

Burton-in-Lonsdale Churchyard

Surveying training, image enhancing and helping genealogists

John Cuthbert, 2017
Ingleborough Archaeology Group

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Burton-in-Lonsdale Churchyard

Location

This project was carried out during 2016 and finalised in early 2017. Its content concerns the 'Very Old and Separate Churchyard' at All Saints Church, Burton-in-Lonsdale.

Ian Thompson, an IAG member who is also on the Burton-in-Lonsdale Parish Council, proposed a project to map the positions of the graves within the graveyard, along with the details of those buried there. This information would then be offered to genealogists and to the general public.



To accurately map the positions of the graves, a survey was needed. IAG took the opportunity of using the survey of the graveyard as a training project for its members. Jeff Price led a small group of trainees through the process of setting up the Total Station and its associated tools to carry out an accurate survey.

All Saints Church has two graveyards. The position of the Church and the graveyard in question is shown below and to the right.

Of the two churchyards associated with All Saints', the one surveyed is the one to the East: 'The Very Old and Separate Churchyard'.





Anyone wishing further information should contact Ian Thompson on ianrt2003@hotmail.com

Burton-in-Lonsdale Churchyard

The origins of the project

Below is a precis of the original project written by Ian Thompson.

Please note: some of the gravestone data within this document has been corrected through further investigation. Genealogists should use the data held on the Grave survey page.

Project design for the mapping of the Very Old and Separate Churchyard

Burton in Lonsdale, North Yorkshire

NGR SD6516 7216

Ingleborough Archaeology Group

1. Introduction

1.1 The site in question is at the centre of the village of Burton in Lonsdale, at the extreme western edge of North Yorkshire.

1.2 The Very Old and Separate Churchyard is located to the east of the parish church of All Saints. It is maintained by the Burton in Lonsdale Parish Council with a faculty (permit) for any activity granted by the Diocese of West Yorkshire and the Dales. It occupies an area of 0.14 hectares and contains 41 headstones of a variety of types. The churchyard was opened in 1821? and closed in 1928? although one burial of ashes was permitted in 1996 of a related family member.

1.3 Altitude drops from 89m OD at the north-western corner to 85m OD at the south-eastern corner. The ground slopes gently except in the south-eastern corner where there is a steep gradient. The survey will concentrate on the area occupied by headstones which excludes the south-eastern corner.

1.4 No documentary records are known to exist.

1.5 Summary data for the headstones is in the table below

Grave Number	Name	Year of death
1	William Kenard Kilburn	1878
2	Elizabeth Kilburn	1836
3	Pleasance Bassham	1900
4	Leonard Tatham	1821
5	Leonard Tatham	1928
6	??	1910
7	?? of Low Fields	1870
8	James Brown	1823

9	??	?
10	William Kirkbride	1908
11	Hilda M. Rak	1996
12	Thomas Fisher	1907
13	William Pelter	1893
14	Sarah Ward	1829
15	??	?
16	William Bateson	1866
17	Robert Bateson	1908
18	James Kirkbride	1898
19	James Blacow	1862
20	Eliza.... ..xton	?
21	Eleanor Simpson Bond	1868
22	William Parker	1881
23	James Gibson	1887
24	William Woodhouse	1868
25	Bernard Kirkbride	1882
26	Elizabeth ?	186?
27	John Harrison	1890
28	Richard Smithes	1840
29	? May Kirkbride	1869
30	Thomas Burton	1859
31	Margaret Mattocks	1866
32	James Blacow	1853
33	Elias Kay	1862
34	Ellen Farrer	1880
35	Thomas Batty	1846
36	Elizabeth Tatham	1844
37	Hannah Tatham	1920
38	Sarah Tatham	1863
39	James Wilcock Bateson	1846
40	James Chapman	1848
41	Dorothy Greenwood	1855

1.6 Inscriptions on the headstones have been recorded and these data are held by the Parish Clerk, Sue Gregory.

2. Research aims and objectives

2.1 It is proposed to use the Total mapping station to prepare an accurate plan of the churchyard, recording the location of each exposed headstone. The database of location data will then be cross-referenced to the transcribed inscriptions. Existing internet-based records for churchyard memorials will be reviewed and one selected which can be used to publish the records created for Burton in Lonsdale closed churchyard.

2.2 Possible future extensions of the project would be to repeat the mapping exercise in other local churchyards. Alternatively, the database created could underpin a broader project on the history of those buried in the Burton churchyard.

