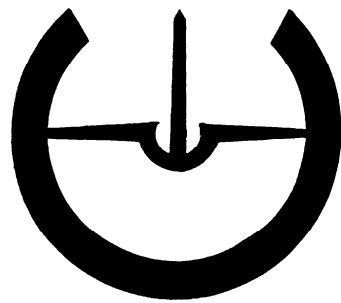


THE BRITISH SUNDIAL SOCIETY

**ADDENDUM TO
MASS DIALS
ON
YORKSHIRE CHURCHES**

Alan Cook

BSS Monograph No. 9



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5. J. Davis and C.M. Lowne: *The Double Horizontal Dial*, (2009).
6. In development
7. I. Butson, J. Wilson & T. Wood: *Sundials in Museums of the British Isles*, (2009).
8. D. Scott & M Cowham: *Timekeeping in the Medieval World – a study of Anglo-Saxon and early Norman sundials*, (2010).
9. A. Cook: *Addendum to Mass Dials on Yorkshire Churches*, (2012).

FOREWORD

BSS Monograph 3, 'Mass Dials in Yorkshire Churches', was a complete survey of medieval churches in Ordnance Survey square SE. Conveniently, York is centrally placed and areas in all three Ridings were covered. The re-organisation of county boundaries resulted in the Ridings being replaced by the four regions N, S, E and W Yorkshire.

This new monograph completes the coverage of Yorkshire and takes into account the boundary changes of 1974. We now have a complete recording of the mass dials in England's largest county, and it constitutes part of the Mass Dial Register. The mass dial pictures are again line drawings but the author's original photographs and reports are held in the mass dial database for future publication also.

This monograph completes a considerable achievement and contribution to our study of medieval dials in Britain.

*Tony Wood
BSS Mass Dial Group
November 2011*

INTRODUCTION

The survey carried out to produce *Mass Dials on Yorkshire Churches* (BSS monograph No. 3) was intentionally restricted to National Grid Square SE. The reason for doing this was to avoid the problem of having to decide which county boundary to utilise in that search. Traditionally, the BSS used the old county boundaries and, in the case of Yorkshire, to use the original three Ridings. There have been significant changes to the boundaries in recent years so monograph No. 3 was produced without the need to address the county boundary problem.

To complete the survey of all Yorkshire churches it was necessary to address the boundary problem. Research has found that the Yorkshire County boundaries date from around 870 AD and were set by the Danish kings when they reigned over these parts of England for almost 100 years. The boundaries were the limits of their Kingdom of Jorvik. This extended from the River Tees in the North to the River Humber in the South and from the North Sea coast to the high Pennine hills in the West. It was the Danish kings who divided their kingdom into three parts for administrative purposes; they even called them 'Ridings' or thirdings. During this period, a succession of over a dozen Danish kings ruled over this kingdom, starting with Half-

dan and ending with Eric Bloodaxe in 954 AD. After the Danes left, their kingdom area name was changed by the Saxons from Jorvik to York but, surprisingly, the boundaries, administration centres and even the Inter-Riding boundaries remained almost unchanged. The actual routing of the old county boundary is a bit of a mystery. The North Sea is an obvious limit and the River Tees is an obvious geographic boundary but the Southern and Western line doesn't follow any prominent geographical feature for very far before changing direction.

From these early beginnings the county boundaries remained virtually unchanged for over 1100 years: only minor alterations were made as individual parishes at the edges were either added or taken away for administration purposes. In 1972 an Act of Parliament was passed that redrew the whole of the English County Administration areas. This was enacted in 1974. In Yorkshire the three Ridings disappeared and their traditional boundaries were scrapped. New names appeared like North Yorkshire, West Yorkshire, South Yorkshire, Cleveland and Humberside. Cleveland became a new county and extends both North and South of the River Tees. Similarly, Humberside was created as a new county extending both North and South of the River Humber. Since that time some names have

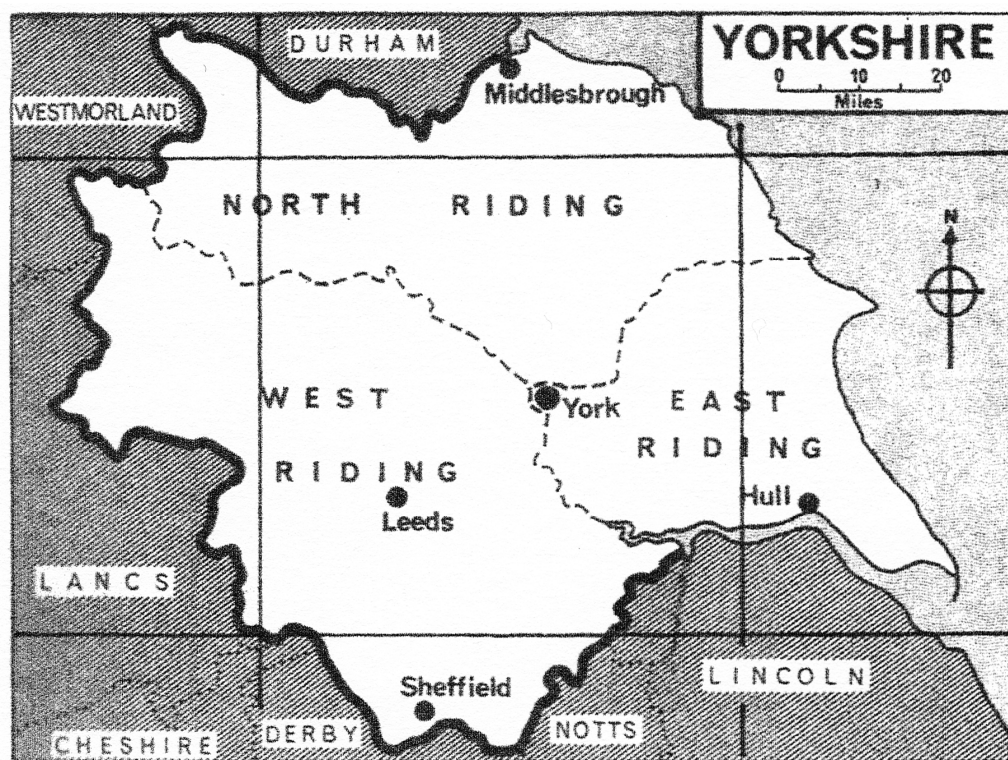


Fig. 1. Map of Yorkshire County and Riding boundaries before the 1972 changes. The square shows OS Square SE, the original search area.

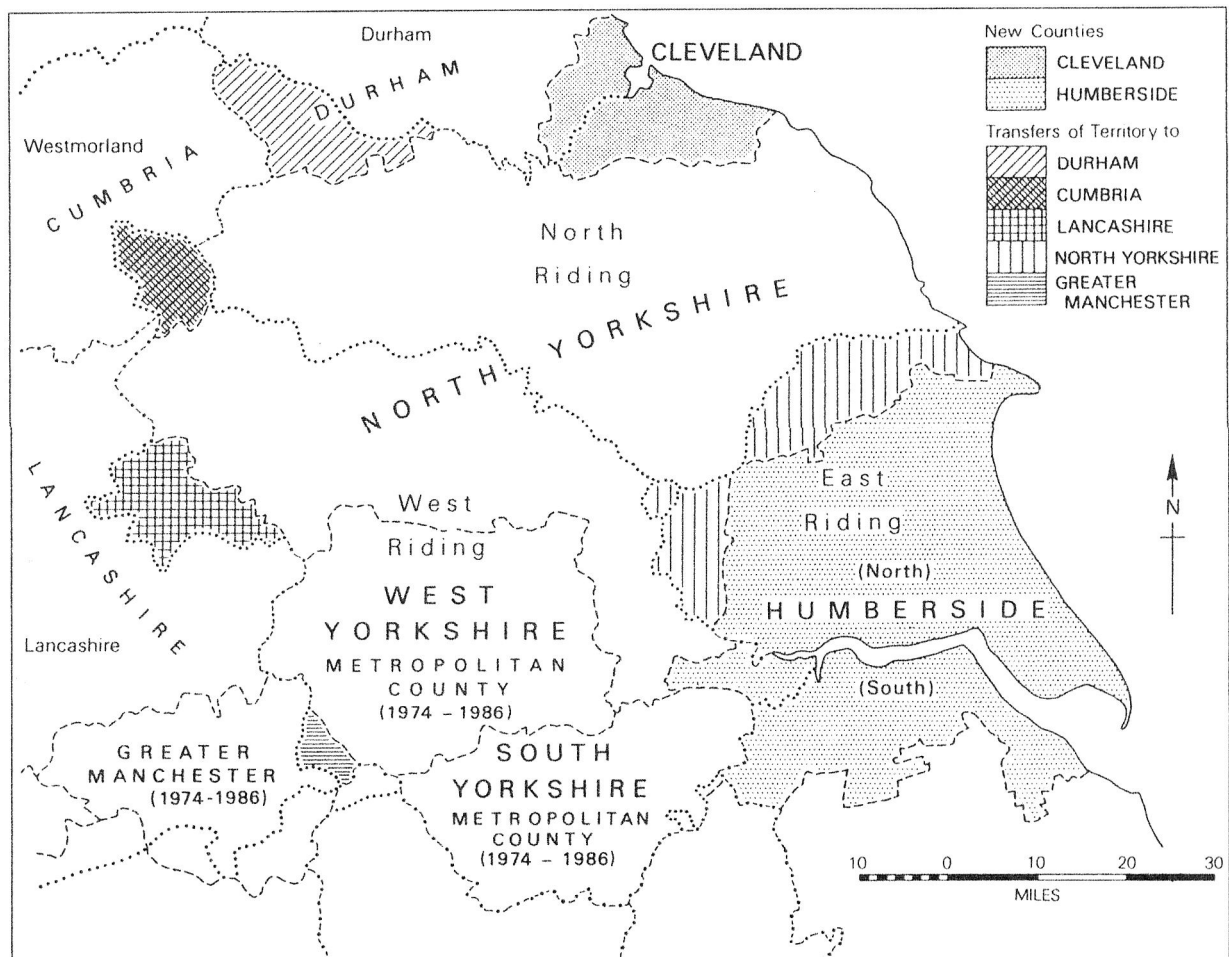


Fig. 2. A map showing the boundaries after 1972. Although some area names have been changed since that time, the boundaries are unchanged.

changed again, for example the newly formed Metropolitan Counties were changed to Metropolitan Boroughs although the new boundaries remain the same. The most notable change has been, after a lot of public pressure, North Humberside has been renamed East Yorkshire and restored to the county of Yorkshire although South Humberside remains as a separate county.

This addendum covers all the churches within the original Yorkshire boundaries. Figures 4, 5, 6 and 7 also show the new county boundary as a chain line. It will be seen that, to the East, the boundary remains unchanged because it is defined by the North Sea coast. To the South, the boundary has changed very little, the only change being that Yorkshire has spread South by a few square kilometres to include the outer suburbs of Sheffield at the expense of Derbyshire. To the west a small area around Saddleworth was ceded to Greater Manchester and a larger area round the Guisburn district is now in Lancashire. Another large area round the Sedburgh district is now in Cumbria. A large area round Bowes is now Durham and South of Middlesbrough is now part of the new county of Cleveland.

In this addendum all churches with mass dials that are within the old boundaries are classed as Yorkshire churches, although it must be admitted that there is an equally good argument to reallocate them to their new

counties.

Notes

1. The scale used for Figures 4, 5, 6 and 7 in this addendum is 15 millimetres to 10 km. The scale used for the maps in the original Monograph 3 used 30 mm to 10 km. Although this change has resulted in making the church locations appear to be closer together, it does make sense because of the relatively few churches found, particularly in the South, West and North search areas.
2. The gazetteer shows dial type by a letter, A to I. This follows the convention used in Monograph 3 and is repeated in Fig. 3.
3. 'Height' means the height of the gnomon hole from ground level.
4. Angles are shown in degrees measuring from 0 degrees at the clock 9 o'clock position moving anti-clockwise through 360 degrees. Vertically down is 90 degrees.
5. The four digit number shown for each entry is the author's recording number.

