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“Junction Symbols on Scottish 25-inch
First Edition Plans”

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The Charles Close Society was founded in 1980 to bring together all those with an interest in the maps and history of the Ordnance Survey of Great Britain and its counterparts in the island of Ireland. The Society takes its name from Colonel Sir Charles Arden-Close, OS Director General from 1911 to 1922, and initiator of many of the maps now sought after by collectors.

The Society publishes a wide range of books and booklets on historic OS map series and its journal, *Sheetlines*, is recognised internationally for its specialist articles on Ordnance Survey-related topics.

Junction Symbols on Scottish 25-inch First Edition Plans

Fraser Donachie

One of the pleasures of re-joining the Society after a long hiatus is the exploration of its excellent online resources, including the *Sheetlines* archive and a growing collection of YouTube-hosted talks. As a collector of large-scale plans, I particularly enjoyed catching up with Rob Wheeler's talk '*Publication of the 25-inch by Parishes, was Scotland treated differently?*' In his talk Rob showed examples of first edition 25-inch plans held by the National Library of Scotland (NLS) that depict single parishes (anywhere beyond the specific parish is shown as blank space).

Quite often the parish being depicted could have more than one adjoining parish on the same sheet. There would then be a junction point where, for example, three parishes meet. In these cases there would be one depicted parish and effectively two blank parishes. Rather than indicate a boundary between the two 'invisible' parishes, the Ordnance Survey (OS) used a junction symbol to indicate the precise point where the three parishes meet on the boundary of the depicted parish. The symbol points out into the blank space, as shown in *Figure 1*.

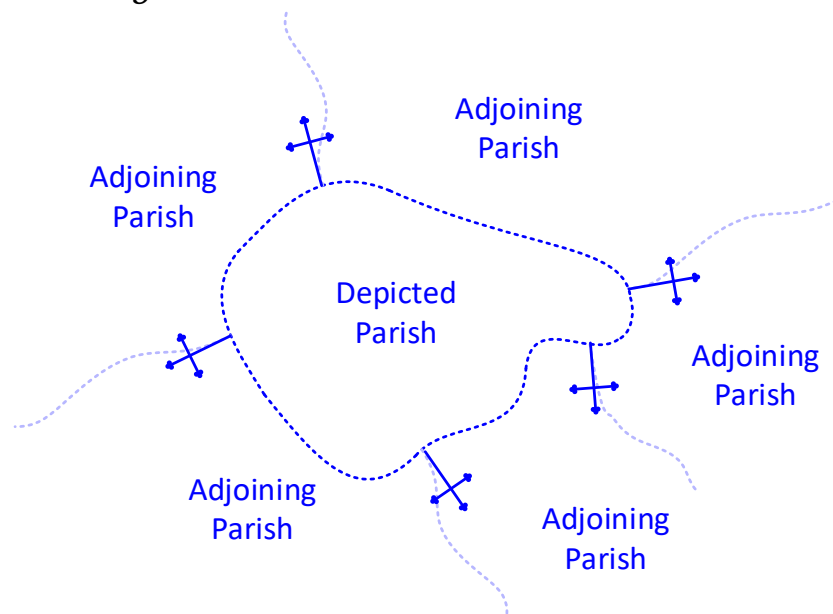


Figure 1 – A depicted parish with adjoining parishes

These junction symbols comprise a simple cruciform with a single 'cross-bar' (a first-order junction symbol) and were routinely adopted for parish-to-parish three-way junctions. They appear on the 25-inch plans and also on the small scale index maps included within the associated Book of Reference (BoR) or Area Book for the parish.

Sometimes an adjoining parish might also be in an adjoining county and so a different symbol was used to indicate this, comprising a cruciform with two cross-bars (second-order junction symbol). The second-order symbols are used in two standard ways:

i) at the two points where a parish boundary is shared with a county boundary, as shown in *Figure 2*. Note that counties were often mapped on different meridians and therefore the adjoining county as well as the adjoining parishes would be shown as blank space.

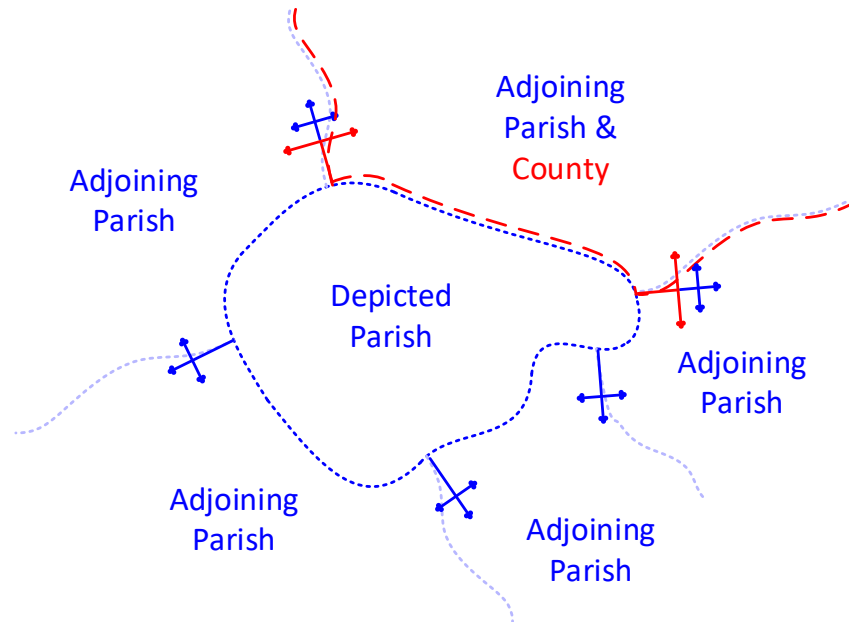


Figure 2 – A depicted parish with adjoining parishes and an adjoining county

ii) at the two points where a county boundary enters and exits a parish that is shared between two counties. If the counties were mapped on different meridians the shared portion of the parish in the adjoining county and the adjoining county itself would be blank resulting in the arrangement shown in *Figure 3*.

