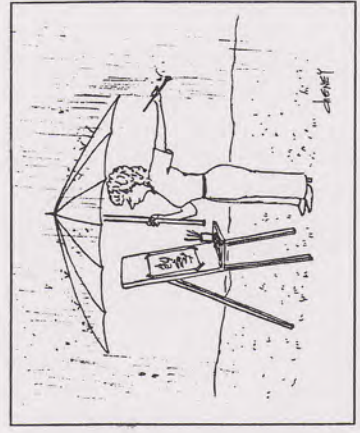


The curse of "artist's block"

"A poor slave with nothing going for him," decided Dr. Bisel of the man whose skeleton (above) was found near the boat. He has been called the Helmsman, although his body did not arrive on the beach with the boat. Dr. Bisel's analysis: "A short man, about 45 years old, with bones flattened from overwork and poor nutrition. A slightly crooked back and fused vertebrae (drawing, near right) could have been caused by years of slave labor. He probably never had enough to eat, and his rotting teeth kept him in continual pain." A finished timber near the seemingly new boat and other timbers on the beach lead Steffy to speculate that there was a boatyard nearby.

DRAWING BY JAY H. MATTERNES



Study only



Most arches do not spring directly from the ground but are raised on "piers" [fig. 1] or columns. When an arcade is supported on columns [220, 253, 485], it is sometimes called an "arcade-on-columns" to distinguish it from an arcade on piers [206, 343, 477], which is the more ancient and familiar type of arcade. After the foundation for the arcade is prepared, a "plinth" (base block) is usually laid for each pier. When each pier is finished, it is frequently capped with an "impost," upon which the lowest voussoirs, called the "springers," will be laid. The top of the impost, from which the arch will rise, or "spring," is called the "springing." Before the voussoirs can be set in place, however, a supporting frame, called the "centering," must be built. If the span to be arched is not too wide, the centering can be placed on the impost and no additional support will be required [fig. 5]. The voussoirs are then laid up with mortar and, after the topmost voussoir, the "keystone," has been slipped into place, work must stop until the mortar has set. When the mortar is thoroughly dry, the centering can be taken down and used to construct another arch. The outside curve of the arch is called the "extrados" and the inside curve is called the "intrados" [fig. 6]. The surface between any two arches of an arcade is called a "spandrel".

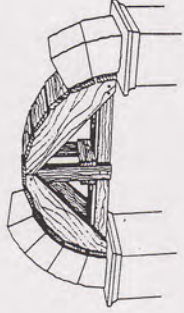


Fig. 5.

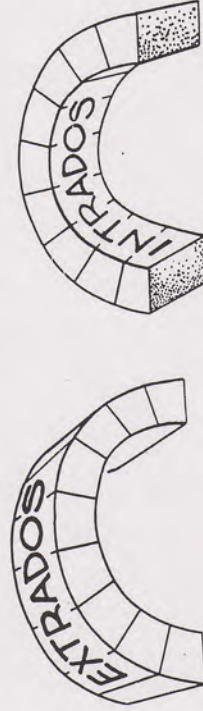


Fig. 6.

ARCHITECTURE. See ARCH, CANTILEVER, CHURCH ARCHITECTURE, DOME, ELEVATION, FERROCONCRETE, GREEK AND ROMAN TEMPLE ARCHITECTURE, MOLDING, MOSQUE ARCHITECTURE, ORDERS, PLAN, POST-AND-LINTEL CONSTRUCTION, PROGRAM, RUSTICATION, SCALE, SECTION, SKELETAL CONSTRUCTION, TRUSS, VAULT, WALL.

ARCHITRAVE (ar'kih-trayv). 1. The lowest member of an entablature, resting directly on the capitals of columns or pilasters [fig. 29, 138]. 2. The molding framing a window or doorway [151, background; 226].

