Sheetlines

The journal of
THE CHARLES CLOSE SOCIETY
for the Study of Ordnance Survey Maps

This edition of Sheetlines was published in 2007 and the articles may have been superseded by later research. Please check the index at http://www.charlesclosesociety.org/sheetlinesindex for the most up-to-date references.

This article is provided for personal, non-commercial use only. Please contact the Society regarding any other use of this work.

Published by
THE CHARLES CLOSE SOCIETY
for the Study of Ordnance Survey Maps
www.CharlesCloseSociety.org

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.
Forthcoming events
The Charles Close Society Archives
Copying of OS paper maps by librarians
The Henry Johns award
More maps to view and download
J S Broadhurst and G Foster
Visit to Ordnance Survey
Visit to Ludlow
Unfinished business: the lost Ordnance Survey two-inch mapping of Scotland, 1819-1828 and 1852
Comrade Baranow, the bouncing Czech, Penkilan Head and the World Map
Harmston puzzle corner – the answers
Norfolk airfields
Thumbnail sketches on one-inch map covers from 1945 – part 1
A survey party pose(r)
Further exploration
Interpreting the 1:2500 County Series
The day we went to Aberdeen by way of Wick
Russian maps now widely available
The Cassini Old Series and Past and Present issues
A map in my collection
A few new maps
The Reichsamt für Landesaufnahme: a correction
Kerry musings
Letters
New maps

John Seeley and Mike Cottrell 5
Gerry Jarvis 8
Richard Oliver 9
John Davies 32
David Marris 34
K S Andrews 38
Richard T Porter 43
John Cole 44
Dennis Mills and Rob Wheeler 45
Peter Haigh 49
John Davies 50
Richard Oliver 51
Peter Warburton 57
Richard Oliver 61
John L Cruickshank 62
David Archer 63
Jon Risby 67
**Forthcoming events**

A few places are still available on the following visits announced in *Sheetlines 77*. For further information or to book your place, email visits@charlesclosesociety.org.uk or call John Davies on 020 8504 1766. Unless otherwise stated, there will be a charge of £2 to cover administrative expenses.

**Friday-Saturday 20-21 April, Stirling and Edinburgh**

A must for cyclists, orienteers and hill walkers, as well as anybody interested in alternatives to OS mapping, this trip includes visits to the two leading publishers of outdoor maps. Stirling Surveys produces the Footprint series and works with Sustrans to map the National Cycle Network. Harvey Map Services produces the renowned Mountain map series and others from original aerial surveys. The next day we visit the map collection at The National Library of Scotland where a unique exhibition has been arranged specially for us.

**Friday 18 May, Snowflake Software**

This visit is fully subscribed.

**Saturday 19 May, Annual General Meeting, Ordnance Survey, Southampton.**

Details are being circulated to members in a separate flyer.

**Tuesday-Saturday, 5-9 June, Ljubljana, Slovenia**

Following the 2006 Latvian trip, this is a chance see how another country organises its national mapping. In Slovenia, the state-owned Surveying and Mapping Authority carries out the original surveying, whilst two commercial enterprises publish the maps. We will visit all three, as well as the map room at the National Library to see historic mapping of the country. The trip also offers the opportunity to see some of the best of Slovenian countryside with trips to the Maritime Museum at Piran on the Adriatic coast and the Bohinj valley at the foot of the country’s highest peak. The cost is likely to be around £300-£350 and a deposit of £200 is required on booking.

**Friday evening-Sunday afternoon, 5-7 October, Whitby**

The CCS social event of the year is the traditional autumn weekend to which members are invited to bring their partners. This year we stay at Larpool Hall, Whitby. The hall commands splendid views across the Esk Valley and is
magnificently set within fourteen acres of gardens and woodland. We will have sessions based on mapping associated with topics of local importance, such as mineral mines and tramways, Captain Cook, Count Dracula, St Hilda, and the jet and whaling industries. The full program will be announced at the AGM in May, but as numbers are limited, early booking is recommended. The inclusive cost will be approximately £140 per person, with a deposit of £25 per person payable on booking and the balance payable in August.

The Charles Close Society Archives

The archives catalogue goes online

As we go to press (7 March) we learn that the CCS Archives catalogue should within a month be accessible online. We will give fuller information in the next issue of Sheetlines, but those members eager to use it should keep their eyes on the Access to Archives (or A2A) website [http://www.a2a.org.uk] where the catalogue will be found. We shall as soon as possible provide a link directly to it from the Charles Close Society website.

Arrangements for access to the archive are as described in the Almanack and on the CCS website.

Cambridge University Library refurbishment: warning of service disruption

For a nine month period from July 2007 the Map Department of Cambridge University Library will relocate within the University Library building whilst the department’s accommodation (which has been largely untouched since the Library opened in 1934!) is refurbished. This will entail the reconfiguration and upgrading of the Map Department’s reading room and an improvement to environmental conditions.

Unfortunately, it is inevitable that during the refurbishment we will only be able to offer a limited service. In particular, some of the map collection – including much of the Charles Close Society Archives – is stored in the immediate vicinity of the work and, since it will not be possible to relocate these items, access to them will be restricted. It is also likely that the Map Department will close for a short period at the beginning and end of the refurbishment.

Once more details are known these will be posted on the University Library web pages: http://www.lib.cam.ac.uk/deptserv/maps/refurb.html. In the meantime do bear this in mind if you are planning to visit Cambridge University Library Map Department.

Anne Taylor, Head of Map Department
Tel: 01223-333041; Fax: 01223-333160; aemt2@cam.ac.uk

Wanted

Members may be interested to know that we are trying to place in the CCS Archives complete runs of catalogues issued by dealers in second-hand OS maps. If anyone has copies of any of the following that he or she would be prepared to donate, we should be most grateful.
We are still looking for copies of:

Cartographics catalogue no.3, which is thought to be in the form of an A4 Sales List No. 3.


If you can help, please contact Anne Taylor, as above.

**Copying of OS paper maps by librarians**

Following discussions with representatives of the library and archive community, OS has clarified the scope for copying Ordnance Survey maps held in public libraries across Great Britain in guidance issued on 1 November 2006.

The guidance, published in collaboration with LACA – the Libraries and Archives Copyright Alliance – is designed to help anyone who seeks to copy **in-copyright** Ordnance Survey mapping held by public libraries and archives. It covers photocopying, scanning and tracing of paper maps and the printing of extracts from electronic map data.

The guidelines for library and archive staff now available from the OS website point out that Ordnance Survey maps are artistic works and as such are not covered by section 39(1) of the Copyright Designs and Patents Act 1988 (‘the Act’) which relates to the copying of published copyright works by librarians.

Ordnance Survey confirms that notwithstanding the above it will not object to the copying of paper maps or the production of prints from electronic data by librarians provided that the prescribed conditions set out in section 39(2) of the Act are complied with, namely:

i. that copies are only supplied to persons satisfying the librarian that they require the copy for the purposes of research for a non commercial purpose or private study and will not use them for any other purpose;

ii. that no person is given more than one copy of the same material or with a copy of more than a reasonable proportion of any work, and

iii. that the person to whom copies are supplied is required to pay for them a sum not less than the cost (including a contribution to the general expense of the library) attributable to their production.

