
CHRIS
'DACE'
DAVE
STEPHEN
'DAZ'
HUGH
'BOT'
DAVID
ROBIN
RICHARD
MICHAEL
EDDIE
SHETLAND
'69

through alive – just - but hardly according to plan. In fact to make a plan was about a 75% guarantee that it wouldn't work. The truth is that I made plans and hoped for the best that they would work accordingly, whereas plans should always include the possibility of die worst happening as I learnt.

I made plans looking back on the smooth-running success of last yean dwelling on the sunshine, with the flat, fertile, west coast, in my mind, rather than considering fully the rugged, remote, tough terrain of Ushinish Bay, where more thorough plans are essential. I am an optimist. I am still, but I have learnt that optimism is no substitute for thoroughness - the two must go together.

However, who would have chosen to live on meagre rations, which were further depleted by local rat-feasts; and to be feasted upon by blood-hungry midges; to go to a place where every drop of water brought to camp meant a third of a mile walk and a wet boot, and where a packet of biscuits cost eighteen miles and two sore feel? That is what we paid to live in an area where only the toughest Hebrideans had ever managed to settle. When I chose the camp site, I did realise that the area would be excellent for practice in survival procedure. This part of the plan, unlike most, became a bigger reality than I had ever intended!

Perhaps none of us would have chosen to come on this expedition, but when faced with it, it turned into an adventure which none of us would have missed. Fancy starting an expedition with no tents, no marquee, not enough food, no outboard engine for the boat and no boat to take us to the camp site! Fancy carrying black boxes along a steep track on the side of a cliff falling almost sheer into the sea! But they had to be shifted and John Morris proved it was possible. And fancy lugging those same black boxes, plus all our equipment two miles over the moor in the pouring rain, in order to get the stuff to the Colonsay Expedition (not quite intact we regret)! But there was no alternative, so the officers agreed.

And it is good looking back on this tough expedition, for though we bought no comfort with our money, we learnt the value of a common concrete road, the convenience of a motor car. Looking up at the moon from that wilderness of beauty it was incredible to think that man had got that far. and so far from the people who had struggled for food in Ushinish Bay years before us.

The circumstances demanded a lot from each of us, more than had ever been demanded before, from me at least, but we found, once we had settled down to the strain, that the expedition had no breaking point, and that there was always that slim way through where we could surface again, and thanks to all for finding it.

Besides, nothing really went wrong.

Didn't we all return alive without one injury? Didn't the army come and help us out? (Many thanks to them for doing so.) And how about the projects? Just read the following articles to see how successful they were.

Thanks to the Drimsdale Community for the use of their hut where many a fire blazed bright in the evening and where many a talc of Pooh was heard. (Eddie did dig a Heferlump trap a full

8 ft 8 in. deep when our rations were getting low. hut alas no Heferlump obliged!) And thanks to the Lighthouse Keepers who were so patient with our frequent radio calls for food. Many thanks to the Syndicate who allowed us to camp on Uist, even supplying us with fresh fish one day. And thanks to all those who helped us on the Island.

Believe it or not the S.H.S. is coming back next year and for their benefit, two pieces of advice.

(1) Don't wear your new boots for the first time on an expedition.
(For further details contact Mike Plumb.)

(2) Always carry a whistle with you in the Hebrides. (For convincing reasons contact Murray Marr!)

John Cullingford

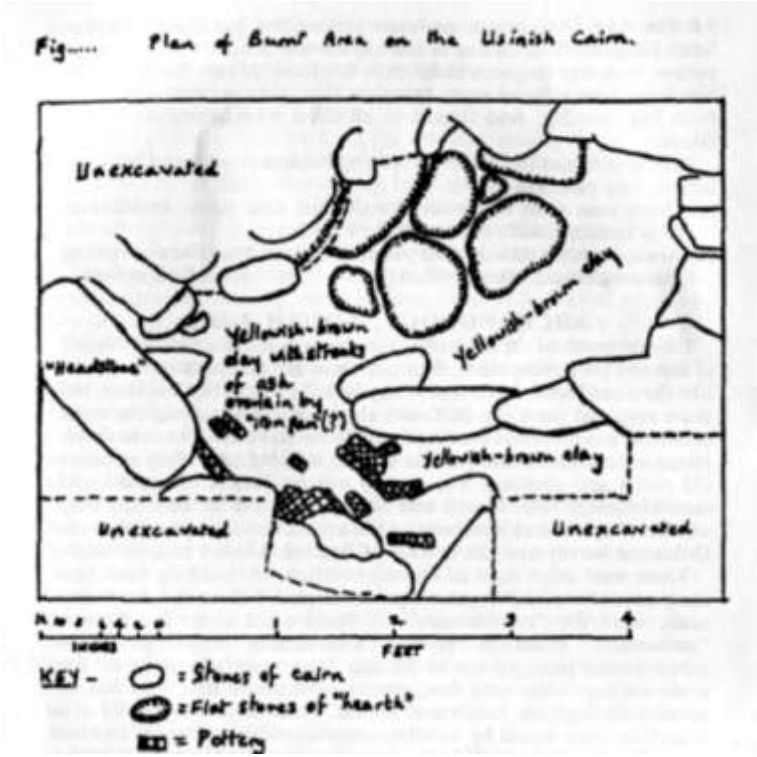
ARCHAEOLOGY, SOUTH UIST

Like so much of the Hebrides, the area around Usinish Bay is full of signs of past occupation. Some of these arc comparatively recent, like the abandoned crofts and "lazy beds" of possibly less than 100 years ago. and these can be found almost anywhere along the coast or inland wherever flat land and cultivable soil allowed some determined characters in the past to scratch a living. A survey of these old crofts and sheilings was carried out by John Cullingford and others (notably John Morris and Simon Hill) and the resulting map will be of considerable interest to the authorities—in particular the Ordnance Survey and the School of Scottish Studies in Edinburgh.

There were other signs of far older settlement, reaching back into the prehistoric of 2,000 years ago or more. Of these the most dramatic were the "earthhouses". A more exact name for these is "soulerrains" (from the French - "sous terrain" = underground)—subterranean passages up to 30 feet long, carefully built of dry stone-walling, with very low, narrow entrances that one has to squeeze through on hands and knees. What they were used for is uncertain: they would be horribly uncomfortable to live in, and not very efficient as a refuge from enemies—who could easily "smoke out" any occupants once they had detected the entrance. On the other hand a souterrain might be quite an efficient "cold store" for smoked fish or dried meat, and some of the evidence from souterrains excavated in Scotland and elsewhere does in fact support this "larder" theory.

We found no less than four of these souterrains within a mile of the camp. All of them - unfortunately! - already known to the authorities, although the Ordnance Survey in Edinburgh had b^cn unable to find one of them on their last tour of inspection some years ago and are accordingly grateful for the precise details we have now given them.

But the souterrains were only part of the story, as each souterrain was attached to a more conventional house, built on the ground surface. In three out of the four cases, traces of these dwelling houses could still be seen, half hidden in the bracken. They are circular in plan, with stone-built roof supports radiating from the centre like the spokes of a wheel, hence the name "wheel house" given to this type, of which many have been found in the Hebrides. Most have



been found on the west coast, and some of us trekked over there on a three-day bivouac to look for one that—according to rumour— had only just been uncovered by wind erosion of a sand dune. Alas. the rumour was over-optimistic. There was, certainly, a large mound which might cover a wheelhouse, but no definite evidence that it did. This was a great disappointment, but on the other hand it was a pleasant change to see the west coast and meet some of the local people, and it was also a pleasant change to camp high up on the mountain side away from the worst of the midges and the flies which plagued the main camp at Usinish. An even more enjoyable experience was our return journey, over all three of the main peaks— Beinn Mhor. the "Nameless Peak", and Hecla—with a splendid view from the lop of Beinn Mhor: but that is another story.

However, the archaeological high point of the expedition was probably the "thing" which we found on the north side of Usinish Bay, ten minutes' walk from the main camp. This first showed itself as a vague collection of large stones, just protruding above the peat. Some of these stones seemed to form rectangles, so after a short

battle with my conscience (which kept on saying "DO NOT DIG") we gingerly removed the turf from one of these rectangles. Underneath, we found an area of burnt clay, with small fragments of charcoal, some tiny bits of burnt bone, and the very smashed remains of a large pot, all lying on a carefully built hearth of flat stones laid on lop of what seemed to be a large round cairn. (See Fig.…). Mixed up with the pot was a thin layer of some metallic substance I jumped to the conclusion that this was "slag", and after Alan Howard had diagnosed ii as iron we decided this must be an iron-working site. But since returning to Glasgow doubts have been cast on this theory, and one archaeologist has suggested that the "slag" is in fact "iron pan" and therefore of natural origin. However, he and two other professional archaeologists are very interested in the pottery, as this looks very much like some prehistoric pottery found in Tiree, and dated to the Early Iron Age—about 2,000 years old. Apart from that, they are also interested in the cairn itself. This seems to be round, or possibly oval, and at least thirty feet in diameter—judging by a resistivity survey very skilfully carried out by Alistair Philips. This makes it the right shape and size to be a "chambered tomb" of the Neolithic ("New Stone") Age - back to 2,000 B.C. or more - and the fact that it lies almost directly on a raised beach, and was built before the peat started to form, suggests that it belongs to a period of drier and warmer climate that is believed to have existed between about 500 and 4,000 B.C.

Whatever it is, it is worth a proper "dig", and I plan to go back there next summer -possibly with a party of archaeological students from Glasgow University –and excavate it fully. Any senior S.H.S. members who are gluttons for punishment and wish to join in will be very welcome!

Geoff David

THE TRUTH ABOUT CHARLIE AND ONE OF HIS CAVES

The cave was first brought to the attention of the members of the expedition, when a John Morris "survival" bivvy had failed to find it. They had been given wrong directions and had had to return to camp late one evening. From then on there were various visits to both the so-called "fake" cave, and the tunnel on the south side of Glen Corodale, which, according to last year's expedition report, was the time site of the Prince's sojourn.

Sceptics in camp, meanwhile, had decided that neither cave ever sheltered the Prince, since most island caves worthy of the name are supposed to have been his home at one lime or another. They will no doubt be interested to learn that it is on record lhat, "in a cave on the hill, by name Cas Fo Shuath, which stands between Hecla and Beinn Mhor, Prince Charles Edward was hidden for three weeks". But, despite the £30,000 reward for his betrayal, not one of the "considerable" population in "Corodale Valley" at the time, told the government.

Not only did the Prince stay there, but he also had better luck on the hand-lines than members of the expedition. According to a contemporary account the Prince used lo pass the evenings fishing at sea. "on board a small boat which continued rowing along, and he catched with hand-lines fishes called lyths (pollack) somewhat like young cod

It is also on record that when at Corodale he killed a deer from which Edmund Burke cooked appetising collops. They washed down the deer's meat with brandy poured into a clam-shell from the sea-shore.

John Kemp

AND THE "LAST WORD" FROM PETER TATHAM

John Buchan, writing in a book called *A Book of Escapes and Hurried Journeys* tells the story of Charles's escape from the battlefield at Cullodon to his journey to France. A part of it, "In the Outer hies", deals with Charlc's wanderings up and down the coast of the Outer Hebrides.

27th April. 1745 he lands at Rossinish in Benbccula from Skyc in a storm and spends two days drying out. 29ih April sets sail for Isle of Seal pay olf Harris.

30th April —One of the party sent to Stornoway to secure a vessel for the Prince to cross to France in. He is successful and by the 6th May Prince Charles and his followers also reach Stornoway.

6th May -Charles and Company set sail for Scalpay but their passage is blocked by three government vessels. They land on a nearby deserted island. They leave island and head for Lochmaddy only to find it occupied by another warship. Charles retreats unobserved down to Loch Uskavagh in Benbecula.

15th May—From Benbecula the Prince crossed to South Uist and walked to Corodale "where Charles had more comfortable quarters ". He spent three weeks here (as recorded in the first article) before again attempting to reach France.

6th June Sailed to Wiay—but the troops showed up so he sailed back to Rossinish. In attempting to sail to Wiay and Corodale he was harassed by the British, and was forced to land in an unspecified place on South Uist.

15th June—Reached Lochboisdale by sail.

For the next three days the Prince was engaged in dodging the redcoats around Lochboisdale. He reached the castle of the local, chief, MacDonald of Boisdale, only to find him captured.

It was at about this time that Charles formulated his escape plan. A certain Hugh Macdonald, who had eloped with the famed Flora Macdonald. sent Charles a message warning him of the impossibility of continued escape in the Outer Hebrides, but suggested that Charles should flee to Skye where his wife Lady Margaret Macdonald would receive him. The Prince would go as a maid to Flora and one of the Prince's followers as Flora's servant.

Flora immediately went to Benbccula and the Prince once more to Corodale, with plans to assemble at Rossinish, but militia men were camping at their rendezvous point.

During this time, to quote Buchan, "The rain never ceased and they all thought the windows of heaven had been broken open, and a swarm of midges settled upon the Prince's face and hands, inflicting such misery that he cried out in his pain and despair." (Shades of Uist '691)

Two days later Flora appeared with news that the militia were three miles away, so the party sailed to Loch UsKavagh.

28th June - At 8 p.m. the Prince sailed from Benbecula to Skye.

SURVIVAL

"Each different expedition will have it's own individual character/' said the 1969 Prospectus. South Uist's was no exception. It had lhat of survival. Except for the sinking of the M.V. *Claymore,* practically everything that could go wrong, went wrong.

The main party was compelled to walk the last seven miles to camp, not having eaten since a packed lunch the previous day. The Advance Party could not pick up the Icelandics at Euston, and frantically went, so one heard, on wild mad dashes on the backs of lorries all over the Highlands assembling S.H.S. belongings. Such was the gross shortage of food that the camp depended on freshly caught fish for two consecutive evening's meal, towards the end, no to mention the bread we made. The midge plague was so black that twice fires were lit in the marquee, not only dismissing the midge, but ourselves too. We were rescued by a small margin from the marquee being blown down on the last evening, when a phenomenal gust of wind forced pegs and our main pole out of the wet ground.

On the last day, the weather turned, and we had to shift everything two miles to the lighthouse jetty, after the lighthouse radio transmitter conveniently dismissed itself from operational duty, just at the critical moment when we wanted confirmation of the Army's tactics for accomplishing our withdrawal. In a last assault to save us from having to move everything ourselves, John C. persuaded the Army to round the headland, but the seas were too rough, so the Army turned back. As a result the marquee top and Vinga, both "needed for Colonsay. and the calor gas empties, were left behind.

With hardly three hours to departure from Uist. Murray got lost on the moor. He was found by John C. and Geoff, John C. barely having recovered from another plague - "gutrot", that shook most of the camp to varying degrees. But that was not after Alan, on dialling 999 emergency to the police, was respectfully asked to put 4d. in the box!

After problems with payments for the goods from the Grogarry shop, we had a rough crossing to Oban. But, if that was not enough, we missed our connection in Glasgow, and rolled into Euston at the unfortunate hour of 2.40 a.m. Ironically, that particular train was five minutes ahead of schedule.