ARCHIVOLT (ar'kih-volt). The molding framing an arch [fig. 1]. In Romanesque and Gothic architecture, each one of the series of arches framing the

ROMAN

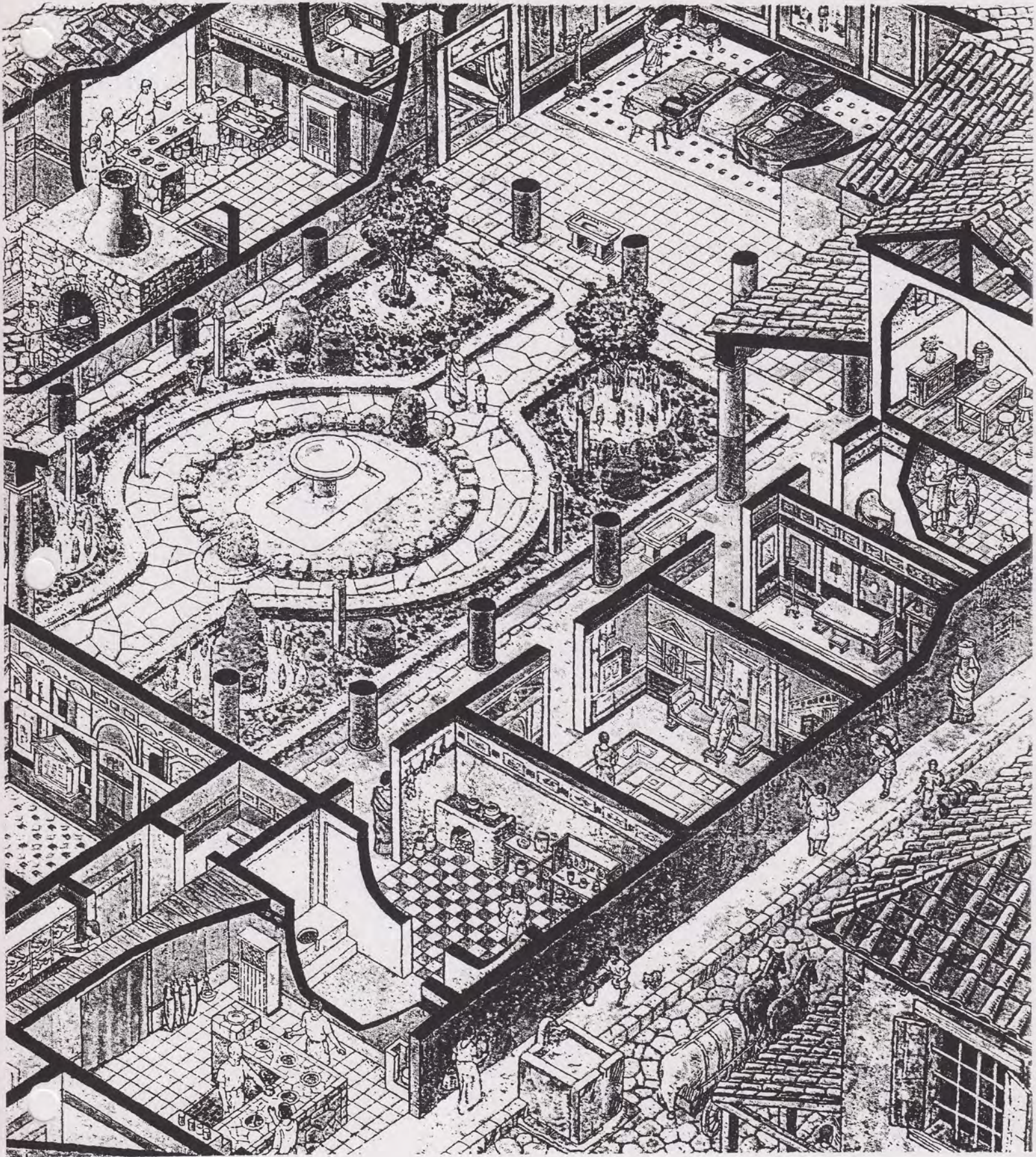


ROMAN COSTUME is in its decline. The Romans did not hesitate to sacrifice beauty of form for glitter, elegance, and sumptuousness. The Toga seems to have been the national costume. It was of wool, at first the natural yellowish hue, then dyed or bleached. They had rich dyes of all colors—green, yellow, blue, and especially the colors ranging from blue to red, including hyacinth, purple, crimson, scarlet, etc. Jewelry of silver and gold and the base metals, semi- and precious stones, was a great feature.

THE WOMAN: Under-dress, Y4; stripes of B4; over-mantle, R4; head covering, Y4; head-band, B4.

THE MAN: Toga, Y4; stripe around border, P4.

