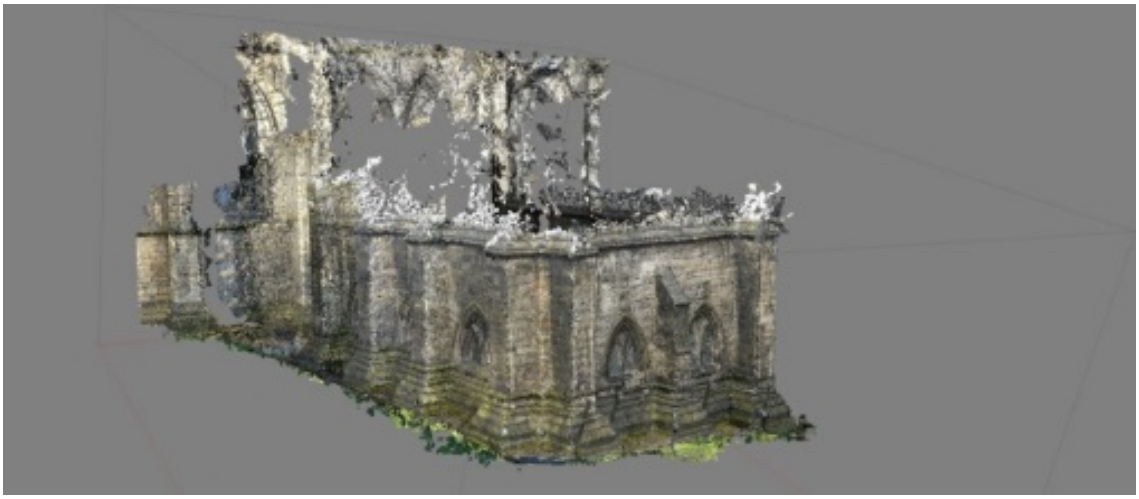
ACCORD Blog: Sept 2013-June2015

https://accordproject.wordpress.com/



Thank You For Taking Part!

Posted on June 15, 2015 by mhairimaxwell

In these past 18 months ACCORD has worked together with 10 groups across the length and breadth of Scotland, created over 50 GB of data including 17 fantastic 3D models and 23 Reflectance Transformation Images. We have had over 4,000 hits on our blog and have amassed 400 followers on Twitter. And snooker ball sales in Scotland have gone through the roof (only kidding!). Think it's fair to say we have started something…

A huge thank you to all who have participated in ACCORD, contributed to the blog, and passed on knowledge and skills to others- we hope that the conversation continues. If you would like to contribute something to the blog in the future we will keep it open for business. Please send along text, media and images to S.Jeffrey@gsa.ac.uk or M.Maxwell@gsa.ac.uk

The ACCORD archive is now in its final stage of preparations for uploading onto the Archaeology Data Service where it will be accessible for all to use freely under a Creative Commons License. We are the first project of its kind in Scotland to create such a varied resource of 3D digital data of all types of heritage (from rock-art to rock-climbs) chosen, designed and made by communities themselves. These models, enriched with statements of social significance, are the legacy of ACCORD.

Keep clicking and sharing!
Signing off for now,
Mhairi, Stuart, Alex, Cara and Sian

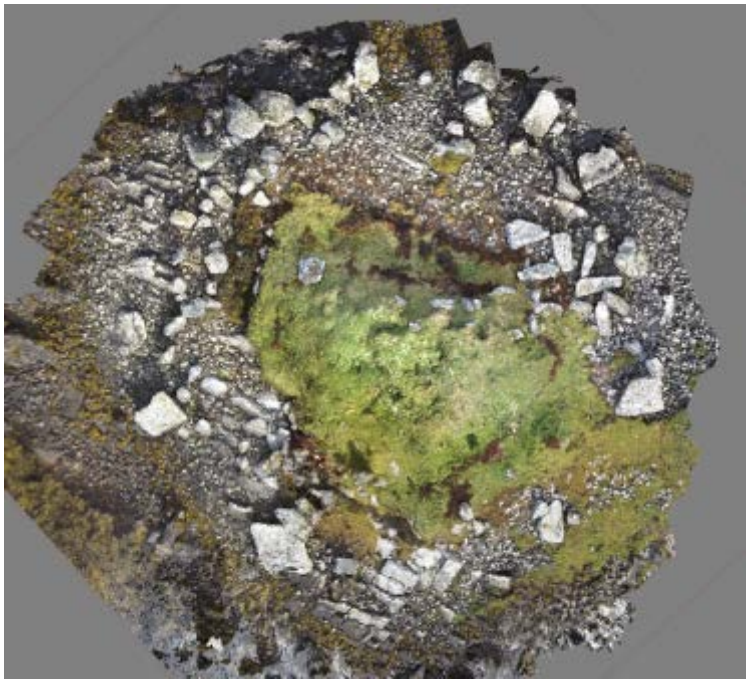
More 3D models from Uist!

Posted on February 23, 2015 by mhairimaxwell

David Newman from the Access Archaeology group, Uist, writes…

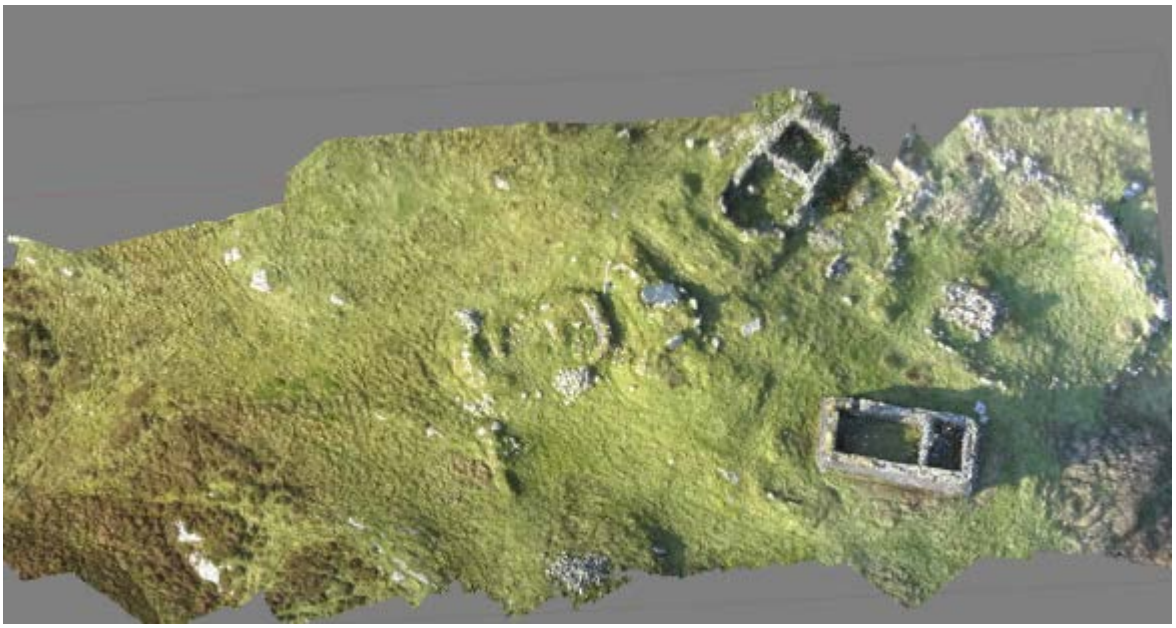
During the autumn of 2014 Uist community members have continued to use their ACCORD training last summer to produce more 3D models and images of archaeological sites on Uist.

These included an aerial record of a Neolithic cairn on the northern shore of South Uist currently on the red list of sites threatened by rising sea levels and being monitored under the SCAPE SCHARP project. This site now floods regularly during spring high tides and the imaging will provide a valuable comparative record to establish if the site is being eroded or not.



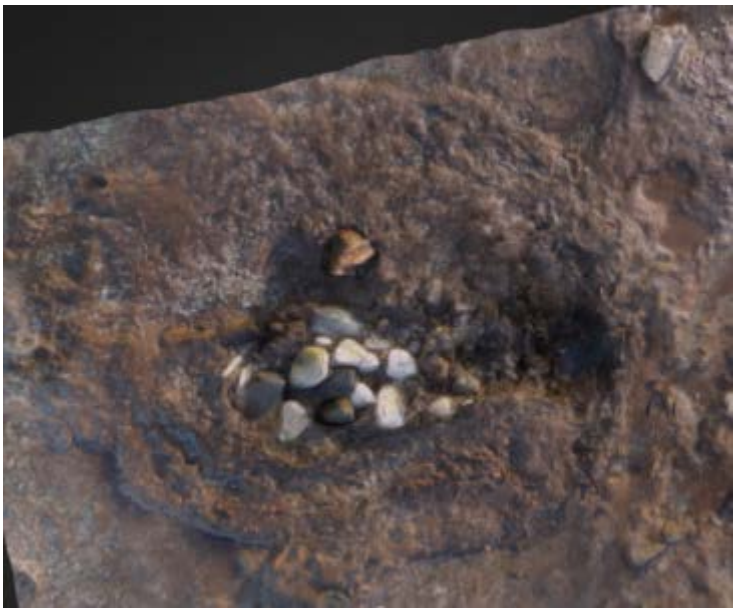
Aerial plan view of Sig More possible chambered cairn South Uist. David Newman, Access Archaeology. (David Newman, Access Archaeology)

A similar record was made of a remote but well known archaeological site on the east side of Benbecula which is recorded as both a farmstead settlement and a cup-marked slab. The imaging showed not only the possibility that the slab could be related to a former cairn, but that two possible roundhouses existed on the site, half of the walls of one being incorporated into an old byre!