In addition to the prescribed conditions set out in section 39(2) Ordnance Survey requires that each copy is accompanied by an acknowledgment in the following form (unless such acknowledgement is impossible for reasons of practicality or otherwise):

© Crown Copyright. Reproduced by permission of Ordnance Survey®.

With regard to paragraph (ii) above, in appropriate circumstances Ordnance Survey will not object to a maximum of four copies of the same map extract being made with each individual copy no larger than 625 sq cm (A4), provided the other requirements of section 39(2) of the Act are satisfied.

In exceptional circumstances Ordnance Survey may allow the copying of a single extract larger than A4 provided it is for a non commercial purpose or private study only.

Any questions in relation to the above should be directed to the customer help line, 08456 05 05 05.
The Henry Johns award

The Henry Johns Cartographic Journal Award is made each year to the author of the most outstanding article published in *The Cartographic Journal* as judged by the editorial board and the president of the British Cartographic Society. We are delighted to congratulate our founder and first member, Yolande Hodson, on winning the 2006 award for her paper in volume 42 issue 2, ‘Coloured roads on Ordnance Survey first edition 1:2,500 plans and one-inch maps 1897-1935, and the rights of way disclaimer’.

More maps to view and download

In addition to the websites providing Soviet mapping mentioned by John Davies on page 50 and those providing UK mapping given by Richard Oliver on page 56, two others providing freely viewable copies of published mapping have recently come to the editor’s attention:

www.british-history.ac.uk is a digital library containing some of the core primary and secondary sources for the medieval and modern history of the British Isles. Built by the University of London Institute of Historical Research and the History of Parliament Trust, it offers not only such useful resources as online versions of the Victoria County Histories, but also a comprehensive set of nineteenth century Ordnance Survey County Series six-inch mapping. In addition, much of central London and some twenty other cities are covered by 1:2,500 scale mapping of a similar vintage. The interface to the maps is fast, probably faster than www.old-maps.co.uk, but rather clumsy.

www.mapywig.org aims to collect and make publicly available scanned maps and other materials published by the Wojskowy Instytut Geograficzny (WIG), the Polish ‘Military Institute of Geography’, which existed from 1919 until 1949, during Poland’s independence. The bilingual site allows an English-speaking user to download sheets from an increasing collection of copies of Polish topographic maps of this era at scales from 1:25,000 to 1:300,000. These provide a fascinating contrast to OSGB maps of the same period.

J S Broadhurst and G Foster

John Cole has kindly sent copies of two good articles about life as an OS Surveyor. ‘The Scilly season’ by J S Broadhurst, WRO 8B, was published in OS News in April 1979, while ‘The chain gang’ by G Foster, S3 Training Branch, appeared in March 1981.

Either article would stand reprinting in a future issue of *Sheetlines*, but both are still in copyright. John’s contact at Ordnance Survey is unable to help as, not surprisingly after this time, neither of the authors is still employed by OS.

Please can anyone put the editor in touch with either author or their relatives?
Visit to Ordnance Survey

John Seeley and Mike Cottrell

A select group of the Society (Gerry Jarvis, John Brennan, Frank Prest, Aidan and Ruth de la Mare, Mike Cottrell, Rod Sladen, John and Val Seeley) visited Ordnance Survey on 10 August 2006, perhaps for nearly the last occasion in its present building. Our group had travelled variously from as far as Manchester, deepest East Anglia and even overseas (well, the Isle of Wight), overcoming bomb alerts at airports and other difficulties. Faye Hutton of the OS hospitality staff met us at 10.30 with a full programme, hot coffee and a dazzling smile, and then shepherded us immaculately through a long day, during which not less than twelve OS staff members gave us their undivided attention for a period.

OS headquarters receives its guests in a conference suite with reception area, exhibition-buffet area and a lecture room all luxuriously appointed and available for the entire day. After refreshments, which included the usual excellent pastries, Jon Sims, archive relocation leader, introduced Richard Short. Richard talked to us about the theodolite being the workhorse of OS, and the retriangulation that had taken place from 1936 onwards. We were shown a mock up of a trig. pillar made not from stone and concrete but wood and plaster. The serial number on the plate was 10695; this was never issued for an actual location. There are still about 1,000 trig. pillars in use today forming part of the GPS national network. Jon then showed us around the antiques and curios exhibition. Amongst the many items on display, we saw a sharpened brass gramophone needle used as a scribing tool before the advent of factory cut sapphires. He explained how each scribe would take several days to complete a litho plate. Finally, we saw a Begg’s ball, a high-tech ping-pong ball hollowed out to take a 12-volt bulb. These were used for night work on trig. pillars.

Jon had also brought heaps of six-inch maps from the County Series edition of 1894-96, reproduced on thick cartridge paper for the bicentenary, full and quarter-sheets both, for us to browse and then take home: which we did! The programme proper then began, with sit-down presentation lectures, three tours, shopping opportunity and interspersed with buffet luncheon provided by the hosts. Our lecturers were John Cartledge (Licensed Partner Sales Manager) on ‘Ordnance Survey year in brief’ and Chris Parker (Research Manager) on ‘Research and innovation’. Robert Gower, programme manager, was also ready to speak on the Derived Data Programme but, unfortunately, as we were overrunning our time this presentation had to be cut.

Our tour guides were Andy Gilbert (OS Specific Training Manager) for a surveying demonstration, Dave Kaye (Print and Distribution Manager) and colleagues for a tour of the print floor and Pete Clark, the archive supervisor, for the visit to the Historical Mapping Archives.

John Cartledge explained how OS worked with their partners and the panel that had been set up to make decisions and policies relating to local government...
bodies. He also described the progress that had been made in handling pan-European matters. In closing he indicated that the planned move to purpose-built offices at Adanac Park, about one mile away, would be completed by late 2008 or early 2009. The print and warehouse facilities would be rehoused on an industrial site within the Southampton area.

At the end of John’s presentation, we went outside to the front of the main building where we were introduced to Andy Gilbert, who gave us a surveying demonstration. He was wearing a backpack with two camcorder batteries inside: good for several hours electrically but weighing heavy on the surveyor. The attached aerial was capable of receiving signals from five satellites. The kit displayed a map of the area on the laptop screen, which was fastened around his body by straps to keep it in a horizontal position. Andy then proceeded, by taking about five readings, to plot a short piece of kerb around the edge of the car park. By manipulating the data via the keyboard or Leica kit he was able to display the results on the screen. Andy is responsible for the training of new surveyor recruits and this takes between six to nine months. The latest intakes of recruits were all graduates. How times have changed!

For most of us this was the day’s most enjoyable moment, especially for him (her!) who held the surveying pole whilst Andy plotted the point on his computer: the pole of course carrying an elegant sat-nav conical aerial at the top and an earth connection at the bottom. He showed us several ingenious features, such as how to survey close up to a tall building. His fluorescent jacket, barber-striped pole and tin-man aerial were a glorious sight.

