

exhaustive modern field examination of what appeared to have been one of the classic "Swiss lake-dwelling" types of littoral border sites.

*Middle East.* The traditional archaeological activity in Egypt—the clearing, cleaning, and restoration of above-surface buildings and of tombs and the copying of inscriptions—proceeded, with archaeologists from an increasing number of nationalities being involved. There was interest in a new suggestion that the place of the missing (second) "solar boat" near the pharaoh Khufu's pyramid had been located. The first such boat was found in 1954, in a well-sealed pit. There was special interest in the possibility that, should this second example be likewise well sealed, it might yield uncontaminated samples of 4,600-year-old air for environmental analysis.

Archaeological activity continued to increase in northern Yemen, previously an unknown region archaeologically, but at the year's end there was not much material earlier than the 1st millennium BC. Both Israeli and foreign archaeologists were busy in Israel. A remarkable find, of approximately 9,000-year-old traces of cloth and a painted stone head, which had occurred in 1983 in a cave, Nahal Hemar, in the Negev, was put on display. Various biblical sites were being excavated, both in the Philistine (coastal) region and in the interior. A new excavation by the Oriental Institute, Chicago, was undertaken at Ashqelon. Fieldwork was also continued, by both local and foreign excavators, in Jordan, and a new joint French-Jordanian effort at Tell Abu Hamid in the Jordan Valley began.

In southern Turkey, northern Syria, and northern Iraq salvage efforts continued in regions where the flood pools behind new dams would soon form. Unfortunately, salvage archaeology has to be done hurriedly before the floodwaters rise, and large and time-consuming exposures often cannot be made. Nevertheless, the rough outlines of the cultural history of still-unknown areas could not otherwise be recovered. In both Syria and Iraq the governmental antiquity services made generous concessions and even provided financial aid for foreign participants in their salvage programs.

Both the Syrian and Iraqi governments were undertaking clearance and restoration around important old buildings in such towns as Aleppo, Damascus, Baghdad, and Mosul. In spite of the Iran-Iraq war, some brief fieldwork continued in southern Iraq.

In Turkey the joint Turkish-U.S.-West German expedition at Cayonu reported the final exposure of a nondomestic building of formal plan dating to about 9,500 years ago. It was the third such formally planned structure encountered, and it contained the burned skulls of some 50 humans. Built at a time when an effective food-producing way of life had only recently been developed, it suggested that the pace of cultural acceleration, given an assured food supply, was much faster than had been anticipated. The Turkish Antiquities Service began excavations at Harran, once visited by the biblical Abraham, and the long-range excavations by the Italians, West Germans, and Americans at Arslan Tepe, Bogazkoy, and Elmalı continued.

*The Greco-Roman World.* Perhaps one of the most important events for Greek archaeology was the appearance of a thoughtful introduction to a description of new surface survey efforts in Boeotia. In it J. L. Bintliff and A. M. Snodgrass (*Journal of Field Archaeology* 12:123-61) assessed the future effects on archaeological research of the steadily increasing pace of urban and rural development with the consequent widespread use of bulldozers and other earth-moving equipment. They urged that, before it was too late, broad-ranging archaeological surface surveys receive more

attention than the traditional concentration on individual large city sites with their often repetitious yields of well-known artifacts.

Otherwise, in Greece and in Rome the various national "schools" proceeded with their long-range excavations on large sites with familiar names. There were a few exceptional finds. In European Turkey (Thrace) near Tekirdag a rich 2nd-century BC tomb was found. In Athens the replica of a Greek sailing vessel (wrecked off Cyprus around 300 BC) was completed and launched. At Paestum in southern Italy a University of Michigan expedition recovered new evidence of the secret women's cultic rites of the goddess known as Bona Dea.

Roman remains continued to be recovered in western Europe. New clearances in London indicated that in Roman times the city had been not a carefully laid out garrison town (like Colchester, for example) but a fast-growing boomtown. In France detailed air photographs revealed the remains of an ancient theatre in the Argonne region. For post-Roman times, around AD 800, the town of Dorestad in The Netherlands yielded evidence of a much better human dietary pattern, with good protein content, than had ever been assumed.

