries.

Chapter 5 : History of Architecture I - Free Course by The Ohio State University on iTunes U

Architectural history falls within the broad category of social sciences. The study of architectural history helps one to understand the landscape and urban built environment, beginning with.

Enjoy the Famous Daily Cement: The secret of the new material is the lime which binds sand, water and clay. The Romans subsequently use finely ground volcanic lava in place of clay, deriving it mainly from the region of Pozzuoli. Their cement, known for this reason as pozzolanic, is the strongest mortar in history until the development of Portland cement. When small fragments of volcanic rubble are included, the result is concrete - making possible the great arches and aqueducts of Roman architecture, and playing its part in Roman roads. He deals with all aspects, from general principles to materials, and from the Orders of architecture to stucco work, painting, aqueducts and machinery. Written well before the greatest achievements of the Roman builders, this treatise is the most influential text in the entire history of architecture. Its precepts subsequently guide the classical revival in the Renaissance. Since then the proportions and theories of Greek and Roman architecture - as enshrined by Vitruvius - have remained the basis of architectural tradition. Arch, vault and dome: The spectacular temples of Egypt or Greece are exclusively trabeate, using flat horizontal lintels to span open spaces. The arch has far greater capabilities than the lintel, for it can combine many smaller units of stone or brick to make a greater whole. In Greek architecture a single vast stone lintel can reach between columns at most 7 yards apart. A Roman brick arch can span 50 yards. The arch, the vault and the dome are all applications of the same concept. The vault, or open-ended tunnel, is only an exceptionally deep arch. The dome is in effect a collection of arches all sharing the same centre. In each case the pressure of gravity on the material forming the arch will hold it together as long as the outward thrust is contained by buttresses. The Roman achievement in all these forms is greatly assisted by their development of concrete. An arch or dome bonded into solid form by a strong inner layer of concrete sits as one unit, exerting its weight downwards rather than outwards. This makes possible such miracles as the 1st-century Pont du Gard or the 2nd-century dome of the Pantheon. The Pont du Gard: Constructed in about AD 20, this gigantic structure is purely practical. The water flows gently downhill for a distance of almost 50 km. Some of the most impressive Roman bridges are over ravines. Its two massive central arches, feet wide and feet above the normal level of the river, are made of uncemented granite. Each wedge-shaped block weighs 8 tons. During construction these blocks are winched into place by a system of pulleys, powered perhaps by slave labour on a treadmill. They are supported on a huge timber structure standing on the rocks below - to be removed when the arch is complete. An equally remarkable feat of Roman construction is the building of bridges across rivers where no rock or island emerges from the water to carry the piers. The building of such bridges is made possible by the Roman perfection of cement and concrete, and by their invention of the cofferdam. In an extra touch of flamboyance, the centre of this one is open to the sky - a detail which adds no great architectural complication but provides a visual thrill. The interior of the building is circular placing round dome on square base is the next stage of sophistication. The Pantheon, built by Hadrian in about AD demolishing an earlier pantheon, or temple to all the gods, on the site, has been in continuous use as a place of worship for nearly years. For most of that time it has been a Christian church, dedicated in as Santa Maria Rotunda.

Chapter 6 : History | PMSM Architects

Throughout history, home designs have been influenced by the "architecture du jour." In the not far off future, as computer costs come down and construction companies change their methods, homeowners and builders will be able to create fantastic designs.