From the lectures we learnt many new slants as to how OS will be packaging their data on paper, electronically, and on-line, handheld or whatever. Progress continues breakneck. Not all of the newer data presentation is palatable: a handheld street map, which shows who we all are, where we all live and most other things about us, grated rather. However it is certain that the mapping and other spatial data unique to OS will be increasingly put before the public with better access than ever, and the younger citizenry like it very much.

We later returned to current, and even historical topics. The print tour (Dave Kaye and the other two Daves) was as enjoyable as ever, and since neither massive printing machine was running we could hear every golden tidbit. Because of removal to the new site this was the last time the Charles Close Society will have the privilege of enjoying the present print room, with a full description of offset photolitho. Indeed although there will only be one
machine after removals, this will still give formidable capacity for foreseeable requirements. Many of the various Government agency requirements additional to those of OS were in view on the day (some of our group would dearly love to spend a week in the room getting over-age ‘work experience’ in the mysteries).

Last of all there was the Historical Archives tour (Clark and colleagues). This was a first for CCS, and is reached high up in the older building after a long walk. Because of the destruction of much material by enemy action in WW2, as we know, the archives are inevitably incomplete but nevertheless with fascinating treasures not in other depositories. The ambition is to hold complete sets of all published six-inch and 1:10,000 series maps and to catalogue these: they are well on the way to this. In its remotest corner we stumbled on CCS stalwart Roger Hellyer, who was beavering away, as he often must do, on archive search. It would be difficult to guess whether Roger or our visiting group were the more surprised. This archive tour was most welcome to us as further insight into OS activity not previously seen. We wish it well and any publication it may do.

Then a final visit to the map shop: opened especially for us with a mouth-watering discount to which we paid full justice. After that, a concluding tea and coffee session, and away. Thank you very much, Ordnance Survey and its tireless staff, as exemplified by the marvellous Faye Hutton: a day to remember.

**Pressing matters**

There have been some worries about Ordnance Survey’s continued commitment to paper maps, but a recent OS news release announces that on 18 December 2006, Vanessa Lawrence officially pushed the ‘on’ button of a massive new £2 million printing press at the Southampton head office.

The six-colour printing press is one of the largest in the country. Capable of printing 14,000 very large paper sheets every hour, the press was built in Dresden by the Koenig & Bauer Albert Group, and was delivered on six large articulated trucks. It weighs approximately 130 tons and took eight weeks to install on a specially prepared floor.

Dave Kaye, Print and Distribution Manager, said: “This new press brings added efficiency to our printing, and although the majority of our mapping is made available as seamless digital data these days, we still print over five million paper maps every year”.
Visit to Ludlow

Gerry Jarvis

A dozen members met up in Ludlow on 17 February to have a look at some of Rod Leary’s map collection.

Three of us from the North West were a little late in arriving, due to the cancellation of our train, but we were met on arrival at the Ludlow Assembly Rooms by a large room filled with three rows of tables laden with maps, with Rod describing the contents.

This first collection contained no OS maps, but was a demonstration of cartographic capabilities from Christopher Saxton onwards, not omitting the Hereford Mappa Mundi. We were fascinated to learn that the only British peak shown on Mappa Mundi is Ludlow’s local eminence, Clee Hill. Rod had on display examples of all the well known cartographers through to the nineteenth century, including some quality examples of my favourite cartographer, John Cary.

I suspect most of us have problems viewing our collections, so that we can compare various maps, and I suspect that even for Rod it must have been an unique opportunity to see some of his collection. One of his themes was the way in which successive cartographers used the work of previous cartographers, with or without acknowledgment, and this was well demonstrated with the space available.

Soon we were invited to take a break for lunch, with the option of an excellent café within the building, whilst Rod took the opportunity to undertake a complete replacement of maps. When we returned we discovered an OS display, filling again all the tables, and containing many examples of early, rare and unusual early OS maps. My favourite map from this display was an excellent condition cloth-backed Salisbury Plain dating from mid-nineteenth century, with no trace of any military occupation of Larkhill or Bulford.

Later Rod suggested it was an opportunity for another complete change of display, and we were treated to yet more interesting OS maps.

All too soon it was time to leave, so that Rod could remove his maps from the building before 1700. Having been involved with visits for many years, I am only too well aware how much work is involved, not only in setting up a display on the day, but the amount of preparatory work before the event. So Rod is to be congratulated for his efforts to give us an excellent day. And we saw nothing of Rod’s real love of Irish mapping, so I am looking forward to the next visit to Ludlow.

Right to roam

Walk, the magazine of the Ramblers’ Association, has been running a competition to find the National Grid square in England or Wales with the greatest length of rights of way. The Spring 2007 issue congratulates Ian Backhouse and Chris Moore on nominating the winner, SE 0028, near Hebden Bridge, seen here from Landranger sheet 104, A/*/F/*/ edition of 1988, © Crown Copyright NC/00/1340
Unfinished business: the lost Ordnance Survey two-inch mapping of Scotland, 1819–1828 and 1852

Richard Oliver

An obscure episode, and nothing to show for it

It is perhaps understandable that maps that exist and can be seen tend to excite more general interest than those that do not, and that the Charles Close Society receives its support for studying what the Ordnance Survey has produced, rather than what is has not. Therefore the indulgence of at least some readers is craved for this exploration of two of the less-known episodes of OS history.

The only relatively recent mentions of the survey of some 930 square miles (about 2,400 square kilometres) of south-west Scotland undertaken between 1819 and (nominally) 1828 are in one of the chapters written by E J S Parsons for the semi-official history of the OS published in 1980, and in passing by the present writer in his Concise guide. Sir Charles Close makes no mention of the episode in The early years of the Ordnance Survey, written in the mid-1920s. Although Parsons made some use of the main surviving source for the episode, the Ordnance Survey letter-book of circa 1817-1822, he by no means exhausted its possibilities, even allowing for the restricted space at his disposal. A more thorough study was started by J B Harley, who made some preparations for an article in 1971, provisionally entitled ‘A “forgotten” Ordnance Survey of South-West Scotland, 1819-1827’, but, as he remarked to me in 1983, after I had borrowed his file of notes on the subject, ‘I am glad you like the Scottish episode: one of many started but unwritten papers with which my life is littered’. It is quite possible that had Brian Harley lived longer and been able to complete his contemplated drawing-together of work on the Ordnance Survey one-inch Old Series family of maps, provisionally entitled The first national survey, it would no longer have been an untidy unfinished episode in his writing. As it is, it falls to one of his collaborators on the Old Series work to investigate this untidy, unfinished episode in OS history, together with an even less-known episode later in the nineteenth century.

