Greek Temple Architecture

What is a temple?
-a building or a site as the place of dwelling by a deity
-the word derives from the Greek word *temenos*, meaning “an encloser”
-In Latin, the word *templum* originally denoted a place marked out for augury by the seer with his staff
-Later, it came to mean an area sacred to a particular deity
-It was also used for a large and elaborate structure dedicated to one or more deities

-Common elements evident in temples of different religions
-an enclosure marking the separation of secular from sacred space
-gate or a portal through which the sacred space is reached
-the altar for offerings and the shrine as cella
-many temples are also raised on some form of podium or platform or occupy a naturally elevated site

Greek system of deity
-Greek gods and goddess were unique compared other deities
-Polytheism, a great contrast with Judaic-Christian tradition
-Compared to other systems of deities, Greek gods and goddess retained Humanized character.
-They are sacred, but also sometimes make transgressions, sly, cunning
-Each embodies some aspect of human life as it can be empirically known and experienced

They represented the diverse spectrum of humanity:
Aphrodite: love
Apollo: clear reasoning
Dionysus: ecstatic possession
Zeus: justice
Athena: right action and divine effrontery
Ares: loutish skills of war

Origin of Greek Temples

Pylos (a Mycenaean city), the palace site, general plan, 13 Century BC

- The palaces in Crete and Mycenae operated as the basis for the form of the mature mainland temple
-the megaron was a large hall, the chief room of the palace in the kingdoms of the Minoan and Mycenean periods
-The megaron contained the sacred hearth.

Pylos, Greece, the main hall or megaron of the palace (13 century BC)

Model of the early temple (Eight century BC)

-Megaron became freestanding during the eight century
-Sequence of the colonnaded porch *in anits* (two columns between the mud-brick walls (called the antae) and main rectangular chamber beyond (*naos, or* the dwelling place of the cult statue)
-the royal hearth was replaced by the statue of the deity
-Differences: orientation of the Mycenean megaron was north to south, while the temple customarily faced East
-Megaron had a flat roof.
-All stone temples had gabled roofs

Plans of the two phases of the first temple of Hera, Samos, Greece, 8th century BC

Samos, Greece, the second phase of the first temple of Hera, 8th century BC

First temple
-It was built in the late ninth or early eight century
-It was the first hecatompedon, or one-hundred-foot-long temple, with mud brickwalls
-Pitched roof spans a width of twenty feet and was supported by an axial row of interior pillars

Second temple
-built around the middle of eight century
-The wooden columns resting on circular stone bases came outside
-seventeen on each of the long sides, seven across the front, and six at the back, with the roof extended to cover them.
-one of the very first examples of the “peristyle temple” meaning winged (*ptera*) temple
-This was interesting because the inner columns were necessary to support the roof, but then what are these columns at the outside?

1. Functional reasons

“lavish and spectacular method of protecting the mud-brick walls against the elements” (J.N. Coldstream)

2. Visual reasons

“the colonnade was above all to impress”
“the portico does not appear to have any structural value, and with a depth of only 1.30 meters, it could not provide much useful shelter for visiting pilgrims; nor could it have had much religious significance . . . perhaps it was inspired by the frequent mention of porticos in epic descriptions of palaces”

The peristyle was “to articulate, penetrate, and extend the exterior envelop of the building so that it should become a true mid-space element, at once bounded and boundless . . . setting up with its columns . . . a regular standard of measure whereby distant horizons could be grasped.”
Vincent Scully *The Earth, the Temple, and the Gods*, New Haven, 1979, p. 50

3. Temple as Ship (Indra Kagis McEwen, in *Socrates' Ancestors*)
Hera: her image was kept chained in the Temple of Hera at Samos
Hestia (the hearth in feminine noun form): related to *histia* meaning sails
Histon: the loom, as essential an element in Greek household as the hearth. A greek loom was not set horizontally, but set upright. So was the mast of a ship

-The shrine, *naos*, of the goddess became a ship (*naus*) now with wings unto its body.
-In the Hellenic thinking, everything was on the move and given fixity to compensate its mobile nature.
-The cult statue had to be tied down because it was essentially mobile.
-The temple was given mobility with the two banks of oars because it had been essentially fixed.