Roman aqueduct in Segovia, Spain Dome: Interior of the Pantheon in Rome Main article: Byzantine architecture The Byzantine Empire gradually emerged as a distinct artistic and cultural entity from the Roman Empire after AD , when the Roman Emperor Constantine moved the capital of the Roman Empire east from Rome to Byzantium later renamed Constantinople and now called Istanbul. The empire endured for more than a millennium, dramatically influencing Medieval and Renaissance-era architecture in Europe and, following the capture of Constantinople by the Ottoman Turks in , leading directly to the architecture of the Ottoman Empire. Early Byzantine architecture was built as a continuation of Roman architecture. Stylistic drift , technological advancement , and political and territorial changes meant that a distinct style gradually emerged which imbued certain influences from the Near East and used the Greek cross plan in church architecture. Buildings increased in geometric complexity , brick and plaster were used in addition to stone in the decoration of important public structures, classical orders were used more freely, mosaics replaced carved decoration, complex domes rested upon massive piers , and windows filtered light through thin sheets of alabaster to softly illuminate interiors. Persian architecture The ruins of Persepolis , approximately years old. The pre-Islamic styles draw on thousand years of architectural development from various civilizations of the Iranian plateau. The Islamic architecture of Iran in turn, draws ideas from its pre-Islamic predecessor, and has geometrical and repetitive forms, as well as surfaces that are richly decorated with glazed tiles, carved stucco, patterned brickwork, floral motifs, and calligraphy. The Achaemenids built on a grand scale. The artists and materials they used were brought in from practically all territories of what was then the largest state in the world. Pasargadae set the standard: Pasargadae along with Susa and Persepolis expressed the authority of The King of Kings, the staircases of the latter recording in relief sculpture the vast extent of the imperial frontier. With the emergence of the Parthians and Sassanids there was an appearance of new forms. Parthian innovations fully flowered during the Sassanid period with massive barrel-vaulted chambers, solid masonry domes, and tall columns. This influence was to remain for years to come. The roundness of the city of Baghdad in the Abbasid era for example, points to its Persian precedents such as Firouzabad in Fars. The fall of the Sassanid Empire to invading Islamic forces ironically led to the creation of remarkable religious buildings in Iran. Arts such as calligraphy , stucco work, mirror work, and mosaic work, became closely tied with architecture in Iran in the new era. Archaeological excavations have provided sufficient documents in support of the impacts of Sasanian architecture on the architecture of the Islamic world. Many experts believe the period of Persian architecture from the 15th through 17th Centuries to be the most brilliant of the post-Islamic era. Various structures such as mosques, mausoleums, bazaars, bridges, and different palaces have mainly survived from this period. In the old Persian architecture, semi-circular and oval-shaped vaults were of great interest, leading Safavi architects to display their extraordinary skills in making massive domes. In the words of D. Huff, a German archaeologist, the dome is the dominant element in Persian architecture. Domes can be seen frequently in the structure of bazaars and mosques, particularly during the Safavi period in Isfahan. Iranian domes are distinguished for their height, proportion of elements, beauty of form, and roundness of the dome stem. The outer surfaces of the domes are mostly mosaic faced, and create a magical view. However, the quality of ornaments was decreased in comparison with those of the 14th and 15th centuries. The great mosques of Khorasan , Isfahan , and Tabriz each used local geometry, local materials, and local building methods to express in their own ways the order, harmony, and unity of Islamic architecture. And thus when the major monuments of Islamic Persian architecture are examined, they reveal complex geometrical relationships, a studied hierarchy of form and ornament, and great depths of symbolic meaning. Islamic architecture Due to the extent of the Islamic conquests , Islamic architecture encompasses a wide range of architectural styles from the foundation of Islam to the present day. Both the religious and secular

designs have influenced the design and construction of buildings and structures within and outside the sphere of Islamic culture. Islamic architecture is typically based on the idea of relating to the secular or the religious. Notable Islamic architectural types include the early Abbasid buildings, T-type mosques, and the central-dome mosques of Anatolia. Islam does not encourage the worship of idols; therefore the architecture tends to be decorated with Arabic calligraphy from the Quran rather than illustrations of scenes from it. Various regional styles of medieval Islamic architecture, as show in religious structures from west to east Sudano-Sahelian:

Chapter 7 : Architecture & History - California State Capitol Museum in Sacramento, California

History of the Buildings and Grounds on Capitol Hill. Featured. History with a Side of Mystery: the Rotunda Benches. The benches of the Capitol Rotunda have also called a few other locations home over the years.