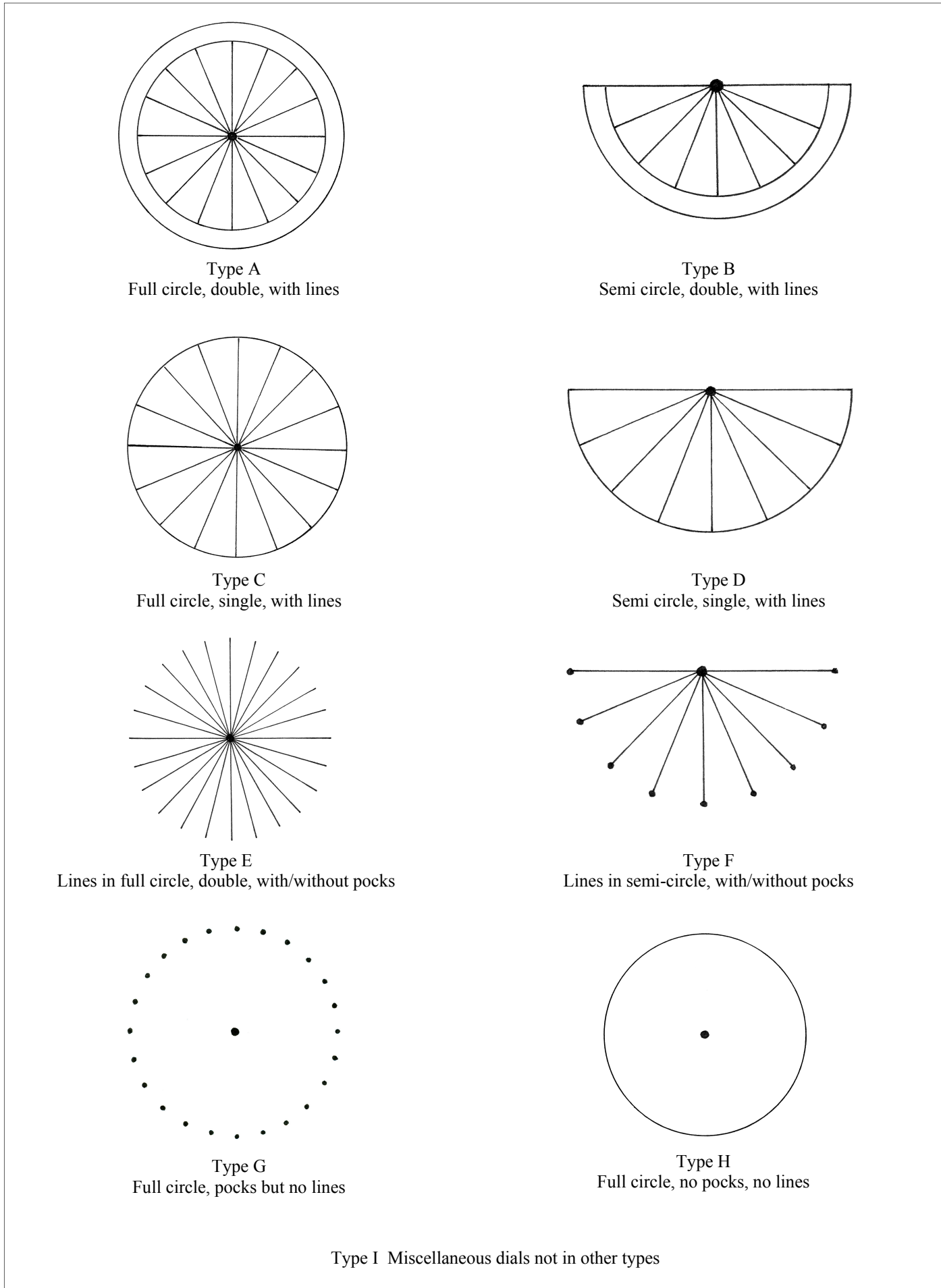


Fig. 3 Different types of mass dials.

SOUTHERN AREA

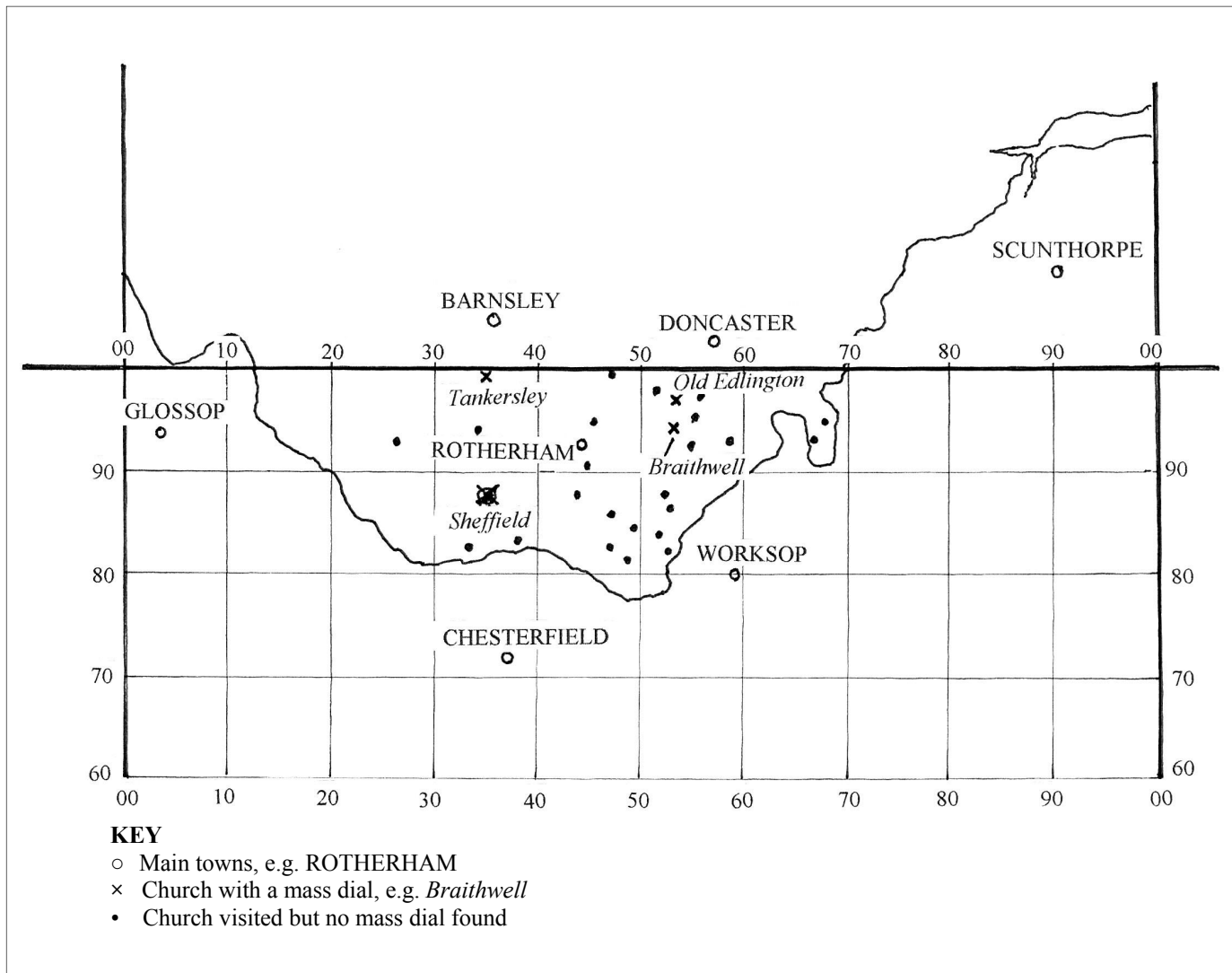


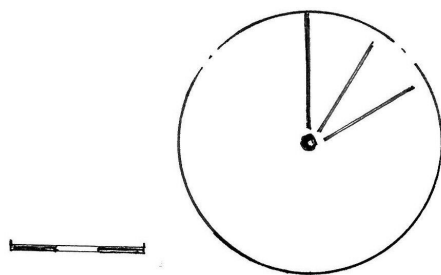
Fig. 4. Map of the area of Yorkshire south of OS grid square SE. These locations are in grid square SK.

BRAITHWELL, St James. Dial 1 of 2



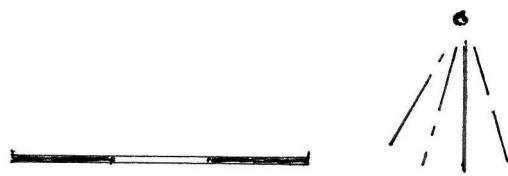
A very worn dial and difficult to see. Located on the East wall of the South aisle, 2.36 metres high. Only three lines now visible at 225, 247 and 270 degrees. No pocks, no circle but a shallow gnomon hole clearly visible. 200 mm radius, 1048, type F.

BRAITHWELL, St James. Dial 2 of 2



A good clean, well carved dial in a similar location to dial 1 but lower at 1.40 metres high and on the same wall. Three clear lines at 210, 240 and 270 degrees, a full circle, no pocks. It has a deep, 60+ mm, gnomon hole and is placed upside down in its present, repositioned, position. 140 mm radius, 1049, type C.

OLD EDLINGTON, St Peter. Dial 1 of 5



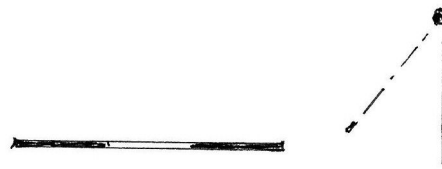
Very weather-worn dial located to the East of the South door and to the West of the first window on the nave wall. 1.75 metres high. Clear gnomon hole and four faint lines at 60, 75, 90 and 105 degrees. No pocks, no circle, 80 mm radius, 1032, type F. Limestone church and all five dials in distress.

OLD EDLINGTON, St Peter. Dial 2 of 5



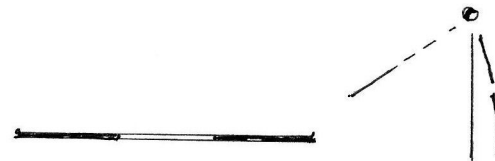
Another worn dial located in a similar position to dial 1 but lower at 1.53 metres. Good clean gnomon hole and five lines visible at 55, 78, 90, 105 and 145 degrees. No pocks or circle. 70 mm radius, 1033, type F.

OLD EDLINGTON, St Peter. Dial 3 of 5



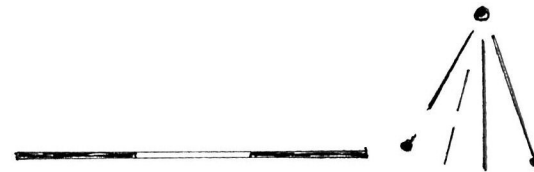
Located in a similar position to dials 1 and 2, this dial is 1.35 metres high. It is only clearly identified by a clean gnomon hole and a good line at 90 degrees. Less clear is a faint line at 48 degrees. No pocks and no circle, although a photograph shows a possible circle that isn't visible *in situ*. 90 mm radius, 1034, type F.

OLD EDLINGTON, St Peter. Dial 4 of 5



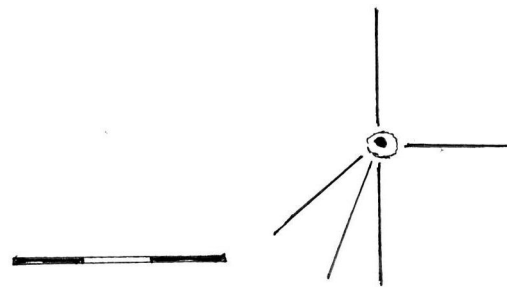
This dial is located to the East of the first window to the East of the South door and on the nave wall. Again badly eroded but has a clean deep gnomon hole and three clear lines at 35, 90 and a curved line at approximately 98 degrees. No pocks, no circle. 80 mm radius, 1035, type F. 1.35 metres high.

