IN SEARCH OF AN ETRUSCAN WRECK

ICKLINGHAM ROMAN BRONZES CONTROVERSY

A GUIDE TO THE MUSEUMS OF LIBYA

NIMRUD: A WEALTH OF ASSYRIAN GOLD JEWELLERY

‘GOLD TO THE ALTAR’: CELTIC ART FROM IRELAND AND BRITAIN

AN AMERICAN IN JORDAN: DIGGING DIOCLETIAN’S FRONTIER

EARLY ANCIENT GLASS IN TOLEDO

Detail from Corinthian helmet after conservation, discovered in an Etruscan wreck off the island of Giglio
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EXQUISITE 15TH CENTURY GLASS BEAKER

Excavations at Great Tower Street in the City of London have unearthed a delicate 15th century Venetian glass beaker. The beaker, which is 10cm high and 7cm wide at the base, is made of very light glass of a pale amethyst colour which was produced by the presence of manganese, more often used to produce a clear colourless glass. About 3/4 of the surface of the beaker is covered in gold-leaf, out of which is etched a fine decoration of two bands of wreaths depicting oak and bay leaves separated by horizontal lines. The pattern was emphasised by the application of white dots. Above and below the wreaths are two bands of inscription in an Italian dialect, probably from the Venetian area, which have not yet been fully translated. The beaker is remarkably well-preserved, despite being in three fragments. It is of a slightly curving barrel shape, having been blown in one piece with the base pushed up and in. The style, colour, and method of manufacture of the beaker give it a probable date of the second half of the 15th century and a likely provenance of the Venetian area. At present there is no known parallel for the beaker. While glass bowls and dishes with Latin inscriptions are known to have been made for wealthy families and individuals as love or betrothal gifts, the Tower Street beaker is sufficiently different to have had possibly another purpose. It was recovered from a medieval cess pit, which protected the glass and accounts for its high degree of preservation.

BOLIVIAN TEXTILE BAN

The US has imposed a ban on the import of a certain type of textile from Bolivia which is vital for religious and social ceremonies of the Aymara culture. The textiles are made from alpaca and vicuna wool in Coroma in the Andes. They have been woven in the traditional manner since before the coming of the Incas or the Spanish. In 1983 the Smithsonian Institute organised a travelling exhibition of the weavings, despite export restrictions imposed by Bolivia in 1961. Bolivia estimated that about half its sacred textiles had been smuggled out of Bolivia into American private collections, and submitted a formal request to President Reagan to ban their import. The request was reviewed by the Cultural Property Advisory Committee which comprised archaeologists, dealers, members of the museum community, and private citizens. The committee recommended a five year ban that went into effect in March 1989.

ANCIENT ROMAN DENTIST

Excavations beneath the temple of Castor and Pollux in the Forum in Rome have revealed the site of a busy dentists surgery. 86 teeth were found in a drain in the middle of a shop floor, where they were thrown after being pulled. The shop, one of 29 built into the base of the temple, is situated underneath the main stairway, and measures 3m. by 2m., providing well-lit and sheltered premises just off the Forum, the commercial centre of ancient Rome. Most of the teeth are heavily pitted by cavities, and one was so badly decayed that the dentist had had to remove part of the jawbone too, a treatment recommended by Aulus Cornelius Celsus in the first Century A.D. for avoiding infection. Other Roman dental remedies that have come down to us include that of the Elder Pliny: grains of sand from the horns of a snail should be placed into rotten teeth as a cure for toothache.

SOVIET BRONZE AGE REVEALED

Archaeologists working in the south of the Chelyabinsk region of the USSR have discovered a Bronze Age settlement covering 20,000 square metres, and dating from the second millennium B.C. The team, from the Ural-Kazakhstan expedition, has uncovered houses, each of which has a well, a hearth and a cellar, and bronze artefacts in a tomb outside the settlement.
The discovery of the wreck on Giglio Island, near Elba off the west coast of Italy, goes back to a blustery day in August 1961 when a British diving instructor, Reg Vallintine, who ran an underwater centre on the island, took his students to Campese Bay in search of shelter. There in the Bay he dropped anchor over the crest of a reef called ‘Secca I Pignocchi’, a vicious piece of granite that rises like a broken tooth to within only a few feet of the surface, ready to lacerate the hull of any unsuspecting ship that might be passing. They were almost at the maximum limit for safe diving, when Reg and two of his students happened upon the wreck. Later, Reg described the discovery in London Diver: ‘Over a dividing ridge we went and suddenly on the sandy valley below us were mysterious scattered objects and amphorae. Every pot, amphora and bowl that we found here was a different shape.’

The find was reported to the police on the island, but underwater archaeology was then in its infancy and little could be done. Slowly, word of the discovery leaked out, and before long, holidaying divers from all over Europe were plundering the site. Horrified by what was taking place, Reg, with a couple of local friends on the island, set about saving what they could in order to build a collection which they hoped would become the core of a permanent underwater museum on Giglio, that would preserve not just the material from the Campese Bay wreck, but also from others that dotted the seashore.

The artefacts raised were stored in the local school, but when Reg returned to Giglio for the start of the 1962 diving season, he found, to his dismay, that all the items he had recovered, except for two large, shield-like slabs of bronze, had disappeared. By the end of the season most of the surface wreckage on the site had also gone and what had been, ‘an Aladdin’s cave of pots’ was now a featureless sandy slope. When Reg left for England at the end of that summer, he covered over any remaining visible traces, knowing he would not be returning because he was soon to open a diving school in Tunis. The wreck slipped back into history, but Reg never forgot what he had found and all those mysterious shapes in the sand. On a number of occasions in the years that followed he attempted to interest the archaeological community, but without success.

The story now moves ahead two decades to 1981 when I and my colleague, Joanna Yellowles, by chance met one of the people who in the early sixties had been taking artefacts from the wrecks around Giglio. From the Campese Bay wreck he had taken an Etruscan amphora handle, and displayed this together with other amphora pieces along the top of a bookshelf in his study. At first I was sceptical about the wreck since divers, like fishermen, are prone to exaggeration, and the seashore of the Mediterranean is littered with amphorae and other items of rubbish thrown overboard from passing ships. If I wished to learn more, then I would have to talk to the wreck’s discoverer, Reg Vallintine. If this handle was from a wreck proper, and if, indeed, anything of it still survived, then it could be of major archaeological importance. Only scraps from wrecks of the Archaic period had previously been found, and if any large assemblage of timbers survived, then it would be the oldest deep-water merchant hull to be studied by archaeologists. Contact with Reg was made by phone and at our first meeting in London we were both rather cautious, he in particular was determined not to give away anything until he was convinced that I was not a looter and that my intentions were genuinely archaeological. At last, satisfied, he produced a series of snaps showing divers with items that they had just recovered from the site. A glance told me I had indeed stumbled upon something of major archaeological interest.

The Old Photographs
The first of the photographs (left) showed a man sitting on the rail of a boat with an Etruscan amphora on his hand and the top half of a Punic amphora on the deck at his feet. In his hand was a large, open bowl.
The second photograph showed a woman with two chalice-like wine-cups called kantharoi. They were Etruscan black bucchero ware. Happily, these two pots were later recovered in England and returned to Italy in 1988 to be with all the other material from the wreck.

The third photograph was in many ways the most interesting because it allowed the wreck to be dated with some precision and showed that the vessel had been carrying Greek painted pottery. The pot in the photo was instantly recognisable because of its distinctive body walls and cotton-reel handles; it was a Corinthian kothion, datable to about 600 BC, and usually associated with women’s toilettry.

From these photographs and Reg’s recollections we knew that the vessel had been carrying a mixture of luxury and utilitarian goods that came from at least three separate locations in the Mediterranean. Furthermore, it dated from the period when the Etruscans were at the peak of their wealth and power.

Funding and Strategy
It was decided that we would try to mount an expedition to Giglio to try to relocate the wreck and establish whether anything had survived. I would be the project director and Reg would be chief diver. I returned to Oxford with Reg’s photographs and immediately took them to Professor Sir John Boardman, a highly respected and influential figure at the university whose help was essential if we were to achieve university backing. He at once agreed to assist and

has been a key figure in this, and all our other maritime archaeological projects ever since. The acquisition of permits to carry out the search was the first major hurdle. Meetings were held with Italian archaeologists and the appropriate authorities, Professor Francesco Nicosia, Superintendent of Archaeology for Tuscany, and Dr Paola Rendini, Archaeological Inspector for Giglio, who at once gave me their support and guided me through the official government complexities involved in the granting archaeological licences. Without their support the project would never have succeeded.

Fund raising was a particularly daunting problem: stories of a sunken wreck with Greek painted pottery off some unknown Mediterranean island were hardly creditable. However, the Craven and Meyerstein funds of Oxford, were generous, as later were the British Academy, the Society of Antiquaries and the Prehistoric Society. Several private individuals also came to our aid. Nonetheless, there was still a shortfall which we had to fund personally.

Tracing the Finds from 1961
To overcome our credibility problem we set about trying to track down people who had been on the island in 1961-2 and who might have more information and photographs. The BBC, in a later documentary, called this the ‘detective story phase of our work’. Usually we did not succeed in our efforts, but on those occasions when we did, it made our failures well worth while. Often we had only a diver’s christian name, but by cross-referencing the logs with people’s memories we sometimes were able to come up with a full name, city and country from which he or she came. Luckily, some addresses even after twenty years were still good. Several key people had died and one had been killed in a plane crash.

Several of the stories involved in this phase of our research deserve to be told. The one item that we were particularly anxious to locate was the Corinthian kothion, because on this piece we were pinning our chronology. Reg’s log recorded that it had been found by an English woman called Bogey Kane. Finding her, however, was not so easy because some years after her diving holiday on Giglio she had dropped the name Bogey in favour of Yasmine. Later she married an Italian. Thanks to the Institute of Oceanography in Monaco, we finally found her in Monte Carlo as Madame Yasmine Antonini. In correspondence she answered all my queries with infinite patience but in one disturbing paragraph she mentioned that specialists from a major museum had dated it to some four
hundred years after the chronology that I had proposed in our fund raising prospectus. Preparations were at a critical stage and no doubts could be afforded that would threaten the project. The pot had to be examined in Monte Carlo. It was, as we thought, a Corinthian kothon of about 600 B.C. The clay was the distinctive Corinthian yellow-ochre and there were traces of a painted chequered design along the apex and decorated panels between the handles.

Another item that we were keen to find was an amphora that Reg remembered having been found by a Londoner. He, however, had died and it had been inherited by a female relative. We succeeded in finding a phone number for the lady involved but, because it was an unlisted number, we could not find an address to go with it. For months we rang and rang, but there was no answer. Then, one day, long after we had given up, we made one more attempt. This time we received an answer. It turned out that the lady lived abroad and was only back in London for several days for medical treatment — and yes, she had the amphora.

Immediately we dropped everything, grabbed cameras and drawing equipment and drove to London. The address we had been given was in London’s West End and as soon as the door was opened we could see the amphora under the stairs. It was not, as expected, an Etruscan amphora, instead it was from the island of Samos in the Aegean. Again it dated to about 600 B.C.

The Etruscan ‘Doorknob’
One interesting item, thanks to the television coverage, found us. Together with Reg on that epic first dive in 1961 had been a lady called Beryl Broomhoofd. Of all the different forms in the sand, one in particular caught her attention; it was a small, round shape a bit bigger than a table-tennis ball. She had slipped it into her bag and back at the hotel that evening they all puzzled over what it could be. In the end they decided it was an ‘Etruscan doorknob’ and Beryl took it back with her to England. As a result of the documentary coverage, we met Beryl who still had her ‘doorknob’. She explained that she had no idea if it was of any archaeological interest but, if it was, then she would be glad to give it back so that it could be with all the other material from the wreck. Although almost all the paint had flaked away it was, none the less, instantly recognisable as a miniature aryballos from the Greek city of Sparta, or its environs. Today this aryballos is back in Italy along with the other aryballoi and material from the wreck. Clearly there are more people with items from the wreck and we hope very much that they, like Beryl, will one day come forward.

The Helmet
By far the most spectacular item to have come from the wreck in the early sixties was a Corinthian bronze helmet that had been taken to Germany. The log-book record was a fleeting, thumbnail sketch of a helmet along with the finder’s first name, Hans. Two German divers called Hans had dived on the wreck, one surely must have the helmet. With Reg’s help the surnames were obtained and eventually traced to Munich. Both, however, vehemently denied any knowledge of the helmet.

The search for the helmet had become well known and the next step in the almost three-year quest came with a surprise call from a French businessman in Marseilles, who declared that he had acquired our helmet some years before on the market. From his description I felt sure that he was right, but when I saw it in his office my heart sank, for it dated to some decades after the wreck and therefore could not possibly have come from the site.

Our luck changed when one day on Giglio we met a German diver in a wheelchair, paralysed from the waist down as a result of the bends. He had been on Giglio in 1961 and had a clear recollection of the helmet’s discovery and what was more important, he remembered the finder’s full name; it was not one of the two men that I had interviewed in Munich.

With the diver’s full name at last, the German phone books were searched for all those of the same surname and initial. Several months later, in Germany with a short list of 13 names, and a bag full of coins for the telephone, we finally caught up with the elusive helmet.

Hans was at first cautious, because he was aware of the object’s great value. An exchange of letters with the university then took place, to establish my identity and, after some legal documents were signed, permission was received to study the helmet. The first view of it left us dumbfounded. From a single sheet of bronze the ancient armoursmith had beaten a work of superb artistic and technical achievement. Down the cheek pieces were etchings of charging boars and across the brow were two fork-tongued snakes, poised spring-like, ready to strike. This helmet was a functional item, but it was also a prestige object of great value, heralding the owner’s importance wherever he

MINERVA 5
wreck, but all we could see was the edge of the reef, and a slope of featureless sand that dissolved from view as it trailed away into deep water.

With renewed enthusiasm the team, diving in pairs, began systematically to sweep the area with a metal detector in the hope of finding one of the copper ingots, or some other metal artefact that would lead us to the heart of the site. It was several days before two of the divers surfaced and began talking excitedly of a signal they were receiving from a large metallic presence beneath the sand beside a boulder. One of the pair, Dr David Corps, and myself later dived to examine the contact. Peeling back the sand layer by layer, we at last revealed a large iron concretion from which protruded the handle of an Etruscan amphora identical to the one I had first seen in England. Several years later, near the close of the excavation, we pried this concretion free from the boulder to which it was adhering with a carjack. Underneath was a pair of wooden calipers, the only pair to have survived from early antiquity. That day, while David Corps was photographing the concretion, I moved several metres away so as to be out of his way. Waiting for him to finish I aimlessly fanned at the sand with my hand creating sharp little eddies in the water which swept away the grains and silts. Suddenly I found myself looking down into the tiny black mouth of a small pot. It was a black painted Corinthian aryballos of the ‘segment’ class. Although broken in two at its point of maximum girth, one half was still on top of the other.

The following day, close by, Hamish Hay uncovered a Laconian mug and soon after that Dr Paddy Phillips and Jenny Howarth found an intact ‘Ionian’ bowl sitting upright on a lead ingot. Other finds followed. These included fishing weights, a wooden stopper, fragments from Samian and Etruscan amphorae and pieces from a figured Corinthian oinochoe. We had found the wreck and clearly there was much more there that the earlier ‘clandestini’ had missed.

Our permits for that year were for survey only, which allowed us to take samples, but not to begin excavation. That would have to wait until the following year. With proof of the wreck’s existence and importance we were able to put our money and other worries behind us. Now, however, there was a new problem: if word of the finds spread it would only be a matter of time before a new generation of looters would descend on the site. In consultation with the Italian archaeological authorities it was decided to try and keep the discovery secret for as long as possible.

In 1983 we returned to Campese Bay for three months with a team of over 100 staff and divers. Part Two will discuss the finds, the raising of the hull, the problems of looters, and the conservation work that is currently being carried out by experts in Florence.
SMITHSONIAN RETURNS INDIAN REMAINS

The Smithsonian Institution in Washington has reached a compromise with two national Indian organisations in which it has agreed to return the sacred skeletal remains of thousands of Indians to their tribes for reburial. Robert Adams, secretary of the Smithsonian, said that an inventory will be taken of the bones, of which there could be as many as 18,600 and which date from prehistoric to turn of the century, and any that can be identified, either by name or by tribe, will be offered to the tribe for reburial. Funerary materials, such as beads, clothing, weapons, tools and ceramics, will also be returned on request. Adams said, 'It is wonderful and inevitable. We do so with some regret, but everyone would acknowledge that when you face a collision between human rights and scientific study, then scientific values have to take second place. To do otherwise would be to suppress the record of violence against Indians in the westward movement.' The announcement has been welcomed by Indian organisations whose ancestral remains are held as sacred. Susan Shown Harjo, Executive Director of the National Congress of American Indians, said 'I am very pleased. It gives all Indian people a renewed sense of hope.' It comes down to whether Indians are human. That debate remains today. The fact that the Smithsonian has 19,000 of our people is one of the last vestiges of colonialism, dehumanisation and racism against our people.'

