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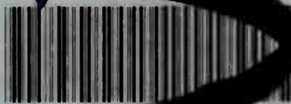
The Parthenon of Ancient Greece

by Don Nardo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THE PARTHENON OF ANCIENT GREECE

by Don Nardo

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FOREWORD

Throughout history, as civilizations have evolved and prospered, each has produced unique buildings and architectural styles. Combining the need for both utility and artistic expression, a society's buildings, particularly its large-scale public structures, often reflect the individual character traits that distinguish it from other societies. In a very real sense, then, buildings express a society's values and unique characteristics in tangible form. As scholar Anita Abramovitz comments in her book *People and Spaces*, "Our ways of living and thinking—our habits, needs, fear of enemies, aspirations, materialistic concerns, and religious beliefs—have influenced the kinds of spaces that we build and that later surround and include us."

That specific types and styles of structures constitute an outward expression of the spirit of an individual people or era can be seen in the diverse ways that various societies have built palaces, fortresses, tombs, churches, government buildings, sports arenas, public works, and other such monuments. The ancient Greeks, for instance, were a supremely rational people who originated Western philosophy and science, including the atomic theory and the realization that the earth is a sphere. Their public buildings, epitomized by Athens's magnificent Parthenon temple, were equally rational, emphasizing order, harmony, reason, and above all, restraint.

By contrast, the Romans, who conquered and absorbed the Greek lands, were a highly practical people preoccupied with acquiring and wielding power over others. The Romans greatly admired and readily copied elements of Greek architecture, but modified and adapted them to their own needs. "Roman genius was called into action by the enormous practical needs of a world empire," wrote historian Edith Hamilton. "Rome met them magnificently. Buildings tremendous, indomitable, amphitheaters where eighty thousand could watch a spectacle, baths where three thousand could bathe at the same time."

In medieval Europe, God heavily influenced and motivated the people, and religion permeated all aspects of society, molding people's worldviews and guiding their everyday actions. That spiritual mindset is reflected in the most important medieval structure—the Gothic cathedral—which, in a sense, was a model of heavenly cities. As scholar Anne Fremantle so ele-

gantly phrases it, the cathedrals were "harmonious elevations of stone and glass reaching up to heaven to seek and receive the light [of God]."

Our more secular modern age, in contrast, is driven by the realities of a global economy, advanced technology, and mass communications. Responding to the needs of international trade and the growth of cities housing millions of people, today's builders construct engineering marvels, among them towering skyscrapers of steel and glass, mammoth marine canals, and huge and elaborate rapid transit systems, all of which would have left their ancestors, even the Romans, awestruck.

In examining some of humanity's greatest edifices, Lucent Books' Building History series recognizes this close relationship between a society's historical character and its buildings. Each volume in the series begins with a historical sketch of the people who erected the edifice, exploring their major achievements as well as the beliefs, customs, and societal needs that dictated the variety, functions, and styles of their buildings. A detailed explanation of how the selected structure was conceived, designed, and built, to the extent that this information is known, makes up the majority of the volume.

Each volume in the Lucent Building History series also includes several special features that are useful tools for additional research. A chronology of important dates gives students an overview, at a glance, of the evolution and use of the structure described. Sidebars create a broader context by adding further details on some of the architects, engineers, and construction tools, materials, and methods that made each structure a reality, as well as the social, political, and/or religious leaders and movements that inspired its creation. Useful maps help the reader locate the nations, cities, streets, and individual structures mentioned in the text; and numerous diagrams and pictures illustrate tools and devices that bring to life various stages of construction. Finally, each volume contains two bibliographies, one for student research, the other listing works the author consulted in compiling the book.

Taken as a whole, these volumes, covering diverse ancient and modern structures, constitute not only a valuable research tool, but also a tribute to the human spirit, a fascinating exploration of the dreams, skills, ingenuity, and dogged determination of the great peoples who shaped history.

IMPORTANT DATES IN THE BUILDING OF THE PARTHENON OF ANCIENT GREECE

B.C.

ca. 566
The Athenians reorganize and expand their traditional festival honoring Athena, the Panathenaea, held every fourth year.

490
At Marathon, northeast of Athens, the Athenians decisively defeat a Persian invasion force. To celebrate the victory, the Athenians begin a new temple on the Acropolis, but for financial and other reasons they soon abandon the project.

461
The dynamic general, politician, and orator Pericles becomes the most powerful and influential Athenian leader.

447
Construction begins on the Parthenon, the artistic centerpiece of the new Acropolis complex.

306
The Macedonian-born military leader Demetrius Poliorcetes temporarily takes up residence in the Parthenon, insulting and scandalizing the Athenians.

432
The Parthenon, the greatest single artistic achievement of ancient Greece, is completed.

B.C. 600 | 500 | 490 | 480 | 470 | 460 | 450 | 440 | 430 | 420 | 410 | 400 | 300

ca. 500–300 The so-called Classic Age, in which Greek civilization reaches its political and cultural zenith.

The Parthenon's western façade.

479
A united Greek army annihilates the Persian ground forces at Plataea, north of Athens. The Athenians swear an oath to leave the ruined temples on the Acropolis as a memorial to the war.

438
Dedication of the Parthenon's huge statue of Athena, the *Athena Parthenos*, designed by the master sculptor Phidias.

404
The Peloponnesian War ends with Athens defeated and its empire and democracy dismantled. All work on the Acropolis complex ceases.

449
The Greeks sign a peace treaty with Persia; a new generation of Athenians now no longer feels obligated by the oath taken in 479. Pericles proposes building a magnificent new complex of temples on the Acropolis as a symbol of Athens's power and cultural superiority.

295
The Athenian tyrant Lachares removes and melts down the gold from the *Athena Parthenos.*

ca. early 1980s–the early 21st century
Restoration of the Parthenon continues, as archaeologists and other specialists, supported by the Greek government, attempt to save the structure's remains from further deterioration.

1833
The Greeks drive the Turks out of Athens and establish the Kingdom of Greece. Within months, archaeologists begin clearing and studying the Acropolis.

ca. 1456
Athens falls to the Turks. Two years later they turn the Parthenon into an Islamic mosque.

1801–1812
England's Lord Elgin removes large portions of the Parthenon's remaining friezes and sculptures and ships them to London, where they go on display in the British Museum.

146
All of Greece comes under direct Roman rule.

ca. 6th century
The Christians transform the Parthenon into a church.

ca. 1842–1933
Much archaeological and restorative work takes place periodically on the Acropolis, including partial restorations of the Parthenon, Erechtheum, Propylaea, and Temple of Athena Nike.

A.D.
ca. 400
Roman leaders order the *Athena Parthenos* to be removed from the Parthenon and taken to Constantinople. The great statue subsequently disappears.

1686
The Turks dismantle the Temple of Athena Nike to install a cannon emplacement. In the following year, the Venetians, who are at war with the Turks, bombard the Acropolis and detonate a cache of gunpowder stored inside the Parthenon, which is heavily damaged by the explosion.

Introduction

Of the hundreds of thousands of foreign tourists who visit modern Greece each year, a majority spend at least some time in the capital, Athens. And of these, nearly all inevitably make the pilgrimage up the stone steps that rise along the west side of the city's central hill, the Acropolis, the world's most famous and most often photographed archaeological site. Their goal is to see firsthand what pictures can only partly convey—the silent, timeless majesty of the ancient ruins crowning the hill's summit. Most of all they want to see the remains of the Parthenon, the ancient temple that countless people through the ages have called the most beautiful building ever erected.

The Parthenon's cracked and chipped stone columns are among the surviving remnants of a magnificent complex of temples and other structures built atop the Acropolis during the "golden age" of ancient Athens. In this short period, spanning the mid– to late–fifth century B.C., the Athenian city-state, the largest and most influential of many in Greece at the time, reached its political and cultural zenith. Later generations came to call it the Periclean Age. This was in recognition of Pericles, the brilliant and forceful statesman/general who dominated Athens in those years. "Great as Athens had been when [Pericles] became her leader," the later Greek historian Plutarch wrote, "he made her the greatest and richest of all cities."[1] Under Pericles' guidance, a single gifted generation of Athenian artists, architects, playwrights, and democratic reformers created an unprecedented cultural legacy. Their achievements have awed, inspired, and helped to shape the ideas of nearly every succeeding generation of Western, or European-based, lands and peoples.

As the artistic culmination and chief symbol of that brief but brilliant moment in the history of Western civilization, the Acropolis complex never fails to impress and move those who visit it. As they ascend the hill, they first encounter the imposing ruins of the massive entrance gateway—the Propylaea. Along the way they pass a tiny temple perched on a stone platform projecting from the Propylaea's front right side. This elegant little shrine, the Temple of Wingless Victory, which, like the Parthenon, was dedicated to ancient Athens's patron goddess, Athena, gives but a foretaste of the wonders to come.

Once through the Propylaea's upper reaches, the visitors find themselves on the hill's roughly flat summit. To the left, in the distance, they see the remains of the Erechtheum, a temple whose south-facing porch features pillars shaped like young maidens. Dominating the view on the summit, however, is the Parthenon's immense and stately colonnade (group or row of columns). On first catching sight of the famous structure, its honey-colored stones forming a heroic outline against a deep blue Mediterranean sky, many experience the same rush of exhilaration felt by visitors of bygone ages. "Oh! What a superb monument!" the Venezuelan statesman Francisco de Miranda wrote during his 1786 visit. "Nothing I have seen so far deserves to be compared with it!" [2] England's earl of Sandwich, another eighteenth-century tourist, exclaimed, "Nothing in all Greece, nor even the whole world, was equal to the magnificence of this temple." [3] In 1809, an English traveler wrote, "The portion of the Parthenon yet standing, cannot fail to fill the mind of the most indifferent spectator with . . . astonishment and awe." [4] A more

Pericles, the leading Athens politician in the mid–fifth century B.C., addresses his fellow citizens before the backdrop of the magnificent temple-studded Acropolis.

recent visitor, historian John Crow, expressed similar sentiments in 1970: "The spectator is never disappointed, the imagination is never deceived, the anticipation is never dismayed. Every [person] deserves to look at least once upon this sight before he dies." [5]

LIFTING THE HUMAN SPIRIT

How does a mere building, especially one in an advanced state of ruin, manage to evoke such feelings of awe? First, the Parthenon is *the* romantic symbol of a cultural age viewed with great fondness and nostalgia in Western civilization's collective memory. To the generations that have inherited the rich legacy of that age, all of the admirable artistic skills and political and philosophical thought produced by the ancient Greeks seem, in a sense, to have been captured and forever frozen in the building.

The Parthenon is also widely seen as the embodiment of architectural perfection, both in concept and execution. Stating a view held by many other experts, scholar Thomas Craven calls it "the only perfect building erected by man." Architects, engineers, and mathematicians, he adds, continue to "hold conventions to discuss the scheme of proportions in the Parthenon, and to try to discover the secrets of its perfection." [6]

Perhaps the Parthenon's most appealing quality is its timelessness. Although it captured and still personifies the hopes, aspirations, and genius of the society that created it, it seems also to transcend any single people, place, or time. The building was already over five centuries old when Plutarch described this quality, one he felt it shared with the Erechtheum and other monuments on the Acropolis. "It is this, above all," he wrote,

> which makes Pericles' works an object of wonder to us—the fact that they were created in so short a span, and yet for all time. Each one possessed a beauty which seemed venerable [impressive in old age] the moment it was born, and at the same time a youthful vigor which makes them appear to this day as if they were newly built. A bloom of eternal freshness hovers over these works of his and preserves them from the touch of time.[7]

When the Parthenon is viewed in person, all of these qualities—historical romance, artistic perfection, and timelessness—seem to merge into one powerful feeling that lifts the human spirit. "It is not directed to the mind so much as to the eye and the soul," Greek historian John Miliadis declares. "It means to move the spirit and to ennoble it. It is more like a living organism than a mechanical creation." [8] Indeed, the Parthenon is a unique blend of calculation and inspiration, as revealed in the story of how it came to be built, subsequently fell into ruin, and, in the fullness of time, achieved immortality.

1

Prelude to Grandeur: The Origins and Development of Greek Temples

The Parthenon and its sister temples were not the first structures erected atop the Athenian Acropolis. That central hill, whose name means "high place of the city," had been continuously inhabited for at least two thousand years before the advent of the fifth-century B.C. Periclean Age. During these long centuries, the site witnessed repeated building, demolition, and rebuilding, a process that destroyed most pre-fifth-century structures and artifacts; therefore, the facts surrounding its early inhabitants and their works were long shrouded in myth and fable.

Only in the past century or so have archaeologists and historians managed to piece together a tentative picture of what the Acropolis was like before its glory years under Pericles. First, they confirmed that the hill had been used as a fortress since prehistoric times. They also discovered that religious temples and shrines similar in purpose to the Parthenon and Erechtheum had graced the hill's summit long before the fifth century. These studies revealed that the religious traditions surrounding those early structures, as well as their design and execution, had a direct and major influence on the conception and construction of the Periclean Acropolis complex.

Thus, the basic architectural features of the Greek temple, which reached their highest level of perfection in the Parthenon, did not appear suddenly in Greece's Classic Age (the historical period encompassing the fifth and fourth centuries B.C., when Greek civilization reached its height). These now familiar features include four walls forming a rectangular inner shell; a row of columns supporting a front porch, and often a back porch; colonnades running down the shell's sides; and a low-pitched

roof forming a triangular gable, or pediment, on each end. Early Greek temples employed most or all of these simple elements. But these structures were usually much smaller and composed of less durable materials than the imposing stone versions that dotted the Greek countryside in the Classic Age. An examination of how Greek temple architecture developed reveals the religious traditions and architectural ideas that influenced the Parthenon's builders. It also shows, by way of comparison, to what degree these extraordinarily gifted architects and sculptors outdid all of their predecessors.

CITY-STATES AND PATRON DEITIES

The introduction of temples in Greece accompanied fundamental changes in religious views and worship. In Greece's Bronze Age (ca. 3000–1150 B.C., in which people used artifacts and weapons made of bronze, an alloy of copper and tin) there were no separate buildings used solely for religious purposes. Certain mountaintops and caves were considered sacred spots, as were shrines set up in tombs or special rooms in royal palaces. Worship, consisting of prayer and the sacrifice of plants and animals, most often occurred in these places.

The Lion Gate at Mycenae, which guarded a formidable palace during Greece's Bronze Age (or Age of Heroes).

This situation began to change during what historians refer to as Greece's Dark Age (ca. 1150–800 B.C.). In this period, initiated by invasions, political chaos, and population dislocations, and characterized by widespread poverty and illiteracy, Greek civilization reached its lowest ebb. A new Greek culture began to evolve, one centered around small communities, each occupying an individual, isolated valley or island. These so-called city-states, most of which consisted of a rocky acropolis surrounded by a central town and some outlying villages and farmland, came to see themselves as tiny separate nations.

Yet while they were politically distinct, the city-states shared a more or less common culture. They all spoke Greek, for instance. And they all worshiped the same gods, who they

believed dwelled atop Mt. Olympus (located in the north-central region of Thessaly), the tallest peak in Greece. Among the most important of these deities were Zeus, ruler of the gods, his symbols the thunderbolt and the eagle; Poseidon, Zeus's brother and ruler of the seas, his symbols the trident, the dolphin, and the horse; and Athena, Zeus's daughter, goddess of wisdom and war, whose symbols were the owl and the olive tree. Although most Greeks recognized these and several other gods, individual city-states had their local favorites. "Every city," writes noted historian C. M. Bowra,

> was protected by its own special deity who had his or her own . . . [religious] festivals. At these festivals, which . . . combined the worship of gods with the gaiety of men, a whole people might feel that it was protected by watchful presences and united in its admiration for them and its sense of belonging to them.[9]

One way to ensure that a god remained close to the community, the better to watch over and protect the inhabitants, was to provide that deity with its own house or shelter. Thus, during the late Dark Age and early Archaic Age (ca. 800–500 B.C., during which Greece regained prosperity and literacy) the Greeks began building temples, each dedicated to a certain god. Because the god was thought actually to reside, at least occasionally, within the temple, such a structure was seen as a sacred place. So were the surrounding grounds, which typically featured outdoor sacrificial altars and areas for individual or group prayer. (To respect the god's privacy, no worship took place inside the building, as it does in modern churches.) The temple and grounds together made up the god's sacred sanctuary or precinct.

This statue of the god Zeus, now in Greece's National Museum in Athens, once held a thunderbolt in its right hand.

