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Aimsirean, singularities and Buchan's Spells

The Quern-Dust Calendar — Raghnall MacilleDhuibh

THESE scribbles of mine started off with some remarks about the weather.

That was 208 articles ago, perish the thought. I did twelve pieces on "Weather" in 1986-7, then it turned into "Seasons", then "The Quern-Dust Calendar".

Over the years I have often mentioned the names of Gaelic weather-periods (or winds, or seasons) like the faoilteach or wolftime, the feadag or whistler (or plover), the gearran or cutter (or garron) and the one we are in at the moment, the iuchar or bordertime. They loom large in the traditional calendar, and were probably felt to be triggered by a new phase of the moon. But it is a long time since I looked at them from a meteorological point of view, and so that is what I propose to do now.

The Gaelic word for a weather-period is aimsir, or sometimes tràth. As Edward Dwelly once wrote: Is e is dòcha, gur ann a réir mar a bhiodh an t-sìde, a gheibheadh an aimsir ainm. "The aimsir would presumably be named according to how the weather was." The purpose of of the aimsirean was not calendrical (for indicating a particular date or time of year) but meteorological (for describing or forecasting a particular type of weather). There is therefore a noticeable glut of them in the spring quarter, reflecting the importance of judging the weather minutely for the crucial operations of ploughing and sowing.

The aimsirean provided a synthesis of what could be expected, and the nearer the weather came to the synthesis, the better. S math gach aimsir 'na h-àm fhéin, "every weather is good in its own time", goes the proverb, a sentiment which is echoed over and over with respect to particular aimsirean of the year. George MacKay Brown, a Gael on his mother's side, expressed the matter very well with respect to his native Orkney in a Scotsman article a few years ago: "The only good weather the farmers knew was rain and sun and wind in their due season. The word 'beautiful' never came into their vocabulary. Sometimes they had to wait a longish while for the sun, or the rain, or the wind: and then the crops (that were all life and meaning to them) might linger a little in their growth, or even droop and dwine. But always — or nearly always — the elements were dealt out in due and just measure, a sufficiency of sun and rain; and then the crofts could hold out for another winter against the darkness and the gales."

Tradition records aimsirean as lasting for various periods, typically 3 days, a week, 9 days, 2 weeks, 4 weeks, 6 weeks. If we look up gearran in Dwelly's dictionary as a random example we find: "Gearran. Period as to the duration of which authorities very considerably. The Highland Society Dictionary, MacEachen, MacLeod and Dewar, and MacAlpine all say it is from 15 March to 11 April inclusive. (Old Style.) Dr Norman MacLeod, in 'Teachdair Ùr Gàidhealach', applies it to the month of February. 2 The nine days after faoileach." Here he quotes Mìos faoilich, naoidh là Gearrain ("a month of faoileach, nine days of Gearran"). Finally he says "3 Last half of February", attributing this to the Rev. Thomas Sinton, editor of "The Poetry of Badenoch".

So we have variously 4 weeks, 9 days and 2 weeks, occurring variously in February, March and April. This kind of confusion is typical, but can be explained I think by reference to the following points.

Firstly, the aimsirean originally related to the lunar and not the solar calendar, and would therefore be expected at slightly different times from year to year.

Secondly, as I have said, the aimsirean were meteorological. They indicated the kind of weather to be expected at a given time of the year and the order in which types of weather might arrive. But that represented an ideal only. They might arrive early or late, or in the wrong order, or they might not arrive at all. Also, this ideal structure of seasons naturally varied from place to place according to the weather conditions conceived locally as being characteristic to the area.

Thirdly, the Calendar Act of 1751, which dropped eleven days in order to switch from the Julian to the Gregorian system, introduced confusion as to whether or not the aimsirean were to be expected eleven days earlier.

And fourthly, in modern times certain aimsirean have been drafted into use as months in the solar calendar. The Iuchar, for example, a hot 4-week spell around the autumn quarterday (1 August) has become July.

Now the aimsirean represent the traditional Highland version of a meteorogical principle well known to science, that of 'singularities'. The concept of singularities was established by Dr Alexander Buchan, a Dunblane schoolmaster who became the Secretary of the Scottish Meteorological Society in 1860.

Buchan was instrumental in the founding of the Ben Nevis Observatory, and laid the foundations of modern weather forecasting. In 1867, in a celebrated paper to the Society called "Interruptions in the Temperature of Scotland", he demonstrated by statistical analysis that a tendency existed for cold and warm spells to occur about certain dates. His cold spells were 7-14 February, 11-14 April, 9-14 May, 29 June - 4

July, 6-11 August, and 6-13 November, and his warm spells were 12-15 July, 12-15 August and 3-14 December. These have been popularly called "Buchan's Spells" ever since.