However the decision has not been received with universal joy. Vehement opposition is being expressed by sections of the scientific community against the disbandment of a huge research library of materials which might yield valuable evidence of the past. Jim Hanson, Director of the Nebraska State Historical Society, said 'No matter how you sugarcoat it, this is still the destruction of an important scientific collection.' The scholars argue that the skeletons can provide unique evidence in subjects ranging from the organisation of tribal societies to the origins of certain diseases such as rheumatoid arthritis. But Indian organisations believe that many of the remains would not be reclaimed either because of a lack of identification, or because Indian tribes would not want bones that they believe had been desecrated, and so some material would remain for research. The Smithsonian is not the first museum to have made such a move. Compromises have been arranged between Indian groups and individual institutions such as Stanford University, the University of Michigan, the University of Minnesota and the University of South Dakota. The only state where it is legally binding is Nebraska, where a law passed earlier this year compels the Nebraska State Historical Society to return 200 Native American skeletons and burial objects to the Pawnee tribe by September 1990, and all Nebraska museums that receive funds or 'official' recognition from the state or local jurisdictions to return identifiable remains and burial items within one year of a formal request by a relative or a government recognised tribe. The Smithsonian compromise will be part of the legislation establishing a new American Indian museum, which would house the Heye Collection now in the Museum of the American Indian in New York. The repatriation issue has been a major obstacle to making the museum a part of the Smithsonian. However the decision is not likely to be the end of the story in a country in which there are an estimated 600,000 Indian remains held in collections nationwide, and in a feud in which conflicting feelings run so high. As Walter Echo-Hawk, senior counsel for the Native American Right Fund, remarked, the announcement is just the 'beginning of the end of their spiritual nightmare.'

EVIDENCE OF TABOO CULT IN ISRAEL

The Bible frequently mentions standing stones as a cult form to be avoided. The 5000 year old remains of just such a cult have been uncovered at Hartuv, near Beit Shemesh in Israel. Looking like a little Stonehenge, the row of metre-high stones is believed to be part of a 5000 year old cult centre which was at first open-air and later incorporated into a Canaanite temple. The stones offer a rare view of the transitional stage from nomadism to settlement in agricultural villages.

Very little is known about the Early Bronze Age period, 3000 years B.C., when writing was just beginning in Mesopotamia and Egypt. At this time peaceful agricultural villages were being established throughout the country which some centuries later would give way to fortified cities, as nations learned the art of war.

Some time after they were erected, the stones at Hartuv were included into an architectural complex of some 500 square metres. Archaeologists believe that the complex, in the centre of the village, may have served important civic as well as religious functions.

Source: BIPAC
ARCHAEOLOGISTS AT MARONI IN CYPRUS HAVE FOUND A JAR WITH A RARE INSCRIPTION DATING FROM THE BRONZE AGE. THE TEAM, FROM THE BRITISH SCHOOL IN ATHENS, SUPPORTED BY THE LEVENTIS FOUNDATION AND THE FINANCIAL TIMES, DISCOVERED THE JAR WHILE EXCAVATING THE ASHLAR BUILDING, WHICH WAS BUILT AROUND 1300 B.C. EXAMPLES OF CYPRIT BRONZE AGE WRITING ARE EXTREMELY RARE; ONLY A HANDFUL OF INSCRIBED CLAY TABLETS ARE KNOWN, AS WELL AS SOME INSCRIBED CLAY CYLINDERS OR BOBBINS. MOST INSCRIPTIONS ON JARS ARE SINGLE LETTERS, POTMARKS RATHER THAN PROPER TEXTS. THE MARONI JAR, HOWEVER, HAS MORE THAN JUST A POTMARK. IT SEEMS TO HAVE BEEN INSCRIBED WITH SEVEN SIGNS (MORE MAY APPEAR WHEN IT IS MENDED), WITH TWO WORD DIVIDERS, VERTICAL BARS THAT SERVED THE SAME FUNCTION AS A BLANK SPACE IN WRITING TODAY. THE SCRIPT HAS NOT YET BEEN DECODED, SO IT IS NOT KNOWN WHAT LANGUAGE THE TEXT IS IN. IT WAS INSCRIBED BEFORE THE FILING OF THE POT AND SO MAY RECORD THE NAME OF THE POTTER, OR WHAT THE JAR WAS TO HOLD, ITS CAPACITY, OR EVEN THE ANCIENT NAME OF THE SITE.

THE EXCAVATION OF THE ASHLAR BUILDING HAS ALSO REVEALED SOME SUPERB LIMESTONE ASHLAR MASONRY, AND WHITE MUD BRICK WALLS UP TO 2M. THICK. AN OLIVE PRESS FOUND IN ONE OF THE ROOMS IS PROBABLY THE OLDEST IN CYPRUS, AND NUMEROUS SIGNS OF COPPER WORKING, SUCH AS FURNACES, INGOTS AND SCRAP, SHOW THE IMPORTANCE OF THE ASHLAR BUILDING'S POSITION; IT CONTROLLED THE VALLEY OF THE MARONI RIVER AND ESPECIALLY ITS COPPER, WHICH WAS CYPRUS'S MAIN EXPORT IN THE BRONZE AGE. THE MASSIVE BUILDING WAS USED FOR ONLY 100 YEARS BEFORE IT WAS ABANDONED FOR SOME UNKNOWN REASON THAT WAS PROBABLY CONNECTED TO CHANGES IN SOCIETY AND THE ECONOMY, BUT WHICH DID NOT AFFECT OTHER CENTRES IN SOUTH-EAST CYPRUS. ARCHAEOLOGISTS ARE NOW TRYING TO DISCOVER WHY SUCH A HUGE AND IMPRESSIVE BUILDING WOULD HAVE BEEN ERECTED ONLY TO BE ABANDONED AFTER SUCH A SHORT PERIOD. ONE POSSIBLE CLUE IS A DEEP PIT VERY CAREFULLY DUG, SUGGESTING AN IMPORTANT EARLIER BUILDING BENEATH. IT WAS LINED WITH PLASTER WHICH MEANS THAT IT PROBABLY HELD A LIQUID SUCH AS WATER OR OLIVE OIL. ANOTHER CLUE MAY BE THE FRAGMENTS OF COPPER WORKING FOUND IN LEVELS PREDEATING THE ASHLAR BUILDING, INDICATING THAT IT MAY ALREADY HAVE BEEN A CENTRE OF THE METAL BUSINESS, AND SO AN APPROPRIATE SITE FOR SUCH A GRAND AND IMPOSING BUILDING.

LIBRARY STILL BURIED


PROFESSOR GIgANTE WOULD STILL LIKE TO SEE ANOTHER SHARD DUG TO THE SECOND ROOM OF THE LIBRARY. IT WOULD BE A TRAGIC LOSS IF THE POTENTIAL OF THE GREATEST PAPYRUS LIBRARY OUTSIDE EGYPT WAS NOT MINED.

LOOTERS BAFFLED BY 'DOCTORED' PHOTOGRAPHS

LAST SUMMER'S DROUGHT IN BRITAIN, WHICH THRILLED AERIAL ARCHAEOLOGISTS WITH ITS WEALTH OF NEW SITES IDENTIFIED BY CROP-MARKS, HAS AT THE SAME TIME CREATED SUCH PROBLEMS WITH LOOTING THAT SOME ARCHAEOLOGISTS HAVE HAD TO RESORT TO 'DOCTORING' OFFICIAL PHOTOGRAPHS IN ORDER TO PROTECT THE SITES. SOME OF THE FINEST OF THE AERIAL PHOTOGRAPHS, WHICH ARE AVAILABLE FOR SCRUTINY IN THE PUBLIC RECORD OFFICES, ARE BEING QUIETLY 'CENSORED' BY COUNTY ARCHAEOLOGISTS, AND PICTURES IN OFFICIAL JOURNALS ARE BEING SUBTLY ALTERED, TO DISGUISE ANY CLUES WHICH COULD BE OF USE TO TREASURE-HUNTERS. DR HENRY CLEERE OF THE COUNCIL FOR BRITISH ARCHAEOLOGY, COMMENTED, 'IT IS A PROBLEM. THERE IS A DANGER OF DETAILLED PHOTOGRAPHS GETTING INTO THE WRONG HANDS BUT COUNTY ARCHAEOLOGISTS ARE AWARE OF THIS AND TRY TO TAKE APPROPRIATE STEPS'. DR. CLEERE ADMITTED THAT HE HAD 'DOCTORED' A PHOTOGRAPH OF THE OUTLINE OF A PREVIOUSLY UNKNOWN ROMAN VILLA IN THE GROUNDS OF HOLKHAM HALL, NORFOLK, PUBLISHED IN THE COUNCIL'S OFFICIAL NEWSLETTER. 'SOMETHING WHICH WOULD BE OF INTEREST TO TREASURE HUNTERS HAS BEEN OMITTED', HE ACKNOWLEDGED. THE RECENT CONTROVERSY OVER THE BRONZES THAT WERE ALLEGEDLY STOLEN FROM THE SITE OF THE ROMAN SETTLEMENT AT LICKINGHAM IN SUFFOLK (SEE PAGE 10) HAS HIGHLIGHTED THE PROBLEM OF LOOTERS AT UNPROTECTED SITES, AND BROUGHT INTO FOCUS THE HUGE TASK FACED BY ARCHAEOLOGISTS IN PROTECTING AND PRESERVING THEM THE SITES. AS ONE SENIOR ARCHAEOLOGIST SAID, 'IT'S NOT JUST THE LOSS OF THE ARTIFACTS THEMSELVES, BUT THE DAMAGE TO THE SITES AND THE TOTAL LOSS OF KNOWLEDGE THAT WORRIES US MOST. THERE IS SO MUCH TO LEARN.'
The discovery of a fortified Mayan city deep within the jungle of Guatemala has radically altered archaeologists’ theories about the end of the Mayan civilization. Until recently, this highly developed culture which flourished throughout much of Central America from the third to the eighth century AD, was thought to be peace-loving and unwarlike: this made their sudden disappearance all the more mysterious.

According to Arthur Demarest of Vanderbilt University, the Maya were ‘the most sophisticated, complex people in the New World’; they built huge pyramids, created a highly accurate calendar, perfected the art of astronomical observation, produced decorated pottery and carved stone monuments, and established widespread trade routes. And yet this crumbling away completely and suddenly in the ninth century, leaving a population based in small villages, seemingly bereft of all their former talents and skills.

Various hypotheses have been put forward to explain this extraordinary swing, amongst them the loss of trade routes, alterations in climate, endemic disease. Most, however, agreed on one thing; that the Maya’s downfall was not of their own making, as they were essentially a peaceful people, their warfare being for the most part ritualistic rather than destructively inter-tribal.

However all these assumptions have been radically turned on their head with the discovery by a team of American and Guatemalan archaeologists and graduate students from Vanderbilt University of a heavily fortified Mayan city deep in the lowland jungle. Richard Demarest of Vanderbilt, the leader of the team, described the city as ‘more massive than a medieval castle’. The city, known as Punta de Chimino, is surrounded by hastily built stone works that suggest that it was under heavy siege. The ruins are on a peninsula that juts into Lake Petexbatun in north-western Guatemala, and the Mayas dug a huge ditch, 450 feet deep and 50 feet deep, that cut the city off from the mainland, surrounding it completely with water. Punta de Chimino was also completely surrounded by walls to prevent attack from the water, and it had protected gates by which supplies were brought in during a siege. Demarest said, ‘One of the reasons people have used to argue that Mayans were not warlike was the fact that their centres were completely indefensible. This is the exact opposite of that. It would have been almost impossible to take the place. It was really impregnable. Those are terms you don’t normally use in discussing Mayan architecture.’

Dos Pilas, a site nearby, has also yielded evidence of a sudden escalation in warfare. The city is a typical Mayan indefensible settlement in the middle of the jungle with easy access from all sides. But towards the end of the eighth century the inhabitants built two concentric rings of walls around the centre of the city, defacing monuments and burying important artefacts in their haste.

These new discoveries, together with previous excavations in the area suggest that at the height of their power, the Mayans were involved in fierce internecine warfare that drained their resources and destroyed the fabric of their civilization. Although Mayan hieroglyphics depict images of warriors in jaguar skins or bird-like costumes, carrying woven shields and lances, capturing the nobles of other tribes and bringing them back to their own temples for ritualistic bloodletting, removal of their hearts and decapitation, these wars seemed sharply circumscribed. There are no images of large scale fighting, such as cities under siege or ransacked temples, so the conflicts depicted seem to have been more of a rite of passage for prestige than combat for resources or plunder.

Demarest has concluded from the evidence that for a period of 50-60 years, from around 825 AD, warfare and strife spread throughout the area; eventually, the economic system collapsed under the weight of the strain imposed by the intense combat and defensive measures and individual states within the area fell ‘like dominoes’.

The reasons for the sudden escalation in warfare are still a mystery, but researchers believe that they know who started it. Stelae from Dos Pilas identify a leader, known as Ruler 2, who appears to be one of the kings from the beginning of the eighth century who embarked on a programme of territorial conquest, Demarest said. Richard Adams, of the University of Texas at San Antonio, says that around 825 ‘something went terribly wrong’ and kings like Ruler 2 began actual conquest of nearby cities and settlements. By the middle of the century, Dos Pilas had extended its rule to cover and area of nearly 690 square miles - huge region compared to that controlled by other Mayan cities before it eventually collapsed. Demarest described how this affected the whole Maya civilization: ‘If one group changes the rules [of warfare], other groups have to adopt the new rules and you get a kind of arms race. Intensification of warfare spreads by contagion, and the ultimate result can be regional devastation. In this case, the Dos Pilas hegemony broke up into heavily fortified sites, small independent states warring rather savagely with each other. It may not be the principal cause of the collapse of the Mayan civilization, but it is certainly a principal cause.’
The Icklingham Bronzes

Nigel Reynolds

IN 1982 treasure hunters armed with metal detectors removed 16 Romano-British bronzes from a field in Suffolk. The pieces are now in America and though taken illegally from a scheduled ancient monument their return may be months or years away, if at all.

What last September became known as the Icklingham scandal goes beyond the probable loss to British collections of one hoard of artefacts, however. The sorry episode highlights weaknesses in both the law and in voluntary codes designed to stop the illegal export of what the legislators like to call “cultural property”. The impotence, (or unwillingness), of the British authorities to intervene is likely to be repeated until effective international powers, easily triggered, are agreed for the automatic restitution of heritage objects to their country of origin.

Though America and Britain share a language, membership of NATO and extradition arrangements for criminals, no straightforward mechanism exists for the seizure and return of each other’s “cultural property”.

The Icklingham hoard comprises bronzes of the first or second century A.D. probably the furnishings of a temple. There is a statuette of Vulcan, Roman god of fire, face masks and bronze heads. Probably of most artistic interest is a six-inch cheetah inlaid with silver spots, valued at $600,000 in 1989.

Police believe the pieces were removed from farmland at Icklingham in Suffolk owned by John Browning, almost certainly in 1982. His 56-acre farm covers a sprawling Roman settlement. The site, scheduled as an ancient monument in 1974, has never been fully excavated but piecemeal digs have confirmed its importance. In 1977 a Roman villa was found in one of his fields and this century a cemetery, a Roman road, three pottery kilns and a religious building of the late fourth century have been discovered nearby.

Mr Browning has battled alone with illegal treasure hunters on his land and over the last few years he has secured ten convictions, although small fines appear not to have deterred his night-time visitors. And the farmer has not caught all the plunderers.

It has taken several years to piece together the full story behind the disappearance of the bronzes. In 1982 reports that the sixteen objects were for sale began to circulate among dealers, and photographs of all the pieces were taken into the British Museum for identification by Dr Ian Longworth, Keeper of British antiquities, who was not told about their origins or whereabouts. He says now that the objects appeared to form one of the most important collections of the period ever found in this country. It was to be six years before the bronzes were heard of again when a number of them came into the possession of a gallery in New York. The British Museum was first alerted when it was shown photographs of the objects by a British businessman who had offered them. The Getty Museum in California was offered the cheetah for $600,000 but withdrew any interest when it learned of the possibility that the piece had been excavated illegally. Oddly, Mr Browning was only alerted when English Heritage wrote to him saying that he should be proud the piece was to find a permanent home at the Getty.

The New York gallery has always insisted that it has legal title to the pieces which, it says, were acquired from Switzerland several years before. It has since offered the objects to the British Museum, but it was an offer that had to be refused. Mr Browning insisted the objects are his and, although he would like them to be in a public collection in this country, he would also like some moderate recompense.

Mr Browning is now alone in his fight to have his bronzes returned. Surprisingly, the Foreign Office, the Department of the Environment and the Office of Arts and Libraries say they can do nothing to help. Officials have said that they remain to be satisfied Mr Browning has title to them and even if and, when this can be proved, they still have no powers to intercede with the American authorities to have the items
seized and returned to Britain.

The Government line is that while the treasure hunters responsible for the original theft can be prosecuted here, it has no authority abroad. Mr Browning must establish his own title in the American courts.

Successive government statements to this effect have provoked anger from opposition MPs and archaeologists. They say that Britain’s failure to ratify a 1970 UNESCO Treaty laying down international obligations for countries to return “cultural objects” to their country of origin has denied the Government a critical tool for protecting Britain’s heritage. Under the treaty, signed by America and the majority of Western nations, one government is required by another to pursue illegally exported “cultural objects” and to sue for their return through its own courts. Britain has signed but not ratified the treaty.

