

GREEK CLASSICISM

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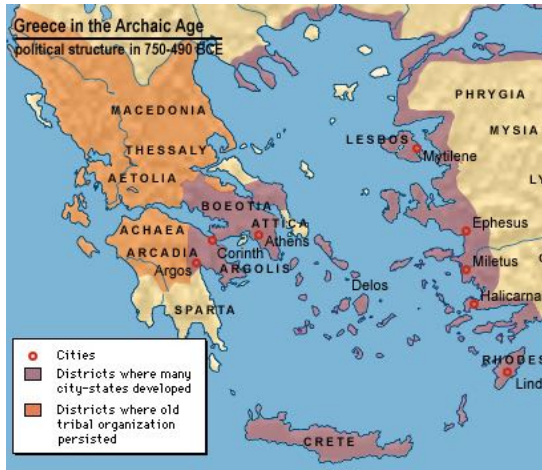
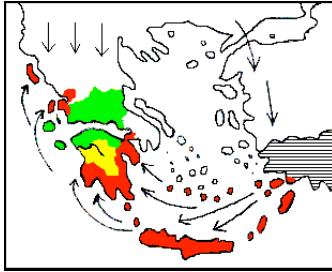
THE DORIAN INVASION

- After the long period of so called “Greek dark Ages” (13th – 9th century BC.), with the invasion of the Dorians during the 9th century, a new era in Greek civilization begins.
 - The Dorian invasion is one of the theories for the decline of the Mycenaean civilization although failing trade and natural disaster are equally possible theories.
- The Dorian invasion might have been part of the great migration of the time when the so-called “Sea People” were assaulting the eastern Mediterranean.
- There is some evidence that the Dorians reached Greece from the North although there are many theories about the location from which they came. It is however evident that of all the areas of Greece, the one that resisted and did not fall to the Dorian invasion was Attica and the city of Athens.



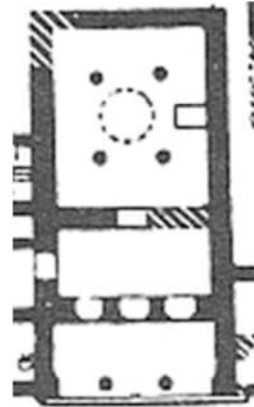
THE DORIAN INVASION CONT.

- Maps of Greece
 - The Dorian invasion vs the Achaean settlements.



THE ORIGINS OF THE GREEK TEMPLE

- The original form of the Greek temple is likely to be based on the form of the megaron, found in the early civilization of the Achaeans.
- Such a form is found in the early hekatonpeda structures, like the one found in Lefkandi dating circa 1000 BC.
 - In a form like that of the megaron, a cult statue would be located inside, and the building would act like a shell, protecting the cult statue. The religious ceremonies would take place outside at an altar which would have visual access to the cult statue through the main entry.

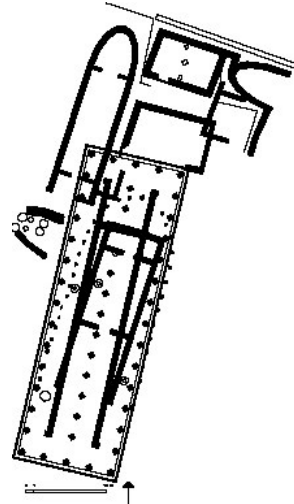


The Megaron of Tyrins (Lawrence)



MEGARA A & B AND TEMPLE OF APOLLON AT THERMON

- A series of structures erected at Thermon reveal evidence of the connection among the Hecatompelon structures, the Megaron type of structure of the Mycenaean era and the Greek temple that became a main reference of the architecture of classical antiquity.



