Pompeii’s last hours
Life and death beneath Vesuvius

Holy blood, holy gold
How relics shaped the medieval world

Nero
New light on a dark Emperor

Last stand of the Druids
Magic, mistletoe and massacre

Viking mercenaries
And the riddle of the runes
## Features

### 8 Alpine art
The fascinating and highly important rock art of the Valcamonica Valley. George Nash, Mila Simões and Angelo Fossati

### 12 Rock of ages
A look at the achievements of the New Acropolis Museum since its opening in 2009. Elinda Labropoulou

### 16 Jade in Bath
A West Country museum with a wonderful collection dedicated to the long history of jade in China. Murray Eiland

### 20 Nero
Scrutinising one of antiquity’s most controversial figures. Dalu Jones

### 24 Destruction of the Druids
The Roman assault on Anglesey that forever broke the power of the Druids in ancient British society. James Beresford

### 28 Resurrecting Pompeii
A blockbuster exhibition in New York illuminates the reality of life and death in the shadow of Vesuvius. Murray Eiland

### 32 Andean adventure
Some of the lesser known sights in and around Cusco. Ray Dunning

### 36 Treasures of heaven
The British Museum’s summer exhibition explores the significance of relics and reliquaries in medieval Europe. Sophie Mackenzie

### 40 Witness to history
The remarkable journey of a Greek marble statue through the ancient, medieval and modern Mediterranean. James Beresford

### 44 Photographing the past
How recent developments in Low Level Aerial Photography have provided an invaluable resource for archaeologists. Adam Stanford

### 48 What price provenance?
A recent conference on Egyptian antiquities looting. Keith Amery

### 50 Forging into the past
Experimental archaeologist David Sim uses his blacksmithing skills to recreate the arms and armour of the Roman Empire. Kirsten Amor

### 54 London antiquities sales
A selection of highlights from the spring auctions at Bonhams and Christie’s. Jerome M. Eisenberg

## Regulars

### 02 From the Editor

### 03 News

### 58 Book Reviews

### 60 Calendar
from the editor

Mark Merrony evaluates how recent books and articles attempt to relate archaeological evidence to biblical history

‘Treasures of Heaven’ featured in the present issue (pp. 36–39) and ‘When faith and science collide’, (see Minerva, July/August 2010, pp. 42–44) both focus on the absorbing subject of holy relics. The topic is understandably a sensitive one, both to those who follow the teachings of the Bible and those who do not, but the study of the archaeological evidence surrounding events described in the scriptures is nonetheless engrossing. There is a common perception that the ecclesiastical establishment believes that archaeology seeks to disprove biblical events, but this is in fact not the case. Many members of the clergy recognise the role of archaeology in providing insights into the societies and religious rituals described in the Bible. After the publication of ‘Jesus: the Archaeological Evidence’, in Minerva in 2009, I received a letter from members of a Cistercian order who were fascinated by the evidence appearing to support events described in the New Testament taking place over the last days of the life of Jesus.

This article was based in part on research by Prof Shimon Gibson, who published The Final Days of Jesus earlier that year. Gibson identified part of the structure where the trial of Jesus took place, redefined the Way of the Cross, and corroborated the existence of the Bethesda and Siloam Pools.

Archaeological study of the Aedicule in the Church of the Holy Sepulchre was the subject of The Tomb of Christ (1999) by Prof Martin Biddle, and Beneath the Church of the Holy Sepulchre (1994) by Dr Joan Taylor and Shimon Gibson – just two of the many contributions in this sphere of interest. No doubt more evidence will emerge in years to come, and we look forward to evaluating it in an objective manner.

Dr Mark Merrony
Life after llama

As the centenary of Hiram Bingham’s (1875–1956) historic discovery of the Quechua citadel of Machu Pichu approaches, renewed attention is focused on the Inca civilisation and how it managed to thrive in the inhospitable Andean highlands of Peru for several hundred years. A new study led by Alex Chepstow-Lusty of the French Institute of Andean Studies in Lima, published in the journal *Antiquity*, appears to have found the answer: llama dung.

Because no written records of Andean societies existed prior to the Spanish invasion, led by the conquistador Francisco Pizarro in 1532, tracking their social and economic development has always been challenging, and the point at which the transition from hunter-gathering to farming was made has been hard to pinpoint. Chepstow-Lusty’s team analysed samples of mud from the bed of a lake near the mountain fortress of Ollantaytambo, Peru, to identify the presence of oribatid mite remains. These soil-dwelling invertebrates feed on decomposing organic matter, and their population increases correspond to increases in the density of domestic animals using the same area of pasture. The researchers found that the sudden appearance of maize pollen in lake sediments around 2700 years ago corresponds with an increase in the number of oribatid mites, suggesting that it was the presence of organic fertiliser provided by large numbers of domesticated llama that enabled the Andean people to cultivate maize at high altitude, replacing their diet of wild foods such as quinoa, and allowing the civilisation to flourish and conquer much of Andean America.

Stand up and fight

A study by the University of Utah has revealed that men hit harder when they stand on two legs than when they are on all fours, and that hitting downward rather than upward gives tall, upright males a fighting advantage. This may help explain why our ape-like ancestors began walking upright, and why women tend to prefer tall men.

‘The results of this study are consistent with the hypothesis that our ancestors adopted bipedal posture so that males would be better at beating and killing each other when competing for females,’ says Prof David Carrier, who conducted the study. ‘Standing up on their hind legs allowed our ancestors to fight with the strength of their forelimbs, making punching much more dangerous.’

‘It also provides a functional explanation for why women find tall men attractive,’ Carrier adds. ‘Early in human evolution, an enhanced capacity to strike downward on an opponent may have given tall males a greater capacity to compete for mates and to defend their resources and offspring. If this were true, females who chose to mate with tall males would have had greater fitness for survival.’

Carrier measured the force of punches by male boxers and martial arts practitioners as they hit in four different directions: forward, sideways, down and up. A punching bag fitted with a sensor measured the force of forward and sideways punches. For strikes downward and upward, the men struck a heavy padded block on the end of a lever that swung up and down because it was suspended from an axle. In either case, the men struck the target as hard as they could both from a standing posture and on their hands and knees. The researchers found that irrespective of the punching angle, men hit with far more force when they were standing, and from both postures they could hit over twice as hard downward as upward.

The transition from four-legged to two-legged posture is a defining point in human evolution, yet the reason for the shift is still under debate. Darwin thought that our ancestors stood up so they could handle tools and weapons. Later scientists have suggested that bipedalism evolved for a host of other reasons, including carrying food, dissipating heat, efficient running and reaching distant branches while foraging in trees. Popular theories explaining bipedalism have revolved around efficiency of locomotion, however Carrier’s studies have shown that upright posture is in fact a disadvantage in this area. ‘Walking bipedally has a cost,’ he says. ‘It’s energetically more expensive, it’s harder to speed up and slow down, and there are costs in terms of agility. In every way, going from four legs to two is a disadvantage for locomotion. So the selective advantage for becoming bipedal, whatever it was, must have been important.’

It is not a new idea that fighting and violence played a role in making human ancestors shift from walking on all fours to walking on two legs, but this study, published in the online journal PLoS ONE, physically demonstrates the advantage of fighting from an upright, two-legged posture.
Chinese Bronze Zodiac at Somerset House

On Thursday 12 May, the Edmund J. Sofra Fountain Court of Somerset House unveiled a monumental installation ‘Circle of Animals/Zodiac Heads’ by the Chinese artist Ai Weiwei. On display are recreations of the 12 bronze animal heads, representing the animals of the Chinese zodiac, that once stood in the Old Summer Palace, Yuanmingyuan, just to the north-west of Beijing. Each weighs about 360kg (800lbs), and the bronzes are more than 1m high. While the original heads were set on marble bodies, those fashioned by Ai Weiwei are displayed on bronze stands that raise each sculpture to an impressive 3m in height.

The bronze animal heads are based on those that originally decorated the Haiyantang, an ornamental water clock fountain in the grounds of the Summer Palace, designed by the Italian Jesuit missionary Giuseppe Castiglione, who, during the mid 18th century, was employed by the Qianlong Emperor (r. 1735–1796) as an artist and architect. In 1860, towards the end of the Second Opium War, the Summer Palace was overrun by French and British forces. Following extensive looting of the artistic treasures by the allied troops and local Chinese, Yuanmingyuan was burnt to the ground by the British in retribution for the manner in which the Manchu government had imprisoned, tortured and killed prisoners taken under a flag of truce. Once the torching of the numerous palaces and associated buildings that made up Yuanmingyuan was complete, the British erected an inscription in Chinese stating, ‘This is the reward for perfidy and cruelty.’ It has been estimated by the Chinese government that about 1.5 million items looted from the Palace in the days before the destruction of Yuanmingyuan are today spread around almost 50 countries. In recent years China has begun trying to reclaim some of these lost treasures, including seven of the original 18th-century bronze zodiac heads that survived the sack of Yuanmingyuan.

Ai Weiwei is well aware of such disputes surrounding the original bronzes, and the anti-Western sentiment that the history of the Opium Wars still inspires in China. In a statement made several months ago, he referenced the complex history surrounding the original zodiac bronze heads and how the ‘Circle of Animals/Zodiac Heads’ is intended to reflect this: ‘My work is always dealing with real or fake, authenticity and value, and how value relates to current political and social understandings and misunderstandings. However, because “Circle of Animals/Zodiac Heads” is composed of animal heads, it’s a work that everyone can understand, including children and people who are not in the art world. I think it’s more important to show your work to the public. That’s what I really care about.’

“The Cockerel’, one of the 12 bronzes by Ai Weiwei currently on display in central London.

Temple of Demeter and Persephone found in Sozopol

Archaeologists excavating in the Bulgarian coast at Cape Skamnii, near the ancient port town of Apollonia Pontica (modern Sozopol), have uncovered the remains of a temple dedicated to the goddesses Demeter and Persephone. Although the current season of excavations only started in April, finds of statues and artefacts have convinced archaeologists that the site dates back to the 4th or 5th century BC.

The leader of the Apollonia Pontica Excavation Team, Dr Krastina Panayotova, from the National Institute of Archaeology and Museum at the Bulgarian Academy of Sciences, said that archaeological finds had been discovered in and around the site long before the temple itself was found. Underwater exploration in the region of the port over previous years has also uncovered a series of archaeological sites and artefacts, including two anchors dating to the 1st and 2nd millennium BC, leading researchers to conclude that Sozopol was therefore a lively shipping port even during the Bronze Age.

Settlement at the site goes back to prehistoric times, and from at least the Archaic period, Sozopol was one of the largest and richest Greek colonies on the Black Sea. As the ancient title would suggest, the city was named in honour of the god Apollo, and a colossal bronze statue dedicated to the deity was erected in front of the temple dedicated to Apollo Letros. According to classical historians Pliny and Strabo, the sculpture was erected in the 5th century BC, but in 72 BC Lucius Lucullus (c. 117–56 BC) sacked the city and the colossal bronze was taken to Rome, where it was eventually lost.

Sozopol is today designated as a protected site of cultural importance by the Bulgarian government.

Kirsten Amor

In the News

‘The Horse’, positioned in front of the main entrance to Somerset House.

Minerva July/August 2011
Record prices for Islamic coins

At the beginning of April, an Umayyad gold dinar dating to AD 723 sold for £3,720,000 ($6,026,400) at the Morton & Eden auction in London. Far outstripping the estimate of £300,000–400,000, the dinar has become the most expensive coin ever sold in a European auction. (The only coin to sell for more was an example of the incredibly rare Saint-Gaudens double eagle $20 gold coin, produced by the United States Mint in 1933, which reached $7,590,020 when sold by Sotheby’s in 2002.)

The gold dinar was minted during the short reign of the Umayyad Caliph Yazid II (r. AD 720–724). Although the coin was struck only 91 years after the death of the Islamic prophet, it is possible these coins might have been struck close to the time Yazid II ascended to the throne. The Umayyad capital of Damascus. However, Stephen Lloyd, an expert in Islamic coins, has pointed out that it might have been struck close to the mine. ‘Scholars have noted that the dates of these very rare dinars seem to coincide with the occasions when the Caliph himself led the Hajj pilgrimage to Mecca, while an old inscription also shows that a road built specially for the pilgrimage went right past this mine. So proponents of one plausible theory argue that the Caliph visited his gold mines while en route for Mecca, and it is possible these coins might have been struck while he was travelling.’

A slightly earlier dinar of AD 711, also minted from gold obtained from the mines of Madin Bani Sulaim, sold for £648,000 at the auction, far above the estimate of £250,000–300,000. Also coming under the hammer was an exceptionally rare Umayyad dirham that dates to AD 709 and of the earliest Islamic coins minted in what is today the Sultanate of Oman. The dirham set a new world record for an Islamic silver coin when it sold for £1,080,000, far above the estimate of £200,000–300,000.

The entire Morton & Eden sale of 4 April achieved £6,673,560, well above the estimate of £886,000–1.16 million.

James Beresford

Past perfect

The Gallo–Roman Museum in Tongeren, Belgium, has won the prestigious European Museum of the Year Award, 2011. The museum, which houses Celtic gold, Roman glassware, Merovingian filigree work, and a rare Roman dodecahedron, was first established in 1937. Its growing collection was moved to new premises in early 1994, and the building was extended again in 2006. The museum presents the story of human development in the region, spanning prehistory to the end of the Roman period, and is home to more than 2000 objects, presented in a highly original setting. Educational films, scale models, and mannequins are all used to bring the past to life. It has as its motto the words of Marcus Aurelius: ‘What follows is always intrinsically linked to what went before’. Tongeren is the oldest town in Belgium, founded in 15 BC and inhabited in the Roman period by the Tungrī, a Germanic tribe of Gaul and Germany. Known as *Atuatuca Tungrorum*, it was the administrative centre of the district under Roman rule.

The judging panel praised the museum for its boldly thought-provoking approach, saying, ‘It does not shy away from the task of dealing with the uncertainty, and the presentations guide the audience through the issues but do not assert firm conclusions. The exhibitions are authoritative but not authoritarian. They provoke thought and provide the visitor with the information needed to take a view.’ The museum also received recognition for its inclusive social policy. ‘The museum is socially engaged not just with issues of heritage but also with its role in the local economy and in its commitment to education for which it has provided excellent facilities and for which it works with a large number of teachers who are employed by the museum. The integration with the town of Tongeren is strong and the museum is accessible as a meeting place.’

At the awards ceremony, which took place in Bremerhaven, Germany, on 21 May, the European Museums Forum presented three awards and six commendations, recognising the Museum of Broken Relationships in Zagreb, Croatia; the Watersnoodmuseum in Owerkerk, Netherlands; the British Music Experience in London; Douro Museum in Peso da Regua, Portugal; the Museum of the Artist and Story-Teller Stepan Piskhov in Arkhangelsk, Russia; the Museo Memoria de Andalucía in Granada, Spain; the Schiller National Museum in Marbach, Germany; and the Museum of the Finnish Civil War in Tampere, Finland.

Sophie Mackenzie

A display in the Gallo–Roman Museum in Tongeren uses interactive presentations and mannequins to bring the past to life.
The meeting of ancient and modern

The Mougins Museum of Classical Art was officially launched on 10 June. It is just three years since owner Christian Levett and director Mark Merrony first conceived the idea of creating a home for this magnificent collection of ancient and modern art (see *Minerva*, March/April 2011 pp. 38–39). The opening event featured spectacular displays of gladiatorial prowess throughout the night, and was attended by residents of Mougins as well as VIP guests, collectors and art connoisseurs from across the globe. The evening concluded with a dazzling firework display, and many commented that the village had seen nothing like this before – however the general expectation is that the best is yet to come.

The museum houses a world-class collection of ancient armour and weapons, and in addition to the Roman, Greek, and Egyptian marble and bronze sculpture, various other ancient art forms are displayed.

EGYPT NEWS

Colossus of Amenhotep III

Excavations undertaken by the mission of the Colossi of Memnon and Amenhotep III Temple Conservation Project at the funerary temple of the 18th dynasty Pharaoh, Amenhotep III (r. c. 1386–1349 BC), have unearthed an alabaster colossus of the long reigning king. The statue was found in two parts with the head separated from the torso. The colossus is unusual in that it was carved from alabaster, a stone rarely used in the sculpting of colossal statuary. The material for the statue was probably obtained from the alabaster quarries of Hatnub in Middle Egypt.

The statue originally measured about 18m in height and depicted a seated Amenhotep III, with almond-shaped eyes and a large mouth with wide lips. The pharaoh was also shown wearing a pleated *shendjyt* kilt and the *Nemes* headdress. Originally one of a pair, the statue was discovered in the settlement and mortuary area of the great court of Amenhotep III’s funerary temple at Kom el-Hettan.

Satellite imagery uncovers lost pyramids and settlements in Egypt

Satellite imagery to aid in the discovery of more than 3000 ancient towns and villages, some 1000 tombs, and possibly 17 pyramids lying unknown beneath the sands of Egypt. The innovative survey confirms the long-held belief amongst Egyptologists that the settlement and mortuary sites that have survived above ground level represent only a tiny percentage of what the ancient Egyptians left behind, and that much more still awaits archaeological discovery. As part of the Survey and Excavation Projects in Egypt (SEPE), Dr Parcak applied satellite image analysis and aerial photography to detect vegetation signatures throughout the South Sinai region. Through such studies it is possible to isolate water sources within the Sinai, revealing potential archaeological sites for further investigation. Compared to other forms of archaeological research, which can be expensive and time-consuming, research through the use of satellite imagery is relatively inexpensive and enables researchers to study vast geographical areas and pinpoint sites of archaeological importance.

The discipline of space archaeology is relatively new, and the recent findings have only just begun to scratch the surface of the potential that this form of research has for archaeology. The use of satellite imagery is still very much in its infancy, and Dr Parcak’s team is the first to apply the technology to Egyptology. ‘We were very intensely doing this research for over a year. I could see the data as it was emerging, but for me the “Aha!” moment was when I could step back and look at everything that we’d found and I couldn’t believe we could locate so many sites all over Egypt,’ she said.

Using infrared images taken by NASA satellites, which have the ability to trace the outline of structures over 700km from Earth and pinpoint them to within a metre of accuracy, the team were able to peel back layers of modern construction or agriculture to uncover structures that have been hidden from view for millennia. ‘What these satellites do is they record light radiation that’s reflected off the surface of the Earth in different parts of the light spectrum. We use false colour imaging to try to tease out these very subtle differences in the ground,’ she explained. Ancient Egyptian buildings were generally constructed using mud brick, which is considerably denser than the surrounding soil. The infrared cameras were able to discern the subtle differences in the soil. ‘It shows us just how easy it is to underestimate both the size and scale of past human settlements.’
settlements in Egypt

A series of test excavations was conducted to validate the results from the satellite imagery. These unearthed two structures similar in shape and size to pyramids excavated in the surrounding area. Although the discoveries have attracted a frenzy of media attention, Dr Parcak is reluctant to confirm the findings as pyramids until full excavations are conducted, warning, ‘We’re not going to be able to say with a 100 percent certainty that they are pyramids until they’re excavated.’ Authorities from the Saqqara region were at first uninterested in the findings being made by the University of Alabama. However, following the discoveries the Egyptian authorities now plan to start using the new technology to help locate and protect the country’s archaeological sites.

III was also discovered in the great court. Originally standing about 9m high, it was found broken into 27 large pieces and several smaller ones. The stele bears two scenes representing Amenhotep III and his queen consort, Tiye, bringing offerings to the gods, Amun-Re and Sokar. The rest of the stele is dedicated to the great gods of Thebes. However, restoration work has begun on the stele and in its partially reconstructed state measures 7.40m in height.

The archaeological team, led by Dr Hourig Sourouzian, has also unearthed the granodiorite head of a male god. Measuring 28.5cm in height, the deity wears a stripped wig while a section of the plaited divine beard is also preserved. A red quartzite stele of Amenhotep III was also discovered in the great court. Originally standing about 9m high, it was found broken into 27 large pieces and several smaller ones. The stele bears two scenes representing Amenhotep III and his queen consort, Tiye, bringing offerings to the gods, Amun-Re and Sokar. The rest of the stele is decorated with 25 lines of sunken hieroglyphic inscriptions, which list the temples Amenhotep III dedicated to the great gods of Thebes. However, restoration work has begun on the stele and in its partially reconstructed state measures 7.40m in height.
When we think about prehistoric rock art in Europe, we are immediately drawn to the Upper Palaeolithic paintings of the Dordogne in south-west France, the Pyrenees and Northern Spain, or maybe the open-air carvings of the Côa Valley in northern Portugal. The dominant themes from all these areas are the large animals that roamed the glacial and post-glacial landscapes of Europe. Despite these concentrated areas of prehistoric activity, there are a number of regions of Europe that boast rock art traditions dating to the later periods of prehistory. One of the most important of these is the rock art of the Valcamonica, a glacially formed U-shaped valley in the central Italian Alps that, over the past 12,000 years, has provided an important and strategic trade route – first for hunter-gatherers and later for agriculturalists (Fig 1). Valcamonica is the highest concentration of prehistoric rock art in Europe, with over 300,000 individual images carved and pecked onto boulders and rocky outcrops around the valley.

