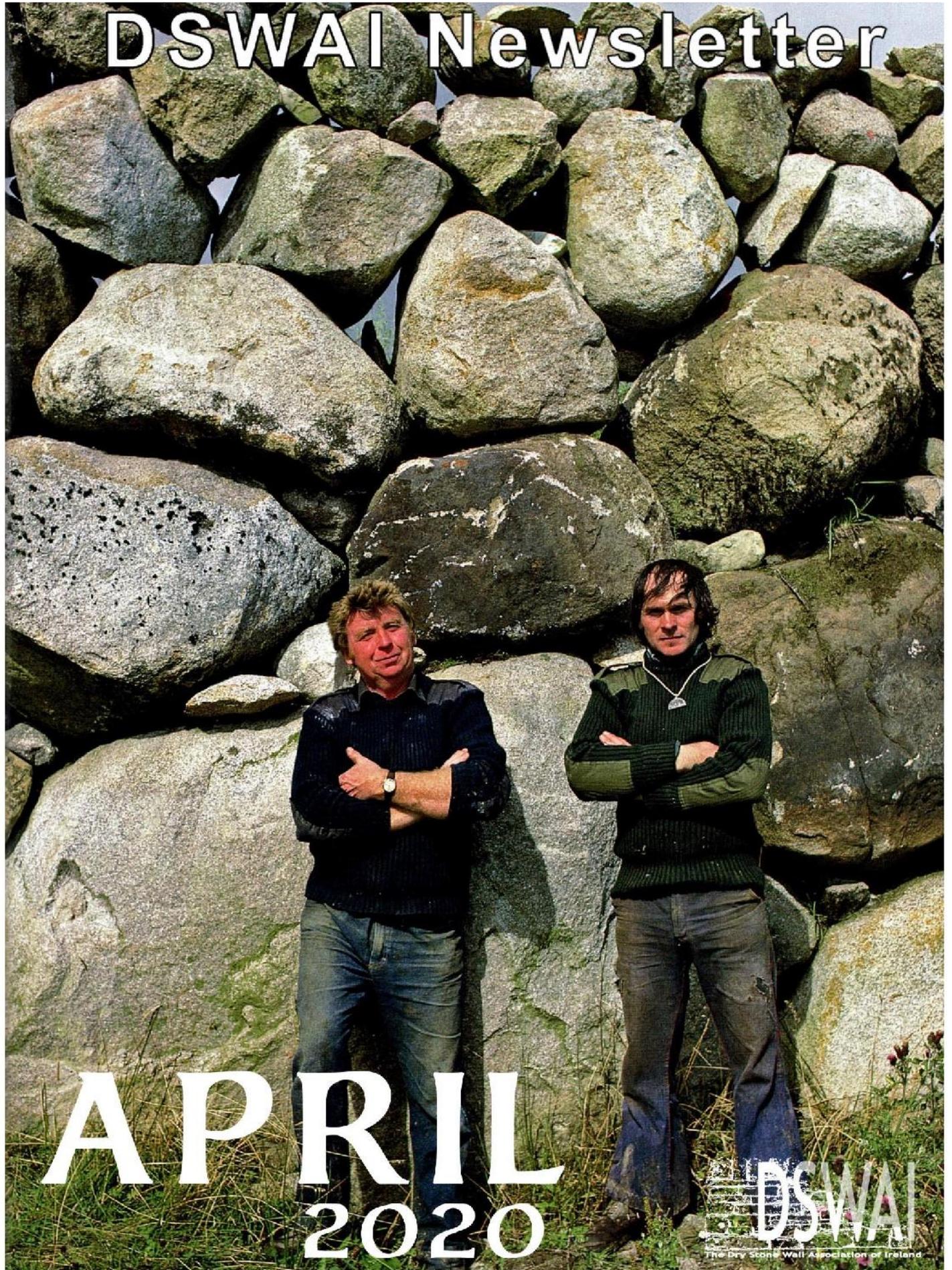
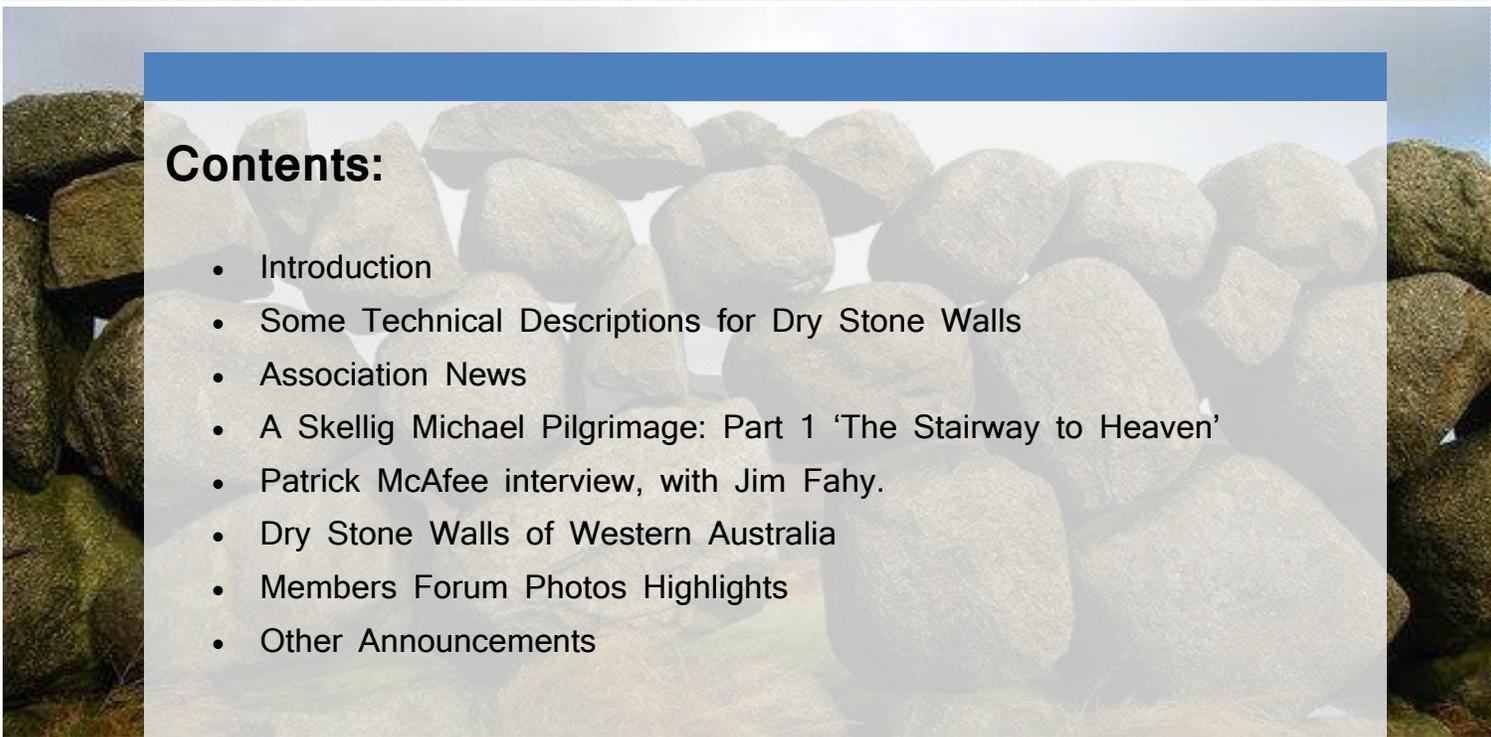


DSWAI Newsletter



APRIL 2020

DSWAI
The Dry Stone Wall Association of Ireland



Contents:

- Introduction
- Some Technical Descriptions for Dry Stone Walls
- Association News
- A Skellig Michael Pilgrimage: Part 1 'The Stairway to Heaven'
- Patrick McAfee interview, with Jim Fahy.
- Dry Stone Walls of Western Australia
- Members Forum Photos Highlights
- Other Announcements

Hello,

Welcome to our latest members newsletter.

We hope that you are all keeping well and staying safe during these difficult times.

While we all try to do our best to stay safe and stay apart, we have had to cancel all our workshops and events until further notice. We are monitoring announcements from the government and will follow any recommendations as they are made. So while we may not have much news on dry stone walling events and workshops that are happening, we do have news on the other work being done by the board and other DSWAI volunteers who are all still working away in the background developing the association and finalizing the associations charity status application.

We have lots of great members contributions and stories for you to gorge on while you are stuck indoors. We have the first of a two-part in-depth look at the dry stone features of Skellig Michael. We have another great interview from Jim Fahy who chats with the with DSWAI member and master stone mason Patrick McAfee, who talks about his life as a stonemason for over 50 years. We also have a report about the walls of Western Australia by Noel McConnell who lives on a farm in Western Australia surrounded by dry stone walls, many of which were built by his Irish ancestors.

We also take a moment to acknowledge the passing of a great dry stone waller from Co. Down. (pictured on the cover) Phelim Doran from Ballymartin in Co. Down, passed away in January. Phelim was a master dry stone waller, building many boulder walls on the foothills of the Mourne Mountains and beyond.

As always, the admin team would be delighted to receive photos, articles and letters from the membership on dry stone related topics so please do send us your stuff by contacting admin at info@dswai.ie. We look forward to hearing from you.

But to start us off we have some insight on dry stone walls from an engineer's perspective. John Lyness is Reader Emeritus in Civil Engineering at the Ulster University. He is a Chartered Civil Engineer, Structural Engineer and Mathematician with a keen interest in Appropriate Technology. He is a past Chair with the Institution of Structural Engineers, Northern Ireland Region and was elected to the board of Directors of the DSWAI in 2018.

Enjoy the newsletter!

Slán go foil,

DSWAI Team

SOME TECHNICAL DESCRIPTORS FOR DRY STONE WALLS

By DSWAI Member & DSWAI Director John Lyness

Introduction



DRY STONE WALLS IN BLOODY FORELAND, DONEGAL Photo:© Roisin Duffy

Living in Belfast my first introduction to dry stone walls was the view, from central Belfast, of the Belfast Hills from Hannahstown to the Cavehill. The field boundaries on the Hills are very clearly demarcated and appear to reach very inhospitable heights. I discovered that the field demarcations were actually for large grazing areas bounded by dry stone walls. Many years later, driving around Bloody Foreland in Donegal, I came across a great density of very small enclosures, each with its dry stone wall boundaries. Much can be written about the economic and social history of grazing on the Belfast Hills and the story behind the small enclosures around the Bloody Foreland.

As a structural engineer believing in sustainability, appropriate technology and the 200 year utility of dry stone walls, I would recommend everyone to have a close look at the walls that you see in the landscape, representing not only the amount of effort in the physical work of lifting and careful placing of stones, but also as the product of a skilful organising process.

Throughout Ireland there are many distinctive regional wall types used in agriculture for stock control, boundary demarcation and as planned landscape features. **Patrick McAfee**, see (1), has gathered together the different vernacular wall styles for County Donegal. Generally, the walls are around 1,200 mm - 1,800 mm, built without staging, using a variety of local stone types, stone shapes, wall styles and individual waller styles.