Before news of Icklingham was out, Mr Browning says that Mr Richard Luce, Minister for the Arts, had said that Britain had little to lose from joining the treaty countries as the Government had sufficient voluntary arrangements with other countries. The Government’s insistence since that it can do little exposes this reassurance as a myth, Mr Browning says now. Britain’s reasons for holding out on the treaty are legion: many signatories do not in fact abide by it or enforce it; the definition of “cultural property” is too wide, there is no legal weight behind the treaty; it is a bureaucratic nightmare.

A condition of becoming a signatory is that Britain must draw up an inventory of all “cultural property” in the country to be covered by the treaty, whether it is in private or public hands. To be effective this would have to cover millions of objects, say Whitehall officials.

Where would they draw the line? Could they protect archaeological remains, like the Icklingham bronzes, which were not even known about until they had turned up in another country?

Rigorous export licencing laws already in place “mirror the spirit of the treaty”, one Whitehall official believed, though he confessed this could never apply to owners who found ways to remove objects illegally. “Efficient work by the police and the customs will probably be the only way to stop that happening.” Others believe not. Rescue, the archaeological pressure group, and Mr Mark Fisher, Labour’s Arts spokesman, say they will continue to press for the treaty to be ratified. Unless the Government signals to would-be treasure hunters that it means business the drain on Britain’s heritage could become a haemorrhage.

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MINERVA 11
MAYAN ARTISTS' SIGNED WORKS FOUND

Discovery of the signatures of Mayan artists has transformed ideas about the nature of their society. David Stuart of Princeton University claims to have identified signatures of artists in inscriptions painted on pottery, carved in stone and written in bark-paper books.

His theory is based on a set of hieroglyphs - the primary standard sequence which is commonly found painted on the rim of ceramic vessels. The sequence was originally identified by Dr. Michael Coe of Yale University in 1973, when he interpreted the sequence as being mainly religious or mythological from its accompanying painted scenes. However Mr Stuart has recently shown that the standard sequence has a different interpretation. It often includes two stereotyped phrases naming the owner of the vessel and its contents. The third phrase seems to name the artists who painted the inscriptions and scenes on the pot, and includes the hieroglyph that signifies 'u ts'ib', and is translated as 'his painting', followed by a name. Mr Stewart used his interpretation of the 'u ts'ib' phrase to name the painter of a pot from the city-state of Naranjo as 'He of Maxam'. A later part of the text identifies the father of the artist as the ruling Lord of Naranjo. Although it had been suspected that some Mayan artists were nobles, no signature, noble or otherwise, had ever before been identified on a work.

Mr. Stewart has also identified signatures of sculptors, the names of two stone carvers, 'I'un Witsi Chaak' and 'Isib Chaak' on lintels at Yaxchilan in Mexico. Both panels portray similar scenes: triumphant lords and kneeling prisoners but are carved in different styles. This may be the first time that individual styles in Pre-Columbian art have been linked to named artists.

Stewart's theory helps to put Mayan writing into its social context. There was little difference between the rulers who ordered the writing, and the scribes who did it. However, Mr Stewart's signatures only appear within a period of about 150 years near the end of the Maya Classic Period, which ended around 950 AD, and have been found only in the western part of the land in Mexico, Guatemala, and Honduras that the Mayas once ruled.

The appearance of artists' names late in Mayan civilisation seems to have been part of a larger pattern of change at the end of the Classic Period. Mayan texts first begin to mention commoners and there seems to have been an increase in warfare among the rival city-states. After one brief appearance of signatures, for 150 years in a small corner of the Mayan kingdom, anonymity reigned again.

TASTE FOR SHOES POLLUTED ROMAN LONDON

Roman desire for well-made shoes may have contributed to the high level of pollution in first century A.D. London. Archaeologists at the Walbrook Valley in the City have uncovered what appears to have been an industrial area based around the leather tanning industry, a process in which human urine was the main component.

A shoemaker's workshop discovered on the site demonstrates one of the uses to which the leather was put. 'We have found an enormous quantity of small bits of leather left over after soles and uppers were cut from large pieces', said Dr Duncan Lees of the Museum of London who has been leading the excavation. 'It is the biggest collection of leather waste for the production of Roman footwear ever found. The uppers were cut from two or three pieces of leather. Work still has to be done on the scraps to see what type of sandal they are for, but they seem to have been hob-nailed leather soles with sandal uppers'. As well as scraps, the team have found an upper that had been thrown into a drainage channel and a mozzasin cut from one piece of leather.

The site was ideal for the establishment of a tannery, as Mr Lees explained. 'The river provided a ready supply of water and the site was sufficiently far from the Basilica and the Forum on the site of Leadenhall Market for the magistrates and governor, who had his office there, not to be troubled by smells.' The urine for the tanning of the leather seems to have been collected from the public lavatories in Roman London, and the situation became so bad that the emperor Vespasian instituted a tax to limit the practice. Sue Riviere, of the Museum of London, commented, 'Plainly green issues are not new, because it seems that the emperor's own son, Titus, objected to the tax on the grounds that it offended public sensibilities'. The historian Suetonius tells us that in reply Vespasian handed a gold coin, an aureus, to his son, remarking that 'The money doesn't smell!' Vernacular Italian today still remembers Vespasian in the 'Vespasian', an outdoor urinal.

The excavations have shown that this was not the only example of pollution in Roman London: plants ceased to flourish, cesspits increased and fouled the Walbrook, vegetation was cleared, waterways canalised, with plant and animal remains indicating that the water became stagnant and noxious. An enormous number of animals were slaughtered, polluting the river with their remains.

A WARNING TO TREASURE HUNTERS!

Four men who went down a 18th. Phoenician well in Tyre, Lebanon, suffocated and died while looking for treasure. A total of ten men discovered and entered the well, which dates from about 3000 B.C., but only six managed to emerge safely.
A year after it was acquired by the Getty Museum in Malibu, California, their massive sculpture of a goddess has been returned to a new earthquake-proof place of honour in the Magna Graecia gallery. The statue, which is of limestone and marble and stands at 7 1/2 ft high, dates from the late fifth century B.C. and is the only cult figure of the period to survive nearly intact from head to foot. The statue was acquired in July 1988 from a European dealer after extensive research into its antecedents. Several newspapers speculated that it was valued at $20 million. Since then it has undergone extensive conservation and restoration work, and has been reset on a new plinth which experts believe is proof against even the strongest tremor.

The museum's largest and heaviest sculpture now stands on a metal isolator attached by a cable. The Antiquities conservator, Jerry Podany, described how the layered planes of the isolator are designed to move on tracks to counteract horizontal movement and in a scissors action to absorb vertical shock. Rather than waiting for an earthquake to test the mechanism, it has had a trial run with a stand-in sculpture. A lump of cement of approximately the same weight, mass and form has been subjected to a simulated earthquake while attached to the isolator, on a computer-operated 'shake table'. The model was hardly affected by a quake that would have measured 6-8 on the Richter scale.

The restoration of the statue similarly tested the museum's resources and ingenuity. It arrived with the bulk of the limestone body in three pieces, with an unattached marble arm and foot, and various fragments. The body was reconstructed for a preliminary showing, but two huge cracks and some smaller fissures interrupted the flow of the drapery. Conservators have now replaced the detached arm (the other is lost), filled cracks in the drapery, and removed encrustations. The extent of conservation is determined by balancing scientific and aesthetic considerations. The museum has developed its own techniques to solve unique problems. A paper pulp solution was devised to fill the cracks, and this was painted to blend in with the stone. However the fills are slightly recessed so that the cracks are still visible, but less obtrusive. Similarly, experiment proved that epoxy was the best way to join the three major pieces of the body. It was cast to fit into the broken surfaces so that they were not permanently attached, and yet fitted neatly to ensure that the weight was evenly distributed across the horizontally broken planes. The removal of centuries of encrustation was a similar challenge. Wary of chemical solvents that cannot be easily controlled, Podany tested small areas of the statue to determine what lay underneath. 'It was a dream surface. Aphrodite's ancient surface was probably well preserved because the figure was made for a temple and protected by an indoor location.' Having decided that a complete cleaning was needed, a deionised water was used to remove soft deposits, and the encrustations were scraped away with surgical scalpels. The process took months of delicate work. One slip of the scalpel could have caused irreparable damage to the statue.

The special treatment accorded the sculpture by the museum is a reflection of its importance. 'The statue is a splendid addition to our collection', said Dr. Marion True, the Curator of Antiquities. 'Artistically, it is a virtuoso work of stone carving that has all the characteristics of classical art, especially in the achievement of a harmonious balance between the serene pose of the figure and the strong movement of the drapery. Technically, it is of great interest because until now, no other example of a complete akrolithic statue was known. Historically, it is important because it is the only known cult statue from the late fifth century that is preserved from head to foot.' Akrolithic statues are composed from different types of stone. In this case the head, arm, hands and surviving foot are of marble, the rest of limestone. Originally, the head would have had separately modelled hair and a mantle of drapery. This explains why the face now seems out of proportion to the massive shoulders and breasts of the figure. Traces of brilliant pink, red and blue pigments are preserved on the drapery, showing that the garments were originally brightly painted. Akrolithic sculptures are associated particularly with the Greek colonies of Southern Italy and Sicily, which had no local sources of fine marble. In its proportions and 'wet drapery' style, however, the figure is closely related to sculptures from the Greek mainland, such as the Nike Balustrade, of around 420 B.C. The statue has aroused exceptional interest among scholars, both for its rarity and completeness, and for its remarkable aesthetic and artistic merit. Professor Angelos Delivorrias, the Director of the Benaki Museum in Athens, enthused, 'It is one of the most important works of Greek art to have been discovered in recent years. Its iconographical rarity, the extraordinary quality of the rendering of the windswept garments and the technical peculiarities of the workmanship place its authenticity beyond all question. It is as if the goddess had just arrived on earth.'
Some of the most beautiful metalwork and manuscripts of the medieval period were produced in eighth-century Ireland and in areas of northern England and western Scotland which had close cultural links with Ireland at this time. Most of it is highly stylised art involving complex repertoires of decorative motifs, varieties of texture and materials and colour, and requiring craftsmanship of the greatest skill and quality.

The metalworker appears to have been the creator of a new art style in which the beauty of overall form, the large design, breaks down into smaller units, each with its own integral and intricate design element and where the part deserves as much study as the whole. In manuscripts such as the Lindisfarne Gospels and the slightly later Book of Kells this passion for patterns within patterns produced almost dynamic form and a predilection for deliberate tiny variations in what appear to be repetitive elements. Unmistakably, some major and many subsidiary elements in these illuminators' designs are drawn from the glass studs, millefiori inlays and enamelled fields of fine metalwork. The dependency on metalwork is particularly striking in the decoration of the Book of Durrow, possibly one of the earliest decorated manuscripts to survive and usually dated to the late seventh century A.D. As the eighth century progressed there is evidence too for the reciprocal effect of the calligrapher's achievement, most notably in the engraved inscription on the Ardagh chalice.

The new style is an assured and distinctive hybrid, drawing widely on Germanic and Mediterranean sources and using new materials and techniques as well as decorative motifs. To avoid ambiguity the label 'Insular' is here used to distinguish it from the main strand of 'Celtic' art which properly describes La Tène styles of art which flourished from the fifth century B.C. up to about the second century A.D. among the Celtic peoples of Europe and declined during the Late Roman period, to reappear with renewed vigour in the British Isles. Elements of late La Tène art are major components of the new medieval Insular art style of the late seventh and eighth centuries, but these are almost invariably seen in combination with patterns of interlace and animal motifs borrowed from Mediterranean and contemporary Germanic art. A simple interlace reproduced as a piece of 'Celtic art' could just as accurately be labelled 'Anglo-Saxon', as much at home on a sculptured cross as in a tiny decorative panel of an Irish brooch. Celtic metalwork of the preceding period, the sixth and seventh centuries, is indeed decorated with the sinuous, curving patterns familiar from late La Tène work and the gridded and angular ornament which was also characteristic of earlier Celtic art, but much had changed since the great achievements of the Iron Age, best known from the Battersea shield and massive armlets of northern Britain. Bronze remains the dominant metal but the scale of early medieval Celtic metalwork is smaller, the penannular brooch; typical of the period, was one of several

"Gold to the altar and gifts and fine presents to the minstrel"

Fine metalwork from Ireland and northern Britain of the sixth to the ninth centuries A.D.

Susan Youngs

Silver paten from the Derriymullan, Co. Tipperary, hoard on its stand. Eighth century. Photo: National Museum of Ireland
newly developed forms of dress fastener. Expanded brooch terminals become the field for increasingly elaborate ornament. Fine line, largely two-dimensional decoration predominated, the deep repoussé work and heavy mouldings of earlier periods were largely abandoned. Red enamel was still used, but of a slightly different composition; two-part moulds with the possibility of multiple production replaced the lost-wax method of casting. As the seventh century began, new materials came into the workshops, principally multicoloured glass including millefiori and yellow enamel. In Ireland dress fasteners of many kinds predominate, whether brooches, 'pins' or the misnamed 'latchets'. Although products of the Celtic tradition of ornamental metalwork, these forms are developing and changing, a process which is very difficult to date with precision. The enlargement and elaboration of these pieces probably falls within the period A.D. 560 to 650.

In contemporary Scotland smiths working in or near the Pictish kingdoms were using silver, probably a legacy of the Roman provinces to the south. The contrast of fine-line enamel inlay and plain, burnished silver surfaces of the Norrie's Law plaques, for example, had an aesthetic quality readily appreciated in any age. In south-west Scotland, centred on modern Argyll, Irish rulers established the kingdom of Scottish Dál Riada which was to play a major role in the astounding artistic and cultural developments of the later seventh century. It was from a monastery at Iona that Irish clerics, and with them ecclesiastical workshop practices, were introduced into the Anglo-Saxon kingdom of Northumbria beginning with Aidan's foundation at Lindisfarne. This, in brief, is the historical context of the extraordinary fusion of artistic influences which gave rise to Insular art, best known for outstanding works of the quality and technical brilliance of the 'Tara' brooch, including also the Ardagh chalice and a paten recently discovered at Derrynaflan. A workshop area at the royal stronghold of Dunadd in Scottish Dál Riada has produced germanic, Irish and proto-Insular material and workshop debris, recently dated to the mid-seventh century. The Anglo-Saxon kingdom of Northumbria extended for much of the period of innovation well into what is now lowland Scotland and even reached beyond Whithorn in Galloway to the west. Given the almost total absence of surviving germanic metalwork from mainland Ireland to serve as exemplars for native craftsmen, one can argue a strong case on historical and now archaeological evidence for Scottish Dál Riada as a centre of innovation and transmission of the new style and new technology.

Northumbria included a large population of native British, an undervalued factor in the cultural equation which produced the Insular style. There is one large class of purely Celtic-style metalwork, that of decorated hanging-bowls whose ornament was very closely allied to that of the Insular Gospel books. If we are to understand the ornamental affinities between the largest bowl found at Sutton Hoo in Suffolk and the decoration of the Lindisfarne Gospels, then the possible contribution of native British craftsmen must not be overlooked. With minor exceptions all hanging-bowls and detached mounts of pre-eighth century date have been found in Britain and the only evidence for their manufacture comes from Pictish Scotland. The diverse richness of their ornament implies more than one centre of production, with a hint of some such activity in eastern England where the techniques of enamelling are borrowed by Anglo-Saxon smiths in the sixth century. The reason for stressing the probable British contribution to Insular art is that the hanging bowl escutcheons also share
the same development of motifs, most particularly the creation of animal terminals to spirals, with contemporary Irish metalwork as seen, for example, on a buckle from Lagore.

This community of style has created a strong presumption of Irish manufacture for the bowls, but it is perhaps better understood as a result of aristocratic contact and community of taste, as a common and parallel development prefiguring, and indeed allowing, the sudden and dramatic creation of the new hybrid Insular art style. This too was widespread in its fully developed form, a point almost taken for granted in the frequent comparison made between the exquisitely detailed ‘Tara’ brooch (in fact found at Bettystown, Co. Meath) and the illumination of the Gospels from Lindisfarne (Holy Island) in Northumberland.

The use of discrete panels of ornament, of plain and animal interlacement, the imitation or use of inlaid cells in these Insular masterworks are features derived from Germanic metalwork of the sixth and early seventh century. Coloured inlay, stepped geometric cells, fine gold filigree and granulation are all characteristics of the aristocratic jewellery of Kent and East Anglia, much of which has been preserved in richly furnished burials. Representational birds and beasts in Insular art may have been derived from Christian art of the Mediterranean world, while representations of the human form on crucifixion plaques and shrine mounts must come from the same source, albeit stylised and decorated in an unmistakably Insular manner. A recent discovery of a hoard of handle fittings from some religious furnishing combines a three-dimensional lion head derived from classical art and elaborate engraved curvilinear ornament of traditional Celtic type. At the same time new types of object were made by Celtic smiths but decorated or modified to suit their own taste. The Germanic ancestry of a buckle from Lough Gara is evident from its form but its large enamelled cells are peculiarly and distinctively Irish.