Aerial plan view of Hacklett Uachdar farmstead and cup marked stone, Benbecula. (David Newman, Access Archaeology)

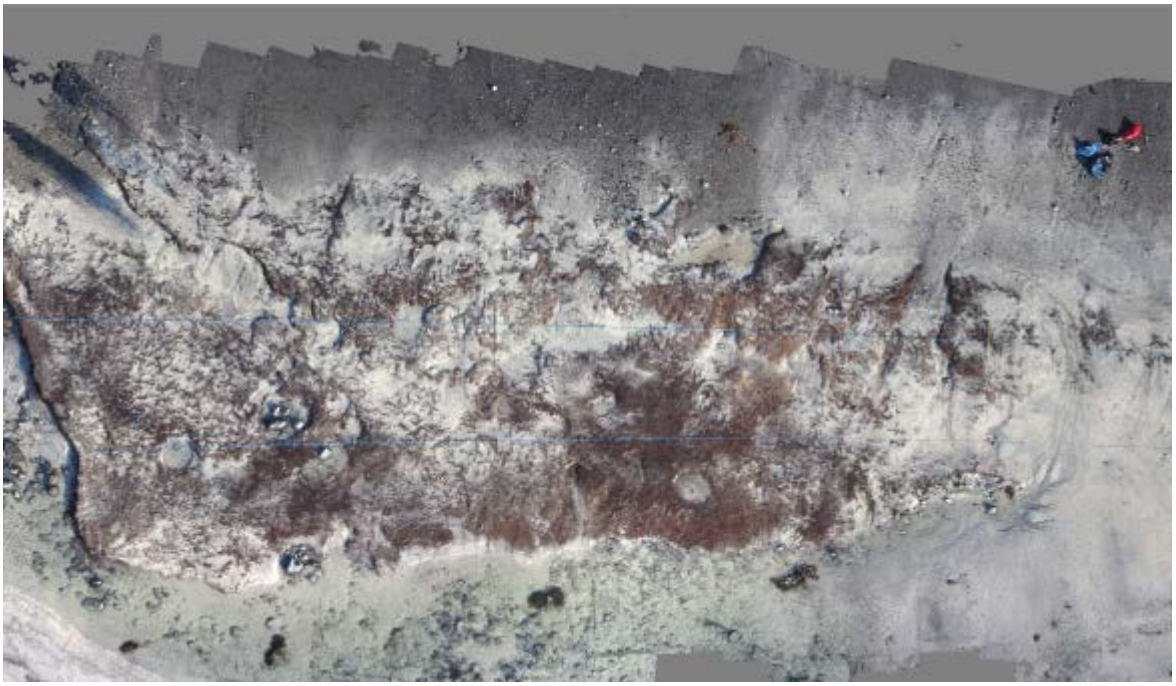
In early November 2014 local ornithologist Roger Auger noticed an oddly shaped feature on a beach on the west side of North Uist in an area of mud and silt newly exposed after a recent storm. This turned out to be the remains of an oval basket containing bones and quartz blades which became known as the 'Baleshare basket' and caused some excitement in the Scottish archaeological community.



Baleshare basket detail. (Richard Auger and David Newman, Access Archaeology)

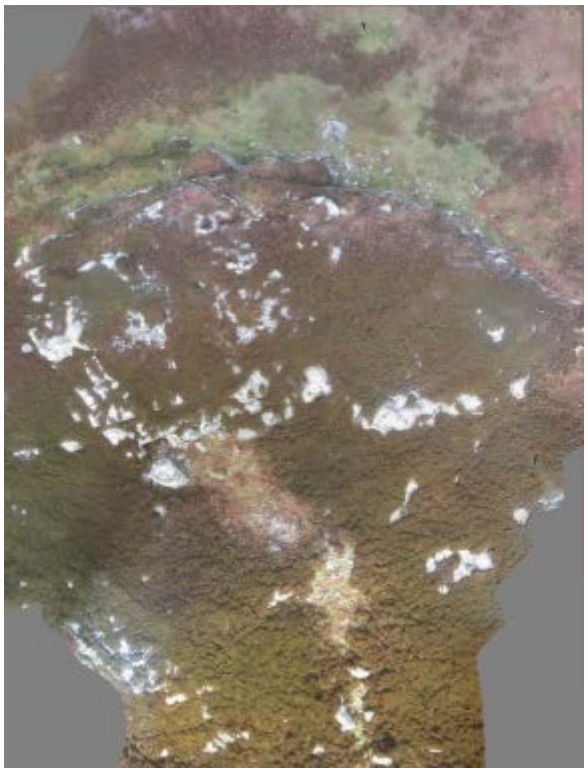
Following a visit by the Western Isles County Archaeologist a specialist recovery team from Edinburgh was commissioned to remove it a few days later and it is now in storage awaiting investigation. 3D imaging was used to record the basket and contents and the surrounding

silt bank which included other pits and grooves, and animal and possibly human footprints. This find is likely to have an early date as it lay under Iron Age deposits that were washed away in the 2005 hurricane.



Baleshare basket whole site. (David Newman, Access Archaeology)

In late November during a field walking trip on the remote and uninhabited east side of North Uist, Roger Auger, David Newman and Simon Davies discovered a significant set of stone structures hidden in thick heather on a rocky knoll which had never been previously recorded. These included several small circular stone walled cells partly underground, one of which has around 1/3 of its corbelled stone roof intact and another a stone lined entrance passage which may have been up to 10m long originally. And, lying out on the ground surface amongst the remains, was a saddle quern complete with its rubbing stone in position. Using drone, kite and pole mounted cameras to produce 3D photo models the site layout was recorded to a very reasonable standard in just two visits.



Bagh Moraig North Uist whole site. (David Newman, Access Archaeology)

The Uist Access Archaeology group has come to realise that in difficult or remote access situations or when time is short such as between tides, 3D photo imaging is an extremely useful tool in making relatively accurate preliminary site records of archaeological sites, in the minimum amount of time, with simple equipment that most people already have to hand. With an aerial component the imaging can also help reveal not only a wider site context, but also help identify other possible structures not immediately evident on the ground.

More info here! https://scharpblog.wordpress.com/2015/02/23/a-blog-post-from-uist-the-view-from-scharp-volunteers/

3D photogrammetric model of the saddle quern at Bagh Moraig. (David Newman, Access Archaeology)

EFTER DEATHE REMAINS VERTEW, By Preston McFarland

Posted on January 22, 2015 by mhairimaxwell

I never thought that while on an archeology dig in the Loch Lomond area I'd be using clever computing power for recording and research. I use similar technologies at work and my trip to Loch Lomond was supposed to be something different, a change of pace so to speak. I suppose I shouldn't have been too surprised when the ACCORD project came out to meet our group and introduce photogrammetry.

Our introduction to the program was from Project partners Dr. Stuart Jeffrey and Dr. Mhairi Maxwell. Over the summer of 2014 the ACCORD team have been traveling across Scotland to engage local communities with photogrammetry and other 3D visualization techniques. Without a doubt, their visit was the highlight of my trip.

The technology itself is relatively straightforward to use. Find something you want to model, take a bunch of pictures, and use some software to stitch it all together into a 3D model (we used Agisoft Photoscan). Now there is more to it than that, but that's the process in a nutshell.

Our original intent was to reproduce only the dig site on Tarbet Isle, north Loch Lomond. However, after seeing how the process worked I asked if they'd be willing to help me do the MacFarlane stones south along the shoreline in Luss. I really wanted to be able to capture and share that piece of our history.

If you ever visit the church you might miss the stones if you're not looking up. My first time there, I walked completely around the church looking for them not realizing I had walked under them twice. They're situated in the north wall and sit probably around 10 – 12' feet in the air.

The MacFarlane Stones in Luss Church, 1875 – Current. (Preston McFarland)

Little is known about these stones. Our best source of information comes from Sir William Fraser in his book The Chiefs of Colquhoun and Their Country, Vol 2 (1869).

