

Excerpted from Laurie Schneider Adams, *A History of Western Art*, 1995, 108 – 119.

Classical Architecture

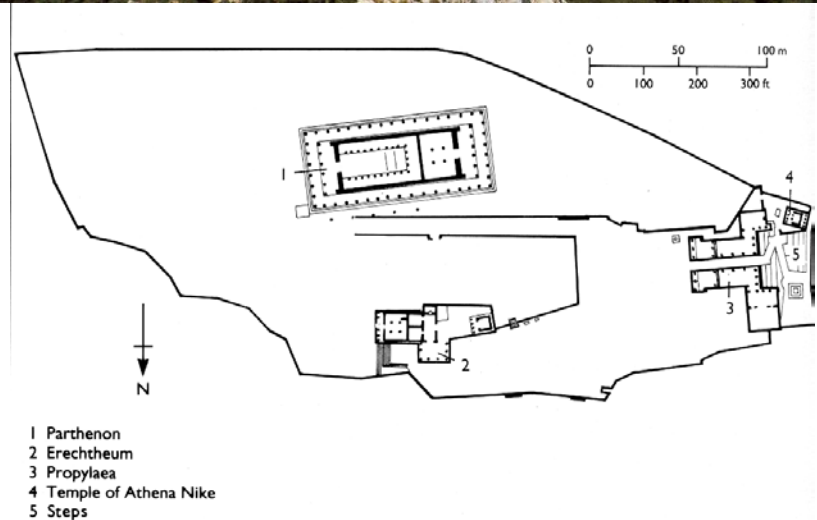
Athens: The Acropolis

Athens is the capital of modern Greece, and is located on the Saronic Gulf, just inland from the port of Piraeus. In the second half of the fifth century B.C.E., Athens was the site of the full flowering of the Classical style in the arts. This section considers that culmination as it was embodied in the buildings on the Acropolis—particularly the Parthenon. The Acropolis (from the Greek *akros*, meaning "high" or "upper," and *polis*, meaning "city") (figs. 7.14 and 7.15, right) is a fortified rock supporting several temples, precincts, and other



buildings. Its steep walls meant that it could not be scaled by invaders. Like the Mycenaean citadel, the Acropolis provided sanctuary for citizens in times of siege.

The Classical period in Athens is also called the Age of Pericles, after the Greek general and statesman (c. 500-429 B.C.E.) who initiated the architectural projects for the Acropolis. He planned a vast rebuilding campaign to celebrate Athenian art and civilization after the devastation of the Persian Wars. The **Propylaea** and the Parthenon (fig. 7.16) were completed during his lifetime, but work on the Temple of Athena Nike (fig. 7.29) and the Erechtheum (fig. 7.31) was not begun until after his death:



7.16 West end of the Parthenon, Athens. 448-432 B.C.E. Pentelic marble, 111 x 237 ft at base. Once through the Propylaea at the western edge of the Acropolis, the viewer emerges facing east. Ahead and a little to the right are the remains of the western wall of the Parthenon. Its damaged State reflects centuries of neglect and misuse. In the 5th century C.E., the Parthenon became a church, and 900 years later the Turks conquered Athens and converted the temple into a mosque. They stored gunpowder in the building! When it was shelled in the 17th century, most of the interior and many sculptures were destroyed. Centuries of vandalism and looting, plus modern air pollution, have further contributed to the deterioration of the Parthenon.

The Parthenon

The Parthenon was designed by the architects Ictinus and Callicrates, and Phidias supervised the sculptural decorations. Completed in 432 B.C.E. as a temple to Athena, the patron goddess of Athens, the Parthenon celebrates her in her aspect as a virgin goddess, *Parthenos*, Greek for "virgin" and the root of the word "parthenogenesis" (virgin birth), was one of Athena's epithets.

The Parthenon stands within a continuum of Doric temples. Earlier examples are found at Olympia in the western Peloponnese and at Paestum in southern Italy. However, no previous Greek temple expresses Classical balance, proportion, and unity to the same extent as the Parthenon (fig. 7.18). Its exceptional esthetic impact is enhanced by its so-called refinements, which

are slight architectural adjustments to improve the visual impression of the building. For example, lines that are perceived as horizontals actually curve upward in the middle. The original rationale for this is not known for certain, but it corrects the tendency of the human eye to perceive a long horizontal as curving downward in the middle. Other refinements involve the columns: all columns are tilted inward slightly, and are placed closer together toward the corners of the building. This creates a sense of stability and accentuates the corners, resulting in an almost imperceptible frame on each of the four sides.