Despite the impetus given by the church to cultural change and exchange, the new techniques and materials of Insular art were applied from the beginning to great brooches for the aristocracy. The materials in use are now predominantly silver and gold, with complex inlays of glass, amber and enamel. In Ireland and its territories overseas an open penannular form is largely superseded by closed or linked terminals very elaborately cast, often gilded and with filigree inlaid as in the Hunterston brooch. The type of brooch elaborated and enriched with a closed or ‘pseudo-annular’ brooch form derived not from the developed zoomorphic brooch typical of sixth to seventh century Ireland, but from a type where the terminals were divided into separate panels, another indication perhaps of the innovative role of Scottish Dál Riata. The fineness of gold filigree, its elaborate construction and granulation far surpass most of its Germanic models. Brooch pin-heads become elaborate multi-part constructions with matching decoration. The great Hunterston brooch is a superb example of the new art, fairly early in a series of large brooches which continues into the ninth century. Like the smaller ‘Tara’ brooch, the back of the Hunterston brooch and several near contemporary pieces are decorated with triskeles and spirals, traditional Celtic motifs retained but relegated to an inferior position in the decorative scheme.

A wide repertoire of styles is seen on the brooches as the eighth century gave way to the ninth. The use of silver, often debased, and gilding is common to these brooches, some like the Londeshborugh collection brooch and a brooch from County Cavan are now unique examples of very distinctive forms, others like the Kilmore brooch with its marginal animals is one of an interrelated group, a type that is copied in base metal. Only one gold brooch has survived, a remarkable find from Loughan, Co. Derry, which has a subtle and restrained ornamentation and relies on the basic beauty of the metal.

It is allied in form and ornament to contemporary Pictish silver work. After A.D. 800, there were stylistic changes in interlace and animal ornament, increasing reliance on amber and a reduction of the amount of filigree work, with a marked decline in quality. The result is often bold and effective but lacking the detailed virtuosity of the previous century. Brooches are not the only metalwork in Insular style, ornamental harness mounts and other domestic equipment in bronze were also manufactured for affluent patrons.

Outside or beyond the main production centres of Insular art, whether in Co. Meath, Scottish Dál Riata or Northumbria, lay the territories of the Picts, where a distinct regional style expressed almost entirely in silver flourished in the eighth century. A great hoard found at St Ninian's Isle, Shetland, helped to identify a substantial group of Pictish pieces. Most of these brooches are distinguished from their Irish counterparts by keeping a true penannular form, simple one piece pins, and by the restricted but effective use of inlays. Distinctive profile and three-dimensional beast heads, as well as other details of design and decoration are also peculiarly Pictish and link the metalwork to the great sculptured stones. The
ornament on one of the St Ninian's Isle bowls, for example, is closely related to that on the Monymusk reliquary, an object whose house-shaped form and construction place it in a small group of otherwise 'Irish' reliquaries.

The finest workmanship of the eighth century was lavished on objects for ecclesiastical use. The discovery of tiny assembly letters in the great Derrynafan paten confirms the assumption that the silversmith was a literate member of a religious community, a point further underlined by parallel artistic developments of illuminator and silversmith. Indeed, some of the great brooches may also have been worn by clerics, perhaps those men recorded in the Irish annals who ruled jointly as King-Abbois.

The highly decorated paten from the 1980 Derrynafan hoard of ecclesiastical metalwork is complex both in ornament and construction. In many details it matches very closely the Ardagh chalice and they may well have been produced at the same workshop. The paten has twenty-four gold filigree panels of the most delicate construction, the design and technical execution of each one shows extraordinary skill and virtuosity, dedicated to fields measuring roughly two centimetres by one. The foils, studs and wirework in this piece are also of the highest quality.

Even the relatively common shrine-mounts of the eighth and ninth centuries often recovered outside Ireland, from southern England, Italy and Viking graves in Scandinavia, show high standards of design and craftsmanship and a diversity of form and style. The complete enshrined belt of a saint from Moylough is one end of a range of religious metalwork which includes the fine pair of mounts now at St German near Paris, probably the gable finials of a massive sarcophagus or shrine. In addition to altar plate, a wide variety of types of fine objects were produced for the church, in particular bosses and fittings for shrines, including the casing for holy bells, book shrines (like that recently received from Lough Ki nale), croziers, large elaborately decorated and inlaid bosses like that found at Steeple Bumpstead, Essex, which must have been part of cruciform decoration of large scale and brilliance. Many of these odd survivors from sets of bosses are gilded and decorated with spirals and triskeles, as well as animal ornament and coloured inlays. They are tantalising fragments of the treasures of the early medieval period.

The bold filigree and amber on the chalice recovered from Derrynafan are indicative of a later date than the Ardagh example, perhaps early in the ninth century. It is a dramatic and impressive close in form and construction to the earlier Ardagh chalice, and both distinctively Irish. These large chalices, like other types of Insular ecclesiastical metalwork, appear to be related to, but independently evolved from, the main European and Byzantine traditions, a legacy perhaps of early conversion and a partially isolated church. The strangely stylised crucifixion plaque from near Athlone with its six-winged angels is another example. Of a distinctive group of complete, small portable reliquaries resembling little houses, possibly representing the Temple of Jerusalem, four were found in Ireland, the Monymusk example probably came from Scottish Dal Riada or Pictland, two have surfaced in Italy, with further examples from Scandinavian provenances, all indicative of an Irish source for the type. The small amount of metalwork that survives from contemporary Northumbria shows a more classicising, representational tendency and reinforces the impression that whatever their role in the origin of the new Insular style in the decades either side of A.D. 700, aristocratic and church metalworkers of Ireland were producing original designs of the finest quality from the eighth century onwards. The kingdoms centred on and around present Co. Meath seem to have been particularly important centres of fine metalwork production. As Gerald of Wales wrote of an early Irish Gospel book 'if you take the trouble to look very closely, and penetrate with your eyes to the secrets of the artistry, you will notice such intricacies, so delicate and subtle that you will not hesitate to declare that all these things must have been the result of the work not of men but of Angels'.

An exhibition 'The Work of Angels': Masterpieces of Celtic Metalwork, 6th-9th centuries A.D. is on view in the British Museum from 1 December 1989 to 29 April 1990. It will subsequently be seen in the National Museum of Ireland, Dublin and the Royal Museums of Scotland, Edinburgh. The exhibition has been generously supported by the Irish Government and by Aer Lingus. An illustrated catalogue accompanies the exhibition, edited by Susan M. Youngs. British Museum Publications, £12.95.
Since 1984 the Moray Aerial Survey has conducted a series of reconnaissance flights along the south side of the Moray Firth between the towns of Banff and Inverness. As part of this programme the departments of Archaeology at the Universities of Newcastle and Manchester have conducted follow-up excavations at a number of sites together with a programme of geophysical reconnaissance on others. The most important result of the survey, in quantitative terms, has been the recovery of a fresh database for reassessing the density of prehistoric settlement along the Moray Plain. Hopefully, work in the next few years will begin to provide a chronological framework within prehistoric sites, sites that in fact extend in morphological terms into the Pictish period. The area is the scene of no less than three invasions from the south. The first was conducted by the Roman governor Agricola in A.D.83/4; Edward I in A.D.1303 led a savage campaign to quell Scottish resistance in the north. Finally in 1746 the Hanoverian army traversed the same route in its march to the defeat of the Highland army at Culloden. While the course of the medieval and modern armies is known, the furthest reaches of Agricola’s campaigning in the 80’s of the first century A.D. has remained a mystery. Two definite sites previously known are in the Pass of Grange near Keith, while the existence of a Roman site guarding the crossing of the Spey at Bellie near Fochabers has remained a moot issue. The work of the teams from Manchester and Newcastle has concentrated on excavating sites near Elgin and Cawdor; to these must now be added a site at the crossing of the River Findhorn on the southern edge of Findhorn Bay, west of the present town.

This is a logical position for a Roman marching camp or port. With the Spey the Findhorn is one of the two great spate rivers of the area and was a formidable barrier. Immediately north, Findhorn Bay offered a sheltered harbour to accommodate fleet activity associated with the Agricolan advance. Intriguingly, a pay coin of the period was found nearly two centuries ago in the area. Aerial reconnaissance along the edge of the flood plain finally located the northwestern corner and two sides of an enclosure whose V-shaped ditch shows that it belongs to the Roman military category, though whether the site represents a fort or a camp with a particularly large ditch is uncertain. Unfortunately the cropmarks are incomplete because of the discolorations created by the varying growth over the former spate channels of the Findhorn which have partly eroded the site. Therefore it was important to gain an overall idea of the site free from modern buildings. John Trust of Harry Stanger Ltd., conducted a radar survey of the site as part of an assessment programme of archaeological applications for ground radar. His survey revealed the southwestern corner of the site. Furthermore, in the middle of the best established side, the radar survey located a centrally placed gateway with a hint of a peculiarly Roman form of entrance, a titulum in front of it.

Below John Trust sets out the particular results from this site with an assessment of the status of ground radar survey in archaeology.

Radar Surveying in Practice

Ground penetrating radar is the most recent method of sub-surface profiling to be added to the range of remote sensing systems available to archaeologists.

At present it is probably the most expensive of the methods available and complicated more in interpretation than operation. In fact the manpower required is relatively little and the time taken to cover an area is comparable with magnetometry. How does ground impulse survey work? Instead of responding to properties such as electric resistance or magnetic susceptibility, ground radar can detect discontinuities in the soil, notably interfaces such as walls, floors, and cellars underlying rock formations or mining galleries. Such features are locatable by these methods but care has to be taken regarding the depth of operation because the various probes have to be selected in relation at a range of varying depths. However it appears that spread banks and other low features are not suited to the method because the radar signal can be attenuated in low resistivity soils, particularly under wet conditions.

Surveying by radar comprises the emission of pulses whose outward and return times are recorded as echoes from targets. The transducer (the transmitter/receiver) is portable, housed in a box of varying size according to the type of probe used, and is pulled along the ground transmitting pulses vertically into the subsoil. The return time of the radar pulse establishes
the depth of a feature as well as its magnitude. The radar signal is a pulse of electro-magnetic radiation with a frequency of 100 mhz. In soils the velocity of the pulse is much reduced to c.5-15 cm/ns. The limitations in the process stems from loss of power in the pulse. Radar signals are attenuated increasingly by greater soil moisture content so the pulse penetration in wet soils is markedly reduced particularly in clay or organic soils. One of the reasons for assessing the site at Forres was that the subsoil comprised a mixture of spate laid sand and gravel and seemed to offer a suitable component in a programme to assess the archaeological application of radar survey. Ground probing radar systems have existed for twenty years and are only now gaining acceptance as useful tools to help in a diverse range of tasks. Initially developed with the assistance of the United States Navy to measure the thickness of polar ice, ground radar was used by the U.S. Military in Vietnam to locate underground tunnels and bunkers. The author has used ground radar as an aid to resolving problems which included work on ancient monuments, cathedrals, body (human remains) location, to more mundane structural investigations. The first archaeological tasks undertaken with G.P.R. were in the Mediterranean, while in this country we tended to carry out surveys for developers who generally did not want us to find anything! On behalf of Harry Stanger limited I was keen to assess the potential of the system on open-field sites known through aerial photography and/or excavation. As part of a broader assessment programme Harry Stanger Limited collaborated in the follow-up programme to the Moray Aerial Survey which had located the presumed Roman military site at Forres mentioned in the first half of this article.

Two archaeological excavations had been made along line A (Fig.1) and the base of the Roman ditch was clearly visible. Marker posts were erected between Ex.1 and Ex.2 at a position indicating an extension of the ditch centre line between the ditches cutting the centre line at right angles.

As the antenna passed the post, its position was annotated on the graphic print out. Fig.2 shows the end result, i.e. the clear outline of the “V” at the bottom of the ditch with the marker annotation running through it.

To work out a one way pulse velocity through the ground, we measured the depth to the base of the ditch, approximately 1.5 metres, and divided the time (one way) it took the pulse to reach the target approximately 16 nano seconds (millionths of a second) down the graphic print out (Fig.2); this gave us a one way velocity of Nine cms per nano second. With this figure we surveyed the rest of the field.

Along line B (Fig.1) a small grid was set up to establish the location of the infilled ditch. A number of sweeps were made across a line of marker posts which had been positioned from the aerial photographs.

The first sweeps produced a distinctive anomaly which could only have been caused by the infilled ditch. The marker posts were then repositioned at the exact centre line of the ditch and extended by line of sight to positions giving ten metre separations. Radar scans were carried out from position zero (corner A, Fig.1) to position 10 (approximately 100 metres) crossing the centre line of the ditch which appeared in all scans up to position 9 and was exactly below the assumed surface location, which was only partly visible from the air.

Position 10 produced an anomaly some eight metres across before the assumed position with no anomaly at the target area. It was assumed that the main ditch must have stopped between positions 9 and 10 and some further scans produced an anomaly occurring on only two scans of ten metre separation before disappearing and is assumed to form an internal feature.

We reverted back to the original line (line B) and resumed scans at position 11 where two anomalies were located the first approximately eight metres prior to the assumed centre position and the second right on the button. When these anomalies are plotted on a plan, Fig.1 is the result. We have what could be a defensive ditch (titulum) across the entrance to a campfort and a ditch which could have been an internal feature.

When position 14 was scanned (Fig.1) we picked out an anomaly which indicated the slope of a ditch and the continuous bottom line of a ditch. The next scan was at position 15 and this verified the interpretation made at position 14; we again detected the distinctive ‘V’ of the ditch base as it begins to curve at the south-west corner.

The use of aerial photographs allowed us to (a) position with reasonable accuracy the ditch survey line, (b) use a wider spaced grid of ten metre markers for speedier surveying, (c) make reasonable assumptions about the interconnection of similar anomalies which occurred on individual scan lines at corresponding positions.
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Pax Romana, The Roman Peace. The words conjure up images of wise and beneficent government enforcing just laws, of flourishing cities, of rich commercial traffic travelling well-built roads, and of a watchful army guarding imperial frontiers against the inroads of barbarians. For the first and only time in its long history, the entire Mediterranean world and most of western Europe was unified under a single government. Naturally the picture has been idealized from Edward Gibbon onward. While not entirely a fantasy, the Pax Romana at times meant something very different to its inhabitants: oppressive taxation, corrupt administrators, forcible military conscription, and brutal suppression of religious or other associations judged subversive.

Whatever judgement is made of the quality of Roman rule, the mechanisms by which it survived have fascinated later ages. One key was the army. A small but professional force of just 300-400,000 men strung out along thousands of miles of imperial frontiers was critical in maintaining the Roman Peace for its fifty million inhabitants. The army manned frontiers that stretched from northern Britain, across Europe along the Rhine and Danube Rivers, through the Near East from the Black Sea south to the Red Sea, and across the entire length of North Africa from Egypt to Morocco. The environments facing the army along these frontiers were extraordinarily diverse. The dense forests of central Europe, the snow-capped mountains of eastern Anatolia, the scorching deserts of North Africa each sheltered indigenous populations that offered peculiar problems to the maintenance of Roman control. Thus, since the late nineteenth century, scholars have surveyed and excavated the often still impressive remains of these far-flung Roman frontiers.

The pace and scope of work was uneven. In Britain and Germany the Roman frontiers have been intensively surveyed and hundreds of sites have been excavated (see article page 35). But investigation of other regions has lagged, such as the southeastern frontier of the Empire, then the Roman province of Arabia and now within modern Jordan. Although Jordan boasts some of the best preserved Roman military structures in the Empire, as late as the mid-1970s no comprehensive survey of the Arabian frontier had been conducted and not a single military site had been excavated.

As a young graduate student at the University of California in the early 1970s, I was struck by this fact. An article on Roman Arabia published in 1971 in the Journal of Roman Studies by Professor G. W. Bowersock was my inspiration. This called for new investigations of the Arabian frontier, including excavation of the Roman legionary fortress of el-Lejjun, east of the Dead Sea. He included an impressive aerial photograph of the ruined but untouched fortress. Gazing at this I dreamed of excavating this neglected fortress and unlocking its secrets.

But first much preparatory work had to be done. A surface survey of the entire frontier was conducted in 1976 and was the basis of my doctoral dissertation at UCLA. The survey was far from exhaustive but was geographically comprehensive in that forty key sites along the entire length of the frontier from the Syrian border in the north to the Red Sea in the south were visited. The analysis of potsherds from the surface of each site suggested when it was occupied. This new chronological evidence, combined with existing literary and epigraphic evidence, permitted me broadly to reconstruct the 500 year history of the frontier from the Roman annexation in A.D. 106 to the Muslim conquest in the early seventh century.

It seemed that most of the frontier forts in Jordan were erected only in the Late Roman period, about the reign of Diocletian (A.D. 284-305). The frontier (in Latin *limes*) appeared to have been well fortified during the next two centuries but, by the early sixth century most fortifications had been abandoned.

Writing my dissertation on the history of the Arabian frontier in the late 1970s, two questions seemed paramount. Why had the Romans so heavily fortified the frontier about A.D.300? Why had they abandoned these fortifications two centuries later and so unwittingly paved the way for the Muslim invasions?

