



Orkney Archaeology Society

Scottish Charity No SC030611

Newsletter No 08 Autumn 2012

Editorial

Andre Artymiuk & Helen Woodsford-Dean
The Editors, OAS, PO Box 6213, Kirkwall,
Orkney, KW15 1YD

Welcome to your autumn 2012 newsletter.

We all know that the OAS supports Orkney archaeological excavations and associated research. Supporting educational initiatives through archaeology is also fundamental to the aims and objectives of the Society. In this issue we highlight those initiatives with an article on work being done in Orkney using archaeology as a vehicle to expand the horizons of young people and inspire in them an enthusiasm for their Orkney heritage. It is with these young people that the future of archaeology in Orkney lies.

Once again Orkney's archaeology has astounded and amazed throughout the 2012 season:

- The excavations at the Ness of Brodgar and Cairns in South Ronaldsay have rejoiced in their accessibility to the public, each with a daily excavation Blog and open access policy in addition to formal public open days.
- ORCA (The Orkney Research Centre for Archaeology) were active on Hoy.
- EASE Archaeology, in conjunction with Historic Scotland, returned to the Links of Noltland on Westray.

- NABO (North Atlantic Biocultural Organisation) returned to Rousay for their 'Gateway to the Atlantic project'.
- The BEVARs (British Excavation Volunteers and Archaeological Research Society) were excavating at Green Farm on Eday.

Unfortunately, as we went to press, no excavation reports for these projects were yet available for the newsletter, but here are the web-links for each excavation:

Ness of Brodgar

<http://www.orkneyjar.com/archaeology/nessofbrodgar/>

Cairns

<http://www.orkneyjar.com/archaeology/thecairns/>

Links of Notland

http://www.westrayheritage.co.uk/index.php?option=com_content&view=category&id=38&layout=blog&Itemid=90

NABO Rousay

http://www.nabohome.org/cgi_bin/explore.pl?seq=141

BEVARs Eday

<http://bevars.org.uk/>

As a significant part of our fundraising effort for 2013, the society is once again running a lottery with great prizes. Our last lottery was run in 2011 and proved a great success. We are hoping to repeat that success in 2013. We

have included books of lottery tickets with this newsletter for you to buy, or to sell to friends and neighbours. We have also included a

stamped and addressed envelope for you to return completed ticket stubs or return unwanted / unwelcome tickets.

News from the OAS committee:

Andre Artymiuk, Membership Secretary, OAS

It's been a year of changes and hard work on the Committee.

This year Sue Barnard stood down from her role as Secretary, Kat Fryer stood down from her role as Governance Advisor, Chris Read stood down from his position as Newsletter Editor, and Nan Traill-Thomson has relinquished the role of Walks and Talks organiser. I'm sure the membership will join the committee in offering our thanks for their hard work over the years and best wishes for the future.

Denise Campbell has joined the committee as Society Secretary. Anne Mitchell and new committee member Dr. Ingrid Mainland have jointly assumed the role of Walks and Talks organisers. Also joining the committee this year is Helen Woodsford-Dean who is working with Keith Brown to promote and expand the OAS's work with young people.

This is my last year as OAS Membership Secretary – the OAS constitution requires me to stand down after 5 years, which will be at the June 2013 AGM – and we are actively seeking a replacement. If you think you can help – please do let us know!

The full list of current Committee members is:

Nick Card	Chair
Andrew Appleby	Vice Chair
Denise Campbell	Secretary
Phil Wilkinson	Treasurer
Andre Artymiuk	Membership Secretary
Keith Brown	Education / Young People
Helen Woodsford-Dean	Education / Young People
Anne Mitchell	Walks & Talks
Ingrid Mainland	Walks & Talks

Annabel Eltome

OAS shop
Manager

Martin Carruthers

Member

Don't hesitate to get in touch, either through the society's PO box postal address or through the OAS website's CONTACTS page, if you have any suggestions, questions or issues the committee can assist with.

2012 saw some major OAS fundraising initiatives to supplement the society's subscription income.

In early June, the OAS spent a week in the 'Blue Door' charity shop in Kirkwall supported by OAS volunteers and the regular Blue Door Staff. Over £2,500 was raised to support the Daphne Lorimer Student Bursary Fund. Our thanks go to all the members who donated stock to sell and to the volunteers who gave their time to staff the shop. Especial thanks go to the Aims who offered secure dry storage for us to accumulate and store stock.