3. Methodology

3.1 Desk-based assessment

Existing inscription transcriptions will be compared to the hand drawn plan of the churchyard to check for discrepancies. Internet websites of cemetery records will be reviewed to determine the structure of data to be collected. If an appropriate database with search facility exists this will be proposed for use in disseminating project results in addition to publishing on the IAG website.

3.2 Topographical surveying

Planning of the site will be carried out using the Total station. This will be followed up by the preparation of a plan and creation of a database allowing the addition of data related to each headstone.

4. Dissemination

4.1 Hardcopies of the final project report will be given to:

All Saints Church, Burton in Lonsdale, Burton in Lonsdale Parish Council and Burton in Lonsdale History Society.

4.2 Data will be published on the IAG website and if a suitable internet database with free search access by members of the public can be identified, the data will also be uploaded there.

5. Logistics

5.1 The site lies on land that is owned by the Church of England diocese of West Yorkshire and The Dales.

5.2 The Churchwarden, Ann Whitworth has expressed the opinion that no faculty is required from the diocese for a survey and has given her permission to proceed.

6. Health and Safety

6.1 Full and due regard will be given to the safety of participants and the health and safety policy will be in accordance with standard archaeological procedures. Briefings will be given as necessary to all participants, with training as and when required. A site incident book will be kept and a first aid kit will be kept on site by the appointed First Aider. A full risk assessment will have been completed prior to work on site. No excavation will occur.

6.2 IAG has full liability insurance.

7. Costings

7.1 IAG possesses all the equipment needed for the survey and no significant equipment costs are anticipated.

Publication costs will be met from the Group's own financial reserves and are expected to be no more than £50.

Burton-in-Lonsdale Churchyard

Surveying training

The training led by Jeff Price took beginners through the routine of setting up a Total Station, with its associated hardware and software, and carrying out basic surveying tasks. Although the Burton-in-Lonsdale project was essentially a historical one, the techniques learned equally apply to an archaeological context.



Burton-in-Lonsdale's 'Very Old and Separate Churchyard' is ideal for training. It has steep slopes in a variety of directions. It also has trees, bushes and gravestones which get in the way of lines of sight. These difficulties allowed Jeff and the trainees to cover a number of techniques in a relatively small environment and in a short space of time.



We looked at the constraints of placing the Total Station in an 'ideal' starting location. We chose appropriate 'fixed points' to allow relocation (or 'resectioning') of the equipment - in order to survey points not visible at the start. We used extension ranging poles when the slope (or the trees, or the bushes, or the gravestones) gave problems with lines of sight.

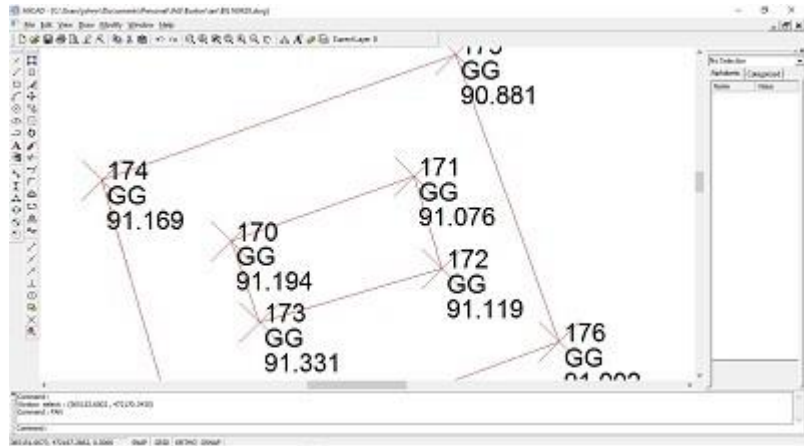


We could have used the Total Station alone to carry out the survey. It gives distance and angle readings from the device to a reflector held by a colleague on a point to be surveyed. These readings can be turned into a map using 3D trigonometry, Pythagoras' theorem and a lot of careful thinking. Fortunately, we have additional equipment to do these chores for us.

A hand-held computer runs software which does the 3D calculations for us. The program builds up a map on screen, showing the surveyed points, allowing us to efficiently collate the work and download it at a later date. This process gives a highly accurate version of 'tape and offset' surveying, over large distances, and at high speed (once the trainees got the hang of it).