Nevertheless, due especially to the discomfort of being so desperately short of food, and the continuous unpredictability of arrangements, the expedition became a real adventure. We were all tested and were probably surprised how much we could endure.

David Mark

THE UIST CAMPING SONG

(To the tune of " Rickety-tickety-tin ")
About a camp I'll sing a song
(Sing rickety-tickety-tin)
About a camp I'll sing a song
When every-thing went wrong
Not only was it far too long
But we all came home very thin.
Our leader was a chap named John
In stature he was rather long
He'd play the guitar and sing us a song
Or occasionally chant us a hymn.
Now Geoff he found a Stone-age pot.
Then he discovered that it was not.
Now he's not quite sure what he's got
Or whether his hearth smelted tin.
Alan was our weather man
He'd measure the weather whenever he can
He told us when the rain began
And when the marquee would come in.
And when at last the Army came
All our trouble began again
Carting boxes in the rain
And soaking right through to the skin.
A verse of apology
So if you're going out Hebrides way
South Uist *isn't* the place to stay—
At least not around Usinish Bay—
You can all see how mad we have been!

(This fragment was found by the lineside between Glasgow and Preston. There was also a verse about a Camp Administrator but the hieroglyphics could not be deciphered in this case.)

P. S. Forsaith

CLIMBING REPORT

Plenty of one-pitch climbs were found within easy reach of the camp site. The rock closer to the coast tended to be more brittle and necessitated "light" climbing. Nearly all climbs required a fair amount of cleaning up. The crags directly above the campsite were ideal in many respects, providing routes ranging from "easy" to very difficult/severe, together with one or two very good abseiling faces. On many of these "local" climbs, natural top belays were absent and pegs were used.

Besides "local" climbs, many other areas were visited, all within about an hour's walk from camp, the most promising being a face opposite the eastern tip of Loch Corodale where several cracks and comers provided opportunities for lay-backing, bridging and jamming.

Towards the end of the expedition, at the risk of its becoming institutionalised, we arranged a climbing bivvy on the North face

of Beinn Mhor. This was a rather traumatic undertaking for me considering last year's occurrences on the face (see last year's climbing report on South Uist), but all went well and the four of us had a great time re-climbing "Improvisation Route" and trail blazing a route up the third buttress along from Improvisation Route.

Iron-man Osborne ironed out all the problems on this climb much to our relief as the second pitch proved quite strenuous; and here Mike Osborne himself takes up the story.

"On the north-east side of Beinn Mhor, the rock outcrops form large butlressess approximately ISO ft-200 ft high. Separating the gullies are deep gullies, shaded, dark and floored with loose rock fragments.

"Good climbing", says Big D.

Dick Light, Pete Tatham, Chris Hyde, and I set out after lunch from base Camp and scrambled to the beginning of a climb we thought we could tackle. When we reached the foot of the rock face it was in shade and the midges were already in attack formation. We decided on the climbing order and Dick led off carrying slings and karabiners to secure himself as he climbed higher. After belaying himself to the rock he brought up Chris and Pete and me, each with a squadron of midges. I brought up the rear so that I could lead straight through onto the second pitch. This rock face, which never saw the sun, was constantly wet, and mosses which thrive in these conditions, covered most of the good holds. However, after some difficulty and a certain amount of "weeding", I reached the only good belay point almost at the limit of the rope, and happily above the flight ceiling of the midge, where the other three eventually joined me."

It's a pity we didn't spend more time on the North face for there is a lot of good climbing to be done there and I think in future expeditions it would be wise to spend more time exploring these cliffs.

Dick Light

POEM

The day was ripe.
The rock face was offering itself to whoever dared possess it.
Now was the time
To climb.

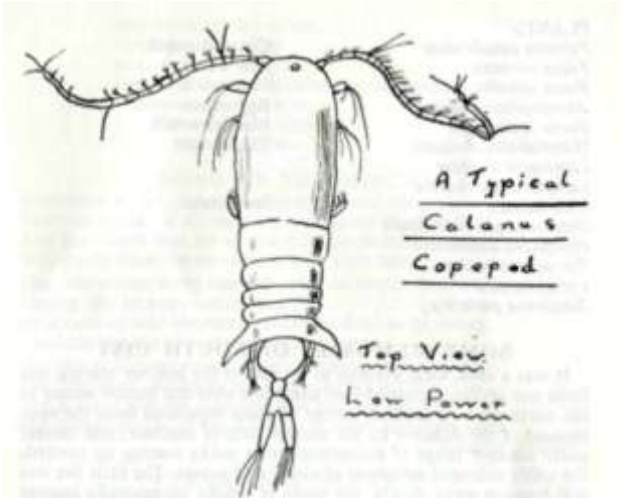
Action was demanded more loudly by every second that broke
Like a wave over the craggy valley.
So
I climbed an easy pitch or two
Adding with each move a better view - of safety.
The third pitch came!
"Onwards and upwards" was the cry;
"Live now or later in boredom die."
Flinging my head back I caught the sky
Between my teeth, my tongue scraped dry.

Each move I made
Became delayed as if split in two
The first sensation was one of death.
of apprehension.
the chance of a fall.
The second sensation was one of life.
The hold was safe.
Then up in the air two ravens spin:
I've approached their nest—a mortal sin.
In omens I never will believe.
But oh. how I longed for my reprieve
From those
Nagging crows.
The crux of the climb is Now. I thought.
I'm two hundred feet up, or not much short.
Each move contains two parts for certain.
The one with death I know I'm flirtin';
The other is Life:
Oh Life, oh Life I cling so fast
Though oft I've cursed you in the past.
But now. I vow. your value's clear.
I'd miss you, just like I miss my beer.
As these thoughts flash past my mind
For another hold I search to find:
A difficult move this I feel sure.
I can only trust myself -no more;
So moving up I clutched and quaked
Till—suddenly my left hand-hold flaked.
And lurching backwards in mid-air.
I smelt the scent of Jenny's hair. Dick Light

MARINE BIOLOGY

The marine biology of South Uist this year, although not so discovery-studded as the archaeology, did provide a certain amount of interest. On the sea-shore ecology side some line and belt transects were used to emphasise the difference between the exposed and sheltered shores of the area. It was slightly unfortunate that the day picked to study the exposed shore was rather windy, and the limits of the splash zone were made only too clear. The basic zonation of the rocky shores was as follows: lichens, channel wrack, flat wrack and barnacles, saw wrack and egg wrack, thongweed, and lastly, only uncovered during spring tides, the laminorians.

The other field of study engaged upon was that of the plankton. The most obvious members of this vast assembly of plants and animals were the multitude of jellyfish washed up, and viewed from the Vinga. Not only was an Aurcliaaurita. the common jellyfish identified but also many examples of Chrysaora isosceles, a much rarer stinging scyphogoa. There was also one unconfirmed report of a Portuguese man-o'-war. The smaller plankton were studied by means of a home made net. The mesh of which was too large except



for copepods, a surprising number of which were caught in the surface layer of the sea in bright sunlight.I think, overall, quite satisfactory results were obtained from the project, and I hope those that helped me got as much enjoyment from the marine life, as I did.

COMPLETE LIST OF MARINE ORGANISMSFOUND DURING THE STAY IN SOUTH UIST

ANIMALS

Halichondria ponicea	Breadcrumb sponge
Physalia physalis	Portuguese man-o'-war
Aurelia aurita	Jellyfish
Chrysoora isosceles J	
Actinia et/uina	Beadlet anemone
Carcima moenas	Shore crab
Patella spp.	Various Limpets
Echinus esculenlus	Common sea urchin
Psammechiniu milianis	Sea Urchin
Spirorbis borealis	Small worm on fucus
Lepas anatifera	Stalked barnacles
Balanus spp.	Acorn barnacles
Cancer pagurus	Edible crab
Calbiasloma :i:yphinum	Common top shell
Liltorina spp.	Periwinkles
Nucella lapillus	Common dog whelk
Mytilus edulis	Common mussel

PLANTS

Pelvetia canaliculata	Channel wrack
Fucus serratus	Saw wrack
Fucus spiralis	Flat wrack
Ascophyllum nodosum	Egg wrack
Fucus vesiculosus	Bladder wrack
Himanthalia elongata	Thongweed
Laminar ia digitata	
Laminar la saccharina	
Viva lactuca	Sea lettuce
Enteromorpha intestinalis	
Phorphyra umbilicolis	
Vcrrucaria maura	
Lecanora atra >	Lichens
Xanthoria parietira)	

SOME MEMORIES OF SOUTH UIST

It was a cool, clear evening as we sat on the heather staring out from our idyllic, thousand-foot camp site over the barren wastes to the north-west—a random scatter of lochs separated from the endlessness of the Atlantic by the narrow strip of machair; and farther north another range of mountains, their peaks soaring up towards the softly coloured striations of cloud and sunset. The little fire was still burning away slowly, the wisps of smoke occasionally leaping out in wild contortions as the faintest suggestion of a breeze shifted slightly in direction; or maybe just to let us know that the fire was still there.

Indeed this was a weird contrast to the drama of the afternoon on the summit of Hecla, watching the foaming, billowing clouds spill over the unnamed mountain, before gathering again in the glen to come racing up at us, and then finally evaporating into thin air. We felt like real explorers, discussing, not the next day's undertakings in this wild and rugged territory, but the pleasures and comforts of life back home in London. There were concerts, pubs, and girl-friends to talk about—things we somehow had not mentioned back at the main camp, when there were more pressing things like rations. Pooh stories, or whether a particular fish was a polloch or a sea-trout, to bother about. Then, to add a final touch, Alan had his wind-readings to take. So we talked and talked, not really worrying about the passage of time in this setting that had changed little in hundreds of years, until with pleasant thoughts we went to bed. There lay what would probably be a hard day's walking ahead of us.

Stephen David

EXPEDITION POETRY

The day's sun call awoke the tide.
and the morning's gulls
chased the waves,
but in that slow afternoon
along lost shores I wandered, heard a butterfly

and the silent lap of sea, turn the sandy
deep as I waited for the hills.
but somewhere, behind an uncertainty of grass
horizons, far away in wind,
like mournful islands,
cry tomorrow.

I. D. Goddard

SONG OF THE MINCHES

Seaworthy as salt, the ageing waters pound the granite
That has stood for all these years to guard the M inches.
And the clouds that act as escort to the Hebridean swell
Will gently bless the mountains with their hand.
The mist comes down the glen, and the clouds pass overhead
Loping like an army on its way.
Or a herd of wild elephants, with cloudlets as its young,
Flanking the old-grey rangers of the storm.
The sky is tingeing orange, and the canvas is bemoaning
That the wind and spray are gathering for night.
The heather and the outcrops fade into the hill line,
But the vengeance of the Minchcs is never lost from sight.

P. Stuart Forsaith

WHERE TIME NEVER WAS

Never quiet
The ever-changing sea
Permanently rolling, heaves it's sighing
Embryo, calm upon the stony beach
Beneath the sun of hazy sky.
Monotonous sounds creep over the
Timeless slopes of damp heather
And the boulders peering gently at the shining water.
Even the gulls their protest cry
At infrequent irregular intervals.
The soft breeze minds not where it
Comes nor where it goes over the
Interminable moor, blowing the opulent flies
Their bloated stubborn ways at speeds immeasurable.
The mountains immemorial stay for ever
And a day above the cliffs unchanging.
Inestimable grandeur fixed for hurrying
Ran to pass unnoticed, merging
Mysteriously with the nothing of the sea and sky.

Jim Edwards

SH . . . SH . . .

Stilly swishing silence slowing swells—
Lifting, floating my cigarette ash like the smoke
Wafting airily across seagulls' cries.
Thin stretched gently woven wisps of cloud
Mistily mark the meet of sea and sky.

Moving ripples ever so gently afraid of rolling
Their pitiful water against. . .
Lazily, soothing even the butterflies
Flap gently still—soundless.
Living, feeling, loving lustfully for nothing.
Jim Edwards

THE BEHAVIOUR OF GANNETS AROUND USINISH BAY

The island of South Uist lies perfectly on the passage routes of sea birds flying from north to south and from south to north. It also lies close to some of the best breeding grounds of sea birds, especially the gannet, in the whole of the British Isles. Hence the abundance of certain species.

I spent a lot of my time just sitting on the rocks looking out at the vast expanse of sea and the numbers of birds that could be seen upon it. It was not many minutes before you saw some gannets, large white birds which would fly high above the water and then suddenly dive into the dark sea. These birds fascinated me and it was about them that I decided to base my project.

The northern gannet *(Sula bassanus)* is a pure while sea bird which has vivid black tips to its wings and a yellowish head. The gannets begin to gather at their breeding grounds in December and the one or two eggs which are laid appear in late March. The largest colony of these birds is to be found on St. Kilda, which lies out into the Atlantic, north-west of South Uist. On St. Kilda around 44,500 pairs nest every year. The incubation of the eggs is done equally by both sexes and takes about six weeks. The young is then fed by its parents for about nine weeks. By this time it has built up enough stores of fat to look after itself. The young birds have a grey speckled body for about four years before they have the distinct plumage of the adult bird, and it is not until the fourth year that they can successfully breed.

It was by far the most prolific visitor to the coastal regions around Usinish. Flocks of between three and twenty-three birds were seen at a time and these flocks consisted of almost entirely young birds. The large flocks were seen on days when the sea was very rough, and the smaller flocks being when the sea was much calmer. It was on these calm days when the gannets could be seen doing their characteristic dives into the sea. They always dived close to the land never more than a quarter of a mile out at sea. On many of the occasions when the larger flocks were seen they were accompanied by single Manx shearwaters; again a bird of the open sea, distinguished from other shearwaters by sharply contrasting black upper-parts and pure white under-parts.

Many other oceanic and coastal birds were recorded during my three week stay on the island. These included such species as black guillemot which was found to be far more common than the common guillemot, which was seen only a few times. The storm petrel was also seen along with fulmars and kittiwakes. Most of the commoner species of gulls were recorded. G.B.B. gulls, L.B.B. gulls,

common gulls, herring gulls, little gulls, and black headed gulls were all to be seen. A common tern was also seen during the second week. Great northern divers, and red throated divers were seen swimming in the bay. Along the cliff's shags and cormorants were also to be found. The climax to my bird watching came when an Arctic skua and a sooty shearwater were seen on the journey back to Oban.

In all a total of nineteen sea birds was recorded and along with forty-eight other species, made a total of sixty-nine different species for the expedition.

Gary N. Chidwick

REVERSED MAGNETISM ON THE SUMMIT OF HECLA INVESTIGATEDBY A BIVVY PARTY

Hecla, at 1,988 ft the second highest mountain on South Uist, rose immediately behind the camp site in an impressive and tempting ridge. It was not surprising, therefore, that everyone in camp had climbed it at least once, and some as many as three times, before the expedition left the island. When we arrived it was something of a mystery and a challenge, both because of the remarkable overhanging summit block it possessed, and because the guides warned that the rocks of the summit were magnetic, and seriously upset compass bearings. These warnings were amply confirmed when John Morris and party made the ascent in cloud with the intention of crossing the mountain, but returned by practically the same route by which they had ascended, having not reached the main summit and made a 180-degree turn without noticing it. John's suggestion (excuse) was that the magnetic rocks of the summit made an exact reversal of magnetic north; and that their compasses had spun round and round.