At long last we have been able to publish an updated edition of the 'Rising Tides' book, the original having sold out and been out of print for some time.



The new edition, entitled 'Rising Tides Revisited', has an updated text by Orkney's County Archaeologist Julie Gibson and

photographs by Frank Bradford. The book is an essential guide to many of the less well known and fast disappearing Orkney coastal sites. All profits from the sale of this book are donated to the Orkney Archaeology Society Daphne Lorimer Bursary Fund which is awarded annually to a deserving Archaeology student who otherwise would not be able to afford to undertake study for a Masters Degree in the UHI Orkney Archaeology Department. The society is most grateful to Julie and Frank for their generosity and assistance in the production of the book, and to the members and non-members whose donations made the project possible. The book can be purchased through good booksellers and various other locations throughout Orkney and we are in the process of finding outlets throughout the UK. The book can also be purchase online through the new OAS WEBSITE.

Another major project has been the construction of the new society website at <http://orkneyarchaeologysociety.org.uk>

much more. We encourage all members to take a look and welcome your comments. We also now accept DONATIONS to the Ness of Brodgar Fund, the Daphne Lorimer Bursary Fund and the OAS General Fund through the website's DONATE page.

The new website is regularly updated with Society News and Events as well as information on Orkney's Archaeology. The News Blog in particular is the place to go to find out 'what's on' and the latest information on Society activities.



Once again we ran the OAS shop at the Ness of Brodgar excavation, supported by the magnificent donation of the shop building by Beedies.



You can now purchase society publications, buy and renew membership subscriptions online, view our picture / video galleries, obtain information on volunteering and Orkney's Archaeology, contact the society, download society forms (Gift Aid, Standing Order, Site and Backroom Volunteers) and

The shop was managed by Annabel and staffed by OAS volunteers 7 days per week during the excavation. It was full of quality stock from Orkney craftspeople, much of it not available elsewhere. With a turnover in excess of £9k our thanks go to all involved in the 2012 shop project.

Our 2012 Walks and Talks program for members (and non-members) living in or visiting Orkney has covered a wide variety of subjects.

In January, Dan Lee gave a talk **“Excavations on Hoy and Wyre”** giving updates on the excavations at Cantick, Hoy and at Ha'breck, Wyre.

February saw the **“Afterlives of Axes”**, a talk by Prof. Mark Edmonds of York University exploring the different ways people have made sense of axes from the Neolithic onwards.

Throughout March, April and May, the OAS was pleased to publicise the Northern Periphery Programme's 'Thing Project' lecture series with lectures on **“Law in Early Scandinavia”** by Professor Stefan Brink, Centre for Scandinavian Studies, University of Aberdeen, **“Sagas and things: the cultural life of assemblies”** by Professor Judith Jesch, Centre for the Study of the Viking Age, University of Nottingham, and **“The Orkney Earls”** by Dr Peter Anderson, former Deputy Keeper of the National Archives of Scotland. The latter talk was delayed by bad weather, the talk ultimately being given in early July.

In May we had a talk **“Art and Archaeology”** by Rick Hammond, Scottish Isles Artist in Residence, following on from his exhibition in the Pier Arts Centre in Stromness during February and March.

On 15th May we held a talk and film show **“Archaeology Films of Orkney, Past and Present”** presented by Mirella Arcidiacono and Mark Jenkins.

In June we held the Society AGM (members who were unable to attend can download the associated documentation from the OAS website, including the Treasurer's and Membership reports), at which Nick Card gave an update on the Ness of Brodgar excavation.

Also in June, Dr. Jane Downes gave an OAS talk **“Recent Excavations on Easter Island”** which updated the Society on the continuing work on the island.

In the summer we usually organise a trip to one of the 'outer' islands. This year we scheduled three such trips, planning visits to Flotta, Graemsay and Westray. Unfortunately, due to a variety of circumstances, none of these trips actually happened; this was a great disappointment to everyone.

July and August of course saw the Ness of Brodgar excavation, once again well supported by OAS volunteers both as diggers, finds' processers and in the OAS Shop. If you would like to volunteer with the OAS see the Volunteering page under the 'Information' section of the OAS Website.