The bare bones of the story can be related in a short paragraph. The survey of Scotland, for publication at the one-inch (1:63,360) scale, was authorised in May 1819, and entrusted to Captain John Hobbs and three subalterns. It was officially discontinued in May 1828 after some 930 square miles in Wigtownshire and part of Ayrshire had been mapped at the two-inch (1:31,680) scale. There is no evidence that the work ever progressed beyond the manuscript stage, and the drawings were destroyed by enemy action in 1940. In 1843 the OS began surveying Scotland at the six-inch (1:10,560) scale, once again starting in

3 Harley to Oliver, 12 December 1983: original at present in addressee’s papers: quoted on page 4 of ‘R R O’, ‘Brian Harley, 1932-1991: Historian of the Ordnance Survey – and much else’, Sheetlines 33 (1992), 1-8. In context: ‘I’m glad you like the Scottish episode: one of many started but unwritten papers with which my life is littered. I would be very happy to make this a joint paper … My original intention was to offer this to the Scottish Geographical Magazine but I also believe that it would make a nice short paper for the Cartographic Journal. I think it should stress the new details – and consequently any varying interpretations – which are not in Seymour …’
Wigtownshire. In 1852, following the investigation of OS work by a House of Commons select committee, the two-inch scale was reverted to, and about 500 square miles (about 1,300 square kilometres) in the counties of Lanark, Haddington and Berwick were surveyed at this scale but, again, none of this was published. In October 1852 survey at the six-inch scale recommenced. Publication of one-inch mapping of Scotland, based on these six-inch and larger-scale surveys began in 1856 and the unpublished two-inch surveys lost whatever raison d’être they had ever had. So far as the student of extant mapping is concerned, both Scottish two-inch episodes are irrelevant.4

**The authorisation of the survey and the military element**

The survey was authorised by the Duke of Wellington on or shortly before 20 May 1819: it was to be ‘commenced with all proper speed’.5 He was both Master-General of the Ordnance and the nation’s most distinguished military commander. So much is clear; what is less clear is when the project first began to be discussed. Parsons suggested that it was put in hand because of lobbying of Wellington by friends in Scotland, and latter references, particularly relating to Ayrshire, certainly support this. However, nothing seems to survive in the Wellington Papers that would provide any better indication of this.6 It is possible that the idea had been talked about for the previous few months, if not for years: Brian Harley noted that there were advertisements in *The Scotsman* between February and May 1819 for Arrowsmith’s *Atlas*, Thomson’s *New General Atlas* and Daussauville’s *New Travelling Map of Scotland*.7 Whilst, as we shall see shortly, these come too late to suggest any direct connection with the authorisation of the Scottish survey, they do come at a time when topographical mapping was, dare one say, a relatively fashionable subject. The Greenwoods had published their 1:84,480 map of Yorkshire in 1817 and their 1:63,360 map of Lancashire in 1818, and in 1819 were at work in Cheshire and Middlesex; in 1816-18 1:63,360 or 1:42,240 maps of Lanarkshire and Linlithgowshire (both by Forrest), Stirlingshire (by Grassom) and the Edinburgh district (by Kirkwood) were published; and in 1817 the Lincolnshire gentlemen approached the Board of Ordnance with a view to the mapping of that county being expedited.8 Whilst there was a combination of Ordnance and commercial

---

4 Thus this essay is ‘history for history’s sake’, mere intellectual curiositiy, rather than history designed to illustrate some social purpose, or inform current debate: not that the latter category seems to be a very significant element in cartographic history.

5 Perhaps it epitomises the whole episode that the precise date is not recorded; the earliest mention is Mudge to Mann, 20 May 1819, copied in the Ordnance Survey letter-book of circa 1817-22 now in The National Archives (Public Record Office) (TNA PRO), OS 3/260 (hereafter OSLB), 8. Most of the notes on the letter-book for this essay were made in 1971 by Brian Harley and checked and augmented later by the present writer. The letter-book is composed of transcripts of incoming and outgoing letters to and from the Ordnance Map Office in the Tower, of which the earliest date from 1799 and the latest from July 1822, and is by no means free of apparent clerical errors of transcription. I have suggested elsewhere (Richard Oliver, ‘The sheet sizes and Delamere sheet lines of the one-inch Old Series’, *Sheetlines* 77 (2006), 27-51, 47) that the letter-book was started at about the time that Thomas Colby was appointed Superintendent of the survey in mid-1820; therefore the earlier entries would be copies from some other source, presumably now lost.

6 Seymour, *A history*, 103. The Wellington Papers are now at the University of Southampton; some of them, including the correspondence covering the period of the survey of south-west Scotland discussed here, have been calendared and made accessible via the internet: see the University of Southampton website.

7 *The Scotsman*, 20 February and 10 April 1819 (for Arrowsmith), 6 March (Thomson), 25 May (Daussauville) [references from Brian Harley’s notes in file ‘Scottish Survey 1819-1827’, seen and transcribed by writer, November-December 1983].

activity in England, in Scotland there was only commercial activity, and then only in the
centre – perceptual as much as geographical – of the country. Thus there was motive and
opportunity for Wellington’s friends to bend his ear, but it is not clear if they added to his in-
tray as well.

In 1819 the head of the Ordnance’s surveying and mapping activities was Major-General
William Mudge of the Royal Artillery (1762-1820), whose responsibilities were much more
wide-ranging, including Lieutenant-Governor of the Royal Military Academy at Woolwich
and public examiner of the East India Company’s academy at Addiscombe.\(^9\) Indeed, the first
mention of the authorisation of the survey of Scotland is in a letter of Mudge’s written from
Woolwich, applying for Royal Engineer officers to be selected for it.\(^10\) Much of the day-to-
day running of the Ordnance Survey was left to his effective second-in-command, Captain
Thomas Colby (1784-1852). Trigonometrical work in Scotland, designed to facilitate
topographic survey, but not conducted as an integral part of it, had been started in 1809,
continuing that in progress in England and Wales since 1784, and in the summer of 1818
Colby spent several months on this operation. The earliest mention of a Scottish topographic
survey scheme is in a letter of Colby’s of 13 February 1819, where he discusses pay and
allowances for surveying in Scotland by military personnel, more specifically officers who
would survey and draw the plans, and soldiers who would assist with the more humdrum
aspects of fieldwork:

… The highlands of Scotland are as yet in so wild and uncultivated a state, that the
advantages of procuring lodgings can seldom be obtained: Persons surveying amongst them
will therefore have to reside principally at the stagehouses, the average expenses of which
are as follows: Breakfast – 2s, dinner 2s,6d, Porter 1s per bottle, Wine 3s,6d per pint, tea 2s,
Waiter & Chambermaid 2s, Horse’s hay and corn 5s, and servants living 5s, and bed 2s per
night making together £1.5s per diem.

Chaises may be obtained to travel the highland roads at £1.16s.6d per diem, but if the
Innkeeper is required to bear the expenses of the driver and horses on the road, the regular
charge is £2.12s.6d.

In the survey of some parts of the highlands it will be requisite to pitch tents from the total
want of accommodation of any other kind. For this reason, and on account of the difficulty
of obtaining men for carrying theodolites, drawing chains and otherwise assisting on the
survey, it will be advisable to attach two soldiers to each person employed. These soldiers
will require allowances to the amount of 3s per diem in addition to their subsistence to
enable them to meet the expenses they must necessarily incur.

