

Revision for Section 1:

Stone

-Portal Dolmen

Location (name where it is, where the materials were sourced if stated), Structure (how it was built and the basic form) & Decoration
Sketch

-Court Cairn

Location (name where it is, where the materials were sourced if stated), Structure (how it was built and the basic form) & Decoration
Sketch

-Newgrange

Form - sketches of the mound, corbelling

Function –roof box sketch

Decoration 2 sketches kerbstones

Method

The people and their beliefs

NEWGRANGE

Introduction

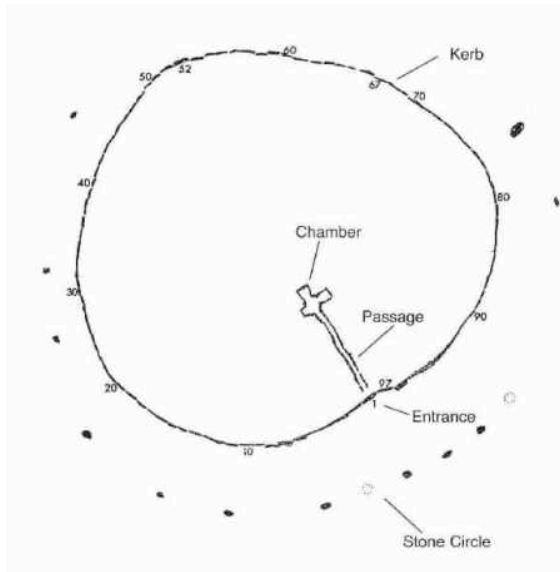
Newgrange is a Passage Grave – a type of Megalithic (large stone) Tomb consisting of a narrow passage leading to a chamber where human remains were found. Newgrange the largest megalithic Tomb in Ireland. It stands in the Boyne Valley in Co Meath near two other Passage Graves; Knowth and Dowth. Newgrange was constructed during the Neolithic Period (Late Stone Age) around five thousand years ago (3200BC). Newgrange is one of the most impressive stone structures ever built. It is older than the Pyramids in Egypt or Stonehenge in England.

Function

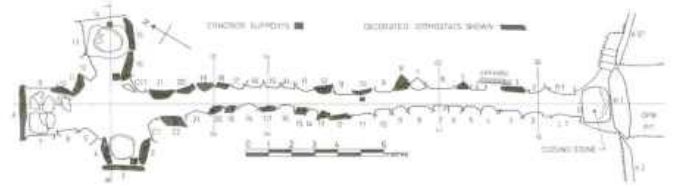
Newgrange was built by the Neolithic (late Stone Age) people as a Tomb to hold the cremated remains of dead people inside a chamber. Excavations at Newgrange revealed the remains of 5 individuals. This Passage Grave was designed in such a way that for a period of time occurring once a year, around the time of the Winter Solstice – 21st December, the chamber which is normally a very dark place would light up with the dawn sunrise for a period of up to 17 minutes depending on weather conditions. Should the weather be bright and sunny this phenomena can happen at each dawn from 18th to 23rd December. Many believe that Newgrange was built as a form of sun worship. We may never know the exact function of Newgrange but we can be sure that these Neolithic people had a respect for their dead and for the sun. These Neolithic builders were very skilled at construction techniques and astronomy and used their skills to bring the winter solstice dawn light to illuminate the remains of their dead.

Structure

The large mound or cairn is approximately 11 meters high and on average 80 meters in diameter. The cairn is made up of thousands of water rolled stones that were collected from the river Boyne. It is estimated that the cairn weighs 200,000 tonnes. The cairn is surrounded at its base by a ring of 97 large boulders called Kerbstones. Surrounding the entire site at Newgrange is a ring of Standing Stones. Several of these stones are now missing.