The next bivvy party to leave camp spent several hours on the summit, investigating this phenomenon, as well as taking photographs and taking recordings for windchill. The results of our investigations were as follows.

The summit ridge of Hecla (G.R. (23) 825345 to 828348) consists of intensely folded and crushed Lewisian gneisses. At three points on the ridge the gneisses appear to contain large numbers of distorted crystals of magnetite, leading to small scale magnetic reversals.

The highest point on the summit ridge of Hecla (G.R. 825345) consists of a partly-overhanging outcrop of plagioclase—quartz gneisses with occasional thick veins of orthoclase. In contrast to surrounding gneisses, micas are lacking and magnetite is plentiful in local zones. A compass traverse across the magnetite-rich zones showed complete reversals of polarity over distances of as little as 5 cms. and less, implying distortion of a formerly uniform field, or the existence of many separate dipole systems, rather than a single large reversed field.

The compass did not appear to dip towards this or either of two other magnetic sites shown on the ridge, and this suggests the magnetite-rich zones do not continue at depth. The other two sites of magnetic reversals, on the summit ridge at G.R. 827348 and at the lower summit (G.R. 828348) showed similar, features. In each case the magnetite-rich rock is relatively resistant

and forms upstanding outcrops. The influence of the magnetism in the rocks on the compass extends little more than 1 m. in any direction, and was not observed elsewhere on Hecla.
The occurrence of magnetite, while not mentioned in the Geological Memoir on the area, has been noted in a recent survey, together with a larger area of iron mineral lode at Prince's Cave (G.R. (23) 833314), two miles to the south of Hecla.

Alan Fowler

SOUTH UIST CUP FINAL '69

The two teams met on a hot, sunny afternoon, seemingly in the middle of nowhere. South End, arriving in cars, looked a fit, capable side, with a 10—0 victory over the Commandos under their belts. Undaunted, nevertheless, S.H.S. Wanderers arrived, after the fifteen-mile journey from camp, in high spirits, the more so for having visited the local pub in Lochboisdale! The fans came from all around, and a crowd had gathered by the time the Father blew for the match to start.
The stakes were high—for Wanderers wanted to avenge last season's hefty defeat. The game started at a cracking pace (shins and all), and before we knew it, Wanderers were one up. However, our good fortune was short lived, as the defence was slightly overrun—to the tune of four goals by half-time.
The second half went a lot better, with us scoring two good goals to their three. Tempers flared occasionally but were subdued by the sight of Father in his white collar! This could not prevent one of our players (who shall remain nameless) from loudly exclaiming . . . ! Much to the amusement of the rest of the team.
So the result went 7—3 in their favour. However, the match produced one star, in goal keeper John Cullingford who turned on some spectacular saves. The team had tea at the Church Hall afterwards, before discovering that everyone had to walk and hitch back to camp that evening.
So, tired and bedraggled, we hit the road, some of us to reach camp only at eight the next morning. The agony of it all!

Gareth Jones, Ian Wilkinson

METEOROLOGY

The theme of the expedition was survival, and project work in meteorology was designed to fit in with this. In practise, a number of accidental circumstances led to survival in camp taking precedence over survival on bivouac! Nevertheless, the three themes I had hoped to pursue on the expedition were followed through.
The first theme, and perhaps the most difficult by comparison with the other two, was the production of accurate local weather forecasts based on the camp's weather observations and maps of the synoptic situation plotted from the radio shipping forecasts on 1,500 metres wavelength.
We discovered that the radio was not powerful enough to pick up broadcasts on 1,500 metres so far from the mainland, but with Alastair's ingenuity and the loan of his resistivity equipment, the corrugated-iron roof of the croft house was utilised as an aerial, and

its peat floor as an earth. Subsequently, forecasts could be received loudly and clearly. A limited scries of maps were plotted out; but as always, the demand for closely detailed and accurate forecasts for anything up to three days in advance proved too much to expect, and weather developments were often unexpected. In all fairness (and this is by way of an excuse) it must be pointed out that the weather situations which developed during the expedition were among the most difficult to forecast from; another expedition encountering more stormy weather would have a much easier task in forecasting by these methods.
The second of the themes was the maintenance of a detailed log of observations on the campsite itself. I expected neither a continuous nor a high frequency of observation, but the zeal of the members who were asked to maintain the log leaves us with ten days of records giving full observations every half-hour for the six hours around midday. These are almost certainly the most detailed observations ever made on the Hebrides, as the frequency of observations at the Tiree Meteorological Station is only every three hours. Our figures are probably significant to the microclimatology of west-coast sites in the Outer Hebrides, and I suggest that there is great scope here for another expedition to extend this work to link with sea and earth temperatures. Work of the standard given on this task is very valuable.
The third theme followed yielded further unique observations with respect to what is known as the "Windchill Factor". The term "Windchill" was coined in 1939 by P. A. Siple to describe the cooling power of air temperature and windspeed on the human skin. As can be imagined, the significance of this in survival when crossing windy ridges and cold mountain summits is very considerable; in fact, about 75% of that marrow-chilling cold you feel when you stop for cheese and "Penguins" on some bleak col, can be accounted for by the "Windchill Factor". As a result of experiments made in Antarctica during 1940, Siple and Passel developed a formula for calculating an index of windchill. This remained unpublished until November 1964, when G. Melvyn Howe of Aberystwyth University published an article in *Weather* on "Windchill, Absolute Humidity and the Cold Spell of Christmas 1961", giving the formula. This article produced a shower of letters to the magazine expressing considerable interest and criticism.
S.H.S. expeditions provide a unique opportunity for using the "Windchill Factor", and investigating its usefulness. Unfortunately, I was not sufficiently prepared to do work relating windchill to survival; nevertheless, a two-day walk and bivouac over the mountains west of the camp allowed windchill to be calculated for fifteen points on a long traverse. When these observations are linked with the synoptic situation during those two days, and with the topography of the area traversed, I hope that the results may be of sufficient interest to be published. Here again there is work which another expedition might pursue much further.
It is customary to end the "Meteorological" commentary on the expedition with a summary of the weather experienced. The South

Uist expedition, taking place in early August, had rather uninteresting weather. After a fine, anticyclonic spell which greeted the Advance Party, a series of mature depressions passed the Hebrides to the west on a SSW-NNE track, giving days of strong winds and rain alternating with sunny, hazy and calm days—sailing particularly suffering from a lack of windy but rainless days. Rain was never heavy and rarely persisted more than half a day. During the last week a large, complex low-pressure system west of Britain gave several days continuous calm, with haze and fogbanks, and clouds of midges. To our chagrin, on the last day when we badly needed calm weather so that we could be taken from the campsite round the coast by boat, a small but active depression developed, literally out of the blue. After demolishing half the marquee during supper with its squalls, it maintained a rough sea throughout the vital moving day and necessitated the transport of all the camp equipment two miles over a col to another jetty to meet the boat. With worsening weather and a very low tide making the second trip of the boat to take us off unlikely, the prospect of a seven-mile walk over the mountains meant that the Vinga, the marquee, and the calor gas cylinders had to be abandoned on the beach at Usinish Bay.

In retrospect, particularly after comparing our observations with the climatic means for South Uist, I have to conclude that we enjoyed (or suffered?) typical Hebridean summer weather. My thanks go to all those who helped to produce the valuable detailed recordings that were made. They worked conscientiously and accurately at a task which was not obviously rewarding. Their help will be acknowledged in any material published.

APPENDIX

Recordings made were of: Wind speed (metres per sec) Cloud type Dry-bulb temperature (°C) Wind direction (from movement
Wet-bulb temperature (°C) of lowest clouds)
Rain—time of onset Barometric pressure (millibars)
type (drizzle, light, medium, heavy) Pressure tendency.
time of cessation

Items 1 and 2 gave the windchill factor by the following equation: *2\/\QQ* x wind speed (m/sec)-)- 10.45-wind speed (m/sec)
multiplied by 33-dry bulb temperature (°C) Items 2 and 3 gave the % R.H. by the following equation: saturation vapour pressure for wet-bulb temperature— ™
millibar value for depression of wet-bulb temperature saturation vapour pressure for dry-bulb temperature

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(Back copies of *Weather* should be available at your local library.)

Alan Fowler

BY LAND-ROVER TO THE HIMALAYAS

A long interval between school and university seemed to offer the ideal opportunity to travel. Having spent part of my life in Arabia and East Africa I decided to further my travels by joining a mixed group of twenty-one driving in two twelve-sealer Land Rovers to Kathmandu, the capital of Nepal, and back.

Leaving Dover on 1st March, we travelled through Belgium, Germany, Austria, Yugoslavia, and Bulgaria into Turkey, arriving in Istanbul seven days later. There we spent three days, visiting the famous Blue Mosque and the Topkapi Palace, taking a ferry up the Bosphorus, and generally relaxing. Then on through Central Turkey, across hundreds of miles of snowy, mountainous wastes into Iran. From the very westernised capital, Teheran, we continued through the Elburz Mountains down to the Caspian Sea, where we were delayed for two days when the trailer behind one Land Rover shed a wheel. Via the holy city of Meshed, we entered the deserts of Afghanistan. Up till now the weather had forced us to stay in cheap hotels (some at three bob a night t), but from now on we camped. Tents were too much trouble, and wherever we camped we merely lay down on the ground in our sleeping bags and hoped it would not rain— which only occurred five or six times. We would generally rise at 5 30 and drive all day, stopping frequently for meals etc. We cooked our supper on a wood fire and double Primus, and most nights got to bed by 11.30

Afghanistan was cold, well below freezing at night, just above during the day. We passed through the beautiful town of Herat, along a Russian-built highway to the strange and mythical town of Kandahar, then north on an American-built road to Kabul, an amazing city sprawling over the foothills of the Hindu Kush. We spent a few days in and around Kabul, surrounded by the most superb scenery and by the friendly and hospitable Afghans. Having changed our money for Indian and Pakistani currency on the black market (at up to 80% profit), we narrowly escaped being caught with this illegal currency by the Customs, and continued through the Khyber Pass down into the plains of Pakistan. We arrived in Lahore on 1st April, and after three days drove on to India and New Delhi. Here it was 100°F in the shade, very humid and hazy, and no one felt like seeing much of the city. On to Agra and the Taj Mahal, shimmering in the heat, and even more overpowering. Benares with its numerous temples, and the funeral pyres by the sacred Ganges. Buddha Gaya, where Buddha sat under a tree for a week and was according to the legend "enlightened". Then into Nepal, arriving in Katmanhdu on 12th April. Narrow streets lined by temples and shrines (Buddhist and Hindu—both religions coexist in perfect harmony here), painted processions and the happy, thronging Nepalcse people make Kathmandu a dream world, beloved of the hippies, of whom there are in fact very few (the Nepalese government does not approve of them and is refusing them visas).

After four days in Kathmandu we set off from a village forty miles away on a trek into the Himalayan foothills, guided by three

Sherpas, one of whom had been presented by President Kennedy in 1962 with a medal for saving the lives of two Americans on Everest at considerable risk to himself. Our camping equipment was carried by Nepalese porters. In eleven days we went from 2,000 ft up to 11,000 ft and down again to Kathmandu at 4,500 ft and covered about ninety miles. This was only about eight miles a day, but involved at times climbing 3,000 ft in three hours. Descending was just as exhausting as ascending, and those of us suffering from dysentery found the going rather hard. The terrain varied from hot and arid rocky valleys to cool, dark forests where the winter snows still made the paths slippery. Regrettably the weather was nearly always hazy, and we had only a few glimpses of the giant Himalayan peaks, though the smaller, nearer peaks were often visible.

After two days' rest in Kathmandu we began the drive back to England on 30th April. We spent three days in a game park in north India, where we saw most things except for tigers, though we heard one once. Then Dehli, even more sweltering than before. After Lahore, where we visited the Badshahi Mosque, the largest in the world, we drove through the deserts of southern West Pakistan to Quetta, and on into Iran. At the border five of us left the Land Rovers and travelling 1,200 miles by bus and lorry, day and night, made a 500 mile detour to the ruins of the ancient city of Persepolis, once capital of Darius's Persian Empire. Back through the fabled city of Isfahan, with its mosques covered with coloured ceramics and its beautiful bridges there were no hotels open at midnight, so we slept for five hours in the doorway of a mosque - our first sleep for forty-eight hours, interrupted only by a puzzled policeman who was not sure quite what he ought to do with us. We arrived in Teheran twelve hours ahead of the Land Rovers, and joined them the next morning. Thence back to London by approximately the same route as we had taken on the outward journey.

We arrived in London 3^ months and 18,000 miles after setting out. Although at the time 1 felt glad to be back, I realised within a few weeks that this journey, unforgettable as it was, only served to whet my appetite. Some day I hope that I shall return to Nepal and also to Afghanistan, though it will not be long I suppose before these remote and mountainous countries are conquered by our own Western, technological civilisation

Stephen Gethin

SHETLAND EXPEDITION

Chris Dawson, Mike Underhill (Daz), John Abbott, Mike Jeavons, Richard Jeavons, Hugh Williams, David Vale, Stephen Gelhin, Alan Evison, Robin Spratt, David Wolfson, Robin Dance.

LEADER'S REPORT

This was the first time that a group from the S.H.S. had visited Shetland. Reconaissance was therefore one of our main tasks. We found several camp sites, one of which the 1970 Unst expedition will be using.

Less rugged and more fertile than the Hebrides, Shetland has other assets which will make it admirable for S.H.S. expeditions. The voes, cutting inland like long fingers, provide ample opportunity for canoeing, with some sailing, and the geographical, botanical, archaeological and ornithological opportunities are enormous. Because of this potential, it would seem that members of an expedition wishing to get the maximum from their stay in Shetland, should study certain topics in depth. This we endeavoured to do and the results appear in the following articles.

Our group consisted mostly of people who were either already at university, or about to go, plus three old hands. For the first week there were nine of us and for the second, thirteen. Such a small group is comparatively easy to organise and life was made easier by our having a Ford Transit to ferry us when necessary, and by our having Voxter farmhouse, a solid but not luxurious building, in which to live and work.

The fact that we travelled up together to Aberdeen in the Transit helped to know each other and helped us to co-operate in the running of the projects. All of us knew what the five people running projects were trying to do. I think that perhaps, subconsciously, we were also helped by Shetland and the Shetlanders to achieve this balance of compromise and co-operation.

One is always liable to get a one-sided impression of a place one is only visiting briefly. But perhaps if one is observant, one does sense the overall atmosphere of a place without the interference of minute detail. The overall impression I got of Shetland was of a fine balance. With 1970 being European Conservation Year, we are especially aware of the need to keep a balance in life and perhaps somewhere like Shetland can teach us a lesson in this.