The rock art tradition in this part of the Italian Alps was first noted in the early 20th century, although herdsmen roaming the intermediate slopes of the Vacamonica must have been aware of the presence of the carvings for many centuries. The Italian geographer Walter Laeng was the first scholar to recognise engravings on boulders at Pian delle Greppe and Capo di Ponte in 1909. These two boulders, along with others that soon came to light, became the focal point for international research, and by the 1930s the Vacamonica had become a major centre for academics studying the large collection of rock art.

Today, the valley is divided into two main research areas: the eastern and the western slopes. The Cooperativa Acheologica Le Orme dell’Uomo (The Footsteps of Man Archaeological Society), have been involved in intensive fieldwork on the eastern side of the valley for over 20 years, engaged in the discovery and study of numerous sites that include Dos Sotto Laiole and Dos Custapeta, including the recording of panels that are located 1300m (4250 feet) above the valley floor at Dos Sulif and Baite Fles-Saline (Fig 3). It is hoped that this year the team will complete the recording of Baite Fles-Saline, the highest decorated surface to be discovered so far, located around 300m (1000 feet) above the village of Pasparo (Fig 4). On the western side of the valley, a distinct rock art assemblage including the Bebolina Map has been intensively studied by the Centro Camumo di Studi Preistorici, under the direction of Prof Emmanuel Anati (University of Lecce).

In 1955 the Italian Government created the Parco Nazionale delle Incisioni Rupestri di Naquane (Naquane Engravings National Park), which contained more than 100 engraved surfaces. Other archaeological parks devoted to prehistoric rock art later followed, including Ceto-Cimbergo-Pasparo (Riserva Regionale di Ceto-Cimbergo-Pasparo), Seradina-Bedolina (at Capo di Ponte), Council Park of Carpene (Sellero), the Council Park of Luine (Darbo-Boario Terme), and Coren delle Fate (Sonico). In 1979 the Valcamonica became the first Italian archaeological area to be included in UNESCO's prestigious World Heritage List.
Italian archaeology

The majority of the petroglyphs are carved on to polished sandstone and schist rock outcrops on the lower and intermediate slopes of the valley to an altitude that extends to around 2100m (6900 feet) above sea level. Within the valley over 17 areas of concentrated rock art have been recognised, the most dramatic and numerous being on outcrops around Naquane. Other areas of rock art interest include Foppe di Nadro, Bedolina, Seradina and Paspardo (all lying within 10km of each other and dotted around the medieval town of Capo di Ponte). To the north of Naquane, and past the border town of Edolo, the valley tails off to the west forming a small but distinct pass between Italy and Switzerland, and further rock art is present here.

The development of the Valcamonica rock art tradition is complex and is divided into five chronological phases, each with its own distinct style and subject matter. The earliest petroglyphs date to the Upper Palaeolithic, following the retreat of the Alpine glaciers around 13,000 BC. At this time the valley would have been inhabited by small bands of hunter-gatherers. The rock art of this period – known as proto-Cammunnian – is limited to just a few sites, one of which is Le Crape in Darfo Boario Terme, where semi-naturalistic elk are depicted (Fig 5).

Despite the presence of this Palaeolithic activity, the first fully recognised rock art phase dates to the period that falls between the end of the Neolithic and the beginning of the Copper Age. The symbols created at this time include geometric forms that may represent the field systems used by the agricultural communities who dwelt in the region. Other symbols attributed to this early phase includes engraved spirals and necklaces. Interestingly, necklaces also feature on Copper Age statue stele – highly decorated stone markers that would have stood within a ritualised landscape, helping to guide communities to ceremonial and spiritual areas in the valley.

The second phase, corresponding to the middle Copper Age (dated between the 4th–3rd millennium BC), includes multiple carved figures/motifs engraved onto boulders which had been carried down the valley and deposited by glacial ice (Fig 6), as well as menhirs and statue stele. One of the most important depictions appears to be a sun symbol, sometimes represented as a man crowned by a solar circle with radiating beams, and often associated with weaponry. Other representations include women adorned with jewellery, such as eye pendants, necklaces and combs. There is possibly also a representation of a male divinity wearing a cloak. Accompanying these characters is an array of multiple-pecked images of a variety of animals, including boars, bovines, chamois, deer, dogs, fox, ibex and wolves. Usually flanking these motifs are representations of weaponry such as axes, daggers and halberds.

Following this distinct style is a third phase of the Valcamonica rock art, which has an iconographic repertoire that includes weaponry, ploughing scenes, so-called ‘praying’ anthropomorphic figures, and solar/celestial symbols and shovels (Fig 7). Artefacts retrieved from archaeological excavations close to the carved images indicate that these images were created in the 2nd millennium BC, corresponding to the southern European Bronze Age. Art of this style and period has also been found in Valtellina, a large glaciated valley some 60km to the north of the Valcamonica.

During the Final (Late) Bronze Age, rock art in the Valcamonica became geometric, stylistic and schematic, possibly because of external influences. Among the so-called ‘praying’ figures are those with large exaggerated hands. Great emphasis appears to have been placed on the role of the warrior and...
houses there are a number of rock art oddities that are found mainly in the Naquane National Park. Petroglyphs such as one featuring a three-dimensional ox-drawn wagon (Fig 12) provide further evidence of the complexities of Iron Age life.

During this Iron Age phase, the majority of scenes depict warriors showing off their sexual prowess – a precursor to the heroic age of the Etruscans and the Archaic period of Greece, when male nudity became fashionable in art. Documentary evidence relating to Valcamonica also begins to appear in the Late Iron Age and the valley takes its name from its earliest known inhabitants – the Camunni – who first appear in the historical record following the annexation of the region to the Roman Empire in 16–15 BC. The tribe of the Camunni also feature on the Tropaeum Alpium, the Victory Monument of the Alps, which was constructed near Montecarlo in about 6 BC to celebrate the subjugation of the alpine tribal groups by Rome a decade earlier. Even before the absorption of the Camunni into the Roman Empire, it appears that communities living in the Valcamonica possessed a writing tradition that utilised the North Etruscan alphabet, which is clearly visable on a large number of panels, in particular around Naquane, where carved text – indicating land ownership, personal names and several slogans – is present (Fig 13).

Despite the large numbers of images carved into the rocks in Valcamonica, it can be very difficult to locate the rock art. Although the smooth rock outcrops that occur all over the valley were ideal canvases on which to carve engravings, during the hours of daylight the rocks look untouched, and the art is nearly impossible to see. It is only when one gets up close to the rock surface and views it with an oblique light source, such as by reflecting sunlight with the use of a mirror, or when illuminated by torchlight, that the art comes alive. When these finely pecked images were first engraved, the near-white patina on the rock surface would have made them highly visible. However, within just a few years of their creation the pecked surfaces would have weathered and the patina changed to a grey lustre, similar in colour to the surrounding rock surface, thus making the rock art increasingly difficult to see.

Limited excavation around the numerous panels has revealed angular pieces of quartz that were probably used to peck the numerous images and motifs. Within Valcamonica two engraving techniques appear to be used. The most frequent of these was a percussion method in which the art was ‘pecked’ onto the rock. The second technique involved scratching the images onto the rock surface, a method usually associated with later rock art dating to the historical period, when metal tools were widely utilised to help create the images. However, despite the increasing availability of metal implements from the later prehistoric era, percussion work fashioned using a stone implement was still considered more favourable – probably because tradition required the ritual act of striking stone against stone. It could be the case that the engraving of rock art formed only part of an extensive ritual package: the sound of stone on stone
the artist and the audience.

In addition to the discovery of quartz, iron-rich haematite (commonly known as ‘blood ore’) has also been found around a number of rock art panels. This suggests that, following engraving, images were in-filled with colour. It is probable that different shades of haematite may have been used to produce shaded and bi-colour imagery and possibly to represent such themes as engendered images or motifs.

Who was creating the art of Valcamonica? There are of course many interpretations as to who the artists might have been and why they took the time and expended the effort in creating such images. One theory argues that the artwork was created by shepherd boys with time on their hands, who would nonchalantly engrave images as they moved herds and flocks through the landscape, but such speculation seems unconvincing given that the rock art appears to serve a number of purposes. Firstly, it is located on the intermediate slopes away from the main settlement areas within the valley. The rock art also extends to over 2300m (7500 feet) above the valley and in some cases is carved on or close to very dangerous ledges. One can suggest that it is therefore purposely hidden and viewing was possibly restricted to certain members of a social elite who would have the knowledge of what to carve and where to carve it.

Like all forms of artistic endeavour, the Valcamonica rock art could not have been successfully executed overnight. The tradition of carving would have been passed down from generation to generation. The most productive phase runs from the late Neolithic to the Iron Age (with most carving activity occurring between the Bronze Age and Iron Age), a period of around 3000 years of artistic endeavour. It is interesting to note that although a limited repertoire of imagery is used, suggesting some form of pictorial language, no two panels are the same.

There are a number of ways of expressing the art: two such techniques are animation and the movement of natural light to expose certain imagery at specific times of day. Similar to a book full of chapters, the rock art may have been ‘read’ panel by panel, with observers moving around the site in order to make sequential sense of an ordered past. The multi-layering of each panel would further complicate the narrative, creating a series of ancestral histories that would have become powerful over time, treating each generation of perhaps young initiates to a fantastical and mythical sense of belonging.

George Nash, Mila Simões de Abreu and Angelo Fossati are specialists in prehistoric art and undertake research and conduct lectures at the Centre of Quaternary Research, Museu de Arte Pré-Histórica, Mação, Portugal.

Anyone wishing to get involved in the Valcamonica Field School, running from mid/late July to early August each year, should contact Angelo Fossati (ae.fossati@libero.it)
Rock of ages

Elinda Labropoulou talks to some of the influential people behind the New Acropolis Museum to discover what it has achieved since opening in 2009

Two years after its opening, the New Acropolis Museum has become Greece’s leading tourist attraction, outstripping even the ancient Athenian rocky outcrop whose sculptures and artefacts it showcases. Designed by the acclaimed Franco-Swiss architect Bernard Tschumi, together with his Greek associate Michalis Fotiadis, the ultra-modern three-storey building lies in the shadow of the rock of the Acropolis and was intended to display artefacts and sculptures from across antiquity, including the Golden Age of Athenian democracy in the 5th century BC (see Minerva, November/December 2009, pp. 8–11) (Figs 1, 2).

Although it has only been a short time since it officially opened, the museum’s ascent to the position as the country’s number one visitor attraction has been a long and steep one. It took successive Greek governments 35 years to get a new museum built to house more than 350 exhibits, which until 2009 had jostled for space in the cramped confines of the Old Acropolis Museum, a small building on the eastern end of the summit of the Acropolis.

Many artefacts that had previously been locked away in storage, owing to space constraints, have now also been placed on public display in the New Acropolis Museum.

The museum’s President, Prof Dimitris Pandermalis, says that while technical and bureaucratic hurdles led to numerous delays in the building of the new museum, archaeological finds made during the construction process also had an impact on the schedule: ‘During works the remains of ancient buildings came to the surface under the proposed site of the museum on...’

Fig 1. External view of the main entrance to the New Acropolis Museum.

Fig 2. External view of the eastern façade of the New Acropolis Museum.

Fig 3. Foundations of ancient buildings preserved and on view under the New Acropolis Museum.
the southern slope of the Acropolis. This problem was finally resolved by incorporating the archaeological finds on the site into permanent displays within the structure of the museum (Fig 3). As Prof Pandermalis notes: ‘The museum’s very location, standing on top of an archaeological dig that visitors can see through glass floor walkways, is probably the best example of the incorporation of antiquity in the present era. I don’t think that any other museum in the world has done anything like this to the same scale. You find parts of digs in the basements of certain buildings, like the City Hall in Barcelona, but when you are there you feel you are in a basement. Here we are talking about a walk, a pleasant stroll, through antiquity.’

The incorporation of the archaeology into the very heart of the building certainly appears to meet with the approval of many visitors to the museum. Nancy Grengins, a 34-year-old nurse from Washington, photographed her five-year-old son as he lay on the glass walkway outside the museum’s main entrance with the ancient remains clearly visible directly underneath him. ‘For us, coming from the “New World”, the idea of being able to see and touch these different civilisations and feel what it is like to walk through ancient cities that flourished thousands of years ago is incredible. Walking here and looking at the Acropolis at the same time you really get a feel of what being in Ancient Greece must have been like.’ Her answer would have satisfied Prof Pandermalis, who believes, ‘These visible layers are fascinating to the visitor. Instead of focusing on the building the visitor is able to focus on antiquity itself. The building is the architectural structure that is there to bring out the antiquities.’

For Prof Pandermalis, the museum’s popularity owes much to its carefully considered architectural design and orientation, which take full advantage of the environmental conditions: ‘The natural light that streams in, the same Athenian light widely praised by many of antiquity’s poets, and the great transparency that the museum has thanks to its many glass galleries in which the Parthenon is reflected prevent this museum from being a sterile space and attract visitors back. For a museum that is always a difficult challenge, he says.

A different kind of transparency – or rather the lack of it – has been closely associated with many of Greece’s recent financial problems, which resulted in a severe overall drop in tourism to the country in 2010. Large-scale demonstrations against the government’s severe austerity measures took place outside the Greek parliament, which is just a short walk from the museum, and resulted in violent clashes between police and rioters, further discouraging visitors from coming to the museum. The industrial action also included rolling strikes across the public transport system and led to the cancellation of many international and domestic flights and ferry services. All this had an impact on the museum, and Prof Pandermalis says that during mass strike days the number of visitors was visibly lower. At the
same time revenue for hotels in the Greater Athens area fell by €62 million in 2010, while visits to the Acropolis itself dropped by 16 percent as Culture Ministry workers blocked the entrance to the site for several days while voicing demands for overdue payments and the establishment of permanent jobs.

However, initial figures show that income derived from tourism is picking up again this year. Athens, the city most affected by the strikes and violence, is expected to see a rise in visitor numbers of more than ten percent this summer.

According to recent polls, the desire to visit the museum is among the top reasons cited as to why people choose to extend their planned stay in the Greek capital before continuing on to other holiday destinations. With the Acropolis high on many travellers’ itineraries, and tempting thousands to visit, or revisit Athens, the recent opening of the museum could not have come at a better time to lend some aid to the country’s ailing economy. The increase in tourism generated by the museum has provided a significant boost for cash-strapped Greece, and the displays will hopefully continue to draw visitors into Athens, further supporting the tourist industry, which already accounts for nearly one fifth of the country’s gross domestic product.

Katherine Schwab, Associate Professor of Art History at the Bellarmine Museum of Art at Fairfield University, Connecticut, believes that the New Acropolis Museum has been a huge success and allows visitors to learn about the long and complex history of the Acropolis in a way that has never before been possible. ‘Walking among the Archaic dedications on the first floor is certainly a highlight and the installation provides a sense of the numerous dedications within the sanctuaries up on the Acropolis in antiquity (Fig 4). One definite stop, among many, would have to be the balcony where the Caryatids stand on a low pedestal (Fig 5). We have the opportunity now to see them up close and from all sides, which was not possible when they were still in their original location in the south porch of the Erechtheion. Other excellent works on this floor include architectural elements from the Propylaia, the lovely Sandal binder from the Nike Parapet, and the Ionic frieze from the Temple of Athena Nike.’

Fig 5. The Caryatids from the south façade of the Erechtheion, 420–415 BC.

Fig 6. The Parthenon metopes. The brilliant white of the plaster casts are in marked contrast to the original honey-coloured pentelic marble sculptures. Photo: Nikos Danilidis.

‘It is simple and elegant at the same time, offering a wonderful view of that monument’

The top floor of the museum attracts the greatest attention, with its display dedicated to the Parthenon Marbles – among the most artistically admired yet politically sensitive group of artefacts in the world. Prof Schwab’s grayscale scans of drawings from the east and north metopes of the Parthenon are also on display in this part of the museum. ‘The original compositions were badly damaged during anti-pagan fervour when the temple was converted to a church. These scans are displayed on the lower edge of the frame supporting each metope, and they help visitors to understand the general appearance of each composition.’

The Parthenon Gallery displays the famous frieze that for almost two millennia has been linked to the artistic genius of Phidias and the political will of Pericles. In the museum a central core, built to the exact same dimensions as the Parthenon’s naos (the inner chamber on the temple, often more frequently referred to by the Latin cella), allows the carved pentelic marble to be appreciated at eye level
Minerva July/August 2011

(Fig 8). The orientation of the display also matches that of the Parthenon, which casts its shadow down from the heights of the Acropolis, and dominates the northern aspect of the gallery (Figs 7, 10). German archaeologist Heinrich Hall, formerly Assistant Director of the Irish Institute at Athens, who writes and broadcasts on archaeological topics in Greece, describes the Parthenon Gallery as 'perfect.' It is simple and elegant at the same time, offering a wonderful view of that monument. Most importantly however, the display of the marbles (and casts), attached to the outside of the room's internal structure, is streets ahead of any alternative, showing the frieze in the same orientation and composition that it had on the Parthenon, and forcing the visitor to walk around it, avoiding the disconcerting inside-outness of arrangements elsewhere.

Greece has, of course, long campaigned for the return of the priceless sculptures removed by Thomas Bruce, 7th Earl of Elgin, at the beginning of the 19th century. Many of the panels on display in the Acropolis Museum are casts taken from marbles which are today housed in the British Museum, and the difference in colour between the originals and the plaster reproductions caused controversy at the Museum's opening, with some critics interpreting this as 'a media trick' designed to emphasise and promote Greece's request for the repatriation of the Parthenon sculptures taken from the Parthenon and some of the other ancient buildings on the Acropolis, is undeniable. "The Parthenon Marbles repatriation issue is completely different to any other issues concerning the repatriation of antiquities. When the visitor sees the difference in material and quality between the cast and the original he cannot help but wish to see the Marbles united. It is the right of the Marbles, created at the height of civilisation, to exist as an entity in the same way that you cannot separate a human body. This is not something the museum tells visitors they should feel, but many leave the Marbles Gallery feeling exactly that way. We are not presenting the marbles as an official Greek stance or protest. The museum displays the historic facts and visitors can draw their own conclusions.'

Two years after its opening, the New Acropolis Museum, a modern construction surrounded by one of the oldest areas in the city, appears to be doing more than simply relying on Greece's past to attract visitors. Designed to follow the history of the Acropolis and all it continues to stand for, the museum provides an account of the history as it unfolds from antiquity to the present. Much like the restoration work on the Caryatids, which is under way in the museum and visible for all to see (Fig 9), the museum's greatest success is possibly that it enables visitors to witness the passage of history as it unfolds from antiquity to the present.

---

Fig 7. The sculptures from the west pediment of the Parthenon. The metopes are displayed on tubular supports, while the frieze can be seen behind. The display in the New Acropolis Museum partially replicates the original arrangement of the marbles on the Parthenon, while making it easier for visitors to see the sculptures.

Fig 8. The Parthenon frieze in the New Acropolis Museum. The pentelic marble relief, carved c. 443–438, is displayed on the top floor of the museum in a manner that replicates the Parthenon's naos.

Fig 9. Restoration work being carried out on the Caryatids within the New Acropolis Museum.

Fig 10. The Parthenon perched on the rock of the Acropolis provides a dramatic backdrop and helps explain why the New Acropolis Museum has become Greece's top visitor attraction since its opening in June 2009.
Museum exhibitions

Murray Eiland looks at the long history of use of Jade in China, and the wonderful collection contained in the spa city in the west of England

The city of Bath in the West Country of England is usually associated with the architecture of the Georgian period (1714–1830), and its well known Roman baths and associated finds. *Aqua Sulis*, built by the Romans soon after the invasion of AD 43, exploited local hot springs, which formed the basis of a thriving community that served the elite of many ages. Bath has been a World Heritage site since 1987, one of the few cities to be so honoured. It may come as something of a surprise that the city also hosts the Museum of East Asian Art (MEAA), the only museum in the United Kingdom dedicated to the arts and culture of East and South-East Asia, which has an important collection of antiquities. The museum – with over 2000 objects – was the vision of Brian McElney, a solicitor, now retired, who practised in Hong Kong for 35 years. During this time he started collecting objects in jade, ceramic, and bronze. After decades of collecting, and finding no museum that would be willing to take the collection as a donation or loan, he finally arranged to found a museum that would come to occupy a Georgian house on 12 Bennet Street in Bath (Figs 1, 2).

Bath is a more appropriate setting for a museum devoted to the art of East Asia than might at first be apparent. As a spa town, tea drinking was an important pastime, and the monied elite of the region imported large quantities of porcelain from the Far East. An excellent display of armorial porcelain, commissioned by local families, has a special place in the museum. However, it is not difficult to discern what class of object held pride of place in ancient China: the museum houses one of the most important collections of jade in the UK. One of the strengths of the collection is that it contains material from all periods, and the display is arranged so that objects from different eras can be easily compared.