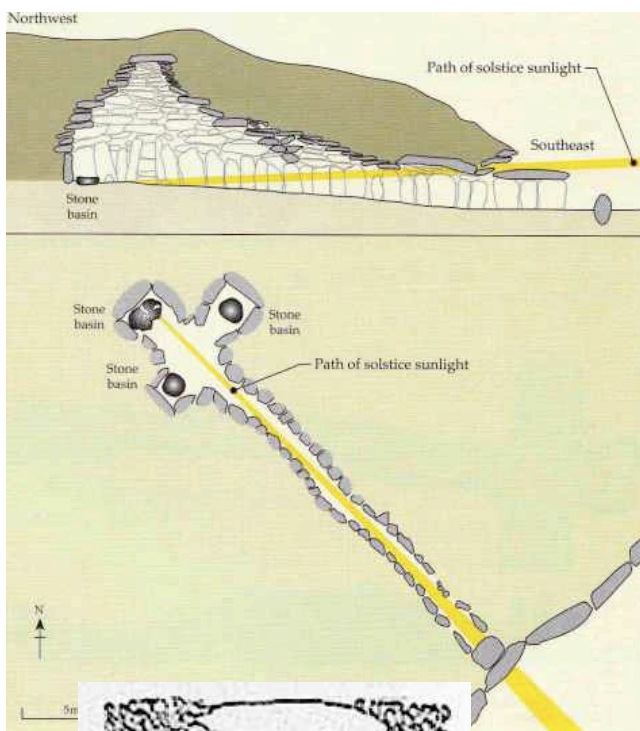


The passage is long and narrow being 19 meters in length. The passage walls are made up of large stones placed upright – these are called Orthostats. There are 21 orthostats lining the right of the passage and 22 on the left.



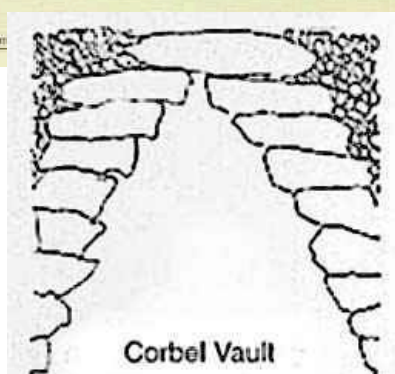
Drawing of Passage by MJ O Kelly

Above the entrance to the passage is a rectangular shaped opening called the Roofbox. It is this Roofbox opening that allows the light to shine down the passage on the Winter Solstice. The Roofbox is located high up above the entrance to the passage however the passage floor gradually rises along the 19 meters of its length so that as it enters the chamber the floor has become level in height to the Roofbox. It is this feature that allows the rays the dawn sunlight to travel down the 19 meters of the passage and to reach the chamber deep inside.



Entrance and Roofbox In this drawing you can see the path of the sunlight as the travels through the roofbox and down the long passage into the chamber – lighting up the basin stone

The Chamber is quite small but the roof of the chamber is very high- this is called a Corbelled Vault. The roof is built using a technique called corbelling. This involves stacking stones in such a way that they narrow gradually as the rise. A corbelled Vault was needed as it was strong enough to hold up the enormous weight of the cairn which presses down from overhead. The Chamber is cruciform in shape opening out into three recesses or side-chambers. Each side Chamber contains a basin stone which held the cremated remains of the dead.



Corbel Vault. The technique of corbelling involves stacking stone so that as it slowly rises it gradually narrows until only a single capstone is left. Corbel Vault at Newgrange. In this photo you can see that as the

vault rises it becomes narrow and it ends finally in one capstone.



59 The upper of the two basins in the east recess. Made of granite (either Newry or Wicklow), it is chiselled all over, inside and out. Note the two circular depressions, 20 cm and 45 cm in diameter respectively. Dimensions of basin: 1 m to 1.2 m.

Source: O'Kelly, Michael J. O'Kelly, *Newgrange Archaeology, art and legend*, ISBN 0-500-39015-0, p. 135.

The Facade fronting Newgrange is the only part of the structure that was not built by the Neolithic people. When the site was excavated by Archeologists in the 1960's and 70's they found a large amount of white quartz stones on the ground in front of the entrance. They decided to use this stone to build a facade for the tomb. Since then this facade has been greatly criticised as not being authentic to the original structure built by the Neolithic people.