OLD EDLINGTON, St Peter. Dial 5 of 5



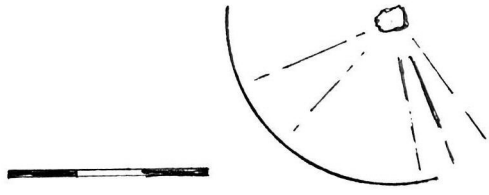
Situated to the East of the priest door this dial is 0.88 metres high. Nice clear gnomon hole and four faint lines at 60, 75, 90 and 105 degrees. No circle but pocks at the ends of the 60 and 105 lines. 75 mm radius, 1036, type F.

SHEFFIELD CATHEDRAL, St Peter and St Paul.



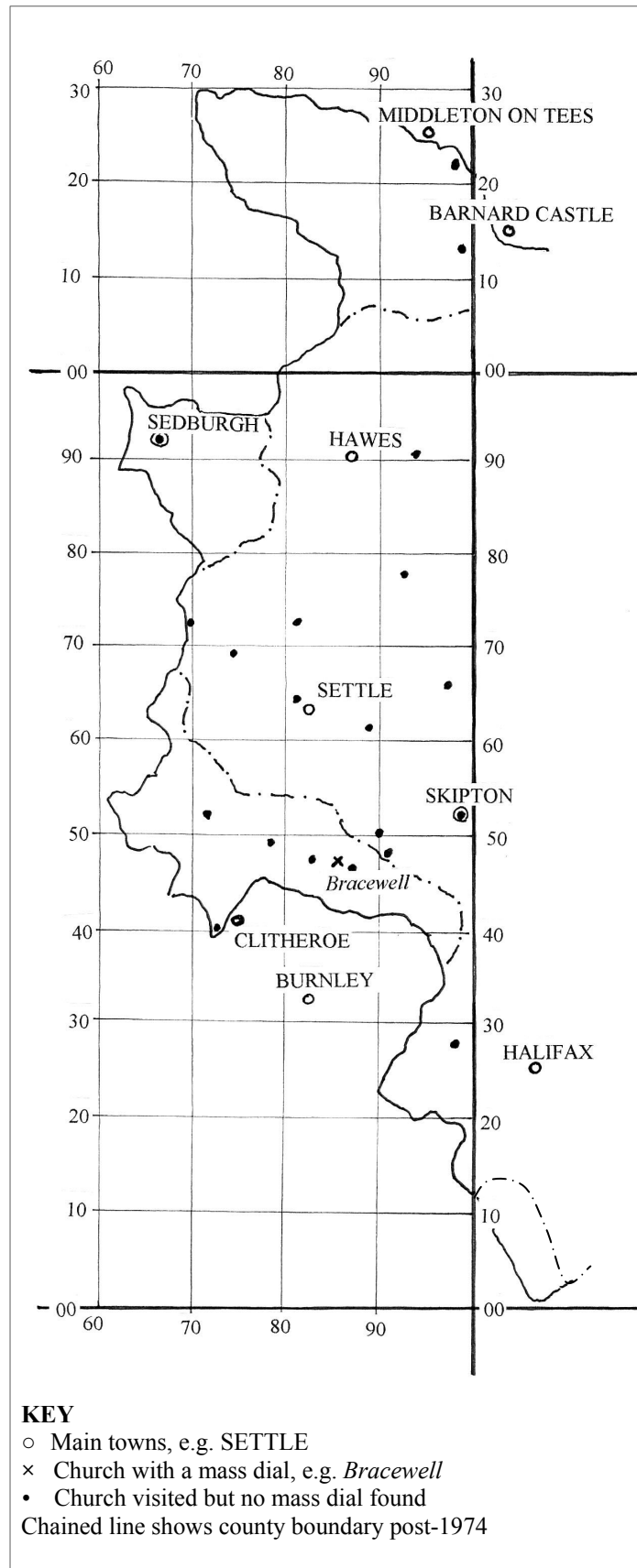
This dial is inside the cathedral, repositioned so that it is facing North and below the third window counting from the East end of the chancel, now called the Lady Chapel. It is a nice clear dial of six lines, a deep but damaged gnomon hole, no pocks, no circle. Lines at 40, 70, 90, 130, 180 and 270 degrees. Radius 110 mm. 1.30 metres high, 1157, type E.

TANKERSLEY, St Peter.

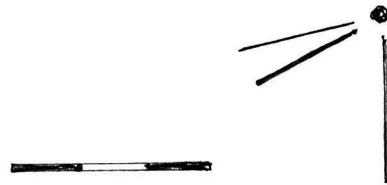


A very weather-worn dial and not easy to see. Located to the West of the South door porch outer wall. It has a shallow indentation gnomon hole, five faint lines and a semicircle, no pocks visible. Lines at 22, 45, 98, 110 and 125 degrees. Height 1.72 metres, 120 mm radius, 1149, type D. Church, unusually, declines 32 degrees west which makes it difficult to decide whether it is in its original position.

WESTERN AREA



BRACEWELL, St Michael.



Located inside the South door porch to the East of the door. Good gnomon hole, only three lines visible, no pocks, no circle. Lines at 10, 22 and 90 degrees, 120 mm radius. 2.0 metres high, 1150, type F.

Fig. 5. Map of the area of Yorkshire west of OS grid square SE. These locations are in grid squares SD and NY.

NORTHERN AREA

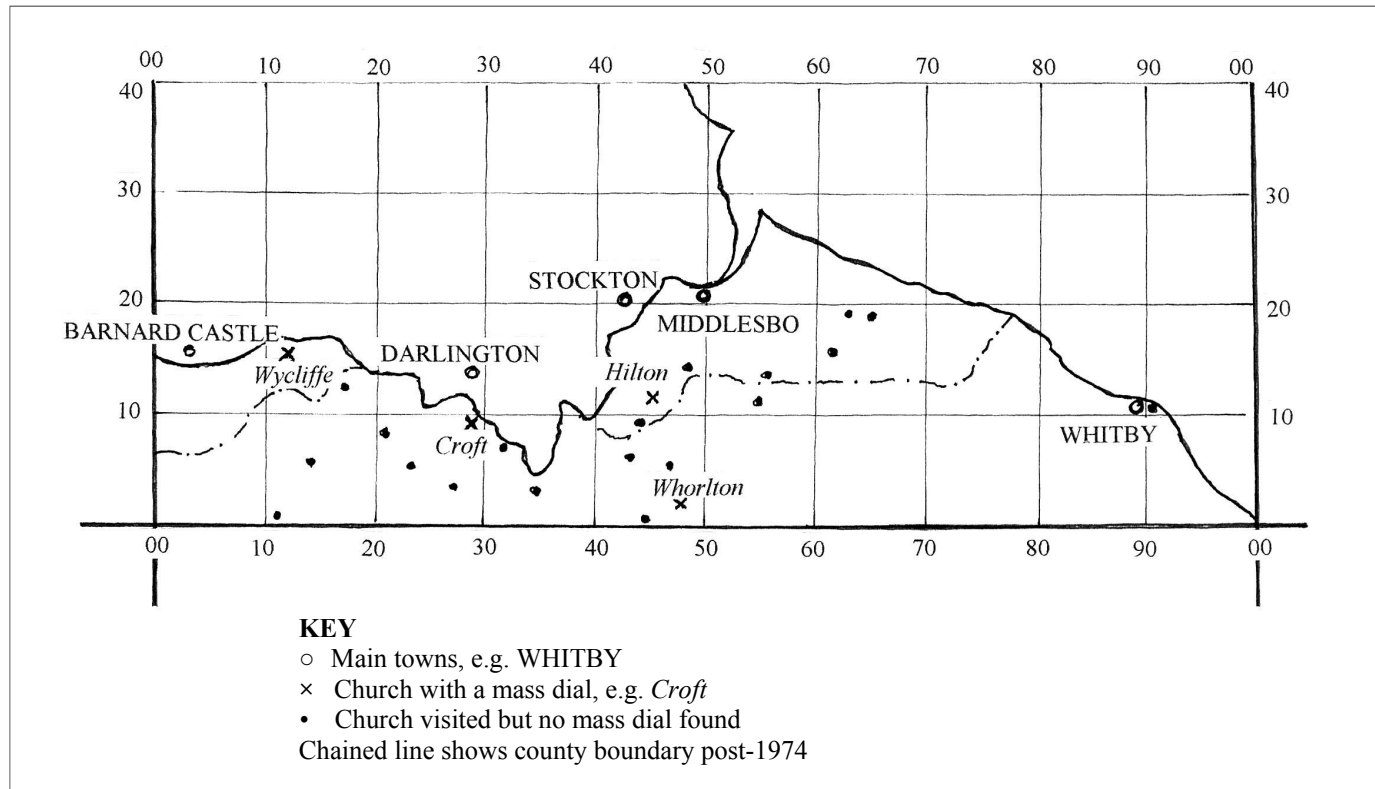
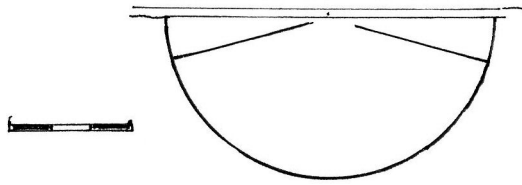


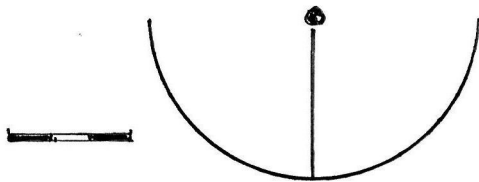
Fig. 6. Map of the area of Yorkshire North of OS grid square SE. These locations are in grid square NZ.

CROFT ON TEES, St Peter. Dial 1 of 2



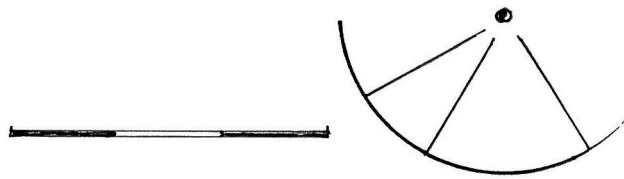
Very clear and deeply carved semicircular dial but only two lines visible at 15 and 155 degrees. It is surprising that no other lines are visible as the existing lines are so deeply cut. Located on the southeast chancel buttress, 1.40 metres high. 180 mm radius. Gnomon hole blocked on mortar horizontal joint. 1155, type D.

CROFT ON TEES, St Peter. Dial 2 of 2



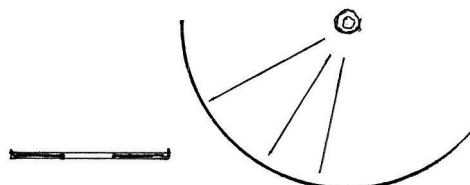
Located high on the south face of the tower, approximately 7.0 metres. On the southeast corner just below clock. Very deep cut semicircle, large gnomon hole but only one line visible at 90 degrees. No pocks, 1156, type D. Approx. 160 mm radius.

HILTON, St Peter. Dial 1 of 2



Nice clear dial but high on the southeast corner corbel of the nave so may have been repositioned. Approximately 3.60 metres high. Small gnomon hole, semicircular, no pocks, three clear lines at 30, 60 and 120 degrees. No noon mark visible. Approximately 75 mm radius, 1152, type D.

HILTON, St Peter. Dial 2 of 2



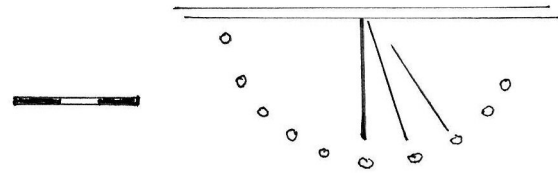
A well eroded dial and not easy to see. It is located just to the east of the South door but approximately 3.20 metres high. It has a broken-off iron gnomon still in the hole. A semi-circle, three clear lines at 30, 60 and 80 degrees, approximately 150 mm radius, 1153, type D.