Plan of the Parthenon

The Parthenon (fig. 7.17) is constructed as a rectangle, which is divided into two smaller rectangular rooms. A front and back porch and a **peristyle (colonnade)**, supported by the three steps of the Doric order, complete the structure. The temple was made entirely of marble, which was cut and fitted without the use of mortar.

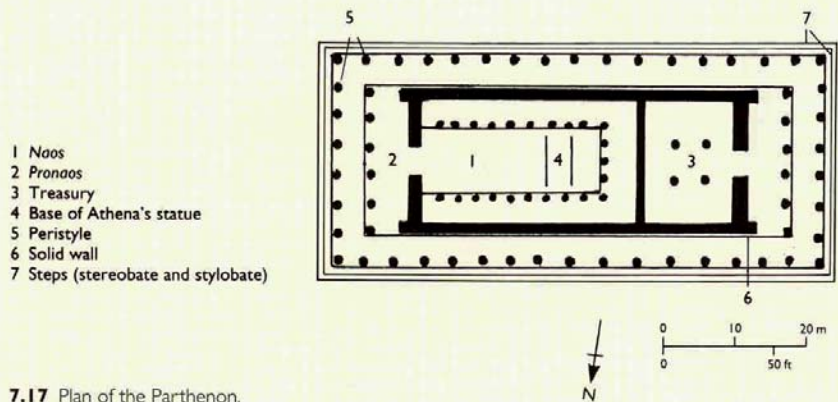
The three lines on the perimeter of the plan represent the steps. The black circles indicate columns—those comprising the peristyle number eight on the short sides (east and west) and seventeen on the long sides (north and south), counting the corner columns twice. Each corner column serves a short and a long side, making a smooth visual transition between them.

The inside wall of the Parthenon, supported by two steps, consists of six columns on a front and back porch, leading to a solid wall with a doorway to an inner room.

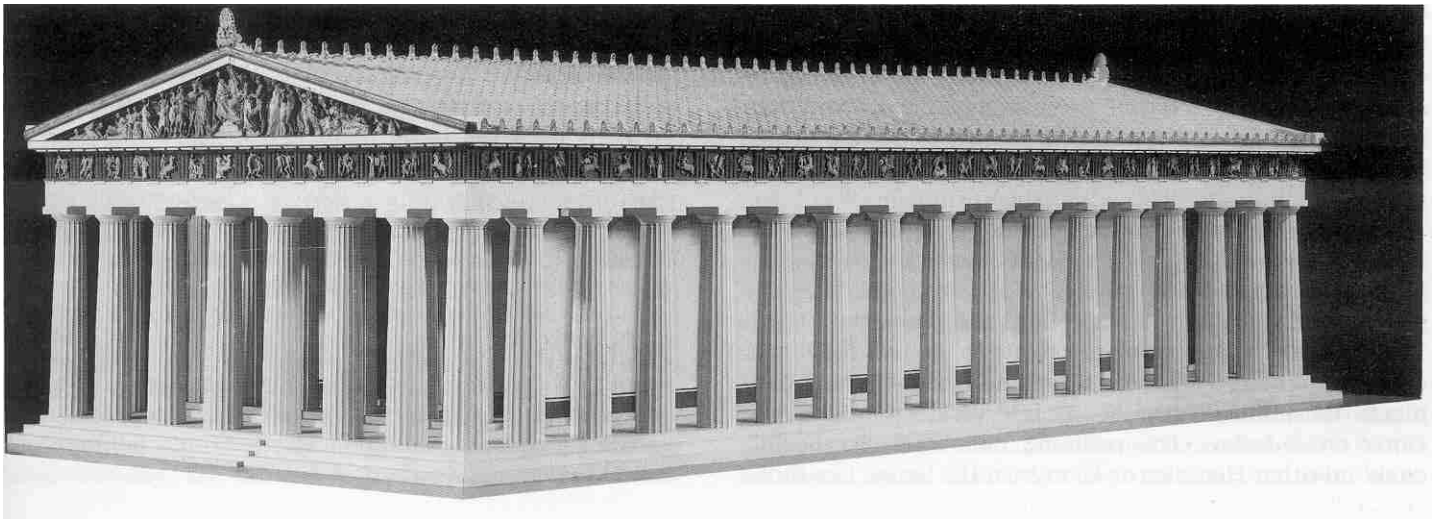
The walls are indicated by thick black lines.