History of Architecture Throughout ancient and medieval history, most of the architectural design and construction was carried out by artisans – such as stone masons and carpenters , rising to the role of master builder. Until modern times, there was no clear distinction between architect and engineer. In Europe, the titles architect and engineer were primarily geographical variations that referred to the same person, often used interchangeably. Paper was not used in Europe for drawing until the 15th century but became increasingly available after Pencils were used more often for drawing by The availability of both allowed pre-construction drawings to be made by professionals. Until the 18th-century, buildings continued to be designed and set out by craftsmen with the exception of high-status projects. Such licensure usually requires an accredited university degree, successful completion of exams, and a training period. The use of terms and titles and the representation of oneself as an architect is restricted to licensed individuals by law, although in general, derivatives such as architectural designer are often not legally protected. To practice architecture implies the ability to practice independently of supervision. The term building design professional or Design professional , by contrast, is a much broader term that includes professionals who practice independently under an alternate profession, such as engineering professionals, or those who assist in the practice architecture under the supervision of a licensed architect, such as architectural technologists and intern architects. In many places, independent, non-licensed individuals may perform design services outside the professional restrictions, such design houses and other smaller structures. Practice[edit] In the architectural profession, technical and environmental knowledge, design and construction management, and an understanding of business are as important as design. However, the design is the driving force throughout the project and beyond. An architect accepts a commission from a client. The commission might involve preparing feasibility reports, building audits, the design of a building or of several buildings, structures, and the spaces among them. The architect participates in developing the requirements the client wants in the building. Throughout the project planning to occupancy , the architect co-ordinates a design team. Structural , mechanical , and electrical engineers and other specialists, are hired by the client or the architect, who must ensure that the work is co-ordinated to construct the design. Design role[edit] The architect hired by a client is responsible for creating a design concept that meets the requirements of that client and provides a facility suitable to the required use. In that, the architect must meet with and question the client to ascertain all the requirements and nuances of the planned project. Often the full brief is not entirely clear at the beginning, entailing a degree of risk in the design undertaking. The architect may make early proposals to the client which may rework the terms of the brief. The program or brief is essential to producing a project that meets all the needs of the owner – it is a guide for the architect in creating the design concept. It is generally expected that the design proposal s is both imaginative as well as pragmatic, but the precise extent and nature of these expectations will vary, depending on the place, time, finance, culture, and available crafts and technology in which the design takes place. Designing buildings is a very complex and demanding undertaking, no matter what the scale of the project might be. A strong degree of foresight is a prerequisite. Any design concept must at a very early stage in its generation take into account a great number of issues and variables which include qualities of space s , [8] the end-use and life-cycle of these proposed spaces, connections, relations, and aspects between spaces including how they are put together as well as the impact of proposals on the immediate and wider locality. Selection of appropriate materials and technology must be considered, tested and reviewed at an early stage in the design to ensure there are no setbacks such as higher-than-expected costs which may occur later. The site and its environs, as well as the culture and history of the place, will also influence the design. The design must also countenance increasing concerns with environmental sustainability. The architect may introduce intentionally or not , to greater or lesser degrees, aspects of mathematics and architecture , new or current architectural theory , or references to architectural history. A key part of the design is that the architect often consults with

