

ART. XV. – *Environmental Observations by the Rev. William Hutton of Beetham, Cumbria.* By LANCE TUFNELL.

### Introduction

PARISH registers can be a useful source of environmental data. An example from Cumbria is the Watermillock register which describes a prolonged frost in 1607-8.<sup>1</sup> Although this and other registers have been published, many more exist only in manuscript and they too may contain important environmental data. Such is the case with parish registers kept by the Rev. William Hutton at Beetham in Cumbria. The environmental details which they provide span more than forty years of the eighteenth and early nineteenth centuries. Moreover, these details can be supplemented by environmental information from another of Hutton's writings, the already-published *Beetham Repository*.<sup>2</sup> In all, these works by Hutton not only add to our knowledge of past environmental events in southern Cumbria and north Lancashire, but also tell us something of how those events affected the local population.

### Beetham and its vicar

The parish of Beetham lies in the extreme south of Cumbria with Kendal about eight miles to the north and Lancaster some fourteen miles to the south. It occupies an area of rural lowland next to Morecambe Bay and has always had a sparse population which in Hutton's day numbered around 800.<sup>3</sup> One of the main settlements in the parish, a village also called Beetham, is a mile and a half south of Milnthorpe beside the present A6 and the river Beela (Fig. 1). It consists of a small group of buildings dominated by the church where William Hutton used to be vicar. Born in 1737 at Overthwaite, two miles to the north-east, Hutton was educated at Sedbergh School and Trinity College, Cambridge. In 1760 he was appointed curate at Beetham and two years later became its vicar following the resignation of Daniel Wilson. This was a post he retained until his death on 6 August 1811.<sup>4</sup> In addition to his environmental observations, which cover nearly the whole time he was incumbent at Beetham, Hutton gathered valuable data for his *Repository*, collected rocks, minerals and fossils, donated numerous books to Heversham and Beetham Schools, and had contact with learned men, such as Burn, co-author of the well-known *History and Antiquities of the Counties of Westmorland and Cumberland*. These various activities mark out Hutton as a cleric of distinction who has contributed significantly to our understanding of the history and geography of his parish.

### William Hutton's environmental observations

Most of Hutton's environmental observations are contained in two parish registers which begin several years earlier and finish a little later than his incumbency at Beetham. One of these registers covers the period 1754-94, while the other is for the years 1795-1812. Environmental information usually occurs on the lower half of a page after the year's registration entries and consists mainly of references to snow, frost, floods, wind,