The western entrance leads to the smaller room, which served as a treasury. The eastern entrance leads to the **naos**, or inner sanctuary. It was originally dominated by a monumental gold and ivory statue of Athena—its base is indicated on the plan by the rectangle inside the naos. An inner rectangle of Doric columns repeats the shape of the room and surrounds the statue on three sides.

Although constructed primarily in the Doric order, the Parthenon had two features that were Ionic. Firstly, there were four Ionic columns inside the treasury. And secondly, a continuous Ionic frieze ran around the top of the inside wall, which cannot be seen on the plan. The inclusion of Ionic elements in the Parthenon expresses the Athenian interest in harmonizing the architectural and sculptural achievements of eastern and western Greece.



7.17 Plan of the Parthenon.



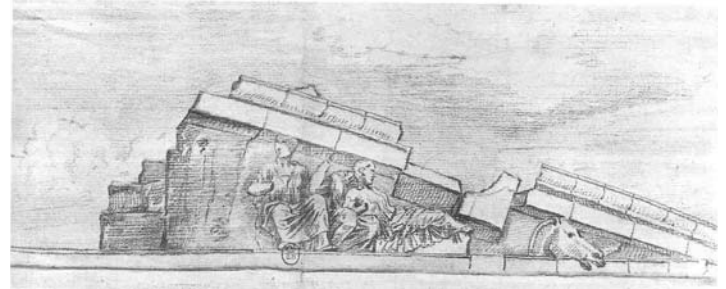
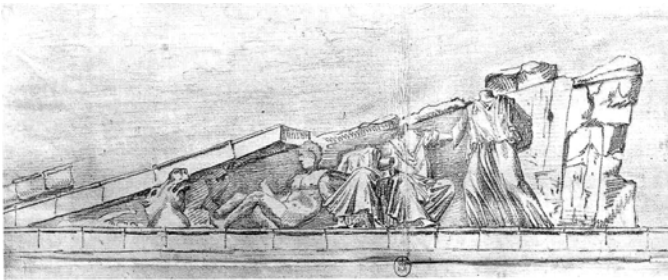
7.18 Reconstruction of the Parthenon, Metropolitan Museum of Art, New York. This view is from the northeast corner—the eastern pediment and the long north side are visible.

The Parthenon sculptures were located in four sections of the building and integrated harmoniously with the architecture. Their narrative content proclaimed the greatness of Classical Athens.

Pediments Drawings made in the seventeenth century by the Frenchman Jacques Carrey illustrate the condition of the pediments of the Parthenon three hundred years ago. Carrey's rendering of the east pediment sculptures (fig. 7.20) shows them still in a relatively good state of preservation, although the central figures had disappeared.

The three goddesses on the left half of the east pediment (fig. 7.21)—possibly Iris or Hebe, Demeter, and Persephone, reading from the viewer's right to the left—are posed so that they fit logically into the triangular space. Their repeated diagonal planes relate to the two diagonals of the pediment, while the graceful curves of their garments harmonize with the architectural curves of the Doric order below. The reclining male nude to the left could be either Heracles or Dionysus. His limbs, like those of the goddesses, form a series of zigzag planes. The curve of his torso is repeated in the domed head and organic muscle structure beneath the skin. Despite the naturalism of his pose and organic form, however, this figure is idealized—like those of Polyclitus (figs. 7.12 and 7.13), it has no facial expression or personality.

7.20a and b (opposite) The East Pediment of the Parthenon in 1674, from a drawing by Jacques Carrey. Bibliotheque Nationale, Paris. Greek temple sculptures and their background areas were originally painted. The sculptures in the broken center section of this pediment used to represent Athena's birth on Mount Olympus: Zeus is in the middle and a Nike is crowning Athena with a laurel wreath. According to the myth, Hephaestus struck Zeus on the head with an ax, and Athena emerged fully grown and armed. As the goddess of wisdom, as well as of war, she was born like an idea from the head of the supreme god.



7.21 a, b, and c Sculptures from the left side of the east pediment of the Parthenon. Pentelic marble, left figure 5 ft 8 in high. British Museum, London. The pediments are almost 100 feet wide at the base and 11 feet high at the central peak. The depth of the pediment bases is, however, only 36 inches, thus restricting the space available for the sculptures. Since the sides of the pediments slope toward the corner angles, Phidias had to solve the problem of fitting the sculptures into a diminishing triangular space.