DEVELOPMENTS IN TEMPLE DESIGN

At first, these temples were small, simple, hutlike structures made mostly of perishable materials. The bases of the walls sometimes consisted of piled irregular fieldstones. But the upper

WHAT ALL GREEKS HAD IN COMMON

While the hundreds of Greek city-states that emerged from the Dark Age ruled themselves as separate nations, they recognized that they shared a common culture. First, they all worshiped the same gods—the Olympians, including Zeus the Thunderer and the warrior goddess, Athena. The Greeks also shared the same language. Though distinct dialects developed in various parts of the land, all Greeks could easily communicate and share ideas. They all called the region they inhabited Hellas and themselves Hellenes. Their common language, they felt, distinguished them from foreigners, whom they referred to as barbarians (originally meant to describe the unintelligible sounds made by non-Greek speakers, i.e., "bar-bar-bar"). Toward the end of the Dark Age, sometime around 800 B.C., the Greeks, after centuries of illiteracy, rediscovered the skills of reading and writing. They used a set of letters borrowed from the Phoenicians, a Near Eastern trading people, that consisted of twenty consonants, to which the Greeks added vowels. Another thing that all Greeks had in common was their heritage of myths about the "Age of Heroes" (their name for what modern historians call the Greek Bronze Age). In particular, the *Iliad*, the story of the Trojan War as told by the eighth-century poet Homer, portrayed the Greeks as banding together into a single army with a common goal. That goal was to sack the prosperous city of Troy, in northwestern Asia Minor. Though later Greeks lived separately and often fought with one another, they retained this memory of a time when they were united, both in purpose and the glory of victory.

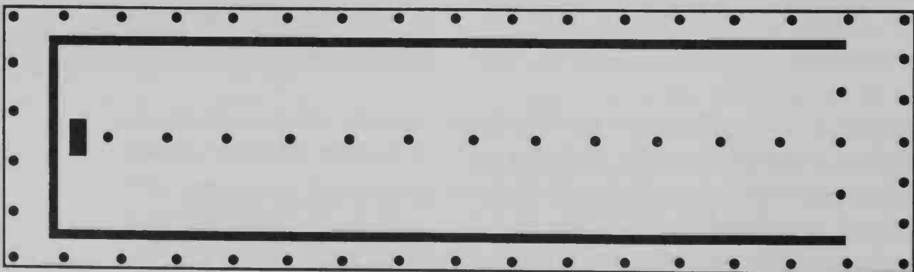
sections of the walls were of sun-dried mud-brick, the columns and door frames of wood, and the roofs of timber and thatch, all of which deteriorate rapidly. So none of these early temples have survived. Fortunately, portions of a few pottery models of these structures *have* survived, including one that experts believe represents an eighth-century B.C. temple of Hera (Zeus's wife and protector of women and marriage) in Árgos, in southeastern Greece. A reconstructed version of the model features a front porch with a triangular pediment, supported by two thin wooden

columns. As temples steadily developed into larger, more complex structures made of stone, the Greeks retained this simple form—a small rectangular hut with two or four columns in front—for buildings called treasuries, where they stored valuables. This is why surviving treasuries, like the famous one at Delphi, in central Greece, look like simplified, miniature temples.

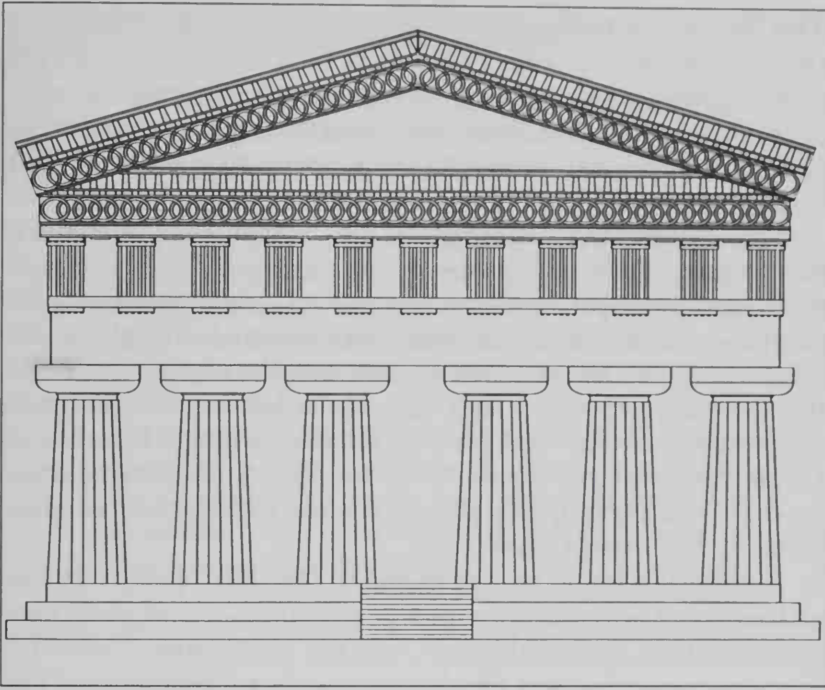
One of the first major new developments in temple design was the continuation of the two or four front columns into a full colonnade, or pteron, stretching around the whole building. The first known such peripteral temple was that built for Hera on the Aegean island of Samos in the early 700s B.C. The structure was about 106 feet long, 21 feet wide, and had 43 wooden columns in its pteron. Another innovation, the replacement of thatched roofs with courses of pottery roofing tiles, in turn stimulated many other changes. As architectural historian A. W. Lawrence explains, the use of tiles

> caused a preference for ridged roofs, of lower pitch than thatch required, and for buildings of strictly rectangular plan. Above all it stimulated an improvement in the structure of walls, and a changeover from wooden to stone columns, because the tiles were several times as thick as those manufactured today, and correspondingly heavy, necessitating, in turn, more massive roof timbers to support them. Few temples of the Dark Age can have

GROUND PLAN FOR TEMPLE OF HERA AT SAMOS, LATE 700S B.C.



This structure, the first known Greek temple featuring a colonnade stretching around the entire perimeter, had seven columns in the front but only six in the rear. The rectangle at the back of the cella denotes the base that supported the statue of the goddess.



A reconstruction of the façade of the Temple of Apollo at Syracuse, an all-stone hexa-style Doric temple completed in the early 500s B.C.

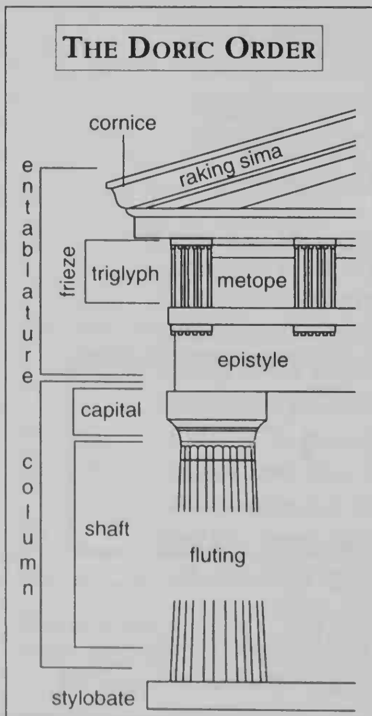
> been solid enough to receive a tiled roof . . . [as shown by] the fact that nearly all of them had to be replaced during the hundred years which followed the introduction of tiles.[10]

The first decades of the seventh century B.C. saw the construction of a number of what might be called transitional temples. These had heavy tiled roofs and sturdy stone walls but still employed wooden columns, although said columns were about two feet thick and therefore very strong. Outstanding examples were the Temple of Poseidon at Corinth, southwest of Athens, and the Temple of Apollo (god of the sun, music, and healing) at Thermon, in west-central Greece. Both of these structures also still retained a wooden entablature (the structural layer resting on the column tops, or capitals, and supporting the roof). By the end of the 600s, the Thermon temple's wooden columns had been replaced by stone ones; by the middle of the following century, the changeover to all-stone temples was complete nearly everywhere in Greece.

The Doric Order

During this century or so of transition, the order, or architectural style, known as Doric became the most common across most of mainland Greece. The Doric order was distinguished by certain standard structural elements and decorative features that builders repeated, with minor variations, in temple after temple. The most distinctive aspect of the Doric style was the shape of its columns. They almost always stood directly on the temple floor (the stylobate), without any sort of decorative base; the capital consisted of two simple parts, a rounded cushion, the echinus, topped by an overlying flat slab, the abacus (on which the entablature rested). As a rule, the height of Doric columns ranged between five and seven times their width. And while all Greek architectural styles featured fluting, narrow concave grooves running vertically along a column's shaft, Doric columns typically had twenty flutes each.

Another common characteristic of the Doric order was that its frieze, the decorative painted or sculpted band running horizontally along the entablature, was not continuous. Instead, it was divided into separate rectangular elements known as triglyphs and metopes. One triglyph, a block containing three vertical bars, usually rested directly above each column. The metopes, the flat panels bearing the paintings or sculptures, were positioned between the triglyphs. The front and back triangular pediments of Doric temples usually bore decorative sculpted figures, although it was not uncommon for these areas to be blank.



At the same time that the Doric order emerged in mainland Greece, another order, the Ionic, developed in the Aegean Islands and in western Asia Minor (what is now Turkey), then a Greek region known as Ionia. Ionic columns tended to be lighter and more slender than their Doric counterparts. Ionic columns also had decorative bases, and their capitals featured elegant spiral scrolls, called volutes. In addition, the Ionic frieze was usually a continuous band,

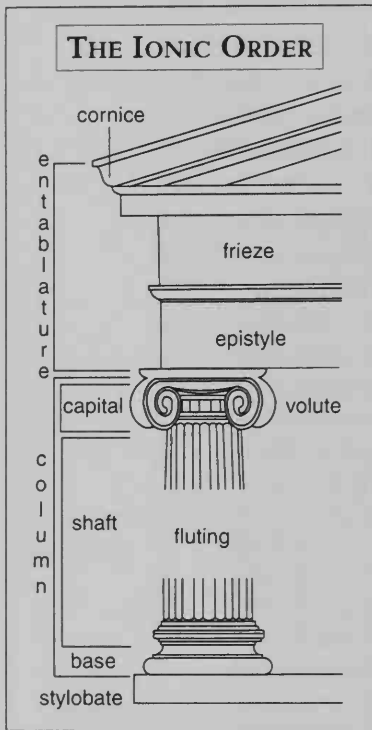
A QUEST FOR THE RIGHT PROPORTIONS

In this excerpt from his highly acclaimed book *Greek Architecture*, historian A. W. Lawrence describes the fundamental aspect of the Doric order, a sense of visual proportion and harmony.

> The whole design of a [Greek] temple is a matter of [contrasting visual] relationships; it depends ultimately on the clear demarcation of its parts, which must be so shaped as to keep the spectator's eye continually on the move. Every part must be rightly proportioned in itself as well as in relation to the rest, but none may attract more attention than another. Each line points toward one which turns at a different angle and obliges the eye to follow it; some lines, moreover, ought to be so constructed as to lead in either direction simultaneously. . . . Equally satisfactory from any outside viewpoint, and internally imposing, [the Doric order] began a new sort of architecture. . . . [Its] history consists of perpetual attempts to discover the right proportions and to adjust them to economic [simple and concise] structural requirements; in particular, to do this in conformity with traditionally established procedures for design and construction. . . . Two hundred years of experiment resulted in the Parthenon, which has the best proportions, enhanced by meticulous [detail-oriented], and therefore very expensive, workmanship.

without triglyphs, running along the entablature above the colonnade. When constructing Doric buildings, mainland architects (including those who designed the Parthenon) sometimes incorporated a few Ionic features in an attempt to inject a feeling of "lightness," thereby reducing what was generally seen as the "severity" and "solemnity" of the more spare Doric style.

Both the Doric and Ionic styles were concerned mainly with aesthetic effect, that is, making a building look well proportioned and beautiful. As these styles matured, architects came to realize that a temple that was too long or too wide did not please the eye. The eighth-century Temple of Hera at Samos, for example, was five times as long as it was wide; by the sixth century



such proportions had come to be seen as ungainly and unattractive. Eventually, builders settled on what all agreed was the most aesthetic ratio of length to width—roughly two to one. With few exceptions, that ratio called for six columns on each end and thirteen columns on each side (counting the corner columns twice).

DARK-AGE MYTHS AND THE ACROPOLIS

In the mid– to late–sixth century B.C., several all-stone temples in a mature Doric style that employed this two-to-one ratio were erected in mainland Greece. Perhaps the most outstanding example was the Temple of Athena Polias (Athena "of the City") on the Athenian Acropolis. Because it measured about 100 Attic (Athenian) feet long, people also frequently called it the Hecatompedon, or "hundred-footer." (An Attic foot measured .328 meters, compared to .305 meters for a modern English foot, so the building's length was roughly 110 feet by today's standards.) Entrance to the cella, the main room, in which a statue of the goddess stood, was from the east. The temple's front pediment featured an elaborate group of sculptures depicting the "Gigantomachy," or war with the giants. In this popular myth, a frequent theme of Greek art and poetry, the Olympian gods, including Athena, defeated a race of monstrous giants, a battle that came to symbolize the triumph of civilization over savagery.

The Athena Polias temple (which occupied nearly the same site as the fifth-century B.C. Erechtheum) was not the first shrine erected for Athena on Athens's central hill. In the Bronze Age, before the advent of formal temples, the city's kings had built a palace on the Acropolis. Because such palaces contained one or more rooms set aside for religious worship, and also because these early kings were the state's chief priests as well as its civil leaders, palace sites came to be seen as sacred ground. The principal shrine in the Athenian palace was likely dedicated to Atana, an early manifestation of Athena.

As the ages passed and Greece entered its Dark Age, dim memories of one of these early kings, Erechtheus, became distorted into legend. Myths pictured him as a sort of partner to Athena or as custodian of her temple on the Acropolis, and painters and sculptors often portrayed him as a serpent guarding the goddess. The term *Erechtheum* came to describe a temple dedicated jointly to Athena and Erechtheus; several structures bearing that name were built and rebuilt on the Acropolis before the Classic Age.

A number of popular myths about Athena herself developed during the Dark Age. By establishing Athena as Athens's special patron and protector, these traditional stories profoundly influenced the evolution of temple building and the nature of worship on the Acropolis. The seventh-century B.C. Greek poet Hesiod told about the goddess's miraculous birth from Zeus's head:

THE EARTH DRENCHED WITH BLOOD

Here, from his *Metamorphoses*, the first-century B.C. Roman poet and myth-teller, Ovid, colorfully describes part of the famous fight between the gods and giants.

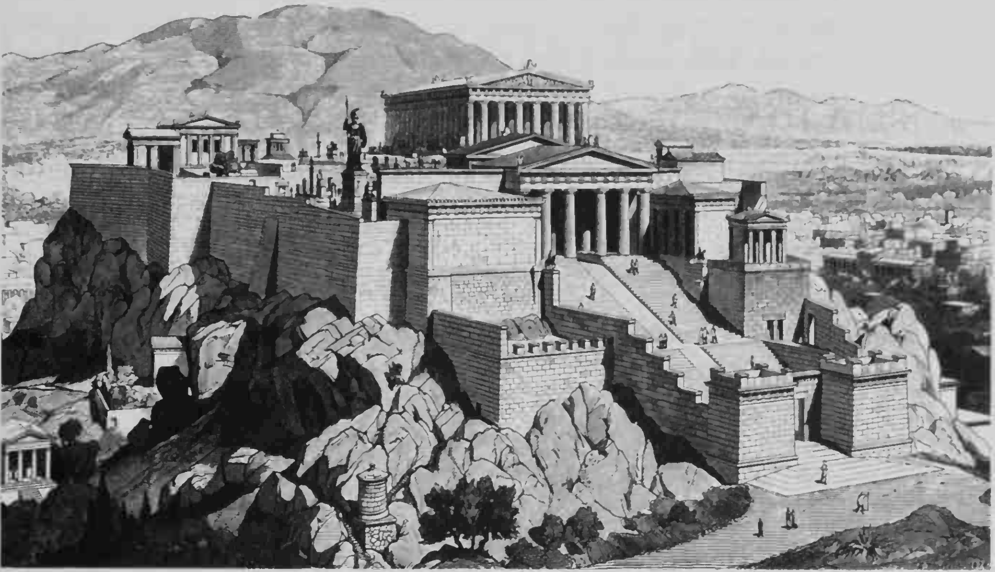
> The heights of heaven were no safer than the earth; for the giants, so runs the story, assailed the kingdom of the gods and, piling mountains together, built them up to the stars above. Then the almighty father [Zeus] hurled his thunderbolt, smashed through Olympus, and flung down [Mt.] Pelion from where it had been piled on top of [Mt.] Ossa. The terrible bodies of the giants lay crushed beneath their own massive structures, and the earth was drenched and soaked with torrents of blood from their sons. Then, they say, she [the earth] breathed life into the warm blood and, so that her offspring might not be completely forgotten, changed it into the shape of men. But the men thus born, no less than the giants, were contemptuous of the gods, violent and cruel, with a lust to kill. It was obvious that they were the children of blood.

