The Ben Nevis Observatory

Introduction

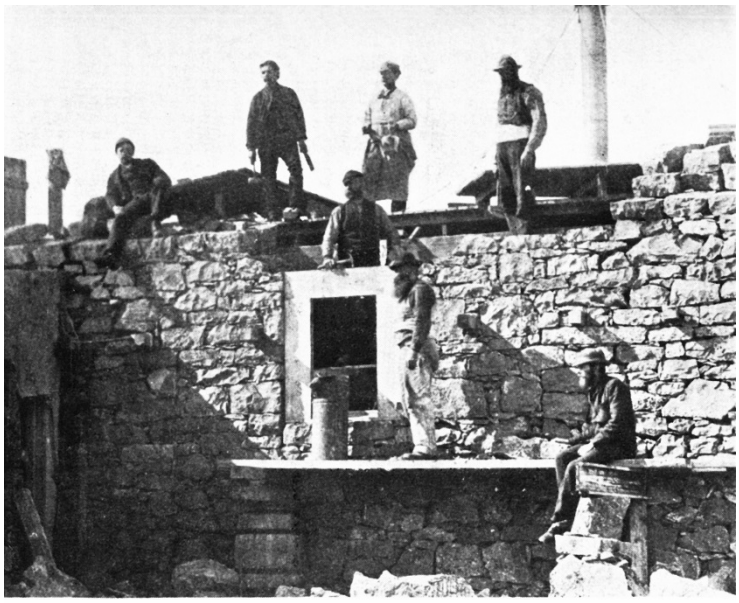
The meteorological observatory on the top of Ben Nevis was a landmark in Scottish Meteorology. It was a pioneering venture of the Scottish Meteorological Society, among the first permanently staffed mountain top observatories of the world. Its purpose was to record hourly observations, day and night, at the highest point in Britain for the purpose of better understanding the upper atmosphere. The observatory was manned from 1883 to 1904. Ben Nevis is 'only' 1344 m above sea-level but the weather the observers experienced was very different from that of the nearby sea-level town of Fort William. In terms of everything that makes for severe weather – wind, rain, snow, cold – Ben Nevis had it worse than anywhere else in the country. Observers needed exceptional dedication and they did indeed show that.

The observatory was closed in 1904 not because its work was finished but because the money couldn't be raised to continue its operation. The place was abandoned to the elements. I've only twice climbed Ben Nevis. Once was with a party from the Royal Meteorological Society in 1983 to mark the centenary of the opening of the observatory and the second time was at a similar event in 2004 to mark its closing. Of course we only saw ruins on the top, as do the thousands of climbers who ascend Ben Nevis every year. A plaque among the rickle of stones explains what they were but since the top is frequently covered in cloud you need to know there is a plaque there not to miss it.

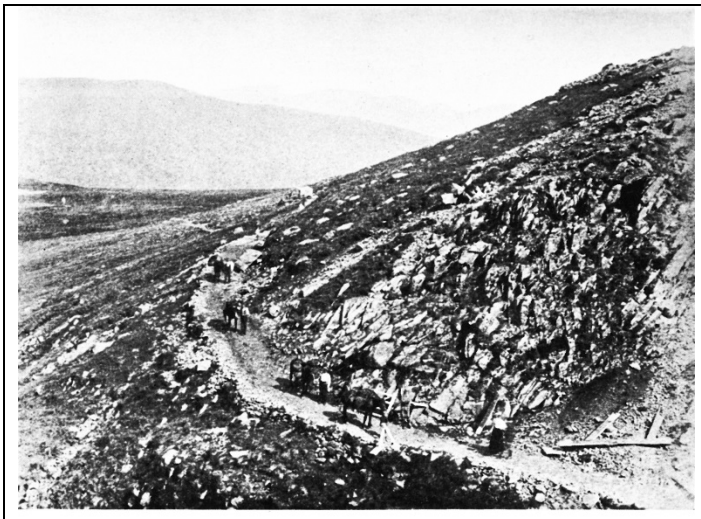
This piece is largely a sequence of illustrations. They come from a 154 page ocatvo book 'Twenty Years on Ben Nevis' *by* Wm. T. Kilgour (Alexander Gardner, Paisley, 1905). *My original is long out of print and out of copyright but the work has been re-published in 2014. A modern meteorologist, Marjory Roy, produced a nice extended booklet of 42 pages in 2004 with mainly different illustrations and more of the meteorological background story* ('The Weathermen of Ben Nevis 1883-1904', The Royal Meteorological Society, 2004). *Aberdeen University has a number of good photographs showing the observatory taken by the famous 19th century Aberdeen based photographer George Washington Wilson. I should add a technical point that the emulsions in the 19th century had difficulty coping with the dynamic range of light intensities found in cloud and snow scenes and the pictures here show less detail in shadows and highlights than you'd expect in modern photographs. We shouldn't complain, though, for they did take pictures, sometimes in difficult circumstances.*