7.22 a and b Sculptures from the right side of the east pediment of the Parthenon. Pentelic marble, left figure 4 ft 5 in high. British Museum, London. At the left corner Helios's horses mark the rising of the sun, because Athena was born in the east at dawn. The horse of the moon descends at the right corner. The location of the scene on the eastern pediment also corresponds with the sunrise in the east. Thus in this arrangement, the artist has formally integrated sculpture and architecture with iconography, time, and place.

Mirroring the two seated females and the male on the left of the pediment is the group of three goddesses on the right (fig. 7.22). Their identity has been disputed by scholars because they have no attributes. Though posed slightly differently than their counterparts on the left, they match them closely. The reclining goddess relates to Dionysus/Heracles, and the two seated figures match Demeter and Persephone in the way they turn and wear curvilinear garments outlining their bodies.

The most dramatic correspondence between the two sides of the east pediment occurs at the angles. On the far left are the marble remnants of Apollo's horses, pulling the chariot of the sun. They rise, beginning their daily journey across the sky. On the far right, a single horse's head descends, echoing the triangular shape of the pediment. This is a horse from the chariot of Selene, a moon goddess. Its form shows a remarkable understanding of anatomy, and the Classical genius for relating it to an esthetic purpose. Phidias has created the illusion of a triangular cheek plate with one curved side, blood vessels, and muscles pushing against the inside of the skin. The right eye bulges from its socket, and the ear and clipped mane emerge convincingly from beneath the surface. The open mouth produces another triangular space, echoing the head, the cheek plate, and the pediment itself.

The Orders of Greek Architecture

The Doric and Ionic **orders** of Greek architecture had been established by about 600 B.C.E. and were an elaboration of the post and lintel system of elevation (see p.45). Ancient Greek buildings, like their sculptures, were more human in scale and proportion than those in Egypt. And unlike the animal-based forms of ancient Iran, the Greek orders were composed of geometric sections with individual meaning and logic. Each part was related to the others and to the whole structure in a harmonious, unified way.

The oldest order, the Doric, is named for the Dorians, who lived on the mainland. Ionic—after Ionia, which includes the Ionian islands and the coast of Anatoli—is an eastern order. Its greater elegance results from taller, thinner, curvilinear elements and surface decoration. The Corinthian capital is most easily distinguished by its **acanthus** leaf design, and is never found on the exterior of Greek buildings.

Doric Order The Doric order begins with three steps up from the ground. Its shaft rises directly from the top step (the **stylobate**), generally to a height about $5 \frac{1}{2}$ times its diameter at the foot. The shaft is composed of individual sections—