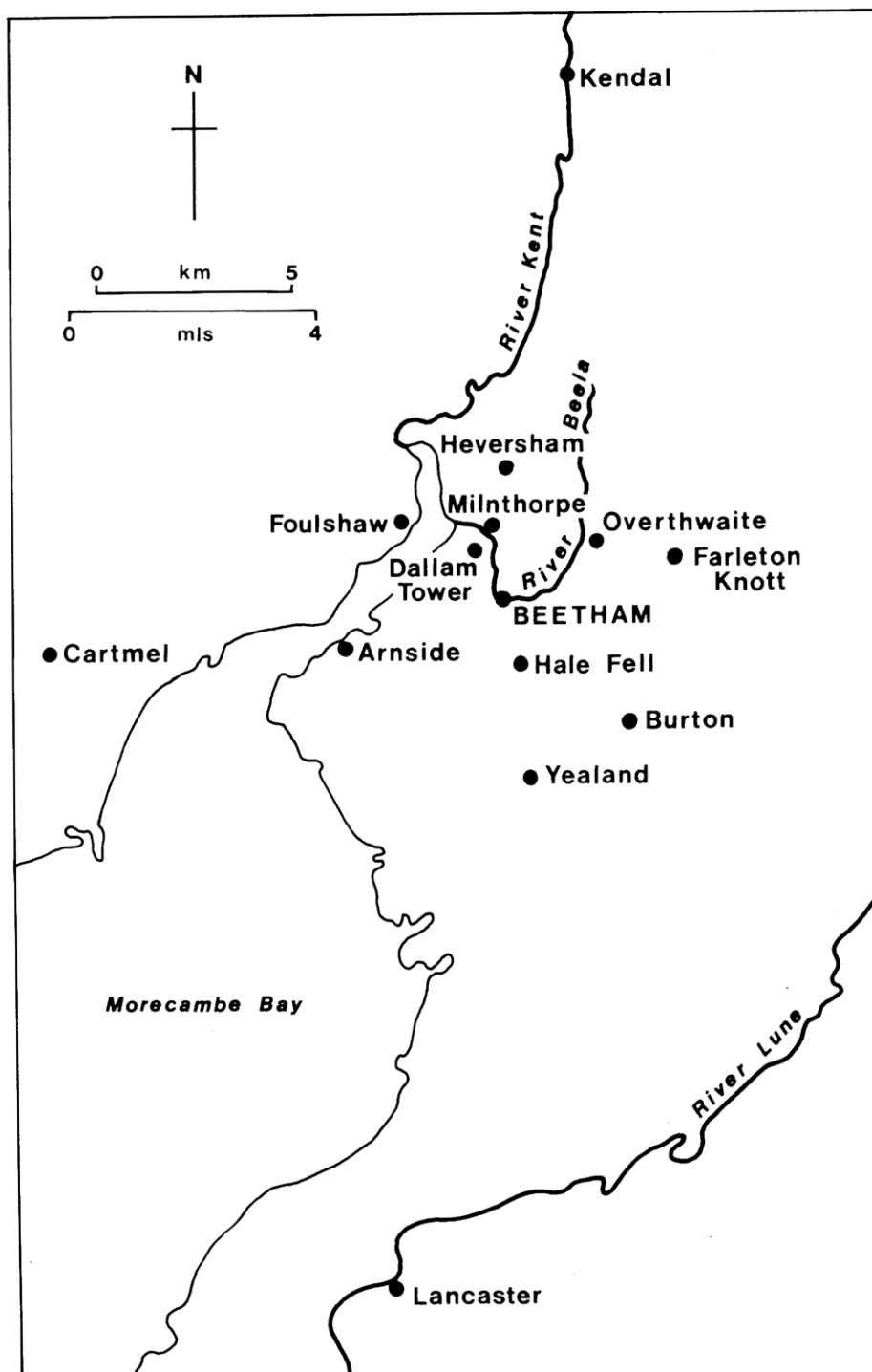


FIG. 1. - Location of places in the Beetham area mentioned in the text. The modern spellings used are all sufficiently close to any older versions quoted in the text as not to cause problems of identification.

thunderstorms, and earthquakes. Both registers are now deposited in the Cumbria Record Office, County Offices, Kendal.

#### A. Snow and frost

Earliest of the environmental details in Hutton's parish registers are those which mention the snowstorms of 1766 and 1767. The first of these storms "render'd the roads impassable for some days" with the result that "A Cart or Carriage cou'd not go from Beetham to Dallam Tower untill the 1<sup>st</sup> of March – (the Snow fell on the 11<sup>th</sup> of Feb<sup>y</sup>) – This was chiefly occasioned by the Drifts".

Hutton's entry for 1767 begins with a further brief reference to the snow of the previous year and then describes "Another Storm of Snow more violent" which "fell on the 3<sup>d</sup> January 1767. This was general over the Island & exceeded all that had happened for 50 Years. Sunday being the next Day I had only 19 People for my Congregation; 10 days after, a Communication was open'd thro the Fields with Beetham Miln & Milnthrop; in four Days more, the Turnpike from Lancaster to Kendal was open'd by the justice's Warrants". Interestingly, Hutchinson (1794/7) and the Askham parish registers<sup>5</sup> give 10-11 January 1767 as the time when heavy snow fell in the more northerly parts of Cumbria, while an entry in the *Gentleman's Magazine*, dated 8 January 1767, records snow which "was so deep throughout the whole kingdom, that the like has not been remembered by the oldest men living". A diary kept in northern Cumbria also records heavy snow on 11 January 1767, but equally makes it clear that other snow had fallen during the preceding week.<sup>6</sup> The existence of these various snow fall dates indicates a need for detailed research into the precise sequence of weather events during January 1767.