MOURNE COUNTRY STONE WALL
Photo: Rossographer via wikicommons



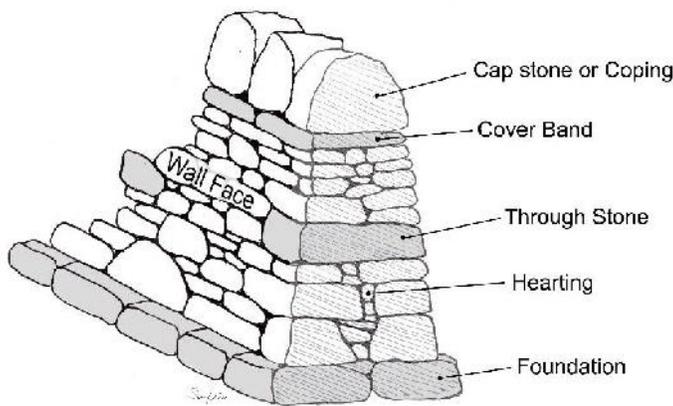
BURREN STACKED WALL
Photo:© Sunny Wieler



DONEGAL DRY STONE WALL
Photo:© Sunny Wieler

Some Relevant Terms

Dry stone	Denoting the absence of Mortar . <i>Legend has it that St Patrick brought the recipe for mortar to Ireland, so that St Patrick is not only a Patron Saint of Ireland and Nigeria but also the Patron Saint of Builders and Irish Engineers.</i>
Masonry	In engineering terms masonry refers not only to the use of natural stone but also to bricks and blocks.
Dry stone walls	Also known as stone dykes, dry stack walls, rock fences, stone fences, rubble walls etc
Stone size	By weight , individual stones may up to 20 kg in weight.
Stone size	By engineering geology particle definitions , see Udden and Wentworth (3) , typical wall stones are described as Cobbles or Boulders .
Single stone wall	Walls that are one stone/boulder wide, see McAfee (1) .



DOUBLE FACED WALL CROSS SECTION

Two faced walls	Generally, tapered (battered) walls with a trapezoidal cross section , see McAfee (1) .
Actions (forces)	There are Vertical and Horizontal Actions , or Loads, on dry stone walls, <i>but in most cases weathering deterioration, vegetation and neglect are usually more important sources of instability.</i> Vertical Actions comprise Self Weight , unintended use as a support or prop, Vegetation, Snow and Ice. Horizontal Actions comprise Wind, Ice, Vegetation and Accidental Loads from vehicles, machinery and stock.
Failure	There are several possible failure mechanisms for Free Standing Walls – the magnitude and type of load and the integrity of the wall are significant determinants of the failure mode.

Description	Possible cause
1. Collapse due to excessive vertical load	hollowing out ?
2. Collapse of foundation	undermining ?
3. Horizontal sliding at the base.	undermining ?
4. Horizontal sliding at a wall section above the base	accidental load ?
5. Overturning of the wall at the base	accidental load ?
6. Formation of a failure surface through the wall	combined loads?



- Load Resistance** The **integrity** and **Self Weight** of the wall are the principal factors in Load Resistance. The wall **location**, **vulnerability** due to deterioration and the original **workmanship** are also significant. The Self Weight of the wall can be estimated by inspecting the wall faces. (The 20 kg upper limit for placing wall stones is based on the max recommended H&S weight for manual handling).
Of course, larger stones can be placed by team work. In practice the more usual stone size that is placed is between 8 kg and 16 kg, corresponding to the **Cobble** and **Boulder** categories, see particle size definitions in **(3)**.
The **stone interlocking**, within the wall, is the principal **load resistance mechanism** to horizontal and vertical forces. This acts in the plane of the wall cross section and also lengthwise, along the wall.
- Interlocking** If a load of natural cobbles is tipped from a lorry it will form a pile, which has a peak and a wide base. The pile of cobbles is said to be at its natural **angle of repose of 35° to 45°**. The skill of the waller lies in systematically selecting, organizing and placing that same material to create a robust and useful wall.
Interlocking describes a combination of effects at Large, Medium and Small scales. They are due to the **shape of individual placed stones** (large scale), the stone **surface asperities** (medium scale), see **(4)** and inter stone **surface friction**.
The position and orientation of placed stones is important because the three different interlocking effects increase with the weight carried above the stone. For example, the maximum inter stone surface friction will be at the base of the wall.
Also, individual stones will resist **horizontal movement**, **vertical movement** and **rotation** (turning) by the different stone interlocking effects.
- Void Ratio** The wall is made up of stones (placed, foundation, coping, through, pinning and hearting) and the gaps between the stones, which will contain air or water. The **Void Ratio, e**, is the ratio of the Volume of Voids / Volume of Solids.
Void Ratio = $e = \text{Volume of Voids} / \text{Volume of Solids}$
A definition diagram showing the Air, Water Solid phases in a soil sample is shown in **(5)**.
If **e** is near zero then the void content is small, if **e** is near **1** then the void content is high. The Void Ratio, **e**, gives information about the compactness, density, or sparsity of material in the dry stone wall.
- Stone Shape** Today **quarried stones** are often used, as well as natural (found) stones for wall construction and stones may be knapped to fit before being placed.. Quarried stones, **stone fragments**, are usually **angular** around their surface and many (found) natural field stones are rounded.
The **stone shape** can be used to find the amount of large scale interlocking.
Stone shape descriptors are available for stones, particles, that cover **rounded and angular shapes** and intermediate stone shapes.
Stone shapes can be qualitatively described by comparison with reference photographs, see examples in **(6)**, the descriptions for stones and particles, **sphericity** (roundness) and **angularity**, are also used in the mechanics of wear and the mathematics of packing.

Summary

This note gives some of the principal descriptive engineering terminology that is relevant to the components of load resistance of a dry stone wall.

There are many different terminologies for dry stone walls within the landscape – agricultural, ecological, historical etc. The engineering terminology is very “close up” and it is hoped that dry stone masons and those who seek to conserve our inherited landscape will be able to make positive use of this note.

References

These Reference Links contain descriptive text, equations, diagrams and photographs.

1. **Patrick McAfee, Field Guide to the Dry-Stone Walls of County Donegal**, 2015.
<http://www.donegalcoco.ie/media/donegalcountyc/heritage/pdfs/A%20Field%20Guide%20to%20the%20Dry-Stone%20Walls%20of%20County%20Donegal.pdf>
2. **EU Structural EUROCODES** including Part 1, Actions on Structures and Part 6 Design of Masonry Structures. <https://eurocodes.jrc.ec.europa.eu/>
3. **Udden Wentworth Particle Scale** showing Cobble and Boulder sizes.
http://www.kpal.co.uk/Particle_size_scale.pdf
4. **Asperities** in Resistance – a medium scale surface phenomenon
https://www.researchgate.net/figure/Schematic-illustration-of-the-action-of-asperities-in-friction-surface-when-the-braking_fig4_263731232
5. **Void Ratio definition** <https://civilengineering.blog/2020/02/14/voids-ratio-porosity-degree-saturation/>
6. **Particle Shapes** – Roundness (Sphericity) and Angularity
https://serc.carleton.edu/files/NAGTWorkshops/sedimentary/activities/particle_shape.pdf

Association News

AGM news

The DSWAI AGM was held on March 6th.

The Draft SMP 2020 - 2023 was presented and approved. **It is now complete and available** to view and download from the website and members forum.

Directors Christian Helling and Ruairi Dennison resigned from their positions as board members.

There were no nominations to the board this year.

DSWAI Annual Report

The annual report is now complete and is available to download from the website and in the 'documents and publications' section of the members forum.

Members forum

Members not already signed up to the forum are reminded that it is a free membership benefit. All are encouraged to join. Currently, the board and other volunteers are looking at ways to invigorate the forum and improve it both as a source of information and networking for members. The board would like to call on members to submit expressions of interest in ways in which the forum could be improved and adapted. If you have any ideas please do let us know.

DSWAI Bursary Award

The Bursary Award will open for applications next month as planned. However, due to the restrictions on travel and the uncertainty around events the award may not be possible to issue this year.



REMPART & Erasmus

DSWAI is one of the partner groups with REMPART in 2020/21. A new partnership for DSWAI, 2020 was the year the association hoped to feel its way into this exchange network. Many potential opportunities were opening up at the beginning of the year for DSWAI members to travel to Europe and likewise for European wallers / enthusiasts to come here to attend events. Currently, there is a lot of uncertainty around dates of planned events across Europe with many suspended or cancelled for 2020. We are in correspondence with representatives of REMPART and hope to have an update on this international connection for the members soon. In the meantime, members are invited to explore the REMPART website <https://www.rempart.com/>.

Covid 19 restrictions and workshops.

As the lockdown continues to May 5th and beyond, the situation is very uncertain and we cannot announce that any workshops will be resuming for the immediate future. We are monitoring announcements from the government and will follow any recommendations as they are made. The Board met on 26th April and will meet again on 10th May. An update on workshops will be issued after that meeting. Members are invited to contact any of the directors or admin at any time to express concerns over the restrictions and events they might have planned. We are also very keen to hear any suggestions or proposals for appropriate activities of a similar nature that can help to advance the DSWAI objects at this time.



Membership Renewals

Thank you to everyone who renewed your memberships. This goes a long way to keeping some of the vital things like website and forum running.

For those of you who signed up for Auto- Renewals with PayPal you will be receiving a small gift in the post as a thank you. We just ask you to bear with us as we have some delays with getting the gifts together due to the current restrictions relating to the Coronavirus but rest assured that we will get these gifts out to you as soon as possible.

FREE GIFT

**WHEN YOU
RENEW YOUR
MEMBERSHIP
WITH AUTO RENEW**

You are free to cancel auto renew at any time.

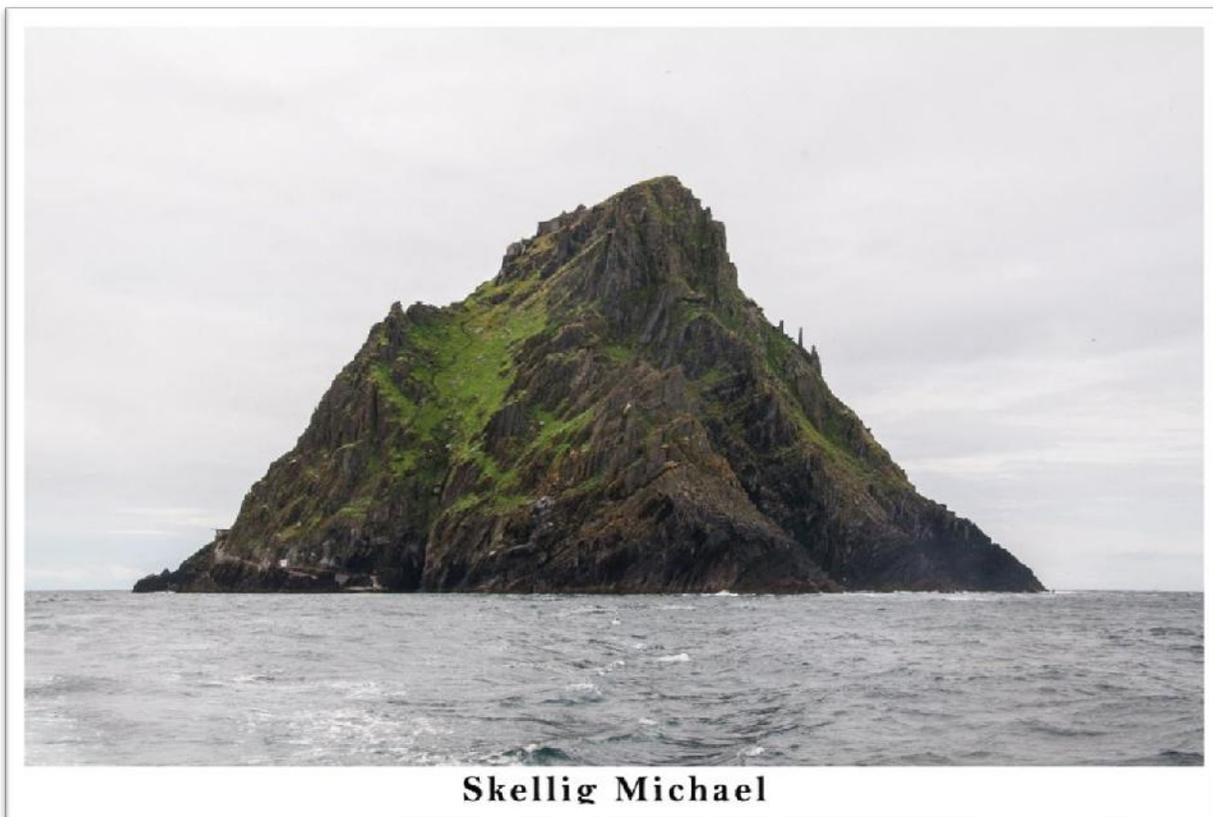


A Skellig Michael Pilgrimage: Part 1 ‘The Stairway to Heaven’

