

The architect Kha's protractor

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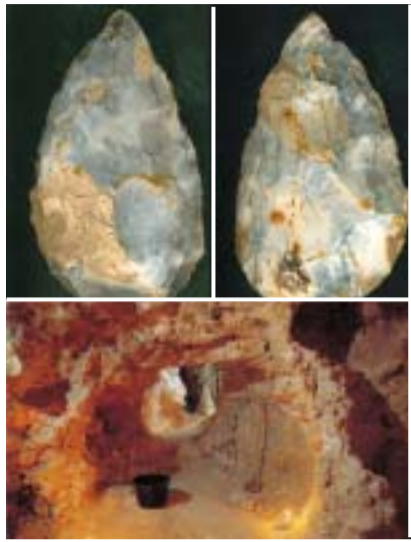
# Neolithic miners

The arrival of the Neolithic cultures marked a major milestone in human cultural and technological development, which is vividly illustrated by the vast complex of ancient flint mines at Spiennes.

The mines at Spiennes provide exceptional testimony to early human inventiveness and application. The mining centers, like the higher settlements, show there were already major changes taking place in Europe in the 5th and 4th millennia BCE. They constitute a landmark between the first settled communities and the emergence, probably in the Bronze Age, of true 'clan centers'.

The process of change throughout Europe is represented in Spiennes by the Michelsberg Culture, which was present in the middle Neolithic over a vast territory, including a large part of Germany, Belgium and northern France. Spiennes is a remarkable example of this culture because it has two characteristic sites: a fortified settlement on high ground and a vast flint mine.

The flint mines at Spiennes are outstanding examples of the lithic mining of flint, which marked a seminal stage of human technological and cultural progress. Spiennes is one of the best known examples of prehistoric flint mining. Its shafts are among the deepest ever sunk to extract this raw material. The exceptional size of the blocks of flint that were



extracted shows how skilled the Neolithic miners must have been. The technique of 'striking', which is characteristic of Spiennes, was developed to allow these blocks to be extracted. The quality of the worked artifacts is one of the most remarkable illustrations of the great skill of the craftsmen, who produced extremely regular blades and axes 25cm long.

Underground flint mining was taking place there from the second half of the 5th millennium BCE (between 4400 and



4200 BCE), making Spiennes one of the oldest mining sites in Europe.

Several dates show that mining activity went on, apparently without interruption, from the beginning of the middle Neolithic until the late Neolithic period. The considerable number of artifacts discovered at Spiennes, and more particularly the pottery, give a fairly precise picture of which human groups were engaged in underground flint mining. Spiennes was also impor-

tant during the Metal Ages. Remains probably linked to settlements can be attributed to the late Bronze Age (8th or 7th centuries BCE) and the second Iron Age.

The first archaeological discoveries of prehistoric mine shafts were made in the 1840s, but it was not until 1867, when the Mons-Chimay railway line cut part of the Petit-Spiennes plateau, that more systematic work took place. (Source: UNESCO)

## Egyptian tomb mystery may be world's first protractor

The bizarre object in the picture was found in the tomb of an ancient Egyptian architect. For over 100 years, it has languished while archaeologists debated its function.

Now, a physicist has thrown her hat into the ring, arguing that it is the world's first known protractor. The intriguing suggestion – which has drawn skepticism from archaeologists – is based on the numbers encoded within the carvings on its surface. The architect Kha helped to build pharaohs' tombs during

the 18th dynasty, around 1400 BC. His own tomb was discovered intact in 1906 by archaeologist Ernesto Schiaparelli in Deir-al-Medina, near the Valley of the Kings. Among Kha's belongings were measuring instruments including cubit rods, a leveling device that resembles a modern set square, and what appeared to be an oddly shaped empty wooden case with a hinged lid.

Schiaparelli thought this last object had held another leveling instrument. The museum in Turin, Italy, where the



items are now exhibited identifies it as the case of a balancing scale. But Ame-

lia Sparavigna, a physicist at Turin Polytechnic, suggests that it was a different architectural tool – a protractor. The key, she says, lies in the numbers encoded in the object's ornate decoration, which resembles a compass rose with 16 evenly spaced petals surrounded by a circular zigzag with 36 corners. Sparavigna says that if the straight bar part of the object were laid on a slope, a plumb line would reveal its inclination on the circular dial.

(Source: New Scientist)

### Anthropology

## The Celts

The historical Celts were a diverse group of tribal societies in Iron Age Europe. Proto-Celtic culture formed in the Early Iron Age in Central Europe (Hallstatt period, named for the site in present-day Austria). By the later Iron Age (La Tene period), Celts had expanded over a wide range of lands: as far west as Ireland and the Iberian Peninsula, as far east as Galatia (Central Anatolia), and as far north as Scotland.