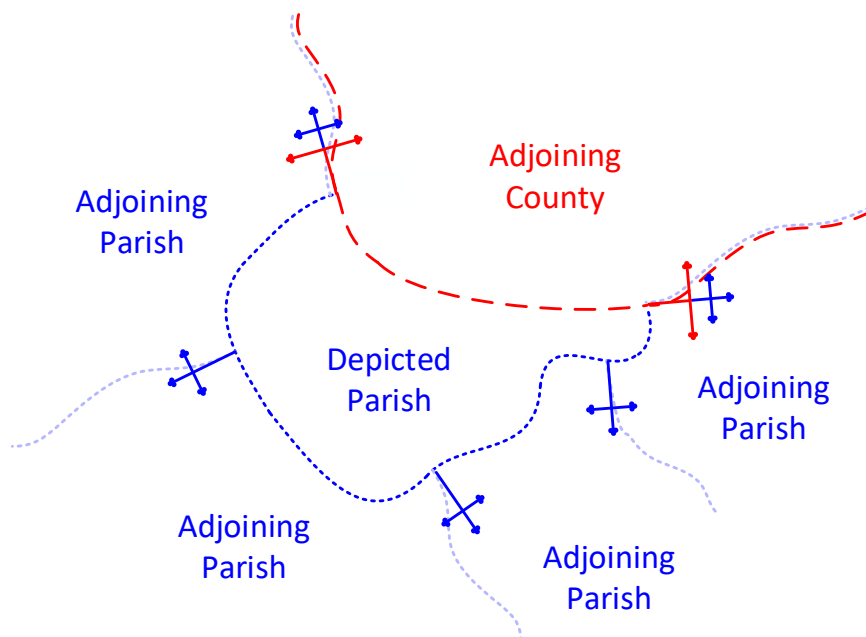


Figure 3 – A depicted parish shared by two counties

So far so good, you might think. However, if you explore the excellent NLS website you will discover that higher order symbols can be found on these

early plans; i.e. third-order junction symbols (three cross-bars) and even fourth-order ones (four cross-bars). In a modest effort to unravel the mysteries of these higher order symbols (shades of *The Da Vinci Code*) I wanted to see if I could reverse-engineer some possible rules for their application. I decided to start by assessing the junctions at which three counties meet, in the hope that this might offer some insights. I therefore made a list of these junctions for Scotland and, using the NLS site, collated the symbols being used on the plans and on the associated BoR index maps. Many of these junctions are either located on ‘uncultivated’ land, and therefore not mapped at 25-inch, or were only mapped at 25-inch later in the 1890s by which time parishes were no longer shown as single entities. Of the 32 selected Scottish junctions, only 16 were mapped on 25-inch first edition plans – *Figure 4, p36*.

The results of this assessment are set out within Appendix A, and confirm that second-order junction symbols were also used in two further ways:

iii) where a parish might border more than one county, as shown in *Figure 5*.

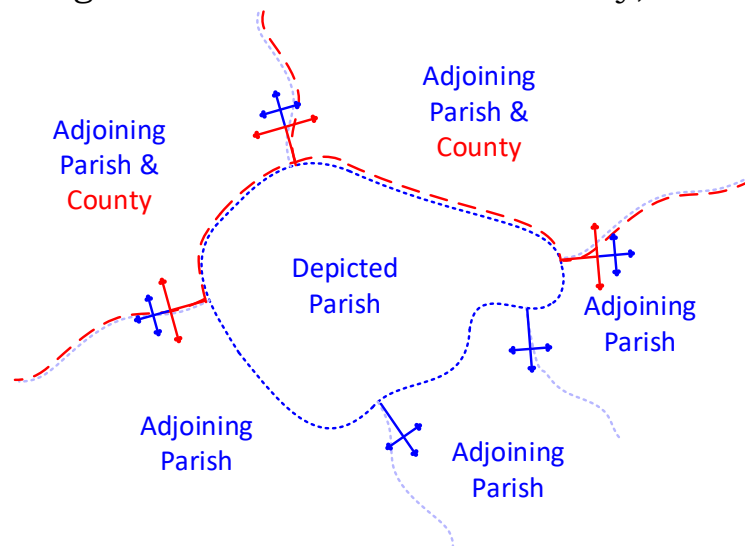


Figure 5 – A depicted parish with two adjoining counties

iv) where three counties meet but there are no parish boundaries, as shown in *Figure 6*.

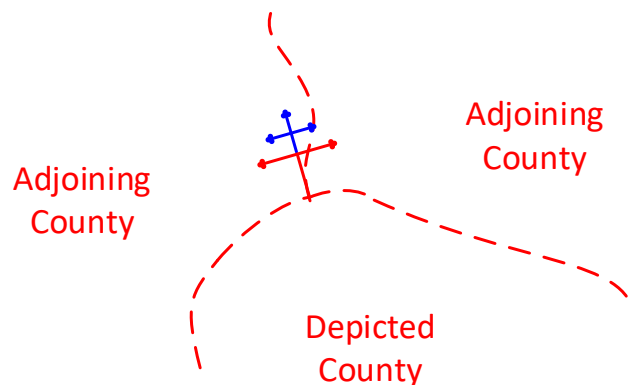


Figure 6 – Three-way county junction (no parish boundaries)