Unlike most museum displays, which give prominence to larger items, the MEAA displays jade of all sizes. Many of the smaller pieces, designed to be used for adornment or held in the hand, vary from simplicity of design to great complexity, depending upon the taste of the age. The style of jade objects is key to dating them, as most jade in museum collections has not been obtained from controlled excavations. At various times in China’s history, interest in the material culture of the past has awakened, and objects have been fashioned in the style of earlier eras, often accompanying heirloom objects in collections. In recent decades, with the rise of China as an economic superpower, many antique jades have been reacquired by Chinese collectors, while the production of outright fakes has never been more widespread (see *Minerva*, November/December, 2001, pp. 43–46). Fortunately for the MEAA the bulk of its collection was formed before this problem became acute. The idea that a ‘Jade Age’ existed in China from about 4000–2000 BC, between China’s Stone Age and its Bronze Age, was first put forward in 1982 by the archaeologist Sun Shoudao, a research fellow with the Liaoning Provincial Archaeological Research Institute. This proposition has gained currency in the last 30 years as new excavations investigating this period have confirmed jade (nephrite) was worked even at this early stage in Chinese history (Figs 3, 4). During the Shang dynasty (1600–1100 BC) jade was considered such a measure of wealth that the official responsible for the treasure of the imperial court bore the title ‘Chief of the Jade Storehouse’ (Fig 6). At this time the repertoire of shapes was dominated by discs, segments, and forms from nature. Many ancient societies were governed by sartorial conventions dictating what every social group could wear or display and it would appear that the wearing of jade was initially confined to the elite (Fig 7). Following the Shang dynasty, jade was also used for pendants and elaborate

---

**Fig 1.** The Museum of East Asian Art at 12 Bennet Street, Bath.

**Fig 2.** Brian McElney, founder of the museum, with HRH Prince Michael of Kent.

**Fig 3.** Human mask, North China Neolithic Period, Hongshan type (3500–2200 BC). Hongshan jades have been recovered from burials, while small rotund votive female figures in clay have been recovered from domestic contexts. Already at this early date there was extensive experimentation in representing the human form. H. 5.8cm.
pectoral or strings of pendants, and these were a particular hallmark of the Eastern Zhou dynasty (770–221 BC). Wearing pectorals and pendants continued into the Han dynasty (206 BC – AD 220) and beyond. The second king of Nanyue, Emperor Wen Zhao Mao, had 11 pectoral assemblages buried with him when he died in 122 BC. Eventually the wearing of jade became more widespread: Confucius (c. 551–479 BC) notes that men new to wealth would conspicuously ‘go around clanking their jades’, which suggests that they were unaccustomed to walking in a leisurely enough pace that their jewellery would make no sound.

During much of the Han dynasty raw jade was easily available via trade routes to the oasis cites of Khotan and Yarkand, which came under Chinese dominance during the Western Han dynasty (206 BC – AD 8) (Figs 6, 8, 9). Supplies of jade waxed and waned depending upon the level of Chinese control over the region. Very little raw jade appears to have entered China during the Wei (220–265), Jin (265–420), Northern and Southern dynasties (386–589) and Six dynasties (220–589) period (Fig 10). Jade began to flow abundantly in the Sui (581–618) and parts of the Tang (618–907) dynasties. However, at this time foreign tastes appear to have dominated the court, and gold and silver would have been more highly valued. At the same time the conversion of the Turkic population in Western China to Islam at the end of the Tang dynasty during the 8th century led to disruptions in supply and poor quality jade is even found in elite contexts. Raw jade was available during the Song dynasty (960–1279), but according to records, the best quality white jade was difficult to obtain for much of this period (Figs 11, 12). During the Yuan or Mongol dynasty (1270–1368), this problem was solved, and imperial missions were sent directly to the source. Although records state that jade was plentiful, few objects that survive today have been dated to the Yuan. It is likely that there are jades currently dated to the Song (960–1279) or Ming (1368–1644) that may be placed in the Yuan dynasty (Fig 13). As a rule, jades of any size dating before the late Ming are rare.

Part of the reason why jade was – and is – so valuable is that it is difficult to fashion. Unlike softer stones, it cannot simply be carved. Raw jade can be sawed using a string or sinew and an abrasive to yield flat slices or a dressed block. Holes could be made using a rotating rod, one end of which

Fig 4. Jade bead with taotie masks, Neolithic period, Liangzhu culture (3400–2250 BC). The two end sections of this bead are decorated with taotie masks. L. 3cm.

Fig 5. Jade tiger plaque, Shang dynasty (1400–1100 BC). In style the creature is typically late Shang in form. The reverse of this thin plaque was covered in cinnabar. H. 6.3cm.

Fig 6. Squat figure, Western Han dynasty (206 BC – AD 8). The male figure bears similarities to Western Han pottery and Bronze figures. It is possible he is playing a board game. H. 7.7cm.

Fig 7. Black jade sword guard of ‘winged’ form, Late Warring States Period (4th–3rd century BC). The surface is decorated with angular scrolls and kui dragons. Similar examples have been recovered from controlled excavations, many of which were clearly of elites. Although jade is tough and relatively strong, it is likely that the guard would have been used on a ceremonial weapon. H. 2cm.

Fig 8. Greyish green toggle, Western Han dynasty. This type of toggle, apparently called a sui, was used with bindings between the scabbard and belt. Longer thinner toggles were used to tie a monk’s robe. D. 4.7cm.

Fig 9. Sword scabbard chape, Western Han dynasty. One side is carved with a kui dragon, grasping the foot of a small bear like creature. The reverse is decorated with interlocking scrolls. Interestingly, the bear-like creature is never found on its own, it is only depicted in association with kui dragons. H. 5.4cm.
It was the use of metal tools that made the manufacture of more complicated designs in jade possible.

was placed against the jade with a particulate paste in between. A cylindrical tube, often of bamboo, was sometimes used for this process, which would yield a core of jade in addition to the piece being drilled. If the object was thin, drilling would take place from one side, while thicker objects were drilled from either side, often resulting in holes that do not exactly meet in the middle. With modern power tools drilling takes a fraction of the time it would have done in antiquity. It was the use of metal tools that made the manufacture of more complicated designs in jade possible. Openwork carving was rare before the late Western Zhou (1100–771 BC), but elaborate plaques were made in the Eastern Zhou (770–221 BC) and particularly in the Warring States (475–221 BC) periods, by which time it is likely that iron tools (saws, grinders, gouges and drills) had largely replaced bronze tools. However, abrasives continued to be used in the process, with sand required until the Tang period. In later periods crushed garnet, a substance with a hardness of 7.5 on the Mohs scale, came to be used. Diamonds (with a Mohs hardness of a maximum 10) were sourced from India as early as the 3rd century AD, but it is likely that their use was confined to drilling fine holes in the most expensive objects. In contrast corundum (with a Mohs hardness of 9), was more widely used during the Song dynasty, and ever more complex designs could be rendered in jade (Fig 14). Today, synthetic diamond is easily manufactured and is widely used in the carving of modern jade, as well as in forgeries of ancient jade carvings. Microscopic analysis can unmask the forger’s art.

When appreciating jades, it is critical to understand that the final artwork is an interaction of the methods and materials used to create it. As with so many other areas of archaeology, it is at this nexus where the debate can be assisted by careful observation. Many jades that appear early in form would best be assigned to a later date after they have been examined. As is the case with many arts, pictures are not sufficient. Careful observation must be made of the surface sheen, as well as any degradation that would have occurred during burial. Many forgers assume they must age the surface of a jade markedly. As the display in Bath so clearly shows, ancient jades can appear as if they were made recently. The Museum of East Asian Art in Bath offers visitors a comprehensive display of jades from all periods. For those interested in jades it should not be missed.
W as the last ruler of the Julio-Claudian dynasty a bloodthirsty psychopath who com-
mitted arson on a grand scale, or was he a refined patron of the arts, a compassionate and sensitive visionary who has been unfairly maligned? The curators of this exhibition do not take sides, but rather allow the evi-
dence provided by archaeology – a wide array of artefacts, statues, frag-
ments of painted walls and other architectural elements – to speak for itself.

The exhibition is spread across some of the most iconic locations in Rome, with displays on the first floor of the Colosseum, in the Neronian cryptoporticus on the Palatine, and in the Curia Julia and the Temple of Romulus in the Forum (Fig 2).

Nero’s huge palace complex constructed on the slopes of the Palatine and the Esquiline hills – the magnifi-
cent Domus Transitoria and later the Domus Aurea – were surrounded by gardens, fountains and a lake (Fig 6). The area had originally been marshy ground that during the 6th century BC had been reclaimed to allow the con-
struction of a large urban area that included the original Curiae Veteres (Sanctuary of the Curies), all of which were completely destroyed by the fire of AD 64. The densely inhabited dis-
tricts of ancient Rome had seen many fires over the years, but never anything on this scale: the inferno lasted nine days and consumed most of the city. The historian Tacitus (c. AD 56–117) states that no matter how grand the new city planned by the Emperor was to be, old people would remember the many masterpieces and heirlooms that had been lost and could never be replaced. Nero was in Antium (modern Anzio) when the fire started, but returned to Rome in time to see his own palace – the sumptuous Domus Transitoria (Fig 9), which he had built with great care and expense in the first ten years of his reign, burn down. The Emperor must have been dismayed at the sight and hardly inclined to take up his fiddle.

Nero’s rebuilt capital would prove to be an extraordinary architectural achievement. Rome finally had appro-
priate building regulations, enforcing the construction of wide roads, houses with courtyards, porticoes (funded directly by the Emperor himself), and the provision of water supplies at reg-
ular intervals to help reduce the risk of future fires. The ruined buildings were levelled, raising the ground level by 3m. To speed up the reconstruc-
tion process, barges bringing wheat to Rome along the River Tiber were ordered to carry a cargo of rubble away from the city on their return journey, and this debris was used to reclaim land from the marshes around the port city of Ostia.

Nero rebuilt his own palace on a scale never before seen in Rome. Its unusual plan, with a hexagonal room at its cen-
tre, lit by a round opening 6m wide, with long protruding wings on either side, was first examined in detail in L.F. Ball’s The Domus Aurea and the Roman Architectural Revolution (2003).

One of antiquity’s most controversial figures is under scrutiny once again as the exhibition ‘Nero: Rome, Colosseum, Forum, Palatine’ opens in Rome. By Dalu Jones
In the provinces, the construction of monuments with rounded facades, like the Sebastion at Aphrodisias, was made possible by the use of new building techniques and a new form of cement (opus caementicium). However, little remains of Nero’s innovative architectural projects, such as the huge Claudium in Rome, a commemorative temple built on a huge platform with a grandiose prospect complete with waterfalls. His grand villa at Subiaco (Sublaqueum), less than a day’s journey from the capital, boasted rock-like sculptures, water features reflecting fairy pavilions, and an interpretation of a Hellenistic paradise. Unfortunately, virtually no trace of this magnificent villa survives in today’s landscape.

Unfortunately, the section of the Domus Aurea that was excavated in recent years is no longer open to the public, as seepage has made it unsafe (see Minerva, May/June 2010, p. 4). The current government’s neglect of its cultural heritage, and the combination of severe spending cuts and the appointment of business managers using non-specialist building firms rather than qualified archaeologists and restorers, is the cause of an ongoing scandal in Italy. Sites like Pompeii, the Palatine, the Domus Aurea and countless others have been left to crumble for lack of even the most basic maintenance (see Minerva, March/April, 2011, pp. 26–29). Even the money-spinning Colosseum only recently gained funds to allow its restoration and consolidation after a private sponsor made €25 million available. It is therefore uncertain whether archaeological investigation of Nero’s Coenatio Rotunda will be able to proceed. Described by the writer Suetonius (c. AD 70–140) as a rotating circular dining room, it was unearthed on the Palatine in 2009, and its intricate decoration and complex cosmological symbolism could tell us much about the architectural revolution started by Nero.

Nero Claudius Drusus Germanicus was born in AD 37 and at the age of 13 he was adopted by the emperor Claudius, whom he would succeed to the throne in October AD 54. Following an eventful 14-year reign, Nero killed himself in AD 68 in order to avoid assassination. The first five years of Nero’s rule are generally held to have been beneficial for Rome and the empire, and the young emperor presided over an age of prosperity and social reform encouraged by the stern tutorship of the philosopher/poet Seneca (c. 2 BC – AD 65), and Nero’s astute military advisor, the Praetorian prefect Sextus Afranius Burrus. Senecas De clementia...
the implementation of sumptuary laws intended to discourage conspicuous displays of wealth. However, these made him enemies among the senatorial and equestrian classes, already shocked by his love of sports and theatricals that were considered unsuitable pastimes for the Emperor. That Nero showed little appetite for blood sports, and would not have gladiators put to death, also proved unpopular.

Nero's family background probably holds the key to how the shy, clumsy, freckled teenager portrayed by Robert Graves in *I, Claudius* (published 1934) would become a neurotic despot. Fatherless and friendless, profoundly insecure, Nero certainly cannot be held responsible for all the crimes ascribed to him. The great grandson of emperor Augustus (r. 27 BC – AD 14), Nero was a survivor of countless intrigues engineered by some of history's most formidable women who would stop at nothing in the quest to gain ultimate power for their sons and themselves. A relief from the Sebasteion in Aphrodisia shows Nero crowned by his mother, Agrippina Minor. It was the young emperor's love for Poppaea Sabina (AD 30–65) (*Fig 10*), that ran contrary to his mother's wishes and may have induced him to have Agrippina killed in AD 59.

Poppaea died six years later, reputedly from a kick to her abdomen by Nero while she was pregnant. While this story is reported by ancient historians such as Suetonius, Tacitus and Cassius Dio, it should be borne in mind that all three writers were biased against Nero. The death of his wife may in fact have been the result of a miscarriage, and Nero certainly went into deep mourning at Poppaea's death, embalming her body and having it placed in the Mausoleum of Augustus following a lavish funeral. The martyrdom of Christians as punishment for the great fire of AD 64 is at the root of much of the bad press to which the short-lived Emperor has been subjected. In 1895, during the earliest years of cinema, the first film dealing with the ancient world took as its subject *Neron essayant des poisons sur des esclaves* ('Nero testing poisons on some slaves'). Some 50 more films followed, depicting a depraved paranoid monster indulging in outrageous pyrodramas, with the 1951 film *Quo Vadis* heading the list of improbable reconstructions that have come to provide the defining image of Nero's reign, a period that was also one of remarkable cultural advancement. A non-conformist, a passionate sportsman, a gifted youth deeply inspired by Greek culture Nero should perhaps be remembered as much as an outstanding patron of the arts rather than the despot of popular history and fiction, famously referred to by Pliny the Elder (AD 24–79) as 'the poison of the world' (*Natural History*, 92.92) and which led to a thorough *damnatio memoriae* (*Fig 1*).
In the summer of AD 60, a vast Roman army descended on the coast of north Wales (Fig 7). Commanded by the Governor of Britain, Gaius Suetonius Paulinus, the army comprised Legio XIV Gemina and vexillations from Legio XX, together with large numbers of auxiliary troops. All told, the army probably numbered about 10,000 men. This well disciplined fighting force was directed at eradicating all resistance on the island of Anglesey (Mona Insulis), which lay just off the coast. In most histories of Roman Britain, the short and swift campaign on the farthest edge of the Empire rarely gets more than a brief mention before it is eclipsed by the great Boudican revolt that swept across the province later that same year. However, in many respects, the fighting that occurred on Anglesey would have a far greater impact on British society, eradicating forever the Druids, the priestly class that, for centuries, had played a dominant role in Celtic culture.

There were several motives behind Rome’s assault against Anglesey. For Tacitus (AD c. 56–117), the Roman writer who provides the most detailed account of the campaign, the reasons for Paulinus choosing to attack the island were twofold: ‘Mona Insulis contained a large population, while it also acted as a haven for refugees’ (Annals, 30.29). Paulinus therefore appears to have been intending to remove this independent refuge to which opponents of Roman rule had been fleeing.

Unlike the mainland, which was continuing to prove difficult to subdue as the warlike tribe of the Ordovices used the mountainous landscape as a natural defence against the legions, Anglesey was relatively flat, offering the potential for a quick and easy conquest. The large population of Anglesey also offered the prospect of vast financial rewards for the Romans; with military victory, many of the island’s inhabitants would be enslaved, generating considerable profits when sold on the slave markets. Evidence for the trade in humanity practised in Celtic as well as Roman society came to light in 1943 when slave chains, designed to keep captives shackled together with iron collars fastened about the neck, were discovered in Llyn Cerrig Bach in south-west Anglesey. Although now just a bog, during the Iron Age Llyn Cerrig Bach was a small lake into which votive offerings, primarily weaponry, were made to the gods. It has even been argued that many of the offerings deposited into the lake were made in AD 60 in a desperate effort to solicit divine assistance in the face of the impending Roman invasion. As well as slaves, Anglesey was also agriculturally rich, often referred to as the breadbasket of north Wales, and the island also possessed desirable mineral deposits, especially copper (Fig 1, 2, 3, 4).
4). However, there is little doubting that the principal reason for Paulinus ordering his legions against Anglesey was that the island was the focal point of Druidism in Britain.

Modern public perception of Druidic ritual tends to be blurred by the activities of today’s neo-pagans who gather at henge sites at the summer solstice, or are portrayed as mystical apologists in the popular Asterix comic books. Two thousand years ago, however, the Druids were of very different character, and they played a hugely important and multifaceted role in Celtic society (Figs 2, 6). Druids often wielded considerable judicial power and also had immense political influence that extended across different Celtic tribes. They performed priestly duties and acted as intermediaries between humans and the gods, while Greek writers also regarded them as spiritual philosophers who taught the doctrine of reincarnation. Julius Caesar, who had fought the Celtic peoples in Gaul and Britain in the 50s BC, observed that Druids believed in the ‘indefectibility of the human soul, which... merely passes at death from one body to another’. Caesar would go on to add that Druids also ‘held various lectures and discussions on astronomy, on the shape and size of the world, on the various branches of natural philosophy, and on many other problems connected with religion’ (Gallic Wars, 6.13). Most of all, Druids were the repositories of Celtic knowledge and tradition, committing their wisdom to memory rather than trusting to any system of writing.

It is, however, in their role of overseers of human sacrifice that the Druids are perhaps most often remembered. Writing in the mid-1st century BC, Diodorus would note that a Druid had to be present when a human sacrifice was carried out: ‘They devote to death a human being and stab him with a dagger... and when he has fallen they foretell the future from his fall and from the convulsions of his limbs and from the spurted of the blood’ (Histories, 5.31). Other forms of human sacrifice practised by the Celts are preserved by the Greek writer Strabo (c. 63 BC–AD 24): ‘They used to shoot men down with arrows, impale them in temples, or, making a large statue of straw and wood, throw into it cattle and all sorts of wild animals and human beings and thus make a burnt offering’ (Geography, 4.4.6) (Fig 12). It should, of course, be remembered that ancient writers were often intent on portraying the Celts and their religious leaders as barbarians in need of the civilising influence of Graeco-Roman society. After all, the Romans also accused both the Jews and the Christians of engaging in human sacrificial practices. Human sacrifice was therefore possibly as much a literary device to emphasise the strangeness and barbarity of the Druids as an accurate depiction of real Celtic rituals. Nevertheless, archaeological discoveries such as the remarkable preserved body of a man from Lindow bog in Cheshire present strong evidence for human sacrifice in Celtic society at about the time of the Roman invasion of Anglesey, and the male victim appears to have been given a ritual meal before being garroted, struck on the head, and having his throat slit (Fig 3).

The origin of Druidic belief was also noted by Julius Caesar: ‘It is thought that the doctrine of the Druids was invented in Britain and was brought from there into Gaul. Even today, those who want to study Druid teachings in great detail usually go to Britain to learn’ (Gallic Wars, 6.13). While modern scholars tend to downplay Caesar’s statement, the Roman general’s words nevertheless make it clear that Druids and their doctrines were flourishing in Britain during the 50s BC. The desire of Paulinus to attack Anglesey would also indicate that their influence on British society remained unchecked a century later, in spite of the Roman invasion in AD 43. In Britain itself, it was the forested shrines on Anglesey that have been most closely connected to Druids, and the island appears to have been the principal religious site for Celtic Britons.

In order to destroy the heartland of Druidism, Paulinus would first need to cross the Menai Strait which separates Anglesey from mainland Britain (Fig 7). Although 25km in length, the strait is narrow, measuring less than 300m in places. The channel would not therefore appear to present the most daunting of barriers to the Roman Army. Nonetheless, the crossing to Anglesey did pose some unique problems. Tidal streams enter the Menai Strait from both the south-west and the north-east, generating fast-flowing currents that race through the channel and rapidly reverse direction. It is possible to ford the Menai Strait in the central narrows – an area called the ‘Swellies’ – where at spring tides the depth of water can drop to only half a metre (Fig 5). However, the combination of an uneven seabed and the strong currents generates whirlpools that, over the years, have led to the loss of many ships. The powerful winds and currents moving through the strait also cause the sand bars to continually change position, making it hazardous for boats attempting to navigate along the channel. No less a sailor than Admiral Nelson described the Menai Strait as ‘one of the most treacherous stretches of sea in the world’. However, many of the legionaries would have been veterans of amphibious operations, either as part of the original

**Minerva** July/August 2011

---

**Fig 4.** Reverse of a copper halfpenny coin minted by the Parys Mine Company in 1791. A bearded Druid is depicted surrounded by a wreath of oak leaves, the tree most closely associated with the Celtic priesthood. The abundant deposits of copper from Parys Mountain in north-east Anglesey, used in the mintage of this token, were probably one of the motivations behind the Roman invasion of AD 60. Photo: courtesy of the Classical Numismatic Group.