August brought a talk **“What's Jomon? Reflections on the history of Jomon pottery of prehistoric Japan”**



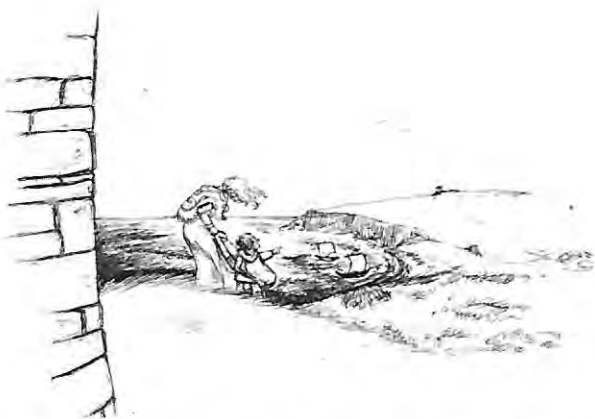
by Professor Taniguchi from Tokyo who is credited with the discovery of the earliest known pottery ever recovered.

September saw an OAS walk to the Ness Battery led by Andy Hollinrake. The OAS also held their Grand Variety Concert in the Pickaquooy Centre, raising over £700,

combining this with the launch of the OAS 2013 lottery.

In October Dr. Ingrid Mainland gave a talk **“Farming in Orkney 5000 Years Ago: The Ness of Brodgar Animal Bone Evidence”**.

During November we are holding two events. On 8th November Martin Carruthers is giving a talk **“The Afterlife of Brochs: the Evidence from The Cairns 2012”**.



Artwork by Cecily Webster, Archaeology Dept. Orkney College UHI

Then, on 21st November, Julian Branscombe is giving a talk reviewing the work of the Scapa Flow Landscape Project.

We will round off the year with the OAS Christmas event and talk by Julie Gibson, Orkney Country Archaeologist, **“Viking Heritage: Interpretation across the North Atlantic”**. Check the OAS website for confirmation of the date for this event.

I hope you will agree that 2012 has been a great year for OAS events.

You will find the provisional events list up to May 2013 at the end of this Newsletter. Please check the OAS website regularly and look out for event notification emails (if you are on our email list) confirming the dates and venues for these events.

We look forward to seeing our members and friends at these OAS meetings over the winter and spring months.

“Archaeology Club” at Stromness Academy

Helen K Woodsford-Dean BSc (Hons) MSc PGCE

Between 24 August and 5 October 2012, I developed and presented seven introductory sessions on archaeology on Friday afternoons at Stromness Academy. This project came about through collaborative work between the WHS Rangers from Historic Scotland and History teacher Jenny Devlin, and my time and expenses were supported financially by a grant from Orkney Archaeology Society, for which I am extremely grateful.

The Archaeology Club attracted seven young people aged between 11 and 16, all of whom

were very enthusiastic students. My remit was to introduce basic concepts of archaeology such as site formation and excavation, to tie it all in with a trip to a local site for the last session, and most importantly to make it FUN!

During the first session we thought about what archaeology was – predictably many of the students assumed that it was excavation, but they soon learnt that it was much more than just digging. The main hands-on activity this week was some rubbish sifting – Keith Brown (Historic Scotland) and I both provided some of our recent domestic rubbish and we asked the students to tell us about our lives ... by doing this, students were able to appreciate how archaeologists could make

inferences about how people may have lived in the past.

Archaeology is rubbish?



In the second week we thought about what an archaeological site might be, how sites are formed from natural and cultural processes, and how archaeologists might be able to determine what happened at a site from the sequence of events revealed in section drawings.

The following two weeks were concerned with how archaeological sites might be found by archaeologists. In the first of these sessions we considered historical documents and how maps are used.



Reading Maps

For this session we spent most of the time learning about Ordnance Survey grid coordinates and how to give a map reference. We also learnt to search for archaeological sites on maps by looking for Gothic Script and hachures (a method of showing slopes and their direction).

In the second of these sessions we learnt about aerial photography and fieldwork.



Demonstration of how shadows

Simulated field-walking exercise



Finally, in week 5, we learnt about excavation by considering how debris might build up if a fictional party was held for 5 weeks ... we also considered what tools archaeologists might use to excavate and all the different names that archaeologists use for holes that they find and holes that they dig.