To address these two questions I launched the *Limes Arabicus Project* in 1980. This focused on a more limited sector of the Arabian frontier east of the Dead Sea, where most forts appeared to have been erected about A.D.300 and abandoned by the early sixth century. In order to learn about the nomadic Arab tribes who were the main security threat in this region it was vital to study both sides of the frontier: the Roman military zone and the desert fringe east of the frontier. The research was conducted along four lines: 1) excavation of the Roman legionary fortress of el-Lejjun (the largest military site in this region), 2)
smaller contemporary fortifications, 3) intensive survey of civilian and military sites in the military zone, and 4) a survey of the desert fringe east of the frontier.

Our goals required a large, multidisciplinary team of archaeologists, substantial financial resources, and an extended period of time. All this was accomplished over five summer field seasons between 1980 and 1989. Funding was provided by the National Endowment for the Humanities, the Dumbarton Oaks Center for Byzantine Studies, the National Geographic Society, the Samuel H. Kress Foundation, and private donors. A dozen professional archaeologists, about two dozen students, and 40-80 Jordanian workers comprised the team.

The hardest part of our research was studying the nomadic Arab tribes. Nomads by definition leave scant traces, but understanding them was absolutely vital. Diocletian's military build up along the desert edge could be explained as a response to pressure from these desert tribes. Classical historians such as Ammianus Marcellinus and Procopius observed and commented on these tribes. Their accounts, while useful, were inevitably biased by their perspectives as representatives of the Roman government. Fortunately, the nomads themselves left thousands of Arabic graffiti and drawings on rocks in the desert. These brief inscriptions and drawings are enigmatic, and difficult to date. But they confirm many details in the Roman writers. The Arab nomads, "Saracens" to the Romans, emerge as camel bedouin little different from those in the Middle East down to modern times. Our survey of over 100 sites in the desert fringe found more Arabic inscriptions that provided several new tribal names. We also found numerous campsites that seemed to have been used by nomads in Roman times and other periods.

Survey of the frontier zone proper yielded over 400 sites, most previously unrecorded and ranging in date from prehistoric to late Islamic. The most typical kind was a watchtower. Many of these had been built in the Iron Age or by the Nabataeans (the immediate predecessors of the Romans in the region) and were reused by the Romans. Other towers appeared to be Roman foundations. The watchtowers served as the "eyes and ears" of the frontier. They kept watch over the migration routes used by the nomads in their semi-annual transhumance and alerted larger garrisons of any impending hostile incursion from the desert.

Most of the Roman garrisons were stationed in forts (castella) at strategic points along the frontier. These were typically rectangular (40-60 m. square) in plan and contained garrisons of c.120-160 men. The Notitia Dignitatum of c. A.D.400 lists all the military units in the region and reveals that about two thirds of the local units were cavalry. One cavalry fort excavated by the project is Qasr Bshir, one of the best preserved Roman forts in the Empire. Precisely dated by its Latin building inscription over the main gate to A.D. 293/305, Qasr Bshir was protected by its huge, three storey corner towers still standing to their original height. The internal rooms were erected against the inside face of the curtain wall in two storeys. The soldiers lived in the upper storey rooms; their horses and camels were stabled in the ground floor rooms.

The entire frontier sector was anchored by the legionary fortress at el-Lejjun, base of legio IV Martia. It controls a perennial spring (Ain Lejjun) which is still one of the most important water sources of the region. The rectangular fortress (242 x 190 m., 4.6 ha.) is surrounded by a curtain wall of ashlar masonry 2.4 m. thick and studded with projecting towers. Four gates, one in the middle of each wall, pierce the curtain wall. Two major roads extending from these gates intersect in the middle of the fortress where the principia or headquarters is located. Most of the eastern half of the fortress is devoted to barracks blocks; the western half includes the principia, an apparent granary, a church, additional barracks, and other rooms of uncertain function. Pottery and coins recovered from the excavations suggest that the fortress was erected in the reign of Diocletian (ca. 300) and was occupied until destroyed by an earthquake in A.D.551. It seems that the fortress was designed to accommodate a legionary garrison of around 2000 men but, by the late fourth century, it had been reduced by half, to around 1000.

Three buildings in the vicus or extramural civilian settlement have also been excavated. These include a mansio or inn for travellers, a temple, and a large complex of uncertain purpose. All were erected about the same time as the fortress but were abandoned earlier, by the late fourth or fifth centuries. The excavations have revealed a great deal about the Roman soldiers of the frontier. Their diet has been reconstructed in great detail. Wheat and barley (the latter also used as animal fodder) were the principal cereal and these were supple-
mented by olives, grapes, dates, lentils, and other fruits and vegetables. Sheep and goat were the major meat sources, supplemented by chicken, pig, cattle, and camel. Military equipment was sparse, but the finds suggested the predominance of missile weapons (bow and arrow, javelin, and the ballista or boltshooter), exactly the picture of warfare along the eastern frontier given by Ammianus Marcellinus. Panagia seems to have been held tenaciously by the troops. The pagan temple in the vicus dates to the fourth century and the pagan cult of the military standards in the principia seems to have survived down to the beginning of the sixth century. The Christian church within the fortress, by contrast, was not erected until about A.D.500, or nearly two centuries after Constantine’s conversion.

What can account for the increase in nomadic pressure along this frontier beginning in the late third century? This was a period of internal weakness and even anarchy within the Roman Empire. It was racked by civil wars, foreign invasions across other frontiers, economic collapse, plague, and other serious problems. Temporary tribal coalitions tempted by the Empire’s internal weakness, such as that led by Palmyra, revolted from Rome and led to extensive tribal migrations. The Arab nomads began employing revolutionary new military technology in the form of the north Arabian camel saddle, which provided a more stable fighting platform for mounted bedouin warriors. Microfluctuations in the climate could also have played a role. Our project geologist, Frank Kouchy, argues for a relatively drier period in the third century. If so, the desert tribes would have been forced westward in search of water and pasture for their herds as their traditional sources in the desert were exhausted. All these factors exacerbated the normally tense relationship between sedentary and nomadic populations along the frontier. The Roman response, engineered largely by Diocletian, took several forms. First, the regional road network was rebuilt, as evidenced by numerous milestone inscriptions of this period. The roads facilitated the more rapid movement of troops and supplies. Second, existing fortifications were rebuilt and many new forts and watchtowers were erected at strategic points, such as water sources, bridges, entrances to wadis, and on elevations with commanding views. Third, new military units were assigned to the frontier to man these fortifications, including legio IV Martia and several elite cavalry formations. Interestingly, several of these units were manned by recruits from among the Arabs themselves, as some unit names from the Notitia Dignitatum suggest. The result of all these security measures is clear. Diocletian’s programme restored the security of the frontier for the next two centuries. The best measure of this success is the thick settlement of civilians within and immediately behind the frontier zone during the fourth and fifth centuries, as suggested by the regional surveys. Diocletian’s measures did not end Arab raids, which are attested throughout the fourth and fifth centuries. But the defensive frontier was clearly able to withstand these attacks.

If the frontier system was so successful, why was it largely abandoned by the early sixth century? During the fifth century the western empire collapsed under the weight of the Germanic invasions. Only the truncated eastern empire survived. The emperor Justinian (A.D.527-565) embarked on an attempted reconquest of the West while simultaneously defending the Danubian frontier in the Balkans and the Syrian frontier against repeated attacks by the Sassanid Persians. In addition, he engaged in an ambitious public building programme in Constantinople and the provinces. In short, the resources of the empire were stretched to the limit. The Arabian frontier was expensive to maintain, with its many forts and garrisons. About A.D.530, as he was ready to embark on his western Reconquista, Justinian made a momentous decision. He decided to demobilize most of the eastern frontier forces as an economy measure and turn over primary responsibility for defence of the southeastern frontier to federate Arabs under the Ghassanid dynasty.

Strikingly, the sequence of coins from Lejjun ends with issues of Justinian suggesting that military pay ceased. Given their concerns elsewhere, Justinian and later emperors probably regarded the Arabian frontier as of only marginal importance. Resources could be diverted to what they regarded as more important objectives. Thus the garrisons were disbanded and their forts abandoned. All five forts excavated by the project appear to have been peaceably abandoned; none seems to have been taken by assault. The Ghassanids probably represented a cheaper alternative for the security of the southeastern frontier. But they clearly were not as effective as the old frontier system, as suggested by the widespread abandonment of sites in the sixth century. Justinian’s immediate successors compounded this foolish policy decision by weakening the Ghassanids without any corresponding revitalization of the old frontier defences. This abandonment proved to have disastrous results for the Empire. For in that very century the Prophet Muhammad was born and early in the next (seventh) century came the explosion of Muslim Arab tribes from the Arabian peninsula. When the Arab invaders reached Jordan they found not the heavily fortified frontier of Diocletian to stem their advance but only abandoned forts falling into decay. The Arabs rode on to the relatively easy conquest of the entire Levant, North Africa, and much else and forever changed the landscape of the Middle East and the entire Mediterranean World.
Libya is making great strides in the presentation of its heritage both to its own people and a growing number of visitors principally from Tunisia and the Eastern bloc. Pride of place goes naturally to the great new National Museum opened last year by Colonel Gaddafi. The site is a dramatic one. Set on the north-western side of Green Square in the heart of the old city of Tripoli, the new museum was inserted part of the old castle overlooking the harbour thanks to a joint Libya/UNESCO scheme. The Arab States project officer of UNESCO, Dr Munir Bouchenaki, himself formerly the Director of Antiquities for Algeria, supervised the building and museological programme from the Paris end, while in Tripoli much of the day to day programme was organised through Dr Abdullah Shaiboub. Last year the programme was completed and the building inaugurated with an opening ceremony attended by Colonel Gaddafi and the Director General of UNESCO, Dr Frederico Mayor.

The new building is a remarkable achievement and sets the presentation of the Libyan heritage on an entirely new level. The Jamarhiyya Museum, as it is called, actually lies within the walls of Tripoli Castle, the Al-saray Al-hamra, and occupies an area where a road formerly ran through the castle. As part of the reconstruction programme the old museum, built during the Italian period in 1937, was completely remodeled. The new structure comprises a ground, first and second floors, with a mezzanine providing extra space and also a viewing gallery for some of the major Roman exhibits. The total floor space is over 10,000 square metres, over half of which is dedicated to exhibition halls and galleries. The newly reconstituted Department of Antiquities, under the direction of Mr Ali Khadouri, is also housed at the top of the building complex.

The building plan successively harmonises a modern, beautifully finished, interior within a historic castle, and for the first time it is possible, in one place, to grasp the riches of Libyan antiquity and appreciate the country's heritage through the Islamic period to the 1969 revolution and the foundation of the Jamarhiyya.

The ground floor galleries comprise reception rooms, one of which has an illuminated map constructed by the Department of Archaeology, Manchester University, graphically displaying the various periods of development involved in Libyan archaeology and the other galleries, after a brief geological introduction, illustrate the great range of prehistoric material that is emerging from the southern province of Fezzan in particular. There follows a display of reliefs of Sionta and Ghirza in east and west respectively. These typify something of the background to an indigenous people who subsequently were affected by colonial and commercial inroads along the coast. First in this process was the Punic domination of the west coast that saw the establishment of such sites as Tripoli and Lepcis Magna, though precisely at what time remains a matter of debate. Punic influence was, however, limited to the west while in the east the remarkable colonising initiatives of the Greeks spread colonies from the metropolis of Cyrene to places such as Barce (El Merj), Ptolemais and Euhrespides. Galleries 6-8 on the ground floor cover the above periods. Beyond them lie the large galleries illustrating the remains of the great cities of the Roman period like Sabratha, Lepcis Magna, Cyrene and Apollonia. The highlight of this section is perhaps the beautiful Italian-made models of the major public buildings of Lepcis Magna.

The three mezzanine galleries form a continuation of the Libyan heritage in the Roman period. One gallery houses small marble statues, glass and bronze objects, while the other is dedicated to the famous relief statuary of Septimius Severus's family from the arch at Lepcis Magna. The next two galleries cover the Byzantine period and after that the whole of the first floor is devoted to the Islamic heritage. These galleries contain for the first time displays of Islamic archaeological material, as well as a remarkable ethnological collection. The pottery on display dates back to the eleventh century and there are also a number of manuscripts, weapons, craft tools, ornaments and, particularly interesting, traditional agricultural and musical instruments on dis-
play on this floor and there is an audio-visual suite. The upper floor is devoted to two collections, the first a natural history primarily made during the Italian colonial period. The main exhibits, however, are devoted to the Libyan struggle for independence in the 1920's and the Jamarbiriya revolution of 1 September 1969. Many of the original documents of the latter are displayed in the library of the Museum which also contains sets of photographs recording the main political events of the 1969 revolution and subsequent agreements with Arab States and other countries. Overall, therefore, the new museum offers a completely new basis for viewing the past of Libya.

This, however, is not the only fresh development on the scene. One of the most important future initiatives is the new museum which will shortly be opened at Lepcis Magna. There Mr Omar Marjubi has pursued a career of over forty years, during the latter part of which he has been Controller of the famous site. Now his work is to be crowned by the opening of a new purpose-built museum that is due for completion as we go to press. The internal layout, mainly organised through an Italian-Libyan committee, is remarkable in that visitors will ascend and descend twin spiral staircases following a pre-ordained course through the galleries. It is clear that the new museum will at last offer sufficient space to house and display some of the major finds such as mosaics that have simply been too large to display in the small pre-Second World War museum across the road.

Lepcis Magna and Tripoli are not the only places where change is in hand. Recently Mr Breyek Attiya handed over the reins in Cyrenaica to Dr Fadir Ali who took his doctorate in Greece and was brought up in Apollonia, the beautiful coastal town below Cyrene. In Cyrene itself he has been able to obtain government money to refurbish two of the theatres for public display purposes. One in particular is now equipped to transmit television pictures of performances and events and this is increasing the number of visitors to the site. The small museum below the Temple of Apollo still contains some of the best statuary to be seen in the whole of Libya. The statue of the Three Graces catches the eye but some of the other material, notably fine figures of an early kor, a statue of Alexander the Great and various representations of deities of local aristocrats also deserve attention.

All in all, the archaeological riches of Libya are beginning to be displayed at a level appropriate to their great importance. The National Museum in particular now presents a picture of the evolution of Libya from the past into the Islamic and modern periods.

**CALIFORNIA EARTHQUAKE SHAKES ASIAN ART MUSEUM.** Experts in San Francisco's Asian Art Museum have been assessing damage to the exhibits following October's earthquake. First estimates point to around 30 objects having been damaged, but inspection of the storage area has been delayed due to asbestos cleaning procedures. About 80% of the museum's 12,000 objects are in storage, and according to Chief Curator Clarence Shangraw, 'this accounts for their safety and reduced risk during the earthquake.' He said that they did not expect the total number of damaged objects to exceed 40. Those objects that have been damaged include a second century Hindu sculpture, Nagaraja, a couple of 18th century Chinese porcelains and a 6th century Buddhist stele. In the Southeast Asia gallery, a large 11th century stone lintel from north east Thailand, was toppled from its plinth, and a Japanese Jomon pot of the 6th century BC was damaged. Rand Castle, director of the museum, thought they had been lucky. 'Although we have lost some irreplaceable art objects, we are very fortunate to have over 99% of our collections intact.'
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FINE ANCIENT ARTS GALLERY

Attic Black-Figure Neck Amphora
attributed to the Leagros Group
last quarter of 6th Century BC
(c. 520–500 BC)

Side A: Herakles battling the Amazons
Side B: Dionysos with two draped Maenads
h: 17 inches  d: 10 inches

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Head of a Youth
Graeco-Roman, 1st BC-1st AD
Copy after Polyclitus
Marble
Height: 16cm (6¼ ins)
Marble Statue of the Goddess Fortuna
Roman, first century A.D.  40" ht.
ROYAL TOMBS AT NIMRUD

A.R. George

In April 1989 Iraqi archaeologists uncovered an exceptionally rich royal burial in the Assyrian capital of Nimrud (ancient Kalah), which lies on the Tigris 30 km. south of Mosul. The tomb chamber, vaulted in baked brick, was discovered under the floor of a room in the domestic wing of the North Palace, a building first constructed by King Ashurnasirpal II (883-859 B.C.). In a stone sarcophagus within this crypt were the skeletal remains of two persons. One was rather smaller than the other, maybe even a child or adolescent. The skeletons were covered with the decayed remnants of dark textile, this material being all that was left of the pair's burial garments. Onlo these robes had apparently been sewn the large numbers of gold rosettes and beads which mingled with the remains. In addition, the skeletons were adorned with a spectacular mass of gold jewellery, the combined weight of which is reported as upwards of ten kilograms. Among the larger gold items recovered from the tomb are a heavy crown in solid gold, a head-band of woven gold, several pairs of solid gold bracelets for arm and leg, as well as a number of ornate necklaces and earrings to match. Many pieces are inlaid with the precious stones of the period, and all are of incredibly fine workmanship. Among the smaller items are a number of amulets, set in gold as trinkets. These include two inscribed with the names of the Babylonian kings Kurigalzu (died c.1325 B.C.) and Marduk-zakir-shumi (fl. 850), which are thus of southern manufacture. These must have found their way into the possession of the Assyrian harem as gifts from the Babylonian court or as war booty. Other small pieces of a comparable nature are cylinder seals of the Middle Babylonian period (14th to 12th centuries B.C.), which had been mounted in gold for use as items of adornment.