Text by Ken Curran. Images by Ken Curran & Sunny Wieler taken on a trip they took to Skellig in August 2017

Introduction

12 kilometres from the southwestern tip of Ireland lies the islands of Skellig. The word translates as ‘splinter of stone’



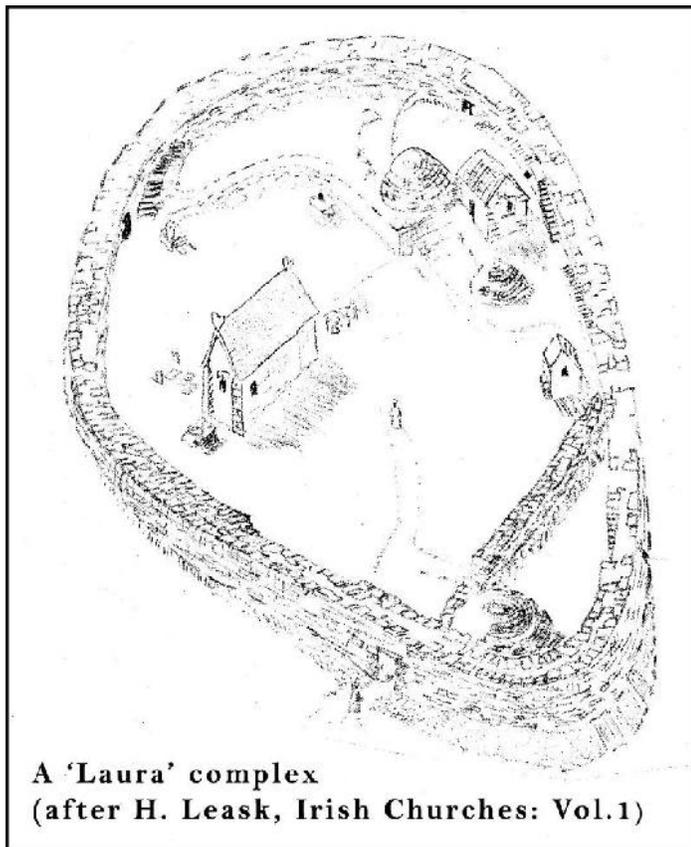
Jagged rocky outcrops in the Atlantic Ocean, they are formed from old red sandstone. The main monastery is built on man-made terraces to the north east of a north-south valley between two old red sandstone peaks known as Christ’s Saddle. The valley overlies a major geological fault that runs north south through the island

The rock itself was formed some 360-374 million years ago during the Devonian period. Around 300 million years ago the current geological structure was created “*whereby fine-grained sedimentary rocks and planes of weakness like bedding, cleavage and jointing mean the stone can be worked relatively well*” (Proff M. O’Sullivan: Archaeological stratigraphic report 1986-2010).

THE MONASTERY

During the early medieval period in Ireland, Christian monks came here on a mission to get closer to God. To find the ultimate enlightenment. Part of that was to push further and further outwards to the most remote and beautiful of places. Hence, a party found their way to this little archipelago approximately 1500 years ago.

What the Augustinian monks built was an example of an Irish Early Christian ecclesiastical settlement model known as a *Laura* (see sketch). These religious complexes are quite comparable to early monasteries in places like Egypt and Syria (H. Leask, *Irish Churches: Vol.1*). A community of monks would live together but 'self-isolated' in their individual cells. These cells were clustered around a single or small number of Oratories. Those most intent on ultimate 'self-isolation' and obduracy ventured further and further out into nature, the hinterland and the edge of the known world. It is possibly this motivation and desire to find the perfect place on earth, to rise above the tangible things, and grow closer to the heavens and in doing so achieve the ultimate enlightenment (whilst venerating their God), was what that brought the Augustinians to Skellig sometime in the middle of the first millennium A.D.



**A 'Laura' complex
(after H. Leask, *Irish Churches: Vol.1*)**

Whatever the actual foundation date of the monastery, the island has been a place of pilgrimage since the early part of the 12th century. Our pilgrimage was of a spiritual nature of a different kind. We were in search of enlightenment within the religion of 'dry-stone'. Skellig is widely known as a place of amazing beauty but also a mecca for lovers of dry-stone construction. It was this quest that brought us to the base of the steps of the 'Stairway to Heaven' on a sunny Tuesday, the first day of August 2017.

These earliest of Irish monasteries were built of wood or a combination of wood and dry-stone, or entirely dry stone construction. Availability of raw materials locally would have dictated which was the main building material and given the terrain the monastery at Skellig's was built almost entirely of dry stone.

What makes Skellig Michael so special is certainly the location. This is truly a magical place, a place not of this world.

Some quotes from famous people about the Skellig's found during research for the article seemed to articulate this well.

Judy Kravis (1996) said of the Skellig monastery that it "*has authority*" and "the monks who went to live there knew that what they did was the most you could say about belief without actually slitting your own or someone else's throat."

George Bernard Shaw said about the monastic structures: "*they are the islands: there is nothing else*" and given the location and roughness of the terrain this is certainly true in a human context. He also said "*I tell you the thing does not belong to any world that you and I have lived and worked in: it is part of our dream world*" GB Shaw 1910

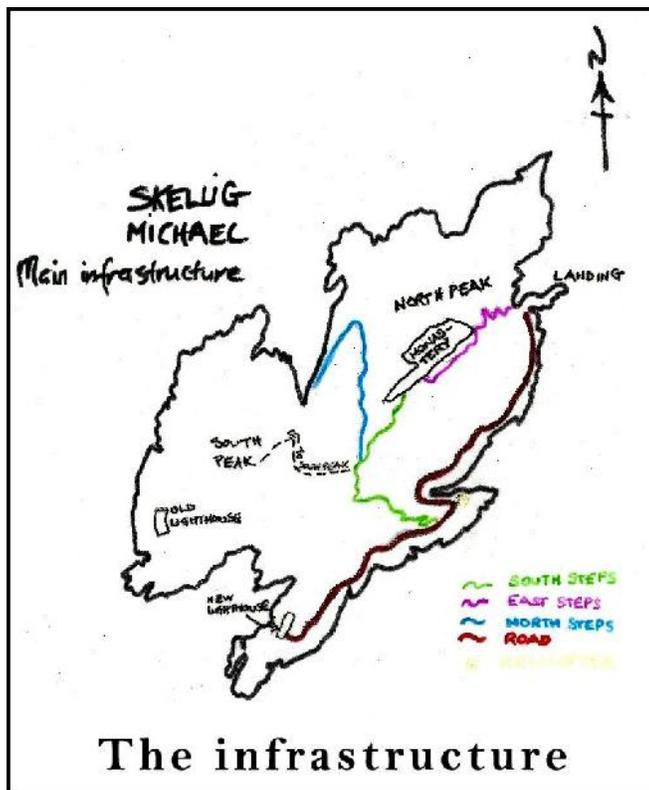
Waxing lyrical aside, what they built there is now a National Monument of Ireland and a UNESCO world heritage site since 1996.

The settlement has two separate elements, the monastery itself and a range of structures built on ledges on the south peak. We did not have time to visit the south peak. Time on the island is relatively short. The features at the south peak will be described in Part 2.

STAIRWAY TO HEAVEN (from landing to the peak)

As a place of the indescribable beauty and countless missionary expeditions, the whole experience of visiting the monastery island was akin to a pilgrimage.

This journey was broken into stages. The boat trip out. Landing, and the walk to the base of the south steps. The climb to the summit. And the time at the monastery. We won't bore you with the boat trip and the road to the south steps, except to say that they were both great experiences on a beautiful calm sunny day. However the climb up the south stairwell was on another level altogether; pun completely intended.



Below is a sketch of the island showing the main routes around and up to the monastery. The south steps (green line) is the current walking route to the summit for all public visitors. The north (blue) and east (purple) lines are not accessible to visitors.

The site may once have had three landing points, to the north, northeast and south. Two are still accessible/in use. The north steps go from Christ's Saddle down to the north landing in a dog leg pattern. The east steps would have originally gone down from the main entrance to the monastery on the north peak to the north-east landing point. I am unsure where the south stairwell would have originally ended as the lighthouse road has been constructed in the meantime and I couldn't find any evidence or reference to the specific location of the landing point to the south.

Each of the stairwells are a mixture of mostly dry laid steps with some cut directly into the bedrock. They are largely intact but only one is open to the public. They have been conserved down the years. The absence of

handrails adds to the sense of place and exaggerates the feeling of vertigo as you climb the steeper open sections. They are framed with mosses and sedums and scattered occasionally through these are the nests of the other famous inhabitant of the Skellig's, the puffins. Notoriously shy, we didn't catch a glimpse of these beautiful birds on the day we were there as they were all out fishing.

Photos and descriptions from our visit will focus mainly on the south stairwell.

SOUTH STEPS

The uppermost section of this stairwell (from Christ's Saddle to the main monastery) was conserved by the OPW most recently. The rest of the south stairwell was in reasonable condition and has had minimal intervention since the 1980's. That said, they would have been used (and maintained) constantly by the lighthouse builders and island visitors since as far back as the 18th century. Due to constant use, steps come loose all the time. A daily maintenance program keeps them secure and avoids serious problems.



Seamless steps



**Base of the south stairwell.
The entry point to the Stairway to Heaven**

The OPW staff responsible do a superb job here as evidence of this is not obvious in any way and the steps appear to have been there forever, blending seamlessly into the cliffs and the vegetation on either side.

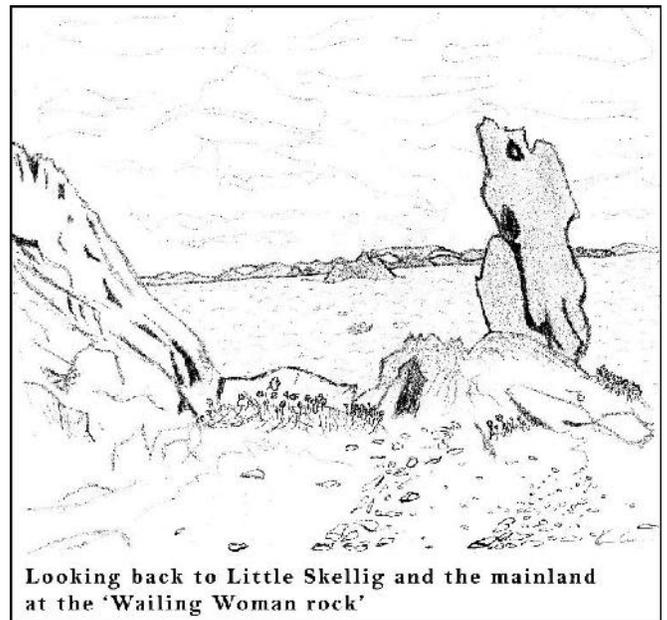
The first section of the South steps you encounter as you arrive at the end of the road from the pier is a stairwell constructed against the bare rock and ascending around 5 meters from the road to the top of the first ledge. As you approach a guide stands (smiling and welcoming) to greet you and brief you on safety and etiquette.

As you ascend the first stair to the first landing the sky begins to open up and very quickly you are fully immersed in just how exposed this place is. As mentioned, the lack of rails and the steep and winding incline coupled with the elevation is not for the faint hearted.



**South stairwell lower section,
showing dry stone profile both sides.**

The second stretch of stairs winds around to a natural terrace where a breath-taking view of Little Skellig comes into your line of sight.



**Looking back to Little Skellig and the mainland
at the 'Wailing Woman rock'**

From here the climb ascends steeply as it winds south and then back north to arrive at the foot of the valley called Christ's Saddle. This is the longest part of the climb and one where you really do need to take your time to take in the unbelievable views but also to always be aware of your footing whilst taking photos. Stopping and sitting occasionally is recommended.