> Zeus first took the goddess Metis as his wife, but later deceived her and swallowed her, for fate had decreed that Metis would conceive children filled with wisdom. And the first of these would be the bright-eyed maiden Athena, who would have strength and wisdom equal to her father's. Metis remained concealed inside of Zeus and eventually conceived Athena, who received from her father the aegis [his majestic and invincible breast-plate], with which she surpassed in strength all her brother and sister gods. And Zeus brought her into the world, bearing the aegis and clad in battle armor, from out of his head.[11]

Another myth described how Athena and Poseidon had a contest to decide which of them would preside over and protect Attica, the territory ruled by Athens. Poseidon touched the Acropolis with his trident, producing a miraculous saltwater spring. Athena then countered him by causing the first olive tree to sprout from the hill's summit; seeing this, Zeus and the other gods judging the contest declared her the winner. Still another tradition held that Athena had sent an olive-wood statue of herself hurtling out of the sky. The spot on which it supposedly landed, near the Acropolis's northern edge, became the site for a succession of temples, the cellas of which housed the sacred statue.

ATHENS'S DARKEST HOUR

The sixth-century B.C. Temple of Athena Polias was the last such temple to hold the olive-wood statue before the construction of the Periclean Acropolis complex. Archaeological evidence shows that, besides this large Doric structure, the direct predecessor of the fifth-century Erechtheum and Parthenon, there were other temples on the hill's summit. Some, like the Temple of Athena Polias, were dedicated to this warrior goddess. That her shrines dominated the Acropolis is only natural, since she was the city's patron and protector. However, sanctuaries for several other gods existed there as well. The most important, next to those honoring Athena, was the sanctuary of Zeus Polias, an open-air precinct with a large altar located on the hill's highest point (to the east of the Temple of Athena Polias). By the early 400s B.C., the Acropolis was covered by a complex net-



This reconstruction shows the Athenian Acropolis, dominated by the Parthenon (at rear), as it probably appeared in the late–fifth century B.C.

work of walled courtyards, terraces, stone walkways, altars, and temples, all decorated with statues, bas-reliefs, and other artistic touches.

Then, in 480 B.C., nearly all of these religious and artistic monuments were suddenly violated, ransacked, and burned. Ten years before, Darius I, king of the mighty Persian Empire, which then controlled most of what are now Iran, Iraq, and Turkey, had sent an army to subdue Athens and some of its neighbors. The Athenians had soundly defeated the invaders at Marathon, on the seacoast about twenty-five miles northeast of Athens. Seeking revenge for this affront, Darius's son Xerxes returned in 480 with over 200,000 troops and a thousand ships, the largest invasion force the world had ever seen up to that time. Persia's goal was now nothing less than the conquest of all of Greece, a foothold from which it might later launch expeditions into other parts of Europe.

As the huge Persian host approached Athens, the inhabitants fled to nearby islands, taking the precious olive-wood statue of

their divine patron with them for safekeeping. On approximately September 17, Xerxes led his troops into the deserted city. He ordered them to destroy everything atop the Acropolis, confident that he was dealing Athens a blow from which it could never recover. But he was dead wrong. The Athenians would prevail and a new, more splendid Acropolis complex would rise from the ashes of the old. In a twist of fate that no one at the time could have foreseen, the horrors of Athens's darkest hour would prove but a prelude to the grandeur of the Parthenon and Greece's golden age.

2

Symbol of Athenian Greatness: Construction on the Parthenon Begins

The embers of the Persian fires that had swept Athens's Acropolis were still glowing when the Greeks, fighting for their homes and way of life, launched a desperate and valiant counteroffensive. On September 20, 480 B.C., three days after his army had entered Athens, King Xerxes mounted a hill overlooking the narrow Salamis Strait, a few miles southwest of the city. There, he watched in horror as a Greek fleet made up of warships from many city-states delivered his much larger naval forces a crushing defeat. The Greeks followed up this win with others the following year, including the almost total annihilation of the Persian land army at Plataea, north of Athens. The Greek victory was so complete and decisive that no other Persian army ever entered Europe again.

Moreover, the victory instilled in the Greeks a feeling of immense accomplishment. They had demonstrated to the world—and also to themselves—that they, like their ancestors at Troy, were capable of glorious deeds. And the defeat of the world's greatest empire seemed only the first step toward other, equally noteworthy achievements. In this way, historian W. G. Hardy remarks, the victory over Persia became "the torch to set fire to the brilliance of the great age of the Greeks. There was a tremendous upswelling of confidence . . . [and now] the Greeks felt that there was nothing they could not attempt." [12]

As the wealthiest and most populous Greek city-state, Athens felt and demonstrated this amazing new confidence more than any of its neighbors. With amazing energy and boldness in the decades following the great patriotic war, the Athenians produced an outburst of political and cultural creativity

the likes of which the world had never seen and would never see again. Having emerged from the conflict as one of the two most powerful and prestigious Greek cities (the other being Sparta, in southern Greece), Athens soon began expanding its democracy, the world's first, which it had established in the last years of the preceding century. As the new century progressed, Athenian playwrights turned out some of the greatest plays ever written. And in these same years the Athenians acquired immense wealth, much of it spent rebuilding their city. The highlight of this urban renewal program was Pericles' new temple complex atop the Acropolis, with its crowning jewel—the Parthenon.

THE MARVEL OF GREECE

At first, no one anticipated the construction of *any* new buildings on the Acropolis, much less edifices as splendid as those that were eventually erected. Shortly before the battle at Plataea in 479 B.C., all Athenian citizens had taken a solemn oath. "I will not rebuild any of the temples that have been burned and destroyed by the barbarians," they swore, "but I will let them be left as a memorial, to those who come after, of the sacrilege of the barbarians." [13] This oath remained binding for some thirty years. In 449, however, after years of periodic hostilities (in which the Greeks carried the war onto Persian soil), the two powers signed a peace treaty. The new generation of leaders then in charge in Athens felt that the advent of peace absolved them from the oath their fathers had sworn.

More important, in the thirty years since the battles at Salamis and Plataea, Athens had become a changed city. It had built a huge maritime empire, from which wealth, gained from commerce and the dues paid by over a hundred subservient city-states, flowed into Athenian coffers. Pericles, one of the architects of this empire, had come to power in 461 as the city's most influential politician and general, a position he would retain for some thirty years. A dynamic, ambitious leader and powerful orator, he told his countrymen that it was time for Athens to realize its enormous potential; it must show the world that it was invincible and eternal, that the gods had chosen it above all other states. "You must yourselves realize the power of Athens," he said,

> and feast your eyes upon her from day to day, till love of her fills your hearts; and then when all her greatness shall break upon you, you must reflect that it was by courage, sense of duty, and a keen feeling of honor in action that men were enabled to win all this.[14]

What better way to demonstrate that Athens was the marvel of Greece, Pericles asked, than by celebrating and honoring the goddess whose divine patronage was instrumental in the city's rise to greatness? Building new, grand, and beautiful temples to Athena would ensure her continued protection, he proposed. At the same time, a new and magnificent Acropolis complex would be the ultimate symbol of Athenian imperial greatness. As Plutarch would later write, this ambitious project was seen, both at the time and by posterity, as Pericles' greatest achievement.

> There was one measure above all which at once gave the greatest pleasure to the Athenians, adorned their city and created amazement among the rest of mankind, and which is today the sole testimony that the tales of the ancient power and glory of Greece are no mere fables. By this I mean his construction of temples and public buildings.[15]

Pericles, the Athenian leader whose name became synonymous with Greece's greatest age.

Yet while Pericles provided the inspiration for the grand new project, it was the combined effort of hundreds of talented builders, sculptors, and artists who made it a reality. Encouraged and lavishly funded by the state, their latent energies and creativity suddenly received an outlet of unprecedented scope, and they took full advantage of the opportunity. John Miliadis writes:

> It was not merely the passion for building . . . nor was it merely an exhibition of power. It was something deeper than all this. It was the irrepressible need of a whole generation which took the highest intellectual view of life, to find a creative self-expression.[16]

A TERRIBLE THUNDERBOLT IN HIS TONGUE

Plutarch was a first-century A.D. Greek writer who became renowned for his biographies of important Greek and Roman leaders. In this excerpt from his *Life of Pericles*, he describes Pericles' oratorical skills, which helped to sell the Athenians the idea of refurbishing the Acropolis.

> Pericles wished to equip himself with a style of speaking which, like a musical accomplishment, should harmonize perfectly with his mode of life and the grandeur of his ideals. . . . It was from this philosophy that he had acquired, in addition to his natural gifts, what the divine Plato calls "the loftiness of thought and the power to create an ideally perfect work," and by applying this training to the art of oratory he [Pericles] far excelled all other speakers. This was the reason, some people say, for his being nicknamed the Olympian, though others believe it was on account of the buildings with which he adorned Athens, and others again because of his prowess as a statesman and a general; but it may well have been the combination of many qualities which earned him the name. However, the comic poets of the time, who were constantly letting fly at [criticizing] him either in earnest or in fun, declare that the title originated mainly from his manner of speaking. They refer to him as thundering and lightning when he addressed his audience and as wielding a terrible thunderbolt in his tongue. . . . The truth is, however, that even Pericles was extremely cautious in his use of words, so much so that whenever he rose to speak, he uttered a prayer that no word might escape his lips which was unsuited to the matter at hand.

THEMES AND IMAGES AS PROPAGANDA

As proposed by Pericles and his associates in the early 440s B.C., the major buildings and monuments in the new Acropolis complex would be tied together by theme and form an integrated visual composition. The most obvious and important theme would

be Athena herself. Gracing the western approach to the hill, the small Temple of Athena Nike (Athena "the Victor"; also called the Temple of Wingless Victory) would celebrate her help in securing the great victory over Persia. On the summit, in the appropriate spot on the north side, would be a new Erechtheum temple to house her olive-wood statue. And a bit more than a hundred feet south of this structure would rise a much larger and imposing temple, the Parthenon, in which a completely new and more resplendent statue of the goddess would reside.

The name *Parthenon* reflected a relatively new image of the goddess. In Greek houses, a *parthenon* was a room in which a young woman, ideally a virgin, dwelled before her marriage. Therefore, *Athena Parthenos*, the name of the statue that would stand in the Parthenon, meant "Athena the virgin." Emphasizing this aspect of her character stressed her feminine beauty and the purity of her power and wisdom, balancing and complementing her existing images as "victor" and "warrior" (a huge bronze statue of *Athena Promachos*, "the warrior champion," already stood in Athens).

The Temple of Athena Nike (sometimes referred to as the Temple of Wingless Victory) was constructed on a platform projecting from the Propylaea's right façade.

Other important themes that would dominate the new complex would be the triumph of civilization over barbarism and the greatness of Athens, the second to be seen as the inevitable result of the first. To emphasize these themes, pediment sculptures, metope bas-reliefs, and numerous statues and paintings would depict the Gigantomachy and other similar myths paralleling and symbolizing the defeat of Persia by Athena and the Athenians. As the noted scholar Peter Green puts it in his book *The Parthenon*, the "soaring splendor and architectural subtleties" of the new Parthenon and Acropolis would

> testify with eloquence to Athenian wealth, intellect, and artistic imagination . . . [and] decorative sculptures would emphasize Athenian . . . respect for moral law. . . . [These works] were calculated to remind a visitor of what Athena, and in an even greater sense Athens, stood for in moral terms—civilization, order, self-restraint, and creativity. . . . The sculptures of the Parthenon were to provide visual propaganda, in the broadest sense of the term.[17]

THE OVERSEER AND ARCHITECTS

To make the impact of that visual statement as strong as possible, Athenian leaders decided to erect the new Acropolis's largest and most ambitious and splendid building—the Parthenon—first. As general overseer of this Doric structure, Pericles chose Phidias, the greatest sculptor of the day (now considered the greatest of ancient times). Phidias had already produced several highly regarded works, among them the large bronze *Athena Promachos* statue, honoring the Athenian victory at Marathon, and a group of statues of gods and human heroes on display in a religious sanctuary at Delphi, in central Greece. Besides acting as general supervisor of the Parthenon's construction, Phidias was to design the hundreds of sculptures for the pediments and metopes, as well as the large *Athena Parthenos* statue for the cella.

Phidias, recognized as the greatest sculptor of the ancient world.

To execute the design and construction of the building itself, Phidias appointed the noted architects Ictinus and Callicrates. These men, like most (if not all) ancient architects, did not draw up detailed blueprints. Their assistants, foremen, masons, and craftsmen were well acquainted

PHIDIAS'S FAMOUS STATUE OF ZEUS

Before beginning work on the Parthenon in the early 440s B.C., Phidias, the greatest sculptor of the ancient world, had already produced several masterpieces, including the bronze statue known as the *Athena Promachos*. After the completion of the Parthenon, he went on to create another important statue, this one of Zeus, housed in that god's temple at Olympia, in southwestern Greece. This magnificent work was later dubbed one of the seven wonders of the ancient world. Strabo, a first-century B.C. Greek geographer and historian, left behind this description of the statue, which unfortunately has been completely lost.

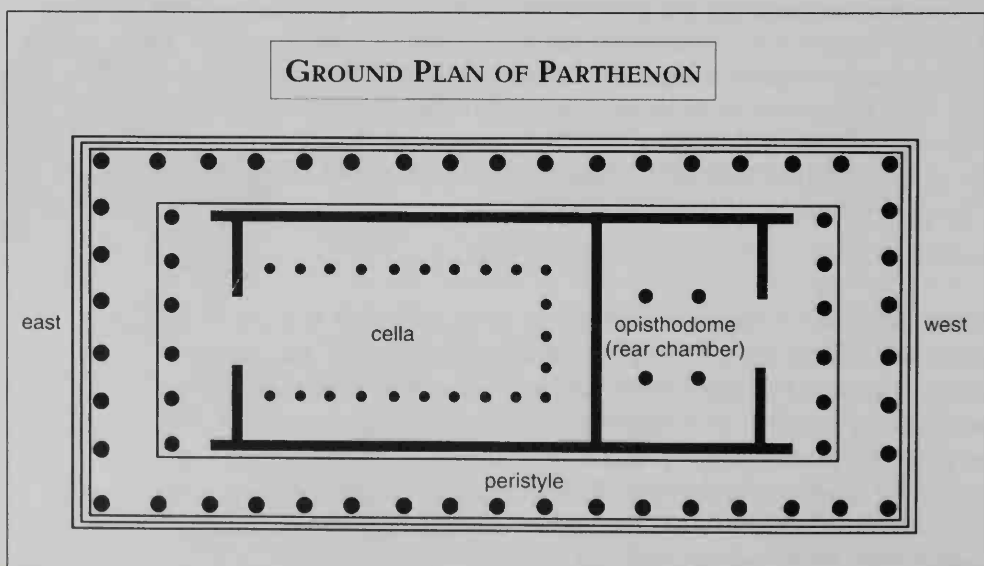
> The greatest [of the offerings in the Temple of Zeus at Olympia] was the image of Zeus, which Phidias, the son of Charmides, made of ivory, and which is of such great size that, though the temple is indeed one of the largest, the artist seems to have failed to take into account the question of proportion; for although he represented the god as seated, he [Zeus] almost touches the peak of the roof, and thus gives the impression that, if he were to stand up straight, he would take the roof off the temple. . . . Panainos the painter, Phidias's own brother and his coworker, was a great help to him in the decoration of the statue, especially the drapery [of the god's tunic], with colors. There are a good number of quite marvelous paintings on display around the sanctuary which are the work of that artist. And they recount this tradition about Phidias: when Panainos asked him what model he intended to employ in making the image of Zeus, he replied that it was the model provided by [the poet] Homer in the following lines [from the *Iliad*]: "Thus spoke the son of Cronos [Zeus] and nodded his dark brow and the ambrosial [fragrant] locks flowed down from the lord's immortal head, and he made great [Mt.] Olympus shake."

with the basic design elements and proportions of the Doric order; so usually all that was needed were specific instructions about the sizes of the blocks and columns, the thickness of the walls, and so forth. For moldings and other ornamentation, the architects made pottery models that the workers copied on a larger scale. Ictinus and Callicrates, in collaboration with Phidias, also chose and approved the quality of the marble, wood, and other materials used.

Materials, Money, and Workers

Since most of the building's features, including the roofing tiles, were to be of marble, this stone had to be of the highest possible quality. The builders chose Pentelic marble, a variety with a fine, uniform grain, quarried from Mt. Pentelicon, located about ten miles northeast of Athens. A great deal of marble would be needed (some thirty thousand tons in all, as it turned out) because the Parthenon, befitting its role as the centerpiece of the new complex, was to be larger than the standard Doric temple. Instead of the usual hexa-style pteron, featuring six columns on an end and thirteen on a side, the Parthenon's colonnade would be octa-style, with eight-by-seventeen columns (still maintaining the ideal ratio of about two to one).