The Megaron structures at Thermon, and the subsequent temple of Apollo



THE TOMB OF LEFKANDI AND THE PERISTYLE FEATURE

- A relationship between the form of the Megaron and that of the Temple.
 - Incorporating religious features to the structure.
- The tomb at Lefkandi dating circa 1000 BC. gives the first sign of the connection between the peripteral feature of the later temples and the megaron structure

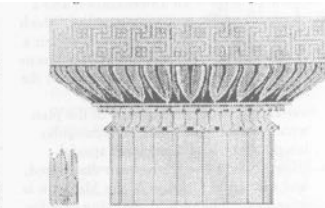
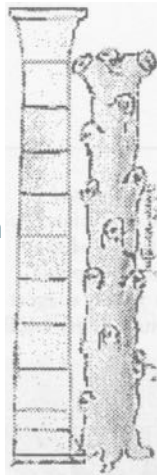
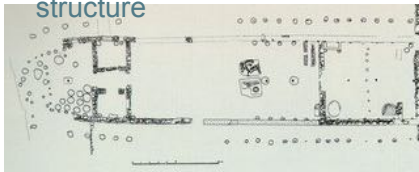


Fig. 1A: Doric capital as represented by Carl Boetticher. *Die Tectonic der Hellenen*. 1852

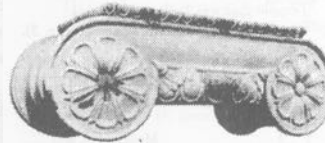


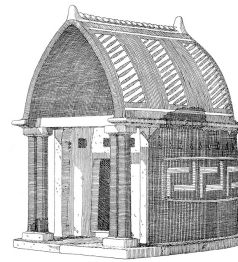
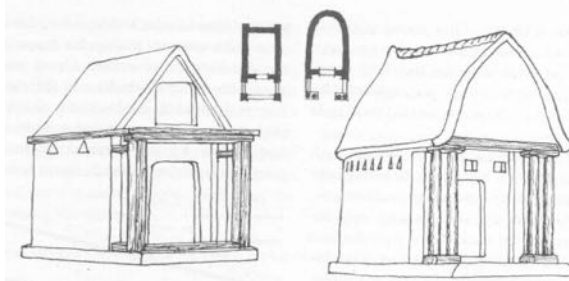
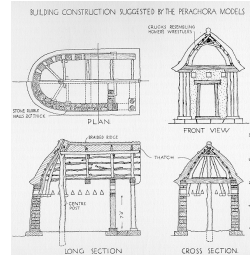
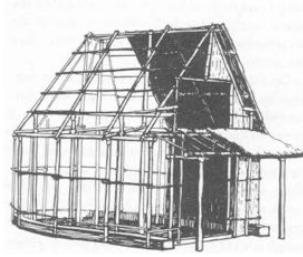
Fig. 1B: Restored Ionic capital from the Artemision of Ephesos. c. 560. *London British Museum*

The tomb of Lefkandi (Eretria) Francesco di Giorgio's drawing of a column and a tree, Boetticher's Doric capital, and an Ionic capital from the temple of Artemis at Ephesos



8TH CENTURY SANCTUARIES

- Wooden temple of Apollon Daphnephoros at Eretria
- Temple of Hera at Argos and Perachora

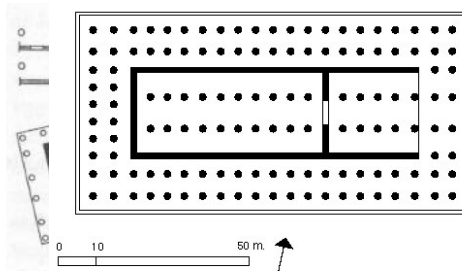


The Sanctuaries of Hera and Apollon Daphnephoros at Argos, Perachora and Eretria respectively.

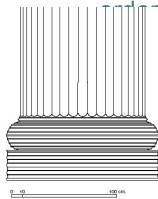


HEKATOMPEDON STRUCTURES

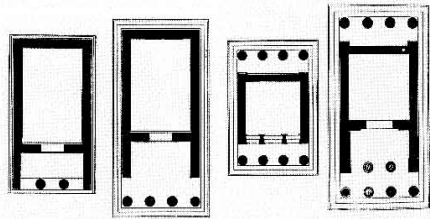
- Temple of Apollon Thermon
 - An early hekatompelon temple, the later phases of which were based on the Doric order.
- Temple of Hera at Samos
 - An early wooden hekatompelon that when rebuilt in stone during the last phase, it followed the Ionic



82. rest © D. Neel Smith 1989 drawn by M.W. Cutler Perseus archive: 1390.33.0336 Samos, Temple of Hera, 1st dipteral (so-called Rhoikos Temple) c. 540 B.C.