WHORLTON, Holy Cross.



Situated on the southern face of a buttress, second from the eastern end of the chancel, this is a distinctive rough dial comprising a gnomon hole with a broken off iron rod *in situ* and six deep pock holes. No circle, no lines. Pocks at 45, 72, 90, 110, 130 and 155 degrees. 1.87 metres high, 80 mm radius, 1151, type G. Although deep the pocks not neatly cut.

WYCLIFFE, St Mary.



A large dial located to the West of the priest door on a buttress face. A very weathered dial but still visible. Gnomon hole blocked on a horizontal mortar joint, only three lines still visible but almost a full set of shallow pocks at 15 degree angles. Lines at 90, 105 and 120 degrees. No circle. 3.00 metres high, 190 mm radius, 1154, type F. Although faint I can imagine this as being a very fine dial when new.

EASTERN AREA

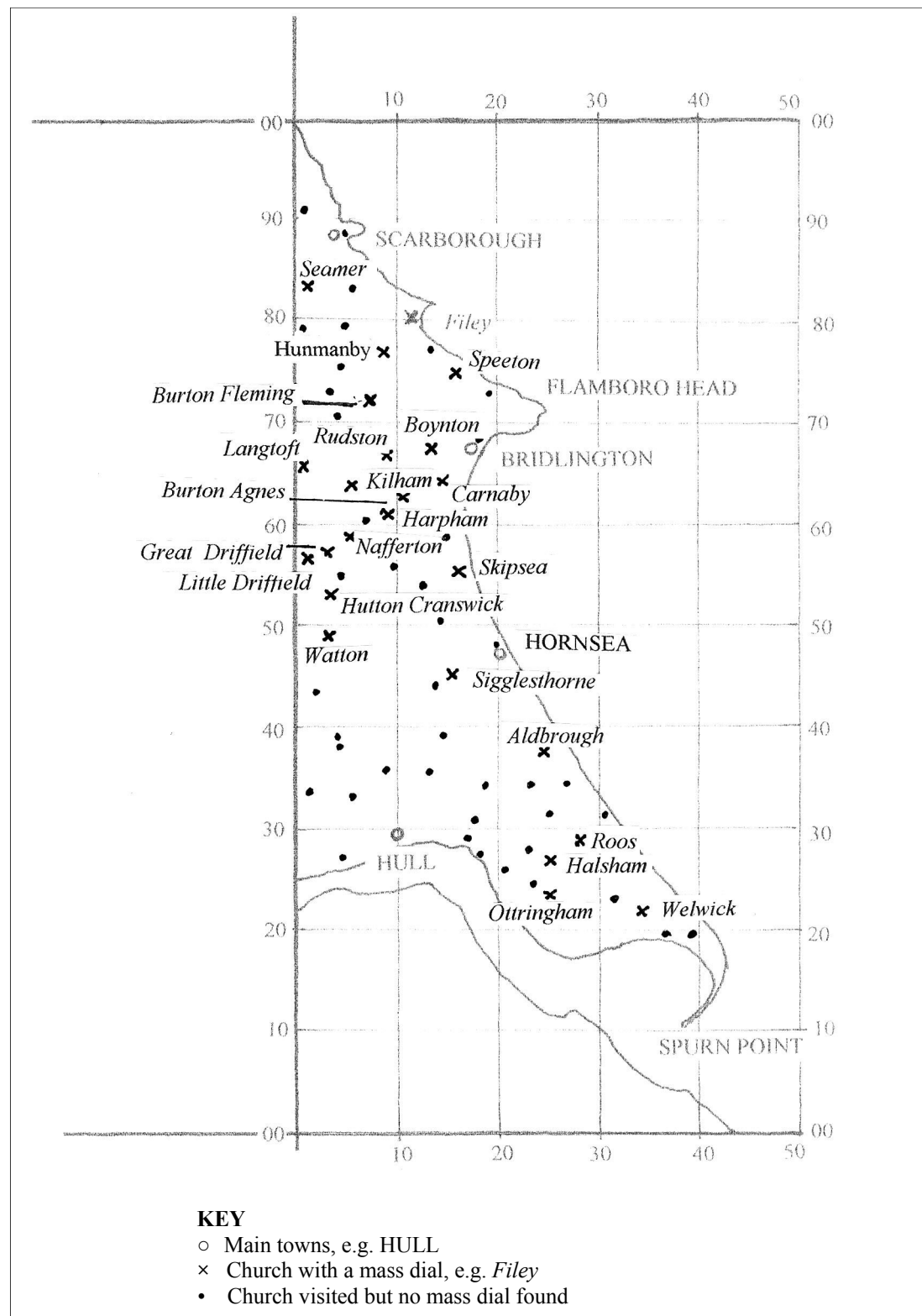
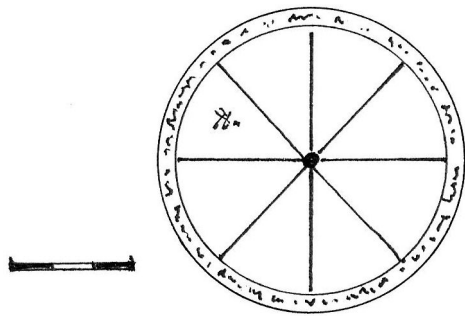


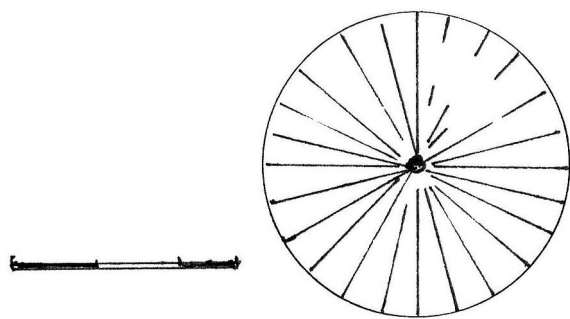
Fig. 7. Map of the area of Yorkshire east of OS grid square SE. These locations are in grid square TA.

ALDBROUGH, St Bartholomew.



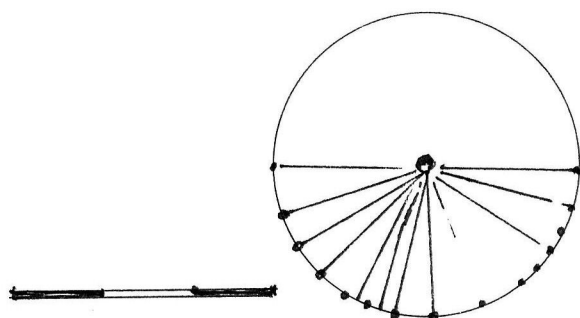
This important dial is situated inside the church and so it is in excellent condition and protected from the weather. It is a Saxon dial but unusual in that it is a full circle with an inscription running around the circumference. Approximately 3.0 metres high, radius 200 mm, lines at 45 degrees. No pocks. The inscription in pre-Saxon has been deciphered to read 'Ulf raised this church for his and Guthard's souls'. Type A. 1205.

BOYNTON, St Andrew.



Nice clear full circle dial situated on quoin on the south-western corner of the nave. Deep gnomon hole, no pocks but a full set of lines at 15 degrees. Generally well carved although a few lines are not straight. 1.26 metres high, radius 95 mm, 1189. Type C.

BURTON AGNES, St Martin. Dial 1 of 3



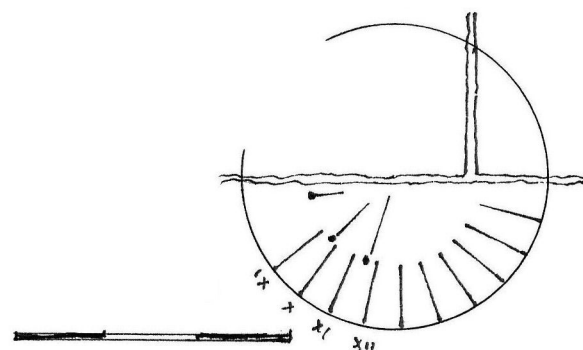
Full circle dial with lines and pocks below the horizontal line. Deep gnomon hole, some lines do not align with the pocks but most do. Lines at 0, 18, 30, 42, 50, 60, 70, 80, 95, 115, 150, 170 and 180 degrees. Situated between the South door and first nave window to the East, 1.65 metres high, 90 mm radius. 1171, type C. Some Roman numerals visible.

BURTON AGNES, St Martin. Dial 2 of 3



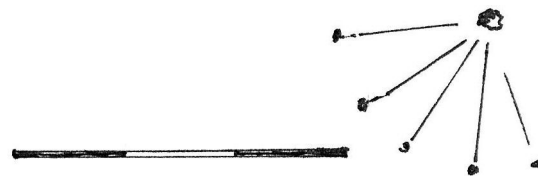
A poor weather-worn dial situated below a masonry rain drip below the first nave window to the East of the South door. 1.12 metres high. Dial consists of four lines and pocks, no circle. Large shallow gnomon hole, lines at 60, 75, 90 and 125 degrees. 120 mm radius, 1172, type F.

BURTON AGNES, St Martin. Dial 3 of 3



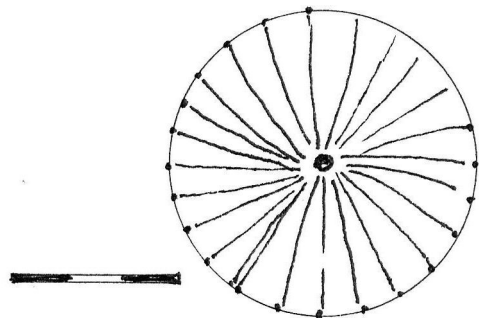
An unusual full circle carved onto the first buttress to the East of the South door. It is really two separate dials using the same gnomon. The outer dial is 175 mm radius, lines below the horizontal at 15 degrees, no pocks but Roman numerals at ends of lines. Note that midday is eleven(?) The inner dial has three lines at 10, 40, and 80 degrees with pocks, 85 mm radius, no circle. Height 1.5 metres. 1173, type C.

BURTON FLEMING, St Cuthbert.



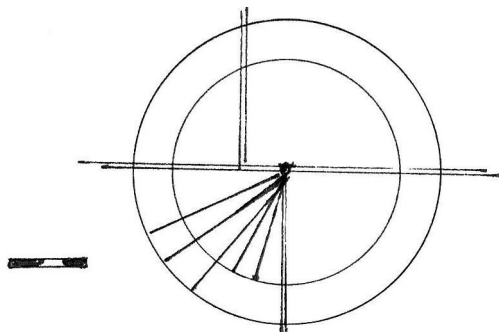
Simple five-line dial, pocks at end of lines, no circle. Situated on chancel wall to the West of the single window. 0.7 metres high. 70 mm radius. Lines at 5, 30, 55, 85 and 110 degrees. Lines not very straight but neatly cut. Shallow eroded gnomon hole. 1182, type F.

CARNABY, St John the Baptist.



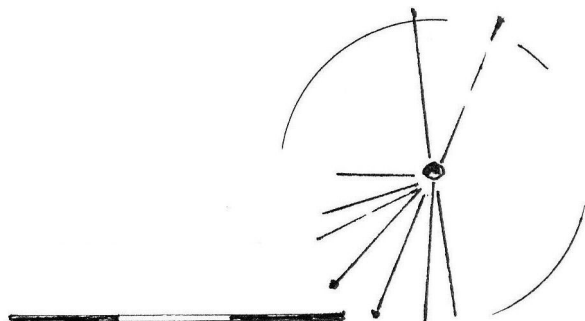
Clear full circle dial, lines and pocks above and below the horizontal. The pocks below horizontal are accurately cut at 15 degree angles but the lines are not straight as many do not start at centre of gnomon hole. Unusual angles above horizontal. Situated just to the West of the SE corner of South aisle. 1.25 metres high, 140 mm radius. 1170, type C.

FILEY, St Oswald.