Because Mt. Pentelicon lay within the territory of Attica, the marble itself was free. But as everyone involved knew, quarrying and transporting so much marble, as well as purchasing high-quality wood, gold, and the other materials needed, was a very expensive proposition. What is more, the hundreds, and at times thousands, of workers who would actually erect the temple would need to be paid day after day, week after week, for several years. State officials placed a stela, or stone marker, on the Acropolis to provide the citizens with an accounting of how their money was being spent. "The tight, regimented script cut



in tiny letters on the smooth marble slab was never easy reading," comments archaeologist and art historian John Boardman,

> but the important thing was that it was there, for reference and checking, a safeguard both for those who were spending Athens' accumulated wealth, and for the many who were ready to suspect the motives and honesty of officials and their agents.[18]

The fragments of the stela that have survived give a rough idea of the huge costs involved. "Those who quarried stones in Pentelicon and loaded them on the wheeled vehicles"[19] were paid some 20,000 drachmas in just one of the many seasons of major construction. The sculptors working on the pedimental figures in that same season received a total of 16,392 drachmas; those hired by the month earned 1,800 drachmas. Modern historians estimate that the entire cost of the building (excluding Phidias's statue inside) was approximately 30 million drachmas. It is difficult to calculate modern equivalents for ancient Greek money. But the following values, common in the mid-fifth century B.C., are helpful: An average worker earned 1 drachma per day; a highly skilled artisan about 2 or 3 drachmas per day; and a bushel of corn cost roughly 3 drachmas. Considering these facts, spending 30 million drachmas in the span of only a few years was clearly an immense and unheard-of undertaking for a community of only 100,000 or so citizens.

Yet the majority of Athenians readily went along with the grandiose plan. The Assembly, the body of citizens that met regularly to vote on state laws, policies, and spending, discussed Pericles' proposals at length. And the consensus was that the project, though enormously costly, would almost eliminate unemployment and thereby stimulate prosperity. The wide range of jobs created is well illustrated by Plutarch's famous description of the materials and workers:

> The materials to be used were stone, bronze, ivory, gold, ebony, and cypress-wood, while the arts or trades which wrought or fashioned them were those of carpenter, modeler, coppersmith, stone-mason, dyer, worker in gold and ivory, painter, embroiderer, and engraver, and besides these the carriers and suppliers of the materials, such as merchants, sailors, and pilots for the sea-borne traffic,

A modern drawing depicts an architect, probably Ictinus, showing a construction sketch to Pericles as stone masons and other workers labor on the grand Acropolis project.

> and wagon-makers, trainers of draft-animals, and drivers for everything that came by land. There were also rope-makers, weavers, leatherworkers, roadbuilders, and miners. Each individual craft, like a general with an army under his separate command, had its own corps of unskilled laborers at its disposal . . . [and consequently] the city's prosperity was extended far and wide and shared among every age and condition in Athens.[20]

QUARRYING AND TRANSPORTING THE STONES

The Parthenon's first stone was laid on July 28, 447 B.C. To be more precise, this was the building's first *new* stone, for the architects had decided to take advantage of a temple foundation that already existed on the Acropolis. In 488, two years after Athens's defeat of the Persians at Marathon, an Athenian leader

named Aristides had begun work on a Doric structure meant to commemorate the battle. His workers had laid a solid masonry base, topped by a finished stylobate (the temple's floor), and had just begun erecting the columns when the project was abandoned. (Dark pinkish marks seared into the stone when the Persians burned the structure's wooden scaffolding in 480 can still be seen today.) Although Ictinus and Callicrates had to expand this stone base, since the Parthenon was to be both longer and wider than the earlier structure, using the existing foundation saved a great deal of time.

NEW BUILDINGS FOR A NEW ATHENS

Here, from his informative book about the Parthenon, classical scholar Vincent J. Bruno comments on how the character of the new temple complex on the Acropolis was influenced by important changes in Athenian politics and society in the first half of the fifth century B.C.

> In many ways, the Periclean reconstruction of the Acropolis reflects the character of the events that had taken place in the lives of the Athenians in the period during and after the Persian wars. Functionally as well as stylistically the new Acropolis buildings represented a markedly changed society. The most spectacular of the Athenian successes against the Persian forces had been made possible by her diplomacy and navy, and the military importance of the fortifications on the Acropolis now seemed greatly diminished. The navy and the defense of the port of Athens were the first priorities. As the leader of a newly formed league of Greek states [the Delian League, which Athens rapidly transformed into its own empire], Athens gained steadily in power and prestige throughout this period, and the architectural and artistic embellishment of the city became a matter of political importance. Simultaneously, the religious ceremonies and the contests connected with the [new temples on the Acropolis], which took place at Athens every fourth year, assumed more and more the character of an international festival as time went on. Artists and poets from all over Greece gathered in Athens during these years. Under Pericles the Acropolis was redesigned, not primarily as a fortress, but rather as a setting for important state ceremonies, a place where representatives from all parts of the Greek world might come together in a spirit of pride in their accomplishments to celebrate and to do honor to their gods.

While teams of workers redid the foundation atop the Acropolis, many others labored at Mt. Pentelicon, diligently quarrying the thousands of marble blocks needed for the walls and columns. To separate the stones from the mountainside, the quarrymen first used mallets and chisels to cut grooves in the marble. Next, they drove wooden wedges into the grooves and saturated them with water. As the wedges absorbed the water, they expanded, forcing the stone to crack, after which the workers used crowbars and other tools to finish freeing the stones.

The task of transporting these extremely heavy blocks down the mountainside and across the plain to Athens was daunting to say the least. Gangs of men used levers, ropes, and pulleys to nudge the stones onto wooden sleds and then, using more ropes, painstakingly maneuvered the sleds down the slopes. To help brake the downward momentum of the heaviest stones, the workers set up posts at intervals, each post bearing a block and tackle out of which ran a rope that was tied to a sled. Despite such safeguards, accidents did happen. On occasion, for instance, the posts or ropes gave way, sending a sled plummeting down the hillside. (A stone intended for one of the Parthenon's columns still rests at the bottom of a nearby ravine.)

Once onto the plain, the stones moved along a road that had been heavily reinforced to support them. The largest blocks required specially made wagons, each with wheels twelve feet in diameter and drawn by up to sixty oxen. When these loads finally reached the Acropolis, getting them up the side of the hill required more work gangs equipped with sleds, pulleys, and ropes. To move a single stone from the quarry to the Acropolis took at least two days and cost some 300 drachmas, a year's salary for the average worker!

Erecting the Walls and Columns

Atop the hill's summit, teams of masons waited to receive the still rough and unfinished marble blocks. Among the first they prepared were those for the lower courses of the walls enclosing the cella and other interior spaces. Using mallets and flat chisels, they cut each stone to fit in a spot already premeasured by one of the foremen, work that had to be extremely precise, since as a rule Greek builders did not use mortar in temples and other large structures. Instead, they trimmed the stones to fit together snugly and then joined one to another with I-shaped iron

clamps. First they chiseled rectangular slots in the top surfaces of the two blocks to be joined; then they inserted the clamps and poured molten (melted) lead into the spaces that remained, making sure that, when the lead dried, its surface was even with those of the stones. When the next course was laid on top, its stones conveniently covered and hid the clamps in the course below. (The Parthenon and many other ancient buildings still bear unsightly pockmarks where scavengers in later ages chiseled out the clamps to sell the metal.)

Meanwhile, another group of masons prepared the stones for the temple's columns. These rounded pieces were called drums. Each of the Parthenon's columns consisted of about eleven separate drums, one stacked on top of another, with a Doric capital placed on top of the uppermost drum. To cut a

drum to the desired diameter, a mason placed one of the still rough and somewhat irregular stone disks on top of a circular stone pattern already prepared on the ground. Using a mallet and a pointed metal tool, appropriately called a "point," he carefully chipped away pieces of the disk until its diameter matched that of the pattern below it. The diameter of the pattern was about one-and-a-half inches wider than the proposed final column diameter. This was to allow for the carving of the flutes, a step that was postponed until the main body of the temple was completed in order to keep the edges of the delicate vertical grooves from being chipped accidentally during the construction stages.

THE SCULPTORS' TOOLS AND METHODS

Here, from his book *The Parthenon and Its Sculptures*, John Boardman, a noted expert on ancient art and architecture, discusses the tools and methods Phidias and his assistants employed in carving the figures for the building's metopes.

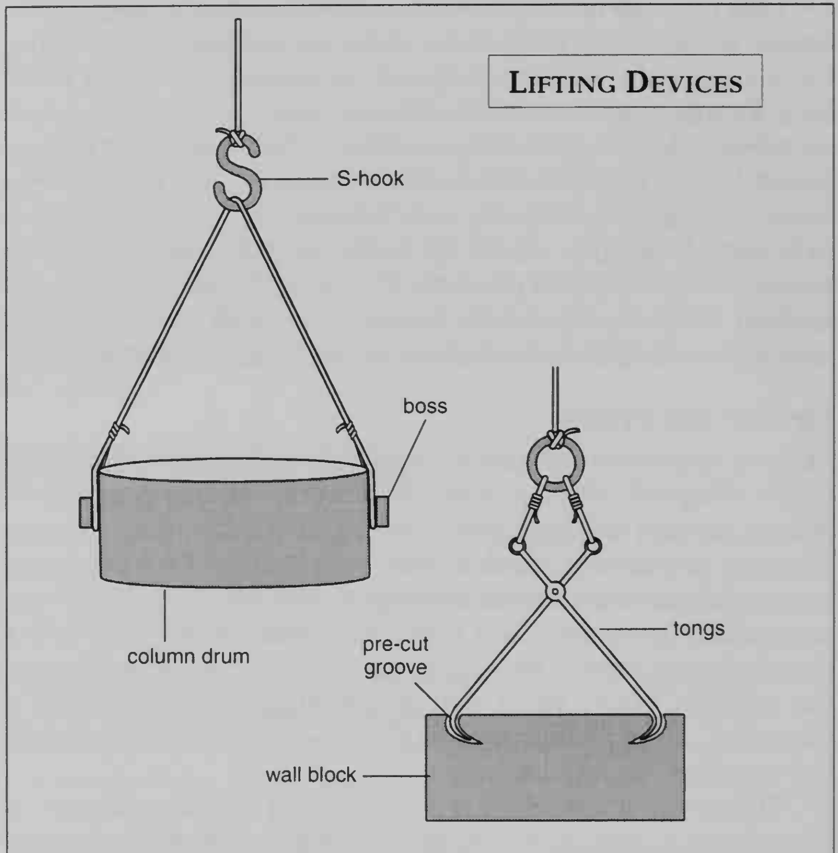
> The carving of each metope had been assigned to an individual artist, some executing several [metopes], the less skilled few or no more than one. . . . With so much to be done, it took time to identify the hands which would best express the style that Phidias sought. Drawings were provided for some groups where their narrative needed to be carefully designed. . . . The themes of the Parthenon's metopes called for some familiar schemes, some new. . . . Phidias had to dictate principles of design, weapons and furniture which would suit the overall narrative scheme of the series. The figures and details had to be drawn on the faces of the unworked blocks provided, be approved, and then the sculptors could set to work . . . working quite swiftly with the sharp iron point that brought off large marble flakes. Then the . . . claw chisel, which safely gouged broad swathes on the stone, then the flat chisel, and rasps and rubbers to smooth away the tool marks. Where dress fell in deep, shallow-catching folds, or there was deep cutting to be attempted between the legs of horses . . . then the bow drill was brought out. An assistant spun the shaft, and rows of close-set holes were drilled straight into the surface to define masses which could be safely broken away, leaving the chisel to finish the folds of drapery, or intricacies of anatomy.

Like the wall blocks, the column drums were joined by fasteners. In the center of the top and bottom surface of each drum, the masons cut a rectangular notch measuring about four to six inches square and three to four inches deep. Carpenters then inserted wooden plugs into the notches. Next, they used augers (hand-turned drills) or other similar tools to bore holes in the centers of the plugs. Finally, they inserted circular wooden pins in a vertical position inside the holes, so that when the drums were stacked the pins kept them accurately centered above one another. As in the case of the clamps in the wall blocks, the fasteners in each drum were hidden by the drum stacked above it.

LIFTING THE STONES

Modern engineers estimate that each of the Parthenon's column drums weighed between 5 and 10 tons; the column capitals averaged about 8 to 9 tons each. That means that a single column weighed between 63 and 119 tons. And since there were 48 outer columns in all, the total weight of the temple's pteron was somewhere between 3,024 and 5,712 tons. Lifting such enormously heavy stones, especially those for the upper sections of the columns, which stood over 30 feet high, was a tremendous challenge. The builders met this challenge by employing simple but effective mechanical hoists.

The most common type of hoist used by the ancient Greeks consisted of a derrick, a wooden framework with ropes and pulleys attached to one of its horizontal beams, which was firmly planted on the ground. One rope led away from the derrick and over a wooden scaffolding beam placed directly above the spot where the builders wanted the stone to sit. They attached the stone to the hoist in one of several ways. The method most often used was to tie the end of the rope to the top part of a metal S-hook, fasten two shorter ropes to the bottom of the hook, and then loop these around knobs, called bosses, that had been left protruding from the stone for this very purpose. After hoisting the stone and setting it in place, workers used crowbars to adjust its position more accurately. Masons later removed the bosses. Another common method employed a set of metal lifting claws, called the grapple, or tongs, that hung from the end of the main rope. The curved points of the tongs inserted into pre-cut grooves in the stone, tightly gripping it during the lifting process.



As the workers used such devices to lift the blocks and drums into place, the Parthenon's walls and columns slowly but steadily began to rise from the flat surface of its foundation. The ambitious project that Pericles had proposed no longer consisted merely of pretty dreams and promises; it was actually becoming reality, in a sense springing to life before the people's eyes. This made many of them more anxious than ever to see the finished product. Yet it was necessary to temper this initial excitement with patience, for there was still a great deal more to be done before this monument to Athenian greatness was complete. And Phidias, Ictinus, and the others were determined to take their time and do it right. As Plutarch later so aptly put it, "Certainly mere dexterity and speed of execution seldom give a lasting value to a work of art. . . . It is the time laid out in laborious creation which repays us later through the enduring strength it confers."[21]

3

Greece's Cultural Culmination: The Parthenon Is Completed

After they began work on the Parthenon in 447 B.C., the builders kept no systematic record indicating the exact months and years in which they completed its various features. But based on clues in stela inscriptions and modern estimates of the amount of materials, number of workers, and other factors, it is fairly certain that the inner walls and outer colonnade were in place by the end of 443. At this point, the surfaces of the walls and columns remained rough; it was customary to save the task of finishing them until the final building stages, to avoid nicks and scratches caused by dropped tools and other accidents common on construction sites.

In the most likely scenario of the last decade of work on the structure, the builders completed the remainder of the major structural elements between 443 and 438. These elements included the stone blocks, beams, and other parts of the massive entablature and, directly above it, the roof (including interior columns and beams to hold it up). Meanwhile, Phidias and a team of assistants worked on the monumental statue of Athena, completing it by 438 or 437. In 438, work began on the crowning artistic touches—the pediment sculptures and frieze—and with their completion in 432, the temple, the greatest single cultural achievement produced by ancient Greece, was finished at last.

The Lower Entablature and Doric Frieze

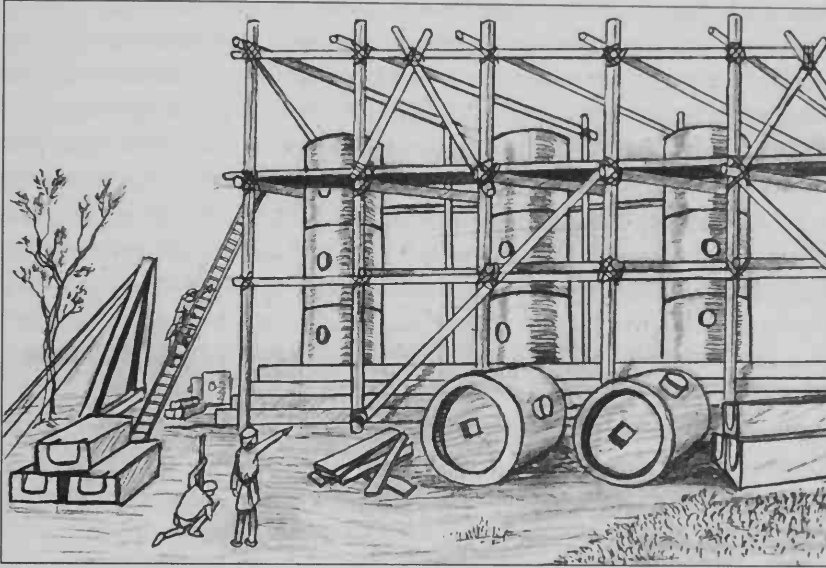
The last pieces added to the Parthenon's pteron, probably sometime in 443 B.C., were the Doric capitals at the tops of the columns. Their installation brought the total height of the columns

to about thirty-four-and-a-half feet. In keeping with accepted Doric proportions, this was approximately five-and-a-half times the diameter of a single column.

