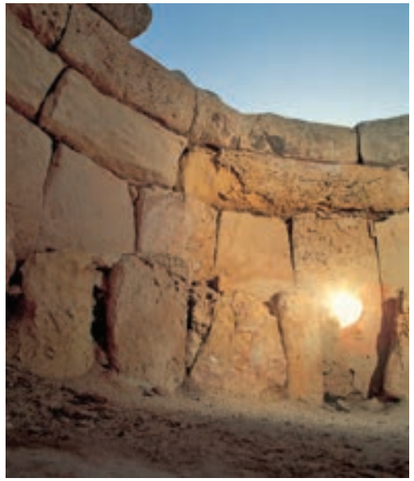


Summer Solstice
at Ħaġar Qim

Winter solstice
at Mnajdra

Throughout history, numerous buildings and monuments have been constructed to mark the movement of celestial bodies. In Egypt the alignment of the Great Temple of Abu Simbel, built around 1279-1213BC, is such that twice a year the sun's rays reach into the innermost sanctuary illuminating the deities' statues.

In the Roman period, the significance of solar alignment of architectural features seems to have been exploited for political purposes. In 9BC, Emperor Augustus had the Solarium constructed on the Campus Martius in Rome. The Solarium consisted of an Egyptian obelisk and a grid that marked the hours and the seasons. At sunrise on September 23, Emperor Augustus' birthday, the shadow of the obelisk fell on the Ara Pacis (Altar of Peace).

More recently, the rising and setting of the sun was marked in palaces and churches. At the basilica of Santa Maria degli Angeli e dei Martiri in Rome, in 1703, a sundial laid down along the meridian that crosses through Rome was integrated in the floor of the left side of the transept. At noon, the sun cast its light directly on this line. The cornice of the right transept wall was cut away to create this effect. In the 18th century, a similar sundial was to be found in the Grand Master's Palace in Valletta.

Further Reading

Cox, J., Inclusion and Exclusion of Sunlight and Moolight From Temples of the Ggantija and Tarxien Phases, in *The Materiality of the Sky, Proceedings of the 22nd Annual SEAC Conference*, 2014, Silva, F., Malville, K., Lomsdalen, T., & Ventura, F. eds, 35 - 44

Lomsdalen, C., *Sky and Purpose in Prehistoric Malta: Sun, Moon, and Stars at the Temples of Mnajdra*, 2014, Sophia Centre Press

Ventura, F., Reading Messages from the Past: Interpreting Symbols Possible Archeoastronomical Significance in Malta, in *The Materiality of the Sky, Proceedings of the 22nd Annual SEAC Conference*, 2014, Silva, F., Malville, K., Lomsdalen, T., & Ventura, F. eds, 3-19

Ħaġar Qim & Mnajdra
Archaeological Park

Autumn Equinox

The Equinox & Solstice

at Ħaġar Qim and Mnajdra

unesco
World Heritage site

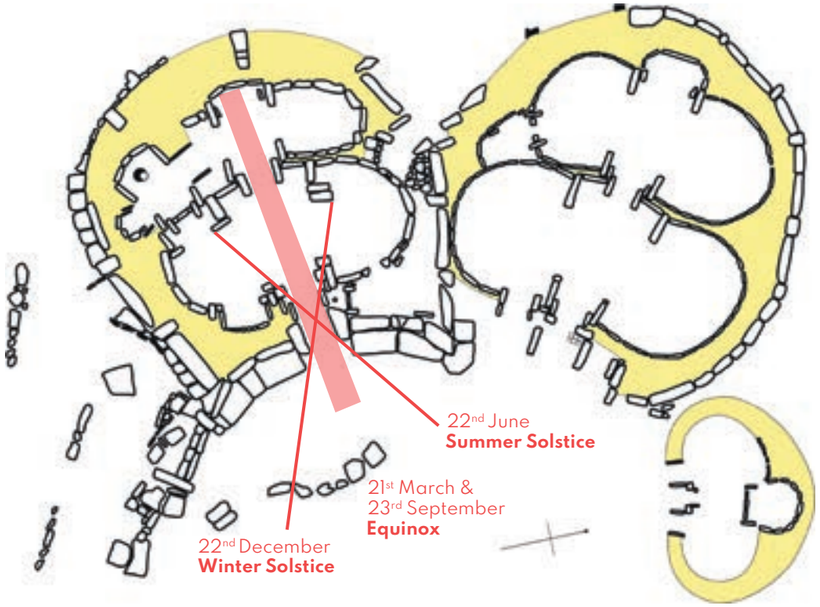
Ħaġar Qim and Mnajdra are found along one of the most picturesque parts of Malta's coastline, giving them a special charm that is not found in any other of the large-scale megalithic buildings of the Maltese Islands.