**[Left] Looking down the south stairwell
lower section towards the first landing.**



[Right] Beautifully maintained steps

It is worth mentioning again how well the dry stone steps appear maintained. What is most pleasing is the absence of any mortar. They are clearly maintained in a simple and sympathetic way.

As you climb you can see the retaining walls beneath the steps of the sections above that snake back against the slope and the realization that thousands of tons of stone were quarried and brought together to painstakingly build these stairwells becomes apparent. There must have been much loss of stone to the cliffs and the sea, many failures and significant loss of life even during the original phase of building these. The south steps are probably the most sheltered stairs on the island and even they are very exposed.



**[Left] South steps showing
dry stone retaining detail**



**[Right] South steps middle section.
The longest stretch**

Once the steps wind back towards the south as you climb the middle section the peaks either side of Christ's Saddle come into view.



The south steps towards the north peak from Christ's Saddle



Christ's Saddle looking towards the start of the climb to the south peak.

Remains of wedged style walling in the foreground of the picture [Left] are of interest. They tease the instinct of the Waller to gather some slabs and do some 'gapping'. It is likely that this boundary was robbed of stone for steps or other walling somewhere close by.

So, the stairway approaches the heavens. One final short ascent brings you to the entrance to the outer enclosure and the massive enclosure walls come into view with little Skellig on the horizon. Everywhere is a painting, every sight is a stunning snapshot. All of it seems heavenly.



Top of the south steps looking back at Christ's Saddle and the path to the south peak.

Once at the top of the south steps it is time to consider the terraces and the retaining walls that support them. As mentioned, there are two other stairwells to the monastery. Although neither were accessible for photographs both are worth mentioning briefly.

THE NORTH STEPS

It runs down from Christ's Saddle to the north shore in 2 long flights. It was maintained and used a lot by the lighthouse builders during the 19th century. The lower section is all rock cut steps. The upper section is dry stone construction. They are very vulnerable to erosion and collapse and are extremely exposed to the wind and seas. The rock falls are ongoing everywhere on the island and nowhere more so than on this side.

The steps are damaged significantly every year. Because of the steep slope to the side, when a step does come loose and begin to move, it can fall away quite a distance or even into the sea. During the 1980s the steps were apparently disappearing very fast. Major intervention was taken by the NMS & OPW. Using harnesses fixed to the bedrock above, workers hauled fallen steps back up the slope. The work was over a long time. The retaining walls were also repaired meaning it is now possible to again reach the north landing safely.

THE EAST STEPS

The east stairwell can be seen in its entirety from the main enclosure on the north peak as it snakes steeply down to what is thought to be the original main landing point at the northeast end of the island. It has been repaired (in the main) by the National Monuments Service and Office of Public Works over the past three decades, uncovering some very interesting features along the way.

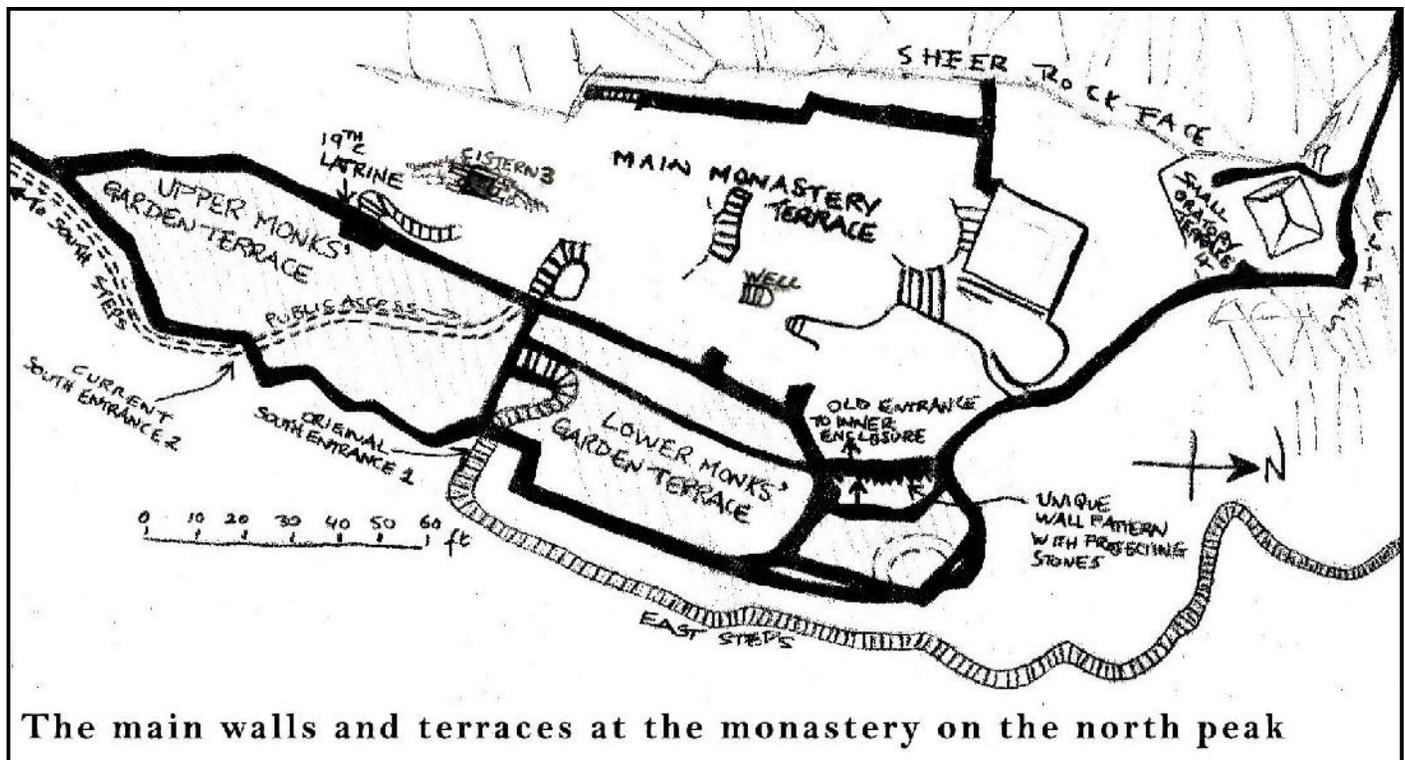


The east steps as they snake their way gracefully down towards the northeast landing point.

The east stairwell is mostly dry stone built, with a rock cut section. It required significant conservation in the last 30 years. It no longer makes it all the way to a landing point due to removal of the bedrock at the base by blasting during the construction of the current north landing point by the lighthouse builders. An interesting structure was found at the lower section of the East Steps when the area was being cleared of rubble during conservation. A rectangular structure believed to be visitors' accommodation or a boathouse (or both?). Part of this structure was lost into the sea after the dynamiting during the 19th century construction works. It has been

stabilised and conserved but access to the public is restricted to this area for safety reasons.

THE ENCLOSURES, RETAINING WALLS AND TERRACES



The main walls and terraces at the monastery on the north peak

The Outer Enclosure

You get to this area via the final flight of steps from Christ's Saddle where the North & South steps become one stairwell. To do so you walk along a path with the outer enclosure wall to your left as you walk along the top of the retaining wall for this terrace. Both the main terraces within the outer enclosure are called the Monks' gardens, lower and upper. We walked into the monastery through the outer enclosure wall and across the upper garden terrace.



The outer enclosure boundary wall.

The Inner Enclosure

Massive walls were built first to make terraces, on which the monks made gardens and assembled the monastic structures. The parapets rising from on top of the terrace retaining walls add to the shelter given by the terraces themselves from the severe prevailing winds.

It was clear to the archaeologists involved in the conservation of the monastery that most of the walls have been rebuilt on many occasions as there was ample evidence of multiple collapses. The collapse of walls must have been a frequent thing even during the occupation by the Augustinians.



Latrine and upper terrace retaining wall

For example, the east retaining wall apparently had three phases, having collapsed again and again. Notably, the small oratory terrace retaining wall is largely intact despite significant movement. The south facing wall of the inner enclosure had at least two phases and the upper Monks' garden retaining wall was in the main rebuilt from collapse. The lower Monks' garden retaining wall was nearly all intact at the west end but the east section was completely rebuilt during conservation works.

THE TERRACES

The monastery, its buildings and gardens were all constructed on a number of man-made terraces, which the monks built using a combination of quarrying and tying onto natural ledges.

Massive amounts of stone were cleaved from the surface and used to build very significant retaining walls and parapets.

The enclosure incorporates four terraces of note. The lower section of two terraces houses the garden areas within the outer enclosure. Above them (where the main monastic cells and other buildings sit within the inner enclosure) is the largest terraced area. A fourth small terrace, called the small oratory terrace, lies off to one side to the north end of the inner enclosure.

The monks created a site of unbelievable durability given the environment and resources at hand and to visit there can only be described in part with words and images. It is a place beyond words beyond expression. It is a place of magic.

Small Oratory Terrace

A team of experts carefully removed debris and collapse from on top of 3 structures here and oratory, a *leacht* and a latrine.



Small oratory terrace. Note the blocked entrance and the movement in the parapet wall to the right hand side.

Conservation of this small terrace was the first major work carried out at the site. The retaining wall supporting this terrace is an original “*monastic settlement*” structure. A combination of the significant weight and the “*peaty soil*” fill meant that it isn’t perhaps able to cope with the significant volumes of water channelled into it from above. This peaty soil holds water adding weight. Due to its dry stone construction the retaining wall was flexible enough to adjust and not fail. As can be seen in the photo the south wall has moved significantly downwards and inwards due to being constructed on fill. As the wall

sagged more was added above to keep a boundary. In turn adding more weight. Eventually, a retaining wall was built within the terrace to stop this parapet falling in onto the terrace. By the time the archaeologists came to investigate the terrace retaining wall had bulged out over 8 feet at the base. Large base stones had been lost and collapse was not far off.

The deformation could not be fixed. Hence the use of a reinforced concrete arch at an angle and secured to the rock to support the terrace.

ENTRANCES

There are two south entrances into the outer and inner enclosures. They are known as South entrance 1 and 2. Both have outer and inner doorways through the retaining walls into each of the outer to inner enclosures. There is a third entrance into the inner enclosure, no longer in use and to the East (see sketch).

South Entrance 1 (outer enclosure)

This is the earliest known entrance to the monastery and is arrived at from the top of the East Steps where it leads into the lower Monks’ garden. This is repaired but not in use.

This entrance to the main monastery leads from the east stairwell through the retaining wall for the Monk’s lower garden terrace. The doorway leads to a spiral staircase, which turns back on itself and continues to rise from within the garden terrace, climbing over a second terrace retaining wall. This would originally then have allowed access to the upper monks’ garden terrace and the walk north to the older entrance to the inner enclosure. The lower monks garden and south entrance 1 is closed to the public.

South Entrance 1 (Inner enclosure)

A structure unique to the island can be seen here within the retaining wall at and around the jamb. Now not easy to get to because of access restrictions this wall is of curious construction. Quite large long stones were left with short pointed ends sticking out of the wall face in an entirely random and chaotic way. Kilreilig, another dry stone monastic site on the Iveragh Peninsula used the same style of walling in its outer wall. It is thought to have been abandoned as a technique for the same reasons as this one.



The original entrance to the monastery.
Called south entrance 1 (outer enclosure)

This area was once terraced with walls on both sides. Only the west wall remains and can be seen below. The east wall collapsed onto a garden under it at some point during the occupancy of the settlement by the monks. In doing so the collapsed retaining wall damaged a circular cell and the lower retaining wall.