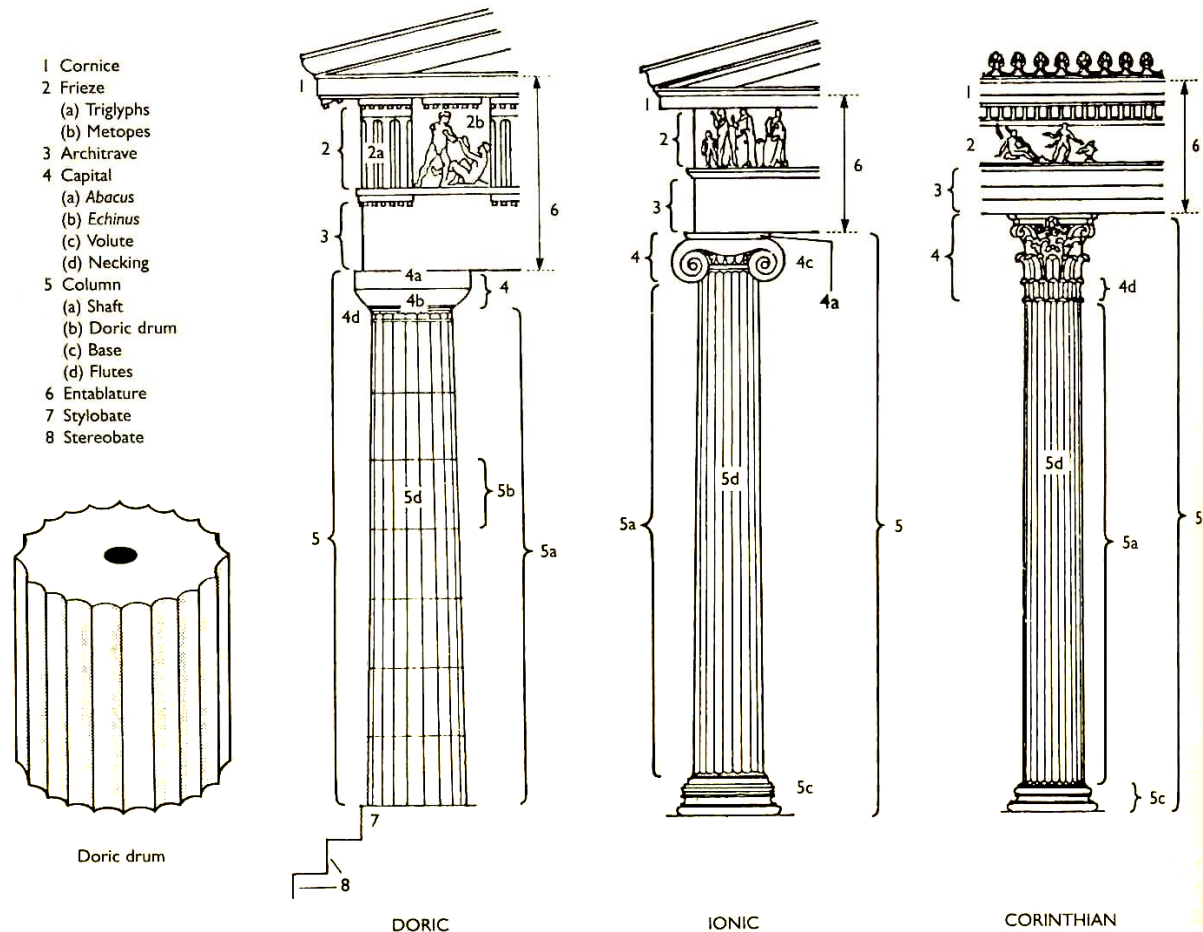
drums—cut horizontally and held together in the middle by a metal dowel (peg) encased in lead. Shallow, concave grooves known as **flutes** are carved out of the exterior of the shaft. Doric shafts do not stand in an exact vertical plane, but taper slightly from about

a quarter of the way up. The resulting bulge, or **entasis** (Greek for “stretching”), indicates that the Classical Greeks thought of their architecture as having an inner organic structure, with a capacity for muscular tension.

At the top of the shaft, three elements make up the Doric capital, which forms both the head of the column and the transition to the horizontal lintel. The **necking** is a snug band at the top of the shaft. Above it is the echinus (Greek for “hedgehog” or “sea urchin”)—a flat, curved element, like a plate, with rounded sides. The **echinus** forms a transition between the curved shaft and the flat, square **abacus** (Greek for “tablet”) above. The abacus in turn creates a transition to the **architrave**—literally, a “high beam.”

The architrave is the first element of the **entablature** (note the “tabl” related to “table”), which forms the lintel of this complex post and lintel system. The **frieze**, above the architrave, is divided into alternating sections—square **metopes** and sets of three vertical grooves, or **triglyphs** (Greek *tri*, meaning “three,” and *glyphos*, meaning “carving”). Finally,

7.23 Doric, Ionic, and Corinthian orders.



Doric drum

DORIC

IONIC

CORINTHIAN

projecting over the frieze is the top element of the entablature—the thin, horizontal **cornice**. In Greek temples, a triangular element known as a **pediment** rested on the cornice, crowning the front and back of the building.

The harmonious relationship between the parts of the Doric order is achieved by formal repetitions and logical transitions. The steps, sides of the abacus, architrave, metopes, frieze, and cornice are rectangles lying in a horizontal plane. The columns, spaces between columns, flutes, and triglyphs are all vertical. The outline of the three steps, the echinus, and each individual drum is a trapezoid (a quadrilateral with two parallel sides).

Groups of three predominate: three steps; a capital consisting of necking, echinus, and abacus; triglyphs; and the entablature, which is made up of architrave, frieze, and cornice. The sudden shift from the horizontal steps to the vertical shaft is followed by a gradual transition via the capital to the entablature. The pediment may be read as a logical, triangular crown completing the trapezoid formed by the outline of the steps.