Ħaġar Qim consists of the remains of four buildings, constructed during the 4th millennium BC. Of the three buildings at Mnajdra, the oldest is the small trefoil structure, whilst the South and Central structures were built later.

Mnajdra was excavated by Colonel J.G. Vance in 1840, a year after his excavation of Ħaġar Qim. Following these excavations, the buildings were attributed to the Phoenician period. Further excavations were carried out in 1910 under the direction of Dr Thomas Ashby, then Director of the British School at Rome. These were the first scientific excavations at the sites and they provided evidence that the monuments dated to a period earlier than the Phoenician. Further excavations and restoration of the sites were undertaken by the Museum Department between 1948 and 1956.

Several artefacts, including fragments of pottery vessels and flint implements, were found at the sites. These provide further information about the people that produced these monuments. Some of the finest items found include fragments of models of buildings, what seems to be a perforated stone hammer or weight, as well as several stone statuettes. These are currently on display at the National Museum of Archaeology in Valletta.

Mnajdra



The South building at Mnajdra has a particular astronomical alignment. In March and September, during the Spring and Autumn Equinoxes, the rays of the rising sun pass directly through the main doorway, straight down the central axis, and reach the innermost central apse.

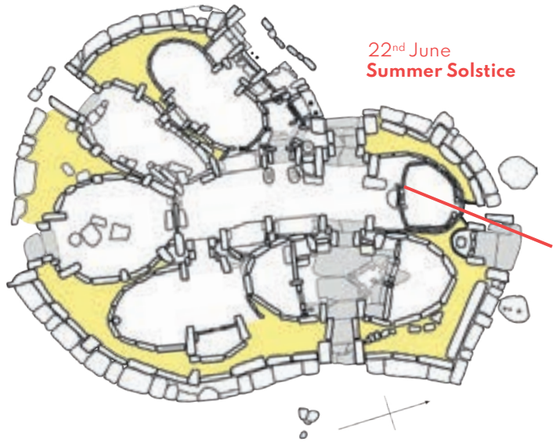
During the Summer Solstice in June, the first rays of the sun light up the edge of a megalith found to the left of the central doorway connecting the first pair of chambers to the inner chambers. During the Winter Solstice in December, the same effect can be seen on the corresponding megalith on the right-hand side of the doorway.

Although it is not known for certain whether these orientations were intentional, they are so systematic that this is probable. In prehistoric agricultural societies, observations of the motion of the stars, the moon and the sun could have been related to the changing seasons and times of planting and harvesting crops.

Another example of this phenomenon in prehistory can be found at Newgrange, a megalithic prehistoric site in Ireland, built about 3200BC. This marks the winter solstice sunrise, when a shaft of sunlight shines through an aperture over the entrance and penetrates the passage lighting up the chamber inside.

Ħaġar Qim

The alignment of a particular chamber within the main building at Ħaġar Qim marks the solstice on the first day of summer in June. At dawn on this day, sunlight passes through a hole which opens onto a chamber on the northeast side of the structure. Here, the sun's rays project a disk of light onto a stone slab at the entrance to the apse. As the minutes pass the disk becomes a crescent, then elongates into an ellipse, then elongates still further and finally sinks out of sight as though into the ground.



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