THE OBSERVATORY—SUMMER.

To see if it was feasible to run an observatory on the top of Ben Nevis, from May 1881 to autumn 1882 one Clement Wragge climbed Ben Nevis daily (yes, daily, starting as everyone does, near sea level) in almost all weathers. It was a good 14 mile round trip. He made observations in a temporary 'cage' he erected on the top. Wragge's enthusiasm, dedication and shear physical effort helped to raise the necessary funds for a permanent building. It was opened on 17th October 1883.



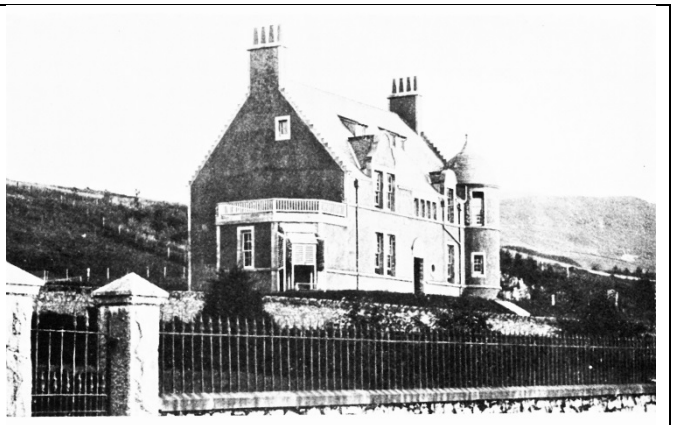
BUILDING THE OBSERVATORY.



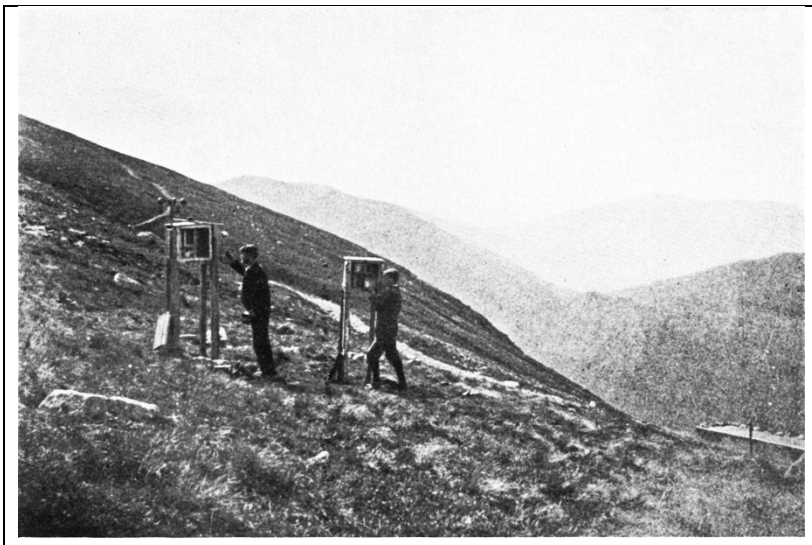
VISITORS WITH PONIES NEGOTIATING THE BRIDLE-PATH.

A bridle path was built to take goods up. At places its slope is 1 in 5. Today's path to the top is based on the old bridle path.