In week 6 we considered how archaeologists might identify finds and date them and we did this by concentrating on building typological sequences – this being the way that most things are identified by archaeologists: by comparison with what they know already.



We built our own typological sequence of mobile telephones to illustrate this and combined this with what we had learnt about stratigraphy in previous sessions to show how typology and stratigraphy are used together to date

sites.

Then we created an Orkney date-line to understand the chronology of sites in Orkney.



Creating a chronology for Orkney

In the last week, we got out of the classroom and visited the site of Barnhouse in Stenness. We were able to put all that had been learnt in the classroom into practice at this site. We started by identifying the OS grid co-ordinates and then Keith Brown gave a fascinating tour which included how the site was found by

field-walking and also showed the section and plan drawings from the excavation reports, plus how the site has been interpreted and displayed to the public.



Examining samples of finds from field-walking

Students were encouraged to draw parallels between what they had seen of the houses at Skara Brae and the structures at Ness of Brodgar in order to aid their understanding of this site – exactly as archaeologists work!

All parties have deemed this pilot project to have been a success. The students enjoyed themselves and some have used these sessions as credits towards Dynamic Youth and Youth Achievement Awards. Stromness Academy intends to incorporate archaeology into their school educational plan and further sessions are already being discussed for future years. There is a great deal of potential in Orkney to increase the provision of archaeology teaching at the pre-degree stage and this pilot also demonstrates that the demand exists.

I remain incredibly grateful to Orkney Archaeology Society for funding this.

OAS 2013 Lottery Fund Raiser.

Andrew Appleby. OAS Vice Chair

Yes, we are running another Lottery! It was launched on September 14th with an all-star cast of local musicians, who gave us a rousing evening of song and music at The

Picky Centre. This event alone raised over £700.00 for Orkney's archaeology.

Now, this Lottery is really special. We have only 13 prizes, all of exceptional quality and worth. If you read down your tickets, which you should have received with this Newsletter, you will see the host of wonderful things to be won.

Already, apart from the concert, we have raised several hundreds of pounds, and this is only the start! You will notice that we have a long lead-time to the draw. Curiously enough it is on Friday 13th September 2013. You have time to plan where the Willie Beedies shed goes, or who is coming to lunch with you to Balfour Castle.



If you buy lots of tickets you could also win the flights to the Isles, or stay at Orkney Crofts.

Nick's Personal Tour of The Ness of Brodgar is an amazing opportunity. Digest all the information over lunch, courtesy of your winning ticket.

The lucky winner of the Sheila Fleet 'Tidal Islands' necklet will have something to treasure too.



If you get hungry, there is a hamper from Dounby Butchers and another from Jollys of fish delights. Don't worry, we can post the prizes, apart from Willie's shed (however, even that is not a problem, because the prize includes free delivery within the UK).

Weekending at Hammersmith B&B will be fun. A pottery experience is included with this too. The Luxury Pamper at Castlehill B&B is a tip-top prize (I am buying tickets with that in mind.)

What is THE MYSTERY PRIZE? Well, only one of us knows that, and the secret is safe.

The draw will be a great experience too. Details of that will become clear next year, but we promise you a great evening.

We would like to raise around £10,000 with this Lottery. The wonderful prizes warrant that. So, if you could sell some to friends, or let us know who can place them in an event where we can raise funds, do tell us. It is so crucial for the funding of our excavations and the all too valuable and costly post excavation processes. There are many ways in which the money can be used: C14 testing, DNA analysis of bones, finding solutions to conserving our all too friable and fascinating Grooved Ware, publishing, and funding education too.

We all know how hard it is to gather grants in. With this funding available from us, it makes that painful task so much easier. We love to say, 'Yes' to a request.

PROFESSOR TANIGUCHI.

Andrew Appleby OAS Vice Chair

The Orkney Archaeology Society was very fortunate indeed to have a wonderful lecture in August by Professor Yasuhiro Taniguchi.

Yasuhiro, some years ago now, discovered the then earliest known pottery in the world. His finds were greeted with utter disbelief by the authorities. It took him years of dogged research to have his conclusions finally proven. The pottery came from sites in Northern Japan. The ware, called 'Jomon,' meaning cord impressed, was first made around 14,000 BC: we now call its creators The Jomon People (A good parallel with our Grooved Ware and Beaker Folk).