With the fertile Cheshire Plain not many miles away from me as I write, I am reminded how comparatively hard and infertile Shetland is. Above Voxter farmhouse it requires three tons of lime and several cwts of phosphates per acre to reclaim the heather on the hillside and grow grass. Yet it is being done successfully, slowly but surely. Not including the wire, the fencing posts, placed at six ft intervals, cost about four shillings each and a corner post over a pound. Yet, across the hills, sometimes at incredible angles, runs miles of fencing, so that grazing and livestock can be controlled.

Gone are the days when Lerwick harbour was full of boats nudging each other at anchor all the way to the island of Bressay. Yet men can still make a hard living from the sea and are being encouraged to do so.

Nothing in Shetland is easy. The wind, the weather, the landscape, the sea. All of these make their presence felt. It is possible for us in urban England to forget the sea and the landscape very easily, and we do our best to hide in offices and forget the weather. It is in us all to avoid and, as urbanisation and inventions increase so we avoid difficulties more and more. One of the phrases of our age is "It's easier.. .." Yet by making things "easier" we make living more difficult—as the need for European Conservation Year shows.

Shetland and Shetlanders remember their past and what they are now has grown from it. We see the outward signs in such things as the shape of their Shetland Model boat, shaped like a Viking longboat to cut through the deep water, and in the Shetlandic words and name—"shalder" for oyster-catcher, "scories" for gulls, "planti crub" for a small garden area surrounded by a stone wall. They are not slow to embrace modern conveniences such as the telephone, television and the motorcar and they are keen to attract visitors. But all this is kept in balance by their outlook and attitude to people. On the narrow roads one is forced to wait in a lay-by for a car coming in the opposite direction, but always a hand is raised in acknowledgement. Circumstances compel courtesy until it becomes second nature. Similarly, the difficulties of making a living in the hard environment encourage Shetlanders to be neighbourly and friendly.

All is held in a balance: the harshness of circumstances by the friendliness of people, the "easy life" of modern amenities by the harshness of the natural surroundings, and any desire to acclaim what is new by a sense of the past. How long it will remain so depends on many factors, but perhaps we from the south can learn a lesson from the situation as it is.

For all their help I would like to thank Mr. Houston and his staff at the Land Commision office in Lerwick, Mr. Innes of the Zetland Education Authority, Mrs. Brown for her untiring efforts in supplying our food and stores, Mr. Robb for his advice and Mr. Billy Johnson for his help and many lively and informative conversations.

Chris Dawson

SHETLAND AND THE HEBRIDES

Having spent the four preceding weeks stalking round the Outer Hebrides, I cannot help comparing the Shetlands with them.

"Remote" is the word most often found in descriptions of Shetland. However, although the feeling of physical remoteness and, in many ways, cultural difference, is greater, there is in Shetland a more definite contact with twentieth-century ways than I saw anywhere in the Western Isles, with the exception, perhaps, of Stornoway.

Because of their obvious isolation, the Shetland Islands have had a more urgent need of a capital than the Outer Hebrides, and indeed, in Lerwick far more than Stornoway, there is the feeling of a business centre for *all* the islands. Thus, whilst the centralised economy of Shetland gives the island group a concrete individuality, the Outer Isles have no real economic centre within their boundaries, and, from that, no way in which to maintain a national individuality. So in spite of many similarities to the Western Isles, I do not get the impression of a fading way of life in the Shetlands. This gives them less of a feeling of remoteness than the Outer Hebrides where the Scottish mainland is so often clearly visible, not only physically, but as an attraction to the young islander to leave in search of easier wages.

Alan Evison

ARCHAEOLOGY FROM THE STONE AGE TO THE BUILDING OF THE BROCHS

Attempting to reveal the basic character of Shetlandic culture, I have made a very general survey of the vast number of antiquities to be found, both spread out and in concentration, from the north of Unst to the south of Mainland at Jarlshof.

Shetland is of particular interest to the archaeologist because it has more recognisable Neolithic structures than any other area of the British Isles. These vary from strange heel-shaped burial cairns to the two Neolithic temples of Stanydale and Yoxie. These late Stone Age monuments, over 3,500 years old, arc massively built in the megalithic manner with walls seldom less than 6 ft thick, and sometimes thicker than 12 ft, as at Stanydale. Heel-Shaped Cairns

The most common, but not the least interesting antiquities are the heel-shaped burial cairns which have been discovered in increasing numbers since the report of the Royal Commission on Ancient Monuments in 1946. They are so-called because they resemble, in outline, the heel of a boot. On average they measure 40 ft both lengthways and across. They fall into two categories at present (though future excavations may reveal more):

1. *Chambered Cairns.* These contain a narrow passage leading from the concave front to a small chamber, with one or many recesses to hold cremated bones. The shape of the passage and of the recessed chamber is particularly clear in the Pundswater Cairn. However, one of the best preserved chambered cairns is at the top of Rones Hill, having its roofing slabs in place and intact.
2. *Cisted Cairns.* Instead of a passage and chamber, these cairns contain one or a number of cists, asymetrically placed. Since they generally tend to be in poor condition, there are fewer cisted cairns known or worth a visit. Nevertheless, the Muckle Heog cairn on Unst has two easily distinguishable cists and is reported to have two more. (Having stared at it for over an hour I began to imagine I could see seven!) The Vord Hill cairn on Fetlar, next to an impressive chambered cairn also supplies an interesting puzzle, with at least one definite cist.

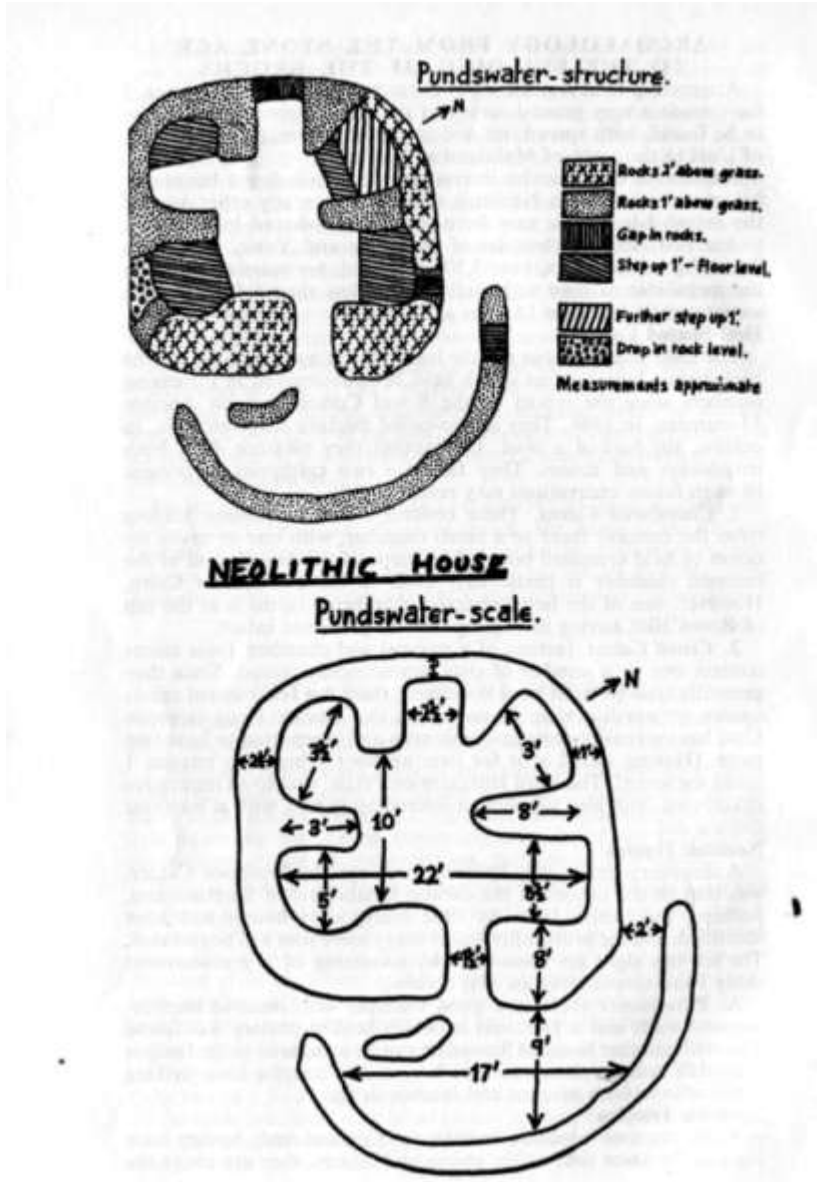
Neolithic Houses

A discovery (made only thirteen years ago) by Professor Calder, was that of the houses of the earliest inhabitants of Shetland and, perhaps, the British Isles. By 1962 nearly sixty houses had been identified, and the probability is that many more sites will be revealed. The tell-tale signs are unmistakable, consisting of a grass-covered stony bank surrounding an oval hollow.

At Pundswater there is a good example with massive interior-recessed walls and a forecourt in which broken pottery was found This with another house at Stanydalc can be compared to the famous Stanydale temple, since neolithic houses and temples have striking similarities in both exterior and interior design.

Neolithic Temples

There are two neolithic temples in Shetland and, having been built at the same time as the cairns and houses, they are about the



same age as Stonehenge. The temple gives us a real clue as to the origins of Shetland's earliest inhabitants, since they closely resemble structures in the Mediterranean. The Stanydale Temple agrees in essentials with a temple at Mnaidra in Malta. They are similar in size and in having a heel-shaped outline as well as a large oval chamber with several recesses in the walling. It measures sixty-five feet overall, while the dimensions of the oval chamber are no less than forty feet by twenty feet. Like the houses, it was roofed with timber.

This Mediterranean connection provided Shetland with what must have b-jen a highly-developed society, which placed great emphasis on the spiritual life and life after death. Thus, at about 2,000 B.C., Shetland appears to have had the most advanced culture in the British Isles.

Bronze Age To Brochs

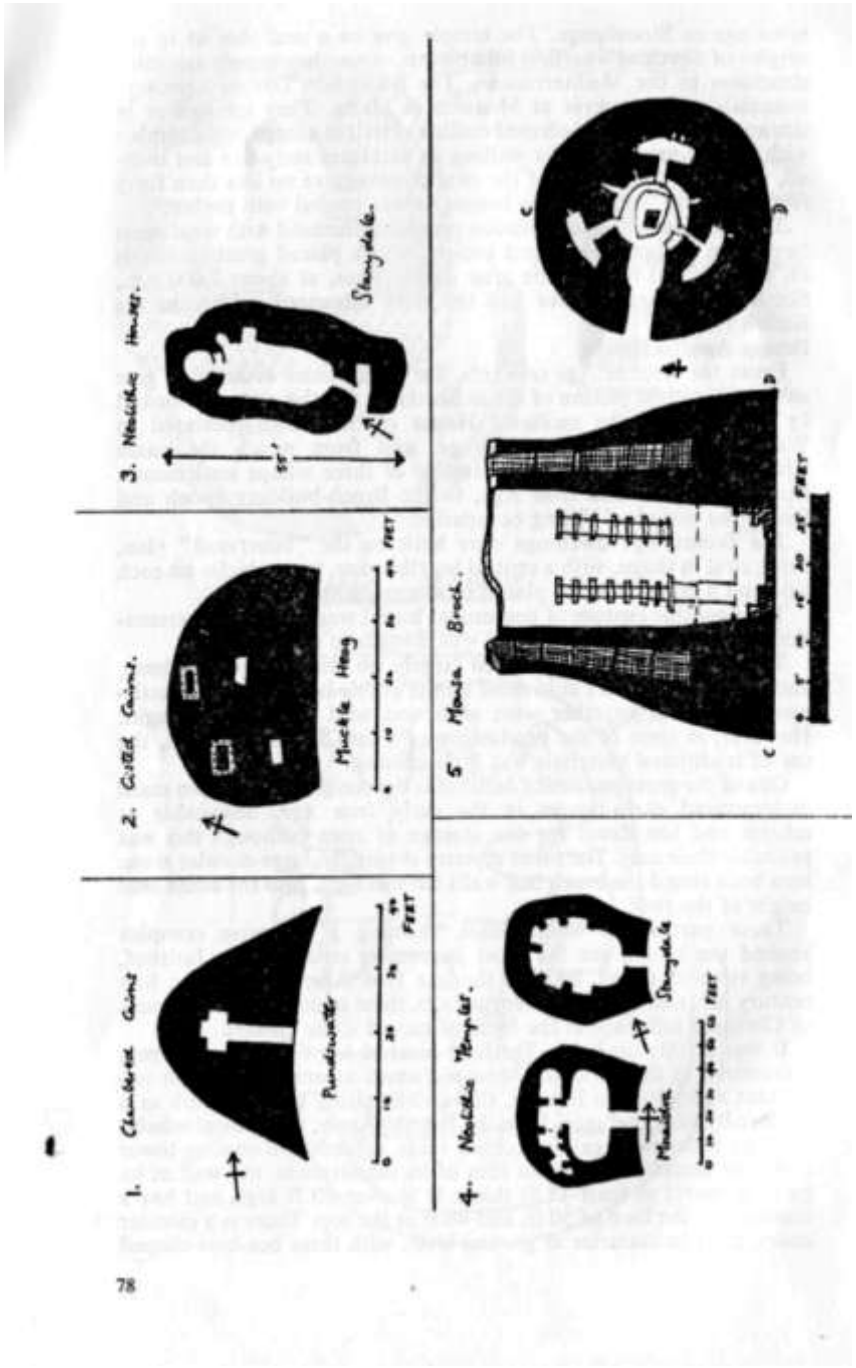
From the Bronze Age onwards, the excavations at Jarlshof give us the most vivid picture of life in Shetland. On this site, overlooked by the ruins of the medieval House of Sumburgh—featured in Walter Scott's novel, *The Savage,* and from which the name "Jarlshof" originates—lie the remains of three village settlements: from the Bronze and Iron Age, to the Broch-building epoch and finally the period of Viking occupation.

The Bronze Age dwellings were built on the "courtyard" plan, being oval in shape, with a central hearth space, two cubicles on each side and a large chamber placed crossways at the inner end.

The Neolithic custom of communal burial was replaced by cremation and burial in cists. These dune-dwellers depended largely on stock-breeding, sheep, and cattle. Crops were cultivated on the arable land round the settlement, and cod, together with seals and wild fowl, were caught. However, in spite of the production of a few bronze weapons, the use of traditional materials was little affected.

One of the great puzzles of Jarlshof is the construction of two small underground earth-houses in the early *Iron Age,* unsuitable as refuges and too damp for the storage of corn (although this was probably their use). The other mystery is why the large circular stone huts built round the broch had walls ten feet high, plus the additional height of the roof. These partitioned wheelhouses, forming a defensive complex around the broch, are the most impressive structures at Jarlshof, being virtually intact. Built in the late Iron Age, between the first century B.C. and the eighth century A.D. these structures reveal traces of Christian influence in the form of carved stone crosses.