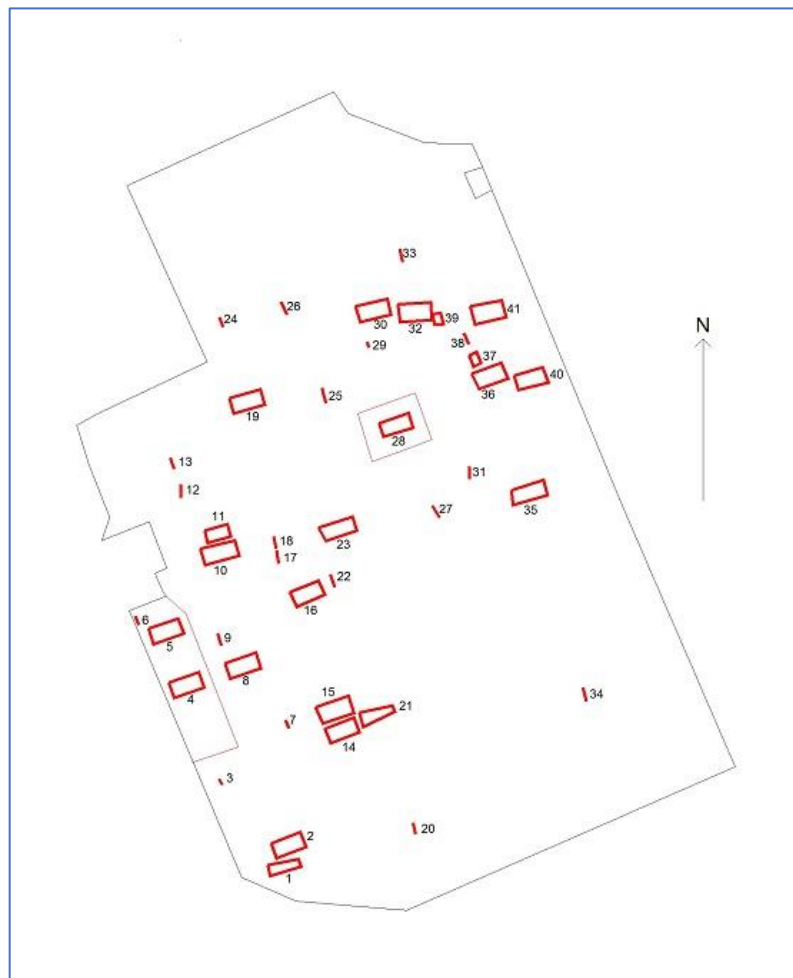
In addition, the starting location and a Northerly orientation can be entered manually at the start of the survey (with the help of GPS coordinates). This allows the resulting survey to be placed accurately onto a real-world map. Surveying the churchyard

The image to the right shows how raw data from the survey can be collated and displayed with the help of free 2D drawing software.



This level of detail is inappropriate to the audience for this particular project, i.e. those trying to locate a particular grave site, so the image was edited to appear as below.

The IAG owes a vote of thanks to Jeff Price for giving his time and energy to helping other members learn new skills.



Burton-in-Lonsdale Churchyard

Image enhancing

The reading of some of the headstones was aided by the use of an image enhancing technique known as Reflection Transformation Imaging (RTI). This technique uses multiple photographs of the same image, with different angles of lighting for each image. These images are then combined using special 'RTI' software. The results can be astounding.

See: <http://culturalheritageimaging.org/Technologies/RTI/>

Grave 18 before RTI enhancement



Image © Alan Williams 2017

Grave 18 after RTI enhancement



Image © Alan Williams 2017

The image to the right shows work in progress for grave no. 6. The tripod to the left of the gravestone holds a billiard ball - a reflective sphere.

Changes in brightness on the various images show where the surface of the stone is leaning towards or leaning away from the light-source. Multiple photos are combined, and these changes in brightness are used to infer the contours of the stone.



Image © Alan Williams 20 17

Burton-in-Lonsdale Churchyard

Grave survey

The data below has been provided by members of All Saints Church and by members of Burton-in-Lonsdale Parish Council. Genealogists should use this data, rather than data in the original project documentation. Where there are two or more similar names, age data has been added.

The map of the churchyard, with grave numbers added, is at the bottom of this page.

