

## The Delamere Meridian

Many of you will have climbed to the viewpoint on Pale Heights and if you haven't, you should. The views are spectacular. However, few may have realised they are near to a site of considerable historical significance, and I don't mean the hillfort on the nearby Eddisbury Hill. Hidden away on land belonging to United Utilities, so not accessible to the public, is a trig point and that point has a fascinating story to tell.

The current pillar is not itself the story but from very near this point the mapping of Britain was defined.

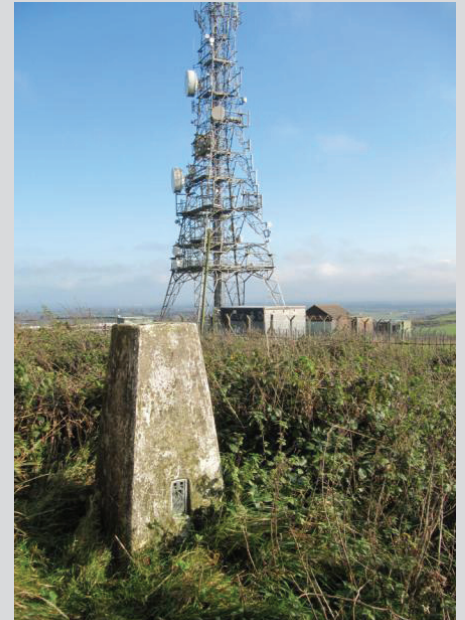
## The Ordnance Survey

**The Ordnance Survey of Britain began in 1791 when the government reacted to the threat of invasion by the French revolutionary forces by ordering a detailed survey of southern Britain. This soon became a major national project, with the first map published by the Ordnance Survey being that of Essex in four sheets. So began a numbered 110 sheet map series that later became known as the 'Old Series' 1:50,000 maps.**

The driving force behind this task was the indefatigable Thomas Colby, who later became Superintendent of the Ordnance Survey in 1820. Colby designed many of the instruments used in the surveys and did much to standardise the processes of

collecting the data and creating the final maps. He involved himself in all aspects of the work and personally covered countless miles with his teams of surveyors. The task was enormous and quite unlike anything attempted before; perhaps only the equally remarkable achievement of the Domesday Book over 700 years earlier comes close to the scale and scope of this enterprise, which was to take the best part of 100 years to complete.

The mapping project used the Cassini projection, which was the projection most commonly used by the Ordnance Survey until the 1940's. This is a simple non-perspective cylindrical projection, the most important property being that the scale along its central



Trig point looking towards the communications mast on Pale Heights



Trig point next to the water tower

TP2757 - Delamere

Grid reference: SJ 54321 69626

Type : Pillar

Condition : Good

Flush Bracket Number : 2985

Current use : none

Station Number : PP030

Historic use : Primary

Waypoint : TP2757

Longitude: 2.14.08

Latitude 53.13.18

meridian, and everything at right-angles to it, is true. However, In the early years of the Ordnance Trigonometrical Survey, it was realised that there was not enough data about the size and shape of the Earth to carry out rigorous adjustment of the main triangulation and therefore it was still necessary to calculate the position of a number of triangulation stations in terms of rectangular co-ordinates that could be plotted onto copper plates of new maps. It was decided that the best way to do it was to divide the survey into several portions, based on counties or groups of counties, each with a single triangulation station as an origin to which the rest referred in terms of feet from the meridian and from the perpendicular (ie in feet east and west, and north and south).

The first maps seem to have been based on the prime meridian at Greenwich, but this is nowhere near the north / south central line of the British Isles, and therefore could only be used for areas south of the Wash. Therefore, a number of central meridians were needed. For southern England there were initially six meridians chosen, 60 miles apart (Greenwich, Beachy Head, Dunnose, Black

Down, Butterson Hill and St Agnes Beacon), but recent studies have shown that probably only Greenwich (0°) and Butterson Hill (3°W) in Devon were used. However, even when using these two, it became apparent that this would eventually lead to a convergence between the eastern and western sheets that would become more pronounced as the maps progressed north, and that a new meridian needed to be found.

## The Delamere Meridian

In northern Britain, there were initially four meridians chosen (Clifton Beacon, Delamere, Moel Rhyddlad and Burleigh Moor), but it seems that sometime in the 1820's the Delamere meridian (latitude 53°13'17"274N, longitude 2°41'03"562W) was adopted as the single new meridian. This, combined with a new base line (the Preston to Hull line) allowed the map sheets 91 – 110 to be produced without any overlaps.

It seems that by 1821/22 when the sheets 36, 37, 41, 85 and 86 were engraved that all the constraints necessary were in place. However, it cannot have been later than

1830, when sheet 42 was started. Therefore, it seems to have occurred sometime between 1822 and 1830. All the sheets produced after sheet 90 were then perpendicular to the meridian through Delamere. Therefore, the Delamere meridian played a central role in the production of the first Ordnance Survey maps that would then remain as the standard until the new National Grid system was introduced in the 1940's. The Old Series maps are a record of England and Wales on the eve of a momentous transition from its centuries-old agrarian past towards its dramatic 20th century urbanisation.

## What Next?

The Sandstone Ridge Trust would like to ensure the significance of the Delamere Meridian is remembered. We will be making approaches to United Utilities to see if access to the site can be improved and whether some form of information board can be erected in the vicinity.

## References:

Adams, B. 1994. Parallel to the meridian of Butterson Hill – do I laugh or cry? in Sheetlines 38, p15 – 18.

[www.cassinimaps.co.uk](http://www.cassinimaps.co.uk) website

Oliver, R. 2006. The sheet sizes and Delamere sheet lines of the one-inch Old Series in Sheetlines 77, p27-51.

[www.ordnancesurvey.co.uk](http://www.ordnancesurvey.co.uk) website

Photographs from the web.

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Surveyors from Ordnance Survey in the mid nineteenth century.