The Professor learned of the incredible work being accomplished in Orkney whilst on sabbatical in London. He met Stromness resident, Ruta Norieka, during an event in Wales. He was convinced by her to visit and at once offered to give our Society a presentation of his discoveries in Japan. He was introduced to Vice Chair, Andrew Appleby, who swiftly arranged this with Ruta.

Accompanied by Hiromi Uchida, Events Organizer for The British Museum, Nick Card gave him a personal tour of The Ness of Brodgar excavations. Julie Gibson guided them and his family over the sites and current excavations on Rousay. The OAS hosted a fine dinner at Castlehill in Evie, for him, his wife Keiko, daughter Megu and Hiromi. They were all accommodated at Fursbreck Pottery.

During his amazing talk Megu made from tissue paper tiny strips of twisted cord. These could be used for decorating the pottery by

rolling them over the soft clay surfaces, just like the Jomon of 16,000 years ago.



The Professor's talk, to a packed St. Magnus Hall, described the Jomon culture in great detail. Basically a sophisticated Mesolithic society, with utterly magnificent ceramics, it spanned millennia and covered a vast area of Northern Japan. To appreciate details of his work more fully, go to the link on our website where you can download the professor's powerpoint presentation of the talk.



Julie Gibson and Frank Bradford shared the Professor's evening in St Magnus with the launch of 'Rising Tides Revisited'. Nick Card, as a very special memento of the memorable occasion, presented Yasuhiro with copy No.1.

Warbeth Tomb.

Andrew Appleby, OAS Vice Chair

In May of 2012 I went on an abortive swimming trip to Warbeth Beach.



Whilst driving down towards the Cemetery, I noticed a large ploughed field to my right. Towards the middle of this field was a pronounced natural knoll with seemingly large stone slabs sticking out of it. I was immediately aware that it might be a disturbed cist grave.

I returned directly home and fetched my camera, photographed it and sent the results to Julie Gibson.



By the following morning the farmer had carefully backfilled most of the structure with light soil for its preservation.

Julie was able to arrange for Dr. Colin Richards and a colleague from Easter Island to visit the site and confirmed it was a tomb.

Whilst it had caved in slightly, the action of the farmer had protected it from further damage.

2012 Grooved Ware Experiment

Andrew Appleby, OAS vice Chair.

From previous conclusions of experiments conducted by OPPRA (Orkney Prehistoric Pottery Research Associates), a further programme of research was decided upon.

We had successfully fired quantities of Grooved Ware using clays local to Skara Brae. We included grass temper, which held the body together and fine shell sand as a calcium flux.

It is extremely difficult to make reasonable pots with this clay in its natural state. It also collapses if built at angles slightly off vertical. Grass temper assists the construction and helps hold the pots together whilst building them. However, the shell sand increases the clay's stubborn shortness. It is therefore hard to create large vessels with a reasonably fine section, such as those examples we see from excavations. The clay fissures during secondary refining and 'Pulling up'.

It is known that Leonardo De Vinci used olive oil in his clay so he could model more refined surfaces, particularly hair. We decided to

introduce malleable fat into Orkney clay to see if it would lubricate the matrix for ease of building, secondary stroking up and fine modelling.

Michael Lukas from Willamette University worked previously at The Ness of Brodgar Excavations. He wished to join the OPPRA project as part of his University studies. He came to Orkney some weeks before the 2012 dig commenced to join OPPRA's programme of experiments.

Just previous to this, I made a series of pots in the Grooved Ware style with sculptor Christine Boreland and my assistant Kerriane Flett. These were for an instalment at The Pier Arts Centre, Stromness.

We used grass temper, shell sand and duck fat in the matrix. Duck fat remains soft and would probably burn away during firing. We discovered that with around 50kg clay, 12 kilos of shell sand, fresh grass cuttings and two 800g tins of duck fat, the difference was absolutely amazing! Unlike all previous mixes, this one behaved like good clay.

The works were left unfired for the entire exhibition and were the subject of further experimental firing later.

When Michael commenced his study, all quantities and measurements were accurately recorded.

Large pots were made with the usual prehistoric method of pounding out a base and raising the wall from one huge lump. This obviates the need for a base coil, which can never be joined properly and will allow the pot to leak at that point.