So that comparisons could be made between the mountain top and nearby sea level, a 'low-level observatory' at Fort William was opened in 1890. It was kept in use for some years after the mountain top observatory was closed.



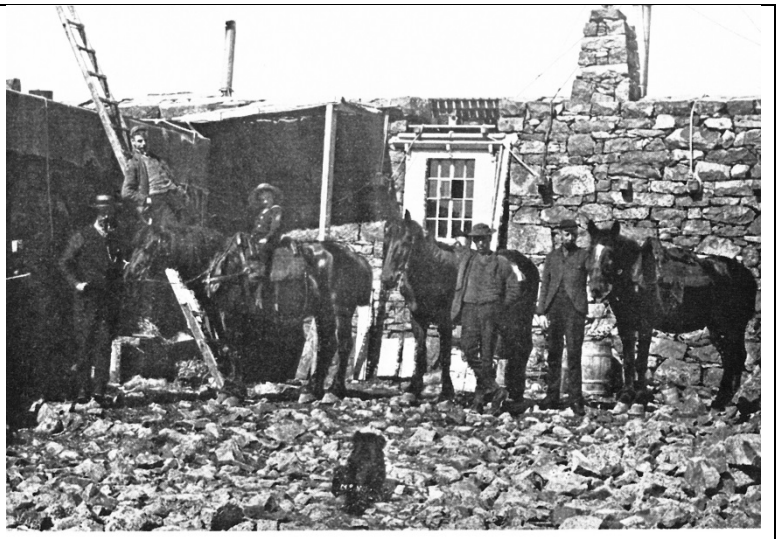
THE LOW LEVEL OBSERVATORY, FORT-WILLIAM.



TAKING READINGS AT HALF-WAY STATION.

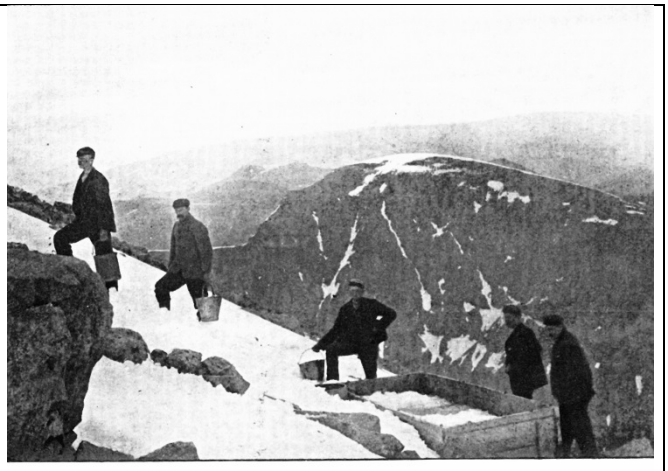
During the summer data was collected at a half-way station

Provisions including coal for the essential fire that was kept burning permanently both for heat and cooking were taken up by pack-horse in summer. Communication wasn't limited to personal contact for the observatory was connected to Fort William by telegraph.

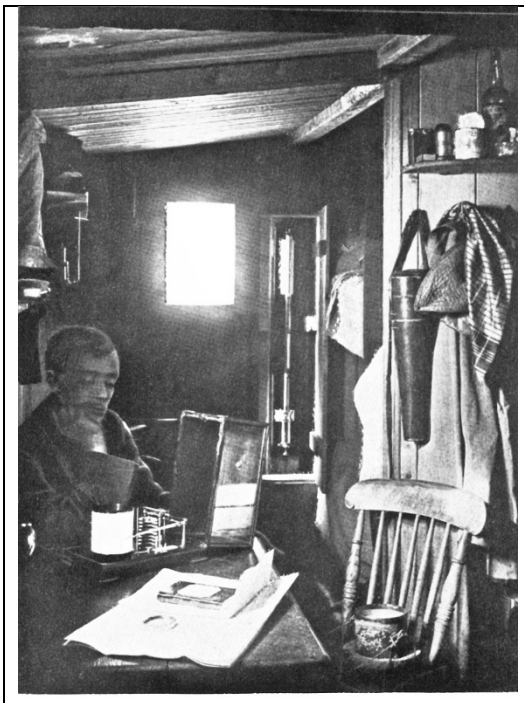


THE PACK-HORSES—SUMMER.