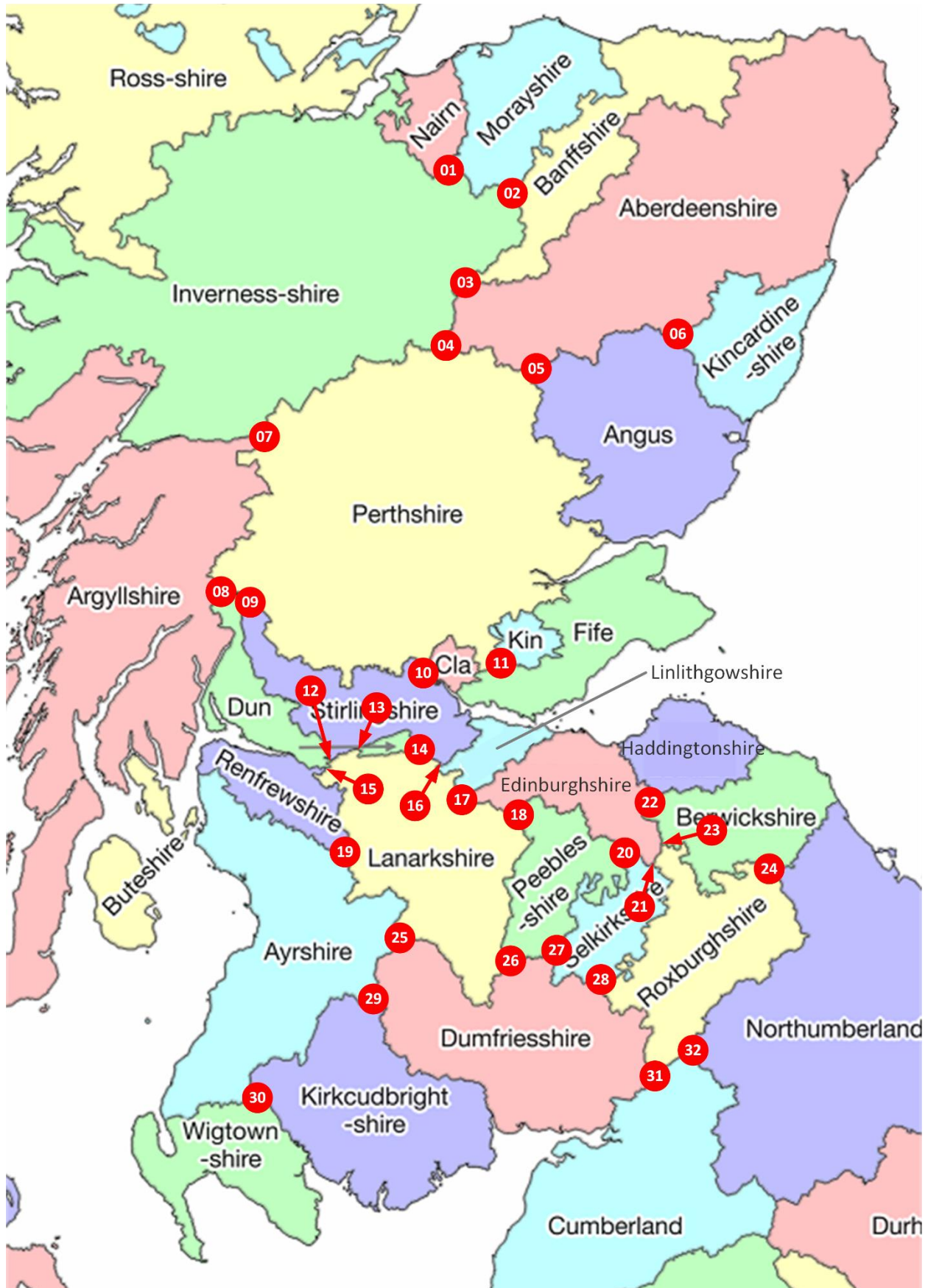


Figure 4 - Scottish counties and their three-way junctions

So a key conclusion, rather unsurprisingly, is that parish-to-county and county-to-county junctions were generally identified using second-order symbols. However, three third-order junction symbols were noted. These only appear on plans and never on BoR index maps. Examining the administrative boundaries where these third-order symbols are used doesn't reveal any particular additional rule being applied (Scotland didn't have townships or hundreds) and therefore a tentative conclusion is that they were 'mistakes'.¹ Other 'mistakes' have been spotted; e.g. using a first-order symbol instead of a second-order symbol. But I appeal to more knowledgeable and experienced CCS members who may take a different view.

As part of this exercise I also examined a three-way county junction that is arguably more English than Scottish; i.e. that located at *Scotch Knowe* where Roxburghshire, Northumberland and Cumberland meet. This particular junction was not mapped on Roxburghshire or Northumberland sheets ('uncultivated' areas) but did find itself on Cumberland II.2 (published ca 1866). It is identified using a fourth-order junction symbol. I have also seen this symbol used on Cheshire XLVI.9 at the England-Wales border. So a tentative conclusion is that the fourth-order symbol was an exclusively English one used to denote a township + parish + hundred + county boundary and junction (there was no specific boundary identification for national borders).

My assessment has also revealed the timeline for the introduction of the symbols. The first appearance of the cruciform symbols on the Scottish BoR index maps occurs in 1856 where they are rendered as primitive crosses without ornamentation. Prior to this date junctions were identified using a short section of boundary heading off into the blank space. This is noted on some of the early BoR index maps and, for example, on the plan Peeblesshire IV.7 (Linton). By 1857 the symbols are depicted with far greater consistency and are ornamented with three small circles or dots on the ends of the cross-bars and at the top, as shown in *Figure 7*.

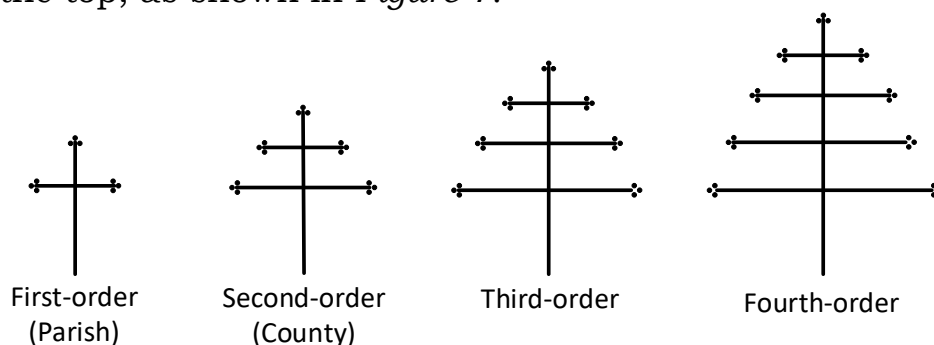


Figure 7 – Junction symbols used on 25-inch first edition plans

¹ Rob Wheeler suggests that these anomalies may have been caused by the employment of English draughtsmen working on Scottish plans who perhaps interpreted parish+county to be parish+hundred and conjured-up a third-order symbol. Note also that the symbols applied to the 25" plans would have been added at the litho-tracing stage (rather than at an earlier stage in the process by boundary specialists) and were therefore perhaps more prone to error or the misinterpretation of instructions.

I wonder if these (or similar) symbols may have been used on non-OS maps, for example in the first half of the 19th century, or whether they are entirely unique to the products of the OS. Answers on a postcard please!

In conclusion, it seems that Scottish 25-inch plans used first-order symbols for parish-to-parish junctions and second-order symbols for parish-to-county and county-to-county junctions. Third-order symbols do occur but perhaps these were erroneously applied. Further research will be needed to investigate the use of these symbols on English/Welsh sheets, where the administrative boundaries included townships, parishes, hundreds and counties ... once the first edition plans become more readily available for study on-line.