Construction of the Tomb

Much effort and time was needed for collecting materials for the construction of Newgrange. Remarkably, huge amounts were carried vast distances to the building site at Newgrange. The majority of structural stones in the Boyne Valley tombs are greywacke. This stone type was quarried in the Clogherhead area, north of Drogheda Co Louth. Other granite boulders used in the structure were collected from the North shore of Dundalk Bay. The facade at Newgrange consists of white quartz, which has its origins in the Wicklow Mountains.. The long distances suggest that stone was carried by ship along the sea and the up into the river Boyne whose bank is located one kilometer from Newgrange. . In order to get the stone up the 1km distance uphill from the river Boyne, it is most likely that the Neolithic people used the transportation technique of logrolling. Wooden scaffolding and earthen ramps would have been used to lift and put the stones in place.

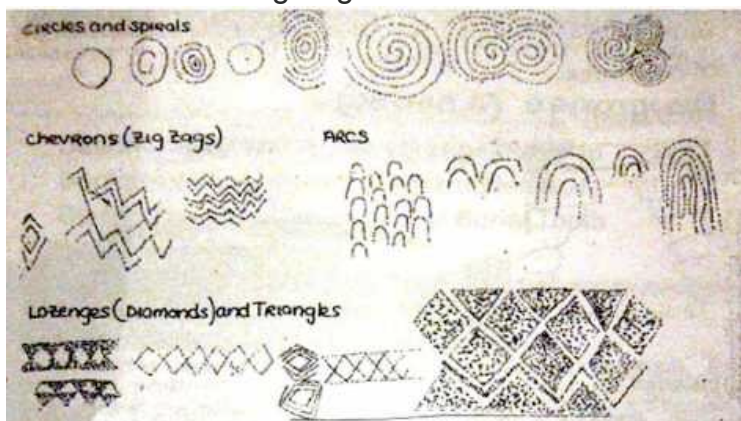


Log rolling

Decoration of Newgrange

Newgrange is famous for the standard of Neolithic art which is found at the Tomb. A wide range of motifs or symbols are used in Newgrange; circles, spirals, arcs, chevrons and lozenges are among the most common. It has been suggested that these geometric motifs have a symbolic or magical meaning but there is no real evidence of this. Whatever the meaning of these motifs may be they remain as remarkable examples of Neolithic Art in Ireland.

Motifs at Newgrange



Although carved motifs are to be found both inside the passage and the chamber the best of the carving is reserved for the outside of the tomb on the Kerbstones. The most well known and impressive of these are Kerbstone 1 (The entrance stone) and Kerbstone 52 (directly at the back of the tomb). These two kerbstones display an exceptional degree of artistry and craftsmanship.



Kerbstone 1 ; The Entrance Stone is 1.3 meters high and 3.2.meters long. Spirals dominate the design which are carved to 1cm depth and 1cm width. A Large Triple Spiral taking up approximately one third of the surface is surrounded by lozenges and smaller spiral designs.

Newgrange Entrance Stone



Kerbstone 52 is placed directly at the back of the mound, opposite Kerbstone 1. A large vertical groove is a natural feature of the rock which divides the stone in two. Pockmarks are other natural features on the stone. The artist who designed the carving incorporated the groove and the pockmarks into the overall composition. Spirals and lozenges occur on the left of the design and arcs and oblong shapes dominate the right.

Kerbstone 52 . Courtesy of Department of Arts Heritage and Gaeltacht; Ireland.

Carving Techniques

The carvings at Newgrange are entirely made using a sharp stone such as Flint. The techniques used are called “Pick Dressing” and ” Incision”. In Pick Dressing the design was picked out bit by bit using a flint and then smoothed over with a pebble. In this way- very deep designs were carved into the stone such as occur on Kerstones 1 and 52. At other parts of the tomb motifs may not be so deep. These more shallow designs have been scratched into the surface of the stone – this technique is called “ Incision”.

DOLMEN

A dolmen, also known as a portal tomb usually consists of two or more upright stones called Portal Stones supporting a large flat horizontal Capstone. This construction makes a tripod-shaped structure. In Ireland Dolmens date from as far back as 4000 BC. Cremated remains of the dead were placed inside the Dolmens and then covered over with a mound of small stones. This mound is called a Cairn. In most instances the Cairn has weathered away, leaving only the tripod stone structure of the burial mound intact.