**Fig 5.** The Menai Strait separates Anglesey from the Welsh mainland. The photograph is of the dangerous ‘Swellies’ that are subject to swift and dangerous currents. The mountains of the Snowdonia range tower into the cloud behind.

**Fig 6.** ‘Two Druids’, illustration from J.R. Planché’s History of British Costume, (1836). The engraving was based on a bas-relief from Atun, France, first described by the French Benedictine monk, Bernard de Montfacon (1655–1741).

**Fig 7.** Lying off the north-west coast of Wales, the island of Anglesey is separated from mainland Britain by the narrow but treacherous Menai Strait.
invasion fleet that landed in south-east Britain in AD 43, or when serving with Legio II Augusta which had crossed the Solent and conquered the Isle of Wight a few years later. In his description of the attack on Anglesey, Tacitus also makes it clear that careful preparation was made for this challenging crossing: ‘in view of the shallow and variable channel, [Paulinus] constructed a flotilla of boats with flat bottoms. By this method the infantry crossed; the cavalry that followed did so by fording or, in deeper water, by swimming at the side of their horses’ (Annals, 30.29).

The Roman landing would not, however, go unopposed. On the opposite shore, thousands of Celtic warriors were already prepared to repulse the invaders (Fig 13). In his famous description of the Celts, the Greek author Strabo would write: ‘The whole race... is madly fond of war, high-spirited and quick to battle... they are ready to face danger even if they have nothing on their side but their own strength and courage.’ (Geography, 4.4.2). If the Celts on Anglesey conformed to this cultural stereotype, then the warriors awaiting the Roman landings were ready to do battle. The Celtic warriors would also have been emboldened by the Druidic doctrine of reincarnation; Caesar, for example, noted that belief in the immortality of the soul made Gallic warriors perform immense feats of personal bravery, with death on the battlefield holding little peril for them.

It was not only Celtic warriors who readied themselves to prevent the Romans establishing a beach-head on the shore of Anglesey. Women were also present (Fig 8), whipping the fighting men into a battle rage, while Druids attempted to summon supernatural forces to protect their island sanctuary: ‘On the beach stood the adverse array, a serried mass of arms and men, with women flitting between the ranks. In the style of Furies, in robes of deathly black and with dishevelled hair, they brandished their torches; while a circle of Druids, lifting their hands to heaven and showering imprecations, struck the troops with such an awe at the extraordinary spectacle that, as though their limbs were paralysed, they exposed their bodies to wounds without an attempt at movement’ (Tacitus, Annals, 30.30).

Despite their love of battle, personal bravery, and desire to keep the Romans from their religious centre, it was the lack of discipline and training of Celtic armies that time and again proved to be their downfall when fighting against the highly organised legions of Rome. Strabo, for example, would note of Celtic warriors: ‘when they are stirred up, they assemble in bands ready for war, quite openly and without planning or forethought, so that they are easily handled by those who wish to defeat them’ (Geography, 4.4.2) (Fig 14). These characteristics seem to have applied to the defenders of Anglesey in AD 60, and despite the initial hesitance of the legionnaires, disconcerted by the activities of the witch-like women and Druids amidst the ranks of enemy warriors, the training and discipline of the Roman Army swiftly reasserted itself (Fig 9). Paulinus also seems to have been among the first wave of Roman legionnaires in the flotilla attempting to land on the opposed shores of Anglesey, and the commander provided a steadying force on his men: ‘reassured by their general, and inciting each other never to flinch before a band of females and fanatics, they charged behind the standards, cut down all who met them, and enveloped the enemy in his own flames’ (Tacitus, Annals, 30.30) (Fig 1).

Where on the shore of Anglesey this momentous battle took place remains unknown, with no fragments of weaponry or human remains yet unearthed on the shoreline of the Menai Strait to provide a clue as to where the Romans landed and began their slaughter of the Celtic defenders. However, the small village of Llanidan, situated 7km from the south-western end of the Menai Strait, and lying just 1km from the coast, offers place-name clues that possibly indicate the battle took place nearby. Two enclosures near the village are still known as ‘The Field of the Long Battle’ and ‘The Field of Bitter Lamentation’ in which the landscape may preserve echoes of the heavy fighting that took place as the Romans expanded inland from their beachhead. The nearby ‘Hill of Graves’ (Bryn-y-Beddau), is also traditionally regarded as the site where the fallen Celtic warriors were buried in AD 60, although without excavation it is impossible to know the period to which the earthen mound belongs.

While the battle site has yet to be identified, there is no doubting the completeness of the Roman victory. The cavalry that had swum alongside the troop transports during the crossing was probably deployed on mopping-up operations, riding down...
Celtic warriors and Druids fleeing the battle, and providing a protective screen while the beachhead was reinforced (Fig 10). According to Tacitus, within days of the battle, the legionnaires were also set to work eradicating all traces of Druidic presence from the island: ‘they demolished the groves consecrated to the savage cults: for the Druids believed it a pious duty to slake their altars with the blood of captives and, by careful examination of human entrails, understand the wishes of their gods’ (Tacitus, Annals, 30.30) (Fig 11).

Such descriptions of Druidic altars set in a thickly forested landscape within which the forces of evil were at their most powerful, echo details of Celtic religious sites in southern Gaul from a century earlier. A grove that was untouched by men’s hands from ancient times, whose interlocking boughs enclosed a space of darkness and cold shade, and banished the sunlight from above… Gods were worshipped there with savage rites, the altars were heaped with hideous offerings, and every tree was sprinkled with human gore. On these boughs… birds feared to perch; in those coverts wild beasts would not lie down; no wind ever bore down upon that wood… The images of the gods grim and rude were uncouth blocks formed of felled tree-trunks. Their mere antiquity and the ghastly hue of the rotten timber struck terror… serpents twined and glided round the stems.

The people never resorted to worship at close quarters, but left the place to the gods. When the sun is in mid-heaven or dark night fills the sky, the priest himself dreads their approach and fears to surprise the lord of the grove’ (Lucan, Pharsalia, 3.400–25).

In addition to destroying the Druids woodland groves and altars on Anglesey, Paulinus tasked his army with installing a garrison among the island’s conquered population with the intention of keeping a close eye on the latest addition to the Empire. However, even the best laid plans of imperial Rome occasionally go awry. Far to the south-east, deep in the heart of the Roman province, word reached Paulinus that a new and deadly threat had emerged from the formerly quiet and peaceable tribe of the Iceni. The great Boudican revolt is generally regarded as separate and unconnected to events in Anglesey; it was an uprising brought about by Roman mistreatment of the Queen of the Iceni and the rape of her two daughters. However, with Rome relentlessly expanding towards Anglesey for the best part of a decade, and a large Roman army marching against the island, Celtic tribes from across Britain were probably well aware that a blow was being dealt to their religious centre and this partly explains their eagerness to flock to Boudica’s banner. Once the Druids realised their island sanctuary was about to be invaded they may also have sent out calls for assistance and set about whipping up anti-Roman sentiment across Britain. Whatever the causes of the Boudican revolt, it led Paulinus to immediately terminate his campaign on Anglesey and march his legions south-eastwards down the great road of Watling Street where they met and crushed the vast army that had gathered about the Queen of the Iceni.

Despite the hasty and premature withdrawal of the legions from Anglesey, there is no indication that Druids who might have survived the Roman invasion of their island were ever again able to re-establish their religious or political influence within British society. In AD 73, a new Governor, Gnaeus Agricola (AD 40–93), led the Romans back to Anglesey and succeeded in finally annexing the island. However, during this second invasion there is not a single mention of Druids. It would seem that the influence of these enigmatic Celtic priests had been broken more than a dozen years earlier. The eradication of the Druids of Anglesey also brought with it the destruction of the philosophy, history and mythology of Celtic society that had been preserved within the oral traditions of the enigmatic priesthood for countless generations.

Many thanks to Salisbury & South Wiltshire Museum for allowing the use of two of the images from their extensive collection of pictures relating to Stonehenge, a monument with which the Druids have been frequently linked by antiquarians and early archaeologists.
Resurrecting Pompeii

Murray Eiland reviews a blockbuster exhibition in New York illuminating the reality of life and death in the shadow of Vesuvius

Pompeii is one of the largest tourist draws in Italy. The town presents visitors with an overwhelming array of archaeological evidence, with much more preserved in museum storerooms. A new exhibition at Discovery Times Square features the largest collection of body casts and skeletons from the site ever placed on display, with more than 250 artefacts, some never before seen by the general public. It is a presentation that will be of interest even to those who have been to Pompeii, featuring gold coins, jewellery, furniture and organic remains, such as a cast of a perfectly preserved loaf of bread, to bring everyday life into closer focus (Figs 3, 8, 10). The exhibit goes some way towards showing what still lies beneath the volcanic debris, and gives an appreciation of the scale of the cost in human life caused by the eruption of Vesuvius in AD 79.

One man who witnessed and perished in the volcanic disaster was Gaius Plinius Secundus (AD 23–79), better known as Pliny the Elder, whose account of his final days and fateful voyage into the region ravaged by the eruption is that of someone who did not fear nature, but sought to understand it. The history of science is replete with the names of individuals who made discoveries, developed new technologies or promulgated ideas. But other moments, which brought seminal changes in outlook and understanding, can be more difficult to date, and among these is the transition towards
a rational mindset that slowly set aside mythology and replaced it with science. One man often credited with crossing this boundary — becoming, in effect, the first true scientist — is Galileo Galilei (1564–1642). However, a look further into the past reveals other figures who questioned the supernatural and drew deductions from observation and experiment. Pliny had authored a 37-volume encyclopedia, *Naturae Historia*, encompassing current knowledge of botany, zoology, astronomy, geology and mineralogy. At the time of the Vesuvian eruption Pliny was Praefect of the large Roman naval fleet stationed at *Misenum* (modern Miseno) on the north-western shores of the Gulf of Naples, and he put to sea to better observe the eruption and to carry out a rescue operation. But when cinders and pumice from Vesuvius began raining down, and the helmsman suggested they turn back, Pliny famously ignored the advice, saying, *Fortune favours the brave*. Sadly, the winds were wrong, and the boat was stuck in *Stabiae* (modern Castellamare di Stabia). While his companions survived, Pliny died, perhaps because of an asthmatic condition fatally exacerbated by the ash-filled air. Unlike modern volcanologists, he had no protective equipment, but even today it is not unheard of for scientists who study active volcanoes to perish for their passion. Today the term ‘Plinian’ is used by earth scientists to describe a violent volcanic eruption where smoke and ash form a large plume, an acknowledgement of the Roman statesman and writer’s desire to observe and understand natural phenomena.

Pompeii and Herculaneum have long been associated with presenting a unique snapshot of ancient life. These towns, together with some of the outlying villas, were essentially frozen in time by the eruption. In the Roman past, as remains the case today, Pompeii was also located in a rich agricultural region, made especially fertile because of the productive volcanic soils. Pompeii also sat on an important trade route, and the city’s port allowed merchants to import and export all manner of commodities on ships plying the sea-lanes of the central Mediterranean. Not surprisingly, many objects in the city therefore relate to trade, as the well known inscription on the floor of Sirico’s house, *salve lucru* (‘welcome money’), reminds visitors. Pompeii was far from a provincial backwater. The town boasted an amphitheatre (Fig 6), two theatres, palaestra (wrestling school) and an aqueduct that served various public fountains, baths and private houses. Unlike most other ancient sites, the town was preserved without alteration by later activity. At the time of its destruction, it probably had about 20,000 inhabitants, both permanent residents and wealthy Romans who used their villas there as holiday homes (Fig 11). Not surprisingly, many of these villas boast elaborate mosaics (which give their name to the Pompeian Style) and other art objects. Many frescoes and everyday items had a sexual theme, and some aspects of everyday life, such as the veneration of the phallus, are at odds with more modern conceptions of morality. This may have prompted the earliest excavators to rebury what they found, particularly the frescoes.

In 1819 King Frances I of Naples was...
The majority of people were inside buildings, where they had clearly been seeking shelter from the ash and rocks hurled out from the volcano.

Modern science has been applied to an examination of exactly what caused the majority of deaths in Pompeii. While previous early studies suggested that thick clouds of ash led to death via suffocation, it now appears that heat was the major killer; computer modeling suggests that even at a distance of 10km from the crater of Vesuvius, the heat pulse could have attained temperatures of 250°C (see Minerva, September/October 2010, p. 6). This would certainly explain why people died even as they sheltered in undamaged buildings. From the perspective of archaeology, the carbonising effects of the intense heat had the beneficial effect of preserving many objects in the city, including those constructed from organic materials. Preservation was also assisted by the large amounts of ash that fell in the area, which in some parts of the city built up to a depth of 25m. Giuseppe Fiorelli (1823–1896), who took over excavations at Pompeii in 1860, discovered that voids in the volcanic ash could be filled with plaster to yield casts of bodies of those killed in the eruption. Expressions of terror are still clearly visible in some of the figures brought back to life in this way; to date, well over a thousand casts have been made in and around Pompeii (Figs 1, 7). Of the bodies that were later recovered from the site, almost 40 percent were found in ash fall deposits, and the majority were inside buildings, where they had clearly been seeking shelter from the ash and rocks hurled out by the volcano. Many victims in Pompeii were killed when their shelter collapsed, but over 60 percent died as a result of ash and heat produced by pyroclastic surge – a fluidised mass of turbulent gas and rock fragments ejected by the erupting volcano.

Beginning in 1981, archaeologists digging in Herculaneum also began to unearth the skeletal remains of almost 300 bodies that were in a remarkable state of preservation, all lying under arched vaults located near the ancient shoreline. The victims at Herculaneum were buried under about 23m of material from the pyroclastic surge. Carbonised wood attests to very high temperatures from the surges, and the people in the arched vaults – which may have been boat houses – died of thermal shock. Thousands more bodies may still lie hidden awaiting excavation.

In the Roman pantheon, the god associated with volcanoes is Vulcan, roughly equable with the Greek god Hephaestus. According to some mythologies, Vulcan built a forge under Mount Etna on Sicily, and whenever his wife Venus was unfaithful, he would pound metal so hard that sparks would rise from the top of the mountain – although it is unlikely that the scientifically inclined Pliny would have accepted this assertion as definitive. The deity is
counted as one of the earliest Roman gods, and was venerated by the archaic kings of Rome of the 8th century BC. The main festival devoted to him, the Vulcanalia, was celebrated in a number of different ways. Records show that in some areas large fires were created, into which small animals were thrown as a sacrifice, and it is easy to imagine that this was a response to the threat of volcanic eruption.

It is interesting to note that in AD 79, the Vulcanalia was celebrated on 23 August – possibly just a day before the volcanic eruption. However, the exact date of the Vesuvian eruption of AD 79 is a disputed topic. According to Pliny’s Codex Laurentianus Mediceus (47.36) the eruption started on 24 August, although another source suggests a date of 23 November. Other versions give other dates, but the archaeology tells a different story, as noted already in 1797 by Carlo Maria Rosini (1748–1836), a Catholic priest (later a Bishop) who ran the Herculaneum Academy and interpreted many of the papyri that were discovered in the ancient city.

Most people in Pompeii were not wearing light summer clothes, which would be normal for the month of August in the Mediterranean, while fruit, vegetables, and olives found at the site had already been dried, and wine sealed in jars. New scientific evidence has also emerged to support a later date. In an article in the 2008 Journal of Volcanology and Geothermal Research, Rolandi et al. argue that the dispersal patterns of the ash suggest a south-easterly wind was blowing at the time of the eruption, which is generally the case during the autumnal climatic period in the area, and thus put forward a date of 23 November or 24 October.

The Times Square exhibition is not preoccupied with the science of volcanology; instead it immerses viewers in the vitality of everyday life in the thriving city, before leading them into the chill of its afterlife, populated by the remarkable plaster casts made by Giuseppe Fiorelli in the 1860s (Figs 1, 2, 7). On the walls of the exhibition are cited words written by Pliny the Younger (AD 61 – c. 112), who witnessed the eruption in which his uncle died. ‘You could hear women lamenting, children crying, men shouting. Some were calling for parents, others for children or spouses... Many raised their hands to the gods, and even more believed that there were no gods any longer’ (Epistulae 6.16–20).

The exhibition emphasises the humanity of these doomed citizens, and the universality of many aspects of their lives. As the archaeologist Kristin Romey, curatorial consultant to Discovery Times Square, puts it: ‘It shows us how little life has changed from 2000 years ago to today. All of the dreams and problems of daily life are reflected.’ The message is rendered more potent still by the recent natural disasters in Japan, New Zealand and America, which remind us that however great the advancement of science, we still share with the residents of Pompeii our mortality and our vulnerability to the forces of nature.

‘Pompeii the Exhibit: Life and Death in the shadow of Vesuvius’ is at Discovery Times Square until 5 September. A portion of the proceeds will go toward the preservation of the Pompeii site. For details, please visit www.discoverytsx.com.
Some good came of an unpleasant experience last year, in which civil unrest in Cusco (Fig 2) prevented me from reaching Machu Picchu. It gave me the opportunity to visit a gem of a museum in the city which I might otherwise have missed. Known by the acronym MAP, the Museo de Arte Precolombino (Fig 3) is tucked away in the Plaza Nazarenas to the north of the cathedral and the main square. There are numerous, excellent museums in Cusco preserving and presenting Peru’s heritage, but MAP is unique. This is partly due to its setting in a charming, two-storey building set around a spacious courtyard which is ideal for peaceful contemplation away from the crowds. The building was originally an Inca ceremonial court, Kancha Inca. In 1580 it was transformed into a mansion for the Spanish conquistador, Alonso Diaz, and in 1850 it became the residence of the Earl of Cabrera. It was restored and converted into a museum in 2003, with 11 rooms displaying works selected from the collection of the Museo Arqueologico Rafael Larco Herrera in Lima.

MAP is a small museum displaying 450 works, dated between 1250 BC and AD 1532, which provide a vivid insight into the animistic world of Peru’s ancient peoples. What makes the place special is that it is more like an art gallery than a museum. It allows the visitor to get close to the very best examples of pre-Columbian material culture which it presents, not merely as artefacts representative of particular regional, historical or archeological types, but as works of art with engaging aesthetic qualities. Chosen by one of Peru’s most famous and influential artists, Fernando de Szyszlo, and the art historian Cecilia Bákula, they are labelled in terms that draw attention to these qualities and remind us that they were crafted by individual artists. For example, one speaks of the ‘almost musical cadence and great sense of movement’ in the way the painter has applied surface decoration, and another draws our attention to the beautiful spiral configuration in...
some silver nose ornaments 'that dispels any rigidity and contributes to a sense of movement and harmony' (Fig 6). Some of the Huari vases on display are described as 'extraordinarily cubist, modern and completely avant-garde', and this perception is supported by quotes displayed on wall panels from Picasso and his contemporaries in which they express their debt to so-called 'primitive art' (Fig 7).

MAP is designed to meet the highest standards of modern museography. Rooms are designated: 'Formative', 'Nasca', 'Moche', 'Huari', 'Chancay-Chimu', 'Inca', 'Wood, Jewellery and Stone', 'Silver', and 'Gold and Metals', and a red line leads the visitor through the galleries in chronological order. Everything is clearly labelled in Spanish, French and English, and exhibits are meticulously arranged and well lit.

If the discovery of MAP was some consolation for failing to reach Machu Picchu, then so were a number of other sites visited on the journey from Lima to Cusco viaNazca, Arequipa and Puno. Some of these, such as Sacsayhuaman (Fig 4) and Ollantaytambo (Fig 10) are on the established tourist trail and are well known to those visiting the country. However, other sites were completely unexpected and deserve greater exposure outside of Peru. The most haunting of these was the secluded Colla cemetery at Sillustani, 34km north-west of Puno. Puno is high in the mountains on Lake Titicaca that, at 3800m above sea level, is the highest lake of its size in the world. Exploring Sillustani involves climbing a hill which can be challenging at this altitude, but it is worth the effort for the view alone (Fig 9). The hill forms a small peninsula that juts out into Lake Umayo, and this provides a stunning backdrop to the scattering of ruined stone edifices that punctuate the skyline.

Sillustani is known for its chullpas, circular burial towers, some of which reach 12m in height and are large enough to store as many as 20 bodies. Chullpas are not peculiar to Sillustani, however, and burial grounds such as this are to be found dotted around Lake Titicaca in the ancient territory of the Aymara peoples. But Sillustani is the best preserved and is the most spectacular example owing to its picturesque location.

Little is really known about the history of Sillustani apart from the fact that it was mainly the work of the Colla, an Aymara speaking tribe who dominated the area until they became vassals of the Incas in the 15th century. Thereafter, as a region of the expanding Inca Empire, their territory became known as Collasuyu.

The Aymara people have existed in the Andes for over 2000 years and they influenced the later Inca in many ways. Inca architecture drew heavily on the Tiwanaku style developed south of Lake Titicaca, in present day Bolivia, and it is also possible that the use of chullpas was adopted by the Inca following their conquest of the Aymara. Indeed, it has been suggested that some of the principal towers at Sillustani are, in fact, Inca. They are built with irregular shaped stone blocks, dressed and fitted precisely in the typical Inca fashion. Colla towers, by contrast, were made with regular, rectangular blocks (Fig 1).