Snowstorms again affected the Beetham area in November 1775 when "A very Deep Snow fell & drifted so that the Holm road to Burton was impassable for a Cart or Carriage Several Days". Unfortunately, these remarks are followed by others which create uncertainty as to the weather during the rest of the winter. They note that 2 February 1776 marked the end of "a severe frost w<sup>ch</sup> had continued four Weeks" and had caused the freezing of "Beetham beck" so that people were able "to cross it on the Ice". The same entry also reports "much Snow all over England, excepting this part". If this refers to snow lie, then it appears to indicate that the November snows were followed by a local thaw. Alternatively, it may be a record of snow fall, in which case the Beetham area escaped storms which beset many other localities.

The winter of 1783-4 also drew comments from Hutton who observed that "Severe Frost commenced the 24<sup>th</sup> December" and "continued nearly without Intermission till the 4<sup>th</sup> April & scarcely ceased till the beginning of May 1784". According to Hutchinson, the year 1784 "commenced and ended with the severest and longest continued frosts . . . since . . . 1740. Indeed, January 1784 was among the coldest months of the last 200 years with the mean temperature in southern Cumbria and Lancashire hardly reaching 30°F.<sup>7</sup> Hutton noted that during the break up of this severe frost "a rock of I fancy 200 ton Weight roll'd down from the high Ridge w<sup>ch</sup> runs from Park End House on Hale Fell, Southward". He then quaintly added " 'twas a truly Alpine Event & Centuries to come the Stone will be view'd with admiration".<sup>8</sup>

According to Hutchinson the summer of 1784 was "uncommonly cold and wet" and the following winter was no better than its predecessor. At Beetham "the Frost set in at Martinmas, continued to the middle of March 1785 with very little intermission".

However, the parish register of Sebergham in northern Cumbria gives a rather different story for it tells how in 1784 "A Frost began . . . Decr 6<sup>th</sup>, which lasted with very little Interruption till April 5<sup>th</sup> 1785".<sup>9</sup> Thus, the two records are seemingly three to four weeks apart at each end of the winter. A thorough examination of possible reasons for these differences is beyond the scope of the present article. Nevertheless, there are two observations which can profitably be mentioned at this juncture. One is an entry in the *Gentleman's Magazine* which says that on 8 December 1784 the weather in southern Britain changed "from very mild" to "a gentle frost" and that this "set in from the North".<sup>10</sup> The other is the remark by Hutchinson that "a complete thaw, which was slow" and "gradual . . . did not take place till near the middle of April", 1785. Whatever its precise duration, the winter was certainly poor and its frosts not surprisingly caused Esthwaite Water and large parts of Windermere to freeze. This may have inspired the lines about skating in Book I of Wordsworth's *The Prelude*.<sup>11</sup> Several authors also remarked on the heavy snow falls of the winter and Hutchinson has described how sheep in the parish of Kirkland near Appleby survived burial by snow for fifty days "and afterwards became as healthy as the rest of the flock". Hutton's sole commentary on the winter's snows was that six inches fell at Beetham in about four hours on 1 April 1785.