Excellent double full circle dial, six lines, no pocks. Carved over four stones, this is a large dial, 280 mm radius outer and 210 mm inner circle radius. Situated to the East of the priest door. Lines at 25, 35, 50, 62, 74 and 90 degrees. The 62 and 74 lines terminate at inner circle. Height 2.6 metres. 1086, type A. See illustration p. 25.

GREAT DRIFFIELD, All Saints. Dial 1 of 4



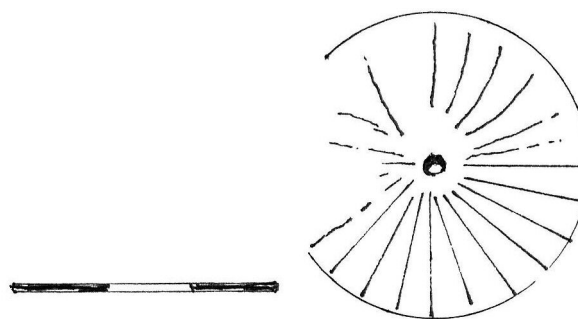
A clear full circle dial situated just to the west of the chancel SE corner. 1.33 metres high. Deep gnomon hole, 9 lines and 2 pocks visible. Lines only thinly scratched but clear. 70 mm radius. Lines at 0, 20, 30, 47, 68, 88, 100, 255 and 275 degrees. Pocks at 47 and 68 degrees. 1162, type C.

GREAT DRIFFIELD, All Saints. Dial 2 of 4



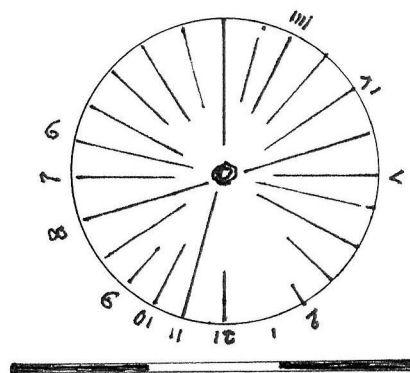
Situated on the buttress to the East of the South door, this weather-worn dial consists of a deep gnomon hole and 10 deeply cut lines. No circle or pocks. Lines at 0, 15, 30, 45, 60, 130, 143, 158, 170 and 180 degrees. Note lines in morning quadrant are at 15 degrees but the afternoon ones are odd angles. Stone erosion has obliterated the lower part of the dial face. Height 2.32 metres. 190 mm radius. 1163, type F.

GREAT DRIFFIELD, All Saints. Dial 3 of 4



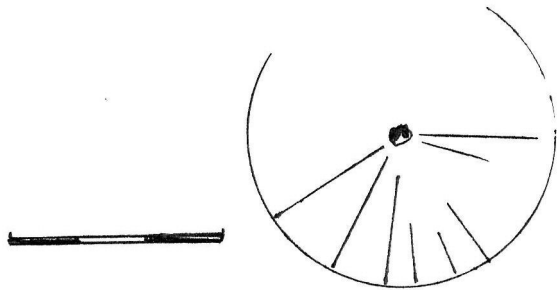
A full circle dial with lines above and below the horizontal. Very large gnomon hole and neatly cut lines terminating at pocks below horizontal, rough cut wavy lines above. Situated below dial 2 on the same buttress to the East of the South door. Lines at 15 degrees spacing, 90 mm radius. Height 2.10 metres. 1164, type C. Stone erosion to the upper left hand side.

GREAT DRIFFIELD, All Saints. Dial 4 of 4



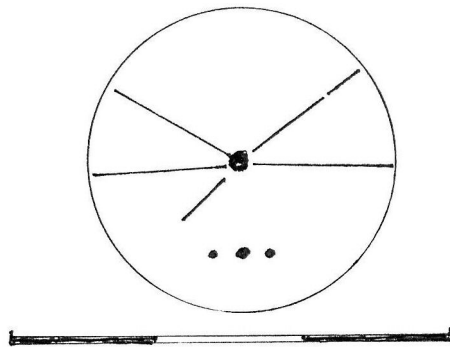
Sited below dials 2 and 3 on the buttress to the East of the South door, this is another full circle dial with lines at 15 degree intervals above as well as below the horizontal. No pocks. Good gnomon hole with the remains of a rod inside; lines crudely set out with a mixture of Arabic and Roman numerals outside the circle. Height 1.73 metres, 57 mm radius. 1165, type C. See illustration p. 25.

HALSHAM, All Saints.



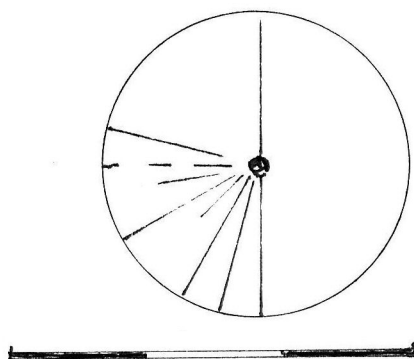
Situated on a buttress to the West of the priest door, this is a weather-worn dial comprising a full circle and 8 faint lines, no pocks. Unusual line angles at 35, 65, 85, 95, 115, 128, 165 and 180 degrees. Good gnomon hole. Height 1.45 metres, radius 110 mm. 1202, type C.

HARPHAM, St John of Beverley. Dial 1 of 6



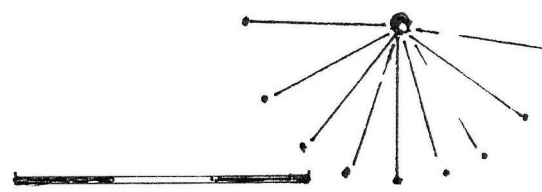
Situated just to the East of the south door, this is a full circle dial with only 5 lines still visible, probably on a redressed stone. Gnomon hole is only a shallow hollow. Unclear whether three pocks on the dial face are part of dial. Lines at 5, 45, 180, 220 and 330 degrees. Height 1.15 metres, 50 mm radius. 1174, type C.

HARPHAM, St John of Beverley. Dial 2 of 6



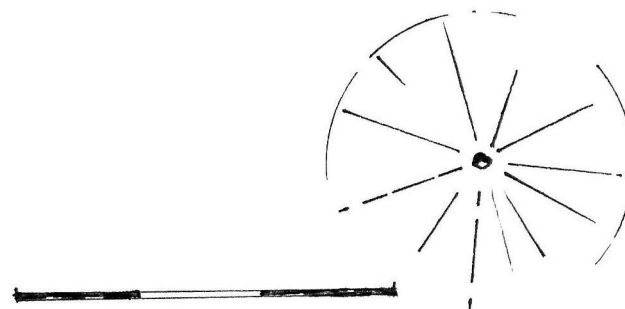
This is a neat full circle dial, good gnomon hole, only 9 lines still visible. Dial is on a stone that has been redressed. No pocks. Sited to the East of south door, close to the first window, 1.15 metres high. The visible lines are at 15 degree intervals in the lower quadrant plus two others above the horizontal. 60 mm radius. 1175, type C. See illustration p. 25.

HARPHAM, St John of Beverley. Dial 3 of 6



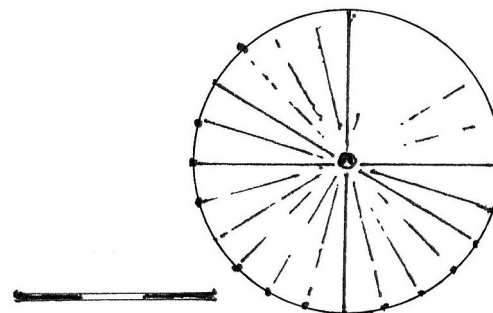
Nicely cut dial, 9 thin lines terminating at pocks. No circle. Sited between the first and second windows on the nave, East of the south door. 1.53 metres high. Unusual angles; 0, 30, 50, 70, 90, 110, 125, 145 and 170 degrees. Deep gnomon hole. 80 mm radius. 1176, type F.

HARPHAM, St John of Beverley. Dial 4 of 6



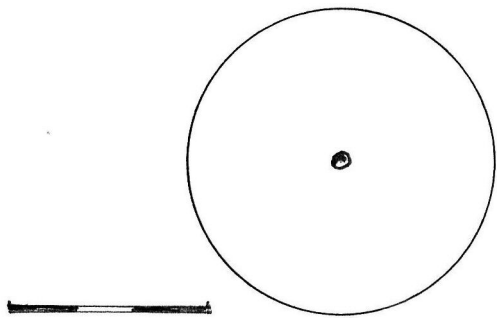
Very worn dial on a flaky stone, difficult to see details. Situated on nave wall between first and second windows to the East of the south door but closer to the second window. A full circle with lines above and below the horizontal. No pocks. Visible lines at 20, 55, 85, 105, 120, 145, 170, 210, 250, 285 and 340 degrees. Height 1.25 metres, 65 mm radius. 1177, type C.

HARPHAM, St John of Beverley. Dial 5 of 6



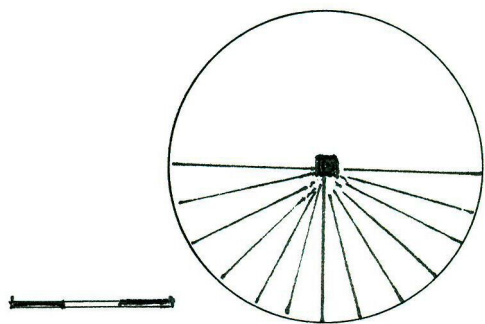
A large full circle dial, well cut straight fine lines above and below the horizontal. Although a little weather-worn it is still clear. Full set of lines at 15 degrees intervals terminating at pocks. Sited to the East of the second nave window east of south door. Good gnomon hole. Height 1.06 metres. 130 mm radius. 1178, type C.

HARPHAM, St John of Beverley. Dial 6 of 6



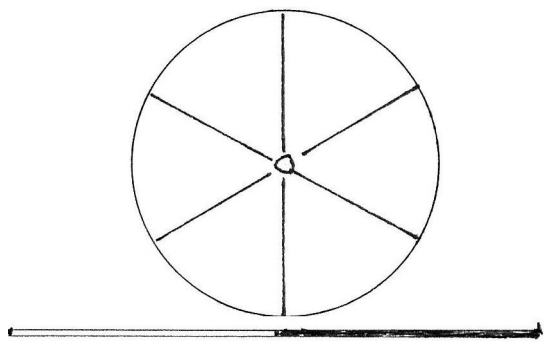
Very simple and exceptionally deep carved full circle dial. It is sited close to the southeastern corner of the nave, 1.35 metres high. No lines or pocks but a good gnomon hole. 120 mm radius. 1179, type H.

HUNMANBY, All Saints.



A very nicely cut clear full circle dial on the porch to the East of the porch South door. It has lines at 15 degrees below the horizontal, no pocks but a deep square gnomon hole. 2.1 metres high, 150 mm radius, 1087, type C.

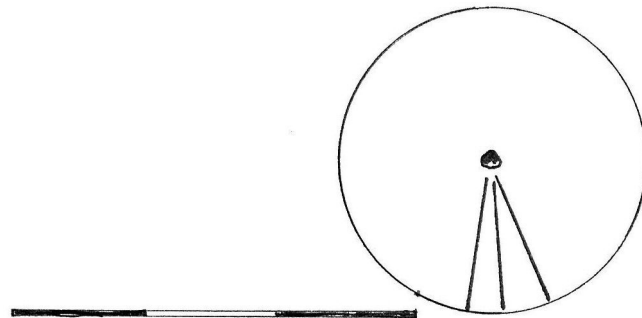
HUTTON CRANSWICK, St Peter. Dial 1 of 2



Situated to the West of the priest door at a height of 1.45 metres, this full circle dial comprises six lines but no pocks. It is an unusual design and must have had limited use as a time teller. 32 mm radius circle with lines at 30, 90, 150, 210, 270 and 330 degrees. 1192 type C. Arabic numbers 4 and 11 below the dial are not thought to be part of the dial.