These particular tombs enter written history with the arrival of the Spanish in the 16th century when the conquistador and chronicler of Peru, Cieza de Leon, wrote of Sillustani's 'high towers, broad and square, with doors towards the setting sun'. Today, as a result of the dynamiting of many of the tombs by grave robbers, the site is less easy to read (Fig 12). However, it is known that ancestor worship and kinship were central to...
Aymara culture and it is clear that the chullpas were built to mediate the passage between life, death and rebirth. The insides of the tombs are womb-like in shape and the corpses, members of the local nobility, were mumified in the foetal position. This meant that they were prepared for rebirth, a state confirmed by the presence of carved lizard motifs in some of the tombs. Lizards were considered a symbol of rebirth by the Colla because of their ability to regenerate their tails when severed. The orientation of openings in the towers was also a reference to rebirth pointing to the cyclical setting and rising of the sun around Mother Earth.

For all these insights, Sillustani remains enigmatic and mysterious. Recent research into chullpas in Bolivia has concentrated on connections between the tombs and ritual pathways etched into the surrounding landscape.

It would be interesting to find out more in this respect about Sillustani and, in particular, about the remains of stone circles on its slopes (Fig 11). These line the path up to the graveyard and they are believed by local guides to be connected with solar and lunar rituals.

Another site that came as a pleasant surprise between Puno and Cusco was Raqchi. Warranting barely a paragraph in some guide books, and nothing in others, it turned out to be a remarkable place. Dominating the site are the remains of the huge Temple of Viracocha which once supported the largest known Inca roof, but there is much more to see than this. Raqchi was one of the holiest shrines in the Inca Empire and the sprawling complex surrounding the temple includes the remains of markets, living quarters, barracks, a palace, baths, agricultural platforms and terraces, aqueducts, fountains and a reservoir, cylindrical warehouses and granaries (Fig 13). There is also a burial ground with chullpas similar to the smaller edifices found at Silustani. A rustic wall 2.5m thick, 3m high and around 5km long surrounds the complex, broken by two gateways, each about 8m wide.

Raqchi is located 120km south of Cusco in the district of San Pedro in the province of Canchis. It sits on the right bank of the river Vilcanota on the slopes of Kimsachata, the only dormant volcano in the region. Archaeological research has shown that the site has always been associated with religious and ceremonial activity, well before the Incas and their immediate predecessors in the area, the Canches, arrived on the scene. This is probably due to its proximity to the volcano which, when it was active, was feared and revered. It was associated early on with the great pan-Andean creator god, Viracocha, who is said to have used its belching fire and brimstone to punish the local people when they gave him a hostile reception. Another story has him taming the volcano and quelling a devastating eruption. To this day, massive volcanic boulders and ancient lava flows scar the landscape as a continuing reminder of the devastating power of Viracocha.

Evidently the temple was built to appease the god but there is disagreement over who was responsible. According to some accounts, it was Inca Viracocha in the 14th century. Not to be confused with the deity, he was a legendary early ruler of the Incas who was given the name after having visions of the god. Some chronicles, however, attribute the building to his son, the more historically authenticated Pachacútec. Considered by many to be the first true Inca and founding father of the empire, he ruled in the 15th century.

Resembling a stretch of viaduct from a distance, the central wall of the temple still stands along with the foundations of the outer walls and the columns that helped to support the roof (Fig 14). The central wall is currently 12m tall. A century ago it is said to have been 15m and originally it may have been over 16m tall. The base of the wall is made of typically Inca dressed, volcanic stone which is equal to anything found in Cusco and its surroundings. It is 1.65m thick at floor level and extends upwards for about 3m. The remainder of the wall, which narrows to 1.3m thick at the top, is composed of adobe brick, moulded blocks of mud bound with straw and dried in the sun.

The temple is one of the few remaining examples of a two-storey Inca building known as a Kallanka and,
measuring 92m by 25.5m, it must be one of the largest roofed building ever built by the Incas (Fig 15). Today the central wall is topped, for protection from the elements, by a narrow tiled roof. Originally, however, it supported the ridge of a massive thatched roof that was pitched on either side at an angle of around 50°. The outside walls of the temple, which bore much of the weight of this wood and thatch structure, were again built of stone topped with adobe brick. Only the lowest courses remain showing that the walls were 1.2m thick at the base.

The 22 cylindrical columns that flanked the central wall, 11 to each side, are unique to Inca architecture. Made of stone blocks below and adobe above, they measured 1.6m in diameter and stood about 10m tall. They are just one example of the technical expertise that went into the construction of the building. Another is the inclusion of window spaces above the ten tall doorways cut through the central wall. This considerably reduced the weight of the adobe bearing down above the doors. Other devices include the diminishing thickness of the walls and columns towards their tops and the use of trapezoid shapes in windows and doorways to help the building withstand the earthquakes to which Peru is prone. In this respect the Inca techniques were particularly effective given that walls such as these at Raqchi are still standing while Spanish colonial buildings have been destroyed in every earthquake since the conquest. Indeed, much more of the Viracocha temple and the surrounding complex would be standing today had it not been for the Spanish colonists devastating the site in their search for treasure and in their zeal to destroy pagan shrines.

Notwithstanding the conversion of the Peruvians to Catholicism by the Spanish, the old religion is still openly practiced in shamanic ceremonies staged for tourists in Cusco. Vestiges are also found in fiestas such as the one held at Raqchi in June every year. Nowadays this is more like a Welsh eisteddfod than a religious gathering with competitive folkloric music and dance performed by groups from as far away as Bolivia. The unruly reveling goes on for three or four days in a boggy corner of the complex with a funfair, foodstalls and Quechua women selling chichi (maize beer).

With its spectacular setting and intriguing history, Machu Picchu may well deserve its place as the most iconic site in Peru and the most popular tourist attraction. But, folk festivities and fiestas notwithstanding, there is more to Peru for the student of art and archaeology than Machu Picchu and, for the time being, there are still treasures to be found away from the crowds and the well-trodden trails.

Dr Ray Dunning has been a regular contributor to Minerva since he retired in 2007 as Vice-Principal of Kingston College in Surrey. He travels widely in pursuit of his interests in art and archaeology and his articles bring to light some of the lesser known museums and sites of historical interest around the world.
Treasures of heaven

The British Museum’s major summer exhibition explores the spiritual and artistic significance of Christian relics and reliquaries in medieval Europe. By Sophie Mackenzie

And God wrought special miracles by the hands of Paul: So that from his body were brought unto the sick handkerchiefs or aprons, and the diseases departed from them, and the evil spirits went out of them’ (Acts 19:11–12).

Featuring some of the finest sacred treasures of the medieval age, ‘Treasures of Heaven: Saints, Relics and Devotion in Medieval Europe’ gives visitors the opportunity to see objects from more than 40 institutions, many never before been seen in the UK, brought together. Drawing on the collections of the British Museum, the Cleveland Museum of Art, Ohio, and the Walters Art Museum, Baltimore, ‘Treasures of Heaven’ includes rare loans from the Vatican, including from the private chapel of the popes, the Sancta Sanctorum, as well as from lesser-known European church treasuries. The exhibition looks at public and private relic veneration, focusing on the different ways reliquaries were used and the impact this had on their design. The objects on display range from small portable reliquaries in the form of jewellery (Figs 1, 4) to large containers adorned with gems, silver and gold, and represent some of the most beautiful works of art created in the medieval period. The earliest items date from the Late Roman period and trace the evolution of the Cult of the Saints from the 4th century to the peak of relic veneration in late medieval Europe. Relics featured in the exhibition include three thorns thought to be from the Crown of Thorns, fragments of the True Cross (Figs 2, 3), the foot of St Blaise, the breast milk of the Virgin Mary, rib of St Peter (Fig 5), and the Mandylion of Edessa (one of the earliest known likenesses of Jesus).

In Finer than Gold: Saints and Relics in the Middle Ages (British Museum Press, 2011), the exhibition’s curator, James Robinson, examines the growth of the cult of the saints, which was to become a defining characteristic of the Middle Ages, influencing culture and politics throughout Christendom. The idea of creating a shrine on the site of a hero’s death was not new: Homer tells of how Achilles honoured his friend Patroclus; Achilles’ own tomb would be visited in 334 BC by Alexander the Great, who removed relics in the shape of the hero’s armour; and the tomb of Oedipus was said to protect Athens. Early Christians venerated the bones of martyrs such as Polycarp (AD 69–155), Bishop of Smyrna, and other saints put to death during the rule of various Roman emperors (Fig 9), beginning with Nero (r. AD 54–68), and continuing until AD 313, when Christianity was made legal under Constantine (r. AD 306–337). But the legalisation of Christianity brought with it a dilemma for the early Church, which had relied on the idea of martyrdom and a steady supply of saints’ bones to endow its holy places with their power. Gradually, beginning with the legendary discovery of the True Cross by Constantine’s mother, the Empress Helena (c. AD 246–330), a new method of obtaining relics emerged.

According to legend, Helena had embarked on a pilgrimage to the Holy Land, with the intention of finding the sites where Christ had been born, preached and died. In Jerusalem, the
the legacy of holiness left by Christ, his disciples, the saints and prophets could be gathered with such items, and their owner would reap spiritual benefits: the souls who had been saved and ascended to heaven were able to intercede with God on behalf of mortal sinners through the medium of their corporeal remains or possessions. This distillation of holiness into relics meant that the power of sacred places like Jerusalem could be transported to other places of worship, and relics could afford portable protection to their owners (Fig 8).

Constantine’s move from Rome to Byzantium in AD 324 left him without the superabundance of martyrs’ remains that had characterised the former capital. He therefore began stockpiling relics, and the process would be continued by subsequent emperors, giving rise to a collecting frenzy, as the bodies of the apostles Timothy, Andrew and Luke were brought to the Church of the Holy Apostles in 356 and 357. These were soon followed by the relics of the prophet Samuel, and later by the bodies of John the Baptist’s father Zacharias and Jacob’s son Joseph (Fig 7). By the 13th century, Constantinople’s collection had no equal. The French knight Roger de Clari described seeing ‘two pieces of the True Cross as large as the leg of a man… and the iron of the lance with which Our Lord had his side pierced, and two of the nails which were driven through his hands and feet; and… quite a little of his blood and… the tunic which he wore’.

Others would soon follow in Helena’s footsteps, among them the ascetic Egeria, who collected fruit and twigs during her travels in the Holy Land in the 380s. It was believed that emperor Hadrian had built a temple, dedicated to either Venus or Jupiter, over the site of Christ’s tomb. Helena ordered the pagan building torn down and began excavating, soon uncovering three different crosses. A dying woman, who had touched the first and second crosses to no effect, miraculously recovered when she touched the third, leading Empress Helena to declare that this was the True Cross, and the Church of the Holy Sepulchre was built on the site where it was discovered. Helena also located the nails of the crucifixion, and is said to have had one placed in Constantine’s helmet and another in the bridle of his horse, so their miraculous power would provide divine protection for her son.

Minerva July/August 2011
Medieval art

(r. 1228–1261), eased his financial woes by selling Louis the Crown of Thorns for an astonishing 135,000 livres – half the annual expenditure of the French kingdom. Louis immediately embarked on the construction of a home for his treasure, and the dazzling church of Sainte Chapelle was consecrated in 1239. Louis was rivalled in his collecting mania by Henry III of England (r. 1216–1272), who sourced relics from the Holy Land to bring to Westminster Abbey – among them a piece of the Burning Bush and a phial of the Blood of Christ.

Relics were usually set into reliquaries, ornate containers of silver and gold intended to reflect the spiritual value of the treasures they held. Reliquaries would both protect the relic within and make it more portable, while providing a splendid case for the often rather unappealing objects they contained (Figs 6, 11). The exhibition at the British Museum traces the development of reliquaries from simple containers housing human remains to objects of enormous ritual importance and artistic significance (Fig 15). Whilst the majority of these generally date to AD 1000–1500, some of the earliest pieces include a Late Roman sarcophagus of AD 250–350. Exceptional examples include the arresting 12th-century bust reliquary of St Baudime from St Nectaire in the Auvergne, which once contained a vial of the saint’s blood and is shown for the first time in Britain. Equally magnificent is the British Museum’s bejewelled Holy Thorn reliquary (1390–97) (Fig 10), which still retains its sacred relic taken from the Crown of Thorns, set amid an enamelled representation of the Last Judgement. The exhibition also considers the role saints’ relics and shrines played at the centre of major sites of Christian pilgrimage throughout Europe during the medieval period. Particular attention is paid to two British saints – Cuthbert and Thomas Becket (Fig 12) – and the cults associated with them at Durham and Canterbury.

For the modern viewer, it is impossible not to wonder, somewhat cynically, at the apparent credulity with which the authenticity of these relics was accepted. However, as early as the end of the 4th century, St Augustine (AD 354–430) denounced certain impostors wandering about in the habit of monks, profiting from the sale of spurious relics. A millennium later, Geoffrey Chaucer’s (c. 1343–1400) Canterbury Tales has, in the Pardoner, another charlatan who makes a living selling fake relics:

‘For in his bag he had a pillowcase
The which, he said, was Our True
Lady’s veil:
He said he had a piece of the very sail
That good Saint Peter had, what time
he went
Upon the sea, till Jesus changed his
bent.
He had a latten cross set full of stones,
And in a bottle had he some pig’s
bones.’

The 16th-century protestant reformer John Calvin (1509–1564), who believed the veneration of relics to be a form of false worship, commented that if all the relics were brought together in one place ‘it would be made manifest that every Apostle has more than four bodies, and every Saint two or three’. Similarly, despite crucifixion only requiring between one and four nails, at least 30 Holy Nails continue to be venerated as relics across Europe today. Perhaps the most famous relic of questionable origin is the Shroud of Turin (see Minerva, July/August 2010, pp. 42–44). The stance of the Catholic church on the authenticity of relics is a
pragmatic one: it is reluctant to pass judgement, preferring to let believers continue to venerate some dubious objects while allowing others to slip quietly out of prominence. As the Catholic Encyclopedia explains: ‘It would be presumptuous... to blame the action of ecclesiastical authority in permitting the continuance of a cult which extends back into remote antiquity... no dishonour is done to God by the continuance of an error which has been handed down in perfect good faith for many centuries. On the other hand the practical difficulty of pronouncing a final verdict upon the authenticity of these and similar relics must be patent to all. Further, devotions of ancient date deeply rooted in the heart of the peasantry cannot be swept away without some measure of scandal and popular disturbance.’

The phenomenon of relic veneration is not without its parallels in the secular world – James Robinson points to the value placed by collectors on items such as the desk at which Charles Dickens wrote, letters penned by Winston Churchill and dresses worn by Diana, Princess of Wales. In April 2011, it was widely reported that a jelly bean bearing an image of the face of Kate Middleton, now Duchess of Cambridge, was to be sold on the internet auction site eBay for £500. James Robinson emphasises the importance of suspending disbelief when viewing the objects in the exhibition. ‘We have not set out to debunk the myth that they are real,’ he says. ‘I hope viewers get past their feelings of revulsion and scepticism to see the importance of what the objects signify. The Milk of the Virgin Mary and a beautiful statuette of the Virgin and Christ Child (Fig 6) are poignant reminders of humanity and mortality – is authenticity that important? The Crown of Thorns is another incredibly powerful piece, wrapped in layers of history and mystery, which can help people reach a spiritual plane, free from practicality and the material world.’

Beside the Porta Magna, the main entrance to the great arsenal in the heart of Venice, a huge lion acts as sentinel (Figs 1, 2). The colossal creature, with its unblinking marble stare, has sat impassively on this spot for more than 300 years. Yet the giant stone cat’s time in northern Italy covers only a fraction of its long and eventful life. A creation of ancient Greek sculpture, scars on the lion’s marble body attest to the presence of Vikings in the medieval Mediterranean, while the statue’s removal to Venice in the late 17th century was one of the last acts in the struggle between the forces of Christianity and Islam, and was part of a campaign that led to the destruction of the Parthenon.

The lion originally gazed out over the harbour of Piraeus, the great port city that served as the maritime gateway to Athens, and even though the giant cat is now far removed from its home, it is still generally referred to as the Piraeus Lion. There are, unfortunately, no surviving ancient references to the statue, although the style of the sculpture indicates that it was carved in the 1st or 2nd century AD. Indentations running along the statue’s back mark the position of a now lost lead pipe which, together with the lion’s hollow throat, indicate that it originally functioned as a fountain. Descriptions of the statue also refer to water issuing from the lion’s mouth and flowing into a basin at its feet. Measuring 3m in height, the statue was a dominant landmark in the town, and by at least the late medieval period Piraeus was commonly referred to as ‘Porto Leone’ (‘Lion Port’) by Italian sailors.

Aside from the size and antiquity of the statue, the most remarkable feature of the Piraeus Lion are the two sets of runic inscriptions carved into its flanks and shoulder (Figs 3, 4). On the right side of the statue, the runes are in the shape of a lindworm, a flightless dragon that occurs in Scandinavian and Germanic myths (Figs 3, 4). In addition to the northern European mythology reflected in this sinuous form, the Scandinavian runes carved into the body of the lion leave little doubt that the graffiti was the work of members of the Varangian Guard – elite mercenary warriors, usually of Viking origin, who served the Byzantine Emperors and were feared and respected around the Mediterranean for their fighting skills and unswerving loyalty. Their favoured weapons, fearsome battleaxes as tall as the warriors themselves (Fig 5), commonly led to the Varangians being referred to as ‘axe-bearing barbarians’ by the population of Constantinople. Their great fondness for drink also earned them the nickname ‘the emperor’s wineskins’.

These Viking mercenaries arrived in Constantinople by way of the river systems of Russia. By at least the 8th century, Norsemen had penetrated deep into the heart of Eastern Europe along the rivers in search of trade and plunder, establishing the Viking cities of Novgorod and Kiev. But the wealth and splendour of Constantinople...
lured them ever further south along the river network, which was referred to by Byzantine sources as ‘the road of the Varangians to the Greeks’. In 860 Vikings sailing from Russia launched their first seaborne raid on Constantinople and further attacks continued until 1043, but all proved unsuccessful, with the longships of the Nordic raiders destroyed or driven off by the Byzantines’ secret weapon of Greek Fire (see Minerva, September/October 2007, pp. 31–33). Despite the intermittent hostilities, a treaty of 874 agreed that the ruler of Kiev would provide warriors for service in the Byzantine army, while in a letter of 911, the Emperor in Constantinople promised to accept Norsemen arriving from Kiev into the Byzantine military ‘at whatsoever time they might come, and whatsoever their number’. The decisive moment in the history of the Varangian Guard came in 988 when Vladimir the Great, Tsar of Kiev (r. 980–1015) responded to a request from Byzantine emperor Basil II Porphyrogenitus (r. 976–1025) for urgent military assistance. Vladimir dispatched 6000 warriors to Constantinople, a force that proved crucial in securing the throne for Basil. Many of these Varangians continued to serve as elite mercenaries in the Byzantine army for the rest of Basil’s reign, fighting in Italy, Georgia, Greece and Macedonia. Norse military equipment dating to the 10th and 11th centuries recovered from sites in Bulgaria also confirms written records that describe Varangians playing a prominent role in Byzantine campaigns against the Bulgars, which culminated with the Byzantine victory at the Battle of Kleidion in 1014. Varangian mercenaries would have been present when, following the battle, 15,000 Bulgar prisoners were divided into groups of 100, all but one of which were blinded while the remaining man had a single eye put out to allow him to guide his comrades home.

The runic graffiti on the Piraeus Lion was first noticed at the beginning of the 19th century by Johann Åkerblad (1763–1819), a Swedish diplomat and orientalist who would later play an important role in attempts to decipher Egyptian hieroglyphs using the Rosetta Stone. Over the following two centuries, many other scholars would study the runes and attempt translations of them. However, the effects of weathering, pollution and vandalism (which includes pock-marks made by bullets) on the surface of the marble has made it virtually impossible to read the inscriptions (Fig 4). Attempts to decipher the inscriptions therefore diverge considerably and primarily reflect the imagination of the translator. Scholars who have studied the shapes and styles of the runes in an attempt to discover when they were carved on the Piraeus Lion have generally agreed that the inscriptions on both sides of the statue were probably carved by Varangians from Sweden during the second half of the 11th century. However, it appears that the lettering on either flank of the lion was carved at different times and by at least...
two rune-masters. Writing in 1930, the Danish runologist Erik Moltke concluded that although the runes on the right side of the statue were probably carved about 1075, those on the left appear to date to about 1000. Despite such variation in the proposed dates of the runes, most scholars agree that the inscriptions on both sides of the statue are very similar to those that decorate stones on Uppland, and the Varangians who carved the runes on the Piraeus Lion therefore probably originated from this large Swedish island in the Baltic.

References in Byzantine sources to members of the Varangian Guard operating in Attica are rare, although a large number of the warriors would undoubtedly have been in and around Athens when Basil II visited the city in 1018. A runestone in the small town of Ed in south-west Sweden also refers to a unit of Varangians operating in Greece under the command of a Ragnvald Ingvarsson during the first half of the 11th century (Fig 6). The Byzantine Emperors also frequently employed Varangians on naval duties; Viking seafaring skills made Guardsmen ideal for use in the suppression of piracy and smuggling. With Byzantine naval vessels frequently putting in to resupply or make repairs at Piraeus, there would have been ample opportunity for Varangians to carve the runic inscriptions into the flanks of the great marble lion that watched over the port city.