The next time Hutton mentioned snow he was to record not its abundance, but its scarcity. This was in 1790 when he observed "No frost during the Last Winter, & not above a few hours Snow". Further evidence of a mild winter is given by the above-average temperatures recorded at Kendal and the small amounts of snow which fell in Scotland.<sup>12</sup>

Hutton reverted to mentioning severe winters in 1795 when he noted a "thirteen Week Frost" at Beetham and the January average in southern Cumbria and Lancashire was among the lowest ever recorded there.<sup>13</sup> Many other places in Britain and Europe also experienced cold weather and numerous rivers and lakes became frozen.<sup>14</sup> In Cumbria, Windermere was reported to be the only lake which did not completely freeze over.<sup>15</sup> Though on this occasion Hutton did not say if the river at Beetham iced up, he did note that three years later, on 27 December 1798, it "froze so hard as to bear Boys & Men". Shortly afterwards, on 18 February 1799, Hutton again experienced severe weather when "a Storm of Wind & Snow, fill'd the Lanes, w<sup>ch</sup> were cut open the following Week". Moreover, the bad weather was slow to clear for "Winter only broke up the 16<sup>th</sup> May". Because of this and the effects of the previous year's drought on the hay crop, "The Lambs perish'd by the Cold, & want of Milk in very great Numbers". One consequence of these events was that during 1799 "The skins of upwards of 10,000 lambs, which perished in the spring, were sold" at Kendal. In addition, there was on 7 May "No vegetation in the fields, nor blossoms upon the fruit trees".<sup>16</sup>

Hutton's final reference to cold weather was made in 1802 when "a severe Frost June 1<sup>st</sup> & two Nights before, hurt Vegetables & Roots & Fruit very much". Late frosts were also mentioned by William Wordsworth who wrote on 10 June "I suppose you have not had so bitter a frost as we had after the middle of May". Likewise, on 3 June his sister, Dorothy, noted that "The oak copses are brown, as in autumn with the late frosts".<sup>17</sup>

## B. Floods

Earlier than any of Hutton's register entries is a mention in the *Beetham Repository* of flooding which occurred during November 1761. This "wash'd down Milnthorp Bridge

and did Us some damage". The event is also recorded in a Westmorland Quarter Sessions roll which tells how "about the latter end of November . . . severall Bridges . . . were much damaged . . . & especialy Milthorpe Bridge was totally swept down".<sup>18</sup>

In autumn 1771 northern England suffered some of its worst flooding on record. Not surprisingly, Hutton regarded one of these floods, that of 13 October, as "the greatest within the Memory of Man" and observed that "it was not passable at either end of Beetham Bridge for Man or Horse, several Hours. It run over the Meadow Wall on the East End of the Bridge & bro' it down, it run with great rapidity thro' the style of the said Meadow". The *Newcastle Journal* also referred to a flood "At . . . Betham" where "graves were washed open, and corpses and coffins were floating for some time". Damage and even loss of life was also reported from several places in the nearby Lune valley and at Kendal.<sup>19</sup> However, the most frequently mentioned floods of 1771 occurred not in October, but on 17 November. These swept away most of the bridges over the Tyne and Wear, and caused the well-known bog burst in the Solway area (details given under 20). A third flood is mentioned in the *Newcastle Journal* and this took place at Appleby on 22 October 1771.<sup>20</sup> Although these floods are of great interest, details about their extent and impact have still to be clarified.

Flooding next engaged Hutton's attention in 1786, for on 14 September of that year there was "a flood equal to that of 1771, with the same Circumstances – till when We have had rain every day since Aug<sup>st</sup> 11<sup>th</sup>". The year which Hutton assigned to this flood is interesting, because its weather has been described by Hutchinson as "remarkably hot and dry" and its autumn as "fine". By contrast, 1787 was much wetter, thus provoking Hutchinson's claim that "there never was a year in which, probably, more rain fell". The difference is illustrated quantitatively by data from Lancaster which show that in 1786 total precipitation was 36 inches, whereas in 1787 it rose to 51 inches.<sup>21</sup> Yet, Hutton's comment that the rainy period began on 11 August which, he says, was the same day as an earthquake – whose timing is not in dispute – suggests that 1786 was in fact the year when this flood occurred. Hutton's dating of the event is further supported by remarks in the *Gentleman's Magazine* which describe how letters from the coastal and northern parts of Cumbria were "full of the ruinous effects of the floods, occasioned by the excessive rains that fell on the 13th and 14th" of September, 1786.<sup>22</sup>