*Southern and Eastern Asia.* A joint Soviet-U.S. team cleared portions of Sarazm, a 4th-3rd-millennium BC site about 45 km (28 mi) east of Samarkand, but details of the yield were not available. The Pakistan antiquities service reported that significant progress had been made in stopping the degeneration of the building remains of the great site of Mohenjo Daro (about 2500 BC). The increase of groundwater with heavy salt concentration had been an acute problem. In Thailand, at the copper-mining site of Phulong, a University of Pennsylvania group examined the tracks of very early copper recovery and processing.

The Chinese reported that the capital of the Shang Dynasty (about 1700 to 1100 BC) may have been found, in Yenshih (Yanshi), Henan (Honan) Province. It was reported as probable that the tomb of the Emperor Ch'in Shih Huang-ti (Qin Shihuangdi) himself (near the great subsurface find of terra-cotta warriors, horses, and chariots, attributable to him) might be intact. The massive terra-cotta find (about 210 BC) had been discovered in 1974. More than a thousand Han Dynasty (206 BC-AD 220) figurines were accidentally recovered at Suchow (Xuzhou) 1,100 km (700 mi) southeast of Beijing (Peking). The Chinese also reported that they planned to rebuild and restore the 13 tombs of the Ming emperors (AD 1368-1644) north of Beijing, already a great tourist attraction.

(ROBERT J. BRAIDWOOD)

*Western Hemisphere.* Archaeology in 1985 was noteworthy for a series of discoveries, both legitimate and not so legitimate. While treasure hunters announced the discovery of sunken ships and buried treasure, the media, both written and electronic, heralded the discovery of a not-so-lost city in the Peruvian jungle. In a less sensational vein, research during the year in North, Central, and South America highlighted the long-term nature and often unspectacular process of actual archaeological research. Finally, the application of new instrumentation to old archaeological problems provided critical radiocarbon dates in cases where samples had been too small for earlier techniques.

*North America.* Underwater investigations by a joint team of salvagers and archaeologists provided conclusive evidence that the sunken "treasure ship" found by private salvage divers in 1983 off the coast of Cape Cod was in fact the lost pirate ship *Whydah*, which sank with all hands after being commandeered in 1717, a year after its



This 9,500-year-old stone building uncovered in Cayonu, Turkey, provided evidence of rapid cultural progress following the introduction of agriculture in the ancient Middle East. The discovery of some 50 burned human skulls presented scholars with an intriguing puzzle.

ROBERT J. BRAIDWOOD

maiden voyage. A joint team of divers and archaeologists coordinated plans with Massachusetts state archaeologists to excavate and stabilize the wealth of discovered materials, valued at \$10 million–12 million.

The potential archaeological value of the offshore waters of the east coast of the U.S. was further highlighted in 1985 by a find in New York's East River. In September a group of salvagers reported the discovery of a sunken Revolutionary War frigate, the 26-gun *Hussar*, which sank in 1780. Although cold water and the depth of the find in 30 m (100 ft) of murky water prevented further investigation, available documents indicated that the British ship also contained 80 chained American prisoners of war and a payroll in gold now estimated to be worth millions of dollars.

In addition to these rather spectacular finds, ongoing work by U.S. archaeologists at the site of George Custer's last battle with Sioux and Cheyenne warriors at the Little Bighorn River in Montana Territory was causing scholars to reassess the events and tactics that took place at the battle. After carefully considering the identity and location of artifacts at the site, the archaeologists, led by Douglas Scott of the U.S. National Park Service, announced that the battle was lost both because of errors of strategy on Custer's part and because of the vastly superior numbers of both fighters and arms on the side of the Indians. Instead of attacking en masse, as had often been assumed, the Indians, according to the archaeologists, cautiously crouched and picked off the soldiers from at least six positions before finally annihilating them. The excavated battle debris also suggested that the Indians were equipped with large numbers of some of the most advanced weapons of the period, including at least 60 new 16-shot, lever-action rifles, while the U.S. soldiers were equipped with only army-issue single-shot Springfield carbines and Colt revolvers.

*Mexico.* Although the devastating effects and loss of life suffered due to the September earthquake in Mexico City represent a catastrophic national disaster, this event also highlights the potential role of ancient disasters in shaping the continuity and changes that are documented in Mexican archaeology. While past excavations in the southern highlands have shown how whole regions and archaeological culture areas were rendered uninhabitable by the effects of volcanic eruptions, the magnitude and effects of the recent quake and more ancient examples suggest that natural disasters could have played a critical role in affecting the continuity and survival of cultures in the region. However,

despite the impact of natural disasters, it unfortunately had to be reported that this area was still suffering the effects of illegal looting and treasure hunters. Although recent agreements between the U.S. and Mexico shifted the flow of antiquities from a north-south axis to an international one focused on European recipients, the looting was both leading to the destruction of unstudied archaeological sites and, when interrupted in time, to the unscientific discovery of previously undocumented archaeological sites.

