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WINTER ON ELEPHANT ISLAND

by Professor R. W. James†

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On 27 October, 1915, Shackleton's ship, the *Endurance*, was crushed in the pack-ice of the Weddell Sea in latitude 69°S, and shortly afterwards sank. The party camped in tents on the ice, which after a northward drift of five hundred miles, occupying nearly six months, broke up about 70 miles south of Elephant Island, one of the most easterly of the South Shetland group. After a six days' boat journey, partly in the pack-ice and partly in the open sea, the party landed without loss on the north cost of Elephant Island on 15 April.

The penguins had already left their rookeries, and the chance of getting enough food for the party during the winter that was approaching seemed small, so on 24 April Shackleton began his famous boat journey to South Georgia to try to get relief, leaving the Elephant Island party of 22 men in charge of Frank Wild.

The immediate problem to be faced was to obtain adequate shelter from the weather. We had no clothes other than those we were wearing, and which we had worn for the last six months. Our tents were no longer weather-tight, and during the first week after our landing gales were almost continuous. At night we had to sleep with the tent poles lowered, lying beneath the canvas, lest the wind should carry the whole tent away, and we usually awoke covered with drift snow. Sleeping bags, frozen when we got into them, would thaw out a little with our bodily warmth, but would be stiff again by morning; and it was quite evident that unless better shelter could be found it was unlikely that the whole party would survive, should it be necessary to winter, as in the event it was.

It occurred to someone, I think it was Wild, that our two boats, each about 22 feet long and 6 feet in beam, would, if inverted, form the roof of a hut. The whole party was set to work collecting boulders, with which two thick walls, about 3 feet high and 18 feet apart, were built. On these the two boats were placed, bottom upwards, bows on one wall, sterns on the other. The tents were then cut up, and their canvas was tacked along the gunwales of the boats and brought down to a pair of oars, buried on the shingle, to form the long walls of the hut. One of the tubular tent entrances served for a door, and the canvas floor-cloths of the tents were stretched over the roof, so as to fill up the gaps left between the two boats at their bows and sterns. The floor, which had formed part of a penguin rookery, and was not very fragrant, was excavated to the depth of a foot and filled with clean shingle, and finally the whole structure was firmly lashed down with ropes to prevent blizzard winds from carrying away the boats. The building was completed in a single day, and in the evening we moved into our new house.

The dimensions of the hut were such that 12 men could lie down on the floor, and since 22 men had to find beds it was plain that two layers would be necessary. The ingenious architect, who was not bothered by any municipal regulations about overcrowding, pointed out that although the house was only six feet high it was double-storied. It had two attics, the boats themselves, each of which, if suitable flooring were placed over the thwarts, could accommodate 5 men. There was at first a good deal of competition for these attics, for they were dry; but those of us who were not successful in gaining a place were often very glad of it later, for the floor dried up, but the ventilation problems upstairs remained.

The new hut proved to be dry, warm, and by our recent standards very comfortable, and life took on a rosier hue. There were of course, minor inconveniences. The ground floor, our real living room, was only about three feet high, and one had to learn how to move about in such a confined space, but as time went on we became used to it, and the hut seemed to be quite lofty. The blubber stove on which the cooking was done had to be placed near one end of the hut, so that its chimney could go out between the two boats. At first we took our meals sitting round the stove in an elongated ring. This meant that some seats were very much nearer the stove than others, and to avoid any possible trouble and discontent caused by this, Wild gave orders that we should sit in a definite order, and move up one place at each meal. So, like comets, we approached perihelion in turn, and wandered away again into cold outer space. Later on, meals were taken sitting in our sleeping bags, which was far more comfortable, and much less confusing.

Food by now had become very monotonous. We were fortunate enough to get penguins, always gentoos, throughout the winter, whenever the sea was ice-free. Meals consisted almost entirely of penguin, relieved for a time by three or four biscuits a week. The most obvious results of this ill-balanced diet were wonderful dreams about food, nearly always of puddings, cakes and sweetmeats—the things we could not get—never, so far as I remember, about meat.

The cooking was done on the blubber stove, and penguin skin, which is very fatty, was the main fuel, and was burnt feathers and all. The fireman of the day turned out at 7 a.m. and lit the fire for breakfast, not an easy job, and always a smoky one. The inhabitants

†Professor James suddenly died in Cape Town on 7th July.

of the attics would look down and explain to the fireman in the very frank language that we used on the island just how little he knew about making fires. He would reply suitably, but the smoke went on, and the dwellers in the boats would close the flaps of their sleeping bags until breakfast was ready.

