

Cosmological Landscapes

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Abstract— In today's modern Era, Landscape is most essential part of any building design. Branches as well as types of landscape and their techniques are coming up very rapidly. But material and the techniques which are going to be used are desecrating our day today life, land, air and space available too. We started using modern Techniques, materials, hardscapes, modern techniques of watering using more energy and more available sources. Like techniques, sustainability, water recharging techniques and more are modern, but the processes which are focused by our ancient people are missing. So my paper is going to focus on above matters. So our future as well as present generation can be aware of these techniques can save our Earth efficiently.

Key words: Cosmological, Cairn, Kerbstone, Orthostats, Winter Solstice, Corbelled Roof

I. INTRODUCTION

A. Instigation of Landscape:

Landscape can be refer to the visible features of an 'Area of Land'. Landscaping of a land is the improvement of land appearance by planting trees, shrubs, grass or altering the contours of the ground.

The word "landscape" derived from the 'Dutch' means 'region, track of land', a picture depicting scenery on land. Landscape is a synthesis of people and place. The character of landscape helps define the self-image of the people who inhabit it. When the people deliberately improve the aesthetic appearance of a piece of a land by changing contours and vegetation it is said to be landscaped. This term referred to a system of human made spaces on the land. Landscape Archaeology (landscape history) is the study of the way in which humanity (civilization) has changed the physical appearance of the environment. Landscape refers to both natural environments constructed by human beings.

Cosmological Landscape is an early landscape which was started by our ancestors to express the sacred meaning and spiritual significance of natural sites and phenomenon. They constructed earthworks, raised stones and leaving the traces of basic shapes and axial alignments.

In this paper, we are going to discuss origin of Landscape at the time of Stone Age, evaluation of landscape chronologically. A visual ramp through the great garden spaces of the past.



Fig. 1: Cosmological Landscape in Ireland

II. RELEVANCE OF COSMOLOGICAL LANDSCAPE IN CONTEMPORARY ERA

A. Problem analysis of Modern Landscapes:

As a now a days, Landscape is most important or most essential part of any design, people have started incorporating it in. Using big spaces, open grass grounds, different modern materials with hardscapes which are increasing run-off, less water recharge, increase in heat, less rainfall, less vegetation. To divide above situations, Patterns of cosmological Landscapes can be used in this era, going with natural and on site available elements, using minimum commercial materials, considering existing climate. So I am going to re-introduce the STONE AGE LANDSCAPES i.e. Cosmological Landscapes

Cosmological landscapes falls under Ethnographic landscapes i.e. a landscape containing a variety of natural and cultural resources that the associated people define as heritage resources.

III. CASE STUDY



Fig. 2: Newgrange, Ireland

IV. INTRODUCTION

Newgrange is a Stone Age monument in the Boyne Valley, Ireland and in Western Europe. Newgrange was constructed over 5,000 years ago (about 3,200 B.C.) during the Neolithic period, which makes it older than Stonehenge and Great Pyramids of Giza. Newgrange is a large circular mound with a stone passageway and chambers inside. The mound is ringed by 97 large kerbstones.

Newgrange was built by a farming community that prospered on the rich lands of the Boyne Valley.



Fig. 3: Location of Newgrange, Ireland

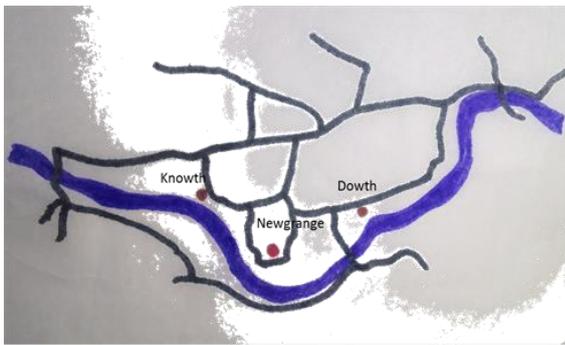


Fig. 4: Newgrange with its two sisters Knowth and Dowth

Newgrange and its sister sites Knowth to the north-west and Dowth to the north-east were declared as World Heritage Sites by UNESCO because of their outstanding cultural Legacy.

Newgrange is a large kidney shaped mound covering an area of over one acre, retained at the base by 97 kerbstones, some of which are richly decorated with megalithic art. The 19 mts. long inner passage leads to a cruciform chamber with a corbelled roof. The amount of time and labour invested in construction of Newgrange suggests a well-organized society with specialized groups responsible for different aspects of construction.

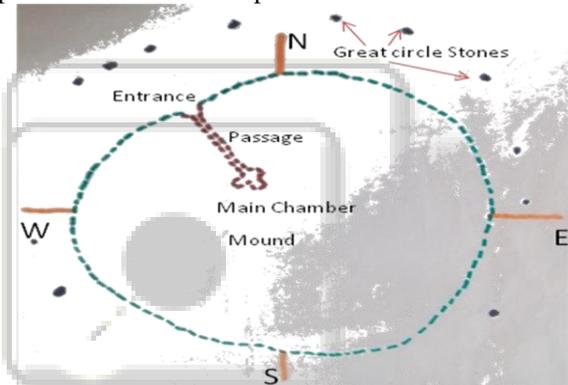


Fig. 5: Plan of Newgrange

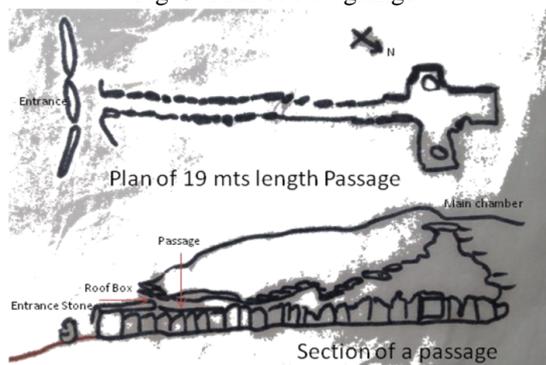


Fig. 6: Plan and section of Passage

It is re-discovered in 1699, situated on the top of elongated ridge within a large bend in Boyne river about 5 miles west of the town of 'Drogheda'. According to history, foundation of Christianity was laid here. The entrance to the Tomb is marked by a huge 10 tones stone.

V. HISTORY

The name 'Newgrange' or 'New Grange' is relatively modern. The area around it was part of land owned and farmed by the monks and would have been known as a Grange. The Thutha De Danamn, who ruled Ireland in

ancient mythology, were said to have erected it as a burial place for the chief, Dagda Mor and his 3 sons.

VI. CONSTRUCTION

It was built in a time when there was only stone present, not metal. Newgrange mound should be properly referred to as an Cairn, because it consists of water rolled pebbles each of which is between 6 to 9 inches across. The entire mound contains as estimated to 200,000 tones of materials. Construction would have taken about 30 years using a workforce of about 300. It is not known, how the large stones which from the kerb and passage and chamber were brought to the site.

The passage and chamber orthostats would have been put in place before construction of the Cairn itself actually began. And it is possible the kerb would have been made out at this stage too. Archeologists believe the actual height would not have been much more than 11-13 mts.

The stone chamber, passage and corbelled roof of Newgrange and the kerb of 97 stone, were constructed without the use of mortar. The total length of the passage and chamber is 24 mts(79fts) which means they only occupy 1/3 the dia. of the mound. In the passage, there are 22 orthostats(standing stones) on the left(west side) 21 on the right(east side). They have an average height of 1.5mts, with the tallest stone near the chamber.

The large slab which can be pinned to wall outside the passage, mouth may have originally been used by builders to block the passage when construction was complete. A total of 7 roof slabs can be seen covering the passage.

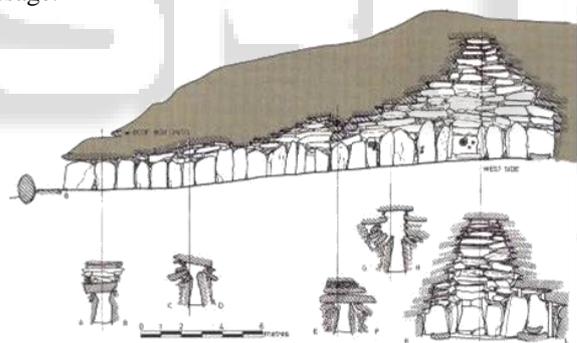


Fig. 7: This diagram shows an elevation of the mound at Newgrange, with cross-sections of the entrance tunnel at various points along it's length.

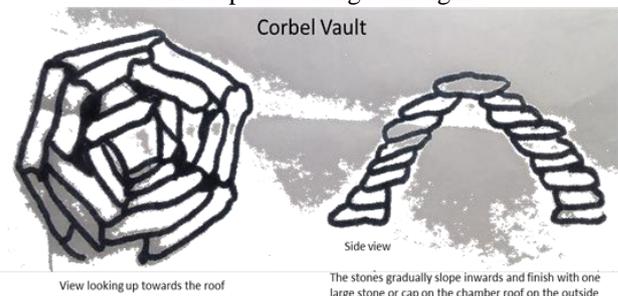


Fig. 8: Detail of Corbel vault of a chamber

VII. CHAMBER

There are three separate chambers or recesses, off the central chamber. The Easter chamber is the most impressively decorated. The corbelled roof of the chamber is

one of the finest of its kind in Europe. All the orthostats in the chamber are used to support the corbelled roof. Gaps between the roofs, stones in the passage are filled with sea sand and burnt soil to keep the passage dry.