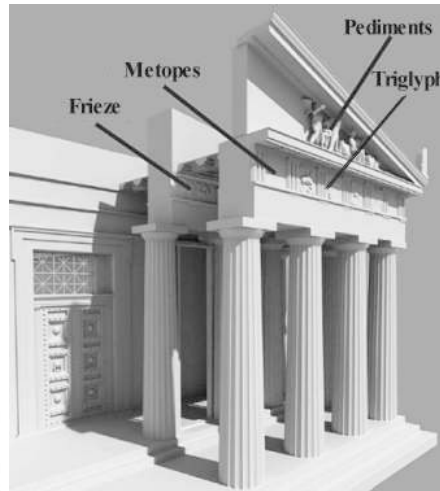
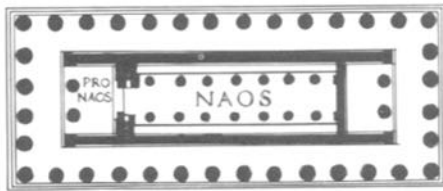


NOMENCLATURE IN CLASSICAL ARCHITECTURE

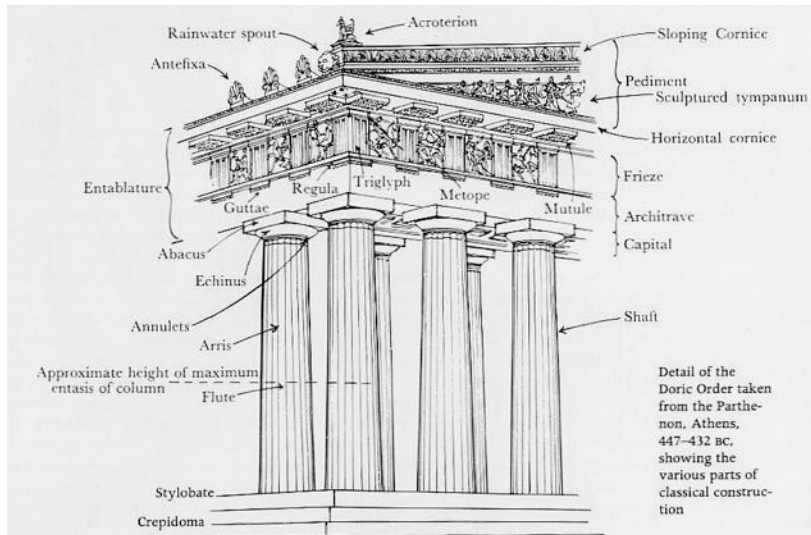


Temple in antis (left);
prostyle temple (right)

Amphiprostyle temple plans



NOMENCLATURE IN CLASSICAL ARCHITECTURE CONT.



Detail of the
Doric Order taken
from the Parthenon,
Athens,
447-432 BC,
showing the
various parts of
classical construction



THE ORDERS OF CLASSICAL ARCHITECTURE

Greek Doric:
Temple of Hephaistos (The Theseion),
Athens, c. 449 BC

Greek Ionic: The Erechtheion,
Athens, c. 421 BC

Greek Corinthian:
Monument of Lysicrates,
Athens, c. 334 BC

Greek Doric in Italy: Temple of Athena, Paestum,
510 BC

Roman Doric:
Theatre of Marcellus, Rome,
23–13 BC

Roman Ionic:
Temple of Fortuna Virilis,
Rome, second century BC



THE ORDERS OF CLASSICAL ARCHITECTURE CONT.