“The present church of Luss was built entirely at the expense of Sir James Colquhoun of Luss in the year 1771 and is seated for 500 persons. It stands at the distance of only a few feet from the old church of which a part of the wall of the chancel still remains at the north side of the present church. The spot on which it is built formed part of the churchyard of the old church. The first church of Luss after the Reformation stood on the same site as the old. It was what is called a ‘theekit’ church having been covered with thatch according to the practice of the times. The present church encloses a portion of the ground on which was the vault or place of interment of the Macfarlanes of Arrochar. Of this vault the only fragment that now remains is a stone which originally formed part of it and which has been built into the north wall of the present church It bears the following inscription:

HERE IS THE PLACE OF BVRIAL

APPOINTIT FOR THE LAIRD

OF AROQVHAR BUILDIT BE

JHONE MACFARLAN LAIRD

THAIROF 1612

EFTER . DEATHE .

REMAINIS . VERTEW .

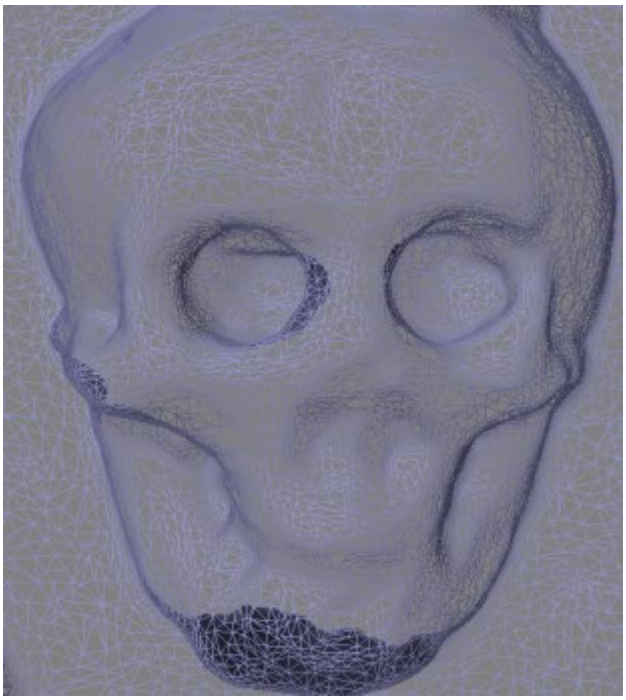
MEMENTO . MORI .

J . M . 1612 .

The building that we see today was built in 1875 and is the 3rd church to occupy the site after the stones were carved. However, there has been a church on the site since 510 A.D.There’s little doubt that this land was sacred to the MacFarlanes even after it passed to into the care of the Colquhouns.

In the 400 years since the stones were carved, time has taken a toll. Much of the text in the middle stone is now erased and what remains is hard to read. In another 400 it’s doubtful that the stones will be legible at all, if they still exist.

Using the techniques the ACCORD program is promoting, we now have a high quality 3D model of the stones that can persist indefinitely. This next image shows the model. Notice how it’s composed of triangles. In modeling terms, we call these polygons. The more polygons you have the better the detail. This particular model contains about 10.2 million polygons (That’s remarkable!). Polygons by themselves create form and detail, but you need texture if you want the color and realism.



Meshed 3D model produced by Agisoft PhotoScan. (Preston McFarland).

This image shows the model once the texture (coloring) has been applied.

Textured 3D model produced by Agisoft PhotoScan. (Preston McFarland)

I really like how it's captured the lichens and moss. It truly is quite incredible.

Once the model has been created, I sent it to my local 3D printer company and had them print a 4' copy. Here you can see it in my hand. The precision of the print is really impressive. There's even a bit of green moss up on the bones.

I now feel as if we've preserved this small piece of our heritage. It could be 100 or 1000 years from now and someone will be able to reproduce the MacFarlane stones with high quality. The model exceeds the resolution of today's printers, but I'm sure tomorrow's printers will even be better.

My printed 4’’x4’’ copy! (Preston McFarland)

I haven’t forgotten about the model for Tarbet Isle, however the processing requirements are quite large and it will take time to get right. Stay tuned!

What have we been up to?

Posted on December 18, 2014 by mhairimaxwell

Well, it has been a busy few weeks! I am busy beavering away in the Digital Design Studio, archiving all the results to go on the Archaeology Data Service early next year. Occasionally, I am distracted by the 3D printer!

3D print of the Monteith Mausoleum, Glasgow Necropolis. Printed from the photogrammetic model made by ACCORD with the Friends of the Glasgow Necropolis.

And, only yesterday Alex Hale (ACCORD co-investigator based at RCAHMS) and I returned from **TAG**, short for the 'Theoretical Archaeology Group', conference held in Manchester 15th -17th December. ACCORD had not just one paper, but two! This is a very popular conference, founded back in 1979, attracting people from all over the world to hear the latest developments in theory & practice in archaeology.

TAG! Annual archaeology conference, this year held in Manchester University.

First of all, in the session 'OK:Computer, Digital Public Archaeologies in Practice' (the organiser a fan of Radiohead perchance?), I introduced our work made together with communities collaborating in ACCORD. In particular, I showcased how the techniques of photogrammetry and RTI can be used for a range of different community heritage projects in a variety of different places and contexts. People who spoke to me after were excited with the results we have achieved together & in general the technical accessibility of the technologies. However other issues of barriers to access (wifi/ broadband access in remote areas, the quality of results achieved on free versus pay-for software, and the language of experts) were raised in the discussion. We would be keen to hear more on this from you! Do you feel confident in using these technologies for recording, promoting or communicating your heritage? Please add comments to this post by clicking on the speech bubble.

Secondly, Alex Hale presented ACCORD's collaboration with the Dumbarton Rock-climbers in the 'Archaeology of Sport: Theory, Method & Practice' session. Our presentation, co-written with John Watson and John Hutchinson, who are both regular climbers at Dumbarton and active participants on this project, is below as a video. We also played this short vid, which really encapsulates the materiality of Dumby https://www.youtube.com/watch?v=14Y-Amigci0

This session was really successful at bringing to attention the value of contemporary sport heritage and how it can add new perspectives to archaeological interpretation. For example, as contemporary expressions of community, identity and tradition. And, now my boyfriend may even be able to tempt me to a football match!

For more information on the sessions please follow this link: http://www.tag-manchester.org/?page_id=113

And check out the live tweets using the hashtags **#sportarch #TAG2014**

And for more info on Dumby, check out the blog posts at http://stonecountry.blogspot.com/2014/12/invisible-archaeology-dumbarton-rock.html

Mhairi Maxwell (ACCORD RA) 18th December 2014

ACCORD in Bressay, Shetland

Posted on November 20, 2014 by mhairimaxwell

John Scott of the Bressay History Group writes on when ACCORD came to Shetland to record the old township of Cullingsburgh on the island of Bressay…

The 8th October saw Bernard Redman, John Scott, Jane Manson, Beatrice Lowe and Chris Dyer of the Bressay History Group at the Bressay Heritage Centre waiting apprehensively for the indomitable two, Mhairi Maxwell and Cara Jones, who had arrived in Lerwick 27 hours later than they intended due to high seas. We sat down for the afternoon while Mhairi introduced the ideas behind photogrammetry and RTI and how in practice it all worked. Sounded like magic but she did not look like a witch so was spared. Then Cara asked each of us about our origins and interests and how we came to be living in Bressay. One answer being "Mum and Dad must have been too close in bed". We also realised that our group was part of the research project, so we would be sharing our work with others. However, the round the table start was good as the next morning we set out for the site knowing each other better (and Cara feeling a lot better) and what we were going to tackle.