… From the nature of the highlands of Scotland it would be out of the question to attempt
Surveying among them in the cold season of the year; and as the soldiers would not be
needed when the plans were drawing, I see no reason to estimate the additional expense of
each soldier… at more than £30 per Annum at the outside.

The officers would be paid at the rate of 32s.6d. (£1.625) per square mile; Colby
assumed that 180 square miles (466.2 sq km) per annum would be ‘performed by a good
surveyor’, implying an annual payment of £292.10s (£292.50) or 16s (£0.80) per day. This
was based on experience in England where surveyors ‘have most commonly the advantage of

\(^9\) Seymour, A history, 25.
\(^10\) Mudge to Mann, 20 May 1819, in OSLB, 8.
procuring lodgings’.\textsuperscript{11} All these details no doubt reflected Colby’s recent experiences on trigonometrical work in Scotland, where, in order to obtain suitably wide views, many of the stations were on mountain-tops; no doubt surveying in central Scotland could take advantage of inns, though some of those in the highlands left a little to be desired.\textsuperscript{12} Presumably it was with a digest of such data in mind that Wellington authorised the survey some three months later.

A striking point is that Colby discusses the projected survey in terms of using military rather than civil personnel. Granted that the Board of Ordnance was a military body, even if outside War Office control up to 1855, and that those with oversight of its surveying and mapping activities were all commissioned officers, nonetheless much of the manpower was civilian, particularly after 1817. In 1800, during the French wars, the corps of Royal Military Surveyors and Draughtsmen (RMSD) had been formed, comprising the surveyors and draughtsmen in Ordnance service, together with further recruits, but this was disbanded in 1817, and the minority of men who were needed for mapping in Great Britain were re-employed once again as civilians.\textsuperscript{13} Much of the two-inch survey in England and Wales between the late 1780s and the 1820s was made either by RMSD or ex-RMSD men. Given the post-1815 run-down of military operations, together with the civilianised ex-RMSD presence, and the evident strong civil interest in topographic mapping, it seems at first odd that a ‘military’ survey of Scotland should have been contemplated in 1819, but this may in turn paradoxically provide the answer. The ending of a major war, such as that of 1793-1815, results in a considerable surplus of skilled military manpower, including young officers who have been trained as the war draws for a close and for whom there is little to do afterwards. The remaining ex-RMSD could be usefully employed in England and Wales, but the opportunity of beginning a new survey in Scotland, now in prospect, could also be the opportunity for introducing a new type of topographic survey organisation, staffed entirely by serving military, rather than by partly militarised civilians. This was the intention when the survey of Ireland was put in hand in 1824, and in this light the arrangements contemplated for Scotland in 1819 assume considerable importance in the evolution of OS organisation.\textsuperscript{14}

**Officers are posted and the survey starts**

As already mentioned, immediately following Wellington’s authorisation of the work, Mudge applied for the services of six Royal Engineer officers, four of whom were to be employed on the detail survey in Scotland, and the other two of whom were to serve under Colby at the Ordnance Map Office at the Tower of London, nominally on trigonometrical work. So far as the record goes, the two officers nominally on Scottish trigonometrical work in London were either not appointed or else were used on other work.

The first officer to be appointed, on 26 May 1819, was Captain John Hobbs. He was commissioned as Second Lieutenant on 1 January 1804; if he was aged about eighteen or nineteen at the time, then he would have been contemporary with or a little younger than

\textsuperscript{11} Memorandum [n.d., by Colby], and Colby to ‘Dear Sir’ [Mudge], 13 February 1819, in TNA PRO WO 55/960.

\textsuperscript{12} On highland inns see A R B Haldane, *New ways through the glens*, 1962 (reissued Colonsay: House of Lochar, 1995), 177-83.

\textsuperscript{13} For the RMSD see Seymour, *A history*, 48-50, 53, 55.

Colby. Hobbs was promoted to Lieutenant on 20 July 1804, to Second Captain on 24 June 1809 and Captain on 21 July 1813. An early example of his work is a contribution to a three-inch (1:21,120) survey of part of the New Forest - Calshot area.\(^{15}\) As Brian Harley observed, by the time he was sent to Scotland Hobbs was an engineer and military surveyor of considerable experience.\(^{16}\) On 4 June three lieutenants were placed under him. James Conway Victor had been appointed Second Lieutenant in 1810 and Lieutenant in 1811, and had served in the Peninsula in 1813-14; he would be promoted to Second Captain on 19 June 1821, Captain in 1834, Lieutenant-Colonel in 1846 and full Colonel (RE) and Major-General (army) in 1854, dying in Edinburgh in 1864. Thomas Battersbee had been commissioned as Second Lieutenant in February 1813 and Lieutenant in July 1813; he would be promoted to Second Captain in 1829 and Captain in 1837. Henry Lowe Renny was commissioned as Second Lieutenant in July 1813 and Lieutenant in December 1813; he would be invalided from the Royal Engineers in 1826, retired on full pay in 1831 and died in Montreal in 1867.\(^{17}\)

Hobbs’s team was therefore young, around their mid to late twenties, but not inexperienced. It may be noted here that promotion in the Royal Engineers at this time was by seniority, and depended on a vacancy being created by promotion or removal, which explains why such able men as Robert Kearsley Dawson and Thomas Aiskew Larcom were still lieutenants when in their late thirties. It was possible to purchase a higher rank in the army, but this again would depend upon the availability of a commission to purchase.\(^{18}\) In February 1819 Colby had referred to the use of common soldiers for labouring; there is no record, at any rate known to this writer, whether this was in fact done, or whether some other arrangement was made. So far as the written record goes, Hobbs, Victor, Battersbee and Renny surveyed alone; of their chainmen there is not a whisper.

By 1 July 1819 all four were stationed at Stranraer.\(^{19}\) Over the next few months the only extant reference to their activities is a routine one to their wine allowance. The three lieutenants were to be paid 32s.6d per square mile ‘in addition to their usual home Extra Pay’, and the first group of bills, for some 203 square miles (about 525 sq km) around Stranraer, and representing topographic survey by all four officers, were received by the Ordnance in April 1820. Although he apparently took a hand in the detail mapping, in the returns Hobbs is noted as having responsibility for the triangulation, general superintendence and ‘the accuracy & correct delineation of the plans’.\(^{20}\) The survey was presumably made along the same lines as in England and Wales, i.e. by traversing along roads and streams, but the relative frequency of references to theodolites and trigonometrical points suggest that the geodetic control may have been more rigorous and more closely integrated with the detail survey than in England and Wales at this time.\(^{21}\) For example, in July 1820 Colby wrote to Hobbs:

\(^{15}\) TNA PRO MPH 1/580.

\(^{16}\) Note in file ‘Scottish Survey 1819-1827’.

\(^{17}\) These biographical details are recorded in T W J Connolly, ed. R F Edwards, Roll of Officers of the Corps of Royal Engineers from 1660 to 1898, Chatham: Royal Engineers Institute, 1898. (Photocopy in TNA PRO library, 358.2 ROL oversize.)