Many thanks to Rob Wheeler for his insights and explanations whilst I researched this topic.

Ordnance Survey map and book images are reproduced from the National Library of Scotland (NLS) website under Creative Commons license CC BY 4.0. This assessment has also made use of data provided by the Historic County Borders Project. See <https://www.county-borders.co.uk>.

[The appendix begins on the next page; it can also be viewed online on the Charles Close Society website, at www.charlesclosestociety.org]

Appendix A – Junction Symbol Assessment

Table 1 – Three-Way County Junctions on Scottish 25" First Edition Plans

Ref	Location Name	Lat/Long	NGR	Counties Note 1			Notes
				STL	PRT/CLM	PRT/CLM	
10	Bridge of Allan	56.14564,-3.91178	NS 81319 96417				Note 2
11	Pow Burn	56.15576,-3.54474	NT 04146 96972	PRT/CLM	FFE/KNR		Note 2 & 3
12	Kessington	55.91162,-4.29388	NS 56718 71102	DUN/STL	LNK		Note 4
13	Kirkintilloch	55.93947,-4.17684	NS 64130 73965	LNK	STL	DUN(D)	Third-order symbol on DUN plan
14	Jawhills	55.93673,-3.89812	NS 81528 73147	STL	LNK	DUN(D)	
15	Temple	55.89301,-4.32589	NS 54648 69099	DUN	RNF	LNK	Third-order symbol on RNF plan
16	Whiteside	55.89643,-3.82280	NS 86114 68536	STL	LNK	LLG	
17	Wellhill	55.81490,-3.71530	NS 92611 59291	LLG	LNK	EDB	Note 5
18	White Craig	55.77092,-3.47198	NT 07753 54046	PBS	LNK	EDB	PBS plan pre-dates use of symbols
19	Muir Hill	55.67907,-4.24739	NS 58783 45132	AYS	LNK	RNF	
21	Bowland	55.64937,-2.86109	NT 45908 39873	SKK	RXB	EDB	Note 5
23	Muirhouse	55.70014,-2.82811	NT 48051 45498	BRW	RXB	EDB	Note 5
24	Carham	55.63446,-2.33501	NT 79007 37928	BRW	RXB	NHB	Third-order symbol on BRW plan
30	Carrick Burnfoot	55.05160,-4.63370	NX 31856 76183	AYS	WGT	KCB	Note 6
31	Liddelbank	55.10828,-2.85852	NY 45327 79656	RXB	DMF	CUM	
32	Scotch Knowe	55.18892,-2.68990	NY 56173 88511	RXB	NHB	CUM	Fourth-order symbol on CUM plan

Note 1 – code letters as generally as used by the Historic Counties Trust

Note 2 – Perthshire (PRT) and Clackmannanshire (CLM) were treated as a single county on OS plans at this time.

Note 3 – Fife-shire (FFE) and Kinross-shire (KNR) were treated as a single county on OS plans at this time.

Note 4 – Dumbartonshire (DUN) and Sterlingshire (STL) were treated as a single county on OS plans at this time.

Note 5 – Edinburghshire (EDB) was not mapped at the 25" scale until 1894.

Note 6 – Kirkcudbrightshire (KCB) was not mapped at the 25" scale until 1895.

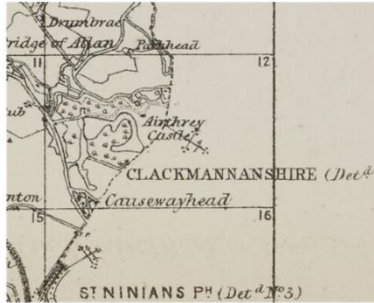
County Junction No. 10

Bridge of Allan
56.14564, -3.91178
NS 81319 96417

**Notes:**

Perthshire & Clackmannanshire were treated as a single county by Ordnance Survey on 25 inch plans, so this three-way junction qualifies for a second-order junction symbol only on the Stirlingshire sheet. The symbol reflects administrative boundaries and is not an Ordnance Survey 'rationalisation'.

Stirlingshire

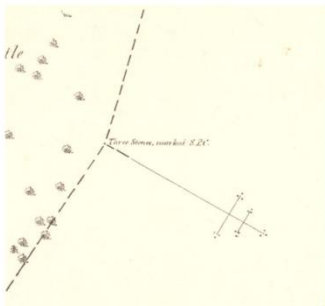


BoR Stirling, Logie (Part of), 1864

Perthshire & Clackmannanshire (Det)



BoR Stirling, Perth, & Clackmannan, Logie, 1864

Stirlingshire X.12 (Logie)
Sur. 1860, Pub. 1864Perth and Clackmannanshire - Perthshire & Clackmannanshire (Det.)
CXXXIII.9 (Logie (Part of)) Sur. 1862, Pub. 1864

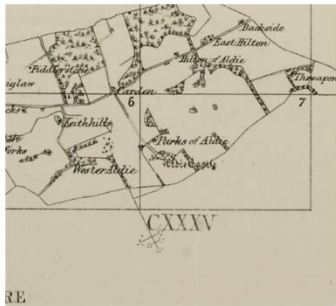
County Junction No. 11

Pow Burn
56.15576, -3.54474
NT 04146 96972

**Notes:**

Perthshire & Clackmannanshire were treated as a single county on 25 inch plans. Similarly, Fife & Kinross-shire would have been treated as a single county but were not mapped at the 25 inch scale. The junction qualifies for a second-order symbol on the Perthshire sheet.

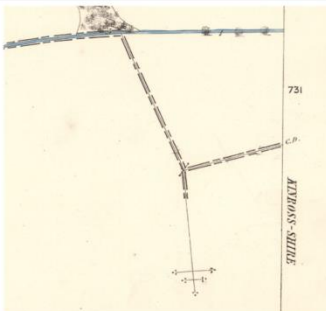
Perthshire & Clackmannanshire



BoR Perth, Fossaway 1861

Fife & Kinross-shire

Not mapped at 25 inch scale.

Perth and Clackmannanshire CXXV.6 (Fossaway (Part of))
Sur. 1859, Pub. 1860

Not mapped at 25 inch scale.