One Viking warrior who spent part of his service in the Varangian Guard at sea was Harald Sigurdson (1015–1066), commonly known as Hardrada (‘Hard-Ruler’). Following the dethronement and death of his older half-brother, the Norwegian king Olaf II Haraldson (r. 1015–1028), the 23-year-old Hardrada had taken the river route to Kiev before moving on to Constantinople, where he entered service in the Varangian Guard. Hardrada spent some of his years of service at sea, seizing pirate vessels on behalf of the Emperor. The Danish historian and antiquarian Carl Rafn (1795–1864), who made a translation of the inscriptions on the Piraeus Lion in 1854, was convinced that runes relating to a man who he translated as ‘Harald the Tall’ were a reference to Harald Sigurdson, who the sagas claim was of immense physical stature.

Rafn’s 19th-century deciphering of the runes on the Piraeus Lion are now considered to be highly question-able. However, there is no doubt that the high rates of pay for Varangians employed in the service of the Byzantine Emperors inspired large numbers of warriors from Scandinavia and northern Europe to join the Guard. The vast wealth Hardrada accumulated during his nine years of service eventually allowed him to return to Norway and successfully claim his brother’s kingdom. The riches from Constantinople also helped construct and equip the fleet of 300 longships that bore Hardrada and his army of invasion to England in 1066, where the former Varangian Guardsman finally met his fate at the Battle of Stamford Bridge (Fig 7).

During the 11th century, at the time the runes were probably carved on the Piraeus Lion, the Varangian Guard was at the peak of its military power and ceremonial influence. The Guard had evolved into the trusted personal bodyguard of the Byzantine emperors, renowned for their unwavering fidelity to their paymaster. In addition to guarding the Emperor and the palace, the Varangians performed policing duties in Constantinople and participated in imperial ceremonies including those that took place in the great 6th-century cathedral of Haghia Sophia in central Constantinople. Runes can still be seen scratched into the polished marble by Varangian Guardsmen; one of these pieces of runic graffiti reads ‘Halfdan was here’ (Fig 9), and another features the common Icelandic name of ‘Are’. Both these sets of runes are broadly contemporary with those inscribed on the Piraeus Lion.

Some six centuries after its flanks had been defaced with Viking runes, the great marble lion was still to be found at Piraeus, silently watching as a large Venetian fleet entered the harbour. The arrival of the navy of the Most Serene Republic on 21 September 1687 was part of a wider campaign by an alliance of Christian states united in their efforts to counter the powerful Ottoman Empire. In 1684, Pope Innocent XI had formed the Holy...
In command of the Venetian navy during the conflict was Francesco Morosini (1619–1694), a member of one of the most powerful families in Venice (Fig 8). By the time Morosini entered Piraeus in the autumn of 1687, his forces had already enjoyed two years of unchecked military success and had gained control of the entire Morea, leading the Venetian Republic to bestow the title of Peloponnesiacus on the commander.

The same day that Morosini’s navy arrived at the Piraeus, another large force came ashore at Eleusis, 10km to the north-west. This army was under the command of Count Otto Wilhelm Königsmark (1639–88), a Swedish aristocrat whose presence on Greek soil echoed that of his Viking forebears who had served as members of the Varangian Guard and who had been responsible for the runes carved on the Piraeus Lion. The composition of Königsmark’s army also harked back to the Varangian past; of the more than 10,500 men serving under his command, many originated from Scandinavia or were mercenaries drawn from Germany and the British Isles.

As the allied forces converged on Athens, an Ottoman garrison of 450 soldiers, together with more than 3000 civilians, chose to seek shelter on the defensible heights of the Acropolis. The small Temple of Nike, overlooking the steep approach that led up to the ornamental gateway of the Propylaea, was destroyed to allow cannon and musket fire to be directed against the allied besiegers. The Turkish civilians also looked to the thick, age-old walls of the Parthenon for protection, while the ancient home of Athena Parthenos also acted as the Ottoman gunpowder store.

On 23 September the allied siege of the Acropolis began; over the following six days some 700 cannonballs smashed into the exposed western end of the Parthenon. But the real damage was done in the early hours of 26 September, when a cannonball punched through the roof of the Parthenon, sending up a shower of sparks as it crashed into the marble floor, igniting the gunpowder. The Parthenon, which had survived the ravages of 20 centuries in a remarkable state of preservation, was ripped asunder in the resulting explosion (Fig 12), and about 300 Turkish men, women and children were killed in the blast.

Despite the destruction and loss of life that resulted from the explosion inside the Parthenon, the Ottoman defenders held out for another three days until, on 29 September, they agreed to surrender after being promised safe passage to Smyrna. The victory of the allied besieging army was, however, a hollow one. Not only had one of the greatest architectural marvels of the ancient world been destroyed, but the onset of winter brought with it plague that took a heavy toll on the allied army. The following April, the allies therefore decided to withdraw from Athens, retreating back into the Peloponnese, leaving the broken and ruined structures that now crowned the Acropolis as victory spoils for the returning Ottomans.

The allied forces did not, however, leave Attica empty-handed. During the winter or early spring of 1687/88 the Piraeus Lion was ripped from the basin into which its fountain had emptied, and the huge statue was manhandled on to one of the ships of the Venetian fleet. The lion was an ideal trophy for the Venetians. Although large and heavy, its location made it convenient to transport to the fleet; lions were also the symbol of St Mark, patron saint of Venice. The great marble lion that had gazed over the Aegean Sea for 1500 years was therefore readied for transport to a new home, surrounded by the waters of the Adriatic.

Morosini’s removal of the Piraeus Lion, together with failed attempts to carry off other sculptures from the Parthenon (Fig 10), was to herald the beginning of a craze for collecting classical antiquities that would sweep through wealthier sections of European society over the coming decades. Following the allied retreat from Athens, the Ottomans capitalised on this surge in demand for the art and artefacts of the ancient past, selling off sculptures from the Parthenon and innumerable other ancient monuments that were thickly spread around their empire. This acquisition of Greek art would reach its apogee at the start of the 19th century, when agents operating on behalf of Lord Elgin began removing many of the marble friezes and metopes from the Parthenon that had survived the destruction of the building.

Unlike Elgin, who quickly incurred the wrath and condemnation of Graecophiles such as Lord Byron (see Minerva, March/April 2011, p. 9), Morosini never faced accusations of cultural vandalism for his attack on the Acropolis. The military achievements in Greece would instead elevate Morosini to the office of Doge, while a bronze medallion was minted to commemorate his achievements during the Greek campaign (Fig 11). Following his death in 1694, Morosini’s reputation was further enhanced with the erection of a marble arch in his honour in the Doge’s Palace.

Originally intended as a memorial to the victories of Morosini’s Venetian forces over their Ottoman foes, the Piraeus Lion today acts as a reminder of the destruction of the Parthenon and the beginnings of the mania for collecting antiquities that flourished in subsequent years. Yet the graffiti carved onto the statue also highlights that in rare instances there can be positive aspects to the defacement of ancient art – the runes that have decorated the lion’s marble flanks for almost a millennium bear witness to the far-reaching voyages of the Vikings and their service rendered to the Byzantine Emperors as members of the Varangian Guard.
One ought to be a bird in order to be a field archaeologist’ said the Oxford University scholar John Williams-Freeman (1858–1943) just before the outbreak of World War I. All modern field archaeologists can appreciate what Williams-Freeman meant – the need to see the evidence on the ground from a birds-eye view. The recipient of Williams-Freeman’s advice was O.G.S. Crawford (1886–1957) who, in following years, pioneered the use of aerial photography. This work has continued over the course of a century, and vast amounts of aerial photographic data has since been generated. Use of aerial images now provides an indispensable tool when investigating archaeological sites.

From its inception, aerial survey proved to be invaluable in archaeological investigation, and it continues to play a highly important role in discovering new sites (see Minerva May/June, 2010, pp. 32–35). Cameras borne aloft on aircraft provide photographs that can contain a fantastic amount of information covering large areas of the landscape. However, in many countries, conventional aircraft – whether fixed-wing aeroplanes or helicopters – are limited by altitude regulations; in Britain they can fly no lower than 150m above ground level, making it difficult to take detailed photographs of excavated features in a relatively small area. There are, however, alternative methods that have proved very effective in raising cameras into the air to capture low level aerial images. This really began in 1906 when Lieutenant Philip Henry Sharpe of the Royal Engineers used a tethered hydrogen balloon to provide a vantage point from which to photograph Stonehenge. Low altitude photographs taken from the balloon’s basket allowed details of the monument and its associated low earthworks to be recorded for the first time.

My own interest in low level aerial photography also began with service in the Royal Engineers when attempting to capture the mountain and prairie landscapes from a military helicopter during a year-long assignment in Canada. Towards the end of my time in the British Army I became interested in the historic buildings and architectural structures that I was frequently seeing during my travels around Britain (Fig 2). However, it was archaeology that provided the most interesting and satisfying subjects, and while working as a field archaeologist on numerous excavations, I grew increasingly frustrated with the standard of on-site photography, much of which was only carried out as an afterthought and with little understanding of the discipline.

Adam Stanford explains how recent developments in Low Level Aerial Photography have provided an invaluable resource for archaeologists.
The photographic equipment used was also generally of poor quality. There was obviously a need to bring a more thorough approach to photographing archaeological evidence on site.

The work on archaeological excavations also rekindled my interest in aerial photography and I started to consider the different methods that could be employed when photographing archaeological remains, and what would be required to obtain elevated images of excavations which often prove vital when prospecting for archaeological sites, or when recording of evidence during a dig. It quickly became clear that, for a variety of reasons, including health and safety issues, or cost and commercial constraints, some traditional methods of taking photographs from elevated positions had become unusable. For example, before modern health and safety legislation, photographs had been obtained by shimmying up the nearest tall tree, balancing on top of high walls and tall vehicles, or even being raised up in the buckets of mechanical diggers. Extendible ladders and scaffolding towers, once essential pieces of excavation equipment, are also now rarely used. Unfortunately, dedicated specialist photographers, armed with good quality equipment and technical know-how, have also generally become limited to a few larger organisations (usually associated with museums).

It is possible to take photographs of archaeological sites without raising humans to potentially dangerous heights. Remote camera operation is used in Unmanned Aerial Vehicles (UAVs). These can take the form of costly remote-controlled aircraft adapted from those designed for military applications, through to low-tech and reasonably inexpensive kites and blimps. Although excellent results can be achieved with this type of equipment, there can be an element of danger when a UAV is being flown by an operator who is also concentrating on taking photographs. The vibrations of a motorised UAV’s engine can also cause ‘camera shake’, and unless very fast shutter speeds and a stabilising system are employed, this will result in poor image quality. In most cases with this type of equipment, payload is also restricted and only lightweight compact cameras can be carried aloft, further restricting photographic quality.

After carrying out my own experiments with different apparatus, such as access platforms (cherry-pickers), it quickly became obvious that a vehicle-mounted telescopic mast would prove the most versatile means of capturing elevated images. Without the need for a raised platform for personnel, or flying machinery, the mast solution was also extremely safe.

Having settled on the telescopic mast option as the safest and most practical way to photograph excavations from overhead, I set up Aerial-Cam in 2006, with the aim of producing low-level aerial photography and delivering very high quality images taken from a variety of heights using a telescopic mast mounted on a Land Rover (Fig 3). The mast is set in a vertical position using spirit levels at the base and adjusting the mounting brackets to ensure that it is level when the mast is extended. The mast extends telescopically, each section being connected by cable to the next, with the bottom section’s cable connected to an electronic winch. This has proven to be a safe, low-cost and accurate method of aerial photography and differs considerably to photography taken from aircraft. Great detail and accuracy is achieved at heights of up to 22m above ground level. Moreover, the equipment allows for precise photographic recording due to the stability and control of the camera mounted on the mast. Camera set-up locations can also be changed quickly and easily, and multiple angles can be achieved on excavation sites or around buildings.

High resolution (16mp) Nikon digital SLR cameras are used and

Fig 1. Stonehenge at sunset, summer 2008.

Fig 2. In addition to composing pictures useful for the archaeological record, photographs should also attempt to capture the beauty and drama of historic sites. Ironbridge, spanning the River Severn, constructed by John Wilkinson and Abraham Darby in 1773–1779.

Fig 3. Aerial-Cam in operation at Vindolanda, Northumberland.

Fig 4. Mast-Cam in operation photographing the interiors of Pershore Abbey, Worcestershire.

Fig 5. Excavation of the Avenue during the Stonehenge Riverside Project 2008.
positioned via a motorised pan-and-tilt head connected by wire to a monitor control box at ground level. A second spy camera is fitted into the viewfinder, which feeds the lens view to the monitor for composition framing prior to releasing the shutter. The camera settings (focus area, shutter speed, aperture, etc) are all controlled with tethered shooting software on a laptop. The ability to control the camera on manual settings, as if it were in my hands, is highly important, particularly when trying to pick out subtle changes in the colour of the soil by adjusting exposure, contrast and colour saturation while in the field. Once the pictures have been taken, they are loaded directly on to the hard drive of the laptop and can be immediately assessed for quality on the computer, while the camera remains in position (Fig 4).

Depending on the subject to be photographed, the camera can be positioned for oblique or near vertical shooting, with fine adjustment via the pan-and-tilt head, once the mast has been extended to the height required. If required, 35mm film SLR cameras can be used, as can video cameras, which are particularly useful when carrying out building maintenance surveys.

The first major test for Aerial-Cam was the Stonehenge Riverside Project, excavating Neolithic house platforms, timber circles and the east entrance at the huge earthwork of Durrington Walls, just 2.5km from Stonehenge. Since then the equipment has been employed by a growing list of archaeological organisations. For the most part this is because the system has some great advantages when recording excavation areas and historic buildings. However, personal archaeological experience does play a major part in how images of sites are produced. Identifying features on the ground during the on-site photographic process is one of the most satisfying elements of the work. No matter how sophisticated the equipment, trained field archaeologists with a thorough understanding of excavation procedures, and able to pick out features in the landscape, are still required in order to capture pictures that will be of greatest assistance to those carrying out the archaeological research.

On the few occasions where vehicle access has been an issue, a lightweight tripod-mounted mast system has been employed; this can easily be carried to remote sites or erected inside buildings, such as churches (Figs 6, 10). This has all the advantages of the Land Rover-mounted system, and with a similar camera control equipment, but
with slightly less potential for height and stability in windy conditions. The portable mast system was found to work well during a project carried out on Easter Island in January 2009 (Fig 9).

In the five years since setting up the Aerial-Cam system it has worked effectively on a range of archaeological sites spanning prehistory to the industrial periods. The service has also been used by a variety of organisations including commercial archaeologists, university departments, and community orientated research projects. The Aerial-Cam system has consistently delivered excellent results and provided an invaluable record of excavation sites, historic buildings and ancient monuments. It has also has proved to be safe, versatile and cost-effective. One of the great advantages of the mast-mounted system is that it allows the project director or site supervisor to be fully involved in the photographic process. The ability to instantly see the images on the computer screen, and the full control over the camera makes a world of difference when compared to less user-friendly methods of achieving elevated photographs. The ability to study the images as they are being taken has even led to the identification of archaeological features that had not been spotted by those working at ground level.

When involved for the duration of an excavation, a skilled photographer can also provide an important record of how the archaeological work progressed, and show exactly when and where finds and features were unearthed, and the contexts and conditions in which they were found (Fig 7). All this results in a far more comprehensive and informative picture archive of the excavation. The photographic records of archaeological investigations should therefore not just be a collection of sanitised pictures (although these are still vital), but should also reflect how an excavation progressed and changed over the course of the project.

The recording of rock-art is a personal passion and one that helps demonstrate the fundamental importance of the appropriate use of light for teasing out the detail of motifs or inscriptions, as well as information about how the designs were created (Fig 11). The 'Painting with Light' technique works around the basic principle of using a light source directed obliquely across a panel of art, to create shadow in areas recessed or in relief of the main panel surface. A camera is positioned perpendicular to the panel to record the resulting effect of the oblique lighting and shadow. Light sources can include direct sunlight, battery powered torches, remotely triggered flashguns, and studio or work lights. The same principles can be applied on a micro scale to small finds such as flints or coins, and on a larger scale using low, raking sun light across a landscape (Fig 8).

Archaeological excavation is always a destructive process, and in many cases the material evidence will only be available for recording for a very brief period of time. It is therefore extremely important to ensure the records of the excavation are as meticulous and comprehensive as possible. Archaeological photography is a vital part of this process, particularly when preservation by record is the only option. Photography is also an invaluable medium for communicating archaeological information to a wide audience. In addition to providing a full photographic service, there is an continuing need to pass on professional knowledge to ensure that past problems, often caused by poor equipment and a lack of understanding of the requirements of elevated photography, have led to less than satisfactory photographic results. There is a need to ensure that the photographic record of excavations is of high quality since the pictures capture moments of revealed history that will soon be lost forever.

For more information on all aspects of archaeological photography, please visit www.aerial-cam.co.uk, call 07815 007128 or email adam@aerial-cam.co.uk
antiquities conference

What price provenance?

Keith Amery summarises some of the key points raised in a recent conference focused on the Egyptian antiquities looting crisis

On Wednesday 11 May 2011, the Department of Cultural Policy and Management at City University, London, hosted a roundtable discussion on the ancient art and antiquities trade as a response to the reported looting in Egypt following the revolution that swept across the country in January and February. The event attracted a diverse audience from various academic and professional standpoints, including members of the ancient art trade, as well as academic Egyptologists and archaeological students. The proceedings were chaired by Claire De Than, Law Course Director and Senior Lecturer in Law at City University, London.

First of the speakers on the panel was Megan Rowland, a postgraduate at Cambridge University researching Egyptian antiquities law, whose paper provided an overview of the historical development of Egyptian antiquities laws. The most recent legislation designed to protect the cultural heritage of Egypt was introduced in February 2010 to replace the longstanding antiquities Law 117 of 1983 (see Minerva, March/April 2010, p. 7). In addition to reconfirming the antiquities law, the new law also stipulated that those antiquities already in the hands of private owners residing in Egypt could only be given to a new owner with the express permission of the Supreme Council of Antiquities (which has since been renamed the Ministry of State for Antiquities). The law of 2010 also brought increased prison sentences and financial penalties for anyone caught removing artefacts from archaeological sites, or attempting to smuggle them from out of the country.

One possible means of improving archaeological research in Egypt, and greatly reducing illegal digging or destruction of sites – especially those under threat from the rapid urban development taking place across Egypt and requiring ‘rescue archaeology’ – is the return to ‘partage’. This system was in operation until 1983 and allowed foreign researchers to remove from the country an agreed amount of the artefacts discovered in excavations so that they might be added to overseas collections. Following the lead recently promoted by James Cuno in his influential books Who Owns Antiquity? (2008) and Whose Culture? (2009), Megan Rowland also suggested that a reintroduction of partage might allow Egypt to manage her cultural heritage more effectively than is presently the case. However, Egyptian legislation over the course of the past three decades has vehemently rejected such a possibility. It was also pointed out in the post-paper discussion that the close historical relationship between partage and colonialism was likely to generate negative reactions in Egypt and the wider Middle East. Nevertheless, many in the audience and on the panel welcomed the raising of the partage issue in an open forum.

A controversial member of the panel was Jonathan Tokeley, writer, restorer and antiquarian who, in 1997, was convicted of smuggling antiquities out of Egypt (Fig 3). His paper provided a summary of his experiences working with Egyptian authorities on the ground over many years, and he detailed the extent of the looting problem in the country, claiming that the percentage of looted antiquities currently circulating on the market is of far smaller scale than the figures usually trumpeted by the popular press might lead us to believe. Jonathan Tokeley is author of Rescuing the Past: The Cultural Heritage Crusade (2006), which set out the philosophical reasons behind his involvement in smuggling antiquities out of Egypt, and he drew heavily on the arguments put forward in this polemic text to defend his position that antiquities would be ‘better off out of Egypt’. Whether regarded as a notorious villain, or a martyr to misguided legal and political policies, Tokeley’s paper certainly offered a refreshing break from political correctness and, for all its combativeness, also proved to be extremely informative.

James Ede presented the ‘official’ position of the antiquities trade, referring back to the extensive denouncements made by academics in recent years that have frequently equated the trade in cultural objects with the drugs and illegal arms trade. As Chairman of the London based antiquities gallery Charles Ede Ltd, James Ede is also a board member of the International Association of Dealers in Ancient Art (IADAA), and was therefore well placed to comment on the current state of smuggling of antiquities out of Egypt. The major thrust of his paper was to stress that the scale of the illegal
trade in antiquities has been greatly overstated. While disasters such as the looting of the Baghdad Museum in 2003 are often perceived as fueling the market in smuggled artefacts, it was noted that the IADAA had specifically requested that the British government post an armed guard in front of the museum following the invasion of Iraq, advice that went unheeded.

A key question for the discussion was how many antiquities are in circulation and how we determine which, if any, are illicit. James Ede put the total figure in the millions, pointing out that many private collections and even museum holdings had been dispersed before the UNESCO Convention of 1970 came into effect. It was suggested that, given the strength of the current market, there is no evidence that publishing is directly responsible for increasing the value of antiquities, and that academics could work with the trade in determining which antiquities are illicit and help identify fakes within the market. However, the response from academics in the audience was generally of the opinion that there is sufficient officially excavated archaeological material that requires analysis and research and, as such, there is little incentive for them to work on artefacts circulating in the ancient art market.