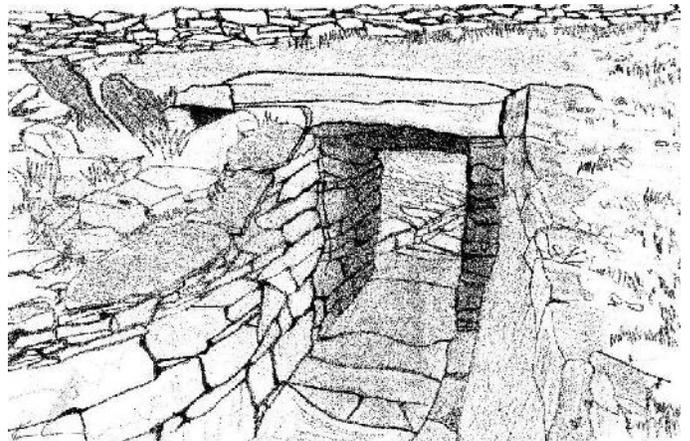
The west jamb (seen in the inset image) was fully intact when uncovered. It had deformed.

The second entrance to the inner enclosure to the east was extensively conserved and repaired with work being done to take pressure off the deformed west jamb.

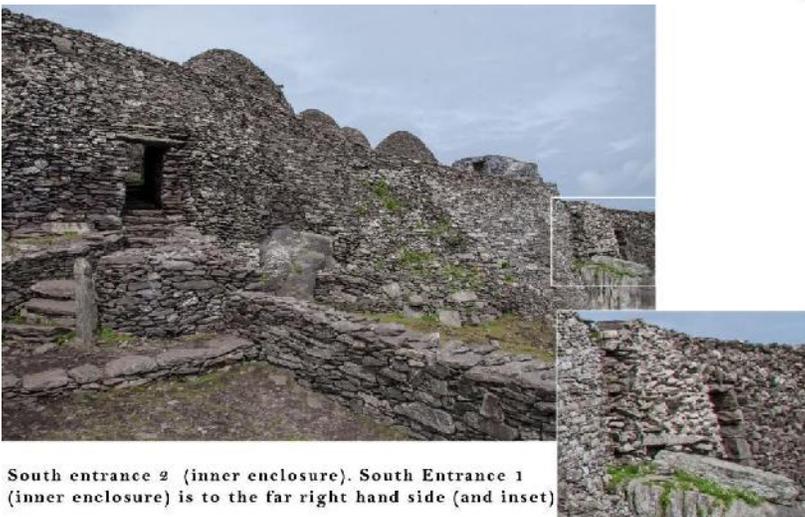
South Entrance 2 (outer enclosure)



South entrance 2 (outer enclosure)



South Entrance 2 (inner enclosure) from inside looking out



South entrance 2 (inner enclosure). South Entrance 1 (inner enclosure) is to the far right hand side (and inset)

South Entrance 2

This entrance (shown above) has had some conservation and repair and is currently the main point of entry to the monastery building on the north peak for public visitors.

CONCLUSION

Once inside, the main monastic settlement with its cluster of monks' cells, oratories, *leachtaí*, graves and other features a sense of calmness and awe of another kind is felt. This really truly is a special place, built with much effort and care and situated as close as is humanly physically possible to the sun the stars and the sky without taking flight. It's an altar to the higher purpose to which the monks subscribed. It has also been explored, conserved and maintained with much effort and care and there is a genuine sense of a great deal of authenticity here wandering among the buildings.



The Cistern (known as Cistern 3) within the main monastery was once mistaken for a souterrain. Between them four cisterns could store over 450 litres of vital fresh rainwater.

Cistern 3 was originally mistaken for a souterrain due to the style of opening and the dry stone wall construction around and over it. These water tanks were fed by a clever series of channels cut into the bare rock where it sweeps down from the peak. These channels would funnel the rain water into the cistern where the monks would collect it from the opening as needed.

In part 2 we will look at the main cluster of monastic cells and associated structures and features. Shown [Left] is one of the features of the inner enclosure; a cistern, of which there are 4. The cistern in question is known as Cistern 3 and may be the largest of these rainwater collectors made by the monks. These freshwater stores were vital to the monks for their survival and day to day living and it is believed they would hold around 450 litres of rainwater.

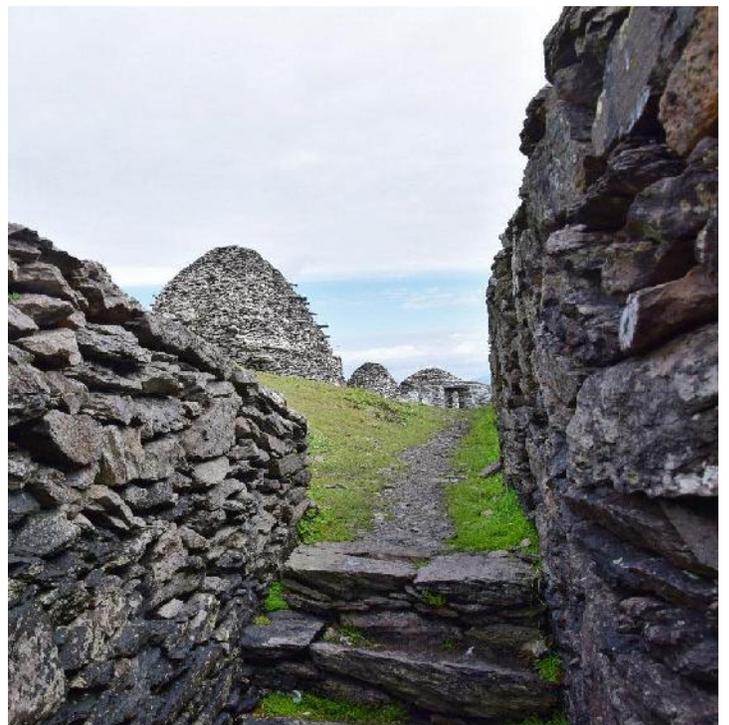
REFERENCES

Burke E., Hayden A.R. & Lynch A., SKELLIG MICHAEL, CO. KERRY: THE MONASTERY AND SOUTH PEAK
Archaeological stratigraphic report: excavations 1986–2010

King Jeremiah, County Kerry: Past and Present, The Mercier Press, 1931

Leask Harold, Irish Churches & monastic buildings, Volume 1, Dundalgan press 1977

O'Sullivan Ann & Sheehan John, The Iveragh Peninsula: An Archaeological Survey of South Kerry, Cork Uni Press, 1996



The view from the latrine stairwell towards the main complex

Documenting our stone heritage.

One of the DSWAI's main goals is to promote and preserve the craft of dry stone walling, and an important part of that is documenting and preserving the knowledge of the people who work in the field.

This too is the strong belief of Cork stonemason Jim Fahy who is also involved with the Cork Masons historical society where he is busy collecting and documenting the history of the masons. Part of this process of his is recording interviews with people in the trade.

Jim says his whole intention is to gather as much information on all facets of stone work. Initially he wanted to record all of the old masons in Cork so their stories would not be lost to us, but it is his belief that everyone who is connected to stone should be recorded, such as architects, BUILDERS, archaeologists, historians, stone cutters and more. And so, Jim has been going out and about with his recorder recording as many interviews as he can, and continues to do so. Jim is very passionate in sharing this knowledge far and wide and has been kind enough to let us share some of these interviews with our members. If you or someone you know has an interesting story to tell about any aspect of our stone heritage, please do let us know and we will do our best to get it recorded.



Our next interview is with DSWAI member and master stone mason Patrick McAfee.



With over 50 years of experience, he has been involved in the education of and inspired many new stonemasons in Ireland and abroad.

He is also the author of several well known books:

Irish Stone Walls: History – Building – Conservation (1997)

Lime Works: Using lime in traditional and new buildings (2009)

Stone Buildings: Conservation –Repair– Building (1998)

Patrick McAfee interview, with Jim Fahy. Edited by Sunny

Jim and Pat meet up for a chat during the Féile na gCloch, festival of stone on Inis Oirr. Pat starts off by introducing himself:

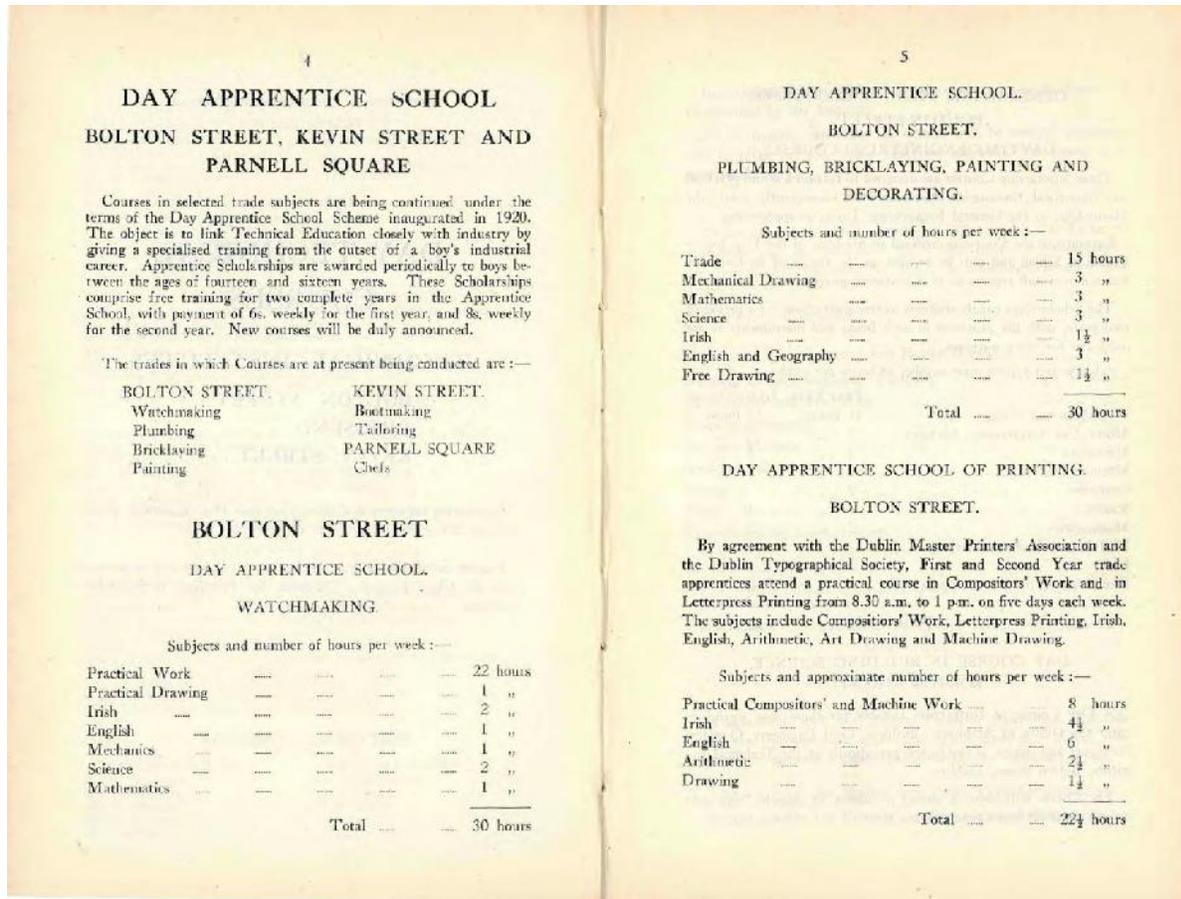
My name is Pat or Patrick McAfee, I'm from Dublin and I was born in December 1948.

Jim: *Pat I would like to know about your beginnings as a stonemason?*

Well in 1963 there was a competition in Dublin that had been going on for many years, and I just happened to click on this and it was the last one ever to be held and it was called the D.A.S. The day apprentice scholarship system.

Every year they took in 8 brick/stone layers apprentices. There was a public exam held, so it would be kids of around 14 years of age that would go in for this. They were expected to be around Group-Cert

or coming up to intermediate cert level. You sat the exam and if you passed, they gave you the apprenticeship, with the first two years spent full time at Bolton Street/Linenhall College.



And so, I was lucky enough to get this and my father was over the moon as he thought boys of 14/15 were way too young to be going out on building sites. So, to have two years inside learning the craft would be a great foundation, plus you got paid; to me that was wonderful. 12 Shillings a week for the first year 16 Shillings a week for the second year.

