

# THE FITZWILLIAM MUSEUM

## EDUCATION DEPARTMENT

### Fact Sheet

### The Ancient Greeks

### Metalwork



The technology of metalwork was vital to Greece's economic and military strength and power- a common feature of all ancient civilisations. The famous and successful Athenian naval fleet was mostly funded by the Laureion silver mines in Attica. Metal technology enabled the Greeks to make tools, weapons, shields and a range of everyday objects such as cooking utensils, mirrors and jewellery.

Artists and craftsmen who worked in metal were much admired for the quality of their work. Most goods were made in small family workshops around the market place. In larger workshops slaves laboured to produce bulk orders of popular goods such as shields. Blacksmiths forged metal in brick furnaces fuelled by charcoal.

Most metals were imported as only silver was found in large quantities in Greece. The need to import the raw materials meant that metal goods were expensive to produce. Metal goods were traded around the Mediterranean for large profits.

#### Mirror

Case II, Object 23, Bronze and bone

Museum number Gr.10.1972

The scene on this mirror show Odysseus with the sorceress Circe. The engravings decorate the backs of the mirrors, the fronts would have been highly polished to provide a clear reflecting surface.

#### Bronze

Bronze is an alloy of tin and copper. Neither of these raw materials were found in Greece. They were imported, the tin from the Phoenicians in what is now modern Spain and the copper from Cyprus. Copper was the first metal to be smelted. Coppersmith (*khalkeus*) was the word later used for all smiths (*khalkos* is the Greek word for copper). Bronze was used in the manufacture of armour, weapons, statues and mirrors.

#### Iron

Iron ore exists sporadically throughout mainland Greece but it was mostly imported from Thrace and the islands. It was first used in Greece around 1050 BC and its usage steadily increased. It was used mainly for tools and weapons, because iron is much harder and sharper than bronze. Iron melts at a higher temperature than bronze (bronze melting point is 1030°C, iron melting point is 1535°C) so its use depended on the invention of new technology. Tall brick furnaces were lined with clay to keep the heat in. The temperature was increased by the use of goatskin bellows.

## Gold and Silver

Gold and silver were used for luxury objects and coins. Gold was found in Thrace to the north of the Aegean and on the island of Siphnos and was an expensive import. Few gold objects remain as many were melted down so that the metal could be reused. The Romans stole many gold and silver objects when they occupied Greece in the 2<sup>nd</sup> century B.C gold was also used to decorate and sometimes cover statues such as that of Athene in the Parthenon. The very wealthy were buried with gold jewellery, such as wreaths or belts. Heavy gold bracelets and pectorals have also been found made from gold imported from Asia Minor or Egypt.



Gold jewellery  
Case 10, Object 35  
Museum number GR.I.1928

Silver was mined in Attica and on the island of Siphnos. In the year 483 BC there was a lucky strike of a rich vein of silver in the state-owned mining district of Laurion in Attica. Almost all the silver miners were slaves. It is thought that at its peak there were as many as 40,000 working there. The conditions were grim; work took place in small underground tunnels in shifts of up to ten hours. Profit from the silver mines in Attica provided Athens' naval fleet and the basis of her power. At first, the Athenians wanted to distribute profits amongst themselves but were persuaded by Themistocles to devote the money to the creation of the greatest fleet of ships in Ancient Greece.



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## Coins

Coins were probably invented in Lydia (present day Turkey) around 635 BC and introduced to Greece soon afterwards. Before that, Greeks had used bars of silver and rods of iron as money. Greek coins were made of silver, bronze, gold and electrum (a mixture of gold and silver). The first coins may have been used to pay mercenary soldiers, rather than for trading or taxes. The earliest coins usually bore religious symbols or the emblem of a city, such as the rose of Rhodes, Pegasus the winged horse for Corinth and the owl for Athens. Later, they depicted the head of a ruler. Many countries that traded with Greece also began to use coins for money and thus the basis of our Western economy began.

Silver tetradrachm coin from Knossos, Crete  
Case 10, Object 25  
Museum number CM.16-1938