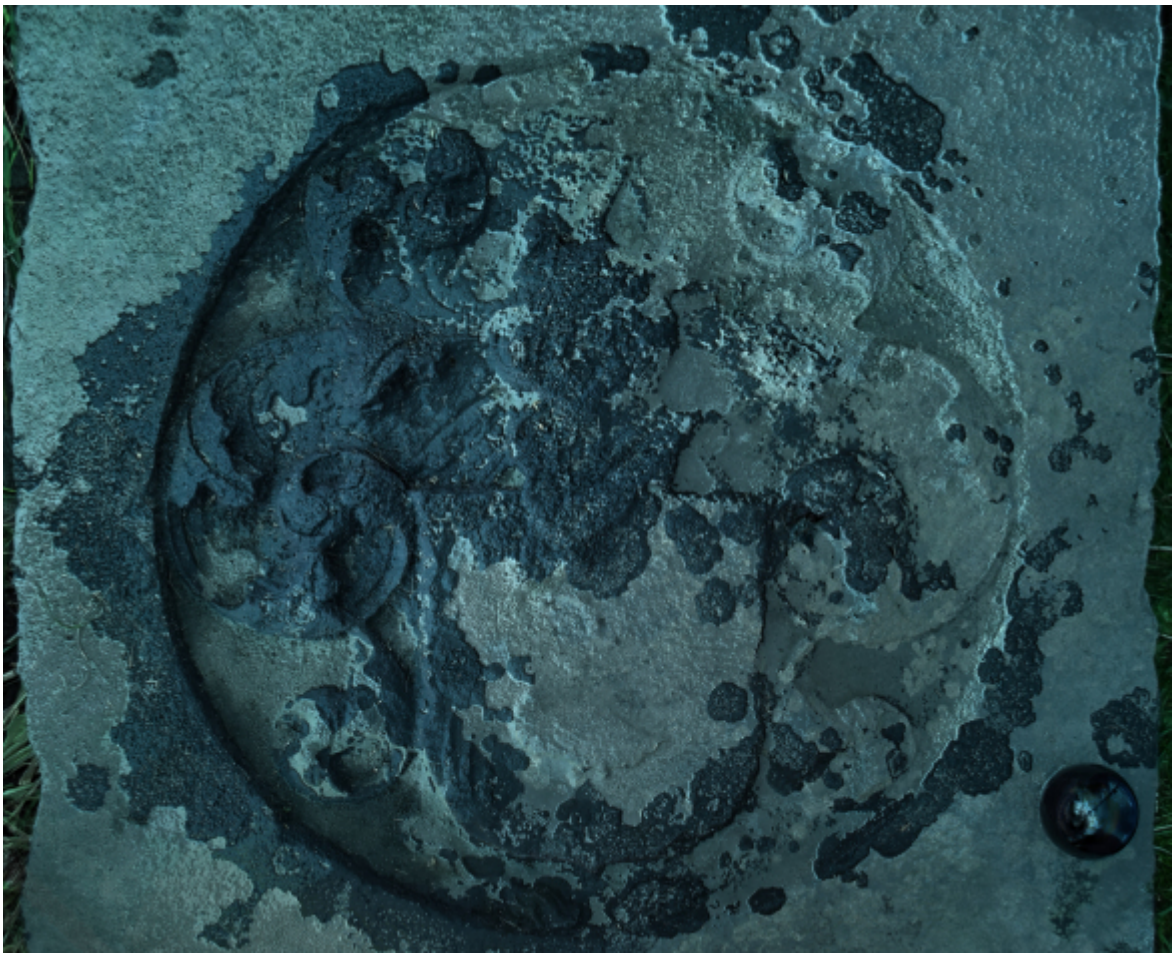
Jane Manson of the Bressay History group telling us all about Cullingsburgh Manse and how her relative was the last to live here in this township sometime in the 18th Century.

The site was at Cullingsburgh on the East side of Bressay. Multilayered archaeology of prehistoric field divisions topped by bronze age Burnt Mounds, an iron age Broch, a pictish carved stone, norse longhouses, the medieval cross kirk of St Mary and an abandoned crofting township. An area we, the Bressay History Group, have long intended to survey and explore. It is a green and fertile peninsula with low rocky shores home to seals and otters, a

wildflower heaven on a summer's day, open to the north wind in winter. Our chosen targets were a 1636 grave stone and the roofless manse in the township.

The grave stone of Commander Claes Jansen Bruyn

Within the kirkyard lies this memorial stone to the Commander of the Amboina, a vessel of the Dutch East India Company. She had sailed as escort from Surat in the Indian Ocean on 9th February 1636, had been delayed so missed the Dutch convoy at the Cape of Good Hope, left Table Bay on 9th May for a terrible voyage of headwinds and disease amongst the crew. The Amboina turned up in the Bressay Sound on 24th August with 29 of her crew perished, her Commander dying and only "20 healthy men remained, who, not being able to govern the ship, have, with great good fortune, reached harbour." Commander Bruyn died on 27th August. Later the memorial stone must have been shipped from Holland to mark his grave here at Cullingsburgh.



RTI image of Commander Claes Jansen Bruyn's crest on his grave, at Cullingsburgh kirk. He died 27th August 1636. It is now much eroded, if you look closely RTI has revealed the swan on the shield and enhanced the details of the fleur de lis.

The grave stone was recorded in the Inventory of Ancient Monuments in 1928 and it is evident that the surface has been eroded since then. We decided to use the magic arts of RTI to record its present state and decipher the lettering and design which can no longer be clear to the naked eye. Mhairi persuaded us to mount the camera on its tripod over the grave slab,

place the shiny ball, take up the torches and envelope ourselves in a green tarpaulin. No stranger site has been seen in the kirkyard for many moons. We followed her instructions processing on the computer the results.

The Manse of Cullingsburgh

Cullingsburgh Manse, Bressay, Sheltand.

Jane Manson and John Scott with the magic pole capturing the photographs of Cullingburgh Manse with the Magic Pole (!) for our 3D model.

This building stands amongst the croft houses of similar size. We think that the last Minister to live at Cunningsburgh removed about 1737. We know that the last inhabitant of the house was Lowrie Manson who died in 1897. This was the end of human occupation of the

township. We decided to record the building by photogrammetry. Using three cameras, one atop the pole and recorded on the computer, we took some 900 photos. We then collected ourselves and our kit and headed back to the shelter of the Heritage centre for lunch and the afternoon.

Here we fed in all the photos into the two programmes on the computer, which instead of bursting into flames began to hum away to itself. Slowly the photogrammetrical image of the Manse began to emerge and we could look all round it from any direction flying and hovering wherever we wished. The image grew in detail to a remarkable degree. We did likewise with the RTI programme and eventually received the clearly decipherable images of the family crest and lettering.

Photogrammetry model in progress of Cullinsburgh Manse, processed using Agisoft Photoscan.

The Bressay group found the whole exercise a stimulating and exciting experience. We will build on it. We do wish to thank Mhairi and Cara for their patience, brilliance and good company.

John Scott

King of the Castle!

Posted on November 7, 2014 by mhairimaxwell

The Accord crew were back with the How Old Are Yew group in Castlemilk this week where we met with Kenny Hunter who is the artist responsible for the sculpture 'King of the Castle' and – we can proudly boast- a Glasgow School of Art alumni! Since it was erected in 1999, the artwork has enjoyed a rich and varied life – sometimes a proud Rangers supporter and other days a committed Celtic fan!! This rascal is much loved by the local community, and was chosen by the 'How Old Are Yew' Castlemilk history group to be modeled in 3D. You can find a work-in-progress PDF of our 3D model in the attachment (download the attachment to your computer, open in the latest Adobe PDF, and be amazed!).KingoftheCastle2_3_11_14

Jean Devlin, a member of the 'How Old Are Yew' group did a wee bit of extra research and wrote on the Castlemilk History facebook page:

The King of the Castle has had a wee restoration done on him just recently …
After further research by the Castlemilk History Group today, we found out that this was the caption which was on the original coating at the foot of "The King of The Castle"…
"Somewhere in the distance is my Future"… It was written by a member of the Castlemilk writer's group at the time, of which Des Dillon was the writer in residence …

King of the Castle, Kenny Hunter, 1999.

The How Old Are yew history group taking photographs and speaking with artist Kenny Hunter.

How to build 3D models using aerial videos: the Access Archaeology group pass on their experience

Posted on October 27, 2014 by mhairimaxwell

Although the Uist group helped the ACCORD team produce a brilliant set of 3D images of the best preserved wheelhouse on Uist during their stay, after they left we felt rather overwhelmed by the computing power required to deliver 3D imaging of any scale when working offline. However the potential of this technique for recording some of the thousands of archaeological sites on Uist would not go away and we were keen to work out how at least to test the software with a basic laptop or PC of the kind that most community members have at home. We also felt that aerial photography was a good way of getting a good general overview of some of the bigger sites – we had been testing a basic kite rig over the summer and using it to mesh 2D photographic views that could also be used to generate plan drawings.

As the kite rig took pictures using video it was suddenly realised that rather than dealing with digital still images of between 2-10mB each, extracted stills from video film are only around 150kB in size and the 50 or so of these required to generate a half decent 3D image would only be a 7.5MB file rather than up to 0.5GB for full size stills. Using these small images, rather than waiting hours for a result, you will see something in a few minutes.

This enigmatic and unrecorded site was only recently discovered by a local resident in a remote peninsula on the island of Grimsay. It comprises a long natural rock outcrop jutting out into a marshy area, which has at one end a curious V shaped plan structure with corbelled rubble walls and a water basin at its node point. The image is made up of around 30 no 150kB digital stills taken off a video recorded by a Canon Ixus 220 camera suspended from a Cody kite. Copyright: David Newman.

The remote moorland on the east side of Uist has hundreds of shieling mounds scattered across its hills, some alone, some in groups of up to 15, where families used to spend summers grazing their cattle away from the machair townships. Many of these sites are unrecorded and some of the larger mounds show clear signs of earlier settlement lying under 18th/19thC shieling structures. This remote example is one of the largest so far discovered and includes the remains of four separate stone buildings on its summit and west facing slope. A smaller partner mound on the other side of the adjoining burn has been partly eroded revealing some of its sectional structure. The image is made up of around 80 no 150kB digital stills taken off a video recorded by a Canon Ixus 220 camera suspended from a Cody kite. Copyright: David Newman

So the Uist ACCORD group recommends the following procedure as a start up 3D imaging idea:

1. take a video rather than stills of your site remembering to cover all angles (no kite needed!),

2. abstract around 50 still shots,

3. download the freeware version of Agisoft PhotoScan and the very useful pdf instructions, load up your photos and run the software (the 'workflow' tab is key!) be amazed at the results of your work.