It was at this time that Shetland reached her architectural apex, epitomized in the Broch of Mousa. Famed as one of the most important antiquities in Europe, this awe-inspiring fortress, built as a defence by either refugees from the Roman Army, or the local inhabitants as a defence against Roman raids, resembles a cooling tower from the outside. To give an idea of its massiveness, the wall at its base measures at least 15 ft thick. It is over 40 ft high and has a diameter at the base of 50 ft, and 40 ft at the top. There is a circular court, 20 ft in diameter at ground level, with three bee-hive-shaped



rooms opening from it. At first floor level the wall is hollowed out to contain a staircase to the top. On the inside wall are six galleries formed by flagstones in a vertical void in the wall.

Under attack the broch would be completely self-contained since it has a well in the centre of the courtyard, as does the Jarlshof broch.

It was during the Broch-building period that Shetland architecture was first influenced by the predominant culture in the north of Scotland, since there are many brochs in the Outer Hebrides, the best preserved being at Carloway in Lewis; and brochs and wheel-houses have been discovered on the mainland.

Yet an atmosphere of mystery enshrouds the whole epoch, and every structure has some feature that leaves one in doubt as to its function or to the origin and status of its builders.

It was after the Broch-building age with the Viking invasion that Shetland's Golden Age really came, but such a large subject is beyond the scope of this report, which is concerned only with the growth of Shetlandic society from its embryonic, but by no means insignificant, beginnings, to the development of a complex and refined culture, signified by the building of the brochs and wheelhouses.

Britain's development from the late Stone Age to a relatively modern form of society is best seen in the Shetlands, but studies of this period are still far from comprehensive, and the number of clear-cut facts is very small—a circumstance which makes these islands stimulating even to the strictly amateur archaeologist equipped with only his enthusiasm and a small muddy trowel!

Alan Evison

ETHOS

I sit in civilised comfort in front of the fire at Voxter, and wonder what makes an S.H.S. expedition. Is it simply the fact that a number of people are flung into somewhere and something totally different? This may perhaps make an expedition, but the S.H.S. produces something more than this. It is the atmosphere of S.H.S. expeditions which makes them what they are.

This atmosphere is produced by a curious mixture of work and play. One night we will sit up round a candle until 2 a.m. and tell stories (all true, of course); the next night some of the members will work into the small hours on their projects. Serious conversations on almost any subject can break down into moments when everyone will pun every word; then, after minutes of side-splitting laughter, we are serious again.

What would it have been like if we had had no curious medical problems, no amateur radio, no "music", no **B's,** or no work to do? How would we have managed without those puns and jokes, good or bad?

All these things add up to turn an expedition into an S.H.S. expedition. Each one might be trivial in itself, but the whole make up a holiday where much can be learned and everyone can enjoy themselves.

Hugh B. Williams

RONAS HILL

The Shetland Isles, unlike the Hebrides, are mainly low lying. Nothing of the grandeur of Rhum, Harris, or any of the other mountainous Hebridean islands is to be found in Shetland; rather the emergence of long, low islands from the sea, though that is not to say that Shetland does not possess a large number of very impressive sea cliffs. To emphasize the absence of hills of any remarkable altitude, there is only one hill of over 1,000 ft in the whole of Shetland, namely Ronas Hill, which rises to 1,486 ft. This is small by Hebridean standards but enormous for Shetland. So enormous, in fact, that it is clearly visible from Unst, twenty miles away. In shape, however, it is unimpressive, a large, rounded cone, whose summit dwells for much of the time in a layer of cloud.

Being the highest hill in Shetland it soon became perfectly obvious to us that Ronas Hill could not be allowed to pass the two weeks without being surmounted by an S.H.S. group. The usual excuse for climbing such a hilt is summed up in such feeble phrases as "sense of achievement". At least we had a slightly better excuse, as provided by our "resident expert" on botany, Richard Jeavons, who assured us that the slopes of Ronas are clad in a dense layer of botanical rarities, emphasising his point with a few casual Latin names and the term "alpine flora". So Richard demanded to "do" Ronas. I volunteered to accompany him, Chris decided to join us, and Hugh Williams was persuaded, over extra generous helpings of corn flakes and scrambled eggs, to complete the party. Daz dropped us off in the Transit about two miles from Ronas, and we set off. Dave Vale had shouted to us to bring him back every lichen we saw, so the ascent of Ronas was made with our eyes glued to the peat, stopping occasionally to drop a morsel of lichen into a plastic bag. The weather had been bad at the start, and by the time we reached the top, after about two hours, we were in dense cloud, with very cold rain being blown by a stiffish breeze. We had collected numerous lichens, recorded a few new plants, and found the very rare Wild Azalea.

After collecting some more lichens we had lunch by a chambered cairn, whose tiny inside chamber completely protected Richard from the elements.

The summit of Ronas is surprisingly flat, and consists of a vast slab of red granite with rocks littered around on it. In this wild habitat Richard hoped to find some rare plants. Assisted by the other two (while the fourth member of the party was attempting to de-rain and demist his glasses), he searched in vain for his elusive quarry, and so after a while we set off back down the hill.

The beautiful view which we had hoped for had not, of course, materialized. However, after descending two or three hundred feet, the cloud cleared, and we had a limited view to the east as far as Yell, with Sullom Voe pushing a long finger into the mainland, and a few tiny islands, black specks on a flat, grey sea. It is this aspect of Shetland which makes up for the lack of any Hebridean grandeur: the long, silent voes, the islands rising out of the sea, and the ever

changing and various shades of light which are peculiarly unique to Shetland. This is how 1 shall remember Ronas Hill, in the shades of grey which only Shetland can make beautiful.

Stephen Gethin

RADIO ON SHETLAND

Once again, amateur radio put in an appearance on an S.H.S. expedition. The last time the Scottish call sign of GM3LHZ was heard on the air was on Mingulay in 1967, when 255 contacts were made ir fifty-nine different countries.

This itime the relatively civilized conditions of Voxter farm made the operation far less arduous. A 230 volts A.C. mains supply was available which meant there were no heavy batteries or a temperamental petrol/electric generator to contend with (or curse at!). It also meant that an amplifier could be added to the transmitter to boost its output, albeit causing the lights to dim when switched on, and contributing somewhat to the electricity bill that had to be paid! The equipment packed away into two suitcases and a canvas bag, and totalled about 130 lbs. in weight.

The same aerial was used as was used on Mingulay, but, by adding sections to the portable mast, the height was boosted an extra 6 ft to a total height of about 35 ft. This was just about as much as could be safely achieved, bearing in mind that the same mast on Mingulay nearly decapitated a sleeping S.H.S. member when a guy broke in a gale. This time the mast weathered all winds and storms. Although it assumed a somewhat corkscrew aspect on one occasion, this was partially remedied by suitable bracing.

For me Shetland was a very interesting radio location. Despite being only 600 miles further north than Sussex, the change in latitude brings one near to the auroral zone and this results in some interesting changes in radio conditions. Parts of the world difficult to contact from Sussex at that time of year were easy to contact, and the reverse was the case for other parts. The path across the North Pole into the Pacific area was particularly good at times, while the path to Africa was particularly poor during the whole stay on Shetland.

For those amateurs in the rest of the world who collect rare contacts for the many awards that there are, the Shetlands was also an interesting place.

Just how much so was soon apparent whenever the station was put on the air. On one occasion twenty Americans were "worked" in half an hour. Such was their keenness to contact the Shetlands they were simply queuing up!

Another time seventy-three stations were contacted in two and a half hours, one after the other. On such occasions the exchange of information is of necessity pretty minimal, the contact being of the "hello - goodbye" variety. But nonetheless, from the scientific point of view these sessions do provide a lot of information about radio conditions, in a short space of time.

Anyway, the sum total of the efforts amounted to 564 contacts made in ninety-three countries, a considerable improvement on the Mingulay performance. Perhaps the only disappointment was not

having enough time to find another seven countries to make up the ton!
Countries worked: Alaska, Algeria, Andorra, Antarctica, Argentina, Armenia, Asiatic Russia, Austria, Australia, Azores, Bahamas, Bahrain. Balearic Is.. Barbados, Belgium, Brazil, Bulgaria, Canada, Canary Is., Caroline Is., Channel Is., Chile, Corsica, Czechoslovakia, Denmark. Dominican Republic. Easter Is., Eire, England, Estonia, European Russia, Falkland Is.. Faroe Is.. Fiji Is., France. Georgia. Germany. Greece, Greenland. Granada, Guam. Hawaii, Hong Kong, Hungary, Iceland, Isle of Man, Israel, Italy, Japan, Johnston Is., Korea. Kuwait, Laos, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Marshall Is., Morocco, Netherlands, New Guinea, New Zealand, Norway, Okinawa, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Rhodesia, Rumania, Scotland, Senegal, Singapore, Spain, Surinam, Svalbard, Sweden. Switzerland, Trinidad, Tunisia, Ukraine, Ulster, U.S.A.. Vatican City, Venezuela. Virgin Is., Wales, Yugoslavia.

M. J. Underhill

BIVVY NO. 1, TO THE ULTIMA THULE

Unst—the most northerly island in Great Britain. Thus it was that we arrived on the pier at Belmont on Unst. From there we walked to the village of Uyeasound. Beyond Uyeasound is the peninsula of Muness, on which lies the most northerly castle in Great Britain and also the bay of Sandwick, where we were to camp. Sandwick is, in some ways, comparable to the wide stretch of sand at Kiloran Bay, on Colonsay.

We went to bed early and spent the next fifteen hours in our sleeping bags. (The fact that we spent fourteen hours fifty-nine minutes holding up the tent in a freak Force 8 gale is immaterial.)

When we got up we had breakfast and then walked to Baltasound, where we found that the residents' bar at the hotel sells very nice Draught Export. We managed to get a lift back in a coach to Uyeasound. There we went to the local shop and found a useful contact. Again we went to bed very early, but, once more we couldn't sleep for high winds.

The following morning we rose at about 11 o'clock and had breakfast. At twoish we had the most delicious Bovril stew and at five a Horlicks two-man pack concentrated stew!

We went to Baltasound for a drink, and then back to Uyeasound for a dance. We got back to camp at around 2 a.m., but we were up fairly early next morning, for we were moving to the other possible camp site at Lundawick.

When we arrived at Lund we spent a very pleasant afternoon exploring the area, and a very pleasant evening watching Dr. Finlay in Alan Fraser's house.

Unfortunately, we had to leave the next morning, but we all wanted to go back to Unst. Little did I think, however, that only forty-eight hours later I would be back with John Abbott, to collect more information in a concentrated sixty mile walk over three days!

Eddie Stuart

BOTANY

General Background

It is not surprising that islands as northerly and as isolated as the Shetlands support an interesting flora. First, as happens in many

isolated habitats, the evolution of certain species has followed a path independent of that of their parallels on the mainland; the result is that Shetland has thirteen endemic Hawkweeds and a number of characteristic subspecies of other plants (notably a dense flowered form of Silene dioica, the Red Campion). These species are, however, largely of academic interest unless one happens to be an expert on Hieracium.

Of more general concern is the effect of the proximity of the Scandinavian land mass. Like the Channel Islands, the Shetlands are midway between two differing floras, and support plants from both, some of which are absent from most other parts of the British Isles. In this category come Polygonum boreale, the Shetland Knotweed, and the attractive cushion-forming alpine Arenaria norvegica norvegica, Scottish Sandwort.

This leads me on to the island's chief appeal to the British botanist. Nearly all the alpines that grow wild in this country are shared by us with the Arctic region; this means that in some parts of the Shetlands one can find a fine alpine flora, often growing at low levels and in close proximity to lowland plants. Altogether these features result in areas of exceptionally rich and varied botanical character,

Method

Ostensibly my aim was to study the botany of as broad a cross-section of the islands as possible, in order both to discover areas of interest and possible openings for future investigation. This conveniently sanctioned my rushing off for personal ends to look for the island's many rarities. In spite of having a van and an obliging driver the area to be covered was hopelessly large, so I chose to visit a few localities which I thought would demonstrate interesting types of habitat (see below). I gave the other members of the expedition an issue of plastic bags with instructions to fill them with whatever plants took their fancy, when they were away from me. The response to this was quite satisfactory; indeed if it had been very much greater I might have experienced difficulty keeping up with the necessary identification. Although this is, to say the least, a haphazard way of finding out about the plants of an area, I was brought some very interesting specimens, which made up for all that Chickweed.

Area Reports

The first area I investigated was that around Haroldswick, in northern Unst. The part near Haroldswick itself is lush meadowland with *Caltha* and *Daciylorchis* species. On the headlands to either side of the bay, and along part of the coastal strip between, there is an almost tundral terrain, which varies in appearance from sea turf with rocky outcrops to an unfinished hard tennis court. This is on the headland above Hagdale, whore for acres nothing grows except occasional tufts of *Silene acaulis.* Moss Campion, and *Plantago maritima,* Sea Plantain. In the areas of serpentine rocks to the north and south of Hagdale I found a very rich flora including the following:

Botrychium lunaria	Moonwort
Thalictrum alpinum	Alpine Meadow Rue
Draba incana	Twisted Whitlow-Grass

Cardaminopsis pelraea Northern Rock-Cress
Silene acaulis Moss Campion
Arenaria norvegica norvegica Scottish Sandwort
Rhinanthus minor rnonticola Yellow Rattle
Euphrasia arctica Eyebright
Antennaria dioica Mountain Everlasting
Scilla verna Spring Squill
Coeloghssum viride Frog Orchid
Carex bigehwii Stiff Sedge

The principal plant for which I was looking in this area was *Cerastium nigrescens* (Edmondst), an extremely rare Shetland endemic, with mounds of purplish leaves and large white flowers. Unfortunately, in spite of searching for some six hours in an area where it is reputed to grow, I did not find it, though as it is in some danger of extinction this was predictable, if rather disappointing. I have, at least, found one more place where it is not worth looking for it.

From Unst I went briefly to Fetlar, which was not of great botanical interest, despite its varied geology. Around Papil Water however, I found *M imulus guttatus* x *cupreus,* a cross between the wild Monkey Flower and a garden species. It is orange and appears double because it has a petaloid calyx, and it is common around the margin of the lake. Papil Water is also the only Shetland station of *Carex aguatilis,* Straight-leaved Sedge, but again I failed to make contact.

The next main area I visited was Ronas Hill, which is more of a mound than a mountain, but which at its 1,500 ft supports a fine alpine flora. Although this is low for a lot of the plants that grow on it, it is interesting to note that, while alpines are found at 50 ft on northern Unst, they are not found until about 1,200 ft on Ronas, which is only a few miles south, and not obviously more sheltered. The weather when we climbed the hill was bad, with low cloud, wind, and rain. For this reason our time around the summit was somewhat curtailed, but we did find the following notable plants:

Lycopodium selago Fir Clubmoss
Lycopodium alpinwn Alpine Clubmoss
Hypericttm pulchrum procumbens Elegant St John's Wort
Alchemilla alpina Alpine Lady's Mantle
Salix herbacea Least Willow
Loiseleuria procumbens Trailing Azalea
Plantago maritima Sea Plantain

The area also supports: *Polygonwn viviparum, Oxyria digna, Arctous alpinus, Saussuria alpina, Juncus trifidus* and *Luzula spicata,* but sadly there was no time to return to look for these. This is undoubtedly one of the most interesting areas in the Shetlands for plants, and 1 would very much like some time to return.