A 'false rim' created by making a pointed edge was made. The next 'coil,' in the form of a great sausage, was applied over it and stroked downward on the inner side and outer. This practice also helps to prevent

leakage. The massive coil is then pinched upwards. Following this, skilled stroking up in a vertical direction happens. The pots then grow naturally and splay slightly in Grooved Ware style. Because of the fat content the pieces can be stroked up even further after 'resting.'

Omnipresent in the clay from the north end of Skail Bay, are huge amounts of stone. If this is all taken out, there is little left. One has to smash lots of it up with a hammer-stone and re-introduce it to the body. This we did, except for the massive ones.

When built, the exteriors had huge inclusions in them. The surfaces were very rough and ugly. We chose finer clay, derived from the same glacial deposit, from the south end of Skail Bay to make the smooth 'plaster' with which to cover the cracks, stones and fissures. This clay was refined then mixed with the same proportion of mortar-ground shell sand and duck fat. It made an excellent spread, which covered the surfaces well. The fat certainly improved the movement of the material. Finer layers of slip were added to further smooth the vessels.

The modelling clay for the applied decoration was made by mixing the south end clay with water until it was an even slip. It was put through a flour sieve to remove grits and allowed to settle in bins. The water was removed some days later and the top layer taken off. This was firmed up on stones and plaster, then it had powdered shell sand and duck fat added. This clay became extremely malleable and could be modelled with ease.

Decorative motifs were chosen from previously studied shards found at Skara Brae by Professor Childe and large fragments of one pot that came up from The Ness.

Group HA 215 from Skara Brae (Childe), the decoration was modelled and then re-

interpreted. Previously suggested to be a 'Netting' pattern, it was found to be a sequence of finely applied coils, modelled into a fruiting tree design within a cartouche. Outside this area is an applied surface, which has finger impressions in it. The nail is easily detectable. This may symbolize a cloud formation. Directly below this zone is a representation of a stone dyke, which goes to the base. If this is correct, then we could be seeing an orchard scene from Orkney's Later Neolithic.

Group HA229, The Great Auk Potshard.



It represents anatomically correctly the head of a Great Auk. It was previously described by Childe as 'A smudged pellet of clay'. On further examination, it became clear that this is a true representation of the famously extinct bird (verified by Erik Meek, RSPB, and Errol Fuller, author "The Great Auk"). It is set in the scene of a loch-side waterscape with reeds, flag seed heads and a probable Eider Duck (Erik Meek).

My efforts are inadequate in recreating the excellence of the Auk Head. It appears to have been made by a different hand from that of the other decoration too. The skills involved in modelling the fine detail were masterly.

Michael has better sculpting aptitude than I, so he made his representation, using hints from the worn detail. Even so, our feeling is that the Neolithic artist captured the bird's character and power in a more realistic way than us. This is probably because he or she was far more familiar with the birds than we are. It may also be that the Great Auk had some special significance to their society, seeing as it was so expertly represented. The detail under the beak is remarkable. The undercut behind it casts a shadow, which actually throws it forward visually. This is an effect used later in low bass reliefs.

Mine Howe clay was used by Michael to create a large vessel.



At that time a series of shards with big applied zigzags above a horizontal line was coming to light. The same recipe was used for preparing the clay. It was an impressive piece.

It is likely that this design represents hills by water. Similar triangles have been used, we believe, to represent landscape. Group HA218 (Childe) shows a reflected zigzag with a lozenge inside. The lozenge is considered to be an island in the foreground reflecting itself.

The pots were allowed to dry and, courtesy of Nick Card, an experimental kiln was

constructed discretely behind the spoil heap at The Ness of Brodgar excavations.

A circular pit, just over 3ft. across, was dug. The turves were built in a circle round the edge. Extra turves were then extracted to give more height. Three equally spaced vents were constructed with stone slabs from the outside surface to the bottom of the pit. Earth from the spoil heap was heaped at the back of the turves for support.



A fire of light kindling was ignited around 1.00pm. When burned to ember a 6inch layer of bere husks, courtesy of The Barony Mill, was thrown over it



This stifled the fire enabling the kiln to be loaded. Before the pottery was placed, several ox femurs were laid onto the husks. Their purpose was to support the pots like a trivet, so the fuel was not compacted. The bones would burn hotter and longer than the

fuel. This was intended to support the pots, enabling air to circulate beneath them, encouraging a more even firing. The vessels were then put in place: the huge one on its base.