Clearly the detailed quality of imaging isn't nearly as good as it would be with high resolution stills, but it will get you used to both the techniques, the software and the abilities of your own computer. When you are reassured you have mastered the technology, you can be more confident about setting your PC up to run overnight.

Good imaging!

David Newman, October 2014.

The Uist ACCORD group included: Simon Davies, Ian and Felicity Bramwell, Catherine Macleod, Calum Fraser, Austen Dancey and David Newman

Useful tip on how to sharpen a 3D still in Photoshop!

Posted on October 15, 2014 by mhairimaxwell

On the 4th and 5th of October we were in Kirkcudbright, Dumfries and Galloway, working together with the local History Society. Using photogrammetry we recorded selected tombstones in Kirkcudbright Kirkyard in 3D- and the results were fantastic! One of these was the headstone dedicated to 'Billy' Marshall, a traveler and 'King of the Gypsies' who apparently married at least 17 times and lived to the 'advanced age of 120 years!' Find out more about him on his Wikipedia entry here.

One of the group members, George Wishart has passed on this very helpful tip for sharpening stills from 3D PDFs, so you can get an image like this:

3D model of Billy Marshall's headstone, made by the Kirkcudbright History Society and ACCORD.

"3D PDFs do not open in Photoshop. However if I rotate the image to the desired position, I can then capture it using "Print Screen". Ctrl v opens it in Photoshop. I can then crop the desired part to A4. That can then be sharpened. I like to use a duplicate layer with high pass filter in the duplicate layer which I then blend in overlay mode. The image can then be flattened and saved as a jpeg. Worked well on William Marshall." George Wishart, October 2014.

Thanks George! Please do keep passing on tips and hints, either by using the reply tabs on the blog here, or email them to M.Maxwell@gsa.ac.uk and I will post them for you.

Falstaff in 3D!

Posted on October 3, 2014 by mhairimaxwell
1

"All's one for that."
[He drinks]… History of Henry IV, Part I Act 2, Scene 4.

Work in progress of a 3D model of the Shakespearean character Falstaff, currently in Calderglen Country Park, East Kilbride. Made by the How Old Are Yew group, based in Castlemilk, Glasgow.

Unfinished 3D Photogrammetric model of the Falstaff sculpture in Calderglen Country Park, made by the How Old Are Yew group.

The Craw Stane in 3D!

Posted on August 31, 2014 by mhairimaxwell
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CrawStane (Adobe PDF file, make sure you have the latest version. Will not currently work in your browser- you must left click to download & save on your desktop/ in your documents and then open. Be patient, it is a 44.8MB file- and then bingo! Be amazed.)

Check this out! A model made out of only 130 photographs and then processed using Agisoft photoscan, by the Rhynie Woman group in Rhynie, Aberdeenshire. We think there is some more detail revealed… what do you see?

Recording the Stones at Camas nan Geall and St Comghan's Churchyard, Ardnamurchan

Posted on August 13, 2014 by mhairimaxwell
1

Jon Haylett, member of the Ardnamurchan Community Archaeology group writes…

Members of Ardnamurchan Community Archaeology spent the weekend (8th to 10th of August) working with the ACCORD Project, which works together with local groups in the digital recording of heritage places or objects. Organised by Archaeology Scotland's Project Manager Cara Jones (at left in picture), it involved two of ACCORD's researchers, Dr Mhairi Maxwell (standing next to Cara) and Dr Stuart Jeffrey who are based at the Digital Design Studio at the Glasgow School of Art.

The team at Camas Nan Geall, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

ACCORD were very keen that we should drive the training days, so we chose the graveyard at Camas nan Geall and St Comghan's churchyard in Kilchoan as containing monuments which we felt were of considerable significance but which were also in need of recording since they are exposed to continuous weathering.

The team at work at Camas Nan Geall, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

Recording the multiperiod standing stone/ Early Medieval cross-slab using photogrammetry at Camas Nan Geall, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

At *Camas nan Geall* we used the standing stone as a model for photogrammetry, which turns digital photographs into 3D digital models. Since the process improves with the number of pictures taken, we took as many pictures as possible, guided by Stuart (centre), ACCORD's lead investigator.

Taking pictures round the sides was easy enough, but to complete the model Stuart demonstrated a telescopic holder which, using a camera which is controlled by wi-fi, enabled us to take pictures of the top of the stone. Andrew Perkins, right, is operating the camera from a tablet.

With the graveyard recently cleared by ACA members, it was an ideal time to record the 18th century gravestones.

17th Century graveslabs, possibly belonging to the Campbells, at Camas Nan Geall, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

To do this, we were taught a second technique, Reflectance Transformation Imaging, which is designed to bring up features which, to the eye and in on ordinary photographs, are lost. This process is great fun in that….

Our RTI tent (!) at Camas Nan Geall, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

….it has to be done in darkness so, to the amusement of passers-by, tarpaulins were carefully stretched across the stones and most of the group squeezed under them.

With a camera held securely on a tripod, and a torch which is angled low across the face of the stone and moved into several positions, twenty or so pictures were taken of each stone which, when processed by the software, brought out many hidden features.

On Sunday we spent time in St Comghan's churchyard. It contains a number of grave slabs which are dated to the 14th or 15th century and according to local folklore may have been brought here from Iona. The stone in this picture is much smaller than the grave slabs but has an interesting design on it.

Intricate 14th/15th Century graveslab in Kilchoan Parish Churchyard, Ardnamurchan. Photo taken by Jon Haylett of the ACA group.

Sadly, Sunday saw some very heavy rain. This we could cope with, particularly those under the tarpaulin (there are five under it!), but the midges were out in force and were no respecters of archaeological research, so the day's outside work was somewhat curtailed.

Kilchoan Parish Church, Ardnamurchan. Using RTI to record the 14th/15th century graveslabs in the rain & vicious midges. Photo taken by Jon Haylett of the ACA group.

As part of the course, we had an initial, brief look at the pictures the software can produce, and the results were spectacular, but huge amount of data remain which ACA members are now beginning to process. We hope to be able to publish this soon in the hope that these digital pictures will help to put Ardnamurchan even more firmly on the archaeological map, but we also hope that they will be enjoyed by those who are unable to visit the sites.

Many thanks to Cara, Mhairi and Stuart for a super weekend.

Jon Haylett, member of the Ardnamurchan Community Archaeology group.

Read Jon's blogs at Mingary Castle, A Kilchoan Diary and West Ardnamurchan News

Canmore entries for the sites can be found here: Camas Nan Geall and Kilchoan Old Parish Church

From Gallipoli to Colintraive – Todd Ferguson of the ColGlen Archaeology Group reflects on the digital recording of a WW1 memorial…

Posted on July 30, 2014 by mhairimaxwell

On a rather fine Saturday morning in June, the ColGlen Archaeology Group came together to take part in the final session with Dr. Stuart Jeffrey, Dr. Mhairi Maxwell from ACCORD – they also brought along a friend of theirs', Alistair Rawlinson from DDS, the world's leading expert on laser scanning historical monuments. We all felt very privileged to have Al doing the scans, especially on learning he traveled all over the globe using the same technique and equipment on sites such as Mount Rushmore.

Stuart prepared the agenda for the weekend and did his best to scare us with words like LIDR and Photogrammetry which we all now know is the science of making measurements from photographs, especially for recovering the exact positions of surface points or in the ColGlen Archeology Group vernacular direct from our very own Cathy Grant "It's like magic".

This brings me to a site in Colintraive that is very dear to my own heart, having spent almost 20 years living in Australia and New Zealand. Gallipoli, during World War One, is an event etched in the stone memorials and hearts of every ANZAC. The 25th April celebrations are a national holiday where we are reminded 'Lest We Forget' – not to mention the only time of the year we can partake in a gambling game of 'Two Up' between 12 and 5pm, a popular game amongst the ANZAC's.

Having fun under the tarp! The ColGlen group taking photographs using the Magic Pole to create a photogrammetric model of the WW1 memorial.