Junction No. 12

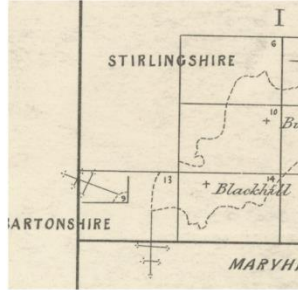
Kessington
55.91162, -4.29388
NS 56718 71102

**Notes:**

Dumbartonshire & Stirlingshire were treated as a single county on 25 inch plans. The junction qualifies for a second-order symbol on the adjoining Lanarkshire sheet.

Dumbartonshire & Stirlingshire

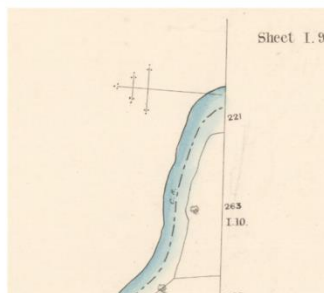
BoR Dumbarton and Stirling, New Kilpatrick, 1863

Lanarkshire

BoR Lanark, Cadder, Parcel Numbers 1 to 279, 1859



Dumbartonshire - Dumbartonshire & Stirlingshire XXIV.13 (New Kilpatrick) Sur. 1859, Pub. 1863



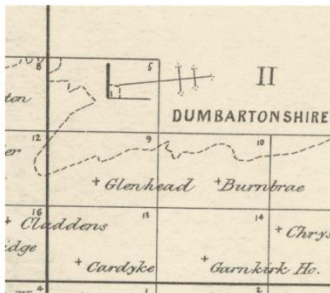
Lanarkshire I.13 (with inset I.9) (Cadder) Sur. 1857, Pub. 1859

County Junction No. 13

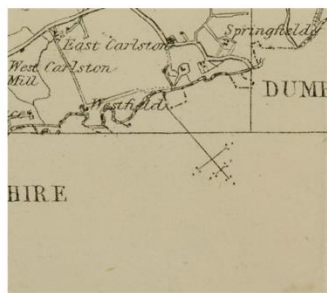
Kirkintilloch
55.93947, -4.17684
NS 64130 73965

**Notes:**

Lanarkshire II.1 shows a first-order parish junction symbol instead of a second-order county one. Stirlingshire XXXIII.1 fails to show any symbol. Dumbartonshire (Det) XXIV.8 shows a third-order symbol. There are no such anomalies on the BoR index maps, however.

Lanarkshire

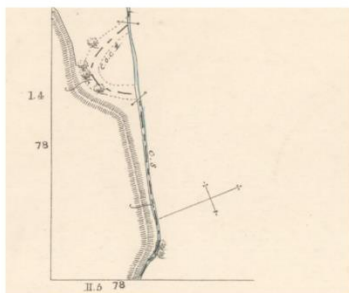
BoR Lanark, Cadder, Parcel Numbers 1 to 279, 1859

Stirlingshire

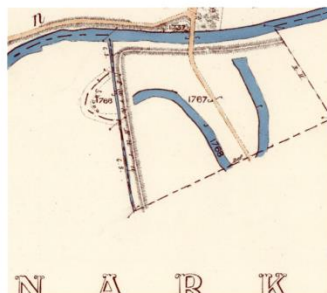
BoR Stirling, Campsie, 1862

Dumbartonshire (Detached)

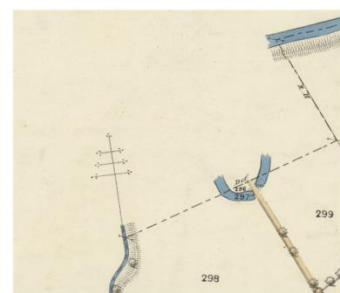
BoR Dumbarton (Det.), Kirkintilloch, 1862



Lanarkshire II.5 (with inset II.1) (Cadder) Sur. 1857, Pub. 1859



Stirlingshire XXXIII.1 (Campsie) Sur. 1859, Pub. 1862



Dumbartonshire (Det.) XXIV.8 (Kirkintilloch) Sur. 1859, Pub. 1862

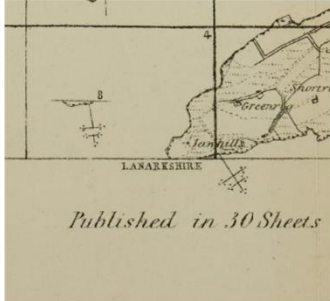
County Junction No. 14

Jawhills
55.93673,-3.89812
NS 81528 73147



Notes:
 Consistent use of second-order junction symbols.

Stirlingshire



BoR Stirling, Falkirk, 1862

Lanarkshire

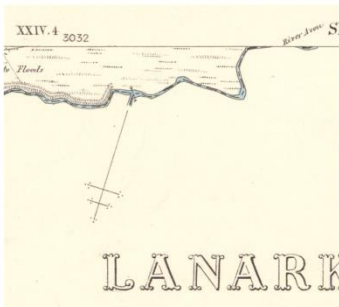


BoR Lanark, New Monkland, 1860

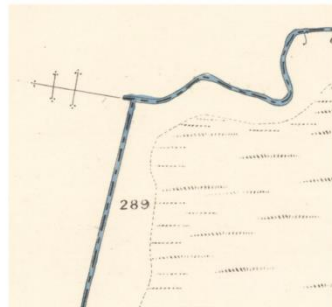
Dumbartonshire (Detached)



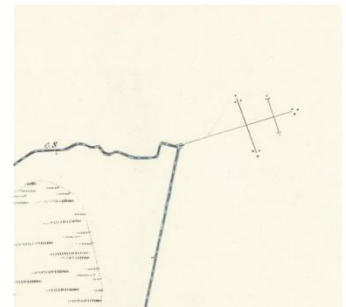
BoR Dumbarton (Det.), Cumbernauld, 1862



Stirlingshire XXXIV.4 (with inset XXXIV.8) (Falkirk)
 Sur. 1860, Pub. 1862



Lanarkshire III.8 (New Monkland)
 Sur. 1859, Pub. 1860



Dumbartonshire, Dumbartonshire (Det.) XXVI.7 (Cumbernauld)
 Sur. 1859, Pub. 1862

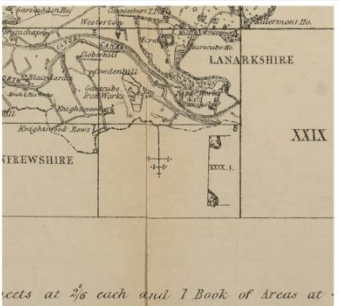
County Junction No. 15

Temple
55.89301,-4.32589
NS 54648 69099



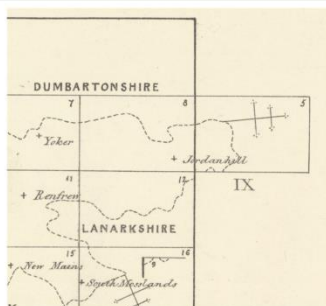
Notes:
 Renfrewshire IX.5 uses a third-order junction symbol.