In order to reach the pteron's upper sections, as well as the building's entablature, roof, and many other elevated features, the workers required scaffolding. Usually, such scaffolding was made of sturdy wooden poles lashed together by ropes, forming an elaborate framework. The workers stood on wooden planks laid on various parts of the framework. In the early stages of construction, the framework was only ten or so feet high; but as the building continued to rise, new sections of scaffolding were added, so that eventually the framework encased almost the entire structure.

Once the column capitals were in place, the next features requiring scaffolding to reach were those making up the entablature. By the mid–fifth century B.C., the Doric order had attained its most visually satisfying ratio of entablature height to column height—namely one-third (so conversely, a temple's columns

Modern tourists are dwarfed by the remains of the Parthenon's columns and entablature. Most of the elaborate sculptures that once graced the entablature's frieze, as well as the building's roof, have been destroyed over the centuries.



This drawing of an early stage of temple construction shows how the scaffolding encases the half-finished columns. The bosses protruding from the column drums will be removed later.

were ideally three times taller than its entablature). The entablature's bottommost component was called the epistyle (or architrave). Functioning as a beam to hold up the building's upper sections, the epistyle was composed of large stone blocks laid horizontally atop the column capitals, with the junction of two such blocks centered above a column. To rig the hoists required to maneuver these blocks into place, it was, of course, necessary to extend the scaffolding well above the completed pteron.

Directly above the epistyle, and roughly equal to it in thickness, rested another key element of the Parthenon's entablature—the Doric frieze, made up of alternating triglyphs and metopes. The architects ordered that the triglyphs, each with its cluster of three vertical bars, be regularly spaced so that one rested directly above each junction of epistyle blocks, which meant that a triglyph was centered above each column. The workers placed another triglyph above the center point of each epistyle block. This spacing allowed for fourteen metopes on each end of the building and thirty-two on each side, for a total of ninety-two metopes.

The sculptures on the metopes, the first of the temple's artistic features tackled by Phidias's team of sculptors, were executed

in relief, that is, they were raised partly into three dimensions from the metopes' flat surfaces. Each metope displayed two or three figures. The subjects of these scenes were mythical and kept with the overall theme of Greece's, and especially Athens's, triumph over the forces of barbarism and disorder. The metopes on the structure's east end depicted episodes from the primeval war between the giants and Olympian gods (the Gigantomachy). Along the north side, the metopes showed famous scenes from the Trojan War, which the Greeks had recently come to interpret as the precursor of the Greek-Persian conflict (i.e., the victory of West over East, or Europe over Asia). The metopes on the west end depicted the Athenians fighting the Amazons (the Amazonomachy). During the Age of Heroes, the story went, these legendary warrior women, the Amazons, had landed at Marathon, like the Persians, and attacked Athens, only to be driven off, also like the Persians. Finally, the temple's south-facing metopes bore reliefs showing warfare between the Lapiths and Centaurs (the Centauromachy). In this myth, the Lapiths, members of an early Greek tribe, had defeated the half-human, half-horse Centaurs, who had tried to carry off the Lapith women. As archaeologist Nigel Spivey explains:

> The bestial Centaurs were forces of disruption; threats to the order and civilized sanctity of Greek institutions. . . . In the decades following the Persian vandalism of the Acropolis . . . [there was] contemporary relevance in the choice of this theme to decorate a new temple. . . . Centaurs were shown by fifth-century [B.C.] artists as fighting with uprooted trees, as if referring to the Persians' deliberate destruction, during their occupation of Attica, of valuable olive groves. . . . The association of the Persians with Centaurs reduced them to the level of animals. The association of Persians with Amazons reflected another sort of perceived inferiority: it denigrated [discredited and insulted] them as women. . . . [The Amazons] invariably fought on horseback (like the Persians), using bows and arrows (like the Persians), and wearing soft caps and leggings (like the Persians). . . . [These scenes] may be read as being invested with a mythical symbolism that exalted Greek or Athenian order over those who would challenge it.[22]

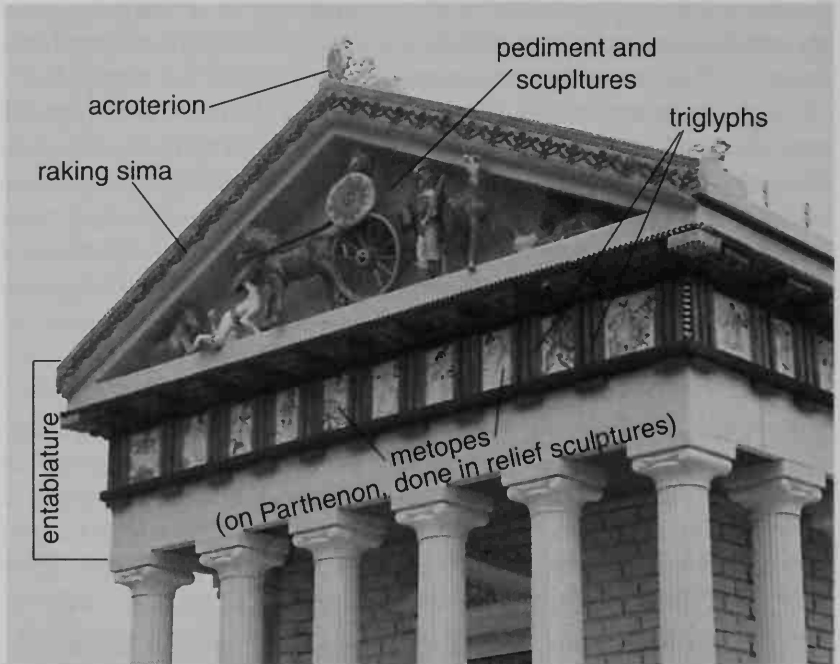
Each such metope sculpture was completed in a workshop set up on the Acropolis; the finished metopes were later raised, by means of hoists, and slipped into place between the triglyphs.

Having completed the Doric frieze, the workers next applied the entablature's topmost section, the cornice, itself composed of several parts. The cornice's lower part, called the geison, was a horizontal stone beam resting on the frieze and projecting outward about twenty-seven inches beyond the entablature's vertical surface. On the bottom surface of this projection, facing the

HOW THE WAR WITH THE CENTAURS BEGAN

One of the several myths portrayed in the Parthenon's various groups of sculptures was the legendary war between the Greek Lapiths and half-beast Centaurs. In this excerpt from his first-century B.C. work the *Metamorphoses*, Ovid has the aged Nestor, one of the Greek leaders at the siege of Troy, tell how the trouble began when one of the Centaurs disrupted a Lapith wedding.

> Now Pirithous, bold Ixion's son, on the occasion of his marriage to Hippodame, had invited the fierce cloud-born Centaurs to take their places at tables set out in . . . a tree-sheltered cave. The princes of Thessaly were present, and I too was there . . . on that festive day. . . . They were singing the marriage hymn, and the great hall was thick with the smoke from the fires, when the bride appeared, surrounded by her many attendants. . . . The sight of the bride, no less than the wine, inflamed the passions of Eurytus, fiercest of all the fierce Centaurs. Under the sway of drunken frenzy, intensified by lust, he lost all control of himself. Immediately the wedding feast was thrown into confusion, as tables were overturned, and the new bride was violently dragged off by the hair. . . . Other Centaurs carried off whichever girl they fancied. . . . [The Greek] hero Theseus pushed aside the menacing Centaurs, and removed the girl from her demented captors. Eurytus . . . wantonly attacked the girl's champion, pummeling Theseus's face and noble breast with his fists. There happened to be an antique goblet lying near at hand. . . . Theseus lifted the cup and, drawing himself up to his full height, flung it in his enemy's face. The other fell backwards and lay, drumming his heels on the sodden ground and vomiting from his shattered mouth gobbets of blood and wine and brains. His brother Centaurs, blazing with anger at his death, vied with one another, shouting, "To arms!"



This modern reconstruction of a hexa-style temple highlights the main architectural features.

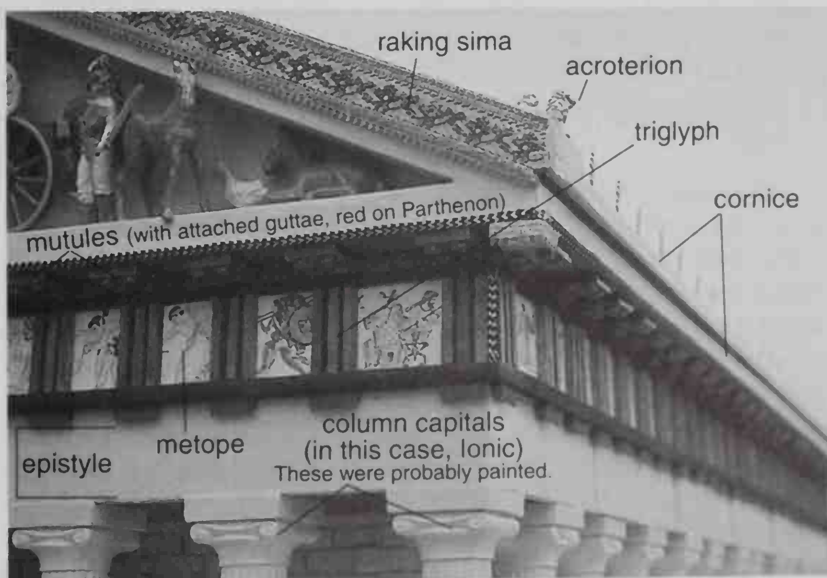
ground, the workers installed a dense array of rectangular, plaquelike decorations, the mutules. One mutule hung over each triglyph and metope and also under each of the building's four corners, so there were 188 (92+92+4) mutules in all. The undersurface of each mutule bore eighteen rounded stone pegs, called guttae, making the mutules look strikingly similar to modern Lego plastic building blocks. The guttae were nonfunctional stone representations of the nails used to secure the roof beds of earlier wooden temples (one of many such features retained in the changeover from wood to stone). In a stone entablature like that of the Parthenon, the mutules were attached to the cornice by hidden metal clamps similar to those joining wall blocks.

As in all Doric temples, the geisons on the Parthenon's two long sides constituted the top of the entablature. On each of the building's ends, however, the cornice had an upper part—the raking sima, the left and right sections of which angled upward to a point, forming the pediment. To install these upper sections of the cornice required scaffolding well over sixty feet high.

This massive framework stayed in place for some time, for the workers needed it to construct the roof. The mainly wooden beams supporting the roof rested on a complex superstructure of stone supports and beams, themselves resting on the topmost stones of the walls and pteron. This method spread the roof's enormous weight (perhaps over three thousand tons) more or less evenly over many strong supports. Across the roof-beams carpenters built a latticework of wooden rafters, on which a gang of roofers laid the marble roofing tiles. Most of these were ordinary tiles in the "Corinthian" style, each consisting of two flat pieces, their shared sides connected and covered by a triangular ridge tile designed to shed rainwater sideways. There were also a few hundred specially shaped tiles, such as those that merged with the cornices at the edges of the pediments and the large gable-shaped tiles covering the spine, or topmost point, of the roof.

As the carpenters and roofers installed the rafters and tiles, they were increasingly able to stand and work on the roof; therefore they removed large sections of scaffolding. The sections of tall scaffolding encasing the ends of the building remained, however, to facilitate the installation of the pediment sculptures.

A modern reconstruction combines Ionic columns with a Doric frieze made up of triglyphs and metopes.



The many completely three-dimensional sculpted figures of people and horses were created in temporary workshops that Phidias set up near the unfinished temple, to minimize the risk of damage when moving them. John Boardman provides this summary of their design and execution:

> Small clay models had been prepared to test how many figures, in what poses, might be set in the awkward, low triangular field [of each pediment]. Once these were agreed, the overall dimensions for each figure could be determined, the marble blocks for them chosen and inspected. But it would be long before point or chisel could be set to them. . . . For each figure a full-size clay model had to be created, worked on a wooden and metal frame to ensure its survival through the months that might pass before it could be dismantled. Some of the broader modeling would be left to apprentices, but the master intervened at every stage to check pose and proportions. . . . The translation [of the clay model] to marble . . . was technically demanding and . . . laborious. An array of plumb lines, set-squares and drills, frames and tripods, were required to enable the masons accurately to predict . . . significant points in the marble block to which they could safely work before the desired ultimate surface of the figures was approached. . . . In the final stages the masters would take over and . . . it was [their hands] that revealed the finished surface, and added the ultimate detail to what in outline had also been the master's design.[23]

After the sculptors finished carving the figures, other craftsmen took over. Metalworkers attached precast bronze spears, horse harnesses, and other details to holes the sculptors had drilled in the appropriate places. Then painters applied wax and bright colors, bringing the statues to life. They used the wax to polish the surfaces representing flesh, producing the look of suntanned skin, then painted the hair, lips, and eyebrows a deep red, and the clothes and other trappings various shades of red, blue, and yellow. Even the figures' backs, which would not be visible once they had been set in place in the pediments, were carefully detailed and painted. "What the human eye might miss," Boardman quips, "the divine might criticize."[24]

Each of the finished sculptures was larger than life-size and therefore extremely heavy. Ictinus realized that the pediment floors, formed by recessing the pediments three feet inside the surrounding cornice, might not be capable of bearing so much weight on their own. So he devised a system of L-shaped iron brackets concealed behind and below the pediments; these braces carried a great deal of the load back to the stones making up the pediments' rear walls.

Once the statues had been hoisted up and set in their predesignated positions in the pediments, the themes of the scenes they formed became obvious to the most casual Greek observer. Each scene contained about twenty-two major figures and depicted one of the central myths associated with Athena. The west pediment, the one facing the Acropolis's entranceway, showed the contest between the goddess and Poseidon for possession of Attica, while the east pediment portrayed Athena's dramatic birth from her father's head, witnessed by a bevy of astonished deities.

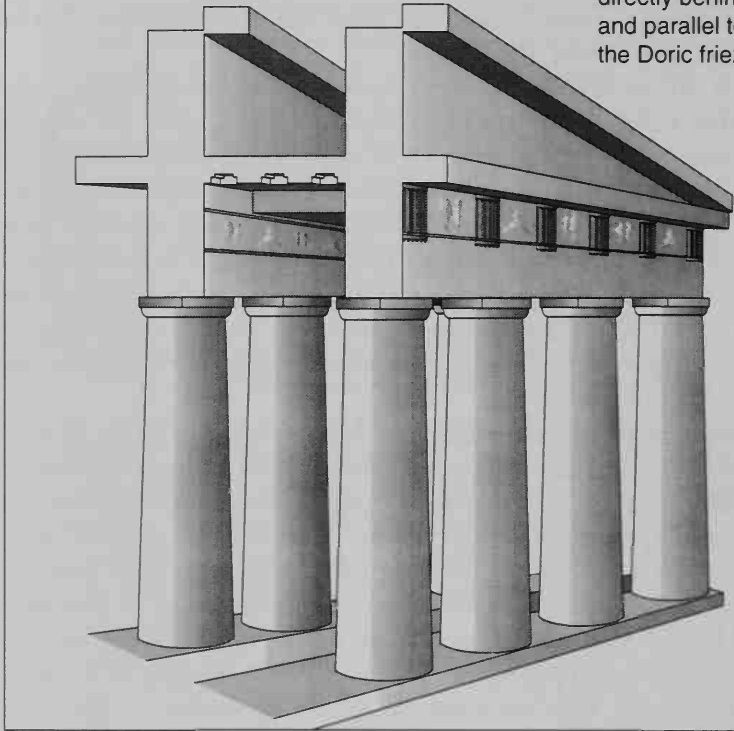
Observers of the finished pediments were equally astonished. Phidias and his assistants had created sweeping, heroic scenes that, though composed of motionless stones, seemed on the verge of springing to life. "Here," Boardman remarks, "human and animal bodies expressed brilliantly motion or energy, or peace and repose."[25] And "from the mastery of movement and anatomy," Thomas Craven adds, Phidias and the others had "proceeded to ideal forms and faces—to the creation of figures, male and female, beyond those produced by nature . . . marbles which reveal living flesh within the polished surfaces, faces of god-like serenity."[26]

THE IONIC FRIEZE

The last of the Parthenon's sculptural masterpieces was a second, "inner" frieze. It ran along the top of the temple walls (except on each end, where it continued onto a panel atop an inner row of six columns); this placed it directly behind and parallel to the traditional Doric frieze on the outside of the entablature. The inner frieze was Ionic, and therefore unbroken by triglyphs, a continuous band of sculpted reliefs stretching some 524 feet around the entire temple. Phidias and his helpers carved this magnificent work in situ, or in place. To accomplish this, they had to set up scaffolding in the peristyle, the walkway running

THE PARTHENON'S FRIEZES

This cutaway view of a corner of the Parthenon shows the placement of the Ionic frieze directly behind and parallel to the Doric frieze.



between the colonnade and the walls, and stand on wooden planks perched over 30 feet up, directly under the peristyle's ceiling. The area was physically difficult to work in. It was also poorly lit, since the entablature blocked direct sunlight for most of the day (except during early morning and late afternoon when the sun was low in the sky), so the sculptors usually had to work by lamp- or torchlight.