\(^{18}\) I am indebted to Yolande Hodson for clarification on Royal Engineer promotions at this time.

\(^{19}\) The various postings and movements are recorded in the monthly returns in TNA PRO WO 17/2756: I have used Brian Harley’s notes.

\(^{20}\) OSLB: wine, 53; extra pay, Mudge to Mann, 20 May 1819, 8; bills, 29; monthly report for April 1821, 301-2.

\(^{21}\) The use of traversing is confirmed by the reference to linear miles in the monthly returns: see e.g. monthly report for February 1821: copy in OSLB, 234.
In regard to the Theodolite, I agree with you that a new one will be hereafter advantageous for breaking up the long sides to the north [i.e. the secondary triangulation], but as I understand from Mr Gardner\(^22\) that you already possess what the Instrument Makers call a best Theodolite, and the sides in the before mentioned country are generally short, I should think it sufficient for the present purpose. The new Theodolite for fixing points must be made on purpose, no such thing being kept ready made, and as I have recently had a great many applications to make to the Board I am not desirous of adding this to their number until the progress of the work demands it.\(^23\)

In March 1821 Hobbs wrote to Colby:

On reference to the angles with which I was furnished I find the following stations named viz. Brown Carrick, hill of Holina, Fishkerton, Arran, Benn Tuck, Carneleigh, Girvann, [dot in circle] near Misty Lane [?], Rule [dot in circle].\(^24\) You are of course the best judge of the advantage I should derive from having the angles taken from all or any of these stations and I am persuaded you will let me have them.\(^25\)

On 3 April 1820 Colby applied on Mudge’s behalf for another lieutenant, to ‘materially expedite’ the work, though he was not allowed to argue further that the additional expense would be ‘comparatively small’ or to suggest that the new appointee be placed on trigonometrical work, in order that a subaltern with recent trigonometrical experience could be sent to Scotland ‘to assist very materially in fixing the Points requisite to ensure the accuracy of the Plans’.\(^26\) This suggests that Hobbs and his juniors had found in their first surveying season that existing (secondary?) triangulation in their area of operations was inadequate. However, Wellington refused the application and, in retrospect, this can be seen as the start of the decay of the survey of Scotland. In acknowledging this, Colby made an unexplained remark as to ‘the difficulty which rendered it my duty to make the request’.\(^27\) Against this, an application for a tent was more successful:

As the Officers employed on the Interior Survey of Scotland are now about to commence the highland district in Galloway where their duty will require them to be frequently in situations where they cannot avail themselves of the accommodation of Inns or Houses without very considerable loss of time, I … request … a Captain’s Marquee to be … forwarded to Captain Hobbs … at Portpatrick.\(^28\)

At the same time the recently published mapping of Kent and Pembrokeshire was being advertised as part of ‘the General Survey of Great Britain’.\(^29\)

\(^{22}\) James Gardner, who was in charge of trigonometrical computations at the Tower.
\(^{23}\) Hobbs to Colby, 21 July 1820: copy in OSLB, 82-3.
\(^{24}\) [Brown Carrick Hill is south-west of Ayr, NS 283159 and ‘Arran’ is presumably Goat Fell (the highest point), NR 991416 I have not identified any of the others, but no doubt the orthography is unhelpful when used in conjunction with modern mapping and gazetteers. The use by the OS of orthography for trigonometrical stations and county origins which was evidently recorded at the time of the trigonometrical observations and is at variance with that obtained by more rigorous methods and subsequently employed has been remarked upon by Brian Adams: see his observations on ‘Ordnance Survey’s most inaccurate maps (?)’, *Sheetlines* 26 (1989), 15-20, esp. p.20, reprinted in Brian Adams, *Projections and origins*, London: Charles Close Society, 2006, 59-95, esp. pp 64-5, where he noted that the geodetic ‘Brown Carrick’ (used as the origin for County Series 1:10,560 and larger scale mapping of Ayrshire) was ‘Brown Carrick Hill’ on current OS mapping.]
\(^{25}\) Hobbs to [Colby], 2 March 1821: copy in OSLB, 241.
\(^{26}\) Copies of Colby to Mann 1 April 1820 (withdrawn), and 3 April 1820 in OSLB, 20.
\(^{27}\) Handfield to Colby and reply, 11 and 12 April 1820: copies in OSLB, 26.
\(^{28}\) Colby to Crew and reply, 5 and 7 July 1820: copies in OSLB, 67, 74.
\(^{29}\) Draft advertisement in OSLB, 46.
The succession of Thomas Colby

Mudge died on 17 April 1820, and early in July Colby was appointed superintendent in his place. This followed an application by Colby to Wellington, which suggests that he was unsure of his position and standing; and it is perhaps telling that the letter was copied into the letter-book only after Colby had received his appointment. Colby promptly wrote to Hobbs with the news: neither this letter nor Hobbs’s reply have survived, but it can be inferred from the next two known letters from Colby that Hobbs had been approached by Ayrshire gentlemen with a view to their county being mapped at an early date. Colby wished to stick to what he saw as the logical order of work, and not expend resources more than was necessary:

As we have no particular orders from [Wellington] to proceed with the Interior Survey along the western coast of Scotland, it will be necessary that we should proceed with it according to the most natural and advantageous course, completing the Southern part and advancing gradually northward.

This course requires the survey of the remaining part of Wigtownshire, Kirkcudbrightshire & Dumfriesshire before Ayrshire, and I understand from Mr Gardner that you have [trigonometrical] points for a good deal of this Country.

Hobbs and his Ayrshire contacts were evidently not content with this, for eleven days later Colby wrote to him that, had the Ayrshire gentlemen applied to Wellington and obtained his agreement that their county should have priority over Dumfriesshire, then he would have laid before Wellington ‘the necessary measure’ for the work. However, had he done this of his own initiative, ‘I should merely deceive the Gentlemen of Ayrshire & introduce confusion and delay, because my power would not be sufficient to procure the means of completing the map for them’. Lincolnshire was being mapped out of turn because its gentry had undertaken to purchase 500 copies on publication. ‘But unless more assistance could be granted upon the Survey I am not anxious to waste the time of those employed and to deceive the public by entering into deviations from the regular course.’ And he was still anxious not to incur unnecessary expense: the theodolite was not ‘out of repair’, but merely needed adjusting. ‘Mr Gardner tells me that he has laid down all the points that were fixed by us as far as Bengairn, and as you have the Observation Books you will easily make out any others that may have been fixed as you have an opportunity of examining the Country more particularly than we could.’ Perhaps Hobbs relayed the gist of Colby’s views to his contacts in Ayrshire, and this may explain the proceedings at the Ayr county meeting some nine months later, and discussed below.