Family name	First name(s)	Year of death	Grave no.	Notes
Bassham	Pleasance	1900	3	
Bateson	Edgard Metcalfe	1894	16	
Bateson	James Wilcock	1909	39	
Bateson	Martha Alice	1890	16	
Bateson	Nannie	1866	16	
Bateson	Robert	1908	17	
Bateson	Susan Jane	1909	17	
Bateson	William	1892	16	
Batty	Alice	1850	35	
Batty	Jane	1871	35	
Batty	Matthew	1900	35	
Batty	Robert	1857	35	
Batty	Thomas	1846	35	
Blacow	Alice	1880	19	
Blacow	Ellen	1869	32	
Blacow	Grace	1856	32	
Blacow	James	1853	19	infant twin
Blacow	James	1862	19	aged 47 years
Blacow	James	1853	32	aged 10 months
Blacow	James	1853	32	aged 72 years
Blacow	John	1853	19	infant twin
Blacow	John	1885	32	aged 72 years
Blacow	Joseph	1871	32	
Blacow	William Pooley	1881	19	
Bond	Eleanor Simpson	1888	21	
Bowker	Agnes Alice	1878	26	
Bowker	Elizabeth	1864	26	
Bowker	James	1878	26	
Bowker	John	1892	26	
Bowker	Samuel	1841	26	
Bowker	William	1846	26	
Brown	Alice	1840	8	
Brown	Dorothy	1890	9	
Brown	James	1823	8	
Brown	John Atkinson	1890	9	aged 80 years
Brown	John Atkinson	1907	9	aged 60 years
Burton	Alice	1872	30	
Burton	Thomas	1859	30	
Chapman	James	1848	40	
Chapman	Mary	1874	40	

Chapman	Roger	1868	40	
Fairweather	Mary Anne	unknown	37	unknown year of death
Farrer	Ellen	1880	34	
Fisher	Agnes	1882	12	aged 43 years
Fisher	Agnes	1901	12	aged 26 years
Fisher	Isabella	1910	12	
Fisher	James	1910	12	
Fisher	Thomas	1907	12	
Gibson	Alice	1884	23	
Gibson	James	1887	23	
Gibson	Mary	1869	23	
Greenwood	Dorothy	1855	41	
Greenwood	Elizabeth	1880	14	
Harrison	Jane	1881	27	
Harrison	John	1890	27	
Kay	Catherine	1888	33	
Kay	Elias	1862	33	
Kilburn	Elizabeth	1836	2	
Kilburn	James	1878	2	
Kilburn	Kenard	1840	2	
Kilburn	Margaret	1870	2	
Kilburn	William Kenard	1878	1	
Kirkbride	Bernard	1882	25	
Kirkbride	Elizabeth	1909	18	
Kirkbride	Esther	1896	25	
Kirkbride	Fanny May	1869	29	
Kirkbride	James	1898	18	
Kirkbride	Jane Anne	1956	10	
Kirkbride	John	1893	25	
Kirkbride	Sarah	1892	25	
Kirkbride	William	1908	10	aged 45 years
Kirkbride	William	1908	25	aged 45 years
Mattocks	Margaret	1866	31	
Parker	William	1881	22	
Pelter	William	1893	13	
Rak	Hilda M	1996	11	
Shaw	Annie	1883	7	
Shaw	Grace Elizabeth	1880	7	
Shaw	James	1879	7	
Smithes	Eliza	1838	28	aged 16 years
Smithes	Eliza	1839	28	aged 51 years
Smithes	Richard	1840	28	
Stowell	Alfred	1937	5	
Stowell	Reginald	1940	6	
Tatham	Catherine M	1916	4	
Tatham	Elizabeth	1844	36	
Tatham	Ellin	1881	4	
Tatham	Hannah	1920	37	
Tatham	James	1848	36	

Tatham	John	1903	4	
Tatham	Leonard	1821	4	aged 22 years
Tatham	Leonard	1928	5	aged 86 years
Tatham	Reginald	1870	4	
Tatham	Richard	1864	4	
Tatham	Rowland	1872	38	
Tatham	Sarah	1863	38	
Thexton	Elizabeth	unknown	20	details missing as headstone decayed
Ward	Sarah	1829	14	
Wilcock	William	1853	32	
Williamson	Alice	1883	23	
Williamson	John	1886	23	
Woodhouse	William	1868	24	
unknown	unknown	unknown	15	no data as headstone has fallen

Map of Churchyard