Dumbartonshire



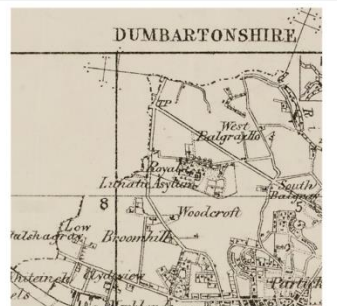
BoR Dumbarton and Stirling, New Kilpatrick, 1863

Renfrewshire

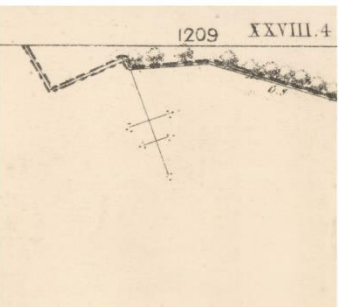


BoR Renfrew, Renfrew, Parcel Numbers 1 to 276, 1859

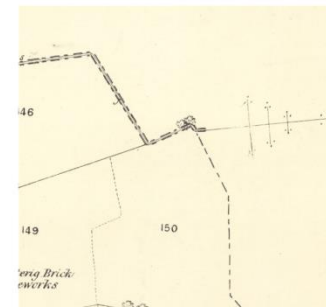
Lanarkshire



BoR Lanark, Govan; also Gorbals, 1861



Dumbartonshire XXVIII.8 (with inset XXIX.1) (New Kilpatrick)
 Sur. 1860, Pub. 1863



Renfrewshire, IX.5 (Renfrew)
 Sur. 1857, Pub. 1859



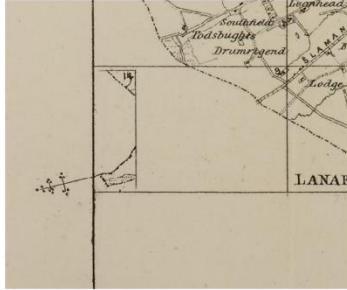
Lanarkshire VI.1 (with inset VI.2) (Govan)
 Sur. 1857-58, Pub. 1860

County Junction No. 16

Whiteside
55.89643, -3.82280
NS 86114 68536

**Notes:**

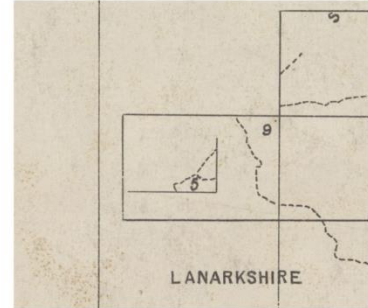
BoR Linlithgow index map (1856) doesn't use a second-order junction symbol but instead shows a considerable length of boundary wandering off into unmapped space. This treatment seems to pre-date the introduction of the junction symbols. The symbol on Linlithgowshire VIII.9 is one of the earliest noted in this assessment of three-way county junctions in Scotland.

Stirlingshire

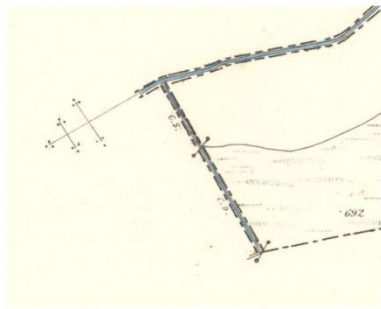
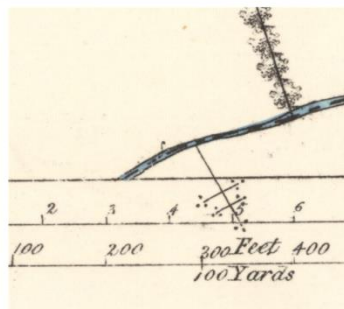
BoR Stirling, Slamannan, 1862

Lanarkshire

BoR Lanark, New Monkland, 1860

Linlithgowshire

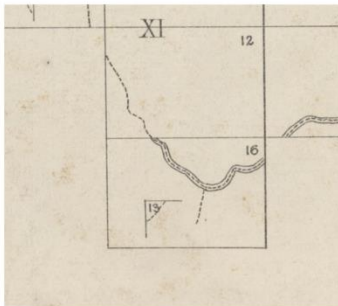
BoR Linlithgow, Torphichen, Parcel Numbers 1 to 259a, 1856

Stirlingshire XXXV.9 (with inset XXXV.14) (Slamannan)
Sur. 1860, Pub. 1862Lanarkshire IV.14 (with extension IV.10) (New Monkland)
Sur. 1858, Pub. 1860Linlithgowshire VIII.9 (with inset VIII.5) (Torphichen)
Sur. 1854-55, Pub. 1856**County Junction No. 17**

Wellhill
55.81490, -3.71530
NS 92611 59291

**Notes:**

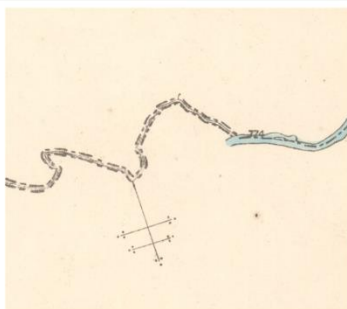
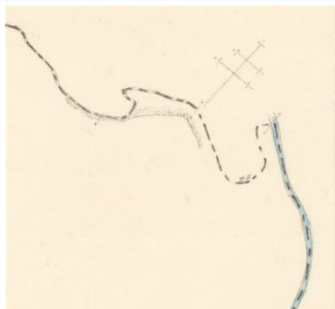
BoR Linlithgow index map (1856) doesn't use a second-order junction symbol but instead shows a considerable length of boundary wandering off into unmapped space. This treatment seems to pre-date the introduction of the junction symbols. The symbol on Linlithgowshire XI.16 is one of the earliest noted in this assessment of three-way county junctions in Scotland.