Ionic Order The more graceful Ionic order has a round base with an alternating convex and concave profile. The shaft is taller in relation to its diameter (height is about nine times the diameter at the foot). The fluting is narrower and deeper. Elegant **volutes**, or **scroll** shapes, replace the Doric echinus at each corner, and virtually eclipse the thin abacus. In the Ionic frieze, the absence of triglyphs and metopes permits a continuous narrative extending its entire length.

Corinthian Order There is no evidence of the existence of the Corinthian order earlier than the latter part of the fifth century B.C.E. The origin of the term Corinthian is obscure, but it suggests that the acanthus-leaf capital was first designed by the metalworkers of Corinth and later transferred to marble. Unlike Doric and Ionic columns, Corinthian columns were used only in interiors by the Greeks—they were associated with luxury, and therefore with "feminine" character.

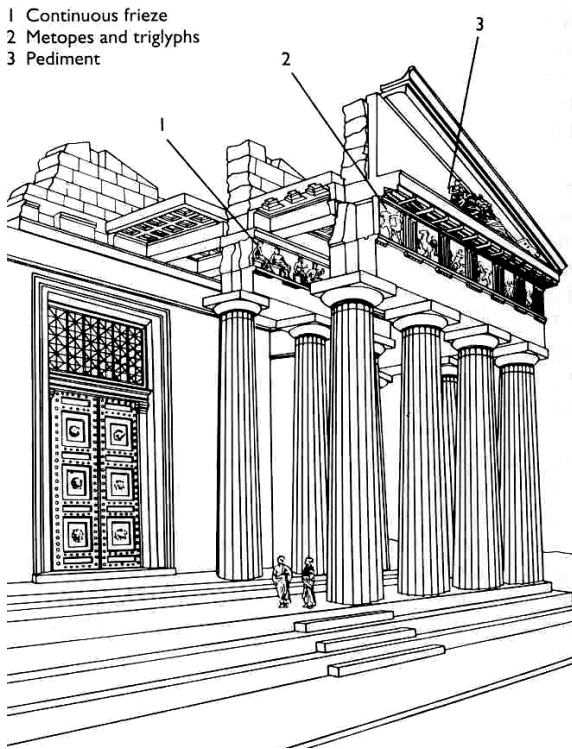
7.24 *Lapith and Centaur*, from South Metope XXVII of the Parthenon. Pentelic marble, 4 ft 5 in high. British Museum, London. Each metope is approximately 4 feet square and contains high relief sculptures. There were fourteen metopes on the short east and west sides, and thirty-two on the long north and south sides. Most of them showed scenes of single combat.

The Doric Metopes The Parthenon metopes illustrate four mythological battles. The best preserved were originally located on the south wall and represented the battle between Lapiths, a Greek tribe, and Centaurs, who were part human and part horse. According to this myth, the Lapiths invited the Centaurs to a wedding, but the Centaurs got drunk and tried to rape the Lapith boys and girls. The violent energy of the battle (fig. 7.24) contrasts dramatically with the relaxing gods on the east pediment. The strong diagonals of the Lapith, the repeated curved folds of his cloak, and the backward thrust of the Centaur's contrapposto enliven the metope.



The three other metope battles depicted Greeks against Amazons on the west, the Trojan War on the north, and Olympians overthrowing Giants on the east. Each set of metopes expressed one aspect of the Greek sense of superiority. The Lapiths and Centaurs symbolized the universal human conflict between animal instinct or lust—exemplified by the drunken Centaurs—and rational self-control—embodied by the Lapiths. The Greek victory over the Amazons symbolized the triumph of Greek patriarchal culture over an earlier matriarchy. In the Trojan War, west triumphed over east, and in the clash between Giants and Olympians, the more human Greek gods wrested control of the universe from the primitive and cannibalistic pre-Greek Titans. According to the Parthenon metopes, therefore, the civilization of Classical Greece was rational, patriarchal, and western, with an established human-based religion.

The Ionic Frieze Over the outside of the inner wall of the Parthenon (figs. 7.25 and 7.26), a 525-foot Ionic frieze illustrated the Greater Panathenaic procession (fig. 7.27). This was held every four years, and the entire city participated and presented a sacred robe to Athena. The continuous nature of the Ionic frieze, uninterrupted by triglyphs, is consistent with its content. Thus the shape of the frieze corresponds with the form of a procession. In order to maintain the horizontal plane of the figures, Phidias adopted the sculptural convention of **isocephaly** (from the Greek *isos*, meaning "equal," and *kephalos*, meaning "head"). When a work is isocephalic, the heads are set at approximately the same level.