Roman Corinthian: The Pantheon, Rome, AD 120

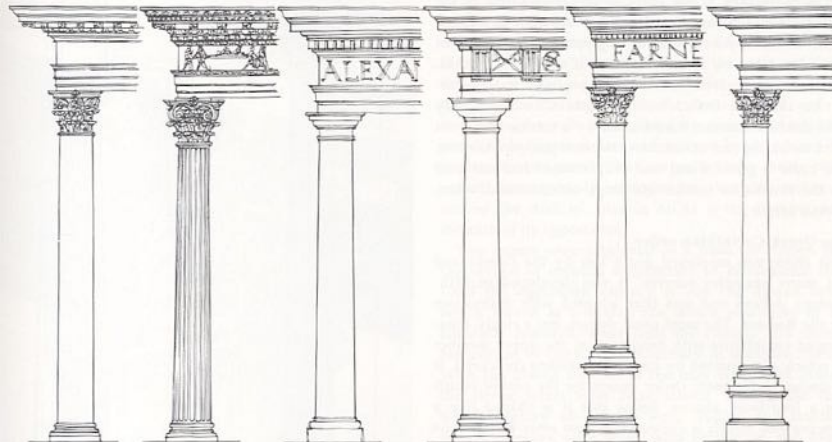
Roman Composite: Arch of Titus, Rome, AD 81

Italian Baroque Doric/Tuscan: St Peter's Piazza, Rome. Architect: Bernini, 1656–67

Italian Renaissance Doric: S. Pietro in Montorio, Rome. Architect: Bramante, 1500

Italian Renaissance Corinthian: Il Gesù, Rome. Architect: Della Porta, 1573

Italian Baroque Composite: S. Agnese, Rome. Architect: Borromini, 1645



THE IONIC ORDER



- Form of volutes was based on the Archimedean formula of the spiral and was mainly developed by the Ionians who settled in the Western coast of Asia Minor and the Aegean Islands.
- Temples and other structures of the Ionic order became luscious and rich in ornaments,
 - Strong influence from the Near and Middle East is very evident, particularly in the structures that were located in the coast of Asia Minor.



THE IONIC ORDER CONT.



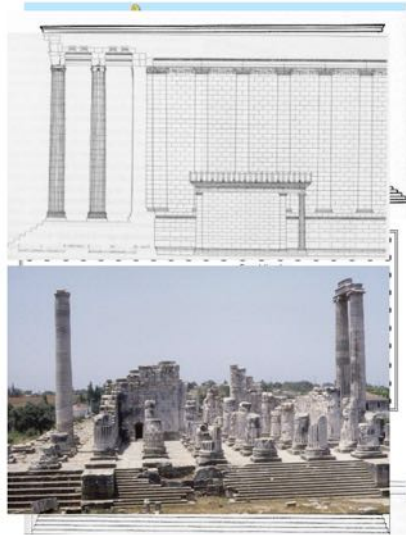
- The Ionic order allowed much more flexibility with proportions, although frequently unorthodox type of designs occurred.
 - The temple of Erechthos on the Athenian Acropolis constitutes an example. There are two porches on the sides although the one of the Caryatids is what makes this temple stand out.
 - On the rock of the Acropolis also is located another celebrated temple, the one of Athena Nike, or "Apteros Nike".
 - For the Athenians, the connection with the Ionians was very important, emphasizing that the Ionians and the Athenians are descendants of the same Greek tribe, the Achaeans.



THE IONIC ORDER CONT.



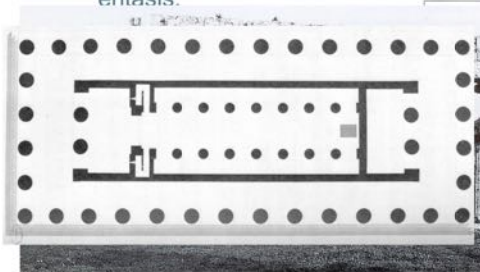
- In Ionia, during the Hellenistic era, the forms of the temples became so rich and luscious that set the temple of Artemis at Ephesos as one of the seven wonders of the world.
- The temple of Apollo at Dydimas however was one that reestablishes a set of standards – even processes – by its architecture. A massive structure as it was, it would not be possible to support a roof without the technology of trusses available, thus an open atrium was located inside the temple and a “naos” located within the larger structure.



THE DORIC ORDER



- Early temples with massive proportions
 - 6th & 5th century Doric temples in Magna Graecia.
 - Temple of Apollon in Syracuse
 - Temple of Hera at Paestum (Poseidonia) – effect of entasis.



THE DORIC ORDER CONT.