A very different sort of habitat exists near the southern tip of mainland. Here one finds fragments of a fertile valley flora. The area even supports *Arctium minus.* The Lesser Burdock, which is predominantly a plant of English lowlands, and which in its Scottish habitats is restricted to sheltered valleys. I found a number of interesting plants while "doing" the principle archaeological sites in

the area: notably the mauve-flowered Scurvy-Grass, *Cochlearia danica,* growing at the top of the Broch of Mousa, and the rare Shetland casual *Sonchus oleraceus,* Milk Thistle, sheltered in one of the wheel houses at Jarlshof. The most interesting area botanically that I found, though, was the sand-dune complex at Quendale. This is a large area of dunes which are covered with sparse Marram Grass growing through dense Clover, an arrangement I have never seen elsewhere. The real interest of the dunes lies in the marshy dune slacks. In these I found a very rich flora including:

Gentianella amarella septrionalis Scottish Gentian
Mimulus guttatus Monkey Flower
Veronica anagallis-aquatica Water Speedwell
Pinguicula vulgaris Common Buttenvort
Dactylorchis incarnata coccinea Early Marsh Orchid
Carex arenaria Sand Sedge
Carex maritima Curved Sedge

The two most interesting plants in this list are the Gentian and the Curved Sedge. The Gentian is a northern subspecies of the familiar Felwort, and is found only in Northern Scotland and the Outer Isles. Sadly, what it gains in rarity it loses in beauty, as the calyx is chiefly a rather faded-looking pale brown, even when it is in full flower. The Carex, on the other hand, is unusually attractive for its genus. It has neat conical heads supported on slender arching stems. This again is a plant of Northern Scotland and the Isles.

The final area which I investigated was the plantations around Kergord House in Weisdale. Shetland has long since lost all its natural woodlands, and its native trees are now virtually confined to a few stunted Birches and Hazels on holms in Northmavine. The plantations around Kergord are the largest and longest established of the few that there are in the Shetlands. They are highly mixed and support a correspondingly varied selection of undergrowth. This includes:

Montia sibirica Pink Purslane
Rubus fruticosus Bramble
Geum rivale Water Avens
Saxifraga x *urbium* London Pride
Primula vulgaris Primrose
Digitalis purpurea Foxglove
Tussilago farfara Coltsfoot

Most of these plants are very rare in the Shetlands, because there are so few suitable habitats. The Montia and the Saxifraga are introductions, but they are now well naturalised.

I did not examine areas of moorland or coast because no one area seemed obviously of exceptional interest. However, I did of course encounter a fair amount of both during the fortnight. I found a reasonable selection of moorland and coastal plants, with no very notable additions or omissions. I did find *Arctostaphylos uva-ursi*$_t$ The Bearberry, in a vegetative state near Pundswater cairn, and *Mertensia maritima,* The Oyster, still grows on a few beaches, but moor and seashore plants are not the most interesting in the Shetlands.

In the way of projects, the principal opening would seem to be a study of the distribution of the subspecies of Rhinanthus minor. *The Yellow Rattle, over the islands. Three subspecies are found;* steno-phyllus, monticola *and* borealis. *They are not hard to differentiate, but their comparative distributions in the islands are incompletely known, and it would be interesting to collect more information. There is also scope in the islands to indulge an interest in Euphrasia; I identified six species. There is also plenty of opportunity for the study of Carex, or Grasses, or Hawkweeds. In fact, the Shetlands have a rich enough flora to keep any botanist amused and occupied, even if only in amassing a species list. (The present total stands at 206.) I, at any rate, will be back.* *Richard Jeavons*

LIST OF PLANTS IDENTIFIED ON THE SHETLANDS EXPEDITION

LATIN NAME	ENGLISH NAME
Lycopodium selago	*Fir Clubmoss*
Lycopodium alpinum	*Alpine Clubmoss*
Equisetum fluviatile	*Water Horsetail*
Equisetum palustre	*Marsh Horsetail*
Equisetum sylvaticum	*Wood Horsetail*
Equisetum arvense	*Common Horsetail*
Blechnum spicant	*Hard Fern*
Asplenum adianium-nigrum	*Black Spleenwort*
Athyriurn felix-mas	*Male Fern*
Dryopteris dilatata	*Broad Buckler-fern*
Polypodium vulgare vulgare	*Polypody*
Botrychium lunaria	*Moonwort*
Caltha palustris	*Marsh Marigold*
Ranunculus acris	*Meadow Buttercup*
Ranunculus repens	*Creeping Buttercup*
Ranunculus ftammula ftatnmula	*Lesser Spearwort*
Thalictrum alpinum	*Alpine Meadow Rue*
Capsflla bursa-pastoris	*Shepherd's Purse*
Cochlearia officinalis	*Scurvy Grass*
CocMearia danica	*Danish Scurvy Grass*
Ditiha incana	*Hoary Whitlow Grass*
Cardamine pratensis	*Lady's Smock*
Cardamine hirsuta	*Hairy Bitter-cress*
Cardaminopsis petraea	*Northern Rock-cress*
Hesperis maironalis	*Dame's Violet*
? Viola canina canina	*Health Violet*
Poly gala vulgaris	*Common Milkwort*
Polygala serpyllifolia	*Heath Milkwort*
Hypericunt pulchrum \ Hypericum pulchrum procumbens J	*Slender St. John's Wort*
Silene dioica *(mostly* zetlandica)	*Red Campion*
Silene alba *x* dioica	
Silene vulgaris maritirna	*Sea Campion*
Silene acaulis	*Moss Campion*
Lychnis flos-cuculi	*Ragged Robin*
Cerastium fontanum	*Common Mouse-ear Chick weed*
Stellaria media media	*Chickweed*
Sagin procumbens procumbens	*Procumbent Pearlwort*
Sagina nodosa	*Knotted Pearlwort*
Arenaria norvegica norvegica	*Norwegian Sandwort*
Spergula arvensis	*Corn Spurrey*
Spergula marina	*Sea Spurrey*
Montia fontana fonlana	*Blinks*
Montia sibirica	*Pink Purslane*
Atriplex grabrltiscula	*Babington's Orache*

Atriplex patula	*Common Orache*
1.mum catharticum	*Purging Flax*
Geranium pratense	*Meadow Crane's bill*
Oxalis acetocella	*Wood-sorrel*
Trifolium repens repens	*White Clover*
Trifolium pratense	*Red Clover*
Anthyllis vulneraria	*Kidney-vetch*
Lotus corniculalus	*Bird's foot-trefoil*
Vicia cracca	*Tufted Vetch*
Vicia sepia	*Bush Vetch*
Lathyrus pratensis	*Meadow Vetchling*
Filipendula ulmaria	*Meadowsweet*
Rubus saxatilis	*Stone Bramble*
Rubus fruticosa	*Bramble*
Potent ilia palustris	*Marsh Cinquefbil*
Potentilla anserina	*Silverweed*
Potentilla erecta	*Common Tormentil*
Ceum rivale	*Water Avens*
Alchemilla alpina	*Apline Lady's Mantle*
AlchemiHa glabra	*Lady's Mantle*
Sorbus aucuparia	*Rowan*
Saxifraga *x* urbium	*London Pride*
Parnassia palustris	*Grass of Parnassus*
Drosera rotundifolia	*Sundew*
Epilobium montanum	*Broad-leaved Willow-herb*
Epilobium palustre	*Marsh Willow-herb*
Fuchsia magellanica	*Fuchsia*
Hippuris vulgaris	*Mare's-tail*
Hydrocotyle vulgaris	*Pennywort*
Anthrisods sylvestris	*Cow Parsley*
Aeogpodium podagraria	*Goutweed*
Ligusticum scoticum	*Lovage*
Angelica sylvestris	*Angelica*
Heracleum sphondylium sphondylium	*Cow Parsnip*
Polygonum arenastrum	*Small-leaved Knotgrass*
Poiygonum amphibium	*Amphibious Bistort*
Polygonum persicaria	*Persicaria*
Rumex acetocella	*Sheep's Sorrel*
Rumex acetosa	*Sorrel*
Rumex crispus	*Curled Dock*
Rumex obtusifolius obtusifolius	*Broad-leaved Dock*
Urtica urens	*Small Nettle*
Urtica dioica	*Stinging Nettle*
Salix fragilis	*Crack Willow*
Salix viminalis	*Common Osier*
Salix repens	*Creeping Willow*
Salix herbacea	*Least Willow*
Loiseleuria procumbens	*Wild Azalea*
Arctostaphylos uva-ursi	*Bearberry*
Calluna vulgaris	*Heather*
Erica tetralix	*Cross-leaved Heath*
Erica cinerea	*Bell Heather*
Vaccinium ? uglinosum	*? Bog Whortleberry*
Empetrum nigrum	*Crowberry*
Armeria maritima	*Thrift*
Primula vulgaris	*Primose*
Claux maritima	*Sea Milkwort*
Gentianella campestris	*Field Gentian*
Gentianella amarella septrionalis	*Scottish Felwort*
Manyanthes trifoliata	*Buckbean*
Myosotis palustris	*Water Forget-me-not*
Myosotis caespitosa	*Tufted Forget-me-not*
Myosotis discolor	*Changing Forget-me-not*

Solanum tuberosum	Potato
Mirnulus guttatus	Monkey-flower
Mimulus cupreus x *guttatus*	Mimulus
Digitalis purpurea	Foxglove
Veronica beccabunga	Brooklimc
Veronica anagallis-aquytica	Water Speedwell
Veronica officinalis	Common Speedwell
Pedicularis palustris	Red-rattle
Pedicularis sylvatica	Lousewort
Rhinanthus minor stenophyilus	Yellow-rattle
Rhinanthus minor monticola	Yellow-rattle
Euphrasia micrantlia	Eyebright
Euphrasia scottica	Eyebright
Euphrasia foulaensis	Eyebright
Euphrasia curta	Eyebright
Euphrasia confusa	Eyebright
Euphrasia arctica	Eyebright
Pinguicula vulgaris	Common Butterwort
Mentha x *piperita*	Peppermint
Thymus drucei	Thyme
Prunella vulgaris	Self-heal
Stachys x *ambiqua*	Woundwprt
Lamium molucellifolium	Intermediate Dead-nettle
Caleopsis tetrahit	Common Hemp-nettle
Plantago major	Great Plantain
Plantago lanceolata	Ribwort
Plantago maritima	Sea Plantain
Plantago coronopus	Buck's Horn Plantain
Littorella uniflora	Shoreweed
Jasione montana	Sheep's-bit
Lobelia dortmanna	Water Lobelia
Galiurn verum	Lady's Bedstraw
Galium saxatile	Heath Bedstraw
Galium patustre	Marsh Bedstraw
Galium aparine	Goosegrass
Symphoricarposrivularis	Snowberry
Succisa pratensis	Devil's-bit Scabious
Senecio aquaticus	Marsh Ragwort
Senecio vulgaris	Groundsel
Tussilago farfara	Coltsfoot
Gnaphalinm uliginosum	Marsh Cudweed
Antenaria dioica	Catsfoot
Solidago virgaurea	Golden-rod
Bellis perennis	Daisy
Achillea ptarmica	Sneezewort
Achillea millefolium	Yarrow
Tripleurospermum maritimum	Scentless Mayweed
Matricaria matricioides	Rayles» Mayweed
Chrysanthemum vulgare	Tansy
Artemesia vulgaris	Mugwort
Cirsium vulgare	Spear Thistle
Cirslum paluslre	Marsh Thistle
Cirsium arvense	Creeping Thistle
Sonchus arvensis	Field Milk-thistle
Sonchus oleraceus	Milk-thistle
Triglochin pal stris	Marsh Arrow-grass
Triglochin mariiima	Sea Arrow-grass
Potamogeton natans	Broad-leaved Pondweed
Narthecium ossifragum	Bog Asphodel
Scilla verna	Spring Squill
Juncus squarrosus	Heath Rush
Juncus bufonius	Toad Rush
Juncus effiisus	Soft Rush

Juncus conglomerate	Compact Rush
Juncus articulatus	Jointed Rush
Luzula sylvatica	Greater Woodrush
Luzula multiflofa	Many-headed Woodrush
Iris pseudacorus	Yellow Flag
Crocosmia x *crosmiflora*	Montbretia
Coeloglossum viride	frog Orchid
Eriophorum angustifolium	Common Cotton-grass
Tnchophorum cespitosum germanicum	Deer-grass
Eleocharis multicaulis	Spikerush
Eleocharis palustris	Common Spike-rush
Carex binervis	Green-ribbed Sedge
Carex lepidocarpa	Long-stalked Yellow Sedge
Carex demissa	Common Yellow Sedge
Carex panicea	Carnation Sedge
Carex ftacca	Glaucous Sedge
Carex pilulifera	Pill Sedge
Carex nigra	Common Sedge
Carex bigelowii	Stiff Sedge
Carex pulicaris	Flea Sedge
Carex dioica	Dioecious Sedge
Carex arenaria	Sand Sedge
Carex maritima	Curved Sedge
Carex echinata	Star Sedge
Carex ovalis	Oval Sedge
Glyceria Fluitans	Floating Sweet-grass
Lolium perenne	Perennial Rye-grass
Poa trivialis	Rough Meadow-grass
Cynocurus cristus	Crested Dogstail
Holcus lanatus	Yorkshire Fog
Anthoxanthum odoratum	Sweet Vernal-grass
Phalaris arundinacea	Reed Canary-grass
Ammophila arenaria	Marram Grass
Agrostis canina montana	Brown Bent
Agrostis tenuis	Common Bent

S.H.S. FIRST IMPRESSIONS

"John?"
"Hello, David."
"How goes with you?" 'Tm a bit shattered, but O.K. I've come back from home and I've got eighteen hours before I leave for the Shetlands.""Really! D'you want company?" "Sure

Sure enough, eighteen hours later we (Bot, Robin S and I) were bound for Edinburgh on the marathon road to Voxter. Only on the train did it transpire that we were to join nine other S.H.S.'ers (Robin and I being "extras") in the Shetlands.

I had no idea, other than Bot's oblique references to Dazzy-B and Chrisy-B, of the nature of the members, and no idea of what I was to do.

Being woken at some unearthly hour from deep slumber in the bowels of the good (?) ship *St. Clair* by cheery, alien voices, made me at last aware that I was part of the cliquish and very well-humoured society.