So I went in on my first year and had a phenomenal instructor that changed my life; Noel Smith, who had won the international craft skills competition in France and came back to Ireland with a gold medal, he was passionate about the craft and was just brilliant; I had him for those two years [1964-66] Those two years consisted of practice and theory in addition to that we also got English, religious education with swimming and weight training to build us up, but really importantly, to me at least, we also got drawing which included pen, ink and watercolour.

We used to plan out what we were going to do with ink pens which were the old fashioned ones you could adjust to get a different thickness of line, and then we would watercolour the drawings and construct what we had designed.

That experience influenced my whole life; before those two years I had not been doing that well at school, but once I got in there and started working with my hands, things made sense and my life began to change for the better.

During those two years I also went to night school four nights a week to get my leaving cert, I didn't particularly want to do this, but my father insisted I do it, and it was pretty tough going. Five days a week as an apprentice and then four nights a week at my leaving cert, but I did that for two years and it made a big difference to me personally. My confidence grew-theory and practice were two sides of the one coin and balanced each other. I had got out of the secondary school and in to a vocational

school at night in Inchicore where I was treated as an adult. Also I now felt I had real teachers for the first time in my life; I had a real passionate teacher in the daytime for craft training and at night time I had wonderful teachers for maths and English and so on, so my real education all happened in those two years.

Jim: So you went through the trade and was your father a mason as well?

Yes

Jim: And did he come from a line of masons?

I was indentured to him. When I was younger, maybe around 14 I was indentured to him at the Ancient Guild of incorporated Brick and Stone layers Union in Dublin where the indenture papers were signed in the presence of my father and the officials of the union, I had to swear, to honour his secrets and to do what I was told. Also, not to gamble and go out with women and not to be drinking and all of that (laughter erupts)[In turn he had duties to me, to teach me all he knew, clothe and feed me and at the end of the apprenticeship provide me with tools.]

I broke all of those rule rules (more laughter)

In fact, the day I was getting married, I was 20 years of age, I hadn't officially finished my apprenticeship and he brought up on the morning of my wedding the point that I had broken my indentures to him by getting married.

Jim: But didn't they have a way around this sometimes? if people got married, they would make a man out of him, and the Committee Would meet.....

I've never heard of that but I was making full money by then. I was up around the fifth year and I had signed the indentures for seven years but they changed the duration during my last year to five. So I got married I think nine months before I finished the five year apprenticeship but by then I was making full wages, so it didn't really matter.

So basically, after I did that the two years full-time at college, I went out and worked with my father and I went to school in Bolton Street one day a week for the next three years, doing my advanced city and guilds and Department of Education exams. There was a further one year post apprentice course called the City and Guilds Full Technology Cert or FTC requiring one day and one night's attendance that I completed a six year training cycle.

Jim: Was it hard working with your dad?

It was impossible, well in fact it was so hard that I never again worked so hard in my life. It was beyond hard, my father was physically powerful and intelligent; it didn't seem to take anything out of him, while I struggled to keep up with him, but he said this would be good for me, which was true. He would say the important thing is that you survive in life, that no matter what hardships you come across you will be ready for it. So, you had to learn to think on your feet, plan ahead and keep working.

It was a big thing for my father, plan ahead, every move, and of course it was all about speed in those days as well. If he saw me making two moves where I should be making one, I suffered. And then of course I had to go home in the evenings with the same man. I was kind of glad in the end to break free of him before the end of my apprenticeship, but I totally appreciate him for what he did.

Jim: I assume when you started it was brick and block, primarily I suppose?



It was, brick and block for the most part, stone had gone. My father had come from Scotland, he had worked on stone churches. He had been bricklaying in Scotland, but he was working with a builder who was doing stone churches. Then when he came to Ireland in the late 30's there was really no stonework, in fact there was really no work. Then in the 40s the war came and the 50's were just terrible, there was just some brickwork. It was only afterwards that I specialised in stone.

Jim: and how did you come to a point in your life?

I finished my fifth-year apprenticeship in 69 and I was married then went away to Australia in 75 and in West Australia to my surprise there was a fair amount of stonework being done. Limestone blocks big white/ yellow creamy coloured limestone blocks being used for retaining walls, Mostly Italians doing this work; you used an axe, a large wood axe to shape the stone. It was soft limestone, not like Irish Limestone, used for the base of houses, and for retaining walls in landscaping.

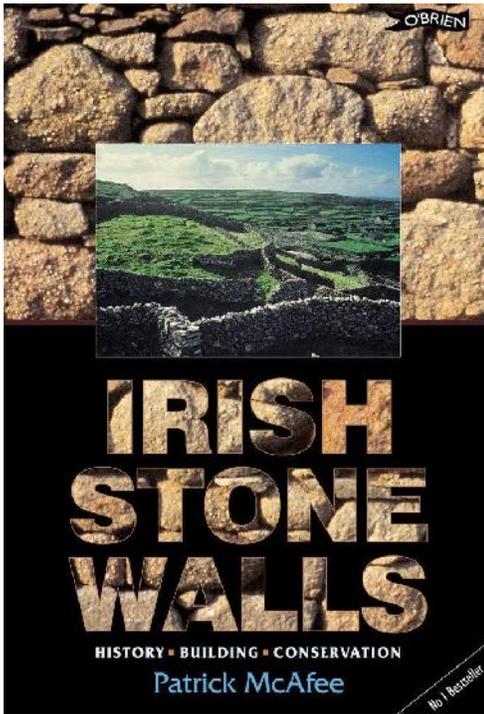
So I had a good mixture over there of stone and brick and I really liked the stone. So when I came back to Ireland in the early 80s, I started looking at what was here, and there really was very few doing much with stone. So, I started really studying Irish stonework in more detail.

Jim: Yeah that must've been difficult surely because as you said there is no real foundation there for someone to carry on with a stone tradition. I suppose all the churches were built and the days of big stone jobs were gone.

Stonemasonry or the building of stone was gone, but there were stonecutters still out there. There were stonecutters in the Dublin Mountains and maybe elsewhere in the country that I wasn't really aware of. But everything was becoming mechanised, gradually machinery was taking over and it was hard to believe that there was really no stone being built.

I guess the economy couldn't afford it and it was only when the economy improved that stone started to arrive. Stonework seems to be very connected to the economic health of places, and I noticed that in America and other places that had money, they all liked to use stone. Rich people like to use stone, it's a permanent natural material.

So as the economy improved here in Ireland in the 90's, stone started to come back. It was like a generation of people who worked with stone were gone. There was a disconnect. This disconnect was one of the reasons I wrote the book 'Irish stonewalls'. I just thought there was something here to be put down on paper. It should be put down on paper.



And so, I wrote the book and I was really surprised at the interest in it. I mean, huge interest. Within two weeks the book was a number one best seller in hardback non-fiction and remained so for 5 or 6 weeks. Then Lady Diana died, and someone brought out a book immediately about her and I got knocked off my perch. But that shows you the interest that was there, and from the late 90s suddenly it mushroomed and people started building with stone everywhere. There wasn't enough people working with stone in Ireland to meet this demand. At the same time people were coming in from other countries who maybe didn't always have the English language, but they found that working with stone doesn't really require much of a language. People who cannot converse efficiently with one another in the same language can work successfully all day long together with stone. It's a very handy kind of thing.

Suddenly there was a lot of people from everywhere working at stone in Ireland. That's not to say the stonework by the people coming in, or by the people in Ireland was always of a very good quality; the quality became an issue, I think. Then the county councils brought in new regulations for new buildings in the

countryside that if you're going to have a wall outside your house it should be stone, and that got the thing going again but once again the standards and quality may have not been the best at times.

Jim: yeah, there was often the mentality of 'lash it up'. I remember reading your book when it came out, and I was amazed that all this existed, a trade that my own father worked at, being almost completely forgotten about.

We were all caught up with trying to 'lash up' a wall, throwing in 500 blocks in a day or a 1000 bricks in a day, but when you saw those materials being properly used, it was an eyeopener. And I think your book was a catalyst for a lot of stuff that happened after.

Thank you. Yes, and I think mortars had become a big issue then, because there was a lot of use of the wrong mortars to repair old buildings and there was a lot of failures as a result.

So lime mortar came back into being and continues to be developed and has continued to the point now where we know a heck of a lot more, but it has taken us so long to rediscover, it shows you that when a disconnect occurs, it can take at least a generation to find what they were doing before and to build up those skills again.

And this was not just an Irish thing, it became, I won't say worldwide but certainly a European and even a North American thing to rediscover these mortars. Where we stand today is so much different than even what I was taught back in those early days of my apprenticeship.

Jim: You've been involved all your professional life promoting and improving standards when it comes to stonework, and you have taken it all over the world, can you tell us a little more about how that developed?

I think it was in 87 I saw something advertised, that was there was a school on an island outside of Venice, and you could go there for free. It was the European Centre for Training Craftsmen in the Conservation of the Architectural Heritage. And I thought wow, I couldn't believe it. Unbelievably, I was the only one who applied for it that year from Ireland, I got it! and went out there and I met a lot of crafts people from all over Europe and beyond.

There were Germans there and people from North Africa and from South America and there was a number of different crafts there; I went into the stone craft workshop. The programme was a repeating one week theory shared by all of the crafts and then the following week a return to your respective workshop for practice. This was interspersed with site visits.

That encouraged me no end; I saw the value of the training and how well it was done. When I came back to Ireland, I was involved in the restoration of Drimnagh castle and at that time, myself and Peter Pearson started running conservation courses there, Peter was big into trying to save Dublin city at that time and I was kind of the brick/ stone and mortar guy. So we put the two together and we started running seven-day conservation courses and they were really successful.

We were amazed at the amount of interest. The interest was growing in the 80s, the economy maybe wasn't there to afford it much but I think out of that a lot of things sprung. And certainly, back in those days we were making lime mortars at the castle. One of the reasons for this was that there was a training program for unemployed people there, and this gave us the freedom and time to experiment. So, we were hand cutting stone windows and quoins and we were quarrying stone, we were making lime kiln's and producing quick lime. We were playing around with things, and we developed a lot of things out of that, and the book really came out of that later on.

Jim: so over the years you've been invited to festivals and stone symposiums all over the world and you have promoted the craft in all of these countries. Could you tell us a little more about that?



Pat instructing at StoneFest, Seattle, USA in 2010

In the year 2000 I got an invitation to go to Chicago by a lime company there who had heard of my book. that was my first time into America. So, I ran a programme for them there and it was that same year I was invited to Santa Fe, New Mexico to do a workshop there. This for me was phenomenal, I was amazed that I was being invited to these places.

Earlier than that I was involved in some European Stone programs. One was to Florence for a number of years to work with stone, build walls and bring Irish apprentices with me. Some of them are still around and working with stone. I also went to Greece, and Belgium of all places, because it doesn't have much stone. In Belgium they insist that every new build has stone in it, and the stone that they put in it is mostly Irish limestone. So that was in the 90s and after 2000 America began to open up and suddenly, I was in Texas, South Carolina, Virginia etc and then Canada was coming on stream.

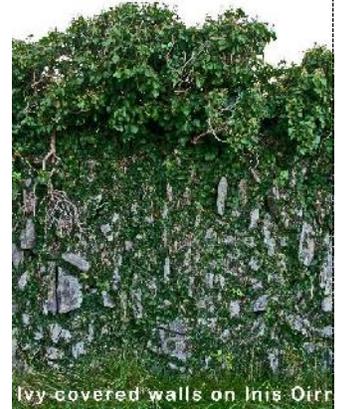
There was a world-wide phenomenon happening, stone was taking off. In America the Stone Foundation got going around the year 2000 and they kept inviting me over, and Canada got a whole dry stone walling thing going on, and I was going over to that and it got actually to a point where I was travelling so much that I was only home for a few weeks at a time. At home I helped develop and run a programme for the National Roads Authority in the maintenance and repair of stone bridges throughout the country. In addition, there was involvement for many years with Building Limes Forum Ireland in running workshops and the investigation of hot-mix lime mortars.