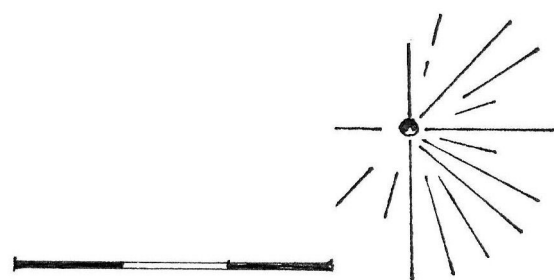
HUTTON CRANSWICK, St Peter. Dial 2 of 2

This dial is situated on the west face of the tower, on the centre-line below the west window. A simple full circle dial with only three lines visible and no pocks. 1.44 metres high. Lines at 80, 95 and 115 degrees with the 115 line extending



beyond the circle. 60 mm radius. 1193, type C.

KILHAM, All Saints.



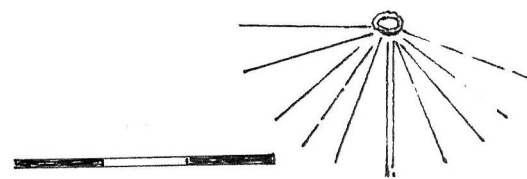
Sited on the buttress to the West of the priest door, this is a very eroded dial. It has no circle or pocks but has had a full set of lines at 15 degree spacing above and below the horizontal; some on the right hand side are deeply carved whilst others on the left completely eroded. 1.4 metres high, 75 mm radius. 1188, type E.

LANGTOFT, St Peter.



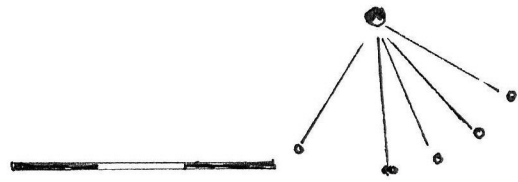
This dial has been repositioned upside down just west of the southeastern corner buttress on the South aisle. Nice clean-cut dial consisting of five lines radiating from a neat deep gnomon hole. No circle or pocks. Lines at 195, 215, 230, 250 and 275 degrees. 2.1 metres high, 140 mm radius. 1187, type F.

LITTLE DRIFFIELD, St Mary. Dial 1 of 4



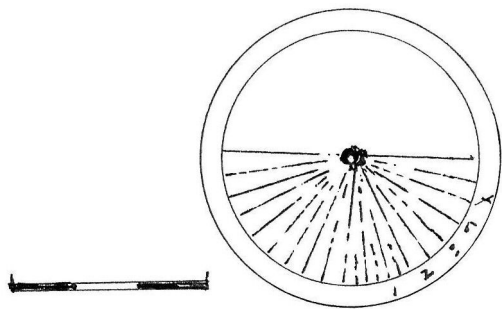
Nice dial sited to the East of the priest door on a redressed stone (I suspect the church may have been rendered previously). No circle or pocks but ten lines, thinly scratched at 0, 18, 40, 52, 72, 90, 115, 130, 142 and 160 degree angles. Gnomon hole blocked with mortar. 1.78 metres high, 95 mm radius. 1158, type F.

LITTLE DRIFFIELD, St Mary. Dial 2 of 4



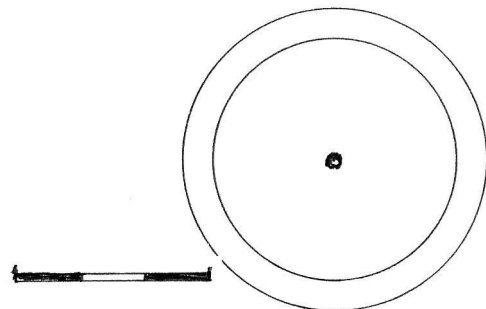
Situated on the south face of the buttress to the West of the priest door. Simple dial of five lines terminating at pocks, no circle but a large deep gnomon hole. Lines at 60, 95, 115, 135 and 152 degrees. 1.42 metres high, 90 mm radius. 1159, type F.

LITTLE DRIFFIELD, St Mary. Dial 3 of 4



This is a very nice double-circle dial carved across two stones and situated below dial 2 on the same buttress to the west of the priest door. No pocks but lines at 10 degree spacing with more lines fainter, between them. Neat small gnomon hole. 1.115 metres high, 120 mm radius outer circle, 100 mm inner. 1160, type A. Probably had Arabic numbers between the circles but not clear.

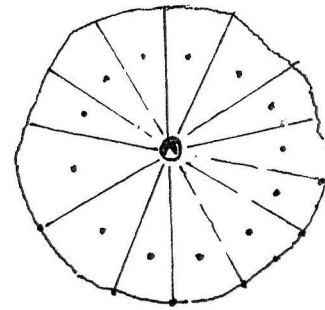
LITTLE DRIFFIELD, St Mary. Dial 4 of 4



A well cut double circle dial, no lines or pocks, clean shallow gnomon hole. The main feature is its position, 1.07 metres high on the west face of the buttress to the West of the priest door. It is carved over two stones indicating that it is in its original position but why does it face West? Circles radii 125 and 100 mm. 1161, type A.

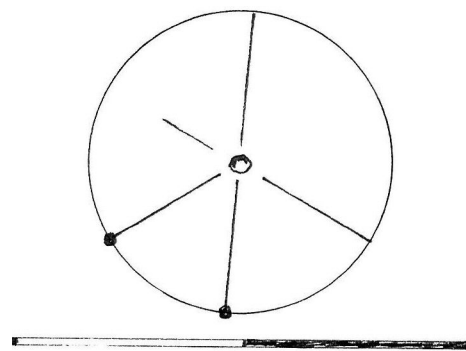
NAFFERTON, All Saints. Dial 1 of 4

Situated to the west of the first window to the west of the



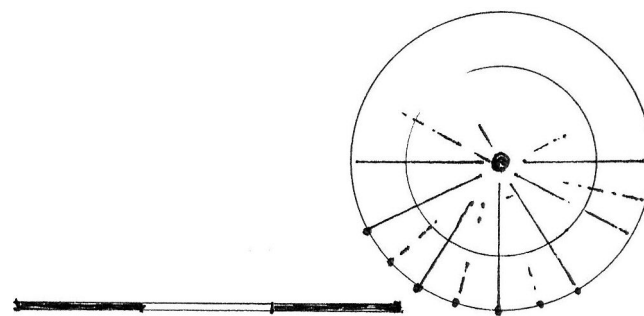
South door, this is a curious small full circle dial, 13 lines with pocks in the centre of each segment. Lines at 30, 70, 90, 120, 150, 170, 200, 220, 250, 275, 300, 328 and 350 degrees. Deep gnomon hole, lines deep cut but circle, although deep, not quite circular. 2.04 metres high 45 mm radius. 1166, type C.

NAFFERTON, All Saints. Dial 2 of 4



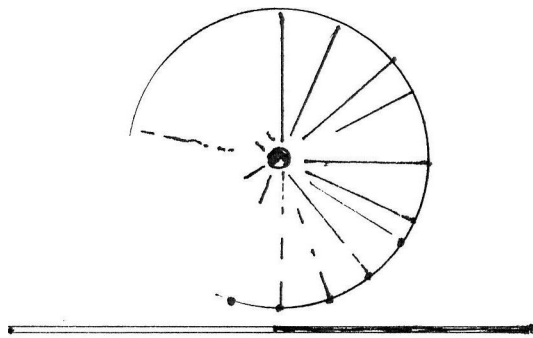
This simple full circle dial is sited low down near the Southwest corner of the nave. It has 5 lines and probably 2 pocks. Lines at 30, 85, 150, 265 and 330 degrees. Very shallow gnomon hole but otherwise quite a nicely carved dial. 0.67 metres high, 35 mm radius. 1167, type C.

NAFFERTON, All Saints. Dial 3 of 4



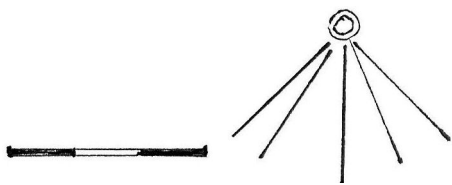
Carved onto a very rough stone, this is double full circle dial. It has lines at 30 degree spacing with fainter lines at 15 degrees but these are not very clear. 1.08 metres high situated in a corner to the east of the South door and near a drain pipe. 65 and 35 mm radii circles, pocks at the ends of some lines. Rod broken in the gnomon hole. 1168, type A.

NAFFERTON, All Saints. Dial 4 of 4



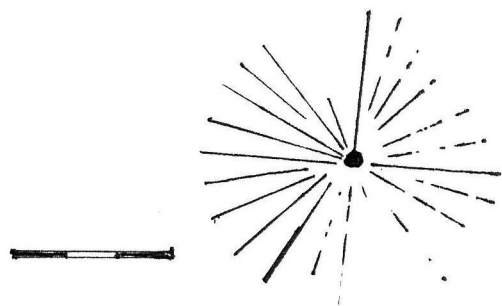
This full circle dial is situated to the East of the second window on the south aisle, East of the south door. It is a very small dial at 30 mm radius but in good condition except for erosion on the left side of the dial. Lines at 30, 70, 90, 110, 130, 150, 160, 180, 210, 225, 250 and 270 degrees. Pocks at the ends of lines. Height 1.40 metres. 1169, type C.

OTTRINGHAM, St. Wilfred.



Situated on a buttress to the East of the priest door. This dial is weather-worn and not easy to see. Five well cut lines at 45, 68, 90, 112 and 135 degrees. No circle or pocks. 2.15 metres high. 130 mm radius, 1200, gnomon hole blocked with mortar, type F.

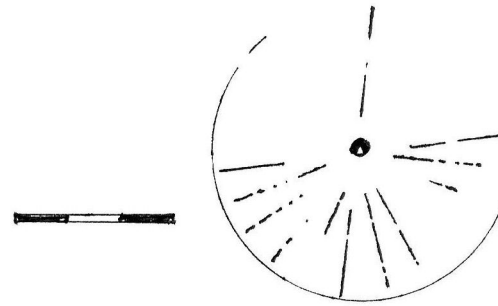
ROOS, All Saints. Dial 1 of 2



A weather-worn dial but still easy to see. It has lines above as well as below the horizontal, no circle or pocks. Sited on the buttress on chancel southeast corner. It has lines radiating at 15 degree angles but they are all rotated by 5 degrees for aspect. Noon is 85 degrees. Height 1.42, radius 150 mm, 120, type E. Good gnomon hole.

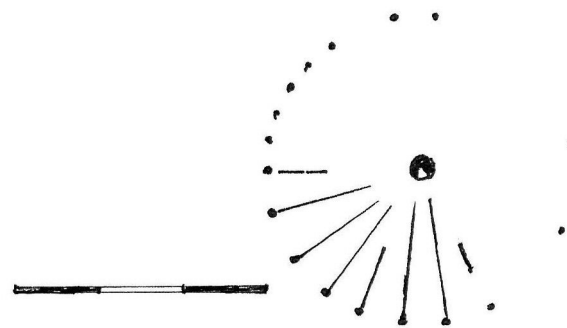
ROOS, All Saints. Dial 2 of 2

Another faint weather-worn dial, not easy to see. It is unusually sited on the southern face of the buttress on the eastern wall of the chancel. It has a full circle, no pocks, lines at 15 degrees below the horizontal and one above all rotated for aspect by 5 degrees, similar to dial 1. Height



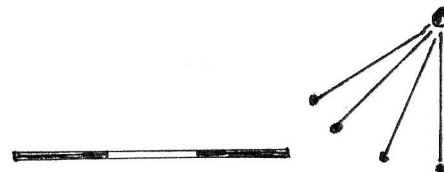
1.55 metres, 150 mm radius, 1204, type C.