7.26. (above left) Cutaway perspective drawing of the Parthenon showing the Doric and Ionic friezes, metopes and a pediment (after G. Niemann).



7.25 (top) The Parthenon, looking up through the outer Doric peristyle at the Ionic frieze.
7.27 (above) Equestrian group from the north frieze of the Parthenon. c.442-439 B.C.E. Pentelic marble, 3 ft 53/4 in high. British Museum, London. The riders illustrate Phidias's technique of making the horses small in relation to the riders. He carved the horses' legs in higher relief than their bodies and heads. The effect is to cast heavier shadows on the lower part of the frieze which, together with the multiple zigzags, increase the illusion of movement.



Naos The purpose of temples in antiquity was generally to house the statue of a god. Accordingly, the Parthenon naos contained the great statue of Athena herself. In the reconstruction in figure 7.28 she is armed and represented in her aspect as the goddess of war. She stands and confronts her viewers directly, wearing Medusa's head on her breastplate and holding a Nike, or winged Victory, in her right hand and a shield in her left. Both shield and pedestal were decorated with reliefs by Phidias. This colossal statue—an exception to the human scale of Classical art—embodied Athena's importance as the patron goddess of Athens. Her central position in the pediments and the offering of the *peplos* in the frieze reflected her wisdom and power as well as the Athenians' devotion to her.

7.28 (left) Reconstruction of Phidias's *Athena*, from the *cella* of the Parthenon. Original c.438-432 B.C.E. Wood covered with gold and ivory plating, model c.4 ft high. Royal Ontario Museum, Toronto. Like many cult statues, that of Athena was over lifesize, standing 40 feet high on a pedestal. Phidias constructed the statue around a wooden frame, covering the skin area with ivory, and the armor and drapery with gold. This combination of media is called **chryselephantine**, from the Greek *chrysos*, meaning "gold," and *elephantinos*, meaning "made of ivory." The original statue has long since disappeared and has been reconstructed from descriptions, small copies, and images on coins.

The Temple of Athena Nike

Athena was honored as the goddess of victory in the small Temple of Athena Nike that crowns the southern edge of the Acropolis (fig. 7.29). It has a square naos and a front and back porch, each with four Ionic columns and four steps. This repetition reflects the Classical insistence on unifying the parts within the whole. The small size and graceful Ionic order of the Nike temple contrast with the heavier proportions of the Doric columns in the Parthenon.



7.29 (above, left) Temple of Athena Nike from the east, Acropolis, Athens. 427-424 B.C.E. Pentelic marble.

7.30 (above, right) *Nike Adjusting her Sandal*, from the balustrade of the Temple of Athena Nike. 410-409 B.C.E. Pentelic marble, 3 ft 5 ¼ in high. Acropolis Museum,

Medusa

Medusa, the only mortal of the three Gorgon sisters in Greek mythology, turned any man who looked at her to stone. She had snaky hair, glaring eyes, fanged teeth, and emitted a loud roar. Following the wise advice of Athena to look at her only in the reflection of his shield, the hero Perseus decapitated Medusa. He took her head to Athena, who adopted it as her shield device. The Medusa head, or *gorgoneion*, subsequently became a popular armor decoration in the West, symbolically petrifying—i.e. killing—one's enemies.

The best example of relief sculpture from the Nike temple is the *Nike Adjusting her Sandal* (fig. 7.30), originally located on a **balustrade** of the parapet. This figure combines a graceful curved torso with diagonal planes in her legs. The sheer, almost transparent drapery—called "wet drapery" because it appears to cling to the



body—falls in a pattern of elegant repeated folds. Behind the Nike is the remnant of an open wing. Its smooth surface contrasts with the activated drapery, and at the same time echoes and frames the torso's curve.



The Erechtheum

The Erechtheum (figs. 7.31 and 7.32) is on the northern side of the Acropolis, opposite the Parthenon. A more complex Ionic building than the Nike temple, the Erechtheum is built on an uneven site. The eastern room was dedicated to Athena in her aspect as patron of the city.