AT THE OBSERVATORY WELL ON SUMMIT.



WATER-CARRYING AFTER A THAW.



A CORNER OF THE OBSERVATORY INTERIOR.

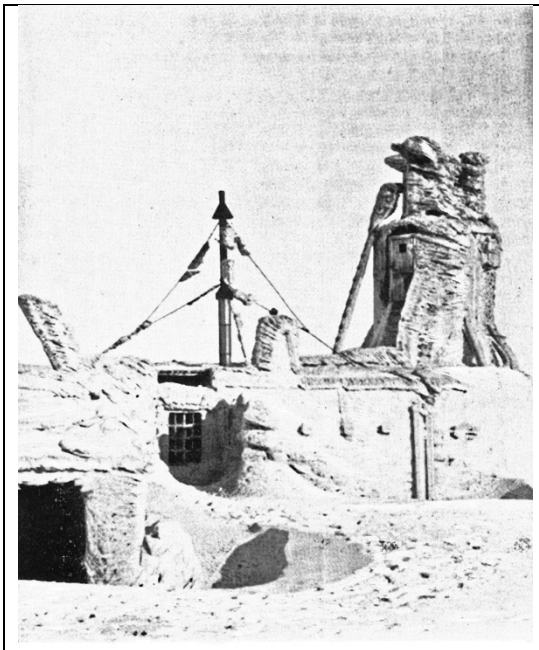
4 people manned the observatory at any one time. Arrangements varied over the years but at least one was on an 8-hour night shift. Readings were taken of the barometer and outside the wet and dry bulb thermometers, rain gauge and, on the roof, the anemometer and wind direction; observations of cloud cover, visibility, presence of haze, mist, fog, hail, thunder and anything unusual were recorded. The sunshine record and the maximum and minimum thermometers were read once per day.

An observer's 'stint' lasted two or three months but in winter it could be longer if inclement weather prevented a changeover.

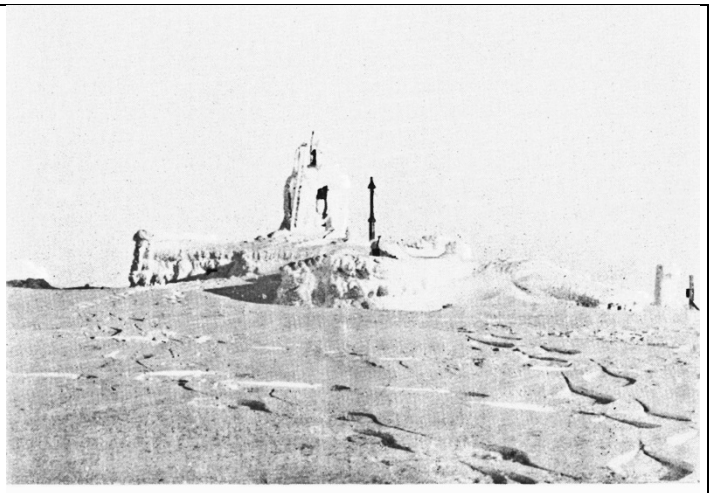
OBSERVERS ASCENDING IN WINTER.

CONSPICUOUS FOG CRYSTALS.

Huge hoar frost crystals could form in winter on external posts.



AN EARLY WINTER COATING.

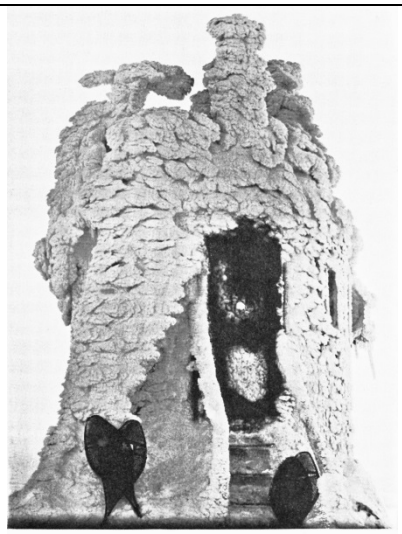


A TYPICAL WINTER SCENE.