The vigilance of local inhabitants in the mountains of Guerrero in western Mexico who reported to authorities looting activities at an unstudied site resulted in one of the most important archaeological discoveries in that region in recent years. Located in the northern part of the state, inland from the resort of Acapulco, the site of Copalillo (currently being excavated under the auspices of the National Institute of Anthropology and History) contained on the surface a large platform and three large stone monoliths, each 1.5 m (5 ft) high, with Olmec designs inscribed on them. Ongoing excavations suggested that the site dates to between 2400 and 600 BC, that it is of Olmec cultural affiliation, and, at least tentatively, that this early Mexican civilization, previously thought to have developed on the country's east coast, may in fact have evolved simultaneously on both shores; such an interpretation would cause a drastic revision of old assumptions concerning the sources and direction of Mesoamerican culture.

Farther south, in the former Mayan territory of Belize, a husband-wife team, Arlen and Diane Chase of the University of Central Florida at Orlando, announced through the U.S. National Science Foundation the discovery of two intact late postclassic Mayan tombs at the coastal site of Santa Rita Corozal. The first tomb contained elaborately decorated pottery and ornaments and the body of what was interpreted to be a king. The second tomb contained two individuals, one of whom had Aztec ear ornaments manufactured in central Mexico and the other consisting only of the remains of an undecorated skeleton that was riddled with sting-ray spines and a copper needle, associations in Mayan culture indicative of ritual bloodletting practices.

Untouched by looters, these unusual discoveries indicated that, contrary to current thinking that Mayan culture declined sometime after AD 600–900, Mayan rule in this region instead continued for hundreds of years with high-status nobility controlling large territories until just before the arrival of the Spaniards in the early 16th century.

*South America.* The archaeology of Ecuador and of the Cauca River valley of Colombia had long been famous for the beautiful gold and ceramic artifacts of the highly publicized but poorly studied Quimbaya culture. Although the culture was well represented in private and museum collections, most pieces came from looted sites. Mostly by guesswork, it was estimated that they were made between AD 400 and 800, several thousand years after the appearance of the first gold technology in the south-central Andes of Peru. In 1985, however, long-overdue controlled archaeological excavations by John Isaacson of the University of Illinois at a small highland site near Quito yielded radiocarbon determinations from stylistically similar Quimbaya pottery that dated these artifacts at 600–1500 BC. These dates implied that both the elaborate Quimbaya pottery and cast gold pieces developed at about the same time as the first extensive "high" style of Peru, the Chavin culture of the 1st millennium BC, and that the highlands of Ecuador were culturally and technologically advanced much earlier than had been assumed.

In Peru the availability of new dating techniques provided solid confirmation for the antiquity of South Ameri-



ca's earliest evidence of textiles and food plants. Previously excavated in 1968 by Thomas Lynch from the highland Peruvian site of Guitarrero Cave, the textile and plant remains were thought to be early but remained in doubt because of uncertainty over the validity of the radiocarbon dates that were then available. Lynch, working in conjunction with scientists at the University of Oxford's Research Laboratory for Archaeology and the History of Art, utilized a new tandem electrostatic accelerator that was capable of returning dates from minute, previously inadequate, carbon samples. The new dates, clustered in time between 9,500 and 10,000 years before the present with the earliest being 12,500 years old, suggested that the associated preceramic textiles, basketry, beans, local tubers (potatolike plants), and a tomatolike plant all date back to the epoch close in time to the first human presence in the New World.

Events in South America of relevance to archaeology were overshadowed by a triumph of the Indiana Jones mystique over the conservatism of proper scientific data discovery and presentation. At a news conference the University of Colorado announced to a well-prepared media crowd the discovery of a pre-Inca city located on an eastern slope of the Peruvian Andes, and two faculty members, Tom Lennon and Jane Wheeler, explained their plans to study the site. News of the discovery was reported by many major media outlets, including the *Washington Post*, the television networks, and the wire services. The site was, however, not new and not unknown. Gran Pajaten had been explored by a Peruvian expedition in 1964 and by a U.S. explorer, Gene Savoy, in 1965; it was listed in the *South American Handbook*, was noted on current road maps, had been featured in a 1970 CBS documentary, and had been reported by Peruvian scientists and archaeologists in the national scientific literature over a 20-year period.