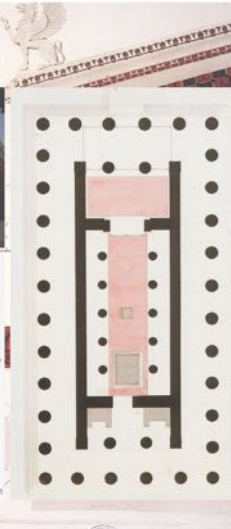


- Rules and Optical Refinements of the Doric Order

- A very good execution of the Doric order is the temple of Aphaea at Aegina.
 - It breaks however the rule $(x \times 2x + 1)$ of proportions and it does not implement the optical refinement of the curved Stylobate.



Peripheral hexastyle Greek temple of Aphaia, Aegina. Early fifth century BC. This partial restoration is cut away to show two tiers of interior columns
A and B Acroteria
C Antefixae



THE DORIC ORDER CONT.



- Temple of Athena Parthenos on the Acropolis.
- Signs of Hellenisticism in the art applied.



The pediments of the Parthenon and the West pediment of the temple of Zeus at Olympia.



THE CORINTHIAN ORDER



- Kallimachos conceives the idea of the Corinthian order from the basket with the acanthus leaves on the tomb of a girl.
- The choragic monument of Lysicrates (335 BC) may be the only edifice where the Corinthian order was applied in Greece before its fall to the Roman empire.

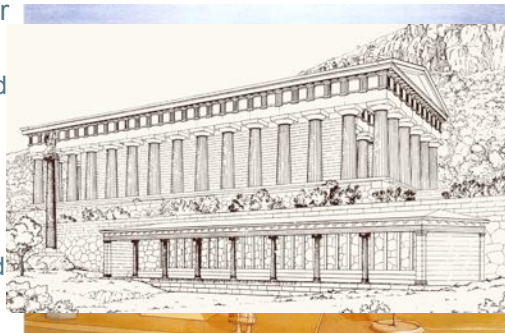


The Choragic monument to Lysicrates in Athens.



THE DORIC COMPARED TO THE IONIC AND THE CORINTHIAN

- The Temple could be perceived in two ways. It can be a unified sculpted figure, or an open pavilion.
 - The wooden colonnade could not resemble but an open pavilion.
 - By the moment it was transposed to a stone structure, either of the two effects would be equally valid.
 - The Ionic and the Corinthian tend to evoke the “open pavilion” the Doric evokes the heavier representation of the sculpted body.



• Perspective view of the temple of Apollo at Thermon circa 630 B.C.
• Temple of Apollo and Stoa of the Athenians at Delphi, circa 478 – 470 B.C.
(Source: Smith, T.G. *Classical Architecture, Rule and Invention*, 1988)



OTHER ORDERS

- Aeolic order in North Aegean.



Aeolian-type
proto-Ionic
capital in Asia
Minor, early sixth
century BC



ORDERS INTERMIXED

- Temple of Empedocles in Selinus (Selinountas)
- The temple of Athena Parthenos of Athens
- Temple of Apollo at Bassae of Phigalea



FOUNDATIONS FOR CLASSICISM

- The Greek dark ages and Dorian invasion were followed by dramatic changes of the status quo in Greece
- City states are developed and the Greek realm becomes a set of federations. Those are reflected in part in the architecture orders that were formed then and are followed even today.
- The Egyptian example was prime for the Greeks in adopting the stone as a building material in ways that they did not use before. Technical know how was the first step where the Greek masons applied the newly acquired knowledge but adapted it to their own needs and developed their own standards. Clear rules and methods were developed in order to form the classical orders of antiquity.
- Future civilizations trying to emulate the Greek democracy of Athens, adopt the Greek classical orders and apply them on administrative and governmental buildings.
 - This can be referred to Hersey's Lost meaning of Classical architecture where the significance of the column forms and the ornaments applied for donations to the Olympian Gods are applied on contemporary governmental buildings or central banks.
- The use of the orders in Greek antiquity was not an exclusive condition. People of non Doric origin could apply the Doric order, like the Athenians did on the Parthenon.