As winter advanced the whole of the observatory building became immersed in hard packed snow or frozen rain, leaving only the roof tower as a means of entrance and exit.

STARTING ON A SNOW-SLIDE.

TOBOGGANING.

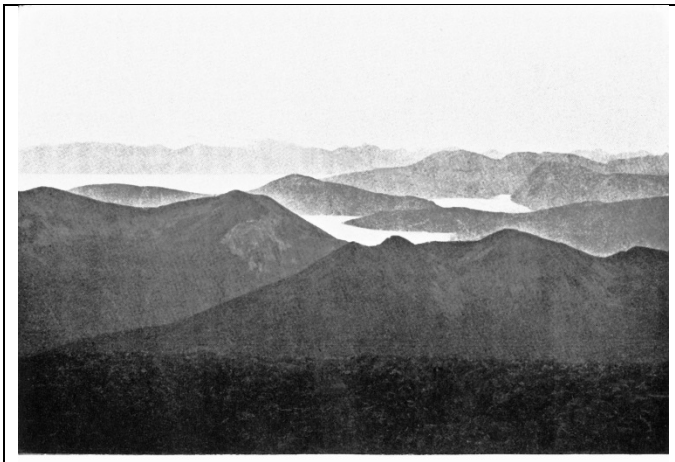


HOW THE TOWER APPEARED IN WINTER.

DEER IN WINTER ON A SPUR OF BEN NEVIS.

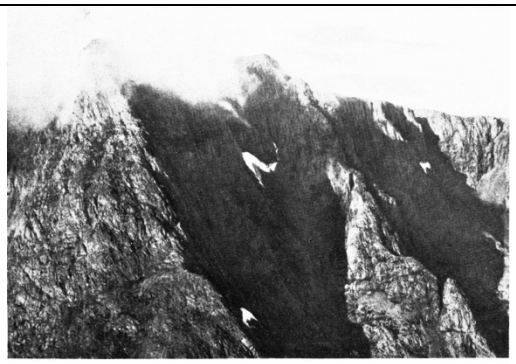
SNOW DISAPPEARING FROM THE SUMMITS.

The snow at the observatory generally lasted until early June, returning again in most years in November.



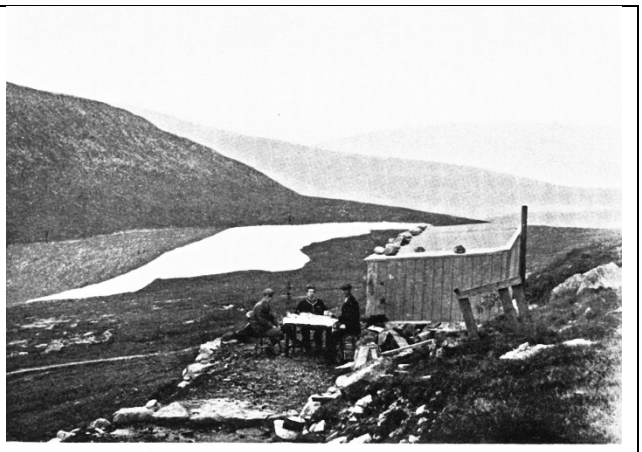
FOG IN VALLEYS.

FOG RISING.



MIST COMING ON.