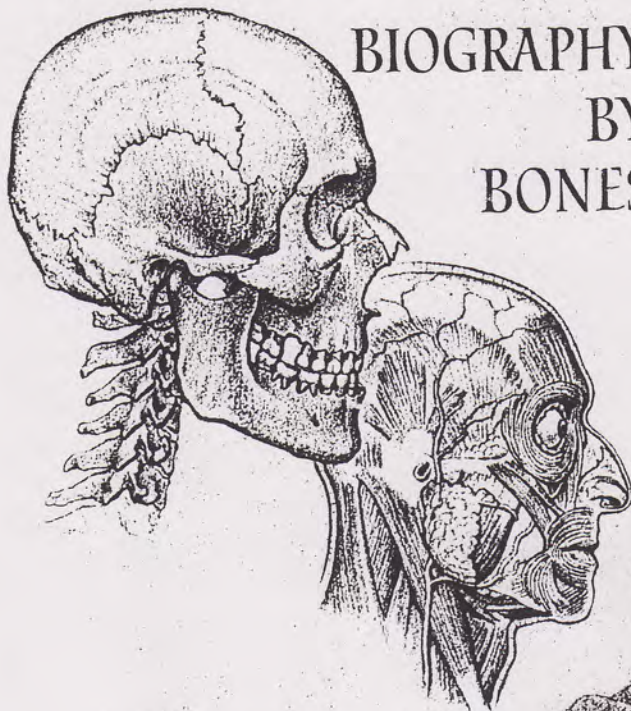
Numbers refer to the notations of the Munsell Color Nomenclature.



Townhouse in Pompeii 1st AD

BIOGRAPHY BY BONES

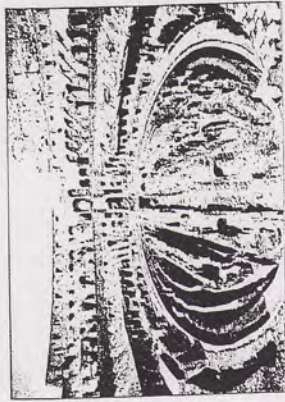
AN EVENTFUL LIFE, say the bones of the Soldier, about 37 years old. Three missing front teeth suggest a fight. An abnormal lump in the femur of his left leg, here separated and shown in front of its proper anatomical position, tells of a wound, possibly a stabbing, that penetrated to the bone and caused a blood clot that ossified. The femur has a rounded shaft indicating much exercise and good nutrition. The adductor tubercle (arrow) is slightly enlarged, possibly from horseback riding, shinnying up trees, or holding lumber between the knees as a soldier-marine carpenter might do.



SKELETON
OF MAN AND
HORSE FOUND
AT
HERCULANEUM

How Fights Were Staged in the Arena

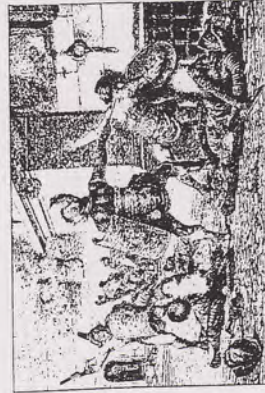
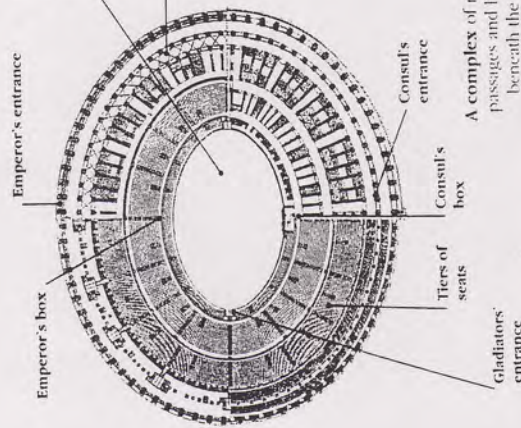
THE EMPERORS HELD shows here that often began with animals performing circus tricks. Then on came the gladiators, who fought one another to the death. When one was killed, attendants dressed as Charon, the mythical ferryman of the dead, carried his body off on a stretcher; sand was raked over the blood to make ready for the next bout. A badly wounded gladiator would surrender his fate to the emperor, who could live, "thumbs down" that he die, and the victor became an instant hero. Animals were brought here from as far away as North Africa and the Middle East. The games held in AD 248 to mark the 1,000th anniversary of the founding of Rome saw the death of a host of lions, elephants, zebras and elk.