Wellington was someone else who evidently had contacts in Ayrshire, and he requested from Colby an estimate of the cost of mapping the county, evidently on the same subscription basis as with Lincolnshire. Colby supplied the necessary information on 15 February 1821, noting that, ‘to square the sheets’, it would be necessary to include considerable portions of the counties of Bute, Dumfries, Lanark, Kirkcudbright, Renfrew and Wigtown. ‘In this

30 See Seymour, A history, 28, and Colby to Wellington, 20 June 1820, copied in OSLB, 74-5, and quoted in Close, Early years, 83, and Fitzroy Somerset to Colby, 10 July 1820, copied in OSLB, 70.
31 Colby to Hobbs, 21 July 1820: copy in OSLB, 82-3.
32 Colby to Hobbs, 31 July 1820: copy in OSLB, 89-90. ‘Bengairn’ is presumably Beneraid (NX 135785).
33 County meetings were held annually, usually at the end of April, in each county of Scotland in order to transact county business. In the later 1840s and early 1850s they proved effective vehicles for lobbying the government of the day on OS matters.
estimate I have not included the officers already employed … because they are now doing work which will be embraced by the same sheets that contain the county.’ He provided two estimates: one was for Ayrshire alone, of £2,337 for ‘Surveying and Drawing plan on large scales’, £375 for ‘Drawing the plans for the Engraver on the reduced scale’ and £900 for ‘engraving and copper-plates’, a total of £3,612; and the other was for the annual expenses of publishing the map of Ayrshire, ‘squared’ with the necessary portions of the adjoining counties, over four years:

1st Year – Four Subalterm of Engineers in addition to the four officers now employed in Scotland, Surveying, Drawing, payment of Men, &c, &c. - £950

2nd Year – Do, and Drawing for Engravers - £950

3rd Year – Surveying - £500; Drawg. For Engravers, Copper-plates, & Engraving - £700

4th Year – Engraving, Drawing for Engravers, and Expenses of Publication - £1200 34

Four days later it was noted:

The Duke of Wellington has written to Sir Hugh Hamilton to inform him that the Map of Ayrshire will be worth Three Guineas and a half, and if the Gentlemen of the County choose to advance the price of 1000 Maps, one fourth in each year for four years that number of Maps shall be delivered to them at the end of that time. 35

Commenting on this in 1971, Brian Harley wondered whether Colby was not keen on the extension of subscription survey by the Ordnance, as he was short of staff for work in England, and may already have suspected that much of the unpublished work in England and Wales would need revising before it could be engraved and published. Therefore did he give an impartial price for the Ayrshire survey?36 One senses that he was not very keen on an extension of his responsibilities.

Meanwhile, Hobbs, now at Newtown Stewart, had more practical matters for Colby:

… There is only one conveyance to this Place – which is the Mail Coach, and if it is regularly booked – I imagine it will find me as readily as a letter having the same address.

I recollect that when you were looking over the Plans which I took to Town last year that you made some remark respecting the Northern Boundary, which induced me the other day to refer to the Maps which you were good enough to send me. It appears as far as I can judge that one sheet of copper will take nearly the whole of the County of Wigtown; but I should be glad to be informed whether you wish as much of Ayrshire to be surveyed as will fit a second sheet – in which case we must take nearly the half of that County – I do not imagine this to be your intention at present, but hope you will give me your final decision on this subject.

The northern line which I have drawn, extends from Beneraid to the Merrick. – The winter seems to be broken up – and the Theodolites have been at work for some days – so that in the present plans we shall lay down all the Eastern Bank of Cree which I did not expect when I wrote to you last.37

34 Colby to Wellington, 15 February 1821: copy in OSLB, 208-10.
35 Memorandum, 19 February 1821: copy in OSLB, 213.
36 Note by J B Harley following transcript of Colby to Wellington, 15 February 1821.
37 Hobbs to Colby, 20 February 1821: copy in OSLB, 223. Observe that Beneraid (NX 135785) is spelt ‘properly’ this time (compare with Colby to Hobbs, 31 July 1820, quoted above); Merrick (NX 428855) was a primary trigonometrical station, well inside Kirkcudbrightshire.
Deviation from the regular course

Two days later there was a notice in the Ayr Advertiser that ‘the Duke of Wellington had given orders for the Engineer Officer to proceed immediately with the survey of Ayrshire as soon as he completed the survey of Galloway’. The conventional definition of Galloway may be taken to include Kirkcudbrightshire, so one might expect that county to be mapped before Ayrshire was started. However, this was not to be. If Hobbs saw the Ayr Advertiser on the day of publication or a few days after, he may have been slightly surprised by its announcement. At any rate, on 24 February Colby wrote to him:

It gives me great pleasure to find from your letter of the 20th Instant, that your party are now capable of proceeding with the Survey on the Ground: and I hope that during the fine weather of the next Summer you will provide enough of out of door work to afford full employment for the succeeding winter.

The Duke of Wellington takes great interest in the Survey, and I have to communicate His directions for you “to proceed with the Survey of Ayrshire without delay, and to take particular care to render the Plans as accurate as possible in every respect”. The Duke has paid particular attention to the delineation of the Hills in those of the English Plans which he has Personally Exam'd and remarked upon inaccuracies that would have eluded the observation of many Persons accustomed to Plan drawing. As the orders which I now communicate have proceeded from the solicitation of some of the Duke’s personal friends in Ayrshire there will be little doubt that he will scrupulously examine the plans which you produce.

The personal influence which has been surmised as an influence on the inception of the survey a couple of years earlier now becomes explicit: but we don’t know who these personal friends were. Wellington’s apparent anxiety to please them is indicated by his refusing leave for Lt Renny a month earlier, in order that no time might be lost on the survey. During February 1821 51 linear miles were surveyed (by Victor and Battersbee) and 58 square miles were drawn (by all three subalterns). Allowing for the method of surveying in the field during favourable weather, and drawing indoors at other times, this rate of output is in line with Colby’s estimate of 180 square miles per surveyor per year. Three surveyors together ought to have completed about 550 square miles per annum: the area of Wigtownshire is about 490 square miles (about 1,269 sq km) and that of Ayrshire about 1,139 square miles (about 2,951 sq km), so it ought to have been possible to complete both counties, plus enough of the adjoining counties to ‘square’ the published maps, in four to five years, were there to be no increase in manpower. However, Colby’s estimate for the Ayrshire survey assumed that publication by subscription would enable four more subalterns to be employed, and the three years surveying might allow for work outside the county to ‘square’ the mapping to the neat lines.