I was not expecting GM3LHZ/A at all hours of the day; "have you had a quick plonk in the fuchsias with rectum friars recently?" reports of sweaty parts of the anatomy at one in the morning; nor

eight-mile Bot-trots in pouring rain. There were of course the Bovril stews of infamous repute, the non-excursions to Muckle Flugga, and an intellectual discussion on the respective merits of *Penthouse, Mayfair,* and *Playboy*.
All this, I hasten to add, was an admirable diversion from what turned out to be an immensely profitable week's work. The objects, twofold, of discovering new camp sites for future S.H.S. expeditions and serious work in diverse and fascinating fields of study were undertaken competently and on a level I was surprised to find. People who can identify an arctic skua in the field, or who know that the Wild Azalea is rare when they find an example, or who can, jokes apart, find out the structure of the island's economy in only four days made me highly impressed.
Now, to the strains of Daz trying to jazz up "Michael row the boat", and reminiscing on the sight of Bot's "Colossal thighs", I hope sincerely that the S.H.S. continues in its excellent and extremely necessary role. But I can no longer refer to the members objectively—I've joined!

David Wolfson

BIRD REPORT

Forty-eight, that was my total of bird species seen in Shetland this year. Two unconfirmed sightings, as noted in the list, bring the total to a round fifty.
In fact, this is a low total number, but is, I think, explained by the fact that we were in Shetland during the ornithological doldrums for that part of the world. The seabirds which nest round the coast, particularly the Auks, had for the most part departed, and we were just too early for the winter visitors, such as the Great Northern Divers, and for the greater part of the autumn passage migrants, such as the Warblers.
Included in the total were five species new to me: Knot, Great and Arctic Skuas, Arctic Tern, and Snowy and Long Eared Owls. I was excited to see all these species, but I think it sums up the unusual bird population of Shetland if 1 say that I was almost as pleased when I saw Woodpigeons, Jackdaws and a Woodcock.
Shetland, even more than the Outer Isles, lacks trees. The high winds over the relatively flat landscapes ensure that it is almost impossible to establish plantations initially. Once a start has been made, plantations provide shelter for more young trees, and this is partly how the plantations have been built up at Kergord House to which 1 will refer again later.
Apart from the few trees, the other shelter on Shetland is provided mainly by stone walls, and by croft gardens. Many gardens contain a willow, sycamore, or spruce, particularly the former. Fuchsias and roses are also quite common as well as smaller herbaceous plants. All these provide shelter for birds, particularly the smaller passage migrants such as the Warblers.
As would be expected, the avifauna is predominantly of moorland and sea-shore type. The species which do not fit in with this description, such as Woodcock, Woodpigeon, Long-Eared Owl, Fieldfare, were all seen in Kergord plantations.

Kcrgord House is situated north-west of Lerwick, on what is the west coast of the mainland, although, in fact, it faces south because of the indented coastline. The house is situated at the head of Weis-dale Voe, in quite a deep valley. Since the valley runs north-south, and since there is a range of hills to the west, the house is well sheltered, and several plantations, some now mature, have been established round it. The owners of Kergord House, Mr. and Mrs. R. D. Winton, very kindly allowed Richard and me to explore their land on the last Sunday of the expedition, and I found the difference in the bird population very interesting as a contrast to the rest of Shetland.
It can be assumed that birds on the list were seen frequently unless further comment is given here.
Red Throated Divers were very common, both on the lochs and the sea, and were very often seen in flight, making their extraordinary flight call.
Fulmars were very common and were the only breeding birds still on the cliffs. They have increased tremendously since the second half of the nineteenth century, when they were very rarely seen on the Islands. This is thought to be due to the increase in the fishing industry, and hence of fish gutting at sea.
Red-Breasted Mergansers were quite common in family parties both on the lochs and sea, and I saw a brood of young still in down on 27th August on Glussdale Water.
I saw Little Stints on two occasions, the first a party of three, and the second a solitary bird. Venables and Venables list them as rare for Shetland, but the R.S.P.B. watcher on Feltar said they were quite frequent autumn migrants.
Knot were seen on two occasions, once by Stephen Gethin and once by myself. They are a common autumn migrant.
I saw one Woodcock in a plantation at Kergord. It had probably summered there as it was early for autumn migrants.
Great and Arctic Skuas were very common, and all three colour phases of the Arctic Skua were seen. Both species were often seen chasing gulls and terns.
Arctic Terns were common, but I never managed to identify a Common Tern, which are also found in Shetland. The species are very difficult to distinguish, and the only concrete identifications I got was of Arctic Terns.
Black Guillemots were seen frequently fishing inshore. They are the only member of the Auks breeding on Shetland, which stay inshore in winter.
Woodpigeon were only seen at Kergord, where there is a high concentration of them using the plantations for nesting.
The visit to see the Snowy Owls on Feltar was the ornithological highlight of the expedition. We were able to walk over the reserve with one of the watchers, as it had just been opened again after the nesting season. We saw the sites of the 1967. 1968, and 1969 nests, which are simply scrapes in the ground, and we saw the two adults and the three surviving young of 1969, two females and a male. One of the young died in the nest, and one egg did not hatch. The owls

are resident all year, and the two earlier broods have been seen quite often on the island, so it is hoped they also will start breeding there soon. They are really most impressive birds standing about 2 ft high. 1 hope a small party will be able to visit them from the Unst expedition in 1970.
I saw one Long Eared Owl, a juvenile, in a plantation at Kergord. They had bred there this year, for at least the second time in Shetland (there is a record for Kergord in 1935). Mrs. Winton told me that the young had nearly driven the household mad by sitting calling in a tree by the house. She gave me a very convincing imitation of the call at the time, but I cannot reproduce it on paper!
When I was at Kergord I saw a small party of about six Fieldfaresin and around the plantations. It seemed very early in the year for Fieldfares to have come down from Scandinavia, and when I mentioned this to the Wintons they told me that the birds had bred there this year. This is the first record for Shetland and, as far as I know, only the second for Britain, as a pair nested on Orkney in 1967. I said earlier that seeing the Snowy Owls was the highlight of the expedition, but I think that seeing the Fieldfares runs it very, very close.
In conclusion, Shetland is a very happy hunting ground for the ornithologist, for it can offer both rare species, and a lesson in the dependence of birds on their environment.
I would like to thank all the members of the expedition for their help in my project, in particular Stephen Gcthin and Robin Spratt. *Bibliography*
Birds and Mammals of Shetland Venables and Venables
Field Guide to Birds of Britain and Europe Book of British Birds Handbook of British Birds.

Michael Jeavons

IMPRESSIONS

He was supposed to be teaching me swimming, though he never got into the swimming pool as far as I remember, and I cannot swim any better since his tuition. I can also remember his attempting to teach me geography. The person I am referring to of course is none other than John Abbott, who turned up at my preparatory school in the mornings apparently with a hangover for the previous night. He was renowned for his booming voice that became a part of everyday chapel services. One Saturday afternoon he gave a lecture to the school on the S.H.S., his voice, at some points completely drowning the constantly flushing loos. He convinced me that it was worth trying an expedition.
I did give it a try and went to Morvern in 1965; it rained nearly all the time, the marquee stank and the tents leaked; but I enjoyed it. I went again the next year to Jura; the weather was fine, the locals very pleasant and the expedition a great success. I now realised that Bot had put me on to a good thing that I would find very difficult to get bored with. From Jura to Harris. The weather was wet again and the expedition seemed a dismal failure; but I still loved the Hebrides. At the following conference some of us decided to make up our own

expedition to Jura again. Bot came to the rescue and talked us into going on the Lewis expedition. It was a success because the weather was fine, the site was good and we had David Cullingford as our leader. This was the first expedition that meant more to me than just a holiday. I launched myself into a project (lichenology) that I really enjoyed doing.
I next decided to go to the Shetlands as part of the reconaissance expedition. This expedition has been the best as yet for me, probably because it was a break from the ordinary sort of expedition and that most people were humourous throughout the expedition.
The Ford Transit whisked us up to Aberdeen with Dazzy B at the wheel, stopping only for two nights on the way. One at Chris's house, where his fiancee got us two splendid meals. From there to Laurence-kirk where we met Alan Evison and Hugh Williams; Alan who for a few weeks had been trotting round the Hebrides by himself with the occasional camp follower, and Hugh who had come from the Rhum expedition.
We left Aberdeen for the Shetlands in the *St. Clair* which had ample room for first class passengers, but very little for us poor second class. We disembarked in Lerwick in the early morning and set out to find a cafe*, this we duly found and we had breakfast there, while Daz waited for the Transit to be unloaded from the boat. After this we walked round Lerwick looking like a bunch of American tourists with their cameras all taking our " Happy snappies". From here we went and looked round the museum, which displayed the whole history of the Shetland Islands.
The first thing that struck us about the Shetland Islands were the hills. These were completely unlike the Hebrides but more like the Shropshire Clee hills; steep but not rugged and forbidding, and in some places it could have been the Sussex downs.
Our first shock was our accommodation. Being used to just a croft with a roof on and, if we were lucky, running water, we did not expect to find a house with armchairs and a carpet, a refrigerator and three types of cooker, running hot water and a bath, not to mention the three loos, electricity and coal. We didn't rough it for the next two weeks.
After a day we went out on a bivouac to the island of Unst which was about twelve miles long and six miles in width and is situated at the north of the Shetlands. We spent our time looking for prospective camp sites, of which we found three. The rest of the time we spent chatting up the locals, going to the Springfield Hotel (licensed), a dance, and on the final night watching Dr. Finlay's Casebook on T.V. with one of the contacts we had made.
These islands seemed much more prosperous than the Hebrides, new buildings were springing up all over the Shetlands, and two canning factories are being built by a Norwegian firm in Yell.
In Shetland there are about six different accents, ranging from a near Cockney accent from Whalsay to a very strong Norse accent on Unst. When on Unst we found we could not understand any conversations between locals, but when they spoke to us, they spoke in a very good English accent.

A week after we arrived we welcomed four others into the expedition; namely Robin Spratt, David Wolfson, Robin Dance and Hot. Bot firstly talked of nothing but Muckle Flugga and how he was going to grow his sideboards.

The remainder of the expedition was spent doing projects and going on sight seeing tours with all our tourist gear. We tried to dissociate ourselves from the tourist class but we found this very difficult with our ten cameras between thirteen people.

In the evenings we either spent our time at the local pub or singing ourselves hoarse. One evening some of us sat down and sung the Cadbury's Marvel blues for well over half an hour. We only stopped when Robin Spratts fingers started to pour blood over his guitar.

Lastly, I would like to thank Daz for doing most of the driving; although he never knew quite where he was driving to or from. Despite doing about sixteen hundred miles he only left the road once.

LICHENS

The Shetland Islands were very rich in lichens, even more so than the Hebrides. The most probable reason for this being the very pure air and the good climate. All together forty-two different types of lichen were found and identified. The collecting was much simplified by everybody grabbing a lichen when they saw one, and putting it into a polythene bag so as to bring it back to Voxter. In the first few days, however, it was mainly mosses that were brought in; though by the end of the expedition nearly everybody knew what a lichen was! A list of the lichens found follows.

**Verrucaria maura*
**Verrucaria mucosa*
**Arthropyrenia sublitteralis*
**Caloplaca marina*
**Xanthoria parietina*
**Lecanora atra*
Lecanora ganaieoides
**Ochro!echia parella*
**Lecania prosechoides*
Caloplaca thalincola
** Ramalina siliquosa*
**Anapi\chia fusca*

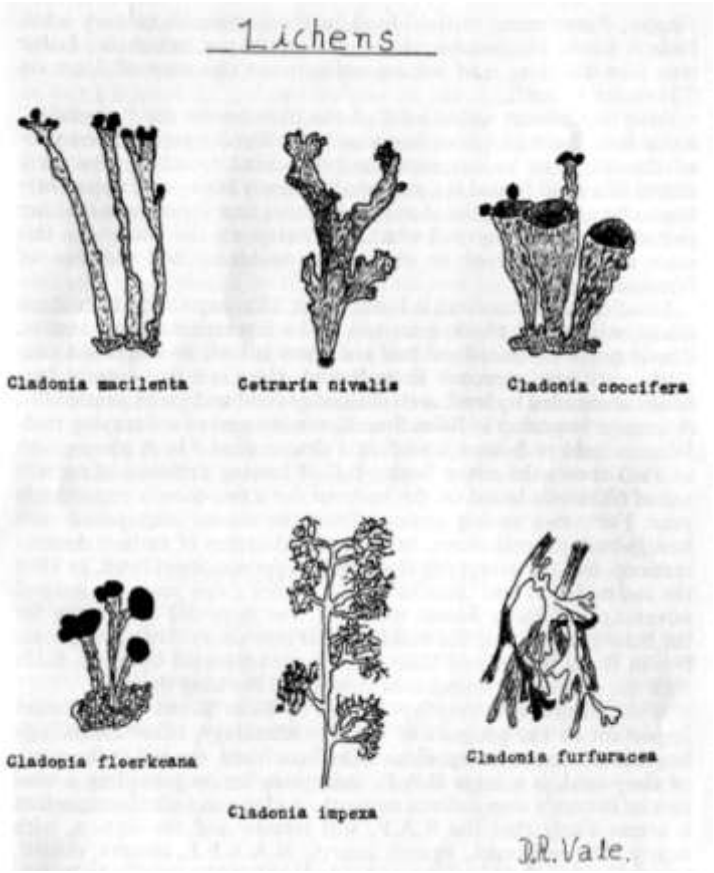
TERRESTRIAL LICHENS

**Evernia furfuracea*
Parmelia sax tails
**Cetraria islandica*
**Cladonia impexa*
Cladonia uncialis
**Cladonia subcervicornis (2* subspecies)
**Cladonia squamosa*
Cladonia crispata
**Cladonia coccifera*
**Cladonia coniocraea*
Lobaria scrobicuiata
Lobaria pultnonaria
Nephromhun lusitandurn
Anaptychia ciliaris
**Cladotiia pyxidata*
** Cladonia fimbriata*
**Cladonia tnacilenta*
** Cladonia floerkeana*
Ramalina farinacea
Ramalina fastigiata
Usnea comosa
Sphaerophorus fragilis
Sphaerophorus globosus
Stereocaulon vesuvianum
**Parmelia physodes*
Parmelia tubulosa
Parmelia laevigafa
Pcltigera refuscens
Peltigers apihosa

•Denotes that the lichen was found on (he 1968 Lewis expedition as well as the 1969 Shetland expedition.

If people collect lichens on further expeditions it is very advisable to dry the lichens out (it will not harm them) and store them in paper bags otherwise they are likely to go mouldy and rot.

David R. Vale



THE ULTIMA THULE

"Come North to Unst" declaims the tourist pamphlet, to the island that is "northmost and foremost!" Nearer to the Faroes and to Bergen than it is to Aberdeen, Britain's farthest outpost must be a constant source of surprise to all those who succeed in reaching it. Straddling the major shipping route between Scandinavia and Icelandic fishing waters the harbours of Haroldswick and Balta Sound are better known to Norwegians and Danes than they are to British sailors. In the days of the Norse sagas Unst must have been as welcome a haven to Viking longboats as it was to Norwegians a thousand years later, fleeing from the invading German armies.