Linlithgowshire

BoR Linlithgow, Whitburn, Parcel Numbers 1 to 272, 1856

Lanarkshire

BoR Lanark, Cambusnethan, 1860

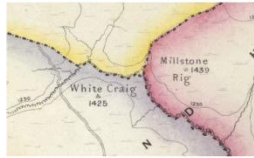
EdinburghshireLinlithgowshire XI.16 (with inset XII.13) (Whitburn)
Sur. 1854-55, Pub. 1856Lanarkshire XIII.8 (Cambusnethan)
Sur. 1859, Pub. 1860

Not mapped at 25 inch scale until 1894.

Not mapped at 25 inch scale until 1894.

County Junction No. 18

White Craig
55.77092,-3.47198
NT 07753 54046

**Notes:**

Peeblesshire IV.7 (1856) shows the Lanarkshire <> Edinburghshire boundary using a small boundary heading into unmapped space, so it seems to pre-date the introduction of junction symbols.

Peeblesshire	Lanarkshire	Edinburghshire
BoR Peebles, Linton, Parcel Numbers 1 to 260, 1856	Not mapped at 25 inch scale (uncultivated).	Not mapped at 25 inch scale until 1894.
Peebles-shire IV.7 (Linton) Sur. 1856, Pub. 1856	Not mapped at 25 inch scale (uncultivated).	Not mapped at 25 inch scale until 1894.

County Junction No. 19

Muir Hill
55.67907,-4.24739
NS 58783 45132

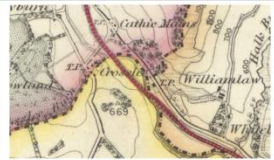
**Notes:**

BoR Renfrewshire index map (1857) uses a primitive first-order symbol rather than a second-order symbol. It may just pre-date the adoption of consistent rules for the use of junction symbols in BoRs.

Ayrshire	Lanarkshire	Renfrewshire
Not found	BoR Lanark, East Kilbride, Parcel Numbers 1 to 279, 1859	BoR Renfrew, Eaglesham, Parcel Numbers 1 to 272, 1857
Ayrshire XIV.12 (Loudoun) Sur. 1856, Pub. 1858	Lanarkshire XXII.11 (East Kilbride) Sur. 1857, Pub. 1859	Renfrewshire XX.3 (Eaglesham) Sur. 1856, Pub. 1857

County Junction No. 21

Bowland
55.64937, -2.86109
NT 45908 39873



Notes:
 Consistent use of second-order junction symbols.

Selkirkshire

Roxburghshire

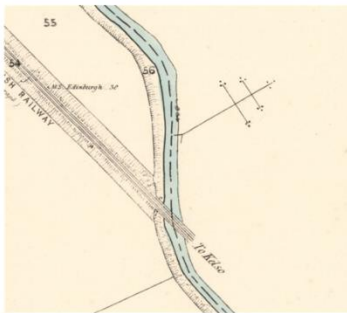
Edinburghshire



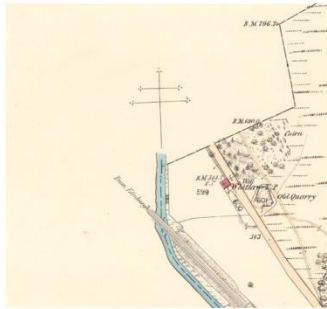
Not found in NLS.

BoR Roxburgh, Melrose, 1861

Not mapped at 25 inch scale until 1894



Selkirkshire III.12 (Stow)
 Sur. 1858, Pub. 1859

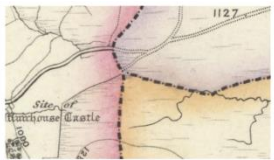


Roxburghshire III.5 (with inset III.1) (Melrose)
 Sur. 1858, Pub. 1861

Not mapped at 25 inch scale until 1894

County Junction No. 23

Muirhouse
55.70014, -2.82811
NT 48051 45498

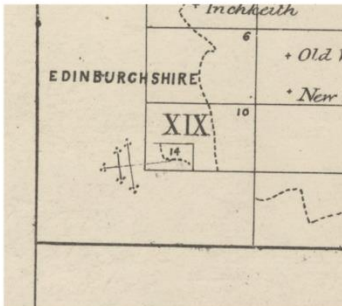


Notes:
 Consistent use of second-order junction symbol.

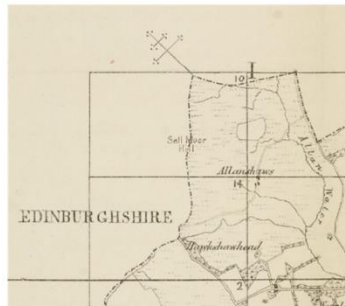
Berwickshire

Roxburghshire

Edinburghshire

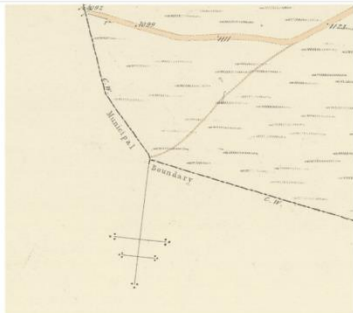


BoR Berwick, Lauder [& Lauder (Det'd)], 1859



BoR Roxburgh, Melrose, 1861

Not mapped at 25 inch scale until 1894.



Berwickshire XIX.10 (with inset XIX.14) (Lauder)
 Sur. 1857, Pub. 1859



Roxburghshire, I.10 (Melrose)
 Sur. 1859, Pub. ca 1861

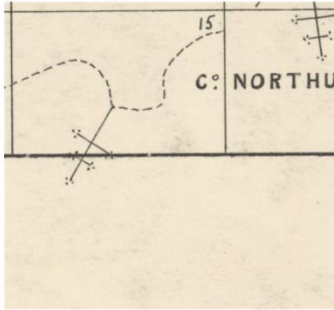
Not mapped at 25 inch scale until 1894.