This lack of illumination remained a drawback after the frieze was finished, as did the fact that only small portions of it could be seen from any single vantage, even within the peristyle itself. Scholars have often argued about why the designers placed such an important and beautiful work where it was difficult for spectators to view it in any detail. Perhaps the most con-

vincing reason suggested to date is that the frieze served the dual function of decoration and religious offering, and was thus intended more for divine than human viewing.

The Parthenon's Ionic frieze depicted a two-part parade of humans, horses, and chariots. Noted scholar Ian Jenkins, of the British Museum, gives this general description:

> The two branches of the frieze present a procession composed of various groups of figures arranged in a sequence. On the [building's] west side we see horsemen, some paired, others shown singly. The directional flow is from right to left, or south to north. . . . The long north side carries forward the cavalcade begun on the west, and the horsemen occupy nearly half of the total number of slabs. Ahead of them come chariots, then groups of figures walking in procession, including elders, musicians, pitcher-bearers, tray-bearers and figures leading cattle and sheep as sacrificial victims. Turning the corner onto the east side we find . . . a procession of girls carrying vessels . . . [and] male figures leaning on staves [walking sticks] and engaged in conversation. . . . Ahead of them are shown the gods, whose seated pose allows them to appear larger than the mortal figures in the frieze. . . . The southern branch of the frieze follows a pattern similar to that of the north. The two processions do not actually meet, since the gods are placed between them.[27]

This surviving remnant of the Parthenon's Ionic frieze shows how Phidias imbued unmoving stone with strong impressions of energy and movement.

Modern scholars are not completely certain about the meaning of the scenes depicted in the frieze. The most widely accepted interpretation holds that the marchers, horses, and chariots were part of the grand procession staged during the Panathenaea, Athens's largest religious festival, which took place every fourth year. A recent alternative theory suggests that the scene portrayed derived from a myth about Erechtheus, the early Athenian king who later came to be seen as Athena's partner or custodian. In this story, the gods advised Erechtheus that he must sacrifice his daughter in order to ward off an enemy attack;

the frieze supposedly showed the king, queen, and their horsemen and attendants preparing for the sacrifice as some gods looked on. Still another theory proposes that there were 192 horsemen in all, and that these represented the 192 Athenians who died fighting the Persians at Marathon. Unfortunately, so many sections of the frieze are missing or damaged that it is difficult to tell which, if any, of these theories is correct.

ALIVE WITH COLOR

While Phidias and his assistants worked on the sculptures for the pediments and Ionic frieze, other craftsmen added hundreds of finishing touches to the building. This activity included the finishing work on the outer surfaces of the walls and the delicate fluting on the columns. Some of the other additions were, like the fluting, purely decorative. For example, workers installed large ornaments known as acroteria atop the apexes (top points) of the pediments and also at the other pedimental angles on the four corners of the building. The style of these ornaments varied from temple to temple (statues or brightly colored disks being most common); on the Parthenon they took the form of elaborate floral arrangements carved in stone.

Other finishing touches were functional as well as decorative. Prominent examples were the antefixes, ornaments placed upright at intervals along the tops of the cornices on the temple's sides. These hid the unsightly ends of the ridge tiles that covered the joints of the regular flat roofing tiles. The Parthenon's stone antefixes were carved as elegant, fan-shaped leaves called palmettes (adapted from similar Near Eastern designs), which complemented the floral patterns of the acroteria.

The same scaffolding used to install these decorations also served a battalion of painters who applied bright pigments and intricate decorative patterns to many of the Parthenon's exterior surfaces. These colors and designs have long since deteriorated, although tiny, faded traces can still be detected in a few places. Based on these remains and evidence gained from studies of better-preserved Greek structures, modern experts have pieced together a reasonably accurate picture of how the Parthenon's outer surfaces were covered. The stylobate, wall blocks, column shafts, and roof were left plain, although the painters added a wash of varnish to tone down the bright-white sheen possessed by Pentelic marble in its natural state.

PHIDIAS IS DRIVEN INTO EXILE

In this excerpt from his book about the Parthenon, popular historian Peter Green tells how the great sculptor Phidias became involved in a scandal not long after the temple's completion.

> No single item in the entire building program aroused as much hostile criticism as Phidias's statue. . . . Over 2,500 pounds of gold—worth more than 3,500,000 drachmas—had gone into it, and another 1,386,000 drachmas had been expended on ivory, wood, sculptors' fees, and miscellaneous expenses. . . . Small wonder then that . . . wild rumors of large-scale graft and embezzlement circulated during the statue's construction. Immediately after the dedication, charges were brought against Phidias [by Pericles' political opponents], and vigorous efforts were made to involve Pericles himself in the scandal. . . . Phidias reportedly detached and weighed the gold plates to prove his innocence, but feelings were running so high that he judged it advisable to leave town in some haste rather than stand trial. He went to Olympia . . . where, probably in 433 [B.C.], the sculptor died without ever having returned to Athens.

By contrast, most of the structure's other features were alive with color. The entablature featured two bright red horizontal bands, one running along the top of the epistyle, the other along the geison in the cornice. The painters apparently enlivened these bands with patterns of gold and perhaps dark blue or green scrolls, leaves, and Greek keys (rows of interlocking squares). The triglyphs were bright blue, as was a thin band over the metopes. The mutules were painted the same shade of blue and highlighted by touches of bright red between and on the undersides of the guttae. On the undersurface of the projecting cornice at the building's corners, the painters applied an intricate pattern of gold palmettes on a blue background, and the same or a similar design adorned the angled beams of the raking sima. Still another gold pattern appeared on the cornice running above the Ionic frieze. The background behind the

sculpted figures in that frieze was likely blue, while the backgrounds of the metope reliefs were probably red. All of these colors and designs, combined with the building's other decorations and perfect proportions, produced a stunning visual effect that its ruins cannot begin to convey.

FEELINGS OF HARMONY AND SOARING PERSPECTIVE

To some degree, this great visual impact of the Parthenon's completed exterior was the result of subtle architectural tricks employed by the architects. They knew from experience that in large buildings perfectly straight lines often do not look straight to the eye. Depending on the size and shape of a building's features, for instance, long horizontal bases or cornices can appear to sag slightly in the middle; and when a straight cylindrical column is seen against the sky, its middle section can look thinner than its top and bottom.

To counteract these optical illusions, the builders carefully planned and executed small corrective alterations, called refinements, in various features of the building. In fact, in some cases they further exaggerated subtle curvatures and proportions to create illusions of their own, thus enhancing the visual qualities of harmony and dynamic tension the structure already possessed. "The whole building is constructed, so to speak, on a subjective rather than objective basis," historian Percy Gardner explains.

> It is intended not to be mathematically accurate, but to be adapted to the eye of the spectator. To the eye a curve is a more pleasing form than a straight line, and the deviations from rigid correctness serve to give a character of purpose, almost of life, to the solid marble construction.[28]

One of the most important of the Parthenon's refinements is the slight swelling, or outward curvature, of the middles of the column shafts, an effect known as entasis. This not only corrected the weakness that would have resulted from using straight lines, but also gave the columns a vital, elastic quality. All of the columns in the pteron also leaned inward slightly toward the cella (each departing from the vertical by 2⅜ inches), giving the building a heightened feeling of soaring perspective. In addition, the stylobate curved upward in a gentle arc on each

of the building's sides (departing from the horizontal by 2⅜ inches on the short sides and 4$\frac{5}{16}$ inches on the long sides); and the metopes were actually slightly oblong, but appeared square when viewed from ground level.

These refinements, along with the structure's other proportions, were executed with incredible precision. Although the completed building measured 228 feet long, 101 feet wide, and 65 feet high, the overall margin of error was less than a quarter of an inch!

THE CELLA AND *ATHENA PARTHENOS*

Not surprisingly, the designers desired to make the temple's interior as impressive and beautiful as its exterior. But in this case the structural elements were largely secondary to the sacred image the temple had been constructed to house. The cella itself, which measured 108 feet long, 62 feet wide, and 43 feet high, was fairly simple in layout. Workers erected a double colonnade (one row of columns standing atop another), dividing the room into a U-shaped central area, flanked by narrow aisles. Standing inside this central area and completely dominating the cella's interior was the *Athena Parthenos*, the thirty-eight-foot-high statue designed by Phidias. Sadly, this magnificent creation has not survived; however, a few miniature copies *have* survived, and these, along with the following description by the second-century A.D. Greek traveler Pausanias, give some idea of its appearance.

A later model shows how Phidias's huge statue, the Athena Parthenos, *probably looked when he completed it.*

> In the temple which they call the Parthenon . . . the cult image itself is made of ivory and gold. In the middle of her helmet there is placed the image of a sphinx . . . and on each side of the helmet griffins are represented. . . . Griffins are beasts which look like lions but have the wings and beak of an eagle. . . . The statue of Athena stands upright and wears a tunic that reaches to the feet, and on her breast [on the aegis] the head of Medusa [a mythical

> monster], made of ivory, is represented. In one hand she [Athena] holds a figure of [the goddess] Victory about four cubits [six feet] high and in the other she holds a spear; at her feet is placed a shield, and near the shield is a serpent. This serpent would be Erechtheus.[29]

On the surfaces of the huge shield, Phidias carved (or painted) detailed and dramatic battle scenes—the Amazonomachy on the outside and the Gigantomachy on the inside. (According to Plutarch, two of the figures fighting the Amazons looked exactly like Phidias and Pericles.) The Centauromachy was represented in a scene carved on the statue's sandals.

Constructing the statue required that a full-sized clay replica be built first. This huge task alone probably took Phidias no less than two years to complete. His assistants then made negative plaster molds of various sections of the model and used them to produce the pieces for the finished statue. For example, they placed sheets of gold into the molds of the goddess's dress and used small hammers to beat the soft metal until it conformed to the mold's outlines. In all, some twenty-five hundred pounds of gold were needed. When all the pieces were ready, craftsmen used metal clamps and wooden dowels to assemble them on a huge wooden framework carved to duplicate the clay model's size and proportions.

Wisdom over Brute Force

The themes of the scenes of the giants, Amazons, and Centaurs carved into the great statue were, of course, the same as those represented in the sculptures on the Parthenon's exterior. Yet the completed building conveyed a deeper, more profound theme, one that unified its exterior and interior both visually and emotionally. In a very real way, the new temple was a human attempt to imitate a process the Greeks normally associated only with the gods—the creation of civilized, rational order from nature's wild and disordered elements. According to classical scholar Vincent Bruno, the builders managed to bring under control the surge of raw, primitive power naturally inherent in the Acropolis's massive cliffs. "The temple structure," he writes,

> contrasted with the rough, jagged grayness of the mighty rock. With its luminous, finely drawn columns holding the rugged cliffs in check, the Parthenon be-

> came expressive of the might of rationalism . . . [which] might be described as wisdom, the quality personified by Athena. Athena's temple, crowning her rock, represents the antithesis [contrasting opposite] of the unruly forces manifest in the cliffs below. . . . The raw power of the rock . . . has been transformed by human hands into an image of beauty. Beauty was thus equated with the control of wisdom over brute force, and in this way it was linked with Athena, the personification of wisdom and the protectress of the city.[30]

Indeed, the completed building blended visual and intellectual ideas so effectively that one later visitor was moved to remark: "All the world's culture culminated in Greece, all Greece in Athens, all Athens in its Acropolis, all the Acropolis in the Parthenon."[31] And this, in essence, has been the judgment of posterity.

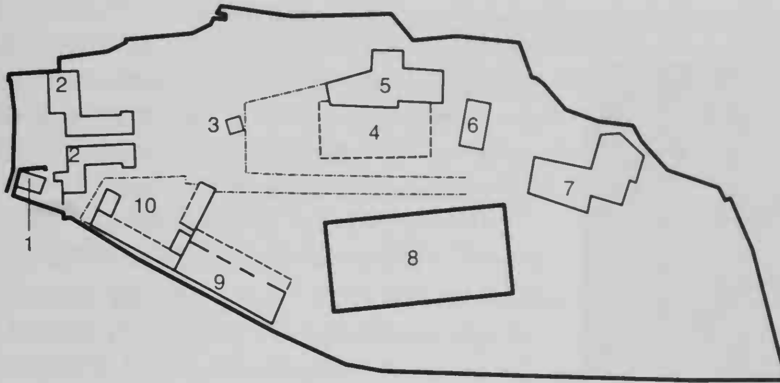
4

Sacred Rites and Scandalous Acts: The Parthenon's First Thousand Years

Although the completed Parthenon remained the primary focus of attention on the Acropolis, it was never meant to stand alone. Pericles' architects created the temple as the centerpiece of a complex, each part of which contributed important architectural and/or religious elements to the unified whole. First, the Parthenon, Erechtheum (built 421–406 B.C.), and Temple of Athena Nike (built 427–425 B.C.) were all tied together thematically; each personified and honored a different aspect of Athena's personality and political-religious image. So both individual worshipers and large-scale religious festivals tended to view and treat the temples as an integrated and closely related group.

These structures were also united in an architectural-visual sense. For example, the designers positioned the small Athena Nike temple so that its side walls pointed directly at the Parthenon's west (and front) façade. This created a visual relationship between the Propylaea (built 437–431 B.C.), the Acropolis's entranceway, of which the smaller temple was a part, and the main building on the summit. Similarly, the Erechtheum, located to the Propylaea's left (as seen facing the summit from the entranceway), balanced and complemented the Parthenon, to the Propylaea's right. Other monuments and buildings in the new Acropolis complex included Phidias's large bronze statue, the *Athena Promachos* (created in the 450s B.C.); sanctuaries dedicated to Zeus Polias and Artemis (goddess of the moon, hunting, and wild animals); and a weapons storage.

PLAN OF ATHENIAN ACROPOLIS IN LATE FIFTH–CENTURY B.C.



1. Temple of Athena Nike
2. Propylaea
3. Base of Athena Promachos
4. Site of Sixth–Century B.C. Temple of Athena Polias
5. Erechtheum
6. Great Altar of Athena
7. Sanctuary of Zeus
8. Parthenon
9. Weapons Storage
10. Sanctuary of Artemis

THE PANATHENAIC PROCESSION

The placement of weapons on the Acropolis was a precaution, for in an emergency it might again, as on many prior occasions, have to serve as a protective fortress. However, the hill's primary functions remained religious. Its sanctuaries and temples, especially the Parthenon and Erechtheum, were the focal points of the largest and most important of Athens's sacred festivals—the Panathenaea, translated variously as "All the Athenians" or "Rites of All Athenians." The Panathenaea was very ancient, having originated sometime in the Bronze Age. Two different myths were associated with its establishment, both of which it continued to commemorate in archaic and classical times. One story told how Athens's famous early king Erechtheus started the festival to honor Athena's victory over one of the mythical giants. In the other story, the early Athenian hero Theseus completely reorganized the festival after he unified the towns of Attica into a political whole, the legendary act that created the Athenian state.

The Panathenaea underwent another major reorganization in 566 B.C., and after that it was the city's greatest festival and also a Panhellenic, or "all-Greek," event that attracted visitors from many other city-states. Not surprisingly, the construction of the Parthenon and its sister temples in the following century further increased the festival's prestige and drawing power. The great celebration took place every fourth year in mid-August. It was made up of religious ceremonies, feasts, and musical and athletic contests.

These huge stones and columns are part of the surviving sections of the Acropolis's entrance gate, the Propylaea.

The exact order of the festival's various events is still somewhat uncertain. But most scholars believe it began with the huge and stately parade or procession that started at the Dipylon gate in the city's northwest wall, proceeded through the agora, or marketplace, ascended the Propylaea's steps, and finally halted on the Acropolis's summit near (probably between) the Parthenon and Erechtheum. This time-honored route was called, appropriately, the Panathenaic Way. Perhaps reflecting the democratic nature of Athens's government, in the fifth century B.C. the marchers represented all social classes and groups, including metics (resident non-Athenians) and even slaves. Elderly men carried olive branches; children bore baskets (which held utensils used in religious sacrifices), trays, and water jars; and soldiers (hoplites) marched in full armor, while slaves led the animals that would be later sacrificed.

The most important single element of the Panathenaic procession was the *peplos*, Athena's sacred robe. Months before, two girls between the ages of seven and eleven (the Arrhephoroi) were chosen to weave a new robe for the goddess; this garment would eventually be draped around Athena's olive-wood statue in the Erechtheum, replacing the robe made for the prior festival. (It is possible that the wooden statue and its sacred robe were kept in the Parthenon until the Erechtheum's completion in 406 B.C.) The *peplos* supposedly bore an elaborate woven scene depicting an episode from the Gigantomachy. By the mid– to late–fifth century B.C., the robe appeared in the grand

procession as a sail attached to the mast of a miniature ship carried on a wagon. This nautical theme presumably celebrated the recent rise of Athens's great naval empire.