A Celtic helmet

The Celtic languages form a branch of the larger Indo-European family. By the time speakers of Celtic languages enter history around 400 BC (Brennus's attack on Rome in 387 BC), they were already split into several language groups, and spread over much of Central Europe, the Iberian peninsula, Ireland and Britain.

Some scholars think that the Urnfield culture of northern Germany and the Netherlands represents an origin for the Celts as a distinct cultural branch of the Indo-European family. This culture was preeminent in central Europe during the late Bronze Age, from ca. 1200 BC until 700 BC, itself following the Unetice and Tumulus cultures.

The Urnfield period saw a dramatic increase in population in the region, probably due to innovations in technology and agricultural practices. The Greek historian Ephoros of Cyme in Asia Minor, writing in the fourth century BC, believed that the Celts came from the islands off the mouth of the Rhine who were "driven from their homes by the frequency of wars and the violent rising of the sea".

The spread of iron-working led to the development of the Hallstatt culture directly from the Urnfield (c. 700 to 500 BC).

The Hallstatt culture was succeeded by the La Tene culture of central Europe, and during the final stages of the Iron Age gradually transformed into the explicitly Celtic culture of early historical times.

(Source: Ancient Encyclopedia History)

### NOTABLES

## The wealthiest man in Roman history

One of the leading politicians of Rome in his day, Marcus Licinius Crassus (ca. 115 BC – 53 BC) was a Roman general who was known as Dives, meaning "The Rich" or "Moneybags".

He commanded the left wing of Sulla's army at the Battle of the Colline Gate, suppressed the slave revolt led by Spartacus, provided political and financial support to Julius Caesar and entered into the political alliance known as the First Triumvirate with Pompey and Caesar.

At the height of his fortune he was allegedly worth more than 200,000,000 sesterces. He is considered the wealthiest man in Roman history, and perhaps one of the richest men in all history.

Crassus, born into a wealthy political family, inherited a fortune of 7 million sesterces after the death of his father in 87 BC. Political rivalries eventually led to the state seizing Crassus's wealth.

After several years of exile, Lucius Cornelius Sulla regained a position of power in Rome, and Crassus as a loyal and valued supporter found himself in charge of Sulla's proscriptions.

In such a position, Crassus was able to rebuild his family fortune by seizing the property of executed criminals for himself, and there is evidence that shows Crassus sometimes executed innocent individuals simply to obtain their vast estates and wealth.

Crassus also expanded his wealth by trading in slaves and by purchasing whole neighborhoods of Rome as they burned at drastically below market value.

At the time, Rome had no formal way of battling fires and they usually were left to burn themselves out, which meant several estates and fortunes were lost in the process.

**When Crassus was killed in Syria, he was beheaded and molten gold was poured into his mouth to quench his insatiable greed.**

Crassus employed a firefighting brigade of some five hundred men and, after he negotiated the purchase of the burning building and the surrounding estates in danger, the brigade would collapse the home that was ablaze to extinguish the fire before it could spread.

Wishing to gain both political and military fame during the slave uprisings led by Spartacus, Crassus offered to equip, train, and lead two

new legions of soldiers into battle at his own expense in an impressive show of personal wealth.

It is believed that Crassus expanded his personal fortune to a remarkable 170 million sesterces, while Pliny the Elder surmised his fortune to be valued even higher, at 200 million sesterces.

This would place Crassus's net worth equal to the total annual budget of the Roman treasury. He has been considered the wealthiest man in history, though this claim has been disputed.

In 53 BC, while again attempting military fame, Crassus was killed during a parley with a Parthian general; Lucius Cassius Dio tells that he thereupon had molten gold poured into his mouth to satiate his unyielding thirst for wealth.

### ON THIS DAY

30 BC	Octavian (later known as Augustus) enters Alexandria, Egypt, bringing it under the control of the Roman Republic.
527	Justinian I succeeds Justin I as emperor of Byzantium
527	Justinian I becomes the sole ruler of the Byzantine Empire.
1177	Peace Treaty of Venice: Emperor Frederick I & Pope Alexander III
1498	Christopher Columbus lands on "Isla Santa" (Venezuela)
1774	The element oxygen is discovered for the third (and last) time.
1780	Sweden declares neutrality
1781	English army under General Cornwallis occupies Yorktown, Virginia
1793	France becomes 1st country to use the metric system
1834	Slavery abolished through out the British Empire
1883	Amsterdam's Grand Hotel Krasnapolsky gets electric lights
1936	Adolph Hitler opens 11th Olympic Games in Berlin
1945	Japanese city Toyama destroyed by B-29's
1955	1st microgravity research begins
1992	USA/USSR Around World Air Race begins at Santa Monica
1994	Train crash in Havana Cuba, 6 killed
2001	An agreement is reached on the position of the minority Albanian language in the Republic of Macedonia.
2001	Bulgaria, Cyprus, Latvia, Malta, Slovenia and Slovakia join the European Environment Agency.
2004	A supermarket fire kills 396 people and injures 500 in Asuncion, Paraguay.

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