Beneath the Arena
Late 19th-century excavations exposed the network of underground rooms where the animals were kept.

Interior of the Colosseum

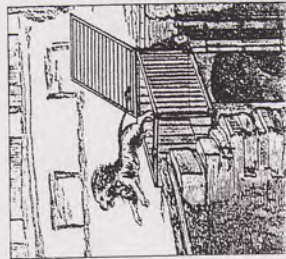
The stadium was built in the form of an ellipse, with tiers of seats around a vast central arena.



Roman Gladiators
These were usually slaves, prisoners of war or condemned criminals. Most were men, but there were a few female gladiators.

Dramatic Entrances

Below the sand was a wooden floor through which animals, men and scenery appeared in the arena.



The Colosseum by Antonio Canaletto
The 18th-century view of the Colosseum shows the Meta Sudans fountain now demolished. Water "sweated" from a metal cone on top of its brick cone.



metal fencing
To protect animals from archers, food by fast in case any escaped.

Seating was tiered, and different social classes were segregated.

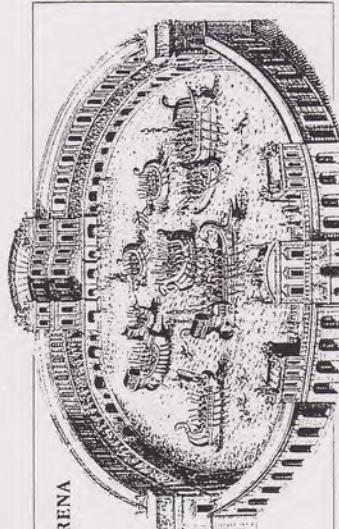
A winch
brought the animal cages up to arena level when they were due to fight.

A ramp and trap door
enabled the animal to reach the arena after walking along a corridor.

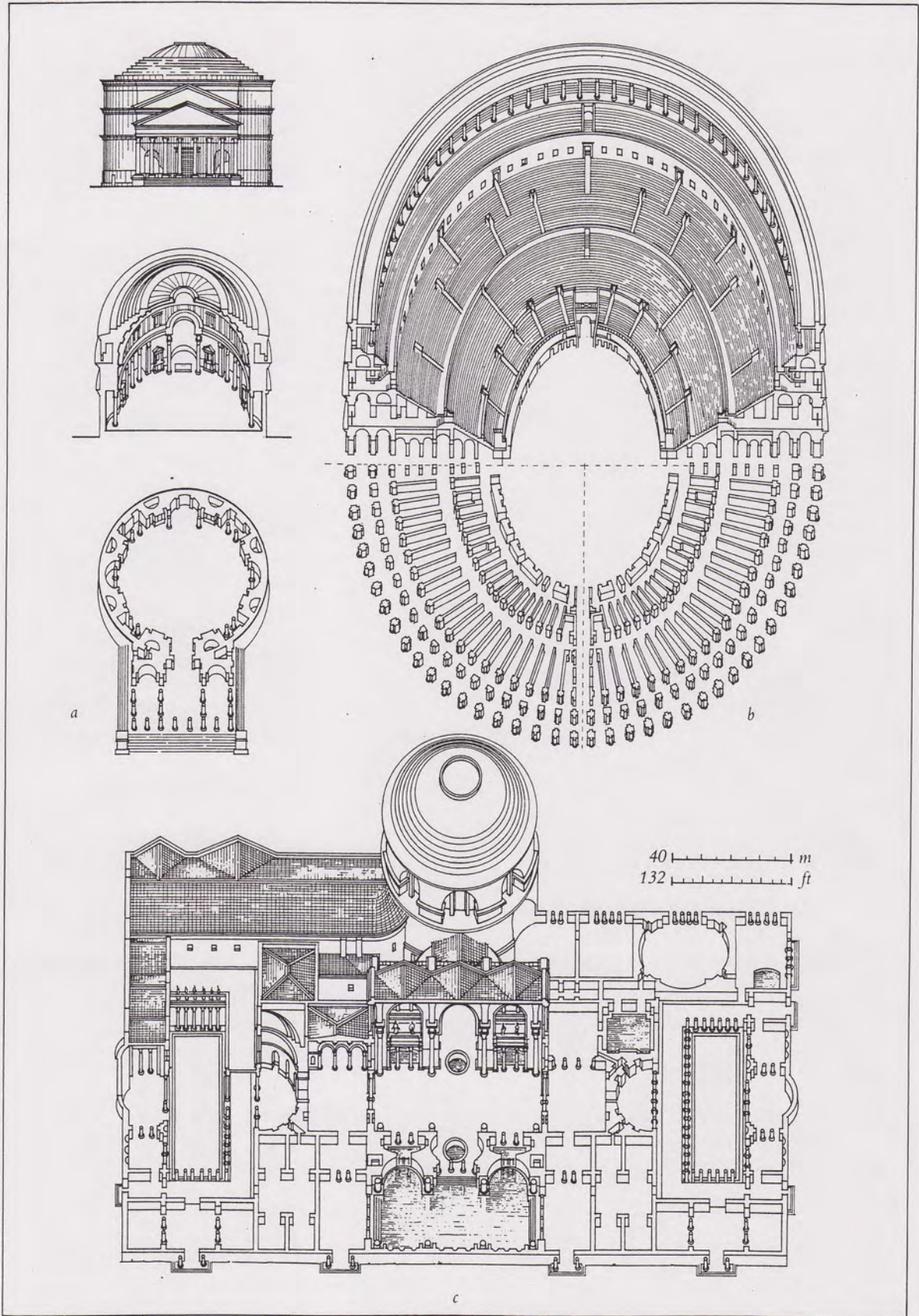
Cages were actually three-sided lifts that were hoisted to the level where the animals were released.