THE SACRED RITES

On reaching the Parthenon's and Erechtheum's precincts, the marchers stopped and lined up to witness a succession of sacred rites. Convincing evidence suggests that the first of these rites was the presentation of the *peplos* to the goddess, which consisted of a folding ceremony. According to noted classical scholar Evelyn B. Harrison, a well-known surviving section of the Parthenon's Ionic frieze depicts this very ceremony:

> From the thickness of the already-folded mass of cloth [being folded in the frieze by a man and a boy], we can guess that the two figures here are making the last fold. The man holds up the cloth in his two hands with part of it flapped over. . . . The child is smoothing out the wrinkles and helping to bring the corners together. . . . The overall size of the cloth depicted appears to be about right for a grown woman, too big for a child. In short, this

PAUSANIAS DESCRIBES THE ERECHTHEUM

The Greek traveler and writer Pausanias gave this description of the interior of the Erechtheum when he visited Athens in the second century A.D., when the temple was already more than five hundred years old:

> The most holy object [inside the temple] . . . is the image of Athena. . . . There is a tradition that this image fell from heaven, but I will not go into whether this is true or not. [The artist/sculptor] Callimachos made a gold lamp for the goddess. When they have filled the lamp with oil, they wait [before refilling it] until the same day of the following year, and the oil which is in the lamp suffices for the intervening time, even though it remains lit both day and night alike. . . . Above the lamp is a bronze palm tree, which reaches to the roof and draws up the smoke.

The Erechtheum's east façade today.

> really seems to be Athena's *peplos*. . . . This act of folding is the official rite of acceptance of the *peplos* by Athena. . . . At the appropriate time—we do not know exactly when or where—it will be handed over to the Praxiergidai, the women who dress the statue. [These women actually washed and dressed the statue in a ceremony called the Plynteria, which took place several months later.][32]

Once the sacred robe had been presented to the goddess, a series of animal sacrifices took place at Athena's great altar, located in the open space between the eastern ends of the Parthenon and Erechtheum. In each Panathenaea, a hundred Athenian cows and many sheep and other animals brought by visitors from other city-states were sacrificed. Conforming to traditions stretching back into the mists of time, each sacrifice consisted of set rituals. First, the worshipers draped flower garlands over the animal, referred to as the victim, as they led it to the altar. Next, a priest or priestess poured water over the altar to purify it and sprinkled barley grains on the victim for the same purpose. Then he or she used a club to stun the animal and a knife to cut its throat, drained the blood into a bowl, and sprin-

A view from the Acropolis's summit, facing northwest, showing the Temple of Hephaestus and scattered ruins of the marketplace (the agora) of Athens.

ATHENA'S ROBE TRANSFERRED TO TROY

The earliest known literary reference to the *peplos*, Athena's sacred robe, and the Plynteria, the ceremony in which women draped the robe on the goddess's olive-wood statue, is the one in Homer's *Iliad*, dating perhaps from the early eighth century B.C. Here, Hector, a Trojan prince, tells his mother to have some women perform such a ceremony in Troy's shrine to Athena. (Homer has transferred the Greek goddess and her ceremony to a non-Greek city.)

> You must approach Athena yourself. Gather all the older women, and go to her temple with your burnt offering; take the finest and largest robe you have in your store, the one you prize most, and lay it upon Athena's knees; promise to sacrifice twelve yearling heifers that have never felt the goad [been struck by rods], if only she will have compassion upon the wives and children of Troy.

kled some of it on the altar (or over the worshipers). Finally, several priests used axes and knives to slaughter the victim. The bones and organs were wrapped in the fat and burned, generating smoke that, the Greeks believed, rose up to nourish and appease the gods, while the worshipers divided, cooked, and ate the meat. John Boardman offers the following highly atmospheric description of this ritual slaughter practiced in the shadow of the Parthenon:

> One by one . . . the beasts were dragged before the altar, the stunning axe rose and fell, the knives lost their luster beneath a coat of fat and blood. The rock was slippery with blood, the air heavy with the smell of guts and sweat. The slaughter bred excitement, shouting anticipation of the feasts to come, while the black smoke rolled thick and heavy up into the still and shimmering air, a clear signal to Athena that her citizens had paid their due respect. That smoke would rise for hours to come, while the lean meat . . . was carted down to the marketplace for distribution.[33]

During the four or five days following the religious rites, the Panathenaea's musical and athletic contests took place. There is a good chance that the prizes were awarded in a ceremony on the Parthenon's grounds. Athenian leaders took every opportunity to show off their city's power and cultural achievements, and what better place to demonstrate these qualities to the thousands of foreigners who attended the Panathenaic contests than the most majestic structure on the newly refurbished Acropolis?

THE GLORY DAYS GONE FOR GOOD

The Panathenaea itself continued, in more or less the same form, for some eight hundred more years. However, Athens's shining but brief moment in the sun soon ended in bloodshed, disgrace, and disillusionment. During the remainder of what is now referred to as antiquity, or ancient times (ending with the fall of the western Roman Empire in the late fifth century A.D.), the city's fortunes wavered, and with them those of its most famous attraction—the Parthenon.

Athens's downward slide began even before the final buildings of the new Acropolis complex were completed. In 431 B.C., only a year after Phidias had finished the last sculptures in the Parthenon's splendid Ionic frieze, war broke out between Athens and its arch rival, Sparta. Previous conflicts among the Greeks had rarely involved more than two or three city-states at a time. By contrast, this new one, the Peloponnesian War (so named because Sparta and its main allies occupied the Peloponnesus, the large peninsula that makes up the southern third of Greece), engulfed and ultimately exhausted all of the city-states.

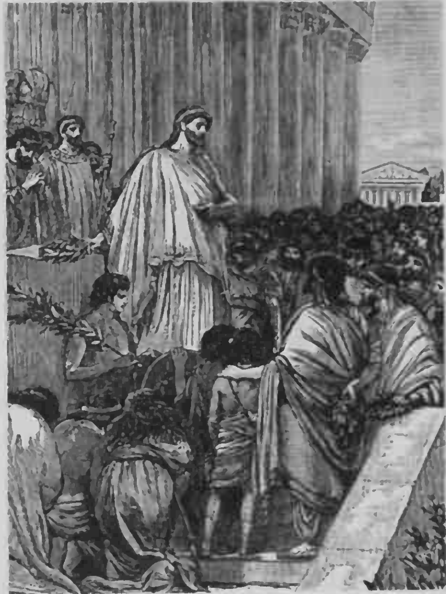
The war was especially hard on Athens. In 429, its greatest leader, Pericles, died, along with thousands of his countrymen, when a plague swept the city. After his passing, work on his pet project, the Acropolis complex, continued on a periodic basis, but all such work ceased in 404, when the war ended with Athens's total and disastrous defeat. Although the Parthenon and the rest of the Acropolis came through the catastrophe unscathed, the Athenians lost both their empire and their cherished democracy.

In the decades that followed, Athens managed to reinstate its democracy and regain some of its lost prosperity. But its glory days, as well as those of other powerful city-states, were gone for good. These states continued to squabble among themselves

until, in the 330s B.C., they fell prey to the military might of Macedonia, a kingdom occupying what is now extreme northern Greece. From 336 to 323, Macedonia's king, Alexander III, later called "the Great," ruled the Greeks and led them in the conquest of their former enemy, Persia.

When Alexander died unexpectedly (possibly of malaria, at age thirty-three) in 323, his leading generals began fighting over the vast empire he had recently acquired, and a long series of wars ensued among these men (known as the Diadochi, or "successors") and their sons (the Epigoni, or "those born after"). In 306, one of the Epigoni, Demetrius Poliorcetes, seized Athens. He took up residence in the Parthenon, where he engaged in orgies and other irreligious and scandalous acts that insulted and angered the Athenians. According to Plutarch:

> Demetrius affected to call Athena his elder sister, and for this reason, if for no other, he ought at least to have shown her respect. But in fact he filled her temple with so many outrages . . . that the place was considered unusually pure when he was content to live there with well-known prostitutes. . . . For the sake of the city's good name I shall not enter into the details of Demetrius's other degrading behaviors.[34]



This drawing shows Pericles delivering a funeral oration for Athenians slain in the Peloponnesian War.

This was only the first of many insults the goddess was to endure. In 295 B.C., after Demetrius suffered a major defeat in Asia Minor, an Athenian tyrant named Lachares removed the gold from the *Athena Parthenos* and melted down the precious metal to make coins.

ATHENS AND THE PARTHENON IN ROMAN TIMES

Alexander's successors set up large kingdoms in Greece, Asia Minor, and the Near East, states that wielded considerable power and influence for a little over a century. But they could not stop the irresistible tide of the times—namely the conquest

of the whole Mediterranean world by the Romans, masters of the Italian peninsula. In 146 B.C., all of Greece came under direct Roman rule. The Romans looked down on the Greeks, but they greatly admired their culture and were therefore mightily impressed by the Parthenon and other wonders atop Athens's central hill. Some Roman leaders selfishly used the Acropolis for their own pleasures. In 37, for instance, the infamous Mark Antony (Julius Caesar's friend and Cleopatra's lover), like Demetrius before him, held lecherous nightly revels in the Parthenon.

But many other Roman notables were more respectful of Athenian traditions and pride. The most outstanding example was the emperor Hadrian (reigned A.D. 117–138). Filled with nostalgia for Greece's lost glories and steeped in Greek litera-

BOTH MEDICINE AND PRAYERS FUTILE AGAINST THE PLAGUE

In his famous chronicle of the Peloponnesian War, the fifth-century B.C. Greek historian Thucydides provided this description of the terrible plague that ravaged Athens beginning in 430 B.C., killing thousands, including the city's greatest leader, Pericles. (The identity of the disease remains unknown.)

> A pestilence of such extent and mortality was nowhere remembered. Neither were the physicians at first of any service, ignorant as they were of the proper way to treat it. . . . Nor did any human art succeed any better. Supplications [prayers] in the temples . . . and so forth were found equally futile. . . . Suddenly falling upon Athens, the plague first attacked the population in the Piraeus [Athens's port] . . . and afterwards appeared in the upper city, when the deaths became much more frequent. . . . People in good health were all of a sudden attacked by violent heats in the head, and redness and inflammation in the eyes, the inward parts, such as the throat or tongue, becoming bloody and emitting an unnatural and fetid [putrid] breath. These symptoms were followed by sneezing and hoarseness, after which the pain soon reached the chest, and produced a hard cough. . . . In most cases also an ineffectual retching [vomiting] ensued, producing violent spasms. . . . [If] the disease descended further into the bowels, inducing a violent ulceration there accompanied by severe diarrhea, this brought on a weakness which was generally fatal.

ture and philosophy, he spent large sums of money restoring Athens, which, with the exception of the Acropolis complex, had largely fallen into disrepair. In addition to a gymnasium and public library, Hadrian erected the imposing Temple of Olympian Zeus (which the Greeks had begun and abandoned centuries earlier), about half a mile southeast of the Acropolis. While it stood, the newer temple visually complemented the older, but still impressive, Parthenon.

The remains of the monumental Temple of Olympian Zeus, erected by Hadrian. (The Acropolis is visible in the distance at right.)

In the next few centuries, however, the Athenians were not so fortunate. In A.D. 267, the Goths, one of several so-called barbarian tribes posing increasing threats to the Roman Empire, descended into Greece and sacked Athens. Most of the city was destroyed, and the Acropolis survived only because the citizens barricaded themselves on its heights. After the invaders left, the Athenians did some rebuilding, but much of the damage was never repaired and thereafter Athens continued to deteriorate. In the early 400s, Roman leaders ordered both of Phidias's great statues—the *Athena Parthenos* and *Athena Promachos*—to be stripped from the Acropolis and shipped to Rome's new eastern capital, Constantinople. Both of these masterworks disappeared in succeeding years.

The final blow came in 529, when the eastern Roman emperor, Justinian, closed Athens's renowned philosophical schools, which had been its main source of income in Roman times. The city then quickly shrank into a stagnant backwater village. Brooding silently on its central hill, the Parthenon, now nearly a thousand years old, was still largely intact. But soon its majestic stones and magnificent sculptures would, like the once-great city that had created them, begin to succumb to the inevitable ravages of time and human folly.

5

FROM CHURCH TO NOBLE RUIN: THE PARTHENON IN MEDIEVAL AND MODERN TIMES

After the fall of Greco-Roman, or classical, civilization in the fifth and sixth centuries A.D., the Parthenon's role as a temple to the goddess Athena was over. But this splendid edifice did not immediately fall into ruin, as did so many other classical buildings. In medieval and early modern times, it played other roles, among them Christian church and Islamic mosque. Only a little more than three centuries ago did the Parthenon finally become an abandoned ruin; even then, it still had one more role to play, perhaps the most important of its long career. It became the best-known romantic symbol of classical civilization's artistic grandeur and an eternal monument to Periclean Athens's unique spirit and cultural achievements. Greek architect Charalambos Bouras writes:

> In a manner rivaled by few important buildings in the history of architecture, the Great Temple was always there, towering magnificently over human failure and pettiness. More, perhaps, than any other building in the world, it has become an unshakable proof of the [artistic] superiority of ancient civilization, and in recent years it has for many people assumed the character of a symbol. For centuries, the Parthenon made its artistic presence felt to those who had the good fortune—and the eyes—to see it. It became a standard for measuring quality.[35]

MONKS, FRANKS, TURKS, AND VENETIANS

The Parthenon's first postclassical role was that of Greek Orthodox church. Sometime in the sixth century, not long after the Athenian schools closed and the city became a small town,

Christian monks took over the building, dubbing it the Church of Holy Wisdom, Hagia Sophia. So that it would conform to church standards, they made certain minor structural alterations. First, since Christian churches traditionally face toward the west (and the door to the cella faced east), they cut a new door in the west wall and blocked the existing east entrance. Then they constructed an apse, a semicircular area, and within it an altar, against the inside of the new eastern wall. Unfortunately, while making these changes they badly damaged the sculptures, depicting Athena's birth, in the east pediment. These early Christians also purposely defaced some of the metope sculptures, smashing those figures they thought represented pagan, or non-Christian, deities. Meanwhile, the local bishop took up residence in the chambers within the Propylaea.

The Parthenon remained a Greek Orthodox church until the early 1200s. At that time, European crusaders began an offensive against Constantinople, the capital of the Byzantine Empire, of which Greece was then a part. In 1204, the Franks (i.e., the French) seized control of Athens; two years later they turned the Parthenon into a Catholic church, renaming it Notre Dame d'Athenes. The Frankish occupation was also notable for the erection of a tall defensive tower in the Propylaea.

The ruins of the Propylaea dominate this view of the Acropolis as seen from the northwest. The Franks added a stone tower to the Propylaea in the thirteenth century.

THE GREAT AND MARVELOUS MARBLE TEMPLE

The fifteenth-century Italian traveler Ciriaco d'Ancona left behind this impression of the Parthenon after his 1436 visit to Athens, two decades before the beginning of the Turkish occupation. The account proves that the building was still very well preserved at this time.

> On April 7th I came to Athens, where I first viewed huge walls everywhere collapsed with age; and inside the city and in the country round about I saw incredible marble buildings, houses and sacred shrines, various works of figured sculpture conspicuous for their fine workmanship, and vast columns—all fallen in massive ruins. But what pleased me the most of all was the great and marvelous marble temple of the goddess Athena on the topmost citadel of the city, a divine work by Phidias, which has fifty-eight towering columns, each seven feet in diameter, and is splendidly adorned with the noblest images on all sides which you see superbly carved on both fronts, on the friezes on the walls, and on the epistyles [i.e., metopes].

The Parthenon as it appears today.

A new occupation of Athens began in 1456 when the Turks, under the sultan Mohammed II, entered the city. Two years later they transformed the Parthenon into an Islamic mosque, complete with a minaret, a slender tower common in Islamic buildings, at the cella's west end. The Propylaea now became the Turkish governor's residence and the Erechtheum was used to house his harem. The Turks also built clusters of houses amid the remains of the temples on the Acropolis's summit.

The Acropolis and Parthenon remained in this state for two more centuries. As late as the 1680s, despite the minor structural changes and defacements the former temple of Athena had endured over the centuries, most of its original features were still intact. Then, in 1687, came the worst catastrophe in the building's long life. The Venetians, who were then at war with the Turks, laid siege to the Acropolis, bombarding it with cannon and mortar fire. On September 26, a cache of gunpowder the Turks had stored in the Parthenon suddenly detonated, as remembered in this account by a Venetian eyewitness:

> One of [the mortar bombs], hitting the flank of the temple, ended by smashing it. The dreadful effect of this was a raging fury of fire and exploding powder and grenades, and the thunderous roar of the said ammunition discharging shook all the houses around. . . . And thus was left in ruins that famous Temple of Minerva [the Roman name for Athena], which so many centuries and so many wars had not been able to destroy.[36]

Nostalgia for Greece's Lost Glories

The explosion touched off by the Venetian bombardment totally or partially destroyed twenty-eight of the Parthenon's columns, blew out the cella's walls, pulverized many of the delicate sculptures, and obliterated the roof. In a single fateful moment, the once-grand structure had been reduced to a state of advanced ruin. Adding insult to injury, soon afterward the Venetian commander attempted to remove the surviving chariot horses from the west pediment, but the hoist broke and the precious treasures fell and shattered. (Ironically, the Venetians were unable to hold the city and abandoned it to the Turks the following year; so in the end, the siege had accomplished nothing but the destruction of a great monument.)