Heavy and frequent precipitation also seems to have been the cause of the "17 great Floods at Beetham Bridge" during the period "May 10<sup>th</sup> to Dec<sup>r</sup> 25<sup>th</sup>", 1792. This is borne out by the fact that in the Kendal-Windermere area precipitation for the year was 60-70% above normal.<sup>23</sup> Further north, at Sebergham, the parish register described the summer of 1792 as being "most wet".<sup>24</sup>

Three years later, on 28 October 1795, Hutton made his final record of flooding when he noted "The highest Sea Tide for the last fifty Years" which "did much Hurt to the Banks in Arnside & Foulshaw". This is presumably an indication of damage to the artificial embankments whose construction during 1776/7 Hutton had noted in his first parish register. According to the *Gentleman's Magazine*, the late October/early November period of 1795 was one of widespread storms and flooding.<sup>25</sup>

### C. Wind and thunderstorms

A few of Hutton's environmental observations specifically mention wind and thunderstorms. The earliest of these refers to 31 December 1778 when there was "a greater Storm of Wind, than any that had happen'd for twenty two Years last past".

More prolonged and troublesome was the bad weather of summer 1783. It caused Hutton to remark that there was "More Thunder & Lightening this Summer, than ever known within the Memory of Man – General over all the Island". According to Hutchinson, the weather "during the latter end of June, the whole of July, and part of August, was extremely hot and sultry . . . there was more thunder and lightening than ever was remembered, even by the oldest person. This state of the atmosphere was by no means peculiar to the neighbourhood of Carlisle, but was pretty universal throughout Europe".

Even more severe, as there had been "nothing equal to it since 1703", was "a violent Storm of Wind, Thunder & Hail from one O Clock in the Morning to Six" on 23 December 1790. Apparently, this storm was widely felt throughout Britain and caused much damage and even some deaths to people and livestock.<sup>26</sup>

Floods were not the only climatic hazard to affect Beetham in 1792: lightning also occurred and on 18 July it split "The Yew Tree in Cappleside Orchard".

Conditions were again bad on 21 January 1802 when Hutton recorded "the greatest Storm of Wind, known for very many Years". At nearby Lancaster it began around 10 in the evening and lasted for almost 24 hours during which time "Much damage was done to the roofs of most of the houses in this neighbourhood; and many windows were broken".<sup>27</sup> Dorothy Wordsworth has also referred to this storm and has mentioned that several trees were uprooted and damaged by it near Grasmere.<sup>28</sup>

In his final remarks about environmental matters Hutton states that on "July 26<sup>th</sup> 1809 the greatest Thunder Storm that has been felt for above 60 Years fell at Beetham. began at 9 in the Morning & lasted till 5 in the Afternoon, without ceasing. a Whin set on Fire Farlton Knott. several Trees shivered about Beetham, but no person Hurt". At Kendal the storm continued from 10 a.m. to 6 p.m. and was "accompanied with torrents of rain and awful darkness".<sup>29</sup> Storms were also reported at Lancaster and at many places in the southern half of England.<sup>30</sup>

#### *D. Earthquakes*

Hutton recorded no less than four earthquakes during his time at Beetham. The first, on 15 May 1768, was only "Slight", though it was nevertheless "very sensibly felt all thro' this Parish, at about a Quarter past 4 in the afternoon". It was also "perceiv'd in most parts of Yorkshire & Westmorland". That this was so is borne out by observations, for example, at Kendal where the congregation at the Parish Church was terrified by the shock and its attendant rumbling noise and the River Kent "was much agitated".<sup>31</sup>

A further earthquake, on 14 September 1777, caused "a violent Shock . . . at Manchester & in Cheshire, (about 11 o Clock in the Forenoon)". It was also noticed "on Kendal Bridges, & in Yelland Meeting House", though Hutton did not know if it had been observed within his own parish. Yet, having been recorded at the places already mentioned and also at Lancaster, the shock probably did affect Beetham.<sup>32</sup>

The next earthquake referred to by Hutton was certainly observed at Beetham and indeed was felt "every where in this Country". It occurred "On Saturday Dec<sup>r</sup> 9<sup>th</sup> (1780) at ½ past 4 O Clock in the Evening" and was "attended with a rumbling noise". Hutton also commented that "twas much the same as that in 1768, but more general".