In addition to the personal jewellery associated with the skeletons were other grave goods, including a stone funerary tablet and inscribed bowls, four of gold and one apparently of rock crystal. These inscriptions provide us with the names of three Assyrian queens, all hitherto unknown. The inscription on the funerary tablet reads:

*By command of Shamash [sun-god, and judge of the dead], Ereshkigal [queen of the netherworld] and the Anunnaki, the great gods of the netherworld, mortal destiny caught up with Queen Yabâ in death, and she travelled the path of her ancestors. Anyone in time to come, whether a queen who sits on the throne or a palace lady who is a concubine of the king, that removes me from my tomb, or places anybody else with me, or lays his hand on my jewellery with evil intent, or breaks open the seal of that tomb—on earth, under the rays of the sun, let his spirit roam outside in thirst. In the netherworld he must not receive, with the Anunnaki, any offering from libation of water, beer, wine or meal, but instead may Ningishzida [the chamberlain of the netherworld], and... (unintelligible), the great gods of the netherworld, inflict his corpse and ghost with eternal restlessness.*

The inscribed bowls each bear, by way of a mark of ownership, the name of one of three queens: 'Belonging to Queen Yabâ, wife of Tiglath-pileser, king of Assyria'; 'Belonging to Banitu, queen of Shalmaneser, king of Assyria'; and 'Belonging to Atalia, queen of Sargon, king of Assyria'. These kings reigned in succession from 744 to 705 B.C., and began the last and greatest expansion of Assyrian power. As figures who stalk the pages of the Old Testament they were famous Assyrian rulers even before their own inscrip-
Archaic bronze vessel Fangyi, Shang Dynasty 14th-12th Century BC
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tions demonstrated the full extent of their dominion. It was Shalmaneser who laid siege to Samaria, and Sargon who took it. Since the names of very few Assyrian royal ladies are known, it is pleasing to have three more. Baniti (šu-ti) is a good Assyrian name. Yābā (ya-ba-a), possibly to be read Yabay, may be north-west Semitic, and Atalia (ya-ta-li-a) certainly is. These two queens were thus probably of Syrian or Levantine birth, entering the Assyrian harem as a result of diplomatic marriages or as spoils of the many western campaigns undertaken by the Assyrian armies of this period.

According to these inscriptions, then, the grave goods belonged to three queens, while only two skeletons are to hand. A solution to this puzzle was found when residue taken from one of the several jars discovered in the crypt was examined. It is reported to comprise cremated human remains. We know little about the funerary customs of the Assyrian royal families, but cremation is not a practice we had expected. And why should one queen be cremated while the others were laid out intact? One working hypothesis is this. When Yābā, the queen of Tigrath-pilesér III, died, she was laid to rest in one of the several purpose-built tomb chambers under the royal palace at Nimrud, together with a funerary inscription, grave goods and, no doubt, her jewellery. This may have happened while Tigrath-pilesér still reigned or after he had died, one cannot tell. Later, however, in the time of Sargon II, we may suppose that Baniti, a dowager queen of Sargon’s predecessor Shalmaneser V, and Atalia, a young queen of the reigning king, died together—or at roughly the same time—maybe when an epidemic of some kind attacked the royal harem. It was decided for some reason that they should both be placed in the tomb previously occupied by Yābā—apparently no vacant tomb was available. Accordingly the tomb was opened and the decomposed body of Yābā removed while the chamber was prepared for the new occupants. Yābā’s remains were then cremated, perhaps for reasons of hygiene, and, out of respect for her spirit, her ashes were replaced in the tomb in a jar. Her funerary inscription and grave goods remained with her in the tomb. The two newly deceased queens were then laid out together in the stone sarcophagus, covered with jewellery and surrounded by their own grave goods.

In support of such a chain of events are the words of Yābā’s funerary tablet. Its curses are directed at those who would open her tomb, remove her re-
mains, place some other body in the tomb and steal her jewellery, and this of itself suggests that the desecrations described by these specific phrases were considered likely to happen. But whether this hypothesis turns out to be correct or not, one fact is clear. The burial of Sargon’s queen—and so of the others—would have taken place before Sargon moved his court from Kalah to the new city of Fort Sargon (now Khorsabad), north of Nineveh. So the date of Atalia’s interment falls between Sargon’s accession in 722 B.C. and the completion of the new capital in 707.

The tomb which held Yābā, Baniti and Atalia is not the only crypt to have been discovered under the floors of the royal palace at Nimrud. In 1988 a vaulted chamber was found beneath Room MM, containing the undisturbed burial of a man who was interred with a less spectacular collection of jewellery and other grave goods. No inscriptions were reported, but one can suppose that he was a member of the royal household. More recently, in August of this year, a third tomb was brought to light. This contained an empty stone sarcophagus, but also three bronze coffins with associated skeletal remains and grave goods. The amount of gold and jewellery accompanying the burial is said to be even more staggering than that found in April. According to unconfirmed reports, the tomb is identified by inscription as that of a queen of Asshurnasirpal II, the palace’s builder, while the bronze coffins can be dated on stylistic grounds to the late eighth century. So here again we appear to have evidence for the re-use of a royal burial crypt by a later generation.

Already this year has seen the most spectacular finds of treasure in ancient Mesopotamia since Woolley’s excavation of the royal cemetery at Ur in the twenties. It is hoped that further information on these new discoveries will soon become available.
EARLY ANCIENT GLASS IN THE TOLEDO MUSEUM OF ART
Kurt T. Luckner and Sandra E. Knudsen

The Toledo Museum of Art, Toledo, Ohio, has just published its collection of early ancient glass in a catalogue that is the most comprehensive on this subject to date. The Museum has one of the world's foremost collections of glass, in which the collection of ancient glass is particularly strong. Glass made before the invention of the blowpipe is a noteworthy section of the ancient glass at Toledo, for it documents the artistic, historical, and technological evolution of the medium over the course of 1500 years. The bulk of this area of the collection was given to the Museum in 1919 by its founder, Edward Drummond Libbey, who in that year purchased over 5000 ancient and Islamic vessels from the estate of the notable New York collector and financier Thomas E. H. Curtis. Acquisitions since then have concentrated on exceptional pieces that fill gaps or add examples of outstanding quality.

The new catalogue, Early Ancient Glass: Core-Formed, Rod-Formed and Cast Vessels and Objects from the Late Bronze Age to the Early Roman Empire, 1600 B.C. to A.D. 50, publishes 713 vessels and objects that trace the history of early glassmaking from its beginnings in the Bronze Age to the rise of the formidable Roman glass industry of Augustan and Julio-Claudian times. David F. Grose, the author, is currently Chairman of the Department of Classics at the University of Massachusetts at Amherst. From 1976 to 1977 he was the first Curator of Glass at the Toledo Museum of Art. Dr Grose has used the extensive Toledo collection to extract new information about glass from the Bronze and early Iron Ages and to revise the standard typological and chronological opinions about Mediterranean core-formed bottles of the sixth to first centuries B.C. The chapters about Hellenistic and Roman glass are the heart of the catalogue; they establish classes and families of cast tablewares, containers, and objects on the basis of excavated finds, form, decoration, colour, and technique. The catalogue concludes with an useful chapter on reproductions, forgeries, and fantasies. The book is written to be not only...
accessible but also interesting to non-specialists: introductory essays precede each group of catalogue entries and give the most current state of knowledge of the glass industry of a particular epoch. Other useful aspects of the book include an illustrated glossary of glassmaking terms and techniques, colour illustrations of all fragments as well as most intact objects, an up-to-date bibliography on each topic, profile drawings of most objects, and maps showing all sites mentioned in the text.

A grant from the Andrew W. Mellon Foundation supported the writing, photography, and preparation of the catalogue. Grants from the National Endowment for the Arts and the J. Paul Getty Trust funded the production. Priced at $100, it has been co-published by Hudson Hills Press, Inc., of New York City and is being distributed in the U.S. by Rizzoli International and the Toledo Museum of Art Bookstore.

1. Core-Formed Bottle (Krateriskos) Egyptian, New Kingdom, Eighteenth Dynasty, probably the reigns of Amenhotep III to Akhenaten, about 1400 to 1350 B.C. Ht 8.2cm. Ex-collection J. Pierpont Morgan, New York. The Toledo Museum of Art, gift of Edward Drummond Libbey, 48.16.

Early glass vessels and objects were manufactured in imitation of ones made of semi-precious and precious coloured stones, which explains why reds resemble carnelian and jasper, yellows alabaster, and blues lapis lazuli and turquoise. Like prized stone vessels, such glass bottles were small and used to hold valuable perfumes, cosmetics, or incense.

Glassmaking was invented in Western Asia, probably in Mesopotamia, toward the end of the third millennium B.C. Glassmakers may have first come to Egypt as captives from the military conquests of Thutmose III (1490–1436 B.C.) in Palestine and Syria, and a prolific glass industry blossomed in Egypt during the Eighteenth and Nineteenth Dynasties (the middle to late second millennium B.C.). Vessels were made by core-forming — dipping or trailing threads of hot glass over a core of clay and an organic binder on a metal rod — and then decorated with applied hot glass threads of one to three colours that were tooled into patterns and then pressed into the body of the vessel by rolling on a flat surface.

2. Unguent Bottle (Lentoid Aryballos). Eastern Mediterranean or Italian. Mid- to late fourth century B.C. Ht 13.3cm. The Toledo Museum of Art, gift of Edward Drummond Libbey, 85.66.

About the time of Alexander's conquests in the third quarter of the fourth century, a new glass industry began making core-formed bottles to hold scented oils, unguents, perfumes, and cosmetics. Although the location of the factory or factories is not known, these bottles are found all around the Hellenistic world, from Spain to Mesopotamia. This aryballos is extraordinarily large and ornately decorated.

3. Composite Mosaic Dish. Hellenistic, Eastern Mediterranean or possibly Italian. Second to mid-first century B.C. Ht 2.1cm; Diam. 13.0cm. The Toledo Museum of Art, gift of Edward Drummond Libbey, 23.1464.

Cast mosaic glass vessels were a notable achievement of the Hellenistic Age. In contrast to the opaque and generally monochrome canes used by mosaic workshops of the Bronze and Early Iron Ages, Hellenistic glassmakers devised composite canes. These canes invariably have patterns of a radiating star or of a spiral (as on this piece) in a light color against a dark background. To make this vessel the Hellenistic glassmaker assembled scores of polygonal sections and square segments of three different pre-formed canes and a blue network cane for the rim, then fused them in a mould. The lathe-polishing of the walls to a uniform thickness and the spiral design in two of the cane sections distinguish this dish as a Hellenistic rather than a Roman work.

4. Two Cast and Blown Colour-Band Mosaic Bottles. Roman, Probably Italian Early to mid-first century A.D. Ht(left) 10.2cm; (right) 9.0cm. The Toledo Museum of Art, gift of Edward Drummond Libbey, (left) 23.1486; (right) 23.407.

The greatest invention in glassmaking, after the invention of glass itself, was the blowpipe. These two small bottles were made by fusing lengths of a single polychrome cane assembled in parallel rows and fused into a flat, rectangular slab that was then reheated, folded upward like an envelope and inflated on a metal blowpipe to form a bottle. The combination of free-blowing and casting techniques is unique to this transitional period and is the forerunner of the great Roman glassblowing industry of the next four centuries.
Terracotta plaque. Ionian, third quarter of the 6th century B.C. Lioness crouching to the right, looking back. (L. 58cm.)

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ROMAN FRONTIER STUDIES
& The XI Pilgrimage of Hadrian’s Wall
David J Breeze

In 1849 John Collingwood Bruce, the leading authority on Hadrian’s Wall, led a Pilgrimage along the Wall and thus was the progenitor of the Congress of Roman Frontier Studies. It was to be 1886 before the next Pilgrimage, which was also led by Bruce. Others followed at irregular intervals until the Centenary in 1949 when, in order to bring scholars together after the Second World War, Eric Birley also organised an International meeting: The Congress of Roman Frontier Studies.

The Pilgrimage of Hadrian’s Wall and the Congress of Roman Frontier Studies have continued hand-in-hand since 1949. Each ten years the Pilgrimage has explored the Wall, while every three years or so the Congress has met, every ten years in Britain and other years in the Netherlands, Belgium, Germany, Switzerland, Austria, Hungary, Yugoslavia, Romania and Israel.

Canterbury, the venue for the 1989 Congress, is well placed to explore the Saxon Shore, the late Roman frontier protecting the east and south coasts from sea raids. These visits are an important element, for participants are concerned to see the remains of Rome’s frontier works as well as learning about new discoveries and theories. Thus work is based upon practical knowledge of the remains, while visits with other scholars inspires discussion and new theories. Therefore each meeting is held in a different part of the Roman empire so that first-hand appreciation of the monuments can be gained.

This decade’s Pilgrimage was held in the last week of August 1989, when 215 Pilgrims visited many stretches of Hadrian’s Wall. It was organised by two local archaeological societies, the Cumberland and Westmorland Antiquarian and Archaeological Society and the Newcastle Society of Antiquaries. Most of the Pilgrims were members of these societies, but there were many others, including over 50 from abroad. The Pilgrimage was a mixture of visits to old favourites like the forts at Chesters and Housesteads, the civil settlement at Vindolanda and the mithraeum at Carrawburgh, and to new sites.

At Birdoswald, Cumbria County Council supported by British Nuclear Fuels have excavated the two granaries and the west gate with surprising results. The outside wall of the west gate was built of fine ashlar masonry, which defies explanation. The granaries were probably built in 205-8, when an inscription recorded the construction of two such buildings. Later, the south granary seems to have been turned into a great hall, while the north granary was demolished and was replaced by a large timber hall, itself replaced by another. These changes appear to fall into the last years of occupation of the site, possibly even the fifth century, and are rare evidence for post-Roman activity on the Wall.

Beyond the eastern end of the Wall, at South Shields, South Tyneside District Council have been ex-
cavating much of the fort. So far most of the circuit of the walls has been revealed, and work continues on the interior. Important discoveries have been made about the fort’s history and layout. Here and at Vindolanda Paul Bidwell has found a new style of barrack block, apparently first built in the mid-third century. The rear room is entered from a passage off the street, rather than by passing through the front room as was usual. To encourage visitors the Council has built a full-sized replica of the west gate on its original foundations.

The Wall itself has seen work of the first importance. Jim Crow, working for the National Trust, has been excavating in the central sector along the Crags. He has completely excavated milecastle 39, shown to be occupied through to the fourth century, and examined the north gate of milecastle 37, where he has suggested that the north pier was not levered out of position by enemy action, but subsided due to poor foundations.

Examination of the stone Wall has revealed that some stones were white-washed, while elsewhere mortar was found on the face of the Wall, suggesting that it was rendered with plaster. This was a common Roman treatment and there is no reason why it should not have been applied to Hadrian’s Wall. Instead of the rough rubble visible today, we should perhaps envisage a gleaming white Wall.

Our knowledge of Hadrian’s Wall rests on a few literary references, about 1000 inscriptions, and archaeological investigations of the last 100 years. Until recently it was thought that the documentary and epigraphic evidence could only be increased by the discovery of the chance inscription. This was shattered by the finding of writing tablets at Vindolanda (see article next issue). Robin Birley’s excavations have so far produced about 1000 tablets. Many are letters and one contains the earliest known woman’s writing in Latin. A letter of c.A.D.100 from Claudia Severa Invites Lepidina to a birthday party on the third day before the Ides of September. It was written by a scribe, but a postscript is in Severa’s own hand. Another document refers to *Brittunici*, little or wretched Britons, apparently a reference to the fighting qualities of the locals.

The Pilgrims saw photographs of the writing tablets at the recently extended museum at Vindolanda. A visit was made to Corbridge where English Heritage have built a museum to house one of the most important collections of Roman sculpture from the Wall area. Other museums lie at Carlisle, where there was an exhibition of the work of the Carlisle Archaeological Unit, Housesteads, Chester, South Shields and Newcastle upon Tyne, where a replica of the Carrubagh mithraeum has recently been opened. At Maryport the Pilgrims were privileged to see the partly completed museum with its magnificent collection of Roman inscriptions.

This work in the field has been accompanied by publication. Excavation reports and papers are published in the journals of the two local societies. English Heritage publishes major reports in its academic series. These include two reports on Corbridge and one on the bridges of Hadrian’s Wall. English Heritage also published in 1989 a revised edition of its colour guide to Hadrian’s Wall and handbooks on Corbridge and Housesteads. Finally, in time for the Pilgrimage, English Heritage, with Batsford, published the first of a series on great historic monuments, The English Heritage Book of Hadrian’s Wall by Stephen Johnson.

Hadrian’s Wall is the most important and most explored frontier of the Roman empire and attracts the collaboration of many professional bodies. Many miles of the Wall and its structures are cared for by English Heritage, the main state archaeological body. While English Heritage is currently carrying out a survey of its own stretches, England’s archaeological survey body, the Royal Commission on Ancient Monuments is undertaking a major survey of the whole Wall. This will be a most important contribution, the first survey for over 120 years.