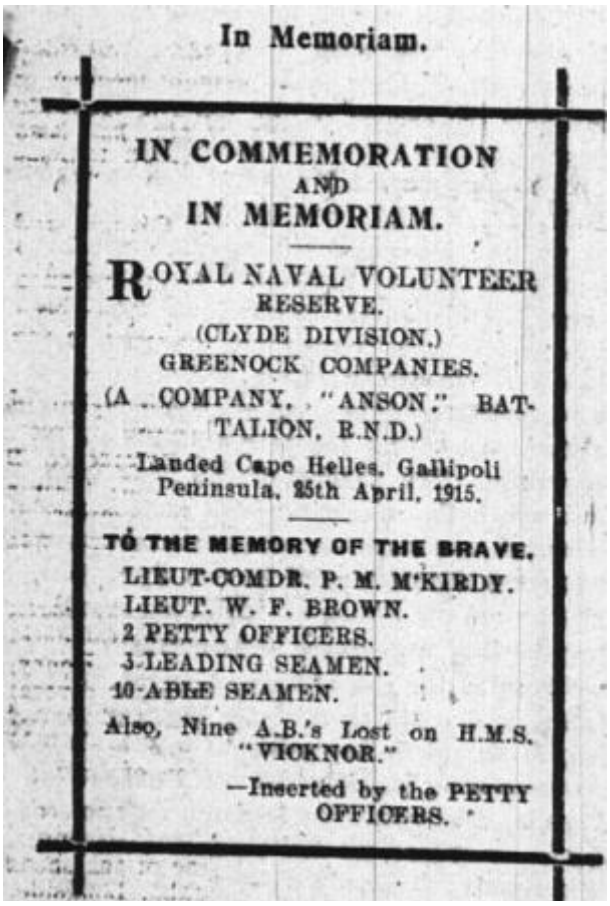
We decided that this mystery memorial on the beach, that few had seen, should be the first site that we tried out our new skills of photogrammetry. Cameras in hand we began to cover every angle and surface that we could, made a lot easier thanks to Gordon hacking through most of the undergrowth at the back of the monument. Stuart brought out his secret weapons – the 'Magic' pole and iPad for ensuring that we captured the top parts of the monument, and much fun under the tarpaulin had begun.

The rain had started to drizzle as we finished up and headed back to the hall for soup and sandwiches provided as always by Danuta (thanks again). Stuart loaded the photographs and we sat back to let the software do its thing. Slowly but surely the monument began to appear before our eyes on the screen. It truly was like magic.

We then began to uncover more about the MacKirdy names on the plaques.

It turns out that Peter and Robert were twin brothers who like many young men before them headed off across the water to fight in the Great War. Peter, was a Lieutenant-Commander with ANSON Battalion of the Royal Naval Reserve, was wounded on April 25th 1915. He subsequently died of his wounds on May 29th 1915, aged 26.

His brother Robert, who was a Captain in the Argyll and Sutherland Highlanders, left for Gallipoli on the 3rd June 1915. Robert was subsequently killed in fighting at Achi Baba, Gallipoli on 12th July 1915 aged 26, a mere 44 days after his brother Peter.



In Memoriam.

IN COMMEMORATION
AND
IN MEMORIAM.

ROYAL NAVAL VOLUNTEER
RESERVE.
(CLYDE DIVISION.)
GREENOCK COMPANIES.
(A COMPANY, "ANSON," BATTALION, R.N.D.)
Landed Cape Helles, Gallipoli Peninsula, 25th April, 1915.

TO THE MEMORY OF THE BRAVE.
LIEUT-COMDR. P. M. M'KIRDY.
LIEUT. W. F. BROWN.
2 PETTY OFFICERS.
3 LEADING SEAMEN.
10 ABLE SEAMEN.
Also, Nine A.B.'s Lost on H.M.S. "VICKNOR."

—Inserted by the PETTY OFFICERS.

Newspaper clipping commemorating the deaths of the MacKirdy brothers. Posted by @InverclydeWW1 on Twitter 11th June 2014.

Screenshot of the photogrammetric model created by the ColGlen Archaeology Group (generated using Agisoft Photoscan) of the WW1 memorial. Dedicated to the MacKirdy borthers who fell at Gallipoli in 1915.

They shall grow not old,
As we that are left grow old,
Age shall not weary them,
Nor the years condemn.
At the going down of the sun,
And in the morning
We will remember them.

Lest We Forget.

Peter and Robert MacKirdy are not forgotten and their memory lives on within the Helles Memorial, Gallipoli for Robert (http://www.twgpp.org/information.php?id=3495679) and the Portsmouth Naval Memorial for Peter (http://www.twgpp.org/information.php?id=3318647). It was, however a small glen in the North West of Scotland, Colintraive, Argyll where we became friends with them.

Next year is the 100th Anniversary of their deaths and it would be wonderful if we could have a dawn service on 25th April 2015 and remember all of the young men from the area who perished in the Great War and all others.

I'd like to thank Stuart, Mhairi, Al for their patience and experience. I'd also like to thank all the members of the ColGlen Archeology Group.

MACKIRDY, PETER MACKAY, Lieutenant.-Commander. R.N.Y.R Anson Battalion Royal Naval Division, twin son of Robert MacKirdv of Greenock and Glasgow, Sugar Broker, by his wife, Elizabeth, daughter of Peter Mackay born Greenock 1 Sept. 1888; educated Collegiate School, Greenock ; was an Engineer ; Sub-Lieutenant., R.N.V.R.. 17 Julv. 1910; Lieutenant. 10 April. 1913, and Lieutenant-Commander, 10 April. 1913; died of wounds received in action at the Dardanelles, 29 May 1915.

MACKIRDY, ROBERT FINGLAND, Captain, 5th Battalion. Argyll and 'Sutherland Highlanders (T.F.). twin son of Robert MacKirdv, of Greenock and Glasgow, Sugar Broker, by his wife, Elizabeth, daughter of Peter Mackay of Greenock: born Greenock. 1 Sept. 1888; educated Collegiate School. Greenock, and was a Commission Agent; joined the 5th Argyll and Sutherland Highlander (T.F) 22 March, 1907; became 2nd Lieutenant. 23 March. 1908; Lieutenant 20 Jan 1912 and Captain 1 Nov. 1914; volunteered for Imperial service on the outbreak of war; left for Southampton ; went to the Dardanelles, 3 June. 1915, and was killed in action there while fighting at Achi Baba, 12 July, 1915.

Todd Ferguson, resident of Colintraive and member of the ColGlen Archaeology Group.

_ | Tagged 3D modeling, archaeology, Battle of Gallipoli, Colintraive and Glendaruel Development Trust, coproduction, history, MacKirdy, photogrammetry, World War 1 |

ACCORD at Glasgow Necropolis

Posted on July 15, 2014 by mhairimaxwell

Why not have a look at what the ACCORD project team got up to with the Friend's of Glasgow Necropolis? The story in tweets!

ACCORD behind locked doors at the Glasgow Necropolis!

Gallery
Posted on July 15, 2014 by mhairimaxwell

This gallery contains 2 photos.

We spent the weekend with the Friends of the Glasgow Necropolis– Thank you to all who took part, we achieved a lot in just 2 days including 3D modelling the interior of the Monteath mausoleum! Check out our Storify

Colintraive and Glendaruel Development Trust

Very fittingly the first ACCORD project took place last weekend (21st and 22nd June), on the solstice. This marks the true beginning of our phase of fieldwork which will see us through to the next equinox!

Stuart and I traveled up on the Friday to Colintraive to work with the CGDT (Colintraive and Glendaruel Development Trust) History and Archaeology Group. Since 2013 the community of Colintraive and Glendaruel have been passionate owners of the Stronofian Forest, and from this purchase the archaeology and history group formed. We had previously met everyone back in April (blog post on 11th of April 2014) – this time we arrived back to finalise the co-design and carry out the co-production phase of the project.

The team at work in the Colintraive Village Hall!

Thank you to all who took part over the two weekends; Anne, Cathy, Charles, Danuta, Gordon, Mark, Ros, Susan, Tod (and Gareth!). All results will be uploaded to the ADS in the very near future, but here is a brief summary. Together we recorded three monuments; a chambered cairn, a WW1 memorial and Neolithic rock-art. Not bad for one weekend's work!

***Our* Cairn:**

A chambered cairn was proclaimed by the group to be the archaeological jewel in the community owned Stronofian Forest. This cairn, over 4,000 years old, is a prominent visible feature in the landscape, despite likely having been robbed out over time to make dykes and shelters on the hillside. More details can be found here on Canmore.

A view of the cairn in the ColGlen community owned Stronofian Forest- merging in with the landscape.

A cheerful Alastair Rawlinson creating a 3D model of the cairn using the latest laser scanning technology.

Like how it probably once functioned in the past, today this place has special significance and is a hub for the CGDT history and archaeology group's activities. Therefore, it was unanimously felt that it was important to model. However, as the monument was obscured under vegetation, it was agreed that using our normal suite of techniques would be a challenge.

And so, in order to do this successfully, Alastair Rawlinson (Head of Data Acquisition at the DDS, GSA) came up especially with his laser scanning machine. We wait with baited breath- the results are still being processed and will be uploaded here shortly.

Visualising the Hidden:

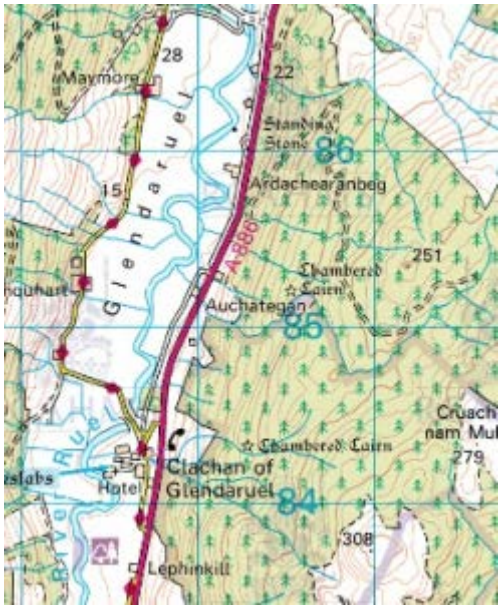
Tod's local knowledge took us to the site of a World War 1 memorial, 2 minutes' walk down an overgrown path, just off the main road into Colintraive. It took everyone by surprise that this monument was here! Despite only moving to the area last September, Tod was the only person to know of its existence. First thing on Saturday, the team immediately set about recording the memorial using photogrammetry, partly with the aim to communicate to others

its poignant presence. Tod is conducting a piece of independent research, so more on this to come.