WHAT IS THE ESSENCE OF GREEK ARCHITECTURE

Not magnitude, not lavishness,
But form, the site;
Not innovating willfulness
But reverence for the archetype

- The Greek Temple stands, like the Greek culture that imagined and created it, at a central point in human history. It is the moment in time when the deepest past with all its instinctive institutions, fears, superstitions, joys and reverences finds itself in an unexpected harmony with the hard challenges of a new liberated thought!



• By Herman Melville, quoted by Vincent Scully in *The Earth the Temple and the Gods*, 1969

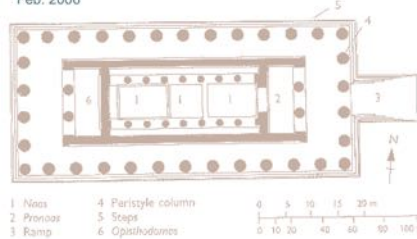
THE OPENNESS

- The Temple is an extension of the Divinity's cult statue

- The religious ceremonies would not take place inside the temple, but in front of it.
- The walls of the temple were mere protection of the cult statue, like the skin protects a body, ..and the structure would be a further extension of the same entity, like an exoskeleton condition to a living entity.



Picture source: <http://www.meaus.com/olympia-2004.htm>
Feb. 2006



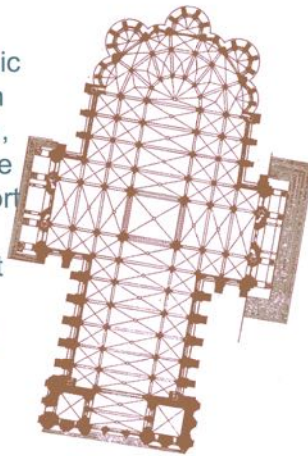
Plan of temple of Zeus at Olympia circa 465 – 457 BC.



THE OPENNESS CONT.

- Compare to Gothic

- The French Gothic similar applies an exoskeleton form, but that acts more toward the support of the structure toward the height that it intends to reach, not as an extension of the inner condition.

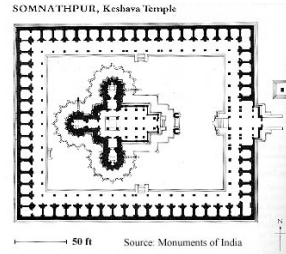


Plan and Aerial views of the Notre Dame de Chartres Cathedral, circa 1196 – 1260 BC.



THE OPENNESS CONT.

- Skin Exterior Texture of Religious Architecture
 - The Keshava temple at Somnathpur is a very intricately sculpted ornate edifice. Yet in terms of perception, it is a very closed form where natural light comes in only from the main entry.
 - The Indian approach defies the perception of celestial divinities that the occident follows. Natural light is not “divine” and no connection of the statue with the exterior is imaginable.

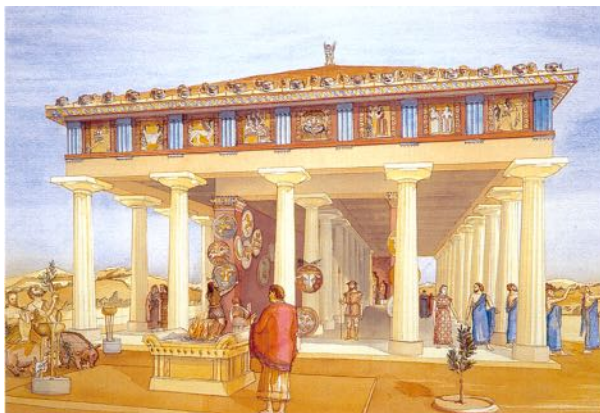


Plan and views of the Keshava temple at Somnathpur, India circa 1268 BC.



THE OPENNESS CONT.

- Openness reaches beyond the “shell” and the outer structure into the landscape and the area where the ceremonies take place.



• Perspective view of the temple of Apollon at Thermon circa 630 B.C. (Source: Smith, T.G: *Classical Architecture, Rule and Invention*, 1988)



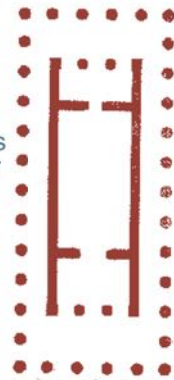
THE OPENNESS CONT.