In two cases Buchan drew a specific parallel between his spells and traditional wisdom. His Second Cold Period (11-14 April), he pointed out, corresponded to the cold "Borrowing Days" — in Gaelic, trì latha nan òisgean, "the three days of the ewes". And of his Third Warm Period (3-14 December), he said, "This is no doubt the period commonly known as St Martin's Summer, since it very frequently commences shortly after Martinmas (O.S.), or the Feast of St Martin. It is preceded by the dry, cold, foggy weather and easterly winds which generally prevail about the beginning and middle of November; it continues from a week to a fortnight, or, with interruptions, sometimes longer, and not until it has passed does winter fairly set in."

Buchan's Spells are now treated with reserve, but the principle has died hard. During the years following the Second World War combined research teams from the Meteorological Office and the Naval Weather Service declared that in the winter half of the year stormy and quiet periods occur on average at thirty-day intervals, beginning as follows and lasting 7-9 days. Stormy periods: 24 October, 24 November, 25 December, 24 January, 26 February, 24 March, 23 April. Quiet periods: 12 October, 15 November, 18 December, 18 January, 12 February, 12 March.

Miss Marjory Roy, a former head of the Meteorological Office in Scotland (and a Gaelic learner) has kindly provided me with documentation and comments relating to recent debate on singularites and Buchan's Spells. She stresses the conclusion that very few of the singularities are statistically significant, and that even those that are cannot give a useful prediction for a particular date in a particular year. Basically that is my understanding of the aimsirean also, as opposed to weather traditions about saints' days such as St Swithin's, which would be correctly described as superstition.

In 1950 Hubert Lamb, in an investigation of the annual trend of weather types in the British Isles, obtained independent evidence for all but one of Buchan's Spells. In 1951 H Flohn found all the Buchan cold periods reproduced by the Ben Nevis mean daily temperatures over 20 years. In 1953 one of Miss Roy's predecessors, D H McIntosh, analysed Edinburgh's temperature statistics over 150 years to see if Buchan's Spells were valid for that area, and concluded that although non-seasonal temperature fluctuations were very largely of a random nature, it was highly improbable that they were entirely so. He found that the only departures to achieve 'significance' (at the 5 per cent level or better) in the period of 150 years were those for 16 and 18 November, when mean temperatures were below normal, and that the cold and warm spells detailed by Buchan were not significantly supported by Edinburgh temperature observations for 1901-50.

The debate on McIntosh's paper was printed, and makes fascinating reading. The first commentator mentioned the Ice Saints of 11-13 May, Mamertus, Pancras and Gervais, and pointed out that in that year these had been nights of ground frost. Others remarked that McIntosh had only considered singularities dated by the solar calendar, and to this I would add my own deduction that the aimsirean followed the lunar calendar. There seemed to be a general agreement that Buchan's dates would by now have slipped by up to ten days in any case due to the improvement in the climate — McIntosh's own statistics showed the main singularity during April-June occurring at 10 May in 1770-1840, at 5-10 May in 1841-97, at 1-10 May in 1901-25, and at 30 April in 1926-50.

It was pointed out that singularities could only be explained in a global context. That context might include atmospheric-circulation patterns and processes, generated by identifiable events in the seasonal progression over different parts of the northern hemisphere. One such dateable event might be the withdrawal about mid-October of insolation (the effect of the sun) from the northern polar stratosphere, setting up anticyclonic and cyclonic singularity phenomena in winter in northern and central Europe. Another might be the liberation of large areas of Europe from snow at a rate of 3˚F per week about the same date in April-May each year; perhaps those Ice Saints of May had something to do with a spurt in the differential fall of continental pressures relative to those of the North Atlantic.

In this context, Hubert Lamb mounted a stout defence of Buchan. Singularities had been proved, he said, as existing in central Europe, with only a 0.27 per cent possibility of their occurring by chance. These singularities were likely to be reflected in some way in Scotland — less marked, no doubt, and less regular as regards date, but reflected nevertheless. He concludes, strikingly: "I agree with McIntosh in finding more evidence for Buchan's six cold periods than for his three warm spells; one of the latter in any case seems only to mark the summit of the annual temperature curve in July. However, Buchan's warm spell in early December (3-10) comes on about the same date as a warm singularity (1-10) of proved significance in central Europe."

Hunting for singularities is not something that appeals to my friend Miss Roy, as their predictive value is so low. "I am more interested in the description of the climate of the various parts of Scotland," she says, "including its extremes and its variations with season and area." But then, in the Highlands and Islands, that brings us back to the aimsirean . . .

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