BRONZE AGE:

- The people of the time
- The materials and where they sourced them
- Techniques and technology –methods
- 4 objects in detail and sketches of these objects.

How to remember the types of metalwork:

Tinny

Twisty

Fancy

The discovery of metal was a key event in human history, Bronze being the first metal widely used by man and although this new technology arrived in Europe around 4000BC, it did not reach Ireland until around 2000 years later. Settlers from France arrived in Ireland around 2000BC, bringing the knowledge of Bronze working with them and the existing inhabitants learned the trade from them. Slowly the culture of these bronze-working settlers merged with that of the Neolithic Irish and gave birth to the Irish Bronze Age.

BRONZE AGE

Knowledge of metalworking gradually spread from Europe to Ireland during the 2nd millennium BC (2000 years Before Christ).The Bronze Age was called so after the metal Bronze which was a mixture of copper and tin. Copper was a soft metal that was easy to shape and mould and it was discovered that if a small amount of tin was added to copper that a much stronger metal was formed. This new metal was called Bronze. During the Bronze Age this new metal was used to make functional objects such as cooking pots, axes and shields. Gold was the preferred metal to make jewellery and decorative ornaments from. Unlike modern times, gold was commonly found in Ireland during the Bronze Age.

Gold Discs

Gold Discs , also called sun Discs were among the very first metal objects made in Ireland. A piece of gold was hammered flat until it became a thin sheet – like gold foil. Then the circular disc shape was cut out using a sharp tool.

The decoration was made using a technique called Repouss é. This was where the design was hammered in from behind so that it stood up in relief in the front. In the Gold Disc from teldavnet the cruciform design was hammered in from behind. The edges of the disc were decorated with concentric circles that were made using the repoussé technique.

It is believed that these Gold Discs were worn – in the hair or attached to clothes. There are two holes in the centre of the discs (like a button) where gold wire would have been threaded through to tie the discs to the clothes or the hair.



Gold Disc, Teldavnet, Co Monaghan. In this Gold Disc you can see just how thin the gold has become from being hammered- its like gold foil. You can also see the two holes in the centre which were used to fasten the gold disc using gold wire.



Pair of gold discs, Tedavnet, Co. Monaghan.

Early Bronze Age, 2200 – 2000 bc.

Discovered in the roots of an old

tree, this pair of discs is the largest and most sophisticated of the Early Bronze Age discs known from Ireland. A complex arrangement of raised lines, rows of dots and zig-zags has produced a central cross surrounded by concentric patterns similar to other discs but much more elaborate in composition and, technically, far superior. The combination of the techniques of repoussé, punching and polishing, together with the slight doming of the surfaces, highlights and gives a depth and texture to the discs not seen on other pieces.



Blessington Lunula, Co Wicklow ; The British Museum

Lunula were worn around the neck. They are crescent shaped and are called after the crescent moon – lunula. They were made by hammering gold flat into a sheet and cutting out the crescent shape using a sharp tool. They were decorated with a technique called “Incision”- this involved cutting or incising into the surface using a sharp tool. Typically the designs that were incised into a Lunula were chevrons (zig- zags) and Lozenges (diamond shapes). Lunula were among the first gold objects to be made in Ireland and they date to

the Early Bronze Age.



Chevrons and Lozenges incised into the Blessington Lunula.



Torcs

Torcs are twisted bands of gold which were made in various sizes to be worn around the neck, arms, around the waist like a belt or even small ones to be worn as earrings. Torcs date from the middle Bronze Age. They use much more gold than the earlier Bronze Age objects such as the Gold Discs or Lunula and are a much heavier piece of jewellery. A gold bar or band was twisted to form a rope like pattern. Often the gold bar was beaten thin at the edges to form a flange before being twisted. This is called flange twisting. It produces a much more delicate twisted edge than without flanging.