SEA BATTLES IN THE ARENA

The historian Dion Cassius, writing in the 4th century AD, relates how, 150 years earlier, the Colosseum's arena was flooded to stage a mock sea battle. Scholars now believe that he was mistaken. The spectacle probably took place in the Naumachia of Augustus, a water-filled arena situated across the Tiber in Trastevere.



IMPERIAL ROME



a. PANTHEON
 b. COLOSSEUM
 c. BATHS OF CARACALLA

Archaeologists think they have found female gladiator's grave in London

The Associated Press

LONDON

No one knows her name, or how she died, but archaeologists think she was a gladiator in Roman London.

And, from the evidence, a very popular one.

The existence of female gladiators in Roman times has long been known to historians, but now what are believed to be the first remains of one — a young woman in her 20s, buried with high honors — have been unearthed at a Roman cemetery in London.

The Museum of London displayed the evidence for the first time Tuesday.

Only a piece of the young woman's pelvis escaped the flames of her funeral pyre — enough to say that she was in her 20s.

The belief that she may have been a gladiator comes from the ceramics buried with her in what was a walled cemetery on the south bank of the River Thames, in present-day Southwark.

One dish was decorated with a fallen gladiator and other vessels with symbols associated with gladiators, said Hedley Swain of the Museum of London.

Three lamps found in the grave were decorated with images of the Egyptian god Anubis. This jackal-headed deity was associated with the Roman god Mercury, and Swain noted that slaves dressed as Mercury



AP

Museum of London archaeologist Liz Goodman holds the charred pieces of a pelvic bone of a woman who may have been a gladiator about 2,000 years ago in Roman London.

were employed to drag away the bodies from amphitheaters.

"The fact that we have this association with gladiators indicates that she was a gladiator, or someone deeply involved with gladiators," said Jenny Hall, curator of early London history at the London museum.

"It is obviously quite a wealthy burial," she added.

Hall says it's "70 percent probable" that the woman was a gladiator.

"It is always the case with archaeology, that you are left with tantalizing glimpses," she said.

The grave was excavated in 1996 and the analysis was completed recently.

"There is evidence of a very exotic and high-status feast, including dates, almonds, figs and a dove," Swain said.

Archaeologists from the museum also continue to analyze the results of their excavations of the Roman amphitheater found near the present Guildhall in the financial district.

That amphitheater, discovered in 1986, had room for 7,000 spectators, which would have been about a third of the population of Roman London.