To the collector of geographical oddities Unst is an obvious choice. Here, where the summer sun never fully sets, is Britain's truer North—the farm at Skaw and the storm girt lighthouse of Muchle Flugga. Fame came to the island in the nineteenth century when Robert Louis Stephenson visited the lighthouse, which his father was then building, and subsequently recast the map of Unst on "Treasure Island".

After the barren waters of Yell the traveller on the "overland" route from Lerwick (three buses and two ferries) gets his first view of the island as he descends the hill behind Gutchen. The ferry across Bluemull Sound is a remarkably sturdy boat—and apparently has to be so to dodge the stormy tidal races that threaten to tear her out to sea. And on arrival what is it that greets the visitor—in this case men well versed in the sagas, problems and delights of Shetland?

Landing at Uyeasound it looks much like any Outer Hebridean island, windswept, bleak, poor soil, and a few rather austere houses. Travel north on the island bus and there is little to dispel the illusion—until you approach Balta Sound. Here is a fine natural harbour surrounded by level, well drained ground and green gentle hills. A strange township is Balta Sound, reminiscent of a decaying mid-Western gold rush town, and that is almost what it is. A photograph of 1902 shows the entire Sound full of herring drifters and records tell of 630 boats based on the harbour for a two-month period each year. Forty-two curing stations lined the shores interspaced with hastily-built general stores, hostels, and churches of various denominations. But the prosperity that this bought was short lived. In 1908 the steam drifter was introduced and within a few years the natural advantages of Balta Sound were lost, the ships did not return for the fishing season and the buildings fell into decay. Now few people live in Balta Sound and their houses are separated by green fields with the occasional foundation stones still showing through.

If the natural advantages possessed by Balta Sound are no longer important to the progress of fishing technology, other technology has found Unst to be significant. On Saxa Vord, the hill at the north of the island is a large R.A.F. radar installation providing a vital link in Britain's own defence network. As long as radar is important it seems likely that the R.A.F. will remain and the station, with nearly 200 personnel, squash courts, N.A.A.F.I., cinema, dentist, and thirty-five children in the island school, will continue to benefit the island in a variety of ways. Not that the station is entirely beneficial to the island. While it provides much needed amenities and services and many indirect subsidies, R.A.F. personnel marry island girls and take them away, the property market is artificially inflated by the need for married quarters and the size of classes in the island school fluctuates violently.

Many people are worried about the undue dependence on R.A.F. Saxa Vord. When radar becomes obsolete will the encampment resemble Balia Sound? Many people from Harold Hardrada to the present day have found Unst useful yet contributed nothing to its long-term development. Like all isolated communities it pays a high cost for its remoteness. An island essentially agricultural—and Unst is unusual in its comparatively large acreage of arable—must depend on good transport; and this is expensive. Any agricultural development is almost stillborn because of exorbitant transport costs. Should an island paying the same taxes as the rest of the United Kingdom have to pay transport costs so high that even the cost of living is some 25% above the cost on the mainland?

Despite interesting developments initiated by the Zetland County Council, the Council of Social Service and the Highland and Island Development Board, the islanders are still less than enthusiastic about the future. Will the new boat being provided by the H.I.D.B. really bring money to Unst or will the men find the attractions of Lerwick preferable to Balta Sound? Will lobster and crab fishing prove viable? Will tourists really come all the way from the south and stay long enough to make the two new hotels pay their way? And, most important of all, will the islanders really be able to afford to stay on knowing that their economy is well founded and not liable to collapse at a whim of a cut in the Defence Budget, a change in the agricultural subsidies, or an alteration in tourist habits? Little wonder if, with so much uncertainty in their minds about the future, covetous eyes are cast eastwards to Norway. Perhaps the Norwegians do understand the islanders' situation better than does Whitehall and, at any rate, Norway is so much nearer to them than England

John Abbott

ORNITHOLOGY REPORT 1969 INTRODUCTORY

This was the year of Operation Seafarer, the national count of sea birds, to which we were able to send a report from Lewis, as well as supplying information on the Hebrides to interested ornithologists. Our expeditions are too late to be of much use in estimating breeding numbers, but the results can help in settling the overall pattern.

Not that we can contribute much of real value until we use grid references and give an estimated number of the species present. (See last year's comment!)

GENERAL

Family illness prevented Michael Cunlifife-Lister from finishing the Rhum list, but the following areas were covered.

SOUTH UIST (July 29th-August 19th)

The expedition was based on the east coast of the island, which is craggy, with an abundance of mountain streams, boggy valleys, and sea lochs. There is little woodland, except around Loch Druidibeg reserve, which accounts for the absence of warblers and similar birds. (c.f. last year's report from the same island.)

LEWIS (August 18th-September 5th)

A wild and barren area—See John Shute's article above.

The camp was situated at O.S. Sheet 12 230018, where there are few nesting sites for sea birds, except around Brenish. Vegetation is rough grass or poor heather.

SHETLAND (August 16th-September 3rd)

Our first visit to the Shetlands, and one which has produced some interesting results, including our "first" Red-Necked Phalarope, Snowy Owl, and Fieldfare. We look forward to the follow-up report in 1970.

SUMMARY

One fact in particular stands out this year—the lower number of sea birds seen. Amazingly, Razorbills and Guillemots are absent from the list for the first time in five years, which shows the effect of the heavy loss of life amongst sea birds this summer.

Alan Bateman

CLASSIFIED LIST

(The birds are arranged in Wetmore order)

S.U. = South Uist (29th July-19th August). Report sent by Simon Ritter.
L = Lewis (18th August-5th September). Report sent by John Shutes.
Sh = Shetland (16th August-3rd September). Report sent by Michael Jeavons.

Family	*Species*	*Recorded*	*Observed Status, and Remarks*
Gaviidae	**Red-Throated Diver**	S.U.	Beinn A'Dheas. Breeds regularly (c.f. 1968 Report).
		L.	Only diver positively identified in Loch Tamanavay.
		Sh.	Common. Breeds regularly.
	Great Northern Diver	S.U.	Loch Corridale.
Procellariidae	Fulmar	S.U.	Skiport—Usinish Bay.
		L.	Occasionally in Loch Tamanavay. Very Common (300 pairs near Vig).
		Sh.	Common. Breeds regularly.
	Manx Shearwater	L.	At mouth of Loch Tamanavay.
Sulidae	**Gannet**	S.U.	Loch Skiport and Usinish Bay.
		L.	Occasionally in Loch Tamanavay.
		Sh.	Common. Breeds regularly.
Phalacrocoraeidae	**Cormorant**	S.U.	Rudha Rossel.
		L.	Common, in Loch Tamanavay.
		Sh.	Common. Breeds regularly.
	Shag	S.U.	Rudha Rossel.
		L.	Common in Loch Tamanavay.
		Sh.	Common. Breeds regularly.
Ardeidaf	**Grey Heron**	S.U.	Bird Reserve, Grogarry on Usinish Bay.
		L.	Two adults and two young on Loch Tamanavay.
		Sh.	Fairly Common. Has bred once.
Anafdae	**Canada Goose**	S.U.	One unconfirmed at Grogarry Reserve.
	Grey Lag Goose	S.U.	Grogarry Reserve.
	Barnacle Goose	S.U,	Grogarry Reserve.
	Mute Swan	S.U.	Loch Bee.
	Mallard	Sh.	Local. Breeds regularly.
	Teal	Sh.	One young at Kergerd. Breeds regularly.
	Eider	Sh.	Common. Breeds regularly.
	Common Scoter	S.U.	Usinish Bay.
	Red-Breasted Merganser	Sh.	Fairly common. Breeds regularly.

Family	*Species*	*Recorded*	*Observed Status, and Remarks*
Accipiiridae	**Buzzard**	**S.U.**	Beinn A'Tuath.
		L.	Seen singly around Brenish and Loch Tamanavay.
	Golden Eagle	S.U.	Loch Skiport.
		L.	Many N of Loch Rcsen
Falconidae	**Peregrine**	S.U.	Loch Skiport.
		L.	Two near Aird Bheag.
	Merlin	S.U.	Usinish Bay.
	Kestrel	S.U.	Loch Corridale.
		L.	Two near Aird Bheag.
Tetraonidae	**Red Grouse**	S.U.	West ridge of Heda.
		L.	Occasionally flushed from deep heather.
Phasiattidae	**Partridge**	S.U.	West face Heda.
Haentaiopodidae	**Oystercatcher**	S.U.	Usinish Bay and Rudha Bhilidh.
		L.	Common on Brenish coastland.
		Sh.	Common. Breeds regularly.
Cliaradridae	**Ringed Plover**	L.	Aird Bheag area.
		Sh.	Common. Breeds regularly.
	Golden Plover	L.	Aird Bheag area.
		Sh.	Fairly common. Breeds regularly.
	Lapwing	S.U.	Loch Skiport.
		L.	Aird Bheag area.
		Sh.	Common. Breeds regularly.
	Turnstone	L.	Aird Bheag area.
		Sh.	Common. Breeds regularly.
	Dotterel	S.U.	Usinish Bay.
Scofopacidae	**Little Stint**	Sh.	Three on 20 August at Graven. One on 28 August at Haub, Long Ayre.
	Knot	Sh.	23 August at Sand Wick, Unst. 29 August at Haub, Long Ayre.
	Redshank	L.	Aird Bheag area.
		Sh.	Common. Breeds regularly.
	Greenshank	Sh.	One at North Yell—unconfirmed. Has bred once.
	Common Sandpiper	Sh.	23 August at Sand Wick, Unst. 31 August at Weisdale Voe.
	Green Sandpiper	S.U.	Loch Skiport.
	Curlew	S.U.	Usinish Bay.
		L.	Two on Loch Tamanavay for a day. Commoner around Uig.
		Sh.	Common. Breeds regularly.
	Woodcock	Sh.	One at Kergord. Had bred twice.
	Snipe	S.U.	Usinish Bay and Beinn Ghat.
		L.	Commonly flushed from bogs.

		Sh.	Common. Breeds regularly.
Family	*Species*	*Recorded*	*Observed Status and Remarks*
Phalaropidae	**Red-Necked Phalarope**	Sh.	Unconfirmed at Uyea Sound, Unst. Breeds regularly.
Stercorariiaae	**Great Skua**	Sh.	Common. Breeds regularly.
	Arctic Skua	Sh.	Common. Breeds regularly.
Laridae	**Black-Headed Gull**	S.U.	Nicholson's Leap.
		L.	Loch Tamanavay.
		Sh.	Fairly common. Breeds regularly.
	Lesser Black-Headed Gull	S.U.	Nicholson's Leap and Usinish Bay.
		L.	Loch Tamanavay.
		Sh.	Common. Breeds regularly.
	Herring Gull	S.U.	
		L.	
		Sh.	Abundant.
	Great Black-Backed Gull	S.U.	Nicholson's Leap and Usinish Bay.
		L.	Loch Tamanavay.
	Common Gull	L.	Loch Tamanavay.
		Sh.	Common. Breeds regularly.
	Kittiwake	S.U.	Below Usinish Bay.
		L.	Fourteen at Mangestcr Sands (N.B.008308).
		Sh.	Common. Breeds regularly.
	Arctic Tern	Sh.	Common. Breeds regularly.
Alcidae	**Black Guillemot**	S.U.	UsinUh Bay.
		L.	Lone bird on Loch Tamanavay.
		Sh.	Common. Breeds regularly.
Columbidae	**Wood Pigeon**	L.	Stornoway.
		Sh.	Locally common at Kergord. Breeds regularly.
	Rock Dove	S.U.	Rudha Bhitidh. Nicholson's Leap and Usinish Bay.
		L.	Five south of Barenish.
		Sh.	Common. Breeds regularly.
Strigidae	**Snowy Owl**	Sh.	Five on Fetar. Has bred three times.
	Long-Eared Owl	Sh.	One Juv at Kergord. Has bred twice.
	Short-Eared Owl	S.U.	Usinish Camp site.
	Little Owl	S.U.	Usinish Camp site.
Apodidae	**Swift**	S.U.	Loch Corridale.
Motacillidae	**Meadow Pipit**	S.U.	General.

		L.	Common.
		Sh.	Common. Breeds regularly.
	Rock Pipit	S.U.	Usinish Bay and Light-House.
		L.	Common on higher ground.
		Sh.	Common. Breeds regularly.
	Grey Wagtail	L.	Single ♂ around Camp Stream.
Cinclidae	**Dipper**	L.	Tame. Seen around Camp stream and Amhuinn Caslaraie. (N.B.03531S)
Troglodytidae	**Wren**	S.U.	Usinish Bay.
		L.	Abundant.
	Wren (ssp. Zetlandicui)	Sh.	Fairly common. Breeds regularly.
Prunellidae	**Dunnock**	L.	Adult and two young in camp shed.
Muscicapidae	**Whinchat**	S.U.	Usinish Bay.
	Stonechat	S.U.	Beinn A'Tuath, Skiport Road and Loch Druidibeg.
		L.	One seen at Loch Tamanavay with juv.
	Wheatear	S.U.	Hede.
		L.	All Greenland sub-species.
		Sh.	Common Breeds regularly.
	Robin	L.	Single at Gamekeeper's House.
	Blackbird	S.U.	Usinish Bay.
		L.	Common around camp.
		Sh.	Fairly common. Breeds regularly.
	Fieldfare	Sh.	About six at Kergord. Has bred once.
	Song Thrush	S.U.	Usinish Bay.
		L.	Common around camp.
Fringillidae	**Twite**	S.U.	Usinish Bay.
		L.	Common in sheltered areas in the Uig hills.
		Sh.	Fairly common. Breeds regularly.
	Linnet	L.	One <J at W. Tamana.
Ploceiaae	**House Sparrow**	L.	Common near habitation.
		Sh.	Common. Breeds regularly.
Sturnidae	Starling	S.U.	Usinish Bat.
		L.	Flocks of up to forty near Brenish.
		Sh.	Common. Breeds regularly.
Corvidae	**Jackdaw**	Sh.	Six at Kergord. Breeds regularly.
	Carrion Crow	L.	250 roosting in Stornoway Forest.
	Hooded Crow	S.U.	General.

	L.	Seen commonly in pairs in the Lowlands.
	Sh.	Common. Breeds regularly.
Raven	S.U.	Cliff under Lighthouse.
	L.	Very common locally.
	Sh.	Common. Breeds regularly.

1970 EXPEDITIONS

GOMETRA EXPEDITION (12 1/2 14 1/2 years). Leader: Alan Fowler
RAASA Y EXPEDITION (14-15 1/2 years). Leader: Mike Baker
NORTH VIST EXPEDITION (15-16 1/2 years). Leader: Phil Renold
LEWIS EXPEDITION (16 1/2 and over). Leader: Alan Howard
VIST ARCHAEOLOGICAL EXPEDITION. Leader: Geoff David
UNST(Shetland). Leader: David Vigar

Prospectus and further details from John Houghton, Lincoln College, Oxford, or The Stone House, Broughton, Preston, Lanes.