RICA RETAINING WALL
11/9/18



PAULINE MANNION 10th SEPT 2018



Ivy covered walls on Inis Oirr

It was all a wonderful experience but I'm kind of in a different place now, I'm coming up to 70 in a few months and the way I look at it, and it's kind of a really personal thing, I felt I was repeating a lot of stuff when running training programmes and the only time I felt I was really evolving and learning new insights was when I was with stonemasons who were into lime/earth mortars and traditional work. Going places where I was teaching traditional methods to people who only did modern stonework, I began to feel I was just repeating the same stories over and over again, I think I was getting better at it but I wasn't developing my own skills, so I've kind of opted out of it now, and travel less. And so here I am now on Inis Oirr, as we all, are for Féile na gCloch festival, I applied this year to be artist in residence here, not because I'm an artist, although I do love sketching, but because of a proposal I put in that I would look at the walls of Inis Oirr and I'd sketch them, measure them and explain how they work because they're really peculiar and there is an enormous variety of walls. And I feel it is important to document them before they disappear under ivy.

Ivy is taking over everywhere on the three islands as well as elsewhere in the country, and there are walls that are just about to disappear within the next year or two, so I thought somebody should put this down on paper because these walls were built not by stonemasons but farmers who also fished. The way they laid the stones, I was sketching yesterday a wall, where the stones are 'stitched' with vertical stones in between very poor stones, and the reason it works is because of these vertical stones placed here and there. The only place I've seen the equivalent to these, was in Pompeii where the Romans working with mortar and using very poor stones on a vernacular structure came up with the same idea of how to hold this wall together, and they're doing it here on the island as well and I thought this is something I'm personally interested in and you know that's where I am now.

Jim: As you say we are here at Féile na gCloch on Inis Oirr and you are one of the architects of getting this festival going on the island are you not?

Well it was very much Marie Mannion who is the heritage officer for Galway county council, and Paddy Crowe who was the manager of the cooperative on the island. In 2004/2005 the three of us happened to meet at Teagasc in Athenry, I was running a stone workshop there. I gave a talk to a large audience and then there was the workshop organised down on the farm. I was down there well ahead of everyone else and all of a sudden I could hear this crunch crunch crunch crunch of a big crowd of people on gravel who had all been supplied with glasses and gloves, they suddenly appeared over the top of the hill, there was about 150 people and

they were walking down the hill towards me. I was intending on demonstrating a little wall maybe 6 foot long , and they came and gathered around me and I suddenly realised they couldn't see me there was so many of them. I stood up on a stone to talk to them and Marie Mannion was there and Paddy Crowe and they said, Wow there is something amazing going on here, why don't we do this on Inis Oirr and in 2005 we held it here on Inis Oirr and it took off.

It was clear that people were interested in hearing about stone, there was one talk in Kilkenny once, we had to move rooms because 300 people turned up for a talk on stone walls and this was like in the late 90s so there is a huge interest in stone, there is a love for stone in Ireland and when Marie Mannion asked people in rural Galway what they considered heritage to be, most of them said stone walls.

So that's where the thing is now and people like you Jim, are obviously trying to record that, trying to bring back, hold on to that tradition, and get it down before it disappears and you see the worth of it. This is all part of a big story.

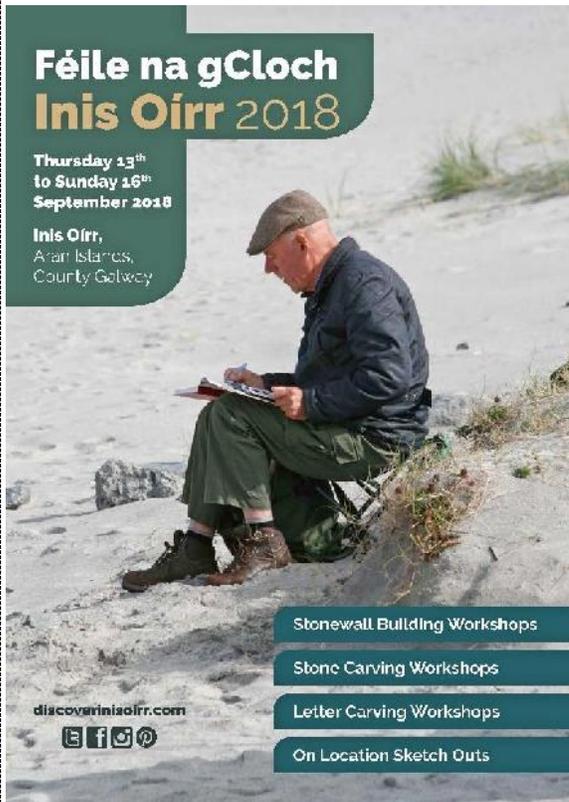
Jim: With the way that things have developed and with your legacy that you will leave behind you eventually, you must feel proud of what you have managed to achieve over the years?

I can't say I feel proud, I feel I could've done more. Especially in the early days. Things evolve, they haven't evolved in the way we build stone traditionally but they have evolved in mortars, really kind of rapidly recently in the last two or three years, there has been a re-look at mortars by stonemasons. The stonemasons began to read old texts. Nigel Copsey, a stonemason from Yorkshire, began to read the old texts. One winter he sat down and read 200 books, anything he could find that was written about mortars. What was written about them was by gentlemen, engineers and scholars around the 19th century, who were observing men working, often interpreting wrongly ,writing down things that weren't accurate, but out of this Nigel really confirmed what I believed, and what he believed and what an English stonemason working on a huge cathedral up Norway believed.

It was what the three of us were saying all along, we just couldn't put legs on it but Nigel Copsey really started looking at the academic side of things. He found a lot of people were looking at the wrong things, testing the wrong things and they had the wrong concepts about it and a lot of people were just copying other academics when really the only way forward was to go back to the crafts. Crafts have been forgotten in that sort of sense, there is a lot of stuff in crafts, and that's why it's so worthwhile that people like you try to gather that information and show the richness of it.

Jim: And what's your hope for the future in regards the development of stone working and mortars?

Proper apprenticeships, which we now have. We have a new registered apprenticeship programme in Tralee. Tom Little, the instructor who is here with us at Féile na gCloch this week, is a phenomenal stonecutter, stone-letter cutter, carver and instructor and he is taking maybe 14 apprentices at a time. He's probably on his third or fourth class by now which means he is probably got 40 to 50 already in there early years of an apprenticeship. They potentially are going to make a huge difference to this country because we haven't had a proper stonemasonry apprenticeship program in a very long time.



Pat sketches on the cover of the Féile na gCloch brochure for 2018

A note from Western Australia

On February 22 this year we received an email from Noel McConnell in Victoria, Western Australia. Noel was planning a trip to Ireland and was hoping for some tips on places to visit. What ensued was a delightful exchange of emails sharing information on here and there. Consequently, what Noel had told us of where he lives in and the history of the walls there it seemed it might make a nice article for the members newsletter. We mailed Noel to ask would he be interested and his response was positive and generous. A short while later Noel sent us the text and images for this article. Many thanks Noel for making the connection and for sending us on this lovely piece.

DRY STONE WALLS OF WESTERN AUSTRALIA By Noel McConnell

I come from a farm in a small locality called Kolora in Victoria in the south of Australia, which is fenced by dry stone walls constructed by my Irish ancestors. I am lucky to live in the stone wall abundant area of the basalt plains that make up the Western District of Victoria.

There are many varieties and styles that I guess if you knew enough about them might give clue to the origin of the builder. This area was mostly settled by the Irish from about 1860 with the larger properties being subdivided in the late 80's and then again in the early 1900's. There are also plenty of Scots and a few from England. My lot came from the North of Ireland in the Antrim areas.



The wall that makes up part of my farm boundary, built by my Grandfathers brother Billy McConnell in about 1900.

Typically, the walls in this area are double stone walls. And lesser common consumption walls. A style where there are boulders at the base with double walls from about half way up is also not unusual. The early settlers of the properties where there are consumption walls had ancestors who came from Cornwall, however I have not heard of them being stone wallers.

Victoria

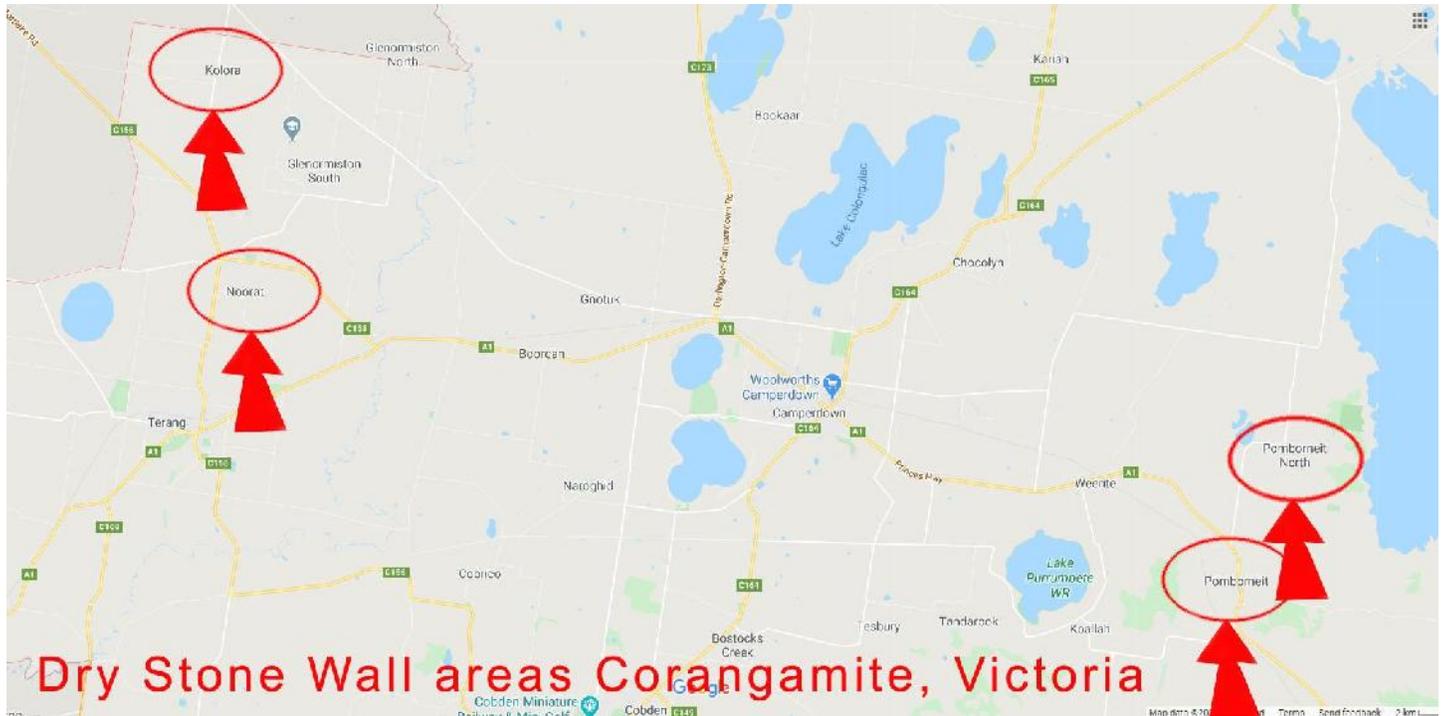
In the vast basalt plains of Victoria, dry stone walls were built mostly in the 1870s and 1880s after 1862 legislation divided up large squatter holdings and when unlucky prospectors returned from the goldfields.

The volcanic activity of the Western District shaped a landscape of plains covered with basalt rocks. The land needed clearing so it was logical to put the rocks



to good use. As a consequence, the most impressive network of dry stone walls in Australia was constructed, and many are still intact today. Although there is evidence, they were being built as early as the late 1840s, most appeared after the Gold Rush and the introduction of the rabbit.