7.31 The Erechtheum, Acropolis, Athens. 421 – 405 B.C.E. Porch figures c. 8 ft high. This temple was named for Erechtheus, a legendary king of Athens who was worshiped with Athena and various other gods and ancestors in this building. As a result of this large number of dedicatees, the building itself is unusually complex for a Classical Greek temple.

The Erechtheum's small southern porch (fig. 7.32) is distinctive for its six **caryatids**—sculptured females performing the architectural function of columns. Each stands in a relaxed contrapposto pose, with drapery that defines the body, and the ideal form characteristic of Classical style. A perfect symmetry is maintained within the ensemble so that each set of three, right and left, is a mirror image of the other. The two corner caryatids, like the corner columns of the Parthenon, are perceived as aligned with the four front figures when viewed from the front, and with the two back figures when viewed from the sides. Again, a smooth visual transition between front and side is achieved.

In the metaphorical transformation of columns into human form, several features are necessarily adapted. For example, the vertical drapery folds covering the support leg recall the flutes of columns. In the capital over the caryatid's head, the echinus has been replaced by a kind of headdress which creates a transition from the head to the abacus. At the same time, the headdress is an abstract geometric form, related to organic human form only by its proximity to the head. Whereas the Doric echinus effects a transition from vertical to horizontal and from curved elements to straight, the headdress satisfies the additional transition from human and organic to geometric and abstract. These caryatids thus illustrate the harmonious metaphorical relationship between ideal and organic, human and abstract, that characterizes Classical style.



7.32 The caryatid porch of the Erechtheum.

The Golden Section

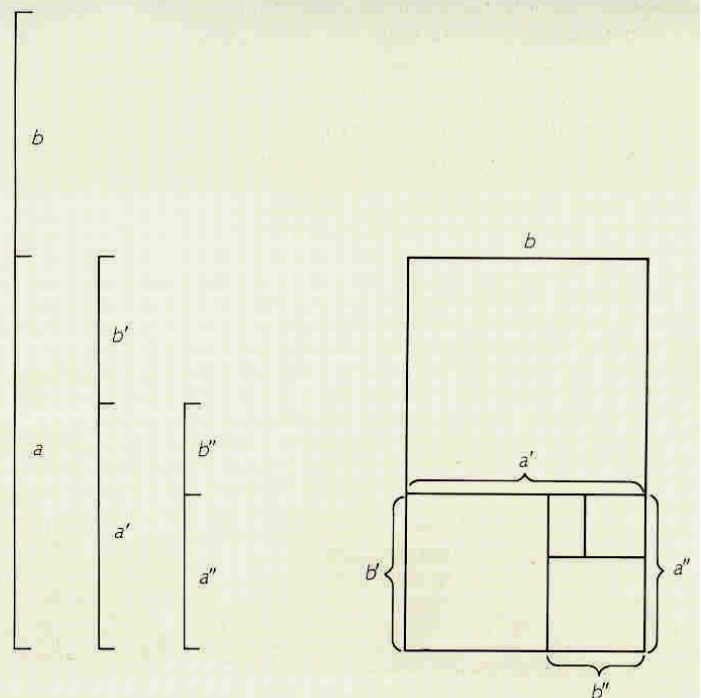
The **Golden Section** is the name given in the nineteenth century to the proportion produced when a line segment is divided into two parts such that the ratio of the longer part a to the shorter part b is equal to the ratio of the entire segment $a + b$ to the longer part a . This ratio—the **Golden Ratio**—can be expressed mathematically as

$$\frac{a}{b} = \frac{a + b}{a}$$

Its value is approximately 1.618:1 or 8:5. A **Golden Rectangle** is a rectangle that has adjacent sides with lengths in the Golden Ratio (fig. 7.19).

These concepts are important in the history of art and architecture, for it has traditionally been thought that any form (including the human figure) is most esthetically pleasing when it is divided in Golden Sections. In the fifth century B.C., the ancient Greeks felt that the Golden Rectangle was the most beautiful of all possible rectangles, and they planned many of their temples—including the Parthenon—accordingly. For a more modern use of the Golden Rectangle, see the geometric pictures of Piet Mondrian (fig. 27.14).

In the Renaissance, the Golden Section was credited with mystical, even divine, properties. And in the twentieth century, it has been claimed that statistical studies show that people naturally prefer proportions based on the Golden Section.



7.19 Diagram of Golden Sections and Golden Rectangles. The lines on the right are divided into Golden Sections, which correspond to the sides of the Golden Rectangles on the left.