County Junction No. 24

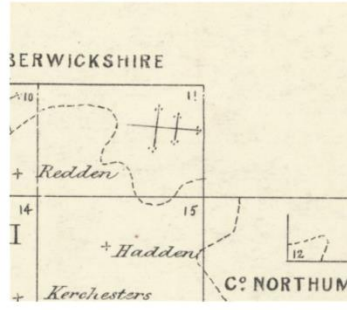
Carham
55.63446,-2.33501
NT 79007 37928

**Notes:**

Berwickshire XXVIII.15 uses a third-order junction symbol.

Berwickshire

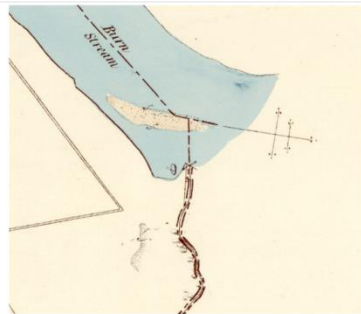
BoR Berwick, Eccles, Parcel Numbers 1 to 278, 1859

Roxburghshire

BoR Roxburgh, Sprouston, Parcel Numbers 1 to 280, 1859

Northumberland

Berwickshire XXVIII.15 (Eccles)
 Sur. 1858, Pub. 1859



Roxburghshire VI.11 (Sprouston)
 Sur. 1859, Pub. 1859

No copy in NLS

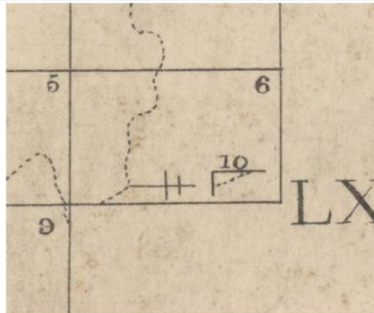
Northumberland (Old Series) VIIIA.16
 Sur. 1860, Pub. ca 1866

County Junction No. 30

Carrick Burnfoot
55.05160,-4.63370
NX 31856 76183

**Notes:**

The BoR index map (1856) uses a primitive second-order junction symbol. It may just pre-date the adoption of consistent rules for the use of junction symbols.

Ayrshire

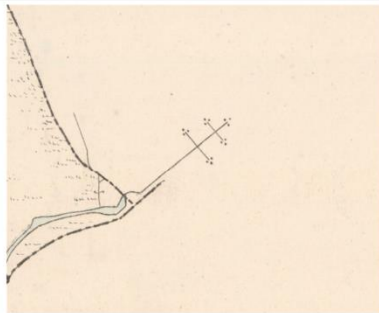
BoR Ayr, Colmonell, Parcel Numbers 1 to 269, 1856

Wigtownshire

Not mapped at 25 inch scale.

Kirkcudbrightshire

Not mapped at 25 inch scale until 1895.



Ayrshire LXXII.6 (with inset LXXII.10) (Colmonell)
 Sur. 1855, Pub. 1856

Not mapped at 25 inch scale.

Not mapped at 25 inch scale until 1895.

County Junction No. 31

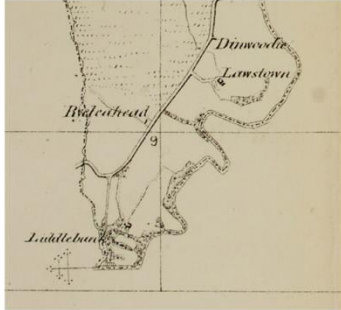
Liddelbank
55.10828,-2.85852
NY 45327 79656



Notes:

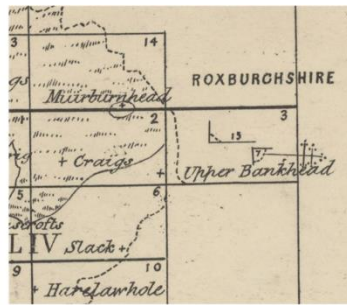
Fourth-order junction symbols have been noted on English sheets where they border; e.g. Scotland and Wales. In this case the Co. Cumberland sheet uses a standard second-order symbol.

Roxburghshire



BoR Roxburgh, Castleton, 1860

Dumfriesshire

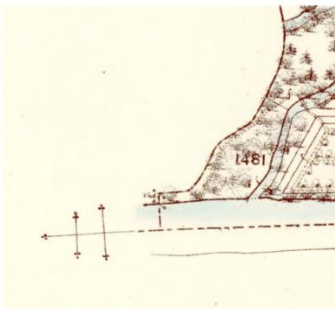


BoR Dumfries, Canonbie, Parcel Numbers 1 to 275, 1859

Cumberland

Not in NLS

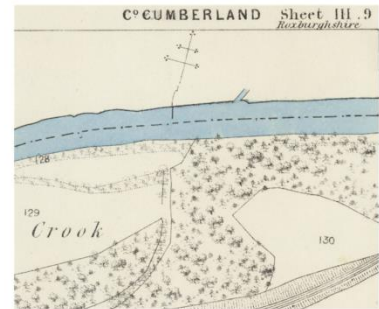
BoR Cumberland, Nicholforest



Roxburghshire XLVIII.9 (Castleton)
Sur. 1857, Pub. 1859



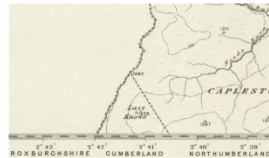
Dumfriesshire LIV.3 (with inset XLVI.15 and LIV.7) (Canonbie)
Sur. 1858, Pub. 1859



Cumberland III.9 (inset IIA.16)
Sur. 1865, Pub. 1866

County Junction No. 32

Scotch Knowe
55.18892,-2.68990
NY 56173 88511



Notes:

Here we see the use of a fourth-order Junction symbol at the Scotland <-> England border on the Co. Cumberland sheet. A fourth-order symbol has also been noted on Cheshire XLVI.9 at the Wales <-> England border.

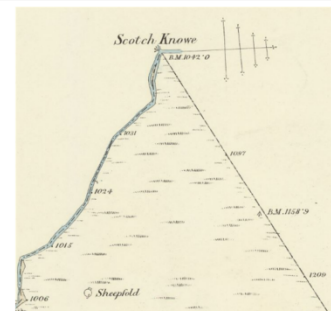
Roxburghshire

Northumberland

Cumberland

Uncultivated area, not mapped at 25 inch scale.

Uncultivated area, not mapped at 25 inch scale.



Cumberland II.2
Sur. ca 1864, Pub. ca 1866