At night, light in the hut was provided by small wicks of cotton wool floating in tins of seal oil, which shed a small gleam for a yard or two, but on the whole emphasized the gloom. The general dinginess was relieved by a glint of light reflected from an aluminium mug or a tin plate, or from the pipe of some unfortunate trying to get satisfaction out of dried seaweed, tobacco having long since given out. Probably an argument would be going on over some point that could not possibly be settled without reference to a book we did not possess; but, as always, lack of knowledge stimulated argument. After supper Hussey would generally play on his banjo, and we would sing sea chanties or sometimes topical songs of our own composition. At an early hour all lights but one would be put out, and we would retire to dream of food.

Thus the winter passed, not unpleasantly. We were dry and warm and not actually hungry, so that our physical needs were more or less satisfied; but we had read and re-read our few books, and I fear that our mental existence was not very brisk. At last on 30 August, 1916, just as we were sharing out a stew made of seals' backbone and seaweed, a small steamer appeared out at sea. It was the Chilian vessel *Yelcho*, and from it a boat was lowered, standing in the bows of which was the very characteristic figure of Shackleton, who had reached South Georgia safely, and after three attempts at rescue that had been prevented by drift ice round the island, had at last succeeded in reaching us. Within an hour we were sailing northwards towards Punta Arenas in the Magellan Straits, hearing of the madness of a world at war, from which we had been cut off for two years. Nowadays, it is sometimes hard to remember that wireless communication with an Antarctic expedition was at that time still impossible, and that once communication by sea was severed a party was literally cut off from the world and from all news of it.

WHY I WENT TO THE ANTARCTIC

by Dr. J. H. Harvey Pirie
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Ever since boyhood, when I scoured the countryside for miles around my home hunting for birds' eggs, I have tended to be a bit of a roamer or explorer.

Chemistry was my favourite subject at school and I went to Edinburgh University with the idea of becoming a research chemist. At the end of the first year, in an interview with the Dean I was asked what were my plans. I told him and he then looked up my examination records, finding mathematics—50 per cent. He clapped my shoulder and said: "Laddie, you might become an analyst, but you'll never be a chemist". That changed my plans and I switched over to the natural sciences, with Geology as my major subject.

Apparently I did fairly well in this for after getting my B.Sc. I was offered a job in the Scottish Geological Survey. But, somehow this did not appeal to me and I decided to go on with a medical course. Soon after finishing this and doing a hospital residentship, I heard of Dr. W. S. Bruce organising the Scottish National Antarctic Expedition. This aroused my roaming instincts and on going to see him I got appointed to the double post of Medical Officer and Geologist.

The "Scotia" was mainly fitted out for oceanographical work in the Weddell Sea area; no extensive land work was contemplated, so that an expert geologist was not required. Nevertheless in the months before sailing I managed to rub up my field work with an officer of the Survey in the Hebrides. In my other capacity I acquired some skill at something which I had not been taught as a student, viz., pulling teeth. I thought that might come in useful, and it did. But now for the actual work in the Antarctic.

During the two summer cruises in the Weddell Sea (early months of 1903 and 1904), there were two outstanding events. (1) Wiping the "Ross Deep" off the map; this was based on *one* sounding of 4,000 fathoms, no bottom, taken 60 years earlier by Sir James Ross. With modern sounding gear we found the true depth was only 2,660 fathoms. (2) Finding and tracing for about 150 miles, the continental ice-shelf which forms the southern boundary of the Weddell Sea. This was nearly 400 miles north of where it had been hypothetically placed on the basis of Ross' one sounding. We named it "Coats Land" in honour of the chief subscribers to the funds of the expedition. The blank area on the map to the northeast between it and Enderby Land has since been filled in by the Norwegian discovery of Queen Maud Land, in which the South African Antarctic Station is located. The blank area to the southwest is now filled in by the Filchner Ice Shelf.

For eight months our ship was frozen in at the head of Scotia Bay, Laurie Island, South Orkneys. Here there was good opportunity for surveying and geological work. Although only in 60°S latitude the climate was polar in type; we had temperatures as low as minus 40°C—cold enough when a wind blew, which it did for about six days a week. But it was seldom we could not get around on skis. Laurie Island may be described as the top of a buried mountain ridge, 12 miles long from west to east, with peninsulas jutting out north and south. On my longest trip, with three companions, to the eastern tip of the island, we were away for several weeks. We mapped the whole south coast, taking the risk of travelling over the sea ice. Hauling a laden sledge over the rough pack was mighty hard work and often we could not do more than a mile an hour. We also did the eastern part of the north coast, with much easier going over glacier-covered, flattened-out land. The rest of the north coast was mapped later by boat.

The rocks of Laurie Island are entirely sedimentary, consisting of sandstones, greywacke-conglomerates with some interbedded shales; they are much faulted and folded. I searched the shale assiduously for fossils but only found a few graptolites and some fragments of a custoacean carapace. They were sufficient, however, to identify the rocks as being from either the topmost Lower Silurian or from the base of the Upper Silurian. The rocks as a whole are almost identical in character with rocks of these periods found in Northern Wales and in the Southern Uplands of Scotland.