Yet despite these misfortunes, in the years that followed, the Parthenon began to attract a great deal of attention, and of a kind it had not known since Roman times. In the eighteenth and nineteenth centuries, Western scholars, poets, and artists became fascinated with ancient Greece. Fervent nostalgia for its lost cultural glories stimulated architects to study its ruined monuments, especially the Parthenon, about which numerous writers composed enthusiastic tracts. In 1763, for example, English scholar Richard Chandler visited the Acropolis. "It is not easy to conceive a more striking object," he later wrote, "than the Parthenon, though now a mere ruin."[37] The American novelist Herman Melville, who traveled to Athens in 1856, was so moved by the building that he wrote a poem about it. And no less impressed was French historian Ernest Renan, an 1863 visitor who penned a pamphlet that remained popular with European tourists in Greece for many years. "O noble! O simple and true beauty!" Renan began with a romantic flourish.

> Goddess whose creed signifies reason and wisdom, you whose temple is an eternal lesson of conscience and sincerity, I have arrived late at the threshold of your mysteries. I bring to your altar a deep remorse [for not having been privileged to see you in your original glory].[38]

MODERN ARCHITECTS COPY THE PARTHENON

This romantic admiration for the Parthenon and the Doric style it personified also thoroughly infected European and American architects, who incorporated numerous classical features into modern buildings. Many of the national monuments, courthouses, banks, government buildings, and other large-scale structures they designed included octa-style Doric colonnades and pediments clearly modeled on the Parthenon. One of the most important European examples is the Valhalla, a German national monument designed by Leo von Klenze and completed near Munich in 1842. Set upon a hill resembling the Acropolis, the structure's exterior bears a striking resemblance to the original Parthenon (the principal difference being the modern version's lack of color).

The Parthenon's form was particularly popular in the United States. The first major American use of its design was in Philadelphia's Second Bank of the United States, designed by

The Nashville Parthenon, seen here, was originally built in 1897 as part of the city's centennial celebration, which touted Nashville as the "Athens of the South."

William Strickland and completed in 1824. The structure's front and back porches are exact replicas of those of the Parthenon, reduced to three-fifths their original scale. The Custom House of Wall Street, in New York City (1842, architects Ithiel Town and Alexander J. Davis), and the Boston Customs House (1847, architect Amni Young) are other prominent Parthenon-like buildings of the period.

The most structurally accurate American version of the Parthenon was the replica made in 1897 for Tennessee's great centennial exposition in Nashville. Rebuilt in 1931 using concrete and refurbished again in 1988 at a cost of $2 million, the building continues to attract crowds. One of its most popular features is a forty-two-foot-high replica of Phidias's *Athena Parthenos*, created by Nashville sculptor Alan LeQuire.

Restoration Efforts Begin

While nineteenth-century German, French, English, and American architects were content to borrow the Parthenon's form, other admirers sought after its more tangible aspects. They saw nothing wrong with removing pieces of it and its sister temples, some for personal collections, others for museums anxious to display classical treasures. The most famous case was that of Lord Elgin, a British statesman. Having secured permission from the Turkish authorities, between 1801 and 1812 he removed

several of the surviving sections of the Parthenon's Ionic frieze and numerous metope and pedimental sculptures. These artifacts went on display in the British Museum in 1816, to the delight of European audiences.

Not everyone was delighted, however. During these same years, an increasing number of Western scholars and writers came to view the removal of the so-called Elgin marbles as a theft, as well as a desecration of the surviving temples. They also began to call attention to the fact that the Parthenon, Erechtheum, and many other classical monuments were deteriorating rapidly and might be lost forever if nothing was done to rescue them. When the renowned English poet Lord Byron arrived in Athens in 1809, he was accompanied by John Hobhouse, an avid admirer of classical culture, who stated: "Scattered fragments will soon constitute the sole remains of the temple of Minerva. If the progress of decay should continue . . . there will, in a few years, be not one marble standing upon another on the site of the Parthenon."[39]

The southwest corner of the Parthenon as it appears today. The main aim of modern restorers is to halt any further decay.

Archaeologists could not respond to this call, however, until the Turks, who cared nothing for preserving Greek antiquities, relinquished control of Athens. This occurred in 1833 when the Turks surrendered the Acropolis to Greek freedom fighters, who then established the independent Kingdom of Greece. Almost immediately, archaeologists began clearing the hill of modern buildings and fortifications and collecting and cataloguing broken fragments of the ruined temples. Between 1842 and 1845, Greek archaeologist Kyriakos Pittakis made the first major attempt to restore parts of the Parthenon. Other restoration projects were mounted in 1872, by Greek architect Panayis Kalkos, and in 1899–1902 and 1922–1933, both by Greek scholar Nikolaos Balanos. During the twenty years that elapsed between Balanos's two periods of work on the Parthenon, he accomplished important restorations of the Propylaea and Erechtheum.

THE LATEST RESTORATION EFFORTS

In the late 1970s, archaeologists and other scientists working under Greek architect Manolis Korres began the largest and most systematic and careful restoration of the Parthenon ever attempted. One of their first acts was to remove the last three surviving sculptures from the west pediment and replace them with exact replicas. Korres had earlier helped to do the same with the caryatids, pillars in the form of graceful maidens, that had held up the south porch of the Erechtheum (except for one, which Lord Elgin had taken to London). The originals now reside, safe from the damaging effects of air pollution, in local museums. Korres and his crew also conducted a thorough search of the Acropolis and discovered almost a thousand fragments of the Parthenon that earlier restorers had missed. Wherever possible, they have placed these pieces in their original positions on the temple. Another major task is to remove the iron rods and clamps that were inserted in the early 1900s in the Balanos restorations. Because iron expands as it rusts, these have caused many marble blocks to crack and are being replaced, where clamps are essential, by versions made of the metal titanium, which does not rust. The new restoration is expected to continue well into the early twenty-first century.

The caryatids now adorning the Erechtheum's south porch are replicas. The originals are in museums for safekeeping.

TO INSPIRE FUTURE AGES

By the late 1960s and early 1970s, scientific studies of the Parthenon and the other Acropolis monuments showed that acid rain and other environmental factors were causing them to deteriorate with alarming speed. Such concerns led the Greek government to form the Committee for the Preservation of the Acropolis Monuments in 1975. Headed by Greek architect Manolis Korres, the committee, made up of architects, archaeologists, civil engineers, and chemists, compiled a detailed study

and comprehensive restoration plan. The restoration began in the 1980s, continued into the 1990s, and is not expected to reach completion until sometime in the early twenty-first century.

The committee's goal is not to restore the Parthenon to its fifth-century B.C. condition. Rather, the intention is to halt its decay, give it structural stability, and preserve it, as a noble ruin, so that future generations can behold and be inspired by this wondrous achievement of a long-vanished people. The hope is that the amazing prediction made so long ago by the man who conceived it will always hold as true as it does today. "Future ages will wonder at us," Pericles confidently told his fellow Athenians, "as the present age wonders at us now."[40]

Notes

Introduction

1. Plutarch, *Life of Pericles*, in *The Rise and Fall of Athens: Nine Greek Lives by Plutarch*, trans. Ian Scott-Kilvert. New York: Penguin Books, 1960, p. 183.
2. Quoted in Panayotis Tournikiotis, ed., *The Parthenon and Its Impact in Modern Times*. New York: Harry N. Abrams, 1996, p. 34.
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4. Quoted in Peter Green, *The Parthenon*. New York: Newsweek Book Division, 1973, p. 147.
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Glossary

abacus: A flat slab lying atop the echinus in the capital of a Doric column.

acropolis: In a Greek city-state, a central hill used for defensive and religious purposes. The most famous example, *the* Acropolis, is in Athens.

acroteria (sing., acroterion): Statues, disks, and other kinds of ornaments placed at the three angles of each of a temple's pediments.

aegis: The goddess Athena's majestic and invincible breastplate (sometimes represented as a shield).

Amazonomachy: The mythical battle between the Athenians and the Amazons, a legendary tribe of warrior women.

antefixes: Ornaments placed upright at intervals along the tops of the cornices on a temple's sides.

bas-relief: A stone sculpture partly raised into three dimensions from a flat surface.

bosses: Knobs left projecting from the sides of stone blocks. Workers attached ropes to the bosses to lift them into place, then carved them off.

bronze: A metal alloy composed of copper and tin.

capital: The topmost section of a column.

caryatid: A pillar shaped like a graceful maiden. The most famous examples were those supporting the south porch of the Erechtheum on the Acropolis.

cella: The main room of a Greek temple.

Centauromachy: The mythical battle between the Lapiths, members of an early Greek tribe, and the Centaurs, creatures half human and half horse.

colonnade: A row of columns.

cornice: The top section of a temple's entablature.

drachma: The main unit of ancient Athenian (and also modern Greek) money. For much of the fifth century B.C., Athenian sil-

ver drachmas (nicknamed "owls" because they bore the image of an owl, Athena's symbol) were the most common and valuable coins in the Mediterranean world.

drum: One of several circular stone sections making up a column's shaft.

echinus: The rounded cushion forming the bottom section of a Doric capital.

entablature: In a Greek-style temple, the structural layer resting between the column tops and the roof.

entasis: A temple refinement consisting of a slight swelling or outward curvature of the middle of a column's shaft, intended to correct the illusion that the column is thinner in the middle than at the top and bottom.

epistyle (or architrave): The bottommost component of a temple's entablature, serving as a beam to hold up the building's upper sections.

flutes (or fluting): Narrow concave grooves running vertically along a column's shaft.

frieze: A decorative painted or sculpted band running horizontally along a temple's entablature.

geison: The lower section of a cornice, taking the form of a horizontal beam resting on the frieze and projecting outward beyond the entablature's vertical surface.

Gigantomachy: The mythical battle between the Olympian gods and a race of monstrous giants.

guttae: Rounded pegs (stone representations of nails in earlier wooden temples) projecting from the bottom of the mutules.

Hellas: The name the ancient Greeks gave to their land. They called themselves Hellenes. Therefore, Greek civilization is often referred to as Hellenic.

hexa-style: A temple style in which the pteron has six columns on each end and thirteen columns on each side (counting the corner columns twice).

metics: Foreigners who lived and worked in Athens, usually as merchants and manufacturers. They could not vote, own land, or marry native-born Athenians.

metope: In a Doric entablature, a rectangular panel flanked by triglyphs and bearing a painting or sculpted relief.

mutules: Plaquelike decorations attached to the bottom of a geison's projecting edge.

octa-style: A temple style in which the pteron has eight columns on each end and seventeen columns on each side (counting the corner columns twice). The Parthenon is an octa-style temple.

order: An architectural style, usually identified by the main features of its columns. Columns in the Doric order have no decorative bases and their capitals are topped by plain rectangular slabs. Columns in the Ionic order *do* have decorative bases and their capitals are topped by ornamental scrolls.

palmette: An elegant, fan-shaped leaf design or ornament.

Panathenaea: Athens's largest and most important religious festival, held in August every fourth year.

Panathenaic Way: The route taken by the grand procession that opened the Panathenaea, beginning at a gate in the city's northwest section and ending near the Parthenon on the Acropolis.

Panhellenic: "All-Greek." Used to describe ideas or events common to many or all Greek city-states; see *Hellas*.

pediment: A triangular gable at the top of the front or back of a Greek-style temple.

Pentelic marble: A variety of marble having a fine, uniform grain and a dazzling white sheen when viewed in direct sunlight; quarried on Mt. Pentelicon, about ten miles northeast of Athens.

peplos: The sacred robe presented to Athena during the Panathenaea and applied to her statue in the Plynteria.

peristyle: In a temple, a walkway running between the pteron and the inner walls.

Plynteria: A ceremony in which specially trained women washed Athena's sacred olive-wood statue and dressed it with the *peplos*.

point: A pointed metal tool used by masons and sculptors to alter and carve stone surfaces.

pteron: A colonnade, especially one that runs around the perimeter of a temple. A structure having a pteron is said to be peripteral.

raking sima: On an end, or porch, of a temple, the cornice's upper beams, which angle upward and converge at the structure's apex, or topmost point, thereby forming the triangular pediment.

refinements: Subtle architectural alterations or deviations intended to correct optical illusions that make some of a building's features look disproportionate or weak; see *entasis*.

sanctuary (or precinct): A sacred area, made up of a temple and its surrounding grounds, dedicated to a certain god or gods.

stela: A stone marker.

stylobate: The topmost section of a temple's foundation, comprising the building's floor.

treasury: In ancient Greece, a small building having many of the same outer features as a temple but used for storing valuables.

trident: A three-pronged spear, famous as the symbol of the sea god, Poseidon.

triglyph: In a Doric entablature, a rectangular block containing three vertical bars.

volute: An elegant spiral scroll at the top of an Ionic capital.

For Further Reading

David Bellingham, *An Introduction to Greek Mythology*. Secaucus, NJ: Chartwell Books, 1989. Explains the major Greek myths and legends, including the birth and exploits of Athena (to whom the Parthenon was dedicated), and their importance to the ancient Greeks. Contains many beautiful photos and drawings.

C. M. Bowra, *Classical Greece*. New York: Time-Life, 1965. Despite the passage of more than thirty years, this volume, written by a renowned classical historian and adorned with numerous maps, drawings, and color photos, is only slightly dated and remains one of the best introductions to ancient Greece for general readers. Time-Life's newer book, *Greece: Temples, Tombs, and Treasures* (Denise Dersin, Alexandria, VA: Time-Life, 1994) is also excellent, featuring a long, up-to-date, and beautifully illustrated chapter on Athens's golden age.

Joanne Jessup, *The X-Ray Picture Book of Big Buildings of the Ancient World*. Danbury, CT: Franklin Watts, 1993; and Mike Corbishley, *The World of Architectural Wonders*. New York: Peter Bedrick Books, 1996. Each of these colorfully illustrated volumes, aimed at young readers, has a section on the Parthenon (as well as on another famous example of classical architecture, the Roman Colosseum).

Don Nardo, *Ancient Greece*. San Diego: Lucent Books, 1994; *The Battle of Marathon*. San Diego: Lucent Books, 1996; *The Age of Pericles*. San Diego: Lucent Books, 1996; and *Life in Ancient Greece*. San Diego: Lucent Books, 1996. These volumes provide much useful background information about Greek history and culture in the fifth century B.C., the period in which the Parthenon was erected, including the Greek-Persian conflict; the rise of the Athenian empire; the golden age of arts, literature, and architecture; and sketches of the important politicians, military leaders, writers, and artists of the era. Aimed at high school readers, but the high level of detail and documentation make these volumes useful for older general readers as well.

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everyday life of ancient Greece, presented in a format suitable to young, basic readers (although the many fine, accurate color illustrations make the book appealing to anyone interested in ancient Greece).

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Author's Note: For those ambitious young readers who are interested in learning more about ancient Greek architecture, religion, and mythology, the Acropolis, the Parthenon, and other temples, and/or ancient Greek civilization in general, and who want to find books on a more advanced reading level than those mentioned above, I recommend beginning with the following excellent, very readable volumes, each cited more fully in the Works Consulted section: Adkins and Adkins, *Handbook to Life in Ancient Greece*; Clayton and Price, *The Seven Wonders of the Ancient World*; de Camp, *The Ancient Engineers*; Grant, *The Classical Greeks* and *Myths of the Greeks and Romans*; Green, *The Parthenon*; Lawrence, *Greek Architecture*; Levi, *Atlas of the Greek World*; Martin, *Ancient Greece*; Robinson, *Athens in the Age of Pericles*; Spivey, *Greek Art*; and Warry, *Warfare in the Classical World*.

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About the Author

Historian and award-winning writer Don Nardo has published more than twenty books about the ancient Greek and Roman world. These include general histories, such as *The Roman Empire*, *The Persian Empire*, and *Philip and Alexander: The Unification of Greece*; war chronicles, such as *The Punic Wars* and *The Battle of Marathon*; cultural studies, such as *Life in Ancient Greece*, *Greek and Roman Theater*, *The Roman Colosseum*, and *The Trial of Socrates*; and literary companions to the works of Homer and Sophocles. Mr. Nardo also writes screenplays and teleplays and composes music. He lives with his lovely wife, Christine, and dog, Bud, on Cape Cod, Massachusetts.

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