RUDSTON, All Saints. Dial 1 of 3



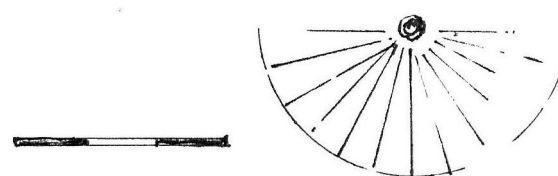
A good dial on an eroded stone situated on a buttress to the East of the priest door. It comprises almost a full set of pocks above and below the horizontal; seven lines remain, no circle visible and it has a neat deep gnomon hole. Lines at 0, 15, 32, 50, 65, 85 and 100 degrees. Height 1.4 metres, 95 mm radius, 1184, type E.

RUDSTON, All Saints. Dial 2 of 3



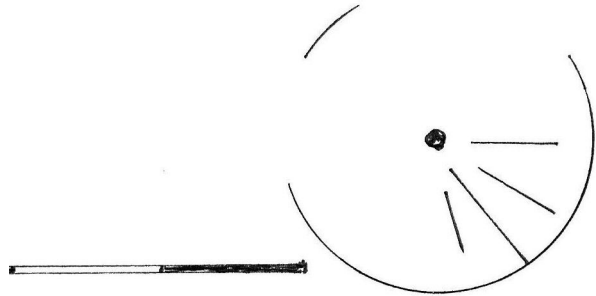
Sited on the same buttress as dial 1 but to the East of the priest door, this is a simple 4-line dial with pocks at the end of the lines, no circle but a good deep gnomon hole. Line angles of 35, 50, 70 and 90 degrees. Radius approximately 110 mm, 1185, type F.

RUDSTON, All Saints. Dial 3 of 3



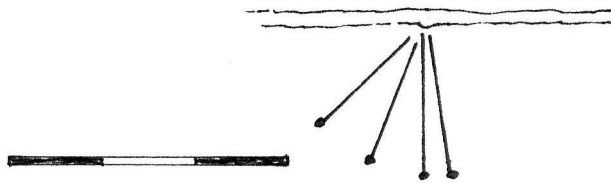
This dial has very thin lines at 15 degree intervals with line-end pocks below the horizontal, a very faint half circle and a gnomon hole blocked by, perhaps, broken rod material. Although eroded, this is a nice well-cut dial with straight lines. Situated on the buttress on SE corner of the South aisle. 2.1 metres high. 110 mm radius, 1186, type D.

SEAMER, St. Martin.



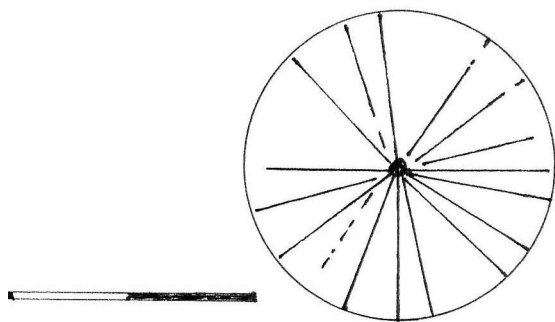
Carved onto a badly flaking stone, this dial is situated on the buttress to the West of the priest door. It has a full circle, only four lines still visible, no pocks but a good gnomon hole. Lines at 105, 130, 150 and 180 degrees. Height 1.24 metres, 55 mm radius, 1181, type C.

SIGGLESTHORNE, St. Lawrence.



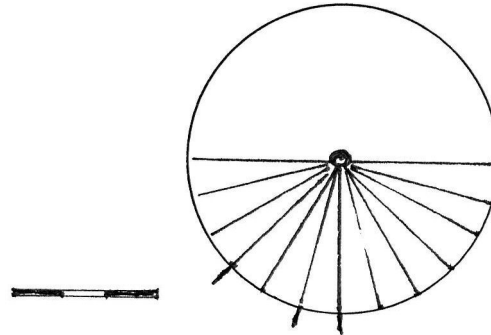
A nice clean dial composed of four well-cut straight lines terminating at pocks, no circle and gnomon hole blocked on horizontal joint. It is situated on a southwestern corner stone on the South transept. Lines at 105, 130, 150, and 180 degrees. Height 1.24 metres, 5 mm radius, 1181, type C. ? See illustration p. 25.

SKIPSEA, All Saints. Dial 1 of 2



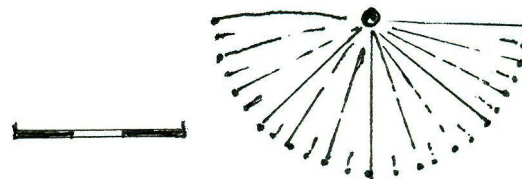
A good full circle dial with lines above as well as below the horizontal. Situated below the second window from the South door on the South aisle. No pocks but a good neat gnomon hole. Unusual angles at 0, 15, 35, 55, 70, 90, 115, 137, 148, 168, 180, 195, 220, 240, 275, 290 and 310 degrees. Height 1.08 metres, 65 mm radius, 1190, type C.

SKIPSEA, All Saints. Dial 2 of 2



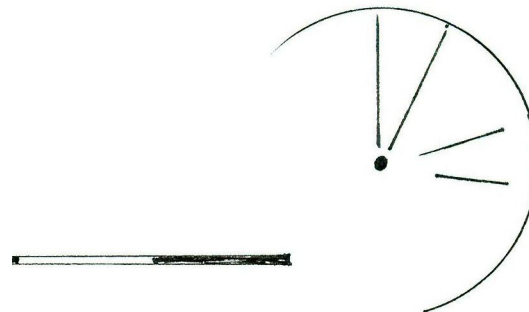
A very nicely cut full circle dial with lines below the horizontal, no pocks and an eroded but clear deep gnomon hole. Situated just to the West of the south aisle, southeastern corner buttress. Lines at 15 degree spacing. Height 2.35 metres, 165 mm radius, 1191, type C.

SPEETON, St Leonard.



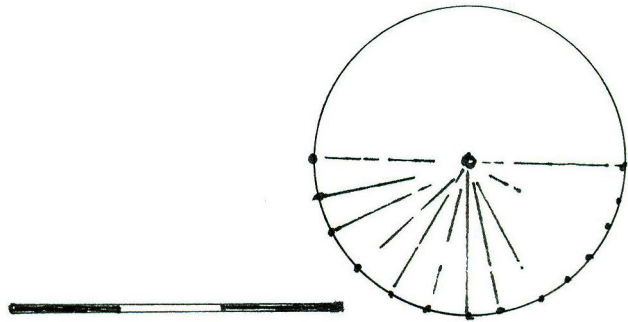
A large interesting dial cut with thin lines at roughly 15 degree intervals with pocks but no circle. Good deep gnomon hole. Most of the lines are straight but one or two are wavy and spoil the overall looks of this dial. Situated to the East of the second nave window counting from the south door. Height 1.63 metres, 140 mm radius, 1183, type F.

WATTON, St Mary. Dial 1 of 6



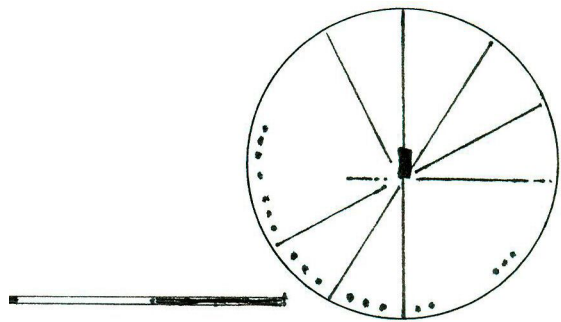
This dial is carved onto the windowledge stone of the eastern-most window of the South aisle, a severely flaking stone. It has a full circle, although the left half has eroded away, 4 lines visible at 170, 200, 240 and 270 degrees but no pocks. Small gnomon hole. 1.5 metres high, 60 mm radius, 1194, type C.

WATTON, St Mary. Dial 2 of 6



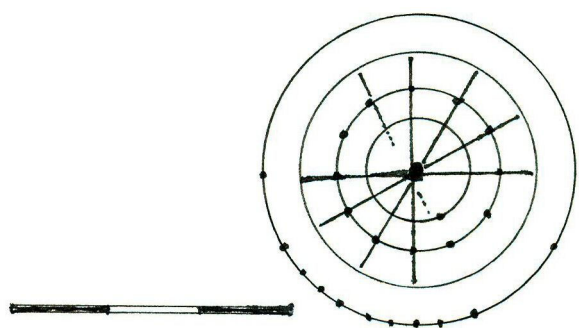
This full circle dial is on the same window ledge stone as dial 1. This dial has not suffered erosion from flaking although lines are faint. In addition to the full circle it has lines and pocks at 15 degree spacing below the horizontal only. 70 mm radius, height 1.5 metres, 1195, type C. Shallow gnomon hole.

WATTON, St Mary. Dial 3 of 6



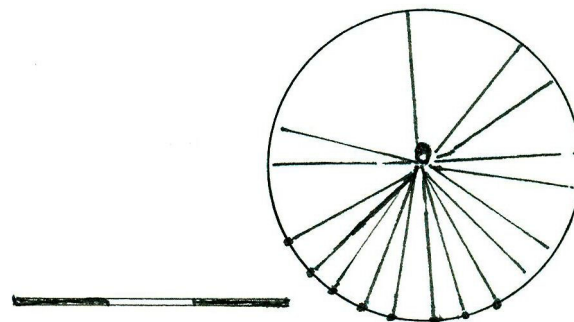
Another full circle dial. This one has eight lines visible above as well as below the horizontal. It has an unusual set of pocks drilled inside the circle and they seem to divide each 30 degree segment into four parts. Gnomon hole is rectangular and lines radiate from bottom of rectangle, not dial centre. 1.13 metres high, 60 mm radius, 1196, type C. Sited to the East of the priest door.

WATTON, St Mary. Dial 4 of 6



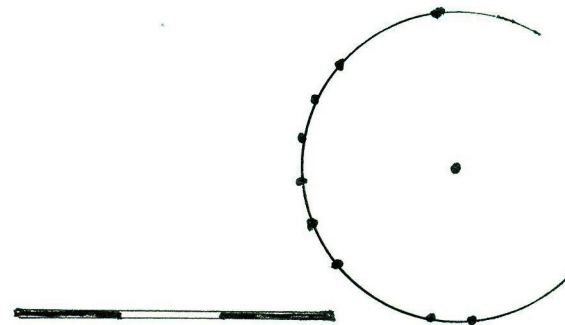
Situated just to the West of the priest door, this is probably a unique dial. It has four circles round a central neat gnomon hole, 85, 65, 45, 25 mm radii. It has lines at 30 degree angles extending to third circle but only has pocks on the second and fourth circles. It may have had Roman numerals around the second circle but the details are faint. 1.51 metres high, 1197, type I.

WATTON, St Mary. Dial 5 of 6



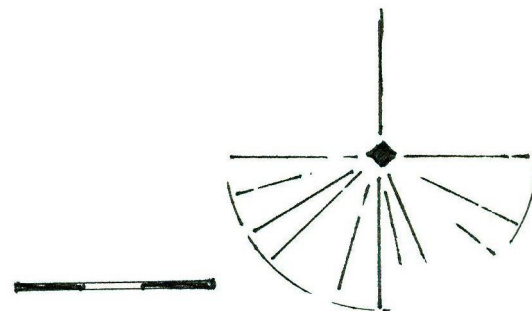
Carved onto the same stone as dial 4, this full circle dial has been more deeply cut and unlike No. 4 seems to have been rotated 5 degrees for aspect. Roughly cut lines with pocks at ends of lines, unusual angles at 5, 30, 45, 58, 70, 82, 95, 108, 120, 135, 145, 170, 185, 215, 243, 275 and 345 degrees. It is unusual in that gnomon hole is not central on the dial and lines lead from the bottom of the hole. 1.32 metres high, 90 mm radius, 1189, type C.

WATTON, St Mary. Dial 6 of 6



This dial is situated just to the West of the priest door below dials 4 and 5. It is a full circle dial, very faint, no lines visible but it has pocks at 15 degree angles and these are rotated by 5 degrees for aspect similar to dial 5. It was a neatly cut dial but is on a badly weathered stone. Small shallow pock like hole for gnomon. 1.0 metres high, 75 mm radius, 1199, type C.