The last of the official papers was by Keith Amery, an inter-disciplinary doctoral candidate in the Department of Cultural Policy and Management/Law Department of City University, whose paper focused on self-regulation in the ancient art market. In order to introduce the audience to the ‘Dealing in Cultural Objects (Offences) Act 2003’, Keith began by setting out the historical background to the schism that has developed between professional archaeology and the antiquities market. He discussed the formulation of the various trade organisations, the Antiquities Dealers Association (ADA), the International Association of Dealers in Ancient Art (IADAA) and the Association of International Antiquities Dealers (AIAD). The paper then turned to look at the investigation of the illicit antiquities trade and how, following the formation of the illicit Trade Advisory Panel (ITAP), the trade had implemented self-regulation for the protection of antiquities originating from Iraq following the second Gulf War. This was achieved by voluntarily amending its Code of Ethics to include UN Sanctions Order SI 1519/2003. Following the Egyptian revolution, the IADAA issued a statement declaring its commitment to report antiquities appearing to have been recently illicitly exported from Egypt. The paper also included a look at the major change in attitudes towards antiquities and provenance since the ‘UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, 1970’. This convention is often regarded (incorrectly) as a cut-off date for determining whether or not an ancient artefact or artwork is illicit, and why the 2003 Act has been seen to be largely ineffectual.

Following a lively and informed debate amongst the panelists, the Chair opened the discussion to questions from the audience. Given the diverse interests of attendees, this elicited a lively response. Geoffrey Tassie of the Egyptian Cultural Heritage Organisation (ECCHO) reminded us why archaeological provenance is so important for the study of ancient art and antiquities. Christopher Naunton, of the Egypt Exploration Society, provided a thoughtful and balanced view of the significance of the debate. He noted that there should be future conferences designed to bring academics and those involved in the antiquities trade into closer contact in an attempt to reach consensus on some of the most important problems facing the protection and conservation of ancient Egyptian material.

The discussion continued long past the allotted time and the recurring comment was that this round-table discussion had sparked an important debate that must continue in other forums before the momentum is lost. Unfortunately no representatives of the Egyptian government were present on the panel or in the audience, although rather than any deliberate slight on behalf of the organisers, it was a consequence of the relatively short time span that has elapsed since the revolution in Egypt and bringing this forum together. It is therefore hoped that any future conferences will benefit from the views of those directly involved in the Egyptian heritage industry, or who are members of governmental bodies.

An edited volume of papers from the four main panelists and other interested parties is planned, and further events along a similar theme are being planned by the Department to focus interest on the antiquities of Libya and other states currently enduring an uncertain future. It only remains to thank all the speakers and attendees who supported this event and helped make it such a success.
Minerva meets experimental archaeologist David Sim, who uses his blacksmithing skills to recreate the arms and armour of the Roman Empire

Originally from Sheffield, David Sim first developed an interest in metalwork during childhood visits to the city’s foundries. His curiosity in understanding how things were made initially led to a career as a marine engineer and then as a designer of custom-built machinery, during which time he was involved in developing components for the Concorde aeroplane. David then went on to train and work as a school teacher. Yet from a very early age he had a fascination with iron-working: ‘The earliest memory burnt into my mind was when my father took me to a nearby steel works, where there were huge vats with liquid iron ore pouring from them, he remembers.

David’s move into archaeology was also rather unorthodox: ‘From the age of seven I had been experimenting as a blacksmith, although I taught myself and never had a formal blacksmithing apprenticeship. I fell into experimental archaeology while looking around the science museum in London. I was stood in front of a case with an iron sword and I thought, “I want to learn how to make that,” and that’s how it started: I began carrying out my own experiments, recreating ancient weaponry’ (Figs 2, 5).

David would go on to carry out doctoral research at Reading University in the early 1990s, using practical experiments to replicate the working environment of a Roman blacksmith, with David emphasising in the Foreword to his thesis that ‘the best way to understand a complex system is to try and reproduce it.’ The PhD was subsequently published in 1998 as Beyond the Bloom in which David stressed that ‘Iron artefacts are the key to understanding a civilisation, which the material affected in so many ways.’ The importance of iron to societies of the past and present continues to fascinate David: ‘If you tried to imagine the world without any iron in it, it wouldn’t exist. If the blacksmith doesn’t make everyone’s tools then no one can do their jobs.’

David’s work has debunked several theories about Roman imperial armour and the metallurgy used to produce it, and paved the way for further experimental research. He has released several publications, while his most recent work, Roman Imperial Armour, is one of the few books offering a detailed account of the production and metallurgy used in Roman army equipment. From the extraction techniques used to gather the iron, the skills a Roman blacksmith employed when producing the armour to the sheer output involved when equipping an entire legion, David’s analytical and practical investigations are a much-needed addition to the study of Roman weaponry, where there is still a paucity of research.

His search for the metallurgy used in Roman weapons eventually led David to the important discovery that, instead of using wrought iron to make weapons and other equipment as scholars previously believed, the Romans used a method that produced virtually no slag, resulting in an alloy with similar properties to steel. ‘When I first looked at the literature there were only two pieces of Roman armour published, and virtually no detailed research into how
Forging into history early Imperial period. Roman army during the was adopted into the body protection type of personal cultures, this in many Used armour. Scale Fig 4.

18cm. be made of brass. Diam. antiquity they could also David are of iron, but in quality than joust armour made for aristocrats century. In fact, Roman armour was of better made by only supposed to have been invented in the 19th during the 15th century. What is really surprising is when I started looking at nails from Pompeii and found that they were produced in the same way as the armour. This “clean iron” is therefore popping up in bog standard domestic implements, which should lead us to question the received wisdom of how Roman iron was made. There was a level of technology in existence 2000 years ago that was different to anything that we’d previously thought possible.

Together with the discipline and training of Roman legionnaires, David feels that sophisticated weaponry was the key to Rome’s success on the battlefields of antiquity. ‘The technology that supplied the Roman Army undoubtedly had a huge impact on their ability to conquer and maintain an empire. The technology that supplies the army is vital because it provides such a huge advantage: when you have soldiers who know their equipment is the best in the world then the psychological effect is enormous. The warriors fighting against Rome must also have been aware that their own weapons and armour were of inferior quality, and would have been partially cowed even before the battle began. However, the training and discipline of the Roman Army is really the thing that binds everything together.’

Although the knowledge that can be gained from testing ancient weaponry to discover the metallurgical content is of great importance and can be highly informative, the testing procedure does have its drawbacks, as David admits: ‘You have to be a little destructive. You cut a tiny piece off the edge of a sword or from the armour and encapsulate it in resin before giving it a polish. Using a powerful metallurgy microscope you can then discover exactly what is in the metal. Despite the small amount of damage that the testing causes, I have found that most museums are extremely helpful, and will almost always let me take a sample. A good conservator can also repair the damage afterwards so that you won’t see where the sample came from. The testing is a little destructive, but on the other hand you can learn so much more from analysing ancient weapons and armour than just letting them sit in a display case.’

David’s research has taught him that the techniques used by Romans still have a place in the modern world, and ancient military technology can prove useful to the police and armed forces of the present. ‘The modern weapons industry is essentially the same as the ancient one. The invention of a new weapon forces someone to invent a way to stop it, and vice versa. What you have happening in the Roman period is an arms race, the same as still happens today. While the technology used for creating modern armour is unbelievably sophisticated, the basic idea is still the same: stop a projectile or the point of a blade from getting into the body.

For example, chain mail is still used in huge quantities to provide stab-proof vests. I therefore worked with some people from the industry who wanted to know whether some of the replicas of ancient chain mail that I had made could be translated into modern materials. As it turned out, in this case the chain mail from antiquity proved too heavy for modern use. However, the past still has much to offer the present.’

David also has some reservations about the details of weaponry set down in ancient texts. ‘We obviously get some very useful information from the classical writers. However, I don’t think we can completely trust them; we should instead use them more as a guide. I certainly wouldn’t base my research just on ancient texts. I might take them as a starting point, but I would never assume that ancient authors are completely accurate in their information.
Roman armour was of better quality than joust armour made for aristocrats during the 15th century. There was a level of technology in existence 2000 years ago that was different to anything that we'd previously thought possible.

– especially about an activity like blacksmithing, with which the literate elites would have had little direct experience. If a type of weapon is mentioned in the ancient sources, then I try to replicate it. If it works, then I’m far more willing to believe the writer. If it doesn’t work, then there’s a problem and it may well be that the author was confused with his facts, or simply wrote it down wrongly.

By following examination of archaeological artefacts with exhaustive field trials and laboratory experiments, it is possible to create realistic simulations of how ancient weapons were used and the damage they inflicted (Fig 3). David’s logical approach bore fruit in his research of the Romans (Fig 6). ‘For years it was assumed by scholars that the lead of the plumbata couldn’t be cast directly on to the shaft because the heat would char the wood away. I wasn’t totally convinced by this, and after analysing wooden fragments from Roman plumbatae I discovered most were made from the wood of an ash tree. This was crucially important because while lead begins to melt at 326°C, ash doesn’t start to char until 425°C. I then carried out several experiments and found it was a simple matter to cast the lead weight directly to the shaft using a mould of copper or clay. In fact they were so simple to manufacture that I could make one within an hour!’

The relative ease of producing replicas of Roman plumbatae also allows David to run summer classes at sites such as Silchester, or at the archaeological open air museum of Butser Ancient Farm in Hampshire, where the public are taught how to make and use their own replicas of the ancient weapon. While recreating such weapons is not without risks, David is convinced that such ‘hands-on’ demonstrations of experimental archaeology are highly important. ‘I am an absolute hater of the health and safety executive, they are stifling people. I have been teaching since 1974 and would never put anyone in danger. Most of the time people enjoy the practicality, and in places like Buster you can have some fun experimenting with throwing weapons like the plumbata while making sure everyone is kept out of danger.

‘Experimental archaeology answers questions that can’t be answered in the library. While many academics still tend to look their noses down at experimentation, the general public are far more sympathetic and they like to see people making things. If given the chance, they also love to get involved, and that works out well for everyone. When one is doing experimental archaeology, I therefore try and give the public some hands-on experience.’

Despite its ease of manufacture, it is the plumbata that David regards as one of Rome’s most potent weapons on the battlefield: ‘If I was an enemy of Rome, the plumbata is what I would fear most. Even if it doesn’t kill you straightaway, the lead in the weight can also cause blood poisoning unless removed from your body before the metal got into the bloodstream.’ David’s research also leaves him in little doubt that the most lethal weapon the Romans ever had to face was the Dacian falx, with its curving sickle-shaped blade (Figs 7, 8). ‘If you strike someone on the helmet with it, there is so much energy in the weapon that it will force the brain into the spine. I carried out a series of laboratory experiments with the falx using high-speed cameras, and found that when the point of the falx hit the reinforced crown of the helmet, it turned blue. That only happens at 700°C. It appears that the falx was generating so much energy that it transformed the tip of the blade to plasma.’

In addition to his research, David also runs workshops to allow those who share his fascination with experimental blacksmithing to try things for themselves. This summer he is running courses on weapon drills, creating Roman weapons and armour, and even testing the weapons out. For people interested in pursuing experimental archaeology, David’s advice is simple, ‘question everything.’

On 13 April, 62 lots of antiquities from the California residences of Sir Daniel Donohue were offered for sale at Bonhams. In 1954 Daniel Donohue married Bernardine Murphy, the adopted daughter of Dan Murphy (d. 1959), one of Los Angeles’ richest businessmen. The couple were later to become Sir Daniel and Countess Bernadine (our research does not indicate how they received these titles), and they inherited Dan Murphy’s collection, which included a wide-ranging assemblage of European furniture and works of art acquired since the early 20th century. They actively added to it, especially in the 1960s, acquiring a wide range of antiquities to decorate their Italianate homes in southern California. Bernardine died in 1968, at which time most of the collecting came to a halt.

A marble stele depicting two deities, probably Aphrodite and Ares, in a quadriga confronted by a nude youth (Fig 1), was catalogued as Roman, c. 1st century BC/AD, but it more probably dates to the 3rd century BC based on the figure of the nude youth to the left, the style of the helmet and crest, and the spokes of the chariot wheel. It was estimated at an improbably low £6000–8000 even though it was the cover illustration. Two determined bidders realised its importance and drove up the price to a surprising £490,400 ($801,804), with the piece finally

---

**London antiquities sales: Spring 2011**

Jerome M. Eisenberg presents a selection of the many outstanding works of ancient art sold in London in April 2011 in his 40th auction report for Minerva

---

Fig 1. Roman marble relief panel, catalogued as ‘c. 1st century BC/AD’, but probably 4th–3rd century BC. L. 56cm, H. 51cm. Sold for £490,400. Lot 281.

Fig 2. Pair of Roman marble cinerary urns, c. 1st–2nd century AD. H. 40.6cm and 48.3cm. Sold for £108,000. Lot 278.

Fig 3. Roman marble draped female figure, bottom half, c. 1st–2nd century AD. H. 114cm. Sold for £132,000. Lot 283.
going to a dealer no doubt bidding for a client. (All prices in this report include the buyer’s premium.)

The bottom half of an over life-size Roman marble draped female figure, perhaps a goddess (Fig 3), c. 1st–2nd century AD, measuring 114cm, in height, was estimated at £20,000–30,000 but sold for £132,000 to a private collector. Another over-life-size Roman marble draped female figure and probably dating to the 1st–2nd century AD, with a much later head, and with an estimate of £40,000–50,000, sold to another collector for the same price. A headless Roman marble statue of Isis, also missing her forearms (Fig 4), c. 2nd century AD, brought £72,000 from the trade, well over its estimate of £25,000–35,000.

A pair of Roman marble (or limestone?) striated urns (Fig 2) probably dating to the 1st–2nd century AD, estimated at an implausibly low £7000–9000, sold to a dealer for £108,000. A very fine, deeply carved matched pair of Roman marble Corinthian column capitals (Fig 6), c. 1st–2nd century AD, again estimated at a low £15,000–20,000, brought £72,000 from the collector who had acquired the lower half of the Roman marble female figure mentioned previously. All of the above marbles were from the Donohue collection. Not included in this sale was a large (L. 127.5cm) Roman marble relief of Mithras Tauroctonus (Mithras slaying the bull), 2nd–3rd century AD, which sold in the Los Angeles Donohue sale of his decorative arts on 5 April. Though damaged and restored, it soared over its unusually conservative estimate of $12,000–18,000, bringing $109,800.

A Roman marble head of Hercules of the late 1st century AD, not in the Donohue collection, sold by Mathias Komor in 1963, brought £69,600, within its estimate of £60,000–£80,000 (Fig 8).

A rare Babylonian terracotta barrel cylinder (Fig 5), inscribed for Nebuchadnezzar II (c. 604–562 BC), L. 13.3cm. Sold for £264,000. Lot 132.

A very fine, deeply carved matched pair of Roman marble Corinthian column capitals, c. 1st–2nd century AD. Sold for £72,000. Lot 279.

A Roman marble head of Hercules, late 1st century AD. H. 31cm. Sold for £69,600. Lot 131.

The sale of 525 lots totalled £3,239,192 (including the buyers’ premiums) with 75.7 percent of the lots sold, representing 88.4 percent by value.
Christie’s 14 April auction featured the Empain collection of Egyptian antiquities – 115 lots from a wealthy Belgian financier and industrialist, Edouard Luis Joseph, Baron Empain (1852–1929), who built his own palace in Cairo and assisted in acquiring many objects for the Musées royaux d’art et d’histoire in Brussels (for which he received his title). The auction cover piece, a powerful Egypto-Persian bronze bull protome (Fig 9), from the 6th–5th century BC, estimated at £50,000–80,000, sold for a resounding £217,250. An ‘Egyptian blue’ ribbed bowl (Fig 10) from the reign of Amenhotep III, with a low estimate of £8000–12,000, climbed to £133,250. A finely modelled agate scarab from the Late Period, measuring just 3.2cm, was estimated for £4000–6000 but soared unexpectedly to £79,250. Likewise, a large loose group of Amarna polychrome beads in the form of fruits, petals and leaves from a Broad Collar, estimate £10,000–15,000, rose to £61,250. A 12th-dynasty gesso-painted wood model of a granary scene with three figures including a scribe (Fig 11), was estimated at an improbably low £5000–8000, but this did not stop it from bringing £61,250. Also from the Baron Empain collection, a pair of New Kingdom plaited palm leaf sandals, measuring 26.8cm, accompanied by two small reed baskets, were estimated at a surprisingly low £1200–1400 but climbed to an equally surprising £51,650. A large Middle Kingdom dark grey serpentine kohl vessel with a height of 8.5cm, from a private European collection, was estimated at £20,000–25,000, but in keeping with the excitement generated by the Empain collection, it soared to £109,250. An extremely rare and massive Amarna silver stirrup ring with the throne name of Akhenaten (Fig 12), estimated at £30,000–50,000, garnered a not unexpected winning bid of £85,250.

An Attic black-figure white-ground lekythos by the Edinburgh Painter (Fig 13), and dating to 510–490 BC, from the collection of Louis-Gabriel Bellon (1819–1899), originally sold for €30,000 to a Swiss dealer at the Ruellan auction in Vannes, France, on 4 April 2009. It was now offered with an estimate of £80,000–120,000, but reached an astounding £289,250 ($472,924), equivalent to €325,406, also purchased by a ‘European dealer’.

A superb Roman parcel gilt silver skyphos decorated in repoussé high relief with fruit-bearing grape vines (Fig 14), early 1st century AD, was acquired by A. Rizzi, Switzerland, before 1939. A European private collector now purchased it by telephone for £385,250, considerably beyond its estimate of £100,000–150,000. A rare Celtic silver scabbard decorated with applied sections of opus-interrasile (cut-away) work (Fig 15), fashioned in the mid-1st century BC, from a German collection assembled before the 1960s, with an estimate of £100,000–150,000, sold to an English telephone bidder for £199,350. A rare Anglo-Saxon amber glass claw beaker (Fig 16), c. later 6th–7th century AD, was found in 1970 in an inhumation burial in the Anglo-Saxon cemetery at Ozengell, Kent, and first published in 1982. It is thought that these beakers were produced in south-eastern England rather than on the continent. Bearing an estimate of £80,000–120,000, it brought £157,250. A striking Anglo-Saxon amber glass beaker of the early 7th century AD (Fig 17), and estimated at £50,000–80,000, realised a healthy £133,250. A pair of iridescent pale amber Roman glass bowls from the 1st–3rd centuries AD, featuring a unique honeycomb pattern of...
Fig 18. Roman marble cinerary urn, c. AD 50–100. H. 68.7cm. Sold for £169,250. Lot 258.

Fig 19. Roman marble portrait head of a woman. H. 42cm. Sold for £91,250. Lot 261.

Fig 20. Urartian bronze quiver, c. 8th century BC. L. 67.3cm. Sold for £217,250. Lot 330.

Fig 21. Phoenician silver gilt bowl, c. mid-7th century BC. Diam. 24.8cm. Sold for £193,250. Lot 334.

Fig 22. Byzantine marble architectural panel, c.10th–11th century. L. 137.7cm, H. 18.4cm. Sold for £289,250. Lot 303.

Fig 23. Urartian bronze helmet, c. 8th century BC. H. 26.5cm. Sold for £121,250. Lot 331.

Fig 24. Bactrian gold stamp seal, c. 2200–1900 BC. Diam. 2.4cm. Sold for £97,250. Lot 321.

Near Eastern antiquities also drew intensive bidding. An Urartian bronze quiver, probably of the 8th century BC, decorated with six repoussé bands, the first featuring the king and attendants, the others depicting warriors in chariots and horsemen in battle (Fig 20), was estimated at £50,000–80,000, but rose quickly to £217,250. An Urartian bronze helmet from the same period, also decorated with war scenes and an enthroned winged divinity (Fig 23), which was provided with an estimate of £100,000–150,000, was won by the Mougins Museum of Classical Art for £121,250. An attractive Phoenician silver gilt bowl with a central scene of a hero attacking a lion, surrounded by two bands of animal hunts, horsemen and warriors (Fig 21), dating to about the mid 7th century BC, was underestimated at £20,000–30,000, and went on to bring £193,250 from a European collector. A unique Bactrian gold stamp seal, probably dating to 2200–1900 BC, and featuring an eagle-headed winged giant (Fig 24), was estimated at £80,000–120,000 but went on to sell for £97,250, in spite of its diminutive size. The sale of 360 lots totalled £5,245,175 (including the buyers’ premiums), with 84 percent sold by lot and 78 percent by value (this figure was affected by five Roman marbles remaining unsold).

The extremely high prices so often obtained in the London spring sales confirmed the growing demand for select works of ancient art that had already proved so evident in the New York sales last winter (see Minerva, March/April, 2011, pp. 50–55). It is obvious that several of the major collectors who have recently entered the field tend to completely disregard the estimates on the most desirable objects. This is probably why the estimates for a few of the better pieces in the two sales are often so surprisingly low – it was not necessary to maximize the estimates in order to reach those buyers. Also, lower estimates entice others to enter the fray and create more excitement in the salesroom. They are basically ‘teasers’, and they have certainly proven their worth.