2 X Schupp Temperature Control Rings were then numbered and placed on corresponding pots. These record the heat-work each vessel has been subject to. Then fuel was added liberally over the pots to form a dome. Following on, we packed grass cuttings as a clamp to cover the whole thing. This stops any draught in the early stages, thus the pots warm slowly and are unlikely to explode.

The fire gradually builds, turning the wood into charcoal. Eventually the burning breaks through the insulating clamp. We patched the breaks up for a while to allow a more gradual temperature rise. After dusk the fire was intense and maximum temperature was of 940°C achieved.



The fire burned away efficiently for several hours as the pots were slowly revealed from the ember. The large upright one took a crack due to uneven cooling. In hindsight, it would have been prudent to place it rim down because bases cool more evenly as they are less susceptible to temperature changes.

When the fuel had burned away, revealing the ox femurs, it was clear that they had done their work. The vessels were well supported allowing air to vent freely under them. This assisted the efficiency of the fire greatly, particularly as they burn at high temperatures.

The kiln slowly lost heat and recording the temperatures ceased at around 11.00pm. The fire smouldered well into the next day and no pots were removed until they were cool enough to be taken without causing damage due to cooling too rapidly.



All the pots fired rim down survived. The ceramic was hard, well fired and rang when tapped like our previous firing experimenting with shell sand and grass temper.

However, it was several days later, when we noticed that the surfaces were crumbling. This had not happened in OPPRA's previous experiment two summers before. We put it down at first to the burnt shell sand accepting natural humidity and expanding within the matrix. Shell turns to lime at 840°C and we

fired to 940°C. We then considered the possibility that it was the duck fat which might have crystallised at high temperature and caused the unexpected and totally undesired effect.



I have since performed further experiments by making test pots of one kilo in weight. First, with no additives then with grass, followed by just duck fat, then duck fat and grass.

On its own it is not easy to form a vessel. With just grass temper the clay works better. With grass and duck fat the clay is much improved and a reasonable tub can be formed.

These tests were fired along with the pottery made for The Pier Arts Centre. For this we decided to make a kiln using less fuel and not clamping to the top. We chose an afternoon when a hurricane was blasting Orkney. The fire therefore burned rapidly. However, due to the dryness of the pots and the open body with much porous stone, every pot survived.

Doctor Mark Cassidy of The University of St Andrews measured the temperature control rings. They indicated a range from 640°C to 695°C. The pottery exhibition pieces came from the kiln undamaged and well fired.

The test pieces came from the kiln complete. The pure Skail clay example was hard, though rough and porous; the grass-tempered

piece the same. The one made with only fat was fine and passable. The tub comprising grass and fat was far more satisfactory altogether. It even felt harder and more durable than anything so far!

Two weeks after the Pier Arts Centre firing, the exhibition pots (made from the same recipe as Michael's) began to fail.



The surfaces seemed weakened and the ware decidedly more fragile. The effect has so far not been as drastic as The Ness Firing, but the pieces would not be classed as viable for the Neolithic person. However the new test pieces remain absolutely stable.

The duck fat specimens on their own have survived very well and show no signs of deteriorating whatsoever. It was suggested by Laura Hamlet (PhD. Student in Geoarchaeology) that the fat may have reacted chemically with the fired shell and perhaps altered its PH. (Tests have yet to be completed to confirm this.)

Our next experiment will be testing Orkney's volcanic dyke material with duck fat in local Harray clay. This will be to further examine the huge advantage of having a naturally available lubricant in the terrible Orkney clay. Also we will examine the fluxing effects of crushed dyke. This temper is very prevalent at Barnhouse and The Ness of Brodgar. This combination may well further show how

Orkney's Grooved Ware Pottery was actually far in advance of any contemporary ceramic production in Northern Europe and even later. It is its poor survival that gives it such a poor reputation amongst many of its excavators.

We must remember that Orkney's Late Neolithic potters were not making this ware for us to discover and display in museums. It was made fit for purpose in its day and will have been quite magnificent to see.