WELWICK, St Mary.



Situated on the southeast corner buttress on the south aisle, this is a half dial with lines at 15 degrees below the horizontal and one line above at 270 degrees. It is very worn and faint, not easy to see. The gnomon hole is unusual in that it seems to be a diamond shape with the rod broken in the hole. Height 1.83 metres, 125 mm radius, 1201, type D probably describes it best.

ANALYSIS OF MASS DIAL SEARCH RESULTS

Area Visited	Churches visited	With mass dials		Total No. of mass dials	Churches with only one mass dial
		No.	%		
To South of SE	28	4	14.3	9	2
To West of SE	19	1	5.3	1	1
To North of SE	26	4	15.4	6	2
To East of SE	68	24	38.2	50	14
Totals, whole area	141	33	23.4	66	19

Table 1. Distribution of mass dials over the parts of Yorkshire outside OS grid square SE.

BSS Monograph 3 attempted to analyse the mass dials found in the search area within grid square SE. The present search for mass dials in the areas bounded by grid square SE and the old Yorkshire County boundaries has located a further 66 mass dials. An attempt has been made to carry out a similar analysis using the same parameters.

There is obviously a wide variation in the results of one area compared to another. This may be partly explained by the geographic terrain of four areas searched. First, the physical size of the four search areas varies considerably. In the original grid square SE search, each quadrant was 50 km × 50 km square (2500 square kilometres) compared to our present search areas of approximately 850 square kilometres to the South, 2500 to the West, 1500 to the North and 1400 square kilometres to the East.

To the South we find, in about half the search area, high hills and only a few villages whilst the other half has a flatter landscape but with industrial towns and villages. From previous experience this was not expected to be ideal mass dial territory.

To the West we have an area about the size of the original search quadrants but it is almost all high Pennine country

and sparsely populated. Where towns and villages do exist they are predominantly textile industrial communities with parish churches too recently built to have ever had mass dials. It was not a surprise to find only one dial on the nineteen churches visited.

To the North, the River Tees valley is rural and reasonably well populated but the search area also has a lot of high hill country, particularly towards the eastern half where the North Yorkshire Moors are only sparsely populated. Here, it was disappointing to find only twenty six churches and only four with mass dials; more had been expected.

Better results were found to the East where the whole area is agricultural and where most of the population tends to live in small villages. Taking into account the relatively small geographic area, sixty eight churches and twenty four with mass dials is a satisfying return. Looking in more detail at the map of the East search area, Figure 7, it can be seen that the majority of churches with dials are concentrated in the upper half of the area whereas further South towards Spurn Point they become much rarer, although the churches themselves are certainly old enough to have once had mass dials. The reason for this is not clear.

Trying to classify mass dials into 'types' is not easy, mainly because it depends upon the initial selection of different shapes. Keeping to the same types A to I, as used in the original monograph, the results shown in Table 2 below were obtained.

Although it is difficult to draw too many conclusions from such a small sample these results do show that the full circle dials, C, are by far the most commonly found type in the East search area and represent 42.5% of all dials found in this search. In fact only 22 type C dials were found in the whole of grid square SE, or 16% of the total for that search area.

Type F were the second most common with 29% of all dials in this search. This can be compared with 33% of the total for the previous grid square SE search, not too different a percentage.

Five type A (double full circle) dials were found in this search and all in the East search area. This compares with five found in the whole of grid square SE.

Type	A	B	C	D	E	F	G	H	I	Total
To South of SE	-	-	1	1	1	6	-	-	-	9
To West of SE	-	-	-	-	-	1	-	-	-	1
To North of SE	-	-	-	4	-	1	1	-	-	6
To East of SE	5	-	27	2	3	11	-	1	1	50
Total Search	5	-	28	7	4	19	1	1	1	66

Table 2. Distribution of mass dial types in the four areas of this study.

SUMMARY

The obvious observation drawn from this search is that there are many more mass dials to the East of grid square SE than the other three directions. This was not surprising because the original search of grid square SE clearly showed the same result. The lack of mass dials to the South and West could also be reasonably predicted but it was a disappointment not to have found more to the North where the geographic and wide spread of population conditions promised more. The most likely explanation for the low number of churches found with mass dials in this Northern area is that the Industrial Revolution probably had a greater effect than previously thought and increasing population numbers caused many churches to be enlarged or rebuilt.

To the East the conditions were quite the opposite, the Industrial Revolution caused a migration of the population away from the area and so there was not the same pressure to enlarge the churches. This resulted in more of their mass dials surviving. The quality of the surviving dials is good.

One feature is the high number of full circle dials in this area and quite a lot of these have lines above as well as below the horizontal. One explanation is that these may be late mass dials, or transitional dials, where the dial maker was influenced by the newly introduced mechanical clock faces and therefore carved lines where he knew the sun's shadow could never reach.

This survey together with the search carried out in grid square SE for BSS Monograph 3 has resulted in a full coverage of the County of Yorkshire. 459 churches have been visited, 116 of these had one or more mass dials and a total of 205 mass dials have been recorded into the BSS archive. It is never possible to be absolutely sure that every dial has been found and accounted for and no doubt others may be found; however, every effort has been made to make the study as comprehensive a coverage as possible. Although time consuming it has been a very satisfying exercise and, I hope, a worthwhile addition to our collective understanding of time measurement.

APPENDIX 1

List of Churches with Mass Dials outside Grid Square SE but within the County of Yorkshire boundaries

The numbers in brackets are the number of mass dials on that church.

IN THE AREA SOUTH OF GRID SQUARE SE

Braithwell	St James	(2) SK 530 947
Old Eldington	St Peter	(5) SK 532 973
Sheffield Cathedral	St Peter & St Paul	(1) SK 354 876
Tankersley	St Peter	(1) SK 350 996

IN AREA WEST OF GRID SQUARE SE

Bracewell	St Michael	(1) SD 860 485
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IN AREA NORTH OF GRID SQUARE SE

Croft on Tees	St Peter	(2) NZ 283 098
Hilton	St Peter	(2) NZ 455 115
Whorlton	Holy Cross	(1) NZ 485 020
Wycliffe	St Mary	(1) NZ 117 143

IN AREA EAST OF GRID SQUARE SE

Aldburgh	St Bartholomew	(1) TA 244 388
Boynton	St Andrew	(1) TA 137 680
Burton Agnes	St Martin	(3) TA 102 633
Burton Fleming	St Cuthbert	(1) TA 083 724
Carnaby	St John the Baptist	(1) TA 145 657
Filey	St Oswald	(1) TA 118 811
Great Driffield	All Saints	(4) TA 022 580
Halsham	All Saints	(1) TA 268 278
Harpham	St John	(6) TA 092 617
Hunmanby	All Saints	(1) TA 096 775
Hutton Cranswick	St Peter	(2) TA 024 534
Kilham	All Saints	(1) TA 064 645
Langtoft	St Peter	(1) TA 008 670
Little Driffield	St Mary	(4) TA 009 578
Nafferton	All Saints	(4) TA 055 590
Ottringham	St Wilfred	(1) TA 268 244
Roos	All Saints	(2) TA 291 297
Rudston	All Saints	(3) TA 098 678
Seamer	St Martin	(1) TA 015 834
Sigglesthorne	St Lawrence	(1) TA 154 457
Skipsea	All Saints	(2) TA 165 550
Speeton	St Leonard	(1) TA 151 748
Watton	St Mary	(6) TA 022 498
Welwick	St Mary	(1) TA 341 211

APPENDIX 2

Churches visited with no Mass Dials

IN THE AREA SOUTH OF GRID SQUARE SE

Aston	SK 468 853
Austerfield	SK 662 947
Bawtry	SK 654 931
Beauchief Abbey	SK 338 820
Bradfield	SK 267 926
Conisborough	SK 512 988
Ecclesfield	SK 353 942
Finningley	SK 669 992
Hartshill	SK 494 810
Laughton Morthen	SK 517 883
Loversall	SK 576 988
Mexborough	SK 480 997
Norton	SK 359 822
South Anston	SK 520 837
Stainton	SK 555 936
Thrybergh	SK 467 955
Tickhill	SK 591 932
Todwick	SK 498 842
Treeton	SK 433 874
Thorpe Salvin	SK 521 812
Throapham	SK 523 876
Wadsworth	SK 568 971
Wales	SK 478 828
Whiston	SK 449 902

IN AREA NORTH OF GRID SQUARE SE

Bowes	NY 993 134
Crawthorne	NZ 443 075
Eryholme	NZ 320 090
Forcett	NZ 175 123
Great Ayton	NZ 557 108
Great Smeaton	NZ 348 045
Guisborough	NZ 616 160
Ingleby Arncliffe	NZ 452 002
Kirby Hill	NZ 140 065
Kirk Levington	NZ 435 095
Marske	NZ 104 005
Melsonby	NZ 201 084
Middleton Tyas	NZ 235 055
Newton in Cleveland	NZ 569 132
Romaldkirk	NY 990 225
Rudby Cleave	NZ 472 066
Skelton in Cleveland	NZ 652 190
South Cowton	NZ 280 040
Stainton	NZ 480 140
Upleatham	NZ 632 194
Whitby	NZ 901 113
Wilton	NZ 583 197

IN AREA WEST OF GRID SQUARE SE

Askrigg	SD 940 900
Barnoldswick	SD 880 470
Bolton in Bowland	SD 790 495
Clapham	SD 476 695
Coniston	SD 981 676
Giggleswick	SD 812 641
Gisburn	SD 830 485
Heptonstall	SD 990 280
Horton in Ribblesdale	SD 810 722
Hubberholme	SD 926 783
Ingleton	SD 670 930
Kirby Malham	SD 894 610
Marton	SD 900 500
Mitton	SD 720 390
Sedbergh	SD 670 930
Skipton	SD 990 520
Slaidburn	SD 710 520
Thornton in Craven	SD 900 480

IN AREA EAST OF GRID SQUARE SE

Barmston	TA 156 588
Beeford	TA 036 388
Bempton	TA 031 394
Brandesburton	TA 227 280
Bridlington Priory	TA 176 679
Burstwick	TA 227 280
Burton Pidsea	TA 251 311
Catwick	TA 130 454
Cayton	TA 057 833
Cottingham	TA 047 329
Easington	TA 398 191
Folkton	TA 053 797
Fordon	TA 049 751
Foston on Wolds	TA 100 558
Garton East	TA 270 354
Hedon	TA 188 287
Hessle	TA 031 264
Hornsea	TA 200 476
Humbleton	TA 226 348
Keyingham	TA 245 254
Leconfield	TA 015 438
Lowthorpe	TA 079 608
Nunkeeling (ruin)	TA 145 501
Partington	TA 315 225
Paull	TA 171 257

IN AREA EAST OF GRID SQUARE SE (continued)

Preston	TA 187 306
Reighton	TA 131 752
Scalby (nr Scarborough)	TA 009 903
Scarborough St Mary	TA 047 891
Skidby	TA 015 337
Sproatley	TA 195 345
Skeffling	TA 370 190
Skerne	TA 046 551
Skirlaugh	TA 141 395
Swine	TA 134 359
Thorganbold	TA 206 265
Thwing	TA 049 702
Tunstall	TA 305 320
Wawne	TA 090 368
Withernsea	TA 008 792
Willerby	TA 008 792
Wold Newton	TA 045 731



*HARPHAM, St John of Beverley Church.
An example of a small full circle dial, type C, it has
lines above and below the horizontal.*



*SIGGLESTHORNE, St Lawrence Church.
A good example of a simple four line mass dial, type
F. It has pocks at the ends of the lines and a blocked
gnomon hole.*



*FILEY, St Oswald Church.
An example of a type A mass dial. It has a double
full circle and five lines.*



*GREAT DRIFFIELD, All Saints Church.
An example of a type C mass dial having a full cir-
cle and lines. This example also has Arabic num-
bers around the circumference.*