Jerome M. Eisenberg PhD, is the founder and director of Royal-Athena Galleries based in New York. He founded Minerva in 1990 and was Editor-in-Chief for the following 20 years.
finds from ancient Macedonia. About 500 objects from the royal tombs of Aegae, most of them displayed for the first time, are presented. The royal family traced their descent from Heracles, and the unlooted tombs of Philip II and his grandson Alexander IV contained elaborate gold jewellery, silverware and pottery, sculpture, and mosaics. The Ashmolean Museum +44 18 65 27 80 00 (www.ashmolean.org). Until 29 August. (See Minerva, May/June, pp. 22–25.)

UNITED STATES

NEW YORK, New York
Pompeii the Exhibit: Life and Death in the shadow of Vesuvius
This new exhibition at Discovery Times Square features the largest collection of body casts and skeletons recovered from the buried city that has ever placed on display. More than 250 artefacts from Pompeii are also on view and include gold coins, jewellery, furniture and organic remains. (See this issue of Minerva, pp. 28–31.) (www.discoverytscx.com) Until 5 September.

CAMBRIDGE, Massachusetts
Nazi and the Hurricanes: Fragments from a Forgotten Past
The exhibition features over 100 objects from the Museum’s collection of 10,000 excavated artefacts from Nuzi. It is the largest Nuzi collection outside of the Iraq Museum in Baghdad. In addition to a large number of cuneiform tablets, the collection includes pottery and figurines, metal tools and weapons, jewellery, seals and seal impressions, and some of the earliest known glass in the Near East. Harvard Semitic Museum +1 61 74 95 46 31 (www.isites.harvard.edu). Ongoing.

Ancient Cyprus
The Semitic Museum’s portion of the Cesnola collection comprises over 1300 ceramic vessels, lamps, figurines, stone, glass, and metal objects from Cyprus, dating from c. 2300 BC to AD 700. This exhibit features selected pieces from the collection, along with other Cypriot artefacts from the Peabody Museum of Harvard University, the Museum of Fine Arts-Boston, and the State University of New York in Albany. Harvard Semitic Museum +1 61 74 95 46 31 (www.isites.harvard.edu). The exhibit is curated by Helena Wylie Swiny. Ongoing.

Monuments from Mesopotamia
The Propaganda of Kings
The copies of ancient monuments displayed at the Semitic Museum span a period of over 1400 years. These plaster casts serve as an invaluable record of the long vanished people and politics of the ancient world. Three-dimensional replicas allow a greater range of detail than traditional two-dimensional photographic prints. In some cases, original objects have been lost through war, environmental degradation, or neglect, leaving only a cast to represent the invaluable historic artefacts. The assembled collection of casts offers a unique opportunity for its viewers to experience works of art from the ancient world in one exhibit. Harvard Semitic Museum +1 61 74 95 46 31 (www.isites.harvard.edu). Ongoing.

MALIBU, California
In Search of Biblical Lands.
This exhibition presents photographs from the 1840s and the early 1900s of the region known variously as Palestine, western Syria, and the Holy Land. Subjects range from architectural sites to scenes of pastoral life. In the 19th century, a new group of visitors, primarily Protestant Europeans and Americans deeply immersed in the Bible, visited the Holy Land. Expecting to find Jerusalem, ‘the shining city on a hill’, in Palestine, ‘the land of milk and honey’, they encountered a dusty, provincial outpost in an arid country. The reality did not discourage interest or deter travellers. Military and economic aims merged with religious fervour and the advent of archaeology. As visitors increased, the Holy Land became a subject for the nascent medium of photography introduced in 1839. Early photographers captured scenes of villages nestled in stoney landscapes and a once-great city subsiding within its walls, and people repeating patterns of life unchanged over millennia. The Getty Villa +1 31 04 40 73 00 (www.getty.edu). Until 12 Sept.

Minerva July/August 2011

D印章As the Efebo Lampadoforo (Youth as a Lamp Bearer). The Getty Villa +1 310 440 7300 (www.getty.edu). Until 12 September.

MEMPHIS, Tennessee
The Ancient Egyptian Collection
As part of its mission of outreach and community education, as well as to support the research and teaching missions of University of Memphis, the Institute of Egyptian Art & Archaeology, maintains a collection of over 1100 ancient Egyptian antiquities. These artefacts are housed in the Art Museum of the University of Memphis. Approximately 200 of those objects, most ranging in date from 3800 BC to AD 700, are on permanent exhibition. Egyptian Gallery of the Art Museum of the University of Memphis +90 16 78 20 00 (www.memphis.edu). Ongoing.

Historic Images of the Greek Bronze Age: The Reproductions of E. Gilliéron and Son
This exhibition features a selection of early 20th-century reproductions of now-famous artworks from Sir Arthur Evans’s historic excavations of Minoan Crete and Heinrich Schliemann’s Mycenaean Greece. Emile Gilliéron and his son were the senior draftsmen responsible for reconstructing the fresco paintings in the Palace of Knossos. They formed a thriving business selling original watercolors after the frescoes and other reproductions of three-dimensional artworks, which they made directly from the originals. The installation draws from the Metropolitan Museum’s own collection of Gilliéron reproductions, which is the largest in existence. Metropolitan Museum of Art +1 212 25 35 77 (www.metmuseum.org). Until 13 November.

Poetry in Clay: Korean Buncheong Ceramics from Leem, Samsung Museum of Art
This exhibition focuses on Buncheong, a white porcelain with a gold and dynamic ceramic art that flourished in Korea during the 15th and 16th centuries. Approximately 60 works from the collection of Leem, Samsung Museum of Art in Seoul, Korea, are on display. Included in the exhibition will be select works by modern/contemporary potters,
highlighting how this tradition, which had disappeared in Korea for 400 years, has been revived and transformed by modern artists.


**SAN DIEGO, California**

**Five Dynasties of Chinese Pottery.** The exhibition traces Chinese pottery from its humble, domestic beginnings to its culmination as an elite art form. It features items from the Han and Song periods, demonstrating practices of life and death. Organised by the County of San Diego Community Projects Programme. The San Diego Chinese Historical Museum +1 619 388 9888 (www.scdhm.org). Ongoing.

**AUSTRIA**

**LOEBEN, Styria**

**Egyptians: God and Gods on the Nile** A range of artefacts paint a picture of religion in ancient Egypt. The **Museum of Leoben Kunsthalte** +43 03 84 24 06 24 08 (www.loeben.et) Until 1 November 2011.

**CANADA**

**ONTARIO**

**The Archaeology of Godin Tepe, Iran** In the late 1960s, an archaeological expedition from the Royal Ontario Museum (ROM), under the late former ROM Director T. Cayler Young Jr., spent five summers in north-west Iran digging into a 30m-high mound of ruins called Godin Tepe. The ROM team uncovered thousands of objects domestic and ritual objects, including wine jars, drinking cups, and jewellery. This exhibit explains what these objects tell us about the lives of these ancient communities.


**DENMARK**

**COPENHAGEN**

**Cleopatra’s World** At the end of the 19th century the founder of the Glyptotek, Carl Jacobsen, collected art from ancient Egypt. Today the collection includes statues, reliefs, paintings, decorated mummys, painted mummy, coffins, and other burial objects. Among more than 1800 works is the oldest hippopotamus from around 3000 BC. The youngest is a mummy portrait from the 1st century AD. The current exhibition features the material culture of Cleopatra and her eventful reign. **Ny Carlsberg Glyptotek** + 45 33 41 81 41 (www.glyptoteket.dk). Until 7 August 2011.

**FRANCE**

**PARIS**

**Medieval and Renaissance Illuminations**

The exhibition consists of 70 Italian, French, Flemish, and Germanic Illuminations, from historical, literary, and liturgical manuscripts, dominated by the masterpieces of Lorenzo Monaco, Jean Fouquet, Guillaume Vrelant, Simon Bening, and Giulio Clovio. The Louvre’s collection of illuminations remains little known, despite the famous masterpieces it contains. The publication of the collection’s catalogue also provides an opportunity to discover these exquisite works. **The Louvre** +33 1 40 20 53 17 (www.louvre.fr). Until 3 October.

**From Pollaiuolo to Verrocchio – The Early Italian Workshops** This exhibition brings together early Renaissance drawings and incunabula from the collection of Baron Edmond de Rothschild. It provides an introduction to the history of the art of engraving in Italy, from its beginnings to the workshops of the late 15th century. **The Louvre** +33 1 40 20 53 17 (www.louvre.fr). Until 3 October.

**ARLES, Bouches-du-Rhône**

**Caesar, The Rhone of Memory** An exhibition of artefacts recovered from 20 years of excavations in the River Rhône at Arles. The exhibition features more than 700 objects including the famous marble head possibly depicting Julius Caesar. The largest section of the exhibition is dedicated to the ancient port of Arles, and illustrates the major role played by the city in maritime commerce during the Late Republic and Imperial Roman periods. **Musée de l’Arles Antique** +33 49 01 88 89 3 (www.arles-antique.cg13.fr) Ongoing. (See Minerva, May/June 2010, pp. 28–31.)

**LEZOUX, Auvergne**

**Corent: Travel in the Heart of a Gallic City** The County Museum of Ceramics, which opened in 2007, will use archaeological ceramics to reveal aspects of everyday life in the town of Corent. **Musée départemental de la céramique** +33 47 37 34 24 2. Until 30 September.

**STRASBOURG, Bas-Rhin**

**Strasbourg-Argetorate: A Legionary Camp on the Rhine** For several years, excavations have been carried out at the site of Strasbourg’s legionary camp. The camp’s topography, its evolution, and insight concerning Roman presence on the Rhine are presented. The story behind the troops that were stationed there and the civilians who lived in neighbouring areas is also covered. A variety objects and documents derived from recent research will be exhibited, illustrating all aspects of military life from the first four centuries AD. **Musée Archéologique** +33 3 88 52 50 00 (www.musees.strasbourg.fr). Until 31 August 2011.

**MOUGINS, Alpes Maritime**

**Mougins Museum of Classical Art** The spectacular private museum is now open to the public. Discover, in the heart of the old village of Mougins, how the beauty of the ancient world has influenced neoclassical, modern and contemporary art. The collection includes Roman, Greek and Egyptian sculpture, vases, coins, and jewellery, and also the world’s largest private collection of ancient arms and armour. These ancient artworks are interspersed with classically inspired paintings, drawings, and sculptures by artists such as Picasso, Mattise, Chagall, Dufy, Cézanne, Rodin, Dali, Andy Warhol, Marc Quinn, Antony Gormley, and Damien Hirst. **Musée d’Art Classique de Mougins** + 33 (0)4 93 75 18 65 (www.mouginsmuseum.com).

**GERMANY**

**BAD BUCHAU**

**Cult and Art of the Bronze Age** The central object of the exhibition is the sensational discovery of the Sky Disc from Nebra (Saxony-Anhalt). Similar objects are used to explore the question of the spirituality of prehistoric people and the origins of religion. The development of mathematical astronomy is also explored. **Federseenmuseum** +49 (0)7582 83 50 (www. federseenmuseum.de). Until 1 November.

**BERLIN, Berlin**

**The Tell Halaf Adventure** In 1899 Max Freiherr of Oppenheim discovered at Tell Halaf (north-east Syria) a prinicely compound from the early 1st century BC. A large proportion of this material came to Berlin and in 1930 was presented in a remodelled Machine Hall. During World War II a bomb demolished this private museum, along with its original sculptures. 60 years later, the monumental stone reliefs were reassembled from the 27,000 fragments. **Pergamon Museum** +49 30 20 90 55 77 (www.smb.spk-berlin.de) Until 14 August.

**Pioneer of Egyptology. Carl Richard Lepsius. 1810–1884** Dedicated to the eminent scholar considered to be the father of the modern discipline of Egyptology. **Neues Museum** + 49 30 26 64 24 24 (www.neues-museum.de). Ongoing.

**BLAUBEUREN, Baden-Württemberg**

**First Mother Versus Pin-Up Girl: Sex and Fertility in the Ice Age** Highlights of this show include the Venus and the phallus out of the Holle Fels near Schalklingen as well as depictions of men and women during the Iron Age. **Urgeschichtiches Museum** +49 73 44 92 (www.urmu.de). Until 29 January 2012.

**ELLWANGEN, Baden-Württemberg**

**The Alamanni on the Eastall-Ball settlers between Lauchheim and Niederstötzingen** A presentation of important archaeological finds discovered across southern Germany, including an overview of five centuries of Alamannic culture (3rd–8th centuries AD). The focus is on the unique archaeological discoveries made close to the Lauchheim River. Highlights include gold foil crosses, which can be considered as the first Christian symbols in southern Germany, as well as the so-called tree coffins. **Alamannenmuseum Ellwangen** 07 96 19 69 74 7 (www. ellwangen). Extended until 23 October.

**GLAUBERG, Hessen**

**Grand Opening of the Keltenmuseum** An exhibition focused on the lives and culture of the Celts. The Iron Age finds from Glauberg are covered in depth in its original meaning and function. Multimedia installations and accompanying stories take visitors back to the time of the Celts, from the pre-Christian Celts in Ireland to the contemporary ‘Elts’ in music and fashions. **Keltenmuseum** +49 66 04 18 23 30 0 www.keltenwelt.glauberg.de. Ongoing.

**HANNOVER, Hannover**

**Golden Horizon 4000 Years of Nomads of the Ukraine** An interesting collection of a range of ancient material sheds light on a fascinating mixture of nomadic cultures from the Steppe. **Landesmuseum Hannover** +49 51 19 80 76 86 (www. landesmuseum-hannover. niedersachsen.de). Until 13 March 2012.
Calendar

HEIDELBERG, Rhein-Neckar
Casting: Collection of the University Islands of the Wind. The Maritime Culture of the Bronze Age Aegean
The depiction of ships, whether set in clay, carved into bricks, or painted on walls, shows the developments of early ship building in the Bronze Age Aegean. Models of these ships, as well as harbour layouts and landscape models clarify the lifestyles and sea trade between 2800 and 1300 BC. Heidelberg University + 49 62 21 54 0 (www.klassische-archaologie.uni-hd.de). Until 24 July.

HILDESHEIM, Niedersachsen
The Old Kingdom in New Light
A new installation featuring the museum’s impressive collection of Egyptian statuary from the 5th and 6th dynasties (c. 2498–2184 BC). Roemer und Pelizaeus Museum + 49 51 21 93 69 0 (www.roemer-pelizaeus-museum.de). Ongoing.

Theatrum Hieroglyphicum: Egyptian Pictorial Works in the spirit of the Baroque
The protagonists of this hieroglyphic baroque theatre are Osiris, Isis, and Horus. In the so-called hieroglyphic theatre they appear as dark, mysterious figures. When they are represented in European art their colour is usually black, to clearly distinguish them from the bright, crisp white gods of Greece and Rome. The contrast of colours symbolises the typical contrast between the sphere of light and the darkness of the underworld, between the conscious and unconscious, between life and death. The Baroque was known for Egyptianising sculptures such as the Pantheon in Wörlitz and the Royal Antiquarium – the Munich Residence. The art of this age also inspired creations in the Egyptian style during the second half of the 18th century, expressing the mystery that ancient Egyptian culture represented to Europe. Knauf-Museum Iphofen +31 09 32 79 65 76 (www.knauf-museum.de). Until 6 November 2011.

MORBACH-WEDERATH, Until 6 November 2011.
MORBACH-WEDERATH, Until 6 November 2011.

MUNICH, Bavaria
King’s City of Naga-Excavations in the Sudan Desert
Material presented in this exhibition ranges from prehistory through to the Graeco-Roman period. The cultures of ancient Sudan (Nubia) and the late antique Coptic period are also represented. The museum also has monuments of Imperial Rome that were influenced by Egyptian art and architecture. Staatliches Museum Ägyptischer Kunst + 49 089 29 85 46 (www.ayeyptisches-museum-muenchen.de). Until 30 July 2011.

ULHIDINGEN-MUHLHOFEN, Baden-Württemberg.
Getting Around: Mobility During the Iron Age
One of Europe’s first open-air museums. The reconstructed Stone and Bronze Age lake dwellings on Lake Constance (4000–850 BC), were erected between 1922 and 2007. Reconstructed buildings were based on extensive excavations carried out in the area. The museum evokes the daily life, religion, and crafts of that time. The main display comprises 20 pile dwellings and a museum building for exhibits on the shore. It is one of the most popular tourist attractions on the lake. Using experimental archaeology, this exhibition explores how ancient people moved from place to place. Phalbaumuseum Unteruhldingen + 49 07 55 69 28 90. (www.phalbaum.de). Until 6 November 2011.

ITALY
Naples: The City and the Sea – Piazza Bovio: Between Romans and Byzantines
Exhibits such as fragments from the Byzantine tower in Piazza Bovio, discovered during the construction of the subway station, and the reused masonry of the archway originally constructed during the Severan period. The exhibition features other archaeological material recovered in the 19th century from the nearby area of Corso Umberto and charts the history of the coastal landscape. National Archaeological Museum of Naples +39 08 14 42 21 11 (www.marktpleat.it/museo.nazionale) Ongoing.

ROME
Nero
The exhibition features a vast array of archaeological artefacts including fragments of painted walls, together with statuary and architectural features that relate to the reign of the last of the Julio-Claudian emperors. The exhibition is spread across some of the most iconic locations in Rome, with displays on the first floor of the Colosseum, in the Neronian cryptoporticus on the Palatine, and in the Curia Julia and the temple of Romulus in the Forum. (See this issue of Minerva, pp. 20–22.) + 39 06 39967700 (www.pierreci.it) Until 18 September.

NETHERLANDS
Heerlen
Roman Glass from Private Collections
There will be a special display of Roman Glass in the Thermeum in Heerlen in the Carovallum which was built on the foundation of a Roman bath-house, and the exhibition holds 283 Roman glass vessels. Special objects are a small opaque amphiara with a depiction of Ajax commanding the invasion fleet landing at Troy. There are only eight similar pieces known worldwide. There is also a pitcher by the famous glassblower Ennion from Sidon (Lebanon). This is the first public show of these notable vessels. Thermeumuseum +31 (0) 45 56 05 10 0 (www.thermeumuseum.nl). Until 28 August 2011.

SPAIN
Bilbao
Sacred Gold: Pre-Hispanic Art in Colombia
Essentially the conquistadors’ loot, the Museo del Oro del Banco de la República in Bogotá, Colombia, has the largest collection of indigenous gold objects in the world, spanning 2500 years before the Spanish conquest in the 16th century. On loan from the Colombian museum are 253 extraordinary objects. These include bracelets, necklaces, crowns, and breast-plates, masks, votive figures and anthropomorphic sculptures. The ‘Golden People’ or ‘La gente dorada’ part of the exhibition refers to the legend of ‘El Dorado’, the name given by the conquistadors to a Muiscan tribal chief who covered himself with gold dust and tossed gold and emeralds into a lagoon as offering to the gods. More than 65 golden snakes, frogs, jaguars, bats, birds, lizards, and snails are featured in the Fabled Animals section, which explores the symbolism of animals. Museo de Bellas Artes de Bilbao + 34 94 43 96 060 (www.museobilbao.com). Until 4 September.

EXHIBITION FOCUS

Routes of Arabia. Archaeological Treasures of Saudi Arabia presents more than 300 unique archaeological finds, discovered in the territory of Arabia in recent decades by archeologists from several countries. These are combined in a majestic exhibition for the first time. Artefacts from various museums in Saudi Arabia are displayed, including ceramics, coins, jewellery, funerary stele, colossal imperial statues and prestige silver tableware. These encompass a vast timespan of Arabian history, from the Palaeolithic to the 20th century. The exhibition includes seven subdivisions. Five present pre-Islamic material, the remaining two are dedicated to the Islamic periods and the Holy Cities of Mecca and Medina, as well as to establishment of the Kingdom of Saudi Arabia in 1932. The main theme of the exhibition examines roads, trade and pilgrimage routes, from ancient times to the present, that connected Arabia with the wider world and its own territory. In prehistory, one of the dispersal routes of ancient human beings from eastern Africa to Eurasia, but also through Arabia. In the historic era Arabian states grew and prospered as a consequence of contact with some of the most ancient civilisations – at times parallel with them in the level of development. The material featured in the exhibition demonstrates the interconnectivity of Arabia with Mesopotamia and Egypt, but also the cultures of the ancient Middle East from the Indus valley to the Mediterranean world. This interrelationship existed for thousands of years, culminating in the union of more recent states through Islamic religion. Trade routes intersected the Arabian Peninsula in all directions, and caravans, carrying luxury goods from southern Arabia to the countries of the Mediterranean and West Asia was an established practice for millennia. Oases such as those of Tayma, Madyan, Najran, Nabatene, located on the trade routes gradually became large centres of international trade. Continual movement along the trade routes ensured contact between many Arabian tribes. Gradually this led to an amalgam of artistic traditions dialects, and writing. It also paved the way for the rapid expansion of the Islamic faith, originating in the early 7th century in the Hejaz in the north-west of Arabia. In the Islamic period routes of trade ultimately evolved into routes of pilgrimage, connecting the most important sites of the Islamic world with Islamic holy sites in Mecca and Medina. State Hermitage Museum, St Petersburg, Top Floor of the Winter Palace + 812 312-15-30 (www.hermitage-museum.org). Until 4 September.