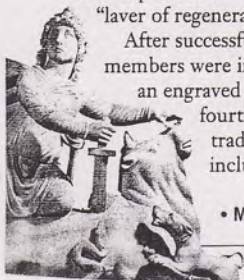
Catacomb

INCIVILITIES

No Wonder Fraternities Went Greek

STRESSING MORAL COURAGE AND INDIFFERENCE TO women as the means to spiritual salvation, the secret cult of the sun god Mithras thrived in subterranean temples during the second and third centuries A.D., and was especially popular among Roman soldiers. But to become a full-standing member, one had to endure the "12 tortures." Although most records were destroyed, tablets preserved in Innsbruck, Austria, suggest that Mithraic pledges had to lie naked on snow for several nights, be whipped for two days and run "boldly" through large fires. For their final ordeal, the men were obliged to hold up the hind legs of a cow and receive in their face the "laver of regeneration."

After successfully completing all of the tests, the new members were incised with the mark of Mithras and given an engraved stone. When the cult disappeared in the fourth century, many of its kinder and gentler traditions were subsumed by Christianity, including Mithras' birthday, December 25.



• Mithras with animal friends

ART: REED/ERIC LESSING

TECHNIQUE

COINING MONEY

Long before the invention of coins, the people of the ancient world had used gold, silver, bronze, and copper in either raw lumps or bricks as a medium of exchange for trade. But each piece had to be weighed every time it was used to establish its exact value. The Lydians of western Anatolia began the practice of producing metal coins in standard weights in the seventh century BCE, adapting the concept of the seal—a Sumerian invention—to designate their value. Until about 525 BCE, coins bore an image on one side only. One of the most beautiful of these earliest coins is illustrated here, a coin first minted during the reign of the Lydian king Croesus (ruled 560–546 BCE). It is stamped with the heads and forelegs of a bull and lion, who face each other. The back side has only a squarish depression left over from the punch used to force the metal into the mold.

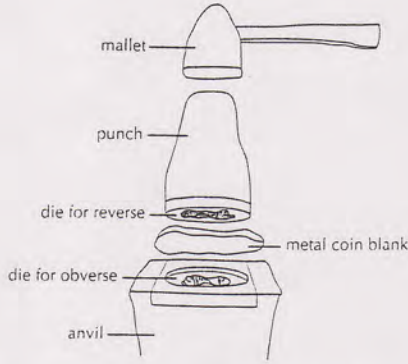
To make two-faced coins, the ancients used a punch and anvil, each of which held a die, or mold, incised with the design to be impressed in the coin. A metal blank weighed out to the exact amount of the denomination was placed over the anvil die, the one containing the design for the obverse (“head”) of the coin. The punch, with the die of the reverse (“tail”) design, was then placed on top of the metal blank and struck with a mallet. After Cyrus the Great of Persia conquered Anatolia, he and his successors minted coins using the Lydian weight system. Beginning in the reign of Darius I, kings’ portraits appear on coins, proclaiming the ruler’s sovereignty and his control of the coin of the realm. This custom is still very much alive throughout the world. Because we often know at least approximately when a given ancient

monarch ruled, the discovery in an archeological excavation of coins bearing that ruler’s portrait helps to date the objects around them.



obverse

reverse



Front and back of a gold coin first minted under Croesus, king of Lydia, 560–546 BCE. Heberden Coin Room, Ashmolean Museum, Oxford

Waiting for Wishes to Come True

The belief that a wish made while holding the wishbone would come true probably originated with the Etruscans about 2500 years ago.