Two gold torcs, Tara, Co. Meath. Middle Bronze Age, 1200 – 1000 bc. Found at the Rath of the Synods, Tara, Co. Meath, in 1810, these magnificent torcs which, between them, contain over a kilogram of gold, are the finest of their class from Ireland. They are of exceptionally large size and are further elaborated by the addition of extensions to the terminals, a feature which is not recorded elsewhere. Torcs of this type are made from bars of square or rectangular section, the angles of which have been hammered up to produce flanges. The even twisting of such a long bar requires considerable expertise and understanding of the working properties of the metal



Gold Ribbon Torc . Found near Belfast. 3rd Century BC. National Museum of Ireland. In this Torc you can see that the edges of the gold band were beaten very thin before being twisted. This produces a very delicate appearance like a ribbon giving the name Ribbon Torc . Photo by Reena Ahluwalia.



Gold Earrings, Castlerea, Co Roscommon

Flanged



Dress Fasteners

Dress Fasteners of all sizes were made during the middle Bronze Age. This Fastener below is very large and heavy weighing over one kilo. It probably was used only for ceremonial purposes. It is decorated with engraved concentric circles.

Gold Dress Fastener from Clones, Co Monaghan .
Photo by Reena Ahluwalia

Gorget

A Gorget is a type of gold collar to be worn around the neck. Gorgets were made during the Late Bronze Age and they display the range of artistry metalworking techniques that were developed during the Bronze Age. A Gorget is made in three sections. A collar and two Terminal Discs. The collar is decorated with rope pattern designs using the technique of Repoussé which involved hammering in the design from behind so that it stood out in relief. The terminal discs show a range of designs and techniques. In the centre a conical shaped boss stands out very prominently from the surface. Covering the surface of each disc is an elaborate design of rings of dots made in Repoussé and rings of incised concentric circles.



[3:21] Gorget,, Gleninsheen, Co. Clare. Late Bronze Age, 800-700 bc. Found in a rock cleft in 1932 at Gleninsheen, Co. Clare, this collar is an exceptional example of the highly developed goldsmithing skills displayed by Irish craftsmen in the Late Bronze Age. While conforming closely to the pattern of ornamentation prescribed for such collars, the smith, by varying the detail of the motifs, has achieved a tour de force. In particular, the frontal terminal discs are of superb craftsmanship. The layout and execution of the designs incorporating concentric circles, rope patterns and conical and round bosses, have been expertly achieved.



21. [100 Objects.ie](https://www.100objects.ie) Detail of Gorget.

This is a close up view of one of the Terminal Discs. You can see in the very centre there is a large cone shaped Boss. Decorating the surface of the Terminal Disc are rings of raised dots made using the Repoussé technique and also rings of concentric circles, which have been engraved into the surface.

Iron Age:

1. The Halstatt
2. The La Tene style
3. The people
4. Goldsmiths and the technology and materials used
5. New methods of working
6. Loughnashade trumpet
7. Broighter Hoard
8. Broighter Collar
9. Petrie Crown
10. Sketches

Stone work comparison to Newgrange

The Iron Age (500 BC to 400 AD)

The Iron Age in Ireland spans almost one thousand years from the end of the Bronze Age to the start of the Early Christian Era during the fifth century AD. Knowledge of using Iron metalwork gradually spread throughout Ireland from Europe where Iron was increasingly being used in metalwork. Iron became the main metal used to make tools and equipment because it is very strong – much stronger than bronze. At some point during the Iron Age the Celts invaded Ireland from mainland Europe. The Celts brought to Ireland a new culture which the native Irish adopted and made their own – celtic language, customs and Art.



Bronze Disc in the La Tene style

La Tene

The new style of Art, which the Celts brought to Ireland, is called La Tene. This is an abstract curvilinear style of decoration. It is called La Tene – after a site in Switzerland where the earliest curvilinear style artifacts were found. This style is found over much of Europe and in Ireland, it lasted for several hundred years until the arrival of Christianity when the Irish La Tene style merged with christian designs and symbols.

The Triskel was a very popular La Tene motif. It is a triple spiral design – a type of “sun wheel”, it was used to decorate La Tene style objects.



Metalwork

Iron became the metal to make tools such as knives, axes and functional objects such as cooking pots and stirrups, however, bronze and gold continued to be used during the Iron Age for their beauty and because these metals do not rust or decay like Iron.

The Loughnashade Trumpet

The Loughnashade Trumpet dates from the 1st Century BC. It is made from sheet bronze and is over six feet in length. It consists of two tubes of bronze which are joined together in the middle of the trumpet by a bronze ring and a bronze disc that forms the bell of the horn. The two tubes of bronze that form the length of the trumpet were made by bending sheet bronze into two half cylinders which were then joined together with rivets to form a tube – the edges are sealed from the inside using a strip of bronze which is fastened along the length using rivets. There are more than six hundred rivets used in the length of the horn. At the bell of the Trumpet there is a bronze disc, which is decorated, in the La Tene style using the Repoussé technique of hammering the design from behind so it stood out in the front in relief. Each quadrant (quarter) of the disc are mirror images of each other. The design is composed of long curved lines which spiral to form high relief bosses (rounded knobs). A number of “Trumpet Curves” are incorporated into the design which flows and curves to resemble plant-life. It is believed that this design is based on the Greek Lotus pattern.

The trumpet was found in the eighteenth century, buried near the shore of Lough Shade, Co Armagh, together with a human skull and three other trumpets, which have since been lost. This lake is overlooked by the Navan Fort (Eamhain Macha) which was one of the largest Celtic strongholds in Ireland. It is one of the earliest trumpets found in the world and still works as a musical instrument.



Trumpet, Loughnashade, Co. Armagh.
Early Iron Age, first century bc.
Found in a former lake on Co Armagh, the Loughnashade trumpet is the only one to survive of a hoard of four found originally. Classical writers have left accounts of the unnerving effect on Roman armies that the continental Celts achieved by blowing their war trumpets before battle and we can assume a similar martial

function for the splendid trumpet from Loughnashade. However, it is likely that the trumpet was also used on ceremonial and ritual occasions. It consists of two curved tubes, the joining of which is concealed by a ridged ring. At the flared mouth there is a decorated ring and its ornament is executed in the repousse technique, based on the classical lotus-bud motif. The quadrants are mirror images of each other and the design is composed of long, sinuous tendrils, which terminate in spiral bosses in high relief. A number of trumpet curves are incorporated into the design. Both tubes are riveted along their length. One tube, which is clearly a later replacement, is poorly executed, while the other is a masterpiece of the rivet craft, the quality being only matched occasionally on other fine metalwork such as the Petrie Crown Drawing of Loughnashade Trumpet; detail of the La Tene design on the disc at the bell of the Trumpet.

The Broighter Collar

The Broighter Collar 1st Century BC



The Broighter Hoard is probably the greatest find of ancient artifacts in Ireland. It was uncovered in Co Derry in 1896, when land near the shores of Lough Foyle were being ploughed. The "hoard" consists of a model boat with oars and mast, a bowl, two chain necklaces, two rod twisted torcs and a hollow collar. All these objects were made in gold, which had become much a more rare and precious metal in Ireland than in the Bronze Age.

The Broighter Boat and Broighter Collar are famous Irish prehistoric artworks. The boat is very unusual for Iron Age Art in that it is not abstract- it is a beautiful representation of a prehistoric boat complete with mast and oars.

The collar is one of the finest examples of La Tene metal craftsmanship in Europe. This hollow collar is made from two plates of thin gold soldered together in tubular form and bent into a circular shape to fit around a neck. The La Tene style decoration was made using the repousse technique (punched from behind). This repousse design would have been hammered into the gold sheets before they were made into a tube. The design consists of trumpet shaped patterns and lentoid bosses (a boss is a lump or knob, and lentoid means its oval or lens shaped and not circular). These are all linked together with flowing curved lines that make the design resemble a climbing plant complete with stems, leaves and flowers. On the surface of the collar the sheet metal surrounding the repoussé work has been incised with arcs. This makes the La Tene design appear to stand out more from the surface.

There are two terminals at either end of the collar that have a Mortice and Tenon locking device that firmly clasps the collar together. Unfortunately, the plough that uncovered the collar more than a century ago broke the collar in two.



The Broighter Hoard including the Broighter Collar and the Broighter Boat. Photograph of the Broighter Collar at the National Museum of Ireland taken by Reena Ahluwalia. In this photo you can see just how high relief the pattern was made. You can also see the incised arcs in the background.

P



The Petrie Crown

The Petrie Crown is a fine example of Celtic Iron Age metalworking, which displays the curvilinear repeated patterning typical of the La Tene style. It is made of Bronze pieces, which are either soldered or riveted together. It consists of a band, two discs and one horn.

The base is a bronze band which was bent into a circular shape that fits onto the head. Tiny perforations running the length suggest that leather or some sort of textile was sewn to the band. A Running pattern of disc- like shapes has been cut out of the band and is decorated with a flowing La Tene Pattern.

Two large discs are soldered onto this band and decorated with La Tene Trumpet Curves, the centre of some of these curves end in a bird head design. The eye sockets of the birds head would once have contained enamel. The discs are not flat, but are concave in shape. The designs are lined or carved in – ie the background of each line is carved away and smoothed so the lines appear raised. In each disc there is a boss with a mount for a bead – in one boss the bead is missing and in the other a red enamel bead remains.

The conical horn was cut from sheet bronze, was formed by bending sheet bronze into a cone shape and joining the edges using rivets – the edges were riveted to a strip of copper laid the length of the join inside the cone . Originally there was a second horn that was broken and lost. The horn is also decorated with cut away La Tene Trumpet curves and there is a mount where a bead would have been placed. This bead has since fallen out and become lost.

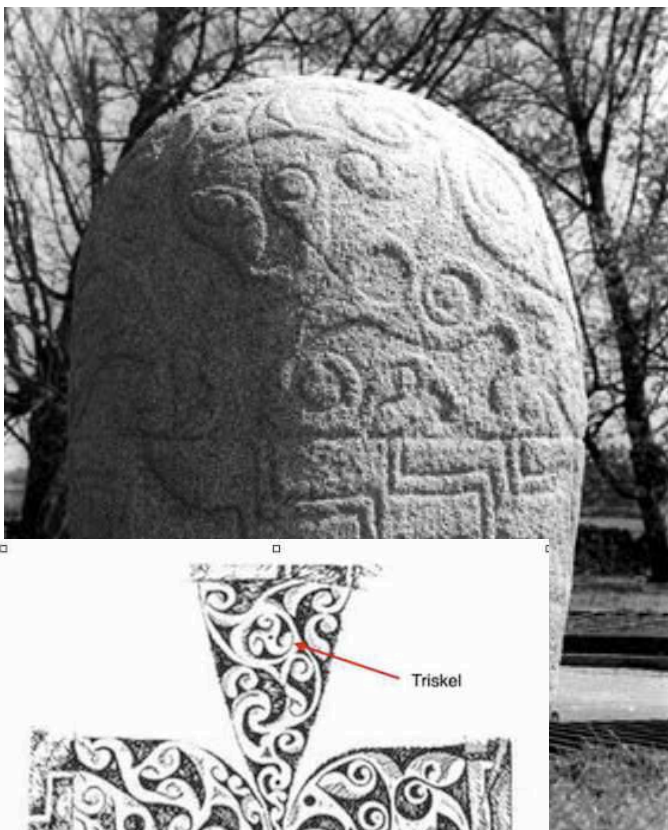


Bronze head-dress known as the Petrie Crown, unlocalised. Iron Age, second century ad. The find-place is not recorded. It is a complex object which was assembled expertly using rivets and solder. The components, which were probably sewn to leather or textile, formed part of an elaborate horned head-dress. One cone survives attached to a dished roundel and evidence for another can be seen on the back of a second roundel. The roundels are

attached to plates which have openwork voids creating the impression that they are composed of running semi-circles. Cast sinuous trumpet forms terminating in lentoid bosses and spirals ending in bird heads achieved low-relief ornament. The bird heads on the cone and discs of the crown were once filled with red enamel, as were settings in the bosses on the discs, one of which still contains an enamel stud.



Petrie Crown detail; In this detail of the roundel it is possible to see how the curved lines end up in a birds head. It is believed that these birds heads would once each have held an enamel bead but that these beads have since fallen out.

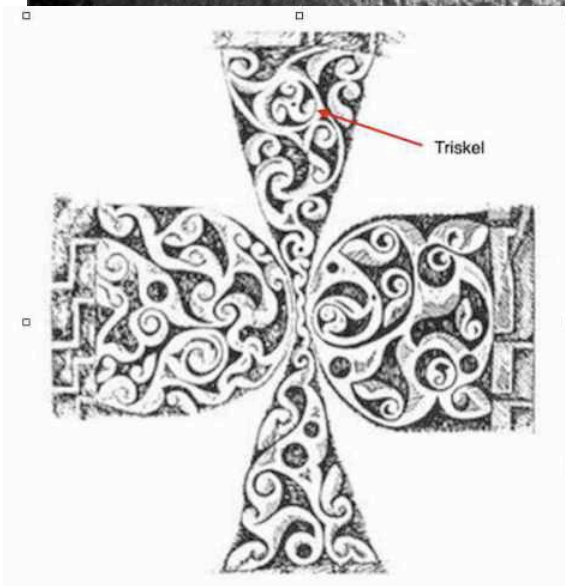


Stone Carving

The Iron Age saw the revival of stone carving which had not occurred in Ireland since the Neolithic Era. The Turoe Stone in Co Galway is the finest example of La Tene style carved onto stone. The all-over design consists of flowing leaf and Trumpet shape pattern with spirals and one triskel (a motif of three radiating trumpet curves). A step pattern runs along the base which is believed to be influenced from Greek Key Patterns.

Turoe Stone, Co Galway Drawing of pattern on the surface of the Turoe Stone. The design flows all over the surface and shows how skilled the designer was at dealing with a round subject. The pattern can be divided into quadrants with a Triskel present in one quadarant.

The Castlegrange stone is located in Co Roscommon. Like the Turoe Stone is is La Tene in Style. Both the stones were



presumably used for some ceremonial or religious purpose, that is now long forgotten. These stones show the influence of European Art in Ireland.



Castelgrange Stone, Co Roscommon.

This is another fine example of a La Tene pattern carved onto a rounded stone. The carvings of figures, which are found in Northern Ireland, date from the late Iron Age. These are the earliest examples that we see of human figures in Irish Art. They are believed to be of Celtic Gods or "Deities". The Boa Island figure is 75cm tall. It is located on an Island in Lough Erne called Boa - after the Celtic deity (Badbha - who helped warriors in battle and often appeared in the form of a crow). The carved figure has two faces - front and back and is believed to have been influenced by the Roman Art god - Janus (who was two headed). It is believed that the Irish Celts were influenced by Roman and Christian cultures in Europe who made statues of gods or saints and prayed to them.



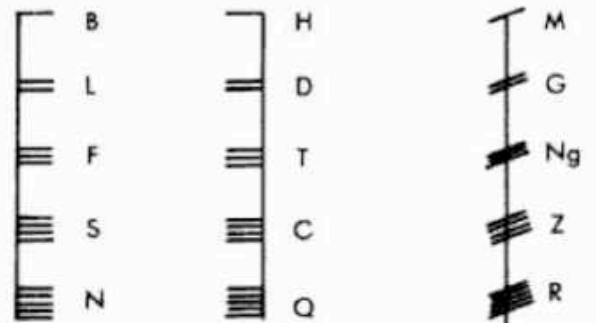
Carved figure from Boa Island,

Co Fermanagh



Reverse side of figure

In the southern half of Ireland there are several Ogham Stones. These are the earliest examples of Irish language been written down. These dashed lines represent letters on the Roman Alphabet. The Ogham Stone here is from Kickeen, in the Glen of Immal in Co Wicklow, and is unusual because of the heart shape of the stone.



129 The Ogam cipher (after J. Carney)