Local authorities are also involved in the excavation of the Wall at Birdoswald and South Shields, while Northumberland County Council has acquired the fort at Rudchester. National bodies include the National Trust, Northumberland National Park and the Countryside Commission.

The co-operation of so many bodies in Hadrian’s Wall, its survey, excavation, display and presentation, together with financial support from central and local government and industry, bodes well for the future of the monument, whose significance was recognised by its recent designation as a World Heritage Site.

Recent work on Hadrian’s Wall was one of many subjects reported upon at the Congress of Roman Frontier Studies in the first week of September 1989. All frontiers of the empire were examined in a series of lecture sessions, which not only encompassed new work on individual sites but important discussions on how frontiers worked. A stimulating debate, for example, examined the eastern frontier in Arabia. was Trajan’s new road a fortified
frontier line intended to keep out nomads, or was it a line of communication protected by forts? This discussion formed part of one of the thematic sessions, on problems of desert frontiers. The other two thematic sessions were on the actualities of life on the frontier, and the impact of frontiers on native peoples. The arrival of a new civilisation supported by a large and powerful army must have had considerable effect upon the indigenous inhabitants, but it is often difficult to determine the precise nature of that impact. Individual lectures examined the impact of the arrival of Rome on social relations, settlements, pottery manufacture and agriculture over a wide area from north Britain to the eastern Black Sea coast.

The session on the realities of frontier life considered the civil settlements which grew up outside forts, the position of women, soldiers' servants. These matters are important, but again suffers from a lack of information.

Other contributions offered resumes of research on different provinces, consideration of the development of the army, information on new forts (Markbreit in the Main valley, for example, which opens up our view of the Augustan campaigns). A stimulating contribution by Dr Morel of The Netherlands considered the development of barrack-blocks. He suggested that certain post-holes found during excavation of barrack-blocks could be the remains of cartport-like structures erected over tents which, in time, were replaced by proper barrack blocks.

The papers at a conference are but one part of the occasion. More important is the discussion and cross-fertilisation outside the lecture theatre. This was aided by a successful 'poster' session at which many participants mounted displays of their work; certainly ideas were stimulated by the juxtaposition of work on Roman forts in Scotland and excavation in a fortress in Jordan. (See Profile page 21).

Site visits included the great third and fourth century Saxon Shore forts at Richborough, Dover, Lympne, Pevensey and Portchester, and there was an expedition to the Museum of London and the British Museum to inspect recent work. It is to be hoped that similar superb weather and equally stimulating discussion will attend the 1993 Congress in Yugoslavia.
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NEW OWLS FOR THE PHARAOH

Martin Price

The silver coinage of ancient Athens spread far and wide in the Mediterranean and beyond. The head of Athena (Minerva) and her owl became symbols of a coin that was of reliably pure silver and was good money. So widespread was this coinage that when the Persian satraps and generals had need to produce money to pay mercenaries, they sometimes made imitations of the Athenian pieces, which differed only in style. One satrap, identified as Tissaphernes, struck an issue in the name of the Great King, but replaced Athena with his own portrait (no.1). The Achaemenid kings struck no official coins in Babylonia or Susiana, and these owl tetradrachms became the recognised currency for much of the Persian empire, whereas the silver Persian sigloi that were struck at Sardes circulated in Asia Minor.

Some of these pseudo-Athenian coins struck in the East are inscribed in Aramaic script. Usually they bear single letters which are not very informative, but there is one dramatic issue which was inscribed in Egyptian demotic and emanated without doubt from a Persian mint at Memphis. This issue was unknown until 1954 when Kenneth Jenkins published an example that had been acquired from a London dealer by the British Museum in October 1953. Rumour has it that this coin had lain for several years in the collection of King Farouk, but its historical significance was not recognised until it came to northern Europe. The demotic inscription was tantalisingly incomplete, but the late Professor Stephen Glanville suggested the reading θης προ. The second word was immediately intelligible – Pharaoh – and the preceding name was believed to represent Teos-Zedhôr, known to the Greeks as Tachos. A Pharaoh Tachos ruled in Egypt in 361 B.C. at the time of the great Satraps’ revolt, and attributed to him is a coin of the type of the silver tetradrachms of Athens, but struck in gold and bearing his name in Greek (no.2). Comparison with this showed that the silver demotic issue was of markedly different style; Kenneth Jenkins argued that the new tetradrachm could not be of this pharaoh. Another Tachos, father of Nakht-emhet, who had seized the throne in 378 B.C., was accredited with this issue.

So matters stood until a hoard discovered near Babylon in 1973 produced a second example with a complete inscription, which was acquired by the National Museum, Copenhagen. Professor Peter Shore immediately interpreted the demotic as ‘3etess p’s’ – Artaxerxes Pharaoh. He and Otto Mäthkholm, who published the new piece jointly, linked the issue with Artaxerxes III Ochus, Great King of Persia 359/8-338/7 B.C. His reign was notable for the reunification of Egypt with the Persian empire in 343/2 B.C. after a long period of secession. The issue with the demotic script was now seen to be an official Persian coinage of Memphis, struck in or soon after 343 B.C. a vivid symbol of the reconquest of this satrapy.

Newly discovered coins often give new evidence of the ancient world. The hoard from Babylon in 1973, in producing a fully legible second example of the issue in the name of Artaxerxes III, opened a new chapter in the history of Egypt in the Persian period. Professor Ted Butrey took the story a stage further when he recognised that simple imitations of Athenian tetradrachms could be linked by style with those signed in demotic, and he showed that the city of Memphis was a major producer of this form of Persian coinage. Memphis, it seemed, had a mint in the mid-fourth century B.C. that was more productive than any other in the Persian sphere. Some coins would have been struck for Nektanebo to pay the Greek mercenaries in the Egyptian army to resist the invasion of Artaxerxes. Some would have been struck, like the issue signed in demotic, for the payment of the Greek mercenaries in the Persian army which Artaxerxes himself commanded in the reconquest.

After the issue in demotic, the Persians continued to strike silver coinage in Egypt, but with the inscriptions in Aramaic. One issue names Memphis itself – Mu?pt – on a small coin of obol weight which can therefore be attributed to this mint with certainty. Another issue of small denomination may have been struck at Helopolis (On), ‘n in Aramaic, and a tetradrachm inscribed ‘n’ represents the Aramaic name of Thebes. The series of tetradrachms that succeeds the demotic issue sometimes bears two names in Aramaic. The main one has traditionally been read as Swyk (no.3). This was interpreted as the name of Sabakes and identified to be the satrap of Egypt who fell at the battle of Issus in November 333 B.C. The other inscription has defied interpretation, although it has been suggested that Memphis should be read here too. Bronze coins are known with the same inscription Swyk and bearing a portrait of a satrap. Recently, however, Professor Lipinski has insisted that the reading should be Swyn and that the name should be identified
with the Aramaic colony of Syene (modern day Aswan). The final coinage of Egypt in the Persian period is a large coinage struck by Sabake's successor, Mazakes, before he handed over Memphis to Alexander in 332 B.C.

A hoard found in 1989 in Syria, east of Aleppo, consisting of coinage from several Persian satrapies, throws more light on the Persian coinage of Egypt. In September a few coins could be recorded. From the satrapy of Abarnahara come some coins of Tyre and Aradus in Phoenicia and of Hapax-Bampbyce in Syria. From Pontus there are coins of Sinope signed in Aramaic. From Tarsus in Cilicia there are issues of the satrap Datames and Mazaesus, some in mint fresh condition. But overshadowing all these, among 147 tetradrachms of Athenian types, are six examples of the demotic issue of Memphis (no. 4). There is a surprising variety of letter forms, but Carol Andrews of the Department of Egyptian Antiquities in the British Museum has skillfully unravelled the Demotic: all six coins are inscribed for Artaxerxes Pharaoh. All surviving pieces of this issue come from different obverse and reverse dies — unusual for so rare a coinage and a warning that the size of the original issue could have been very large. A lot of silver could have been turned into coin by eight pairs of dies.

Four of the new pieces were similar to the published examples, but two show an extraordinary feature. In addition to the demotic inscription they also bear an inscription in Aramaic to the left of the owl (no. 5). One is simply two letters, סל and צד which must represent a personal name. This coin also has, to the right of the owl, a thunderbolt that links it to the issue once attributed to Sabakes, which has the same symbol in the same place. Since the name read as Sabakes also begins with a צד it seems that the new coin links the demotic issue with the tetradrachms later signed in Aramaic alone. The other bilingual coin has an inscription of four letters in Aramaic, apparently 작은, again presumably a name, but not yet present recognisable.

The new hoard awaits further study, but in the meantime it is a pleasure to alert readers of Minerva to the exciting new evidence that has just surfaced. Our knowledge of the coinage of the late Persian period in Egypt is increasing and with a great deal of new material to be studied. (The coins are reproduced actual size)

Dr Martin Price is Deputy Keeper of the Department of Coins and Medals in the British Museum.
TOURS & CRUISES

JANUARY 1990

MARCH 1990

Spring tour to Egypt – Cairo, Memphis, Hermopolis, Abydos, Dendera, Luxor, Karnak, cruise to Aswan, Abu Simbel, Alexandria. Conducted by Dr Robert K. Rine. 2-21 March. $3,240 plus airfare. Oriental Institute, Chicago. (312) 702-9513 or (212) 986-3015

EGYPT: Memphis to Memphis – Cairo, Luxor, cruise to Aswan, Abu Simbel, conducted by Dr Edward Bleiberg. 4-17 March, $2,365 plus airfare. Institute of Egyptian Art & Archaeology, Memphis State University, Memphis, Tennessee. Tel: (901) 454-2649

Pharaohs, Romans and Crusaders – Cairo, Memphis, Sakara, Giza, Alexandria, St Katherine's, Mount Sinai, Agaba, Petra, Amman, Telles-Sa'idiyehh Jericho, Tiberias, Beth Shan, Megiddo, Akko, Caesarea, Jerusalem, Masada. 18 March – 4 April. £1,395 inc. return flights from London. British Museum Classic Tours, Kent House, 87 Regent St, London W1R 8LS. Tel: 01-734-7971/2

APRIL 1990
Egypt in Italy – Turin, Bologna, Florence, Siena. 1-8 April. £695 inc. return flights from London. British Museum Classic Tours, Kent House, 87 Regent St, London W1R 8LS. Tel: 01-734-7971/2

Archaeology in Crete, Old and New. Knossos, Archeans, Gournia, Vassiliki, Myrtos Pyrgos, Myrtos Fournoi Korfi, Palaiakastro, Knato Zako. Leader: Dr Elizabeth French, director of the British School at Athens. 19-26 April. £900 inc. return flights from Manchester. Manchester University Study Tour. Tel 061 274 4444

AUCTIONS

21 February
Ancient Coins. Mail bid sale. Coin Galleries, New York (212) 382 5955

28 February
Ancient, Byzantine, Medieval European, British coins, Library on Roman coins. Mail bid sale. Classical Numismatic Auction

Indian, Himalayan and South-East Asian Art, Sotheby's, New York (212) 606 7328

Dipuk/Veroquin
gold frog pendant
sold at Sotheby’s

New York for
$31,000
(see page 53)

Photo: Sotheby’s
**Isreali Fortuna Mosaic**  An unguarded archaeological site in Tel Aviv has been raided by apparent specialists. The thieves were armed with a power tool, which they used to extract a figure of Fortuna from a 1400 year old mosaic floor. Gabi Mazor of the Israeli Department of Antiquities speculated that they were probably specialists in archaeological theft and may work for a private collector.

**Important Egyptian wooden statuette missing**  An important Egyptian wooden statuette of Nebetia from the 14th century B.C. has disappeared from the storerooms of Sotheby's in Bond Street, London. The statuette, which is one of four believed to date from the early part of Amenhotep IV's reign, was sold by Sotheby's in Monaco two years ago to Mr Robin Symes, a London antiques dealer. According to the police, the statuette of Nebetia had been lodged at Sotheby's by Mr Symes, and went missing before August in 'circumstances unknown'.

Of four other statuettes discovered in 1900 in the tomb of Kom Medinet Ghurab, one is in the Metropolitan Museum, New York, two in Brooklyn Museum, New York, and one is still in private hands. A substantial reward has been offered for the recovery of the statuette. **Coin stolen** in a burglary in Twickenham, near London, in September one brass sestertius of Caligula. The obverse has a head of Caligula, the reverse the three Graces. This large coin is reported to be in superb condition. Contact P.C.Long, 01-577 1212.

**FBI investigates missing American Indian objects**  The FBI is investigating the disappearance of American Indian artefacts from the Southwest Museum in Los Angeles, and the likelihood that the pieces were sold to private collectors and dealers. The thefts were discovered in March 1989 during an inventory of the museum's 200,000 objects, initiated by the incoming director, Jerome Selmier. Selmier said 'a few more than 25 but not a huge number of items' were missing from a storage area, but would not specify what was gone or the value of the pieces. He said that a few items have been found by the FBI but were not yet back in the museum's hands.
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Dr Arnold R. Saslow

The coins of ancient Greece and Rome have been collected for hundreds of years but ancient coins as a business has been around for only 15 years or so. In the US, the publicity surrounding the Metropolitan Museum of Art's de-acquisition of their ancient gold and silver coins in 1972/73 introduced many people to the potential of collecting coins.

Since the MMA sale and the 'Kunstfreund' sale held by Bank Leu in Zurich, ancient coins have gone from a 'gentlemanly' pastime to a business involving investment funds which devote millions of dollars to the purchase and sale of ancient coins. Dealers compete to locate a new collection and acquire the 'cream of the crop'.

Traditionally the ancient coin season begins in the Fall (autumn). In many European countries July and August are devoted to anything but business and in many locations where ancient coins are found, digging during these months is curtailed. The season begins in Western Europe with auctions in West Germany, Switzerland, and England. Coins have been accumulated over the summer, collectors persuaded to sell, and the stage is now set for the meeting of the 'The Clan'. Ancient coin dealers from most of the Western world assemble to battle for the spoils whose sale provides their livelihood for the winter.

First are the auctions in Munich, Zurich and Basel in late September and early October. The scene then switches to London where for the week preceding COINEX, the most prestigious English coin show (or fair), the big auction houses try to take as much money as possible from the assembled multitudes. The usual players are Christie's, Sotheby's and Glendining's, an auction house devoted to the sale of coins, medals, and paper money, and probably the most prestigious in terms of collections sold in the past. Also included is Spink & Son, established for over 300 years as dealers in some of the world's finest ancient coins, who entered the auction business a decade ago.

The coins offered vary depending on what collections have come on the market, what death duties must be paid, and what new finds have filtered through. This year Sotheby's had a very interesting collection of ancient Greek coins from the Black Sea area, with some extremely rare gold coins such as a Panticapaeum gold stater (fig. 1) in extremely fine (EF), with a few marks, which made £22,000 hammer price (add 10% buyer's premium), and some rare Greek bronzes from Olbia. Rumour has it that more of this sort of material may be available in future months, possibly a product of 'glavanos' and the opening of the Russian 'front' for ancient. Sotheby's also had an interesting collection of Roman coins relating to the conquest of Britain. The highlight was a bronze sestertius of Britannicus, son of Claudius, who died in A.D. S5. This coin, which was about very fine (VF) with a few surface blemishes, is one of three examples and in the early 1980's was being privately offered in the US for $45,000. At the 5 October sale it was estimated at £7,000-£10,000 and was bought by a US dealer for the hammer price of £9,800. Why so rare a coin did so poorly may be due to recent scepticism that none of the examples known are ancient, but may date from a time when ancient coin scholarship was a little 'naive'.

Christie's in recent years have had fabulous material in conjunction with COINEX, but this year their properties were somewhat weak. Spink's had a very interesting sale, as it seemed to be an original collection rather than the oddments that often make up a sale. Highlight was a dekadrachm of Alexander the Great (fig. 2) looking just like a huge rendition of the common tetradrachm, but rarely seen on the market. The coin was porous as a result of cleaning and only very fine (VF) but still realised £26,000, on an estimate of £20-25,000, which shocked the house as it was the opening bid. The buyer had presumably been prepared to go even higher. The inexpert cleaning of the coin would make it very difficult to sell on the American market.

Glendining's held two sales on the same day this year. The morning sale consisted of the usual consigned material and did fairly well considering that the quality was not very good. But an evening sale done in conjunction with a US firm had spectacular highlights, such as a mint Hadrian denarius with a very common reverse which made £900 (hammer), and a Caligula sestertius in good VF with the 'platform scene' of the emperor haranguing his troops; this was offered for sale in the U.S. only two years ago for $3,000 and apparently unsold, but now made £4,400 (hammer). Almost 40% of the coins did not sell due to the high reserves for the London market and the often unspectacular nature of the coins offered. There currently appear to be enough uninformed buyers paying highly for coins that could be bought from a dealer, but it is a coin in mint state that gets them 'wired'. To many people this makes it worth much more.

The flurry of auctions was followed by two and a half days of
COINEX. This year it was a case of the 'haves' and the 'have-nots'. The 'haves' were the dealers from the US, Italy, France, Spain, Germany, Switzerland and Israel, with endless money to spend. The 'have-nots' were the British dealers who had few spectacular ancient coins to sell.