engineers, surveyors and other specialists throughout the design, ensuring that aspects such as the structural supports and air conditioning elements are coordinated in the scheme as a whole. The control and planning of construction costs are also a part of these consultations. Coordination of the different aspects involves a high degree of specialized communication, including advanced computer technology such as BIM Building Information Management , CAD, and cloud-based technologies. At all times in the design, the architect reports back to the client who may have reservations or recommendations, introducing a further variable into the design. Architects deal with local and federal jurisdictions about regulations and building codes. The architect might need to comply with local planning and zoning laws, such as required setbacks, height limitations, parking requirements, transparency requirements windows , and land use. Some established jurisdictions require adherence to design and historic preservation guidelines. Health and safety risks form a vital part of the current design, and in many jurisdictions, design reports and records are required which include ongoing considerations such as materials and contaminants, waste management and recycling, traffic control and fire safety. Means of design[edit] Previously, architects employed drawings [6] to illustrate and generate design proposals. While conceptual sketches are still widely used by architects, [9] computer technology has now become the industry standard. Increasingly, computer software such as BIM is shaping how architects work. Renewable energy sources may be developed within the proposed building or via local or national renewable energy providers. As a result, the architect is required to remain abreast of current regulations which are continually tightening. Some new developments exhibit extremely low energy use. Construction role[edit] As the design becomes more advanced and detailed, specifications and detail designs are made of all the elements and components of the building. Techniques in the production of a building are continually advancing which places a demand on the architect to ensure that he or she remains up to date with these advances. Architects typically put projects to tender on behalf of their clients, advise on the award of the project to a general contractor , facilitate and then administer a contract of agreement which is often between the client and the contractor. Depending on the type of contract utilized, provisions for further sub-contract tenders may be required. The architect may require that some elements are covered by a warranty which specifies the expected life and other aspects of the material, product or work. In most jurisdictions, prior notification to the relevant local authority must be given before commencement on site, thus giving the local authority notice to carry out independent inspections. The architect will then review and inspect the progress of the work in coordination with the local authority. The architect will typically review contractor shop drawings and other submittals , prepare and issue site instructions, and provide Certificates for Payment to the contractor see also Design-bid-build which is based on the work done to date as well as any materials and other goods purchased or hired. In the United Kingdom and other countries, a quantity surveyor is often part of the team to provide cost consulting. With very large, complex projects, an independent construction manager is sometimes hired to assist in the design and to manage construction. In many jurisdictions, mandatory certification or assurance of the completed work or part of works is required. This demand for certification entails a high degree of risk - therefore, regular inspections of the work as it progresses on site is required to ensure that is in compliance with the design itself as well as with all relevant statutes and permissions. Alternate practice and specializations[edit] Recent decades have seen the rise of specializations within the profession. Many architects and architectural firms focus on certain project types for example, healthcare, retail, public housing, event management , technological expertise or project delivery methods. Some architects specialize as building code, building envelope , sustainable design , technical writing , historic preservation US or conservation UK , accessibility and other forms of specialist consultants. Many architects elect to move into real estate property development , corporate facilities planning, project management , construction management, interior design , city planning, or other related fields.

Chapter 8 : History | Architect of the Capitol

*The Architect: Chapters in the History of the Profession [Spiro Kostof, Dana Cuff] on www.nxgvision.com *FREE* shipping on qualifying offers. The Architect was the first book in fifty years to survey the role of the profession from its beginnings in ancient Egypt to the present.*