- Openness reaches beyond the structure into the sculpture.
 - Leto Petho and Aphrodite wear clothes that are so indicative of the form, as if Phideas wanted to represent the inner part through the fabric.
 - In the Indian art, the forms seem like “pneumatic” where there are but one layer that is inflated to its limit and the final form indicates nothing of actual inner substance



THE OPENNESS CONT.

- Openness or protecting shell? The Greek temple allows a direct view to the cult statue only from the very front!
- The back side with the opisthodomos is an illusionary technique that the Greek Architect developed. So there is no real openness there, and on the sides of the “Pteromata” between the walls and the columns remain only a minimal space that can even be perceived as a sculpted surface.
 - Primarily, openings to the sides would allow a direct access to the final destination point where the statue is situated, or even a view beyond the statue to the other side beyond and outside the temple.
 - An actual opening on the sides would disturb the concept of building a protective shell around the cult statue.
 - The structure of the building is set on the concept of a series of spaces and hence a series of experiences. It is set on a linear fashion so that the visitor / pilgrim would enter and face the cult statue from the front.
 - It would have been particularly odd to have a radial design where the visitor could enter and face the cult statue from the side or the back.



THE INTEGRABILITY

- How to integrate the architecture to the environment
 - The building, or the complex of buildings, were always conceived and designed in a manner that it would organically entrench them within the natural environment.
 - The Greek architect would take advantage of what the site or the landscape had to offer him.



Aerial views of the Theater of the Sanctuary of Asclepius at Epidaurus circa 300 BC.



THE INTEGRABILITY

- Temple, context and landscape
 - The temple and the sacred site had to be integrated to the context since the function of the sanctuary was to provide an appropriate framework for the ceremonies.
 - The context may include both the built and the natural environment.
 - For the same reason the temple was an open structure and the personality of the divinity had to be apparent through the exterior of the building.
 - Therefore, the exterior of the building was more ornate than the interior which only served as a protective shell for the cult statue.



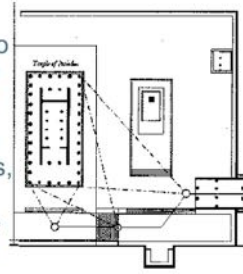
Views of the Temple of Poseidon at Cape Sounion, circa 440 BC.



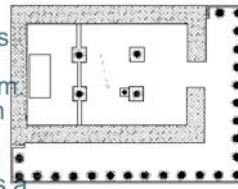
THE INTEGRABILITY

- Chthonic and celestial divinities

- The temple and the sacred site had to be integrated to the context also in terms of the divinity's identity. The temple is located at one of the most serene places of cape Sounion. By entering the sanctuary, the visitor gets visual experiences of Poseidon's temple through the very fine Doric columns with essentially no entasis, it still constitutes an incarnation of the muscular and proud aura of Poseidon's personality. By its location, the temple unites the dispersed natural elements and becomes the center of attention.



- The sanctuary of Athena Sounias is located further inland. The temple was initially built on the Doric order. For political reasons it was rebuilt by the Athenians following the Ionic order after the Persians burned it down in the sixth century. What is most important about the temple is the semi-peripteral form. This indicates that the temple was to be viewed from the South-East. Athena was a chthonic divinity, always associated with the Earth and for this reason the temple is located inland. Thus it is more seen as a temple to Athena Pronaia.



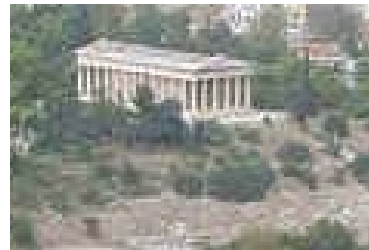
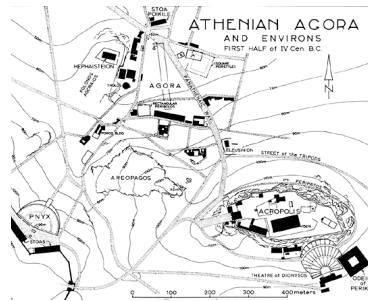
Plans of the Temple of Poseidon and Athena Sounias at cape Sounion.