Thanks go to The Pier Arts Centre, Christine Boreland, Kerriane Flett, George Gray (for firewood and grass cuttings), The Barony Mill, Nick Card, Mark Cassidy, Scott Pike of Willamette University, Martha Johnson, Arnie and Ola Tait and, of course, my wife Sigrid who spotted the Great Auk.

Orkney Archaeology Society Upcoming Events

Date	Event	Venue	Time
Thursday 8th November 2012	Martin Carruthers "The Afterlife of Brochs: the Evidence from The Cairns 2012"	Orkney College Lecture Theatre Kirkwall	7.30pm
Wednesday 21st November 2012	Julian Branscombe "Looking Back on The Scapa Flow Landscape Partnership Scheme"	St Magnus Centre Kirkwall	7.30pm
Early December 2012, date to be finalised	OAS Christmas Gathering Julie Gibson, County Archaeologist "Viking Heritage: Interpretation across the North Atlantic"	St Magnus Centre Kirkwall	7.30pm
January/February 2013, date to be finalised	Current Archaeological Research in Orkney: A Review of the work of Orkney College-based Masters and PhD students of the Archaeology Dept of the University of the Highlands and Islands	Venue to be confirmed	
February/March 2013, date to be finalised	Dr Sarah Jane Gibbon "The Archaeological Resource in Orkney's Archives and The Orkney Room"	Orkney Library and Archives	
March/April 2013, date to be finalised	Field walking: to be arranged. Anyone who owns fields they would like walked, please contact anne.mitchell@uhi.ac.uk	To be arranged	
April 2013, date to be finalised	Nick Card Update on The Ness of Brodgar excavations and ongoing research	To be arranged	

24 th to 29 th May 2013, date to be finalised	Joint OAS and Norwegian Archaeology Society reception and lecture to celebrate the visit by members of the Norwegian Archaeology Society to Orkney College UHI	To be arranged
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For the latest updates on OAS events visit the OAS website <http://orkneyarchaeologysociety.org.uk>

Each month the NEWS BLOG section of the website is updated with details of that month's events. We try to include both OAS and non-OAS events that are of Archaeological interest. If you are organising such an event and would like us to include it please email enquiries@orkneyarchaeologysociety.org.uk. All events are also logged on the OAS website's Event Calendar, and are advertised in the local press.

Usual admission prices for regular walks & talks are: £2 for OAS members and £3 for non-members

Everyone is welcome at all our events. After talks, we usually have tea & coffee and a chance to chat. We look forward to seeing you soon.

The OAS maintains a list of members who would like email updates concerning OAS events. If you do not currently receive email notification of events and would like to, please email enquiries@orkneyarchaeologysociety.org.uk and we will add you to the list.

If you have anything you would like us to put into the next Newsletter, or any comments, please contact:

The Newsletter Editor, PO Box 6213, Kirkwall, Orkney, KW15 1YD

Orkney Archaeology Society Publications Available

Mine Howe: Fieldwork and excavation 2000-2005

MINE HOWE



FOAT Occasional Publication 1, December 2005, compiled by Dr Stephen Harrison

This publication covers the investigation of Mine Howe from the original discovery in 1946 through the rediscovery in 1999 and the subsequent archaeological work, providing a comprehensive summary of the work so far. Also included is a dig diary from one of the participants and a further reading list.

Published by The Friends of Orkney Archaeological Trust, now called Orkney Archaeology Society.

Price £5.95

The Old Roman Plough



A facsimile reproduction of a lecture given by George Marwick in October 1903 on the traditional ploughs used in Orkney.

Published by Orkney Archaeological Trust.

Price £2.50

Rising Tides Revisited. The loss of Coastal Heritage in Orkney



The long awaited updated version of the original OAS Rising Tides book.

With an updated text by Orkney's County Archaeologist Julie Gibson and photographs by Frank Bradford to book is an essential guide to many of the less well known and fast disappearing Orkney coastal sites. All profits from

the sale of this book are donated to the Orkney Archaeology Society Daphne Lorimer Bursary which is awarded annual to a deserving Archaeology student who otherwise would not be able to afford to undertake study for a Masters degree in the UHI Orkney Archaeology Department.

Price £15.

All the above publications can be ordered online through the OAS website:

<http://orkneyarchaeologysociety.org.uk/index.php/publications>