(JOEL W. GROSSMAN)

See also Anthropology.

## Architecture

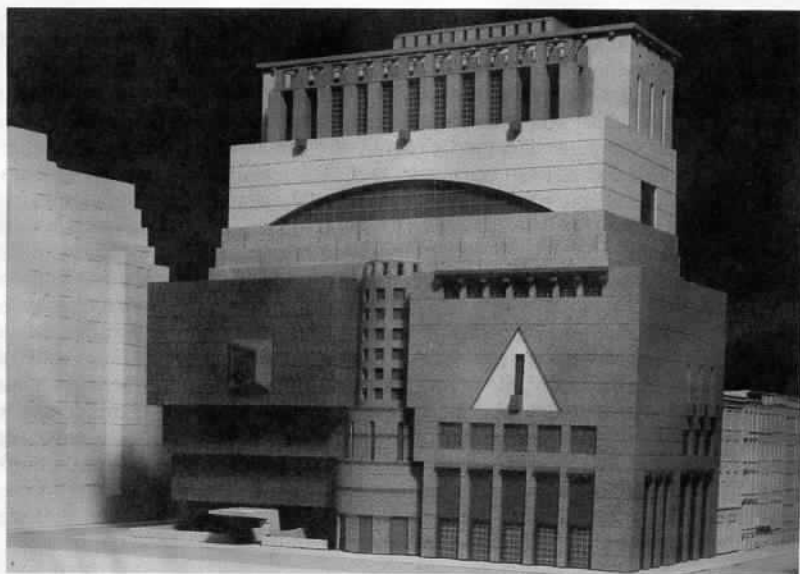
What is the architect's role in designing a new building for an existing historic and familiar site? To what extent should new buildings blend in with old? Is it better to create a building distinctly of its own time, a recognizable

masterpiece perhaps of its architect, than to conserve and refurbish existing buildings of lesser individual aesthetic merit? During 1985 controversy continued to swirl around these questions and the other considerations relating to the battle between modernism and conservatism that has been one of the leading concerns of those interested in architecture for at least the past decade. Many of the current issues had been aired in the planning inquiry held in the summer of 1984 in the City of London to determine whether a tower block designed by Ludwig Mies van der Rohe in 1967 should be built in the heart of the City. In May 1985 the U.K. secretary of state for the environment announced that permission would not be granted to property developer Peter Palumbo for his Mansion House Square project, which included the Mies structure.

The Mies design was rejected primarily because it would be in extreme conflict with its neighbours, being too tall and too bulky for its particular site. (In 1984 Prince Charles had described it as "another giant glass stump better suited to downtown Chicago than the City of London.") In July Palumbo selected James Stirling to prepare a new scheme for the site. The appointment was widely welcomed, Stirling being one of the leading names in British architecture. It was hoped that he would produce a design that would be suitable for the future needs of the City but would also harmonize with and respect the older structures in the area.

Similar controversy raging in New York City over the planned extension to the Whitney Museum of American Art, designed originally in the 1960s by Marcel Breuer, focused on many of the same considerations. The Whitney had become a familiar and loved cultural landmark in the city, and any proposed alteration to its character attracted attention and comments. Breuer's design presented an uncompromisingly brutal face to Madison Avenue. The extension, designed by Michael Graves, a leading exponent of "postmodernism," was very much larger and totally different in character from the existing building, although Graves had been concerned to ensure that the new extension harmonized with the old. The difficulty was that one person's harmony is another person's disharmony, and the controversy centred very much on this point.

Graves's design featured a massive wing joined to the original building by a curved element, both old and new structures being capped by an enormous stepped-back formal attic that totally altered the scale of the original Breuer



PHOTOGRAPH BY TAYLOR

No stranger to controversy, architect Michael Graves provoked more of the same with his design for an addition to—or perhaps an enclosure for—the Whitney Museum in New York City. The original structure, designed by Marcel Breuer, comprises the lower left portion of this model.