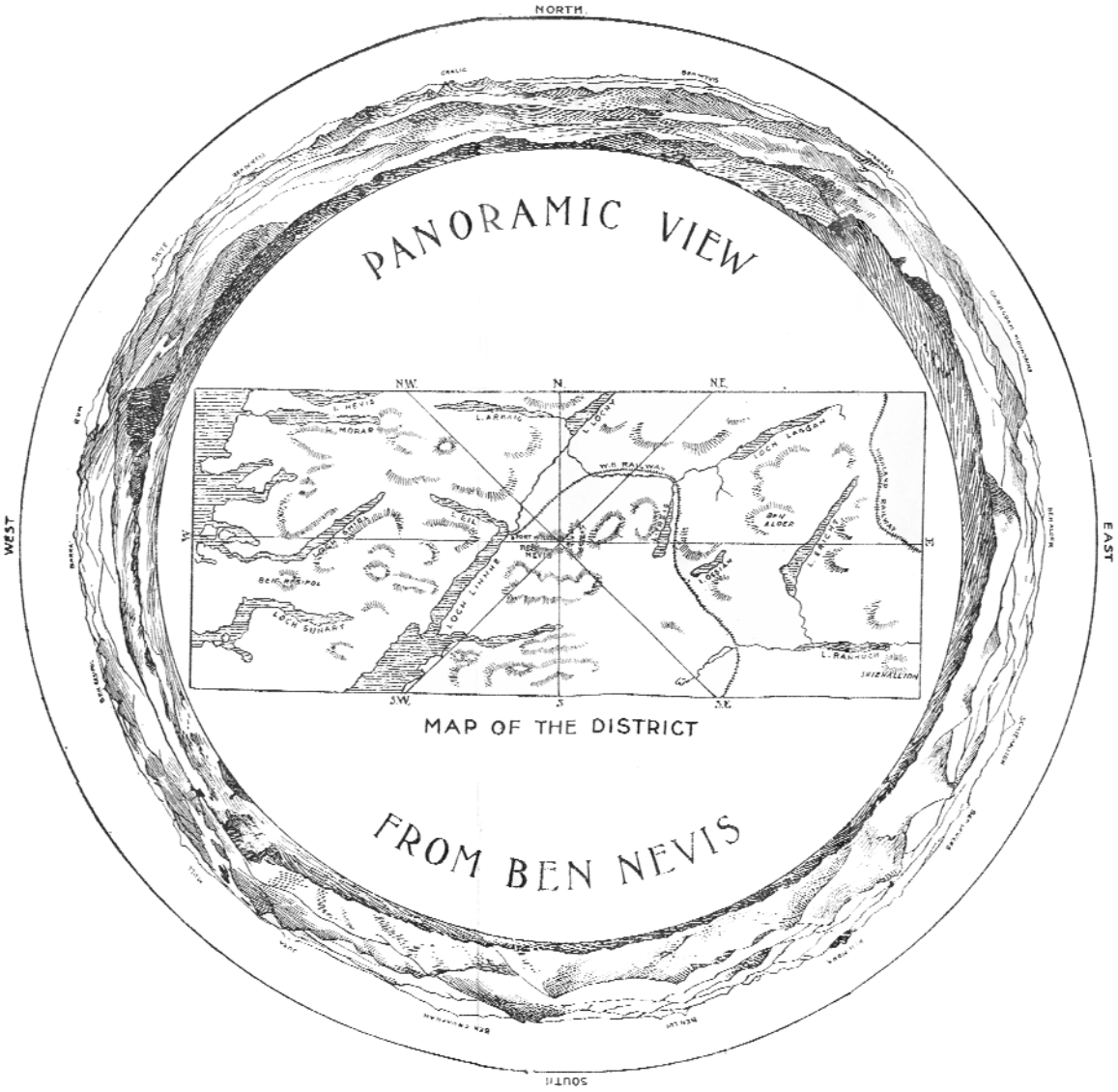
The observatory was often in cloud when the lower slopes weren't.



THE HALF-WAY STATION AND LAKE—TEA *al fresco.*

The wooden erection about 50 m from the observatory, grandly called a 'hotel', provided food and overnight accommodation in summer for visitors.	 THE ADVENT OF SUMMER.

Observations were terminated on 1st October 1904, the equipment removed and the door locked and barred. The pictures here don't convey how wild conditions sometimes were at the observatory and the dedication needed to provide readings night and day for 21 years. The panorama below finishes Kilgour's book. *JSR*



The ghostly outline of the Ben Nevis Observatory ruins in the cloud in early March 2016. Photo courtesy Rebecca Ronke.