THE INTEGRABILITY

- A functional aspect

- As stated earlier, the temple and the sacred site had to be integrated to its context. An example of arrangement of functions and the location of temples is the temple of Hephaestus in the Agora of Athens and the temple of Athena Parthenos on the Acropolis.
- The temple of Athena who was also the protector of the city is located high on the sacred rock of the Acropolis overlooking the city and all the way beyond its boundaries.
- The temple of Hephestos is appropriately located in a conspicuous location of the Agora, close to the area of the artisans.



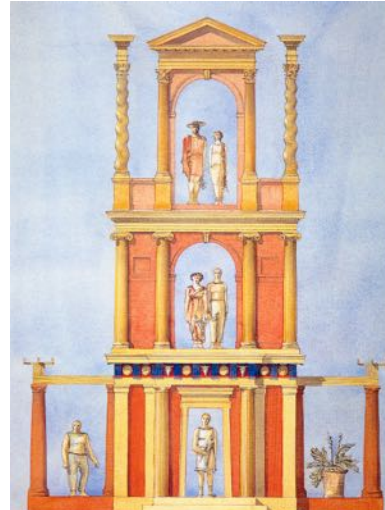
THE INTEGRABILITY

- Symbolism within natural elements
 - View the temple of Apollo at Corinth. It is difficult to visualize the ancient temple through what remains today. Notice the absence of “entasis” on the column shafts. The columns would rise against the long horizontals of the coast and gulf, with the peaks of the mount rising across the water.
 - The effect of compression was not wanted here. The intention is to show the columns stand immovably upright. Inclination without swelling resembles a masculine body firmly planted on its feet upholding the enormous weight of the entablature.



CHARACTER AND IDENTIFICATION

- The five orders articulate a gateway to show their canonical proportions and hierarchical relationships. Each order is equated to a figure that represents its character in anthropomorphic terms
 - The Tuscan Order:
 - *Representation of Substance*
 - The Doric Order:
 - *Expression of Strength*
 - The Ionic Order:
 - *Articulation of Refinement*
 - The Corinthian Order:
 - *Personification of Grace*
 - The Composite Order:
 - *Pronouncement of Ebullience*



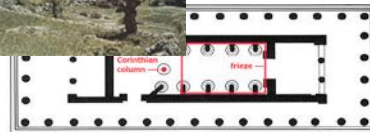
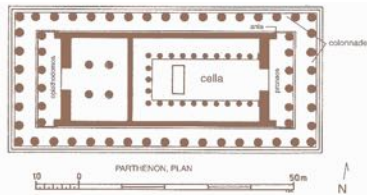
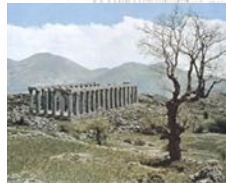
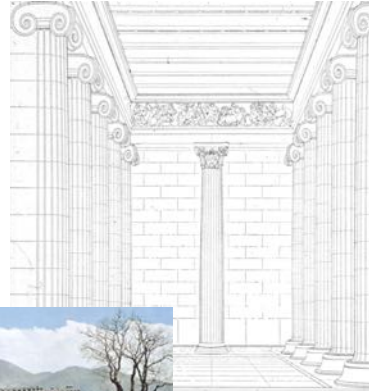
Source: Smith, T.G: *Classical Architecture, Rule & Invention*, Hong Kong 1988.



IDENTIFICATION CONT.



344) View of the Doric and Ionic friezes at the west end of the Parthenon, Akropolis, 447-432 B.C.



GREEK TEMPLE AND CONTEXT

- The Greek temple form derived from elements of nature. It formed as a shell to protect the cult statue but as a shell it was never disintegrated from the cult statue. It became an extension that associated the inner with the outer conditions.
- The Openness of the Greek temple is referred to the quality of not only being visually open but in conceptual terms too. It is not a quality that is confined to the physical and fundamental visual elements but it reaches into the art applied on the edifice.
- The character of the divinity and the building had to identify with the context.
- The function of the building, whether religious or civic, had to be accordingly located and oriented in order to transmit the correct message to the user without disturbing the natural elements. Instead, any intrusion should be an amendment and a method of uniting dispersed elements into a composition