Charles Dixon-Spain at the re-discovered WW1 memorial.

X-marks the spot?

Local knowledge alluded to rock-art within the Stronofian Woodland, but no-one was quite sure where it lurked and again no one had recollections of seeing it. It was even missing off the latest OS map.



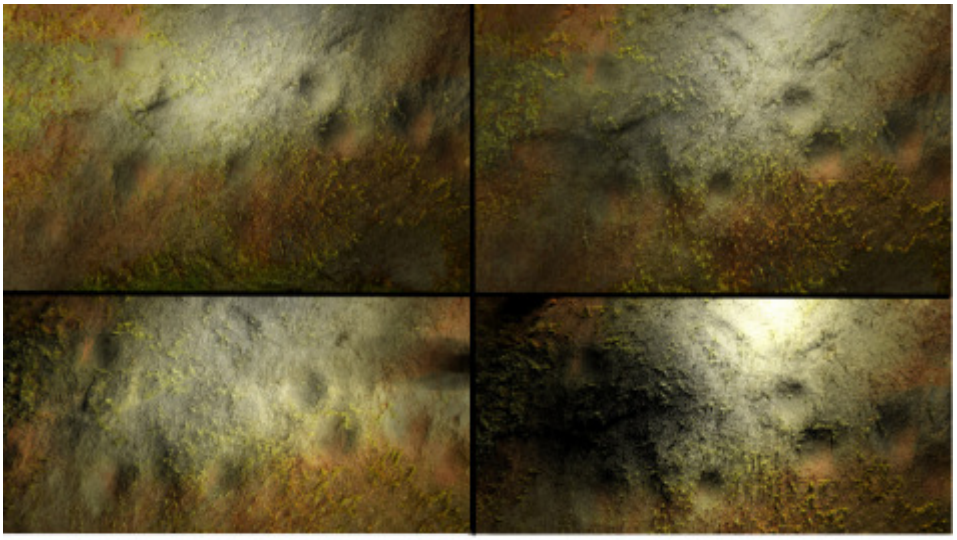
Ordnance Survey. (2002). Sheet 55, Lochgilphead and Loch Awe, Ed. C1. 1:50 000. OS Landranger map. Southampton: Ordnance Survey.

Stuart's enthusiasm for finding and recording the rock-art, contemporaneous in date with the cairn, was infectious- *if* we could find it hidden amongst the bracken and under carpets of moss! So on Friday, with Eamon (the new CGDT woodland officer), we set off in the midst of a cloud of midges to find this needle in a haystack. Bingo! Eamon found what looked like a cup and ring marked slab, lying just off the proposed new desire line up to the cairn.

In order to know for sure RTI (reflectance transformation imaging) would be the perfect analytical technique.

"It's like magic!" (Cathy)

On Sunday we set up what looked like a CSI tent for RTI and this is what we produced!



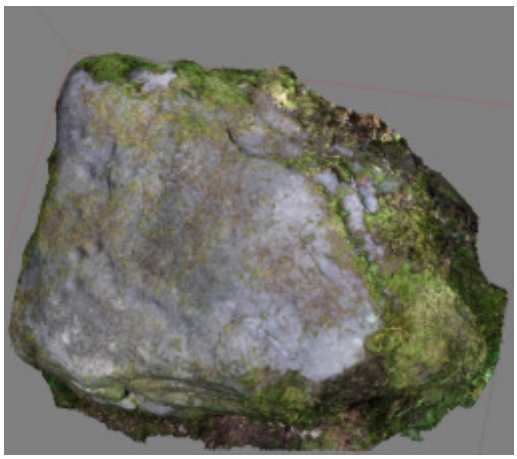
Stills from the RTI (generated using RTIbuilder, free download available here) of the Lethinkill Rock-Art. Read Left to Right*; in each image the light shines on the surface at a different angle. I count 9 cups with key; in both the images on the right there are clearly 2 deliberately carved grooves which make up the 'key'. What do you see?*

The team hard at work at our make-shift RTI tent, in the ColGlen community woodland by Lethinkill!

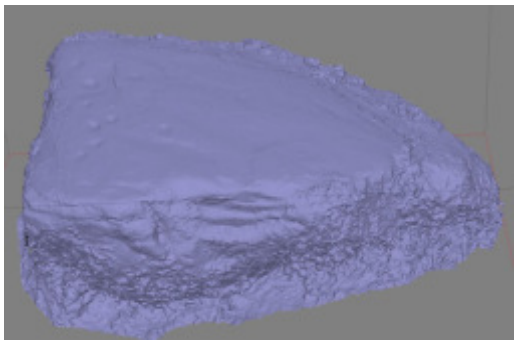
As Charles writes in his blog, the carvings pop out using this technique. To the naked eye in its natural surroundings, it is very hard to make out any patterns on the slab's surface (as Cathy's photogrammetric survey shows).

Everyone in the CGDT group, having never seen this monument before, were thrilled to rediscover a monument which had probably not been seen in over 25 years (since the last archaeological survey was conducted in the area). Cathy has since discovered more references to rock-art in the area, so we hope to see more!

Cathy carrying out a photogrammteric survey of the rock-art by Lethinkill in the ColGlen community woodland.



Photogrammetric model of the Lethinkill rock-art in the ColGlen community woodland, made by Cathy and Mhairi and generated using Agisoft photoscan.



Was it a coincidence all this came to light in on the Solstice weekend?!

Posted on June 27, 2014 by mhairimaxwell

Castlemilk 3D challenge!

Posted on June 11, 2014 by mhairimaxwell

Last Saturday (7th of June) the ACCORD team took part in the Heritage Weekend at Castlemilk. We set ourselves quite the challenge! …To make a 3D virtual model of a 19th Century ornate fireplace hewn out of oak.

The following info on the biography of this fireplace came from talking with Mark Roberts Community Heritage Manager at Glasgow Museums, Richard Bolton the Community Woodland Officer for Castlemilk, and local historian Susan Casey. Thank you! The Castlemilk History Facebook page is very richly researched, a mine of information. Also the site record for Castlemilk House on Canmore (RCAHMS); http://canmore.rcahms.gov.uk/en/site/44894/details/glasgow+castlemilk+house/

This 19th Century masterpiece once belonged to the grand Manor House of the Stuarts.

This baronial style fireplace was once part of a grand manor house which stood in the heart of Castlemilk. The house saw heavy renovations in the 18th and 19th Centuries, but had been the seat of the Stuart family since the 15th Century. The estate remained in the Stuart family, who claimed lineage to Mary Queen of Scots, up until it was sold to the City in 1936. The house then became a children's home before finally in 1969 it was almost totally demolished to help provide for the housing shortage in Glasgow. The Castlemilk History Group campaigned to save this oak 'treasure' and now it takes pride of place in the surviving refurbished stables.

The spectacular scene here depicts the 1429 Siege of Orleans, and the Stuart's family claims to royalty. Two members of the Castlemilk Stuarts died in this battle; Sir William Stuart and Sir John Stuart. This was Joan of Arc's decisive victory over the English- that may be her depicted at the bottom of the central panel with helmet off and wavy wild hair about to *whallop* the fallen knight on horseback. On closer inspection you'll also notice that the sword

blades are missing- there are memories of naughty kids who lived in the house during the 40s and 50s clambering up the fireplace to steal props for games of swords and daggers!

In an amazing state of preservation- the carving looks as though it were done yesterday- the dynamic 3-dimensional scenes made this an ideal challenge for us to record virtually in 3D. With the help of some willing volunteers and our Magic Pole onto which we can safely attach a camera to get up high, overlapping photographs of the fireplace were taken at varied angles. These were then stitched together in a clever programme called Agisoft photoscan…Phew. Success. Click here CMilk fireplace to open a 3D pdf file of the model (make sure you have the latest Adobe pdf Reader installed). Select and spin it around!

In fact altogether, this took only 28 photos to capture this scene and less than half an hour to process! Easy peasy.

Model made with photographs taken on a Nikon D5300 and generated using Agisoft Photoscan.

There are regular heritage and woodland activities and events in Castlemilk- check out the Friends of Castlemilk Park Facebook page for more information. If getting muddy and dirty is also your bag, keep an eye out for opportunities here to get digging in the estate grounds!

Dumby goes 3D!

Posted on May 21, 2014 by mhairimaxwell

Mhairi, ACCORD RA, having a go at a HVS traverse at Dumby!