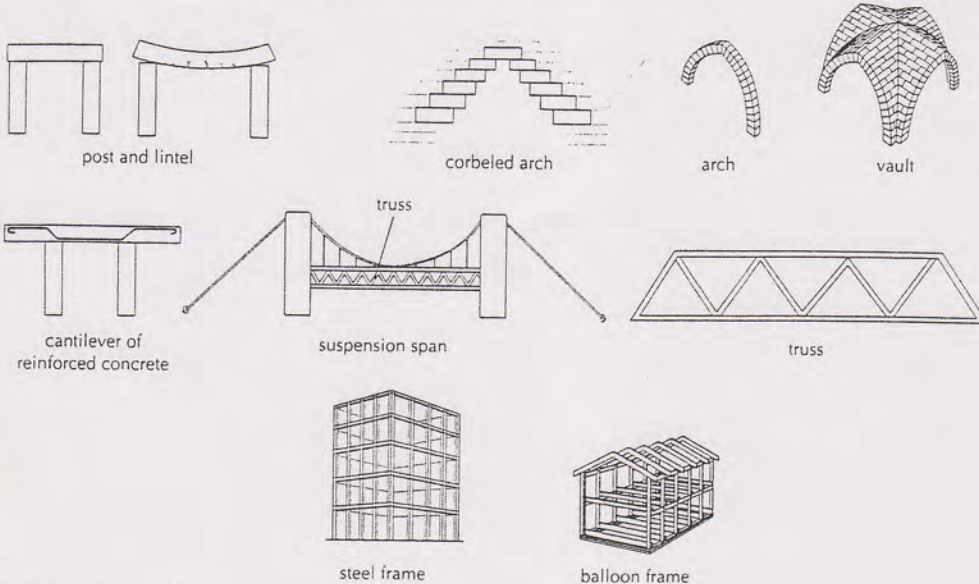
ELEMENTS OF ARCHITECTURE

Space-Spanning Construction Devices

Gravity pulls on everything, presenting great challenges to the need to cover spaces. The purpose of the spanning element is to transfer weight to the ground. The simplest space-spanning device is post-and-lintel construction, in which uprights are spanned by a horizontal element. However, if not flexible, a horizontal element over a wide span breaks under the pressure of its own weight and the weight it carries.

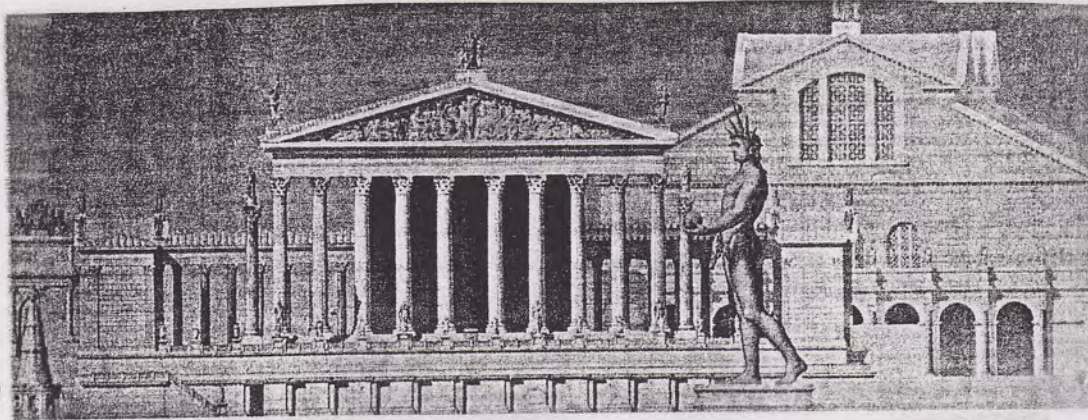
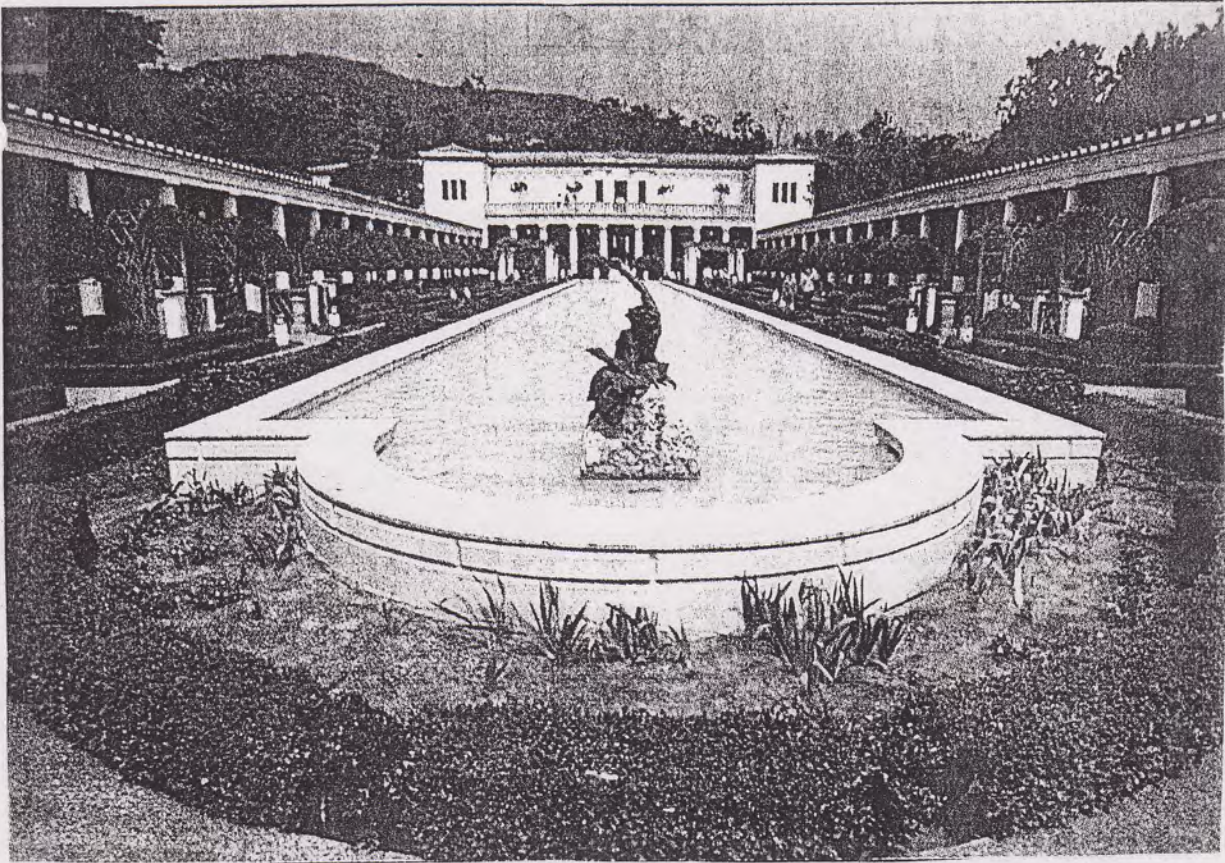
Corbeling, the building up of overlapping stones, is another simple method for transferring weight to the ground. Arches, round or pointed, span space. Vaults, which are essentially extended arches, move weight out