VIII. WINTER SOLSTICE

Above the entrance to the passage at Newgrange there is an opening called a roof-box. Its purpose is to allow sunlight to penetrate the passage and chamber at sunrise around the Winter Solstice. At 8:58am a narrow beam of light penetrates the roof-box and reaches the floor of the passage, gradually extending to the rear of the passage. As the sun rises higher, the beam widens within the chamber so that the whole room becomes dramatically illuminated. After 17 minutes the sunbeam leaves the chamber and retreats back down the passage. On the 21st of December every year the Solstice sunrise reaches through the passage.

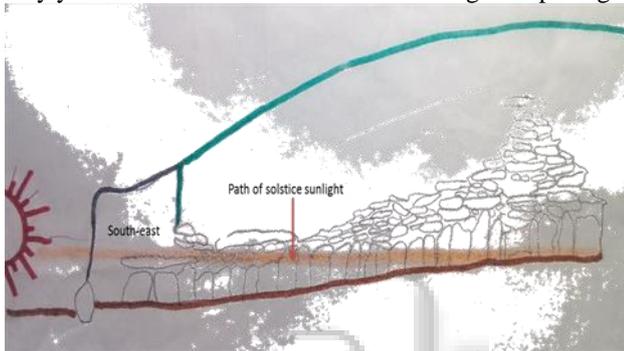


Fig. 9: Section through passage at the time of Winter Solstice



Fig. 10: Winter Solstice

IX. ARCHITECTURAL CHARACTERISTICS

A. Entrance Stone



3 left handed spirals 4 right handed spiral

Fig. 11: Entrance Stone

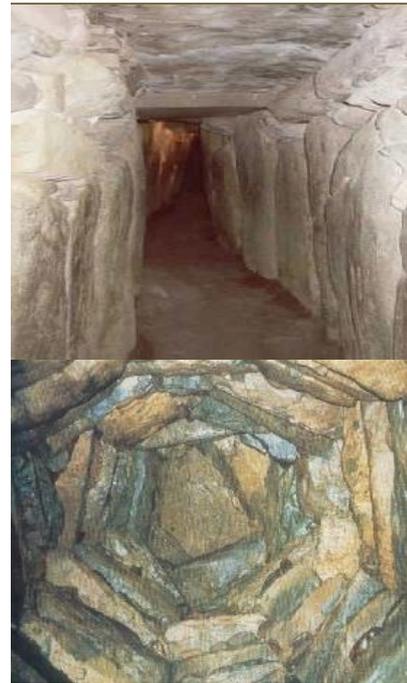


Fig. 12: The first part of the passage is roofed by 3 large slabs After this roof is corbelled.

X. CAIRN

The flat-topped cairn is almost 0.5 hectares in extent. It is roughly circular and is estimated to weigh 200,000 tonnes in total. It is made up of water-rolled stones from the terraces of the River Boyne. Excavations showed that white quartz stones from quartz veins in Co Wicklow and round granite boulders from the Mourne and Carlingford areas were used to build the revetment wall above the kerb along the front or south side of the mound.

XI. TOMB

The mound covers a single tomb, which consists of a long passage and a cross-shaped chamber. The passage points to the southeast and is just less than 19 m long. It leads in to a chamber with three recesses. A corbelled roof covers the chamber. To construct the roof, the builders overlapped layers of large rocks until the roof could be sealed with a capstone, 6 metres above the floor. After 5000 years, the roof at Newgrange is still water proof.

XII. THE GREAT STONE CIRCLE

Only 12 orthostats (single standing stones) stand today but it has been estimated that if it were to be a complete circle, it would have consisted of about 35 standing stones.



Fig. 11: & 12: Orthostats (single standing stones)

XIII. CONCLUSION

As I discussed above, Cosmological Landscape is very much related to Cultural as well as natural Landscape. These Landscapes are inspired by Cosmological Landscapes. These are very important in our today's modern life to accept and to follow their methods as well as material has been used. People should be aware of these Landscapes.

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REFERENCES

- [1] Illustrated History Landscape Design by Elizabeth Boulds and Chip Sullivan.
- [2] <http://www.newgrange.com/>
- [3] <http://www.worldheritageireland.ie/bru-na-boinne/built-heritage/newgrange/>
- [4] <http://www.newgrange.com/newgrange-plans.htm>
- [5] <http://www.hedgedruid.com/tag/map-of-ley-lines/>
- [6] <http://tclf.org/landscapes/what-are-cultural-landscapes>