Our next project will be at Dumbarton Rocks, near Glasgow, from the 7th to the 10th of July.

Our interest is not the castle which sits atop these rocks, but the majestic rocks themselves and their modern heritage, particularly as world famous climbing venue (http://www.dumby.info/)! If you frequent the rocks (as a climber, graffitti tagger or as a place to hang-out) we want to hear from you!

Contact M.Maxwell@gsa.ac.uk for the details on how to get involved.

John Stewart-Watson, who publishes climbing guides on the area and has been climbing here for c.20 years writes (http://stonecountry.blogspot.co.uk/):

I have been going on for years about Dumbarton Rock being one of our finest examples of modern 'sporting heritage', a kind of living history and an example of community 'ownership' (I use this in the least possessive sense) through simple occupation and use, under the shadow of more static heritage (I mean no disrespect to Historic Scotland and the castle!). It's how we create identity after all and is part of the greater weave of history, but seen from the ground-up and the everyday.

ACCORD Out & About!

Posted on May 21, 2014 by mhairimaxwell

It's been a busy few weeks!… We have been hanging out in graveyards (meeting with the Friends of the Glasgow Necropolis), scrambling up rocks (with the climbers at Dumbarton) and wandering around abandoned gun batteries (with the Health Walks and How Old Are Yew groups in Castlemilk). See more pictures of our escapades here. And keep your eyes on this blog, check out twitter @ACCORD_project for announcements of fieldwork projects!

Here we are at the WW2 battery, next to Castlemilk, Glasgow:


FRONT
REAR

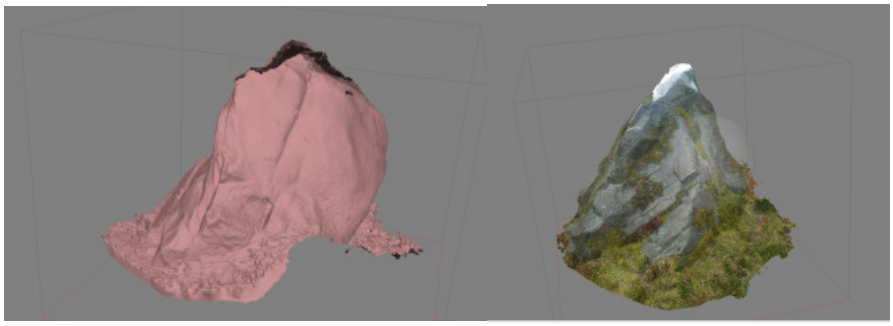
Our first project in Glendaruel

Posted on April 11, 2014 by mhairimaxwell

Last weekend we were in gorgeous Glendaruel, on the Cowal Peninsula. Together we are working with members of the Colintraive and Glendaruel Development Trust to co-design and co-produce 3D models of archaeological monuments in their landscape; a stunning valley and community owned forest peppered with neolithic chambered tombs, potential ancient standing stones, neolithic rock-art, medieval and post-medieval remains. On the Saturday our colleagues from Archaeology Scotland ran a workshop in the field on recording monuments and plane-table survey (did you know you can build 3D models using this very technique?).

Despite the mist and constant rain we all got stuck in (and had a few laughs!), while Danuta's soup, mugs of tea and cakes back at the village hall were greatly appreciated and warmed us all up!

Here is a quickly thrown together model of one of the 'standing stones' I made over the weekend, a little blurry because of the rain!



3D model made with photos taken on a Panasonic Lumix with 12X optimal zoom, and processed using Agisoft Photoscan

– I am excited to see what we create together… follow this blog to hear more from the group and watch our progress!

Dig It 2015! website launch, Rouken Glen, 15/03/2014

Stuart Jeffrey and Mhairi Maxwell having a natter at last weekend's at Dig It 2015! website launch and showcase.

March 21, 2014 by mhairimaxwell

Dig It! 2015

Posted on March 19, 2014 by mhairimaxwell

ACCORD were at the Dig It! 2015 website launch on Saturday at the lovely setting of Rouken Glen- did we see you there?

We had a grand old time (it certainly beat the rugby…). It was great to be amongst the first to see the beautifully designed and engaging website (check it out here), to find out what other worthwhile work is being produced by community groups and colleagues, and to talk to curious weekenders out and about in the park. Plus I am particularly pleased with my freebie bright pink T-shirt, which were going like hotcakes!

Dig It! 2015 will be the year of archaeology and is being co-ordinated by two charities – the *Society of Antiquaries of Scotland* and *Archaeology Scotland*. At the heart of the festival is the ethos *Archaeology is for everyone*, and there will be a series of exciting educational and participatory events taking place across the whole length and breadth of Scotland.

At the heart of ACCORD is the belief that archaeology is not just for everyone, but is increasingly *made by everyone*– especially with the accessibility and ubiquity of digital technology today.

Here is a photogrammetic 3D model produced using photographs taken on an iphone of a blown-over bench in the walled garden at Rouken Glen by the ACCORD team and some willing volunteers. Thank you to the ranger who gave us special access to this area on the day! Only 30 photos were taken walking around the object at various angles, some close-up/ others further away, which were then processed using Agisoft-Photoscan software. If you're out and about, have a go yourself!

3D model generated using Agisoft Photoscan

We also attempted a more ambitious 3D model of the whole walled garden by walking around he perimeter- however, I need more of your photos! If you are reading this and took part in our wee experiment please get in touch and I will stitch them into my incomplete version…AND watch this space!

Hello there!

Posted on March 7, 2014 by mhairimaxwell

I have just come to the end of my first 2 weeks working on the @ACCORD_project and my has it flown past! Already I have been up at Glasgow Cathedral playing with lasers, and have learnt to create 3D models of buildings using photographs taken with my own camera and iphone.

I am a trained field archaeologist and love getting my trowel muddy. So how did I find myself here, surrounded by whiz-kids at the digital design studio? Well, my own fascination with the potential of digital methods came to the fore when I was based at the National Museum of Scotland and helped design a popular online 3D platform for a crowd-sourced project which aimed to refit thousands of fragments from the hacked-off face of the Hilton of Cadboll Pictish Stone (go to http://www.pictishpuzzle.co.uk to find out more). This is a truly democratic attempt to piece together the past, only made possible in a digital world. More and more, digital technology is becoming recognised as an incredibly helpful tool for recording, preserving and communicating the past (check out the very exciting Scottish Ten project http://www.scottishten.org). However, in the main projects have been carried out by specialists, and remain in the field of experts.

Uniquely, at the heart of the ACCORD project is the co-design ethos. Together with local communities we will digitally document and capture the stories of significant heritage monuments, in ways appropriate to that community's needs, hopes and desires. I am excited to see the various outcomes of what we create together- watch this space!

The ACCORD Project

Posted on September 23, 2013 by sjjds

The ACCORD project seeks to examine the opportunities and implications of digital visualisation technologies for community engagement and research through the co-creation of three-dimensional (3D) models of historic monuments and places. Despite their increasing accessibility, techniques such as laser scanning, 3D modelling and 3D printing have remained firmly in the domain of heritage specialists. Expert forms of knowledge and/or professional priorities frame the use of digital visualisation technologies, and forms of community-based social value are rarely addressed. Consequently, the resulting digital objects fail to engage communities as a means of researching and representing their heritage, despite the now widespread recognition of the importance of community engagement and social value in the heritage sector.

The ACCORD project aims to address this gap through the co-design and co-production of an integrated research asset that addresses social value and engages communities with transformative digital technologies.

ACCORD will create a permanently archived open-access dataset of community co-produced 3D digital models of archaeological sites and monuments, integrated with expressions of social value and contextual documentation. The project will actively engage community groups that have ongoing relationships to heritage places in the process of creating 3D records and models of those places. With the support of visualisation technologists, community engagement practitioners, and experts in social value, each community group will design, direct and produce their own 3D objects. The use of digital technologies to enhance and generate forms of social significance will be an important outcome, adding distinctive value to existing heritage assets and our understandings of them. Community groups will be able to draw on the resulting digital datasets for various purposes, such as public presentation, education, and tourism initiatives. The records and models resulting from the project will also provide important research resources for community groups, heritage managers and academic researchers.
Evaluation will be an integral aspect of ACCORD project, examining the relationships between community groups, digital heritage professionals and the outputs they have created. This will include a review of the transformative aspects of the process, investigating changes in attitudes to 3D recording technologies during the life of the project, as well as the forms of significance, authenticity and value acquired by the resulting 3D objects. Ultimately, through the co-production of an open-access dataset, and the creation of a 'community of communities' engaged in sharing skills and experiences,ACCORD seeks to broaden capacity for the creation and reuse of digital visualisation technologies in community heritage activities and research.

ACCORD is one of eleven projects across the UK to be awarded funding from the Arts and Humanities Research Council's £4million "Digital Transformations in Community Research Co-Production" programme. Led by the Digital Design Studio of the Glasgow School of Art, the project it is being delivered in partnership with the University of Manchester Department of Archaeology, Archaeology Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland.