## Fields and Field names

English field names, J. Field. Publ. David and Charles, 1972
Fields with evidence of strips
Little Pesbers
Pesbers Great
Far End Meadow
Staney Lands
Astall
Jackswood
Snowdale
Little Honey Mires
Wheatlands
Mires
(Wheat Ridding)
No strips
Mill Brow

## Meadow

Open Astall
Hales Psture
Plains
West Plains
Clap Gill
Dick Ground

Hawthorn trees
Haggs Brow
Haggs
springwood - a coppice wood (Ancestors, Aug. 2006 p74 A walk in the woods, D. Hey)

## Field names from Sheepscar Deeds

Note that the spelling variation in these extracts may be due in part to misreadings. Some of the fields may not be in Langcliffe.
1592 DW316
Whete Ryddinge close
1594 DW318
Cow Close
Thowkirbanke
Asdell
Greengate
Crookland close
Slaypestaynes
Mylnegate
Pesber
Stayneland

1594 DW319
Wellhouse
Cowsyde Close
Daha
Banbeck
Howryddinge
1594 DW320
Banbeck close
1594 DW321
New Garth
1594 DW321
New Garth
Croft
Yawe close alias Ewe close
Pesber
Howrydding
Staynforth gate
1594 DW324
Stubbing close
Mowtergapp
Styichaw Ryddinge
1595 DW323
Kyrkebanck
Banbecke Crosse
Howrydding
1597 DW325
Kyrkebank
1599 DW326
Howesse close
1600 DW327
Gate Settles
Howridding
1601 DW330
Yawe Close
1606 DW331
The Oxgang
The Holes
Womelstorth
The Shawe

Pesber
Cow Close
Thowkerbancke
Asdale
Greengate
Brooklandes
Milngate Raine
Stainelande
1609 DW335
Barry Hayninges in Town Field
1611 DW336
The Stubbin
The Ormes Croft
1613 DW337
The Ridding Close
The Milnebrowe Close
Mealbanke
The Keyes
Wheatecloses
Mowtergapps
Stylehow Riddiney
Slaipstones
DW338 Date uncertain
Kirkebanke in the Town Fields
1620 DW339
Stilleridding
Whiteriddinge
Great Stubbing
1623 DW340
Oxegang
Assdale
1623 DW341
Little Stubbings in Town Fields
1627 DW343
Oxegange in Town Field
1628 DW347
Battyehenynge
Thowcarrbancke
Holes Close
Greengatelandes
Haddockeforde

Half Rood
Slaypestones
Milnegateraynes
Asdale
Clapdale
Ouldmilnesteade
Cow Close
Dahawe
water corn mill

1628 DW349
The Oxgang Close
1629 DW350 and 351
Banbecke close

1630 DW352
Thowcarrbancke
water corn mill

1632 DW353
Plains close and a house on it

1633 DW354
Langcliffe Moor now inclosed called Starr Close
1634 DW355
The Stubbing

1634 DW356
Fields of Langcliffe
Woomestarch

1639 DW359
The Stubbing close
1638 DW360
Wheat Ridding
1638 DW361
The Stubbing
1638 DW362
Blewey
1639 DW363
Stubbing House in Langcliffe
1640 DW364
Stubbing Nookes

Stubbing close (part of Manor of Langcliffe)
1647 DW366
Pike close
Borrowdale close
Slaipstones
Woodhouse
Rough Neth
The Croft
New Croft
Asdall
Cow Close
OverClose
1647 DW367
Daha
closes in Town Field
1648 DW368
Langcliffe Spring close
Haggwormes Bothome close
1649 DW369
Battiehouse land
Shortathwaite
1651 DW370
Skarr close on Langcliffe Moor
Yew Close
1694 DW371
Croft close
1651 DW374
Asdale
Crooklands
1651/55/86 DW375
Stainasty Closes
Wormelstroth
Sellbarnes
Kirkebanke Croft
Lynelands
Howridding
The Croft
Cow Close
Over Close
1652 DW376
Langcliffe field

1653 DW377
Tennfalles
Broad Half Rood

1656 DW378
Great Cow Close
1657 DW379
The Intacke
Stubbing
The Pock
Howridding
1658 DW380
Stonie Lands
Little Hurries
Common Leys
1659 DW381
Broade Half Roode
Tenn Falls
Little Half Roode
Round Gate Side
Snawdale
1659 DW382
Slaipstones
1659/64 DW383
Ayneley close
Benkard Garth
Pinderinge
Scarr closes
1661 DW384
Blewham close
1660 DW385
Slaipstones in Langcliffe Field
1667 DW387
Haggwormes Botham
Langcliffe Spring
1668 DW388
Stubbin close
Ormes Croft
Thomas Paley Croft
Haddockford
Pesbar

Brereyland
1669 DW389
Battyhouse
1673 DW391
Langcliff Spring
Hagworme Bottome
Battye House
Intack
Howridding
Stubbing
Parrock
1647 DW392
The Crofts
Nethersgarth
Tennefoth
Broad Halfe roode
Stobbinclose
Ormescroft
Paley Croft
Haddockefore
Peaseber
Brereyland
Shadale (Snadale?)
Asdale
Crooklands
Backerbeike alias Edmond Close
Caplerigg alias Caplerigg Thirckerice
Edmonds alias Girsgill
1673 DW393
Battie heaning
Thankerbank
Holesclose
Greengate land
Hempland called the Habbe Rood
Haddockfore
Slaipestones
Milnegate Rayne
Asdale
Clapgill
Wheat Ridding
Banberke
Snadale
Stubbin
Stubbinook
Oxgange

1674 DW394
Sleetebray
Clapgill
Corn Clapgill
Pesberland
Langleyes all in Town Fields of Langcliffe
1674 DW395
Womblestroth in Town Fields
1685 DW397
Grass Croft
1688-1732 DW 398-400
Banbeck Close
Threap Close
Haw Riddings
Byerdale
Stony Sty Close
Womellstroth
Swinelands
Milburns
Great Cow Close
Little Cow Close
Starr Close

1694 DW401
Croft
Steepfatt Garth
The Steepfatt - all in the Town Fields
1694 DW402-3
Steep Vatt garth and Steep vatt belonging
1697 DW404
Kirkebanks

1700 DW405
The Croft
Heaths Garth
Hairhouse
Trumprans
Banbeck
Armscroft
Kirkbanks
Threaps
Open Threaps Lands
The Over Close
Dawhaw

## 1704/1799 DW406

The Pyke in the Town Fields
1707 DW407
The Croft
Heathgarth
Haihouse
Frinnpdeathe (?)
Banbeck
Arnscroft
Kirkbanks
Threaps Close
Open Trheaplands
Howridding
Thonkerdale
Greengate
Parker Close
Brakenholme in Stackhouseholme
Sortatwasts
Briory Lane
Thackwaits
Milngate Rand
1709 DW408
Greengate
1720 DW409
Sleapstones
1732 DW412
Byerdale
1733 DW413
Threaps
Millbrows
Womelstroth
Swinelands
Cow Close
Greta Cow Close
1733 DW413a
Tenterlands
1737 DW414
Greengate Crook
1742 DW415
Breareyland
Skinnhouse Croft
Lawrence Croft

1754 DW416
Wetlands
Fidelase

## 1792/7 DW418

Heath Garth alias Nursery or Rookery
1792 DW419
Higginbotton or Gatesettles
Springs or Hagginbotton all in Langcliffe

## 1624 DW421

Springs
Hawfield
Roughe Close
Assdaile Close
Oxgange in Townfields
1801 DW424
Langcliffe Scar
Stubbin
Spring Wood
Blues
Banback
Slape Stones
Oxgang
Wentstroth or Holles Close all in Langcliffe

## Dating of Field Names

1592 to 1599 Various original sale documents on sale of the manor

Ancient name
Asdell
Banbeck
Crookland
Daha
Howesse Close
Howryddinge
Kyrkebanck
Mylnegate
Pesber
Slaypestanes
Stayneland
Stubbing Close
Threipe Close
Wheat Ryddinge
Womelstroth

## Tithe map name (1841)

Astall
Band Brech
Crooklands
Daw Haw
Hales Meadow and Pasture(?)
Hall Rydding
Church Bank
Mill (various)
Pesbers Great and Little
Slapestones
Staney Land, Stoney Garth
Stubbing
Threaps (Low, Narrow, Higher)
Wheat Ridding
Hales Meadow(?)

Thowkerbanke

Greengate
Mowtergapp
Styichaw Ryddinge
1600-1649 NYCRO Dawson papers (DW)
Batty Hayninges Batty Henry Meadow
Clapdale
Clap Gill
Croft
Haggwormebotham
Langcliffe Spring
Leyes Close
Croft, North Croft
Springs Meadow, Near Springs, East Springs Meadow

Oxgang
Leys (Long, Third, Little)
Pike
Oxgang
Pike
Pike
Plains Close
Plains, West Plains
Shortathwaite
Short Oates
Thackwith
Watelands
Thackwood, Little Thackwood
Wheatlands
Ormes Croft
Half Rood
Tennfalles
Borrowdale
Haddockforde
Huntergarth
1650-1699 NYCRO Dawson papers (DW)

| Langcliffe Field | Langcliffe Field |
| :--- | :--- |
| Snawdale | Snowdale |
| Swinelands | one of the Astalls |
| The Intacke | Intack |

Heaths Garth
Little Hurries
Sleetebray
post 1700 Wakefield Deeds Registry and NYCRO Dawson papers (DW)

| Brakinholme | Holme |
| :--- | :--- |
| Cowperthwaite | Cow Peter |
| Great and Little Woodbrow | Woodbrow |
| Holin | Holly Close |
| Holmedale | Holme |
| Honney Mire | Honey Mires |
| Kiln Croft or James Croft | Plains? |
| Overlands | Over Close |
| Sheep Close | Sheep House Meadow |
| The Hawfield | Awefield Plantation |

Skinnhouse Croft
Fidelase, Fiddle Case
Close garth
Guodgron (Gudgeon) Banke
Bowerley
Scarsgill Close
Byerdale
Bull Croft
Foster Holes
Cringley
Little Ridding
Hairhouse (Hurrises?)
Frumperrane
Parker Close
Tenterland
Kingland
Well Close
Rock Nest
Brayshaw Garth
Lewpye (Lowpye, Henpye)
Cookson Close
Chapman Close
Parks Close
Skinskill
Iveson's Nursery Garth
Turfgates
Roughnests

## The standardization of area and length measurements in England and Ireland

## Standardization

The Romans had a well-developed system of length and area units for trade, military and agricultural applications. In later feudal times the need for good quality measurement of lengths and areas (of fields) was not so apparent, giving rise to a wide variety of mensuration systems. Some standardization was introduced after the Norman Conquest but not generally adopted until near contemporary times.

Typical early systems were probably based on human body proportions, e.g.,
Roman digit (finger width) c. 18 to 19 mm
Roman inch (uncia) thumb width at nail c. 25 mm
Palm width c. 75 mm
Hand width c. 100 mm
Roman pes naturalis c. 250 mm
Roman foot 296mm
Pes manualis c. 333 mm
Cubit (forearm) c. 444 mm
Roman step $=2.5$ Roman feet $=740 \mathrm{~mm}$
Roman pace 1.48 m

Roman perch $=10$ Roman feet $=2.96 \mathrm{~m}$
Fathom (outstretched arms) c. 6 English feet
In agriculture ploughlands were thought of in terms of the length an ox could pull a plough without a rest, called a furlong. A strip of this length and one tenth as wide constituted an acre. Of course the furlong length depended on many factors and was not an agreed definite length in pre-Conquest times.

Roman length units used in agriculture increased in regular proportion by a factor of $\sqrt{2}$ (1.414), i.e.,
actus 120 Roman feet
iugerum 170 Roman feet
heredium 240 Roman feet etc
to $\quad 680$ Roman feet
and the area of a square of 680 Roman feet each side had an area of the order of 10 English acres (of variable size). By theStatutum de Admensuratione Terre of 1305 (Edward I) it was decreed that 160 square perches made one standard English acre and that one perch was 5.5 yards in length. The acre therefore was an area equivalent to 40 perches long (one furlong) by 4 perches wide. The English perch was therefore 16.5 English feet long since an earlier statute for measuring land (pre-1284) declared that three barley grains made an inch, 12 inches made a foot and 3 feet made a yard. The use of barley grains as a standard is not ideal. The perch (Latinpertica - a rod) became known also as the rod or pole suggesting that a solid piece of wood was used to measure out land in very early times.

So how long exactly was the English foot? A standard yard was kept at Winchester and London in Anglo-Saxon times and in the 1300s a standard foot was set up in St Paul's Church in London. How were these standards decided? The King's standard yard could have been decided by using 108 barley grains, or arbitrarily using the length of the King's foot. However, the standard yard might be expected to be influenced by Roman standards still in existence after the Romans left Britain.

It is proposed that it was decided to compare areas of land, these being of more economic and social significance than length measurement. The Roman square of 680 Roman foot length of a side was probably realized to be very similar to 10 English strips of 40 by 4 perches (about 220 by 22 yards). If it were decreed that

680 Roman feet $=68$ Roman perches $=220$ English yards $=660$ English feet $=110$ fathoms
then 1 English foot $=1.0303$ Roman feet $=0.30497 \mathrm{~m}$ if the Roman foot is taken to be 0.296 m . The modern value is 0.3048 .

If the more easily physically handled lengths of perches and fathoms were compared
1 Roman perch $=2.96 \mathrm{~m}=1.61765$ fathoms

It has been suggested that the ratio 1.61765 is the Golden Section known to the early Greeks and probably others. Was this deliberate or accidental? The Golden Section is the ratio of two consecutive large numbers in the Fibonacci series,
$1,2,3,5,8,13,21,34,55$ etc. which converges to the value 1.618034. The ratio of Fibonacci numbers $55 / 34=1.6176$. A geometrical construction using a regular pentagon inscribed in a circle has the ratio of diagonal to side being the Golden Section.

The result of 1.61765 for the apparent Golden Section ratio is a value obtained by equating named Roman and English units which by chance gives a numerical dimensionless constant of proportionality similar to the Golden Section. No other choice of known units approaches the required proper ratio.

Alternatively one might consider that the comparison of 680 Roman feet with the furlong as made above was not the starting point and that use of the Golden Section was required. The metric system was only invented in the late 1700s so in reality real wooden rods could be compared and a suitable ratio of these lengths decided upon. A trial and error method could have been used to make the fathom rod of acceptable length to give the Golden Section since the ratio of the fathom to the Roman perch length must equal the ratio of the sum of the two lengths to the fathom. Once the fathom was standardized, the yard, foot and inch were also standardized. This seems rather unlikely and if the proper Golden Section ratio of 1.61803 was used rather than 1.61765 then 680 Roman feet would not exactly equal 220 yards. Such accuracy was probably unachievable by medieval people.

## The Irish system

The rod or perch length in Ireland and North-West England is 21 English feet and one has to question how this came about. A possible explanation is as follows.

English inch 25.41 mm
Irish inch 25.41 mm
Irish foot (troighid) $10 \times 25.41 \mathrm{~mm}=254.1 \mathrm{~mm}$ (Pes naturalis is 250 mm )
Irish step (céim) $2.5 \times 254.1 \mathrm{~mm}=635.25 \mathrm{~mm}$
Irish $\operatorname{rod}($ fertalh $)=12$ Irish feet $=3.05 \mathrm{~m}$
10 Irish steps $=6.3525 \mathrm{~m}$
= 20.84 English feet
$=6.95$ English yards
$=5.56$ ells of 45 English inches
Multipliers of 2.5 and 10 were used in the Roman system. There is no evidence that the pes naturalis was used in Scandinavian countries or in Iceland. The Normans are thought to have introduced the Roman foot to England and Ireland may have remained uninfluenced.

The English perch is 5.5 yards and the Irish perch is about the same in ells. It is presumed that values were rounded to give 21 feet ( 7 yards) in more recent times. It seems unlikely that a free choice was made to define the Irish perch as 7 yards rather than the English 5.5 yards since the multiple of 7 does not fit sensibly into any other known system of linear measurement. Alternatively a choice was made to use the ell of 45 inches as a basis for definition of the perch rather than the yard, so that 5.5 ells
made a perch of 20.625 feet, rounded to 21 feet.
The sale of the manor of Langcliffe in 1591 is documented and land is described in terms of customary acres measured on a basis of 5.5 ells per pole. Comparison of areas of specified Langcliffe pastures shows that the pole was 21 feet long.

Saxton's map of Ingleborough of 1603 shows a scale giving about 21 feet per pole.
An acre is defined as 160 square perches. The ratio of Irish and English acres is then $(7.0 / 5.5)^{2}=1.6198$ which is very well supported by data on customary compared to statute acres obtained from early deeds and maps and Tithe assessment data. Again the similarity to the Golden Section constant of 1.618034 is notable but is entirely fortuitous.

## Conclusion

Standardization of the English yard in late medieval times appears to be based on a mathematical comparison of a standard Roman field length of 680 Roman feet square with the English furlong. This means that the English foot was standardized as 0.304 m long.

The suggestion that the Golden Section played a part in the comparison of Roman and English length units is not sustainable.

The Irish standard perch length of 21 feet might have come about by using the ell rather than the yard but might also have come from thepes naturalis of about 1250 mm as base unit with multipliers of 2.5 and 10 .

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