from the center of the covered space and down through the corners. The cantilever is a variant of post-and-lintel construction. When concrete is reinforced with steel or iron rods, the inherent brittleness of cement and stone is then overcome because of metal’s flexible qualities. The concrete can then span much more space and bear heavier loads. Suspension works to counter the effect of gravity by lifting the spanning element upward. Trusses of wood or metal are relatively lightweight spanners but cannot bear heavy loads. Large-scale modern construction is chiefly steel frame and relies on steel’s properties of strength and flexibility to bear great loads. The balloon frame, an American innovation, is based in post-and-lintel principles and exploits the lightweight, flexible properties of wood.



FOR BETTER OR WORSE / BY LYNN JOHNSTON





The Colossus of Nero

The name *Amphitheatrum-Colyseus* appeared for the first time in the eleventh century as a designation for the building, which had previously been called *Amphitheatrum Caesareum*, and was later extended in the name *regio Colisei* to the entire valley. It derives from the colossal bronze statue of Nero, which stood in the immediate vicinity. Commissioned from the sculptor Zenodoros and inspired by the famous Colossus of Rhodes created by Chares of Lindos at the beginning of the third century B.C., it portrayed the emperor standing and decorated

the vestibule of the Domus Aurea on the site now occupied by the Temple of Venus and Rome. Its gigantic size - it was about 35 meters tall, as can be calculated from the proportions of the base and a passage from Pliny the Elder - made it the largest bronze statue ever made in the ancient world. Thus Hadrian, in order to build the Temple of Venus and Rome, had to use a cart pulled by twenty-four elephants to move the statue from its original location. Vespasian had it transformed into a radiate image of the Sun, while

Commodus preferred to characterize it with the attributes of Hercules and his physiognomy. When the latter emperor died, the Colossus again became the image of Helios and remained such during the reign of Septimius Severus, as demonstrated by the coins of the period portraying the god with his left hand resting on a helm and his right one holding a globe. At first a symbol of immortality and later of the Eternal City, it continued to be an object of worship even in the Christian era. The base of the statue, of which only a few vestiges still exist today, was demolished in 1933, when Via dell'Impero and Via dei Trionfi were built.

«... a colossal statue of Nero, 120 feet tall, stood in the vestibule of the house. The size of the latter was such that it had three colonnades a mile long and a pool that was more like a sea, surrounded by buildings as large as cities. On the other side were villas with fields, vineyards and pastures, and woodlands full of all kinds of domestic and wild animals»
(Suetonius, *Nero*, 31, 1).