The ancient coin market has become very heated over the past three years, affected by the introduction of the Athena I and Athena II Funds which are being operated by Merrill Lynch in partnership with Numismatic Fine Arts of Beverly Hills. These funds have introduced over $30 million into a market which not long ago was characterised as populated by elderly men, reclining in clubs and smoking pipes. The Fund's existence has made available some amazing coins. While a few years ago it was almost unheard of for a dealer to pay $50,000-$100,000 for an ancient coin, recently Bruce McNall, the owner of Numismatic Fine Arts (NFA), has been on national television exhibiting a gold aureus of the Ides of March issue of Brutus with an asking price of $1,000,000. The Funds have spent hundreds of thousands of dollars introducing the general public to ancient coins.

The problem is that in both the US and Western Europe the people who own rare and high quality ancient coins would rather buy more than sell what they own. In addition, the individuals who in the past have consistently put fresh material onto the market have recently had very little of any significance to offer. It is hard to tell whether this means that the ancient sites which have been productive for 30 years are now 'played out' or that the UNESCO Accords are finally taking effect and making it difficult to operate in countries where the trade in ancient coins has in the past been 'privately' regulated by government officials. The result, though, is a rapidly expanding worldwide market for high quality and eye-catching ancient coins, and a distinct lack of material.

This year's COINEX was less satisfactory than in recent years. Some dealers were unable to spend even half as much as they did in 1988 or 1987. Where nice material was available it was sold almost instantly or before the show, as dealers were visited in an attempt to be 'first in line'. In the past the big houses laid away material that would not be shown before the show. This luxury no longer exists and a dealer now is lucky to have some choice material to offer. With the market showing no sign of slackening and an Athena III Fund planned for 1990, one question is on every dealer's mind. Where are the coins going to come from? Are we living in a fool's paradise and will current high prices prove to be bargains? This Fall's auctions and COINEX certainly did little to provide an answer.
Next month we begin our regular book review section

First Encounters: Spanish Explorations in the Caribbean and the United States, 1492-1570.
Edited by Jerald T. Milanich and Susan Milbrath.
University of Florida Press, Gainesville, Florida, 1989. 11.5x8.5 ins. 222 pp. Illus. Clothbound, $44.95; paper, $16.95.

Thirteen essays, drawn on the most recent historical and archaeological research, on the first New World contacts between the Spaniards and the native peoples. In the past ten years many breakthroughs have been made in our knowledge of the significant events of this early period. Many details are presented of Spain’s early colonisation efforts in La Florida, including the results of excavations at En Bas Saline in Haiti, the possible site of La Navidad; Puerto Real, a Haitian site south of La Navidad; Anhulca, a winter camp of de Soto in Florida; the Indian province of Coosa in Tennessee and Georgia; and St. Augustine, Florida.

There are over 150 illustrations of excavated artifacts, early European engravings and maps. Many of the fine colour illustrations of artifacts, however, do not state their dimensions. There are no footnotes or specific references for any of the essays, but there is a bibliography which includes 24 books published in the past ten years and others which are referred to in the text.

First Encounters was published as an accompaniment to the Florida Museum of Natural History’s travelling exhibition of the same name.
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Volume 8, 1990 Subscription: Individuals £20; UK institutions £30; Institutions elsewhere £32; Airmail £5 per year extra.
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RES: Anthropology and Aesthetics

RES is a journal of anthropology and comparative aesthetics dedicated to the study of the object, in particular cult and belief objects and objects of art. The journal brings together, in an anthropological perspective, contributions by philosophers, art historians and critics, linguists, architects, artists and others. Coverage includes all cultures, regions and historical periods • Heavily illustrated.

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ATLANTA, Georgia
RADIANCE IN STONE: SCULPTURES IN COLOURED MARBLE. From the Museo Nazionale Romano, Rome. 31 sculptures, 36 vases in semi-precious stones and over 30 types of coloured marble from all around the Mediterranean. UNIVERSITY MUSEUM OF ART & ARCHAEOLOGY (404) 727-7522. Until 8 April. Catalogue $15.

SYRACUSE, New York

BIRMINGHAM, Alabama
SUMMONING OF THE SOUL: TREASURES FROM CHINA’S TOMBS. Lacquer ware vessels, carved wood and pottery figurines, silk garments and other personal effects from three Han Dynasty (c. 166-458 B.C.) tombs excavated in the 1970s. BIRMINGHAM ART MUSEUM. (205) 254 2565 21 January - 26 February (then to Portland, Oregon)

CHICAGO, Illinois
1889: THE FIRST YEAR OF THE CLASSICAL COLLECTION. In March 1889 the president and director of the Art Institute purchased eight crates of antiquities to initiate the Classical collection. Of the 21 vases and sculptures on view acquired in 1889, 15 are from this original purchase. ART INSTITUTE OF CHICAGO. (312) 443 3600 Until 15 January

DAYTON, Ohio

GAINESVILLE, Florida
FIRST ENCOUNTERS: SPANISH EXPLORATIONS IN THE CARIBBEAN & THE UNITED STATES, 1492-1570. Artifacts, early and European engravings and maps and photographs of excavated sites. Book $16.95; cloth $44.95. FLORIDA MUSEUM OF NATURAL HISTORY (904)392-1721. Until 2 January, 1990 (then to Tampa)

NEW YORK, New York
CROSSROADS OF CONTINENTS: CULTURES OF SIBERIA AND ALASKA. 500 artifacts reflecting the cultural interchange that began when the first Siberian crossed into North America 14,000 years ago. One third of the pieces are from the Museum of Anthropology and Ethnography in Leningrad, the balance from U.S. and Canadian museums. AMERICAN MUSEUM OF NATURAL HISTORY (212) 769-5800 Until 25 March (then to Indianapolis). Catalogue $24.95; cloth $45.

GARDENS AND GHETTOS: THE ART OF JEWS IN ITALY. The first part of this most comprehensive exhibition ever held on the artistic legacy of the Jews in Italy focuses on the Roman Imperial period, 1st to 5th centuries A.D. and includes Roman architectural fragments and ancient gold glass. JEWISH MUSEUM (212) 860-1888. Until 1 February (then to Ferrara, Italy). Catalogue $25.95; cloth $55.

PHILADELPHIA, Pennsylvania
SYMBOLS OF THE ANCESTORS: THE POWER OF CHINESE BRONZE AND JADE. More than 50 artifacts from the third millennium B.C. to the Han period (206 B.C.-220 A.D.) from the museum's collection, demonstrating their association with wealth, ritual and status. UNIVERSITY MUSEUM, UNIVERSITY OF PENNSYLVANIA (215) 898-4000. Throughout 1990

SAN FRANCISCO, California
LOOKING AT PATRONAGE: RECENT ACQUISITIONS OF ASIAN ART. The museum's acquisitions in the past five years from China, Japan, Korea, Southeast Asia and India. ASIAN ART MUSEUM, (415) 668 9821 Until 4 February. Catalogue $19.95

TAMPA, Florida
FIRST ENCOUNTERS: SPANISH EXPLORATIONS IN THE CARIBBEAN AND THE UNITED STATES, 1492-1570. (See Gainesville). MUSEUM OF SCIENCE AND INDUSTRY (813) 985-5531 8 January - 14 April (then to Columbia, S.C.) Book $16.95; cloth $44.95.

WASHINGTON, D.C.
WASHING THE GODS: BUDDHIST ART OF SOUTH ASIA AND TIBET. 103 Buddhist sculptures, paintings and ritual objects from the first century B.C. to the 18th century from India, Nepal and Tibet selected from the collections of the Los Angeles County Museum of Art. ARTHUR M. SACKLER GALLERY, SMITHSONIAN INSTITUTION. (202) 357 2700 Until March 31

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LONDON
THE WORK OF ANGELS: MASTERPIECES OF CELTIC METALWORK 6TH-9TH CENTURIES AD. Major exhibition of Celtic Metalwork from Britain, Ireland and the rest of Europe, including pieces from the Derrynollan hoard, the‘Tara brooch’, Arliagh chalice and the Monymusk reliquary. BRITISH MUSEUM, Great Russell St, London WC1 B 3DG, 01 323 8528. Until 29 April

LOCHWINNOCH, Scotland
THE GRAND PIANO CAME BY CAMEL: AN EGYPTOLOGIST & HIS FAMILY C. 1880-1928. The story of Arthur C. Mac who worked on the Tomb of Tutankhamun and his daughter Margaret Mac, the last surviving member of the Tutankhamun team. LOCHWINNOCH COMMUNITY MUSEUM, High Street, Lochwinnoch, Renfrewshire, Scotland.

FRANCE

ROUEN
GLASS FROM MEDIEVAL TIMES TO THE RENAISSANCE. 150 items, most discovered in excavations over the last 10 years. MUSEUM OF ANTIQUITIES, 198 rue Beuvevois, 76 000 Rouen, France. Tel: 359 85510. Until 26 February.

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GALLERY EXHIBITIONS
UNITED STATES

BIRMINGHAM, Michigan
THE ART OF THE ANCIENT NEAR EAST DONNA JACOBS GALLERY, 574 North Woodward Avenue, 48009 5 January-10 February Catalogue

LOS ANGELES, California
TREASURES FROM AN ANCIENT JEWEL BOX: GOLD AND SILVER FROM THE ANCIENT WORLD. NFA ANTIQUITIES, 10100 Santa Monica Boulevard, 90067 Until 9 January. Catalogue.

NEW YORK, New York
REFLECTIONS OF ANTIQUITY: ANCIENT GLASS THROUGH THE AGES. ANTIQUARIUM LTD, 948 Madison Avenue, 10021 Until 30 January. Catalogue $25

IDOLS: THE BEGINNING OF ABSTRACT FORM ARIADE GALLERIES, 970 Madison Avenue, 10021 Until 30 January. Catalogue $20

DEITIES AND DIGNITARIES IN ANCIENT EGYPTIAN ART. UBBS GALLERY LTD., 23 East 67th Street, 10021 Until 30 March. Catalogue $10

NEOLITHIC TERRACOTTA FIGURES. ROYAL-ATHEMA GALLERIES, 153 East 57th Street, 10022 Until 28 February

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LONDON
CELTIC STONE SCULPTURE. RUPERT WACE ANTIQUITY LTD & KARSTEN SCHUBERT LTD., 85 Charlotte St., London, W1 1LB. Until 20 January

MINERVA 52
A magnificent and rare Coptic tapestry (below) sold from the Iklé collection at Christie's South Kensington, London, on 7 November exceeded the estimate of £15-25,000 to realise a hammer price of £32,000 (add 10% buyer's premium). The panel showed a bust of a female deity in Classical pose, probably a goddess by virtue of the iconography, especially the bared left breast. Turned left in three-quarters profile, the lady was apparently a pair with the piece sold in the next lot, a female in similar pose but turned to the right. This fetched £14,000, within the estimate of £12-15,000. The two panels (each 9½ x 9 inches) were probably made as a pair and must stand as being amongst the finest known surviving examples of tapestries of this type.

Just three chapters, numbers 130, 134 and 136, of the funerary papyrus Book of the Dead of Ankhef-en-Khonsu, a chief lector priest at Karnak, was sold by Sotheby's New York from the Garden Ltd collection of books and manuscripts on 9 and 10 November for an incredible $187,000. The roll of papyrus, 8½ x 87 inches, was beautifully illuminated and written in hieroglyphs (18 columns) and hieratic (4 columns). The major illustration shows the deceased holding out a libation vase to Osiris, the God of the Dead, seated with his wife Isis. The papyrus dates from the 21st–22nd Dynasty, the eleventh century B.C., and whilst of fine quality does not compare with the superior and longer complete examples of the Late New Kingdom such as that of the royal scribe Ani, or Hunefer, both in the British Museum.

Although the Pre-Columbian gold collection of Count Guy du Boisrouvray was perhaps the finest and most extensive collection of its type to be auctioned in recent years, it certainly did not appear to justify some of the surprising prices received in the New York Sotheby's sale of 27 October, 1989. A well-prepared hardbound catalogue featuring this assemblage, among the other treasures of the Count, all acquired through Andre Emmerich in the 1960's, and a good amount of pre-sale publicity no doubt assisted the auctioneer in reaching some of these unusually high prices. Doubtless the aristocratic provenance and the fact that many of the pieces were exhibited and published in the 1960's in both Switzerland and the United States added a substantial premium to the current market values.

An unusually large (7'') Peruvin Mochica hollow gold duck from the Ayabaca region, underestimated at $7,000–$10,000, started the sale off with a bang, selling for $85,000 (hammer price; add 10% to all prices). A simple but very fine example of a Chimú gold bead necklace from Sican, Peru, estimated at an extremely low $4,000–$7,000, brough an equally unrealistic $40,000.

A Colombian gold human figure pectoral from Darien, estimated at $9,000–$12,000, realized $25,000. A stunning and important International style reptilian pendant with a human head, from the Azuero Peninsula of Panama, estimate $15,000–$25,000, brought $65,000.

A Veraguas gold turtle pendant, estimate $10,000–$15,000, reached $45,000, while an elegant Diquis/Veraguas gold frog pendant, estimated at only $6,000–$10,000, was sold for $31,000. A large (6½'') Coclé embossed circular pectoral with a reptilian deity figure, also from the Azuero Peninsula, did not fare as well, bringing just $31,000, within the rather full estimate of $20,000–$35,000. A small (2½'') but extremely rare Diquis gold lobster pendant (right), well underestimated at $4,000–$7,000, was finally knocked down for a
resounding $35,000. One of the most striking pieces of the sale, an important cloch gold necklace of seven twin-alligator deity pendants, missing all of the ins- erts for the hollow cylindrical bodies, also from the Azuro Peninsula, estimated at $25,000-$45,000, sold for $65,000. A roughly cast Diquis gold bird-headed figural pendant, estimate $10,000-$20,000, brought a surprising $55,000, while an unusual Diquis gold double-headed eagle pendant, with movable head, estimate $20,000-$30,000, went for $42,500 in spite of the restoration of two of the four hanging plaquettes.

Two fine Diquis gold figural pendants, one a male figure, the other a monkey, both estimated at $10,000-$20,000, made a surprising $55,000 and $50,000 respectively, more than double their usual market value. The cover piece, a rather crudely ex- ecuted Diquis gold pendant with alligator-headed twin deities, with an estimate of $20,000-$25,000, brought an unexpected $85,000.

The 184 Pre-Columbian objects in the sale, which also included six silver, jade and pottery pieces, with a very conservative total high estimate of $569,400, realized a hammer price of $1,243,750, with all lots sold. Most of the gold went to private collectors, as- sisted by some rather active telephone bidding from Japanese clients.
Send your letters to:
The Editor, Minerva, 8 Cavendish Square, London, W1M 0AJ

From the Managing Editor of 'Ancient'
Dear Sir

Recently another unwelcome episode in the illicit antiquities trade history was reported, with the case of the Icklingham bronzes. This follows the stolen Cypriot mosaics, and the Pre-columbian antiquities repeatedly held up or confiscated by the US customs. How long can it be before the purchasers - dealers as well as collectors - demand a provenance rather than risk litigation? Establishing a mechanism for providing guarantees on antiquities is long overdue anyway and setting it up would not be difficult. In Athens, the Director of Antiquities showed me a simple system whereby each significant antiquity in private hands has an entry with a photograph. The owner keeps one card, the Director of Antiquities the other. If the item is sold or bequeathed, this is registered at the office of Antiquities. Far from feeling this constitutes an interference, the collectors appreciate the status their pieces acquire. A system could be incorporated into the Cambridge Register which is working on recording all the antiquities in UK museums. Registration would not provide provenances which had so far gone unrecorded, but it would start to give the antiquities in private hands pedigrees, and academics access to information. From my contacts with collectors I gather they would not mind paying a little extra for a certificate. Should this not come anyway under the heading of 'packaging the product'? Take this procedure a step further and license the dealers and register significant collections. The result would be beneficial for everybody; transactions of reputed dealers could be subject to scrutiny which no honest dealer can object to, and dubious dealers would not be granted licences. Registered collectors could be rewarded with tax exemptions for being a part of heritage preservation as is the case with "private museums" in Japan and in the US. Collecting VAT from the antiques trade costs £2 million a year more than the amount raised, so VAT exemptions from collectors would be no burden to the government. The costs of upkeep of ever growing museum collections increases to the point where the collections suffer deterioration. Passing some of the burden to the private collectors by disposing of surplus stock through a regulated market would save museums money while raising cash for other needs. Already the Arts Minister is mentioning selling surplus collections and the Institute of Archaeology is launching an appeal to open a conservation centre for the public. Museums must feel that they would not be condemning the antiquities to a doubtful future. Registration of antiquities in private hands would overcome this, and the dealers could expect more stock on the market.

Yours sincerely
George Lambor

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Antiquities from the Schuster Collection

Pictured below is a group of Antiquities from the above sale of eighty-nine lots which realised £1,120,350 in London on 11th July 1989

The next Antiquities sales in London will be on 31st May & 9th July 1990

For further enquiries please telephone Felicity Nicholson 01-408 5111

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