To see how architecture fits into the evolution of fine arts, see: Relationship Between Architecture and Art Ever since Antiquity, architecture - the art of designing and constructing buildings - has always been closely intertwined with the history of art, for at least three reasons. First, many public works especially religious buildings were designed with aesthetics in mind, as well as functionality. They were built to inspire as well as serve a public function. Second, in many of these buildings, the exteriors and interiors acted as showcases for fine art painting eg. Sistine Chapel, frieze and relief sculpture eg. The Parthenon, European Gothic cathedrals, stained glass art eg. Chartres Cathedral, and other artworks like mosaics and metalwork. Renaissance, Baroque, Rococo, Neoclassical influenced both architecture and the fine arts. Ancient Architecture Early architecture had two main functions: The richer the society, the more important these functions became. Egyptian Architecture The first great civilization to emerge around the Mediterranean basin was that of Egypt c. In addition to its own written language, religion and dynastic ruling class, it developed a unique style of Egyptian architecture, largely consisting of massive burial chambers in the form of Pyramids at Giza and underground tombs in the desolate Valley of the Kings, Luxor. Design was monumental but not architecturally complex and employed posts and lintels, rather than arches, although Egyptian expertise in stone had a strong influence on later Greek architecture. Famous examples of Egyptian pyramid architecture include: The Step Pyramid of Djoser c. Later, during the Middle and Late Kingdoms c. Temple of Amon, BCE onwards. These structures were adorned with a diverse range of artworks - few of which survive - including murals, panel paintings, sculptures, and metalwork, depicting various Gods, deities, rulers and symbolic animals in the unique Egyptian hieratic style of art, together with hieroglyphic inscriptions. For more specific details, see: For a comparison with the pyramid architecture of the early Americas, see: Sumerian Architecture Meanwhile, in Mesopotamia and Persia c. But in contrast to the pyramids of the Egyptian Pharaohs, ziggurats were not built as tombs but as man-made mountains to bring the Sumerian rulers and people closer to their Gods who supposedly dwelt high up in mountains to the east. Ziggurats were constructed from clay-fired bricks, often finished with coloured glazes. For more details, see: For other cultures of ancient Iraq, see: For an overall view, see: Early Irish Architecture Towards the end of the Stone Age, ceremonial megaliths structures built from large stones like the Knowth megalithic tomb c. The complex engravings unearthed at Newgrange mark the beginning of visual arts in Ireland. For more about ancient and medieval buildings, please see Architectural Monuments of Ireland. For older types of historical site, see Archeological Monuments of Ireland. Minoan architecture utilized a mixture of stone, mud-brick and plaster to construct elaborate palaces eg. Palace of Knossos c. Many of these buildings were decorated with colourful murals and fresco paintings, depicting mythological animal symbols eg. Unfortunately most Minoan architecture was destroyed by earthquakes around BCE. Crete was then taken over by the Myceneans from mainland Greece, from where a unified Greek culture and civilization emerged a few centuries later. Greek Architecture The history of art and architecture in Ancient Greece is divided into three basic eras: Limestone and marble was employed for columns and walls, while terracotta was used for roof tiles and ornaments. Decoration was done in metal, like bronze. Like painters and sculptors, Greek architects enjoyed none of the enhanced status accorded to their successors. They were not seen as artists but as tradesmen. Thus no names of architects are known before about the 5th century BCE. The most common types of public buildings were temples, municipal structures, theatres and sports stadiums. Architectural Methods of Ancient Greece Greek architecture used simple post-and-lintel building techniques. As a result, Greek architects were forced to employ a great many more stone columns to support short horizontal beams overhead. Moreover, they could not construct buildings with large interior spaces, without having rows of internal support columns. The standard construction format, used in public buildings like the Hephaestum at Athens, employed large blocks of limestone or a light porous