The third dipteral (two oars or wings) phase of the first temple of Hera (mid 6th century)
Architect: Theodorus of Samos and his father Rhoikos

-Around 600 BC, instead of wooden post, stone column started to be adopted
-Ashlar masonry was also adopted, replacing mud-brick wall
-Terra-cota tile as a new roofing material
-Slope became moderated

(Left) Kerkyra (Corfu, Greece), Temple of Artemis, 600 BC, restored elevation
(right) Samos, Greece, the second phase of the first temple of Hera, 8th century BC

Construction techniques

Two ways of transporting stone building blocks

Types of lifting device

Components of Greek Temples

The plan of Greek temple
-1. Prostyle (one front)
-2. Amphiprostyle (fronted on both sides)

Classification of Greek Temples

1.Plan of the cella

-Prostyle (fronted by a pronaos)

-Amphiprostyle (fronted on both sides)

For the sake of symmetry, a back porch was added (opisthodomos)

2. According to the arrangements of the colonnades

-no side colonnade in temple: antis, prostyle, amphiprostyle

-then side colonnade starts to appear: peripetral, dipteral, pseudodipteral, hypaethral

-This system of classification by Vitruvius, yet in reality, many exceptions

3. the number of front orders (distyle, tetrastyle, hexastyle . . .)

The classification of temples according to the plan and the arrangements of the colonnades

The Hypaethral Temple of Vitruvius
compared with the Parthenon
and the Temple of Apollo

Classification of Greek Temples

4. Relationship between the thickness of the order and the intercolumniation

Pycnostyle 1D: 1.5D: 1D

Systyle 1D: 2D: 1D

Diastyle 1D: 3D: 1D

Araeostyle 1D: 4D: 1D

Eustyle 1D: 2 1/4D: 3D: 2 1/4D: 1D
(the central intercolumniation is larger than the remaining ones)

The classification of temples
according to intercolumniation

Regarding Araerostyle

“We cannot employ stone or marble for the architraves, but must have a series of wooden beams laid upon columns. In appearance, these temples are clumsy-roofed, low, broad . . . ” (Vitruvius 80, Book III, Ch. III, 5)

The Eustyle Temple of Vitruvius
compared with the Temple of Teos

Regarding Eystyle

“An account must now be given of the eustyle, which is the most approved class, and is arranged on principles developed with a view to convenience, beauty, and strength. The intervals should be made as wide as the thickness of two columns and a quarter, but the middle intercolumniations, one in front and the other in the rear, should be of the thickness of three columns. This built, the effect of the design will be beautiful, there will be no obstruction at the entrance, and the walk round the cella will be dignified.” (Book III, CH. III, 6)

Orders in Greek Temple Architecture

-Components

Doric Temple of Athene Aphaia, Aegina

Orders in Greek Temple Architecture

1) Doric
2) Ionic
3) Corinthian
4) Aeolic
5) Caryatides

-Two orders can be discerned by 600 BC: Doric and Ionic.

Corinth (Greece), Temple of Apollo, 6th century BC

Temple of Hera (So-called temple of Poseidon), Paestum, around 460 BC

Temple of Segesta (Sicily)

Akragas (Agrigento, Italy), The temple of Concord, later fifth century

Parthenon, Athens

Doric
-The Doric was found in mainland Greece inhabited by the so-called Dorian Greeks.
-Doric order usually by poros limestone
-Poros limestone was used in the Pelopnnese, South Italy and Sicily.
-Soft and vulnerable to frost and erosion
-Coated with a layer of mortar made from lime stone and marble powder

-This gave the layer the appearance of marble.
-Its fragility meant that it could not be used to produce projecting features, while the mortar coating could obscure any elaborate carving.
-It thus corresponded perfectly to the bare severity of the Doric order.
-In the Doric order, mouldings wer rare and adorned only with decorations painted on to the stucco

Left: Samos, Greece, the second phase of the first temple of Hera, 8th century BC
Right: Kerkyra (Corfu, Greece), Temple of Artemis, 600 BC, restored elevation

Base and capital of an Ionic column (north of the Erechtheon)

Athens, Akropolis, temple of Athena Nike, 427-424 BC

Temple of Arthemis, Ephesus (560-550 BC)

Ephesos, Turkey, temple of Artemis

Ionic Order

-Ionic order in coastal Asia Minor and the Aegean islands, where marble was affluent

-Marble was solid, compact and impermeable – ideal for the ionic order, with its slim, ornately profiled column bases, capitals with lavish volutes that overhung their shafts, and numerous finely carved mouldings on the entablature

Capitals derived from the Ionic Order (the Aeolic Capital and the Corinthian Capital)

Erechteion, the Caryatid porch

caryatid: sculpted female figure used
in place of a column

Components of Greek Orders

Doric Temple of Athene Aphaia, Aegina

Ionic Temple, Metaponte

Between Vision and Rationality

1) The 'corner problem' in the Doric temple

The corner columns were thicker than the rest

The 'corner problem' in the Doric temple

Between Vision and Mathematics

1) The 'corner problem' in the Doric temple

2) Horizontality of the Stylobate

The groundline of the terrace gently curved upward toward the middle of each side

This was a corrective measure designed “to counter the appearance that the straight lines sag; curving the lines would make them look straight to the naked eye”

3) Verticality of orders at corners

Greek refinements, or visual adjustments in Greek temple design