Of the four earthquakes recorded by Hutton, the last, at "about two o'Clock in the Morning" of 11 August 1786, was the "smartest". As with the 1780 'quake, it was felt not only at Beetham, but at nearby places such as Kendal, Lancaster and Cartmel.

Damage was reported at a number of localities including several in the northern half of Cumbria.<sup>33</sup>

#### E. *Miscellaneous observations*

Some of Hutton's environmental observations do not fit conveniently into any category so far discussed. The earliest of these mentions "remarkable hot Days" on "April 26<sup>th</sup> & 27<sup>th</sup>" 1775 when "Farrenheits Thermometer was up at 84 D<sup>gs</sup>". These observations raise the interesting question as to whose readings Hutton was quoting. It may indeed have been that he himself kept a record which is now lost.

Later in 1775, on 13 August, Hutton observed "from Dallam Tower Hall Door, a Water Spout, apparently 3 Yards long, the highest part of about a Yard Diameter, 'twas bearing N. East, & for a few minutes Swell'd greatly, but a black driving Cloud, in less than a Quarter of an Hour, prevented Us seeing more of it".

In 1782 according to Hutchinson, Cumbrian weather was generally wet and cold, so Hutton not surprisingly recorded "a very Cold Spring, no Grass till middle of June". There was also an outbreak of influenza at Beetham in June and the "Harvest not got in, all October, & much cut quite green". Consequently, foodstuff prices rose.

The winter of 1795-6 was also miserable, so we find Hutton complaining of "fifteen Week wet & Rain", though this did at least produce an unusually mild January with an average temperature in Cumbria and Lancashire of around 42-45° F.<sup>34</sup>

#### Conclusions

The foregoing examination of William Hutton's parish registers demonstrates their value as a source of environmental data, though it has to be admitted that their use is not without problems. In the first place, one would have liked to know the criteria (if any) which Hutton had in mind when selecting items of news for inclusion in his registers. Unfortunately, there are grounds for believing that details were entered on a somewhat arbitrary basis – comments occasionally finish in mid-sentence or, more often, an entry appears to have been designed to fit conveniently on to a page. Furthermore, Hutton's record ignores some important environmental events, like the dry year of 1788 and the heavy snow of February 1795. This obviously adds to the problems of evaluating the significance of those events which actually feature in the registers.

Other difficulties arise because there are reasons for suspecting that not everything which Hutton wrote is accurate, even though much of it is specific. For example, his claim that heavy snowstorms occurred on 3 January 1767 needs further investigation. Likewise, there may be inaccuracies in his remarks about the frosts of the 1784-5 winter, while the temperatures he gives for 26 and 27 April 1775 appear suspect when compared with equivalent figures in the *Gentleman's Magazine*.<sup>35</sup> However, if such defects exist, they are more than offset by the undoubted accuracy of most of Hutton's environmental writings, a fact established by checking them against descriptions of the same events from alternative sources.

The observations of William Hutton are therefore a valuable addition to our knowledge of environmental conditions in north-west England during the Little Ice Age. They also contribute to our understanding of the impact which those conditions had on the local populace. Environmental influences of this sort have often been underestimated or

ignored by historians, not least because scientists have failed to supply the relevant data. Only by examining sources like the Hutton registers can we begin to fill this gap in our knowledge, particularly at the local level.

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- <sup>5</sup> Hutchinson, M. E. Noble (ed.), *The Registers of the Parish of Askham in the County of Westmoreland from 1566 to 1812*, London (1904).
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