stone known as tuff. Marble, being scarcer and more valuable was reserved for sculptural decoration, except in the grandest buildings, such as the Parthenon on the Acropolis. Greek Building Design The typical rectangular building design was often surrounded by a columns on all four sides eg. Roofs were laid with timber beams covered by terracotta tiles, and were not domed. Pediments the flattened triangular shape at each gable end of the building were usually filled with sculptural decoration or friezes, as was the row of lintels along the top of each side wall, between the roof and the tops of the columns. In the late 4th and 5th centuries BCE, Greek architects began to depart from the strictly rectangular plan of traditional temples in favour of a circular structure the tholos , embellished with black marble to highlight certain architectural elements and provide rich colour contrasts. These buildings were famously adorned with a huge range of Greek sculpture - pedimental works, friezes, reliefs and various types of free-standing statue - of a figurative nature, depicting mythological heroes and events in Greek history and culture. Principles of Greek Architecture: This resulted in an aesthetically pleasing consistency of appearance regardless of size or materials used. There were three orders in early Greek architecture: The Doric style was common in mainland Greece and later spread to the Greek colonies in Italy. The Ionic style was employed in the cities of Ionia along the west coast of Turkey and other islands in the Aegean. Where the Doric style was formal and austere, the Ionic was less restrained and more decorative. The third style, Corinthian, came later and represented a more ornate development of the Ionic order. The differences between these styles is most plainly visible in the ratio between the base diameter and height of their columns. Doric architecture exemplified by Greek structures, like the Parthenon and the Temple of Hephaestus in Athens was more popular during the Classical age, while the Ionic style gained the upper hand during the more relaxed period of Hellenistic Art c. Sculpture of Ancient Greece. Roman Architecture Unlike the more creative and intellectual Greeks, the Romans were essentially practical people with a flair for engineering, construction and military matters. In their architecture, as in their art, they borrowed heavily from both the Etruscans eg. However, without Roman art - with its genius for copying and adapting Greek styles - most of the artistic achievements of Greek antiquity would have been lost. Architectural Priorities of Ancient Rome Roman architecture served the needs of the Roman state, which was keen to impress, entertain and cater for a growing population in relatively confined urban areas. Drainage was a common problem, as was security. This is exemplified by Roman architectural achievements in drainage systems, aqueducts eg. Numerous temples and theatres were also built. Later, as their empire spread, the Roman architects seized the opportunity to create new towns from scratch, designing urban grid-plans based on two wide streets - a north-south axis the *cardo* and an east-west axis the *decumanus*. The town centre was located at the intersection of the two roads. They also built upwards; for example, Ostia, a rich port city near Rome, boasted a number of 5-storey apartment blocks. Design was enhanced through architectural developments in the construction of arches and roof domes. Arches improved the efficiency and capability of bridges and aqueducts fewer support columns were needed to support the structure , while domed roofs not only permitted the building of larger open areas under cover, but also lent the exterior an impressive appearance of grandeur and majesty, as in several important secular and Christian basilicas, like the Pantheon. Developments in materials were also crucial, as chronicled by the Roman architect Vitruvius c. This is exemplified by the Roman invention of concrete *opus cementicium* , a mixture of lime mortar, sand, water, and stones, in the 3rd century BCE. This exceptionally strong and convenient substitute for stone revolutionized Roman engineering and architecture. As tile-covered concrete began to replace marble as the main building material, architects could be more daring. Buildings were freed from the rectangular Greek design-plan with its undomed roofs and lines of pillars supporting flat architraves and became less geometric and more free-flowing. Like their Egyptian and the Greek predecessors, architects in ancient Rome embellished their public buildings with a wide range of artworks, including: Roman sculpture especially reliefs, statues and busts of the Emperor , fresco murals, and mosaics. Situated to the east of the Roman Forum, the Colosseum took 8 years to build, had seating for 50, spectators. The shaft itself is made from 20 huge blocks of Carrara marble, each weighing about 40 tons. It stands about 30 metres in height and 4 metres in width. Later, in CE, following the death of Emperor Theodosius, the empire was divided into two parts: In addition, Christianity previously a minority sect was declared the sole official religion throughout the empire.

These twin developments impacted on architecture in two ways: Byzantine Architecture CE Byzantine architects - including numerous Italians who had moved to the new capital from Italy - continued the free-flowing tradition of Roman architecture, constructing a number of magnificent churches and religious buildings, during the era of early Christian art , such as: Sergius and Bacchus, all in Istanbul; the Church of St. Great secular buildings included: New architectural techniques included the use of concave triangular sections of masonry, known as pendentives, in order to carry the weight of the ceiling dome to corner piers. This led to the construction of larger and more magnificent domes, and greater open space inside the building, as exemplified in the Hagia Sophia. New decorative methods included the introduction of dazzling mosaics made from glass, rather than stone used by the Romans. The interiors of churches were also richly decorated with Byzantine art , such as gilding, murals and relief sculptures - but not statues as these were not venerated as icons. Use of Icons in Byzantine Religious Architecture In the Byzantine or Eastern Orthodox tradition of Christian art , only flat images or low relief sculptures are permissible in religious art. This cultural tradition held that three-dimensional representations glorified the human aspect of the flesh rather than the divine nature of the spirit, thus it opposed 3-D religious imagery. The Roman Christians, did not adopt these prohibitions, thus we still have religious sculpture in Catholic and Protestant architecture. As it was, the Byzantine style of iconography developed in a highly stylised manner and aimed to present complex theology in a very simple way, making it possible to educate and inspire even the illiterate.

Chapter 9 : Famous Architects In History | List of Well Known Architects

The Architect of the Capitol has a legacy and ancestry that is rooted in the very beginnings of the capital city of the United States, today known as Washington, D.C. In , President George Washington appointed three commissioners to provide suitable buildings and accommodations for Congress. The.