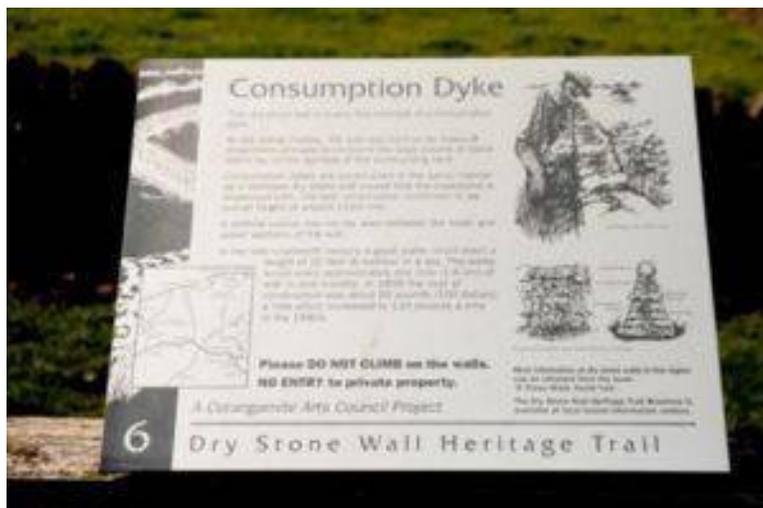
They thread across the western district from the SA border to Gippsland and the Yarra Ranges, east of Melbourne in 23 local government areas.



Corangamite Shire & The Corangamite Dry Stone Wall Heritage Trail

The dry stone walls in the Corangamite Shire form part of an extensive system of walls in south west Victoria which comprise the greatest network of walls in the country. Built by skilled wallers, the walls are distinguished by their function, variety, number, length, height and overall size. Some of the walls in Corangamite are the most technically accomplished, aesthetically pleasing and enduring in the state.

Corangamite Arts



Corangamite Arts has established the Corangamite Dry Stone Walls Heritage Trail which takes in 10 sections of the most diverse and significant walls in the district. Information boards at each site provide valuable details on the walls. Brochures for the self-drive Trail are available from Visitor Information Centres in Colac, Camperdown, Terang, Port Campbell, Mortlake and Warrnambool. They have also published with diagrams and illustrations the research on the history, styles, functions, building techniques and the builders of the walls.

The most impressive and extensive network of dry stone walls in Australia is found in the Western District of Victoria. The Corangamite Dry Stone Walls Heritage Trail established by Corangamite Arts includes some of the most significant walls in the region, at Pomborneit in the Stony Rises on the Princes Highway east of Camperdown, at Derrinallum, in the shadow of Mount Elephant on the Hamilton Highway and at Kolora to the west of Mount Noorat on the Terang Mortlake Road and the Terang Darlington Road.

The western plains of Victoria are among the world's greatest basalt plains. The volcanic activity over millions of years has shaped the landscape which is generally flat except for the volcanic cones.

These volcanic cones, sometime in the past, spouted out the lava which then formed the stones covering the plains. The youngest eruption points are less than 10,000 years old. The volcanic cones most visible in the Corangamite region are Mounts Porndon, Elephant (the lighthouse of the Western District), Leura, Noorat and Shadwell.



Wall with a large through stone at regular intervals



Consumption wall with rabbit proof wire mesh under the capping stone in foreground

The natural landscape was given new form and function by immigrants from the British Isles who began arriving in the middle of the 19th century. Realising the fertility of volcanic plains, they set about clearing the land first of natural vegetation and then of the surface stones in order to introduce stock and grow crops. The stone cleared from the ground provided the earliest, most convenient and practical building material.

Although most of the existing walls were built after the gold rush and after the introduction of the rabbit, there is evidence of dry stone walls in the western district from the late 1840s. These were carefully built after the paddocks had been cleared of stone in order to create enclosures, protect cultivated paddocks, livestock, homesteads, crops and as barriers against fires. A greater need for fencing arose when many shepherds and itinerant station hands fled to the goldfields to seek their fortune.



Corangamite Shire (Note the timber slat rabbit barriers under the copes)

From the 1870s many pastoralists began to rebuild earlier walls in an attempt to make their properties rabbit-proof. Several construction devices were used: overhanging copestones; wooden slats projecting under the copestones; wire stretching out from the top of the wall; trenches about a metre into the clay base (presumably impenetrable for the rabbits), plugging of holes in the wall to prevent the rabbits colonising the walls; and even asymmetrical walls with stepping stones up one side and a sheer wall on the other with overhanging copestones to prevent them coming back. The rabbit wall built by the Manifold brothers at Purrumbete in the 1880s is perhaps the most significant wall in the district standing up to two metres high. It originally ran continuously from Lake Corangamite to Lake Purrumbete.

Here's what historian Josie Black had to say about these walls:

The walls, most of which are on private property, are beautifully crafted and have functional, aesthetic and heritage value. They provide a blend of the natural and cultural history of the region and contribute to its special look and atmosphere.

Few could pass through the region without realizing their impact on the landscape. In some places, in the Stony Rises at Pomborneit and at Kolora north west of Mount Noorat, they dominate it. In fact some of the walls look as though they have always been there; looking so natural and in harmony with the environment. The walls in the Stony Rises are of national significance in terms of quantity, style, heritage, skill and empathy with the landscape.

The western plains of Victoria comprise one of the world's great basalt plains. The volcanic activity which has shaped the landscape, that is generally flat except for the volcanic cones, occurred in the relatively recent past, between 20,000 and 4,000 years ago. These volcanic cones as well as crater lakes were the result of volcanic activity which provided the natural materials for the walls.



Members Forum Photos Highlight

As many of you know, your membership includes access to our online members forum where we encourage members to share their dry stone photos and get involved in discussions. Here are two highlighted photos posted by members on the forum.



Inis Oirr, Aran Islands Photo: © Benjamin Malecki



BLOODY FORELAND, DONEGAL Photo: © Benjamin Malecki

Call for participation



Oral Expressions



Know-how



Celebrations



Performative Practices



Nature and Universe



Thematic Exhibitions



Events



Collections

The DIGITAL ICH Observatory is conducting a survey on Inventories & Intangible Cultural Heritage (ICH). With this survey we intend to study the practices and opinions of users of ICH inventories. The survey refers to the different domains of ICH - oral expressions (legends, folk tales, traditional songs ...); arts and crafts; social practices, celebrations and rituals; performing arts (popular theatre, traditional dance...) and knowledge and practices related to nature and the universe.

The sampling procedure is based on the snowball technique. So, **please feel free to disseminate this link among your relevant contacts** (ICH practitioners, representatives of communities, researchers, State entities, NGOs, heritage professionals, museums, ...).

This survey is anonymous. No information about your identity is asked. The data will only be used for statistical treatment. Estimated time to answer: less than 15 minutes.

You can find a link to the survey in the news section of the DSWAI website www.dswai.ie

Other Announcements



We are very sad to hear of the passing of Phelim Doran from Ballymartin in Co. Down, who passed away in January. Phelim was a master dry stone waller, building many boulder walls on the foothills of the Mourne Mountains and beyond. He also assisted the Mourne Heritage Trust with their conservation efforts, teaching the craft to many over the years.

He has been described as a 'true gentleman' and 'talented craftsman' by Martin Carey, the Chief Executive of the Mourne Heritage Trust. Phelim assisted the Trust with training and demonstrations on a number of occasions - as well as contributing a poem to one of their recent publications on stone walls. Which can be found on their website.

"Like other Mourne men of his generation, humility was perhaps Phelim's most overriding characteristic and he was the essence of a gentleman. There are few of us whose legacy will be as visible and tangible in the landscape as that of Phelim," Mr Carey also said the miles and miles of Mourne walls that he worked - including

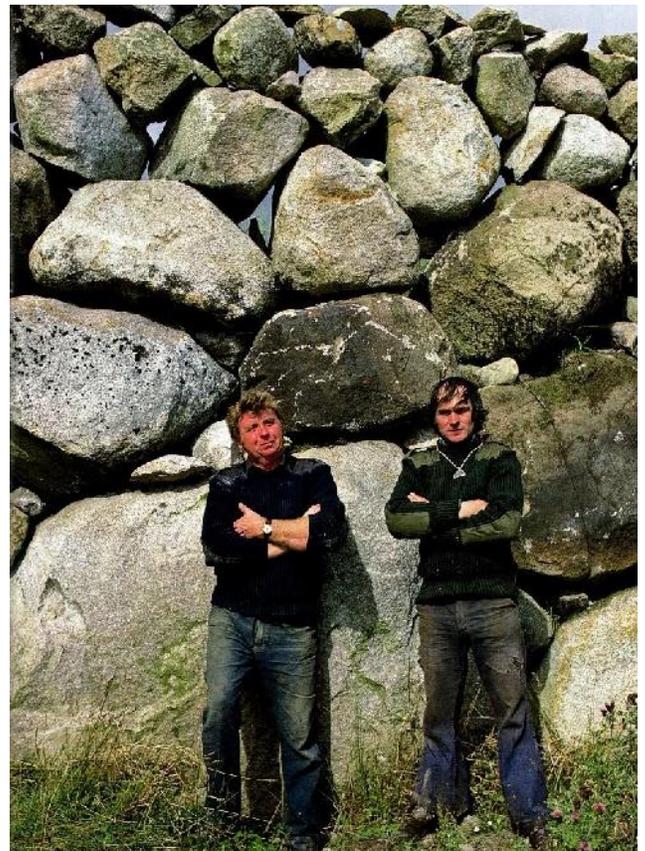
some quite some distance beyond Mourne itself, will stand testament to Phelim for many a day. (Quote from the Tullamore Tribune)

Phelim may not have been widely known within the DSWAI but his work has been appreciated from afar, predominately through a feature on his work in the 1998 book by Alen MacWeeney '**Ireland: Stone Walls & Fabled Landscapes**'

The image across from MacWeeney's book shows Phelim and his digger driving assistant Dermot Trainor standing in front of an impressive boulder wall they just completed some 15ft high.

DSWAI member Sunny Wieler had made contact with Phelim a few years ago and had planned to interview him on his next trip to the Mournes but sadly that trip had not happened yet. And while this opportunity has now sadly passed, we can still appreciate the lasting mark Phelim has made on the Mourne landscape through his own work and through the skills he has passed on too the future caretakers of these great walls.

Thank you Phelim for your love for our shared dry stone heritage and for helping keep the craft alive. May you rest in peace.



Phelim pictured in the 1998 book by Alen MacWeeney 'Ireland: Stone Walls & Fabled Landscapes'. Image courtesy of the author.

Contributions



We encourage all members to submit articles, photos and news for inclusion in our newsletter. Admin team would be delighted to receive photos, articles and letters from the membership on dry stone related topics so please do send us your stuff by contacting admin at info@dswai.ie. We look forward to hearing from you.

Kind regards,

From all the DSWAI admin volunteers and board of Directors.

A Parting Note



These slits or gaps in the dry stone retaining wall to the rear of the main inner enclosure, the north peak of Skellig Michael.

These regularly spaced built slots in this dry stone retaining wall left us puzzled when visiting Skellig Michael a few years ago.

One suggested use is slots for poles related to an early form of lighthouse used by the monks?

Is it possible that torches or flags on poles were hung from poles dropped into these slots?

Or was there another use for them?

Are they related to water collection for the cistern not a significant distance downhill from here?

Or are they some structural elements relating to a wooden building at this location? Note the quite large and significantly projecting cornerstone at $\frac{3}{4}$ way up on the right hand side.

This must surely be related in some way?

If you know or have any idea why not drop us an email.



Preserve
Help
Teach
Association
Culture
Learn
Wall
Education
Landscape
Farm
Heritage
Protect
Community
Stone
Promote

**Promoting an awareness of the craft
of dry stone building in Ireland.**



www.dswai.ie

Email: info@dswai.ie Tel: 087 6076762