As yet there was no subscription arrangement and so the survey of Ayrshire would have to be undertaken by Hobbs and his three lieutenants. Hobbs was more enthusiastic about the principle of good survey than the practice of it in Ayrshire:

38 Ayr Advertiser, 22 February 1821: extract supplied by John Galloway of Ayr to Donald Moir, and quoted in Moir to Harley, 7 October 1971, in Harley’s ‘Scottish Survey 1819-1827’ file.
39 Colby to Hobbs, 24 February 1821: copy in OSLB, 224.
40 Colby to ?, 19 January 1821: copy in OSLB, 185-6.
41 Monthly report for February 1821: copy in OSLB, 234.
Your letter regarding the change in the direction of the Survey reached me yesterday. It is a frightful working country as far as I have seen, and I could have wished it had been deferred – however we have nothing to do now, but attack it manfully. I shall be glad to get the new Instrument as soon as possible, in the meantime as soon as I can send off the Plans which are now ready, I shall start in the direction of Maybole. It is satisfactory to see the Duke take an interest in our operations but your account of His examining the Ground himself in that minute way is surprising. He will surely think of an augmentation [of the surveying force], and I would most earnestly recommend in the selection of officers … those who draw well. It is much more easy to teach an officer to survey than to draw. Indeed I scarcely know how a person can be taught drawing who has not some natural taste for it. Mr Victor will very soon be promoted and of course give up the Survey; and if no augmentation takes place, this vacancy will no doubt be filled up. There is an officer of the name of Walpole I believe the elder Brother of the two in our Corps who seemed very anxious to be employed. He appeared to be a nice young man, but I know nothing of his qualifications, which really … should be considered. I have anticipated to the very letter of the Duke’s orders respecting names and spelling. I had the best informed men in the County employed for several days in correcting the names on the sketches before they were inserted on the plans. This applies to those already in your possession as well as the others, which I am about to transmit. With regard to accuracy – I only know but one system, and I have perfectly convinced all the officers with me, that it is not only accuracy, but that it is a small saving of time & consequently their interest to be correct. There is also this advantage in keeping them together, that they mutually check each other, and errors are by this means soon detected. I wish it may be convenient to you to take this route on your way to the north …

The following day Hobbs wrote again:

I am now almost in the same doubt respecting what portion of Kirkcudbrightshire ought to be surveyed, as I was before with regard to Ayrshire. We have not yet gone east of the Cree which runs in a North West and South East direction; but if the Plans are to be squared by the meridian, there will be about 150 Sq. M. to be done to the North. I conclude that it is your wish that it should lay over, and that our whole strength should be employed actually in Ayrshire; but on this subject I shall be glad to be favoured with your decision.

It is unclear whether the reference to ‘the Plans… squared by the meridian’ refers to the manuscript plans or to sheet lines for published maps (if the latter then a sheet line arrangement for Scotland might be approximately deduced): this point is discussed later. Colby’s reply to this of 22 March is not available, but it can be inferred from Hobbs’s next surviving letter that Colby gave no instructions about Kirkcudbright:

… The only distances which Mr Gardner gave me are those for laying down Ailsa Craig and Brown Carrick. I have no other in Ayrshire except Lough Hill [?] and Benaird.

The plans have been delayed for two reasons. One is my having been away, and the other and indeed the principal one, has originated in the necessity of laying down the shoals in

---

42 [If it was the elder Walpole, then he was Arthur Walpole, commissioned as Second Lieutenant on 20 March 1813 and Second Captain on 27 October 1826: died Galway, 22 February 1842. The younger Walpole was John Walpole, commissioned as Second Lieutenant on 1 August 1816 and Second Captain on 28 November 1839: died Lucknow, 8 January 1864. Connolly, in Roll of the Officers…, 20, 23.]

43 [It is unclear what these orders were: I can find nothing in OSLB.]

44 Hobbs to Colby, 1 March 1821: copy in OSLB, 235.

45 Hobbs to [Colby], 2 March 1821: copy in OSLB, 241.

46 [‘Benaird’ is presumably Beneraid (NX 135785). I cannot find a ‘Lough Hill’, and perhaps it is a clerical error for Saugh Hill, near Girvan (NX 112974).]

Wigtown Bay, without which the Plans would not be complete, but which might have been into the next set, had we gone on with Kirkcudbright ... I scarcely know what we are to do for Drawing Paper, it is so difficult to get it good, and shall be much obliged to you if you will send back the Tin Case which contains the Plans with a few sheets of Antiquarian and six or eight sheets of the largest size Drawing Paper from your Depot at the Tower, as the appearance of the Plans so much depends on our having good Paper.

I have not given up hope of seeing you here on your way to the north. ...

P.S. I am anxious for an answer to my query, respecting what portion or whether any more of Kirkcudbright is to be done at present.47

As with staffing and the tent, paper was less of a problem than deciding survey priorities, and a supply was on its way north on 11 April.48 Hobbs had not been twiddling his thumbs: a travel claim shows that, once the order to survey Ayrshire reached him, he made a tour of the southern part of the county, perhaps to reconnoitre trigonometrical stations.49

In April Colby left London for Scotland, and met Hobbs; as he also met Lieutenant Victor at Newton Stewart, he presumably arranged his itinerary so as to inspect operations in Galloway.50 Had he not received Hobbs’s letter of 8 April before departing, no doubt Hobbs would have told him personally:

Not having heard from you respecting the Eastern Boundary, I presume that my conclusion was just, and that we are not to cross the River Cree for the present; the reason of my being so solicitous to have a decided answer on this subject is, that one or two of the Gentlemen will have to remove from this Place immediately, if no part of Kirkcudbright is to be done, and I should wish to avoid giving them an unnecessary journey, as in the event of your deciding otherwise they will have to return again.51

A falling-off of staff, interest and output

During April 1821 189 linear miles were surveyed; Hobbs was still based at Newton Stewart, and the mapping of Wigtownshire was still apparently not complete, as on 20 May it was reported that about 450 square miles were surveyed (about 1,165 sq km, or about 90 per cent of the county).52 It is evident from this that output was fairly modest in relation to the size of Scotland as a whole, and was evidently far below the 180 square miles per surveyor which Colby had suggested in 1819. Renny seems to have been particularly less than fully productive. Early in January Colby applied unsuccessfully for two months leave for him ‘to see his friends at Dublin’, despite Renny’s character being such that he would have tried hard to make up the time lost on his return.53

Another disruption threatened in August 1821, when Colby expected that Lt Victor would shortly be promoted and consequently removed from the survey: accordingly Victor

49 Copy in OSLB, 270. This records: February: 12: day trip, Newton Stewart to Wigtown; 19, day trip, Newton Stewart to ‘the Shallock Hill near Loch Smack’; 22, day trip, Newton Stewart to ‘Cairnbarrack Hill near Cree Town’; March: 6, Newton Stewart to Stranraer; 7, Stranraer to Ballantrae; 9, Ballantrae to ‘Saugh Hill near Girvan’; 10, Girvan to Maybole; 13, Maybole to Girvan; 14, Girvan to Barr; 15, Barr to Newton Stewart; 20, Newton Stewart to ‘Straiton’ [? clerical error for ‘Stranraer’]; 23, Stranraer to Newton Stewart.
51 Hobbs to Colby, 8 April 1821: copy in OSLB, 293-4.
52 R Mudge to Crew, 20 May 1821: copy in OSLB, 314.
was directed to ensure that his plans were complete before his removal was due. Colby observed to Hobbs: ‘The Candidates for Lt Victor’s situation are extremely numerous, and solicitations from many noblemen must be unavailing. The Duke will of course be guided entirely by the qualifications of the Candidates.’

One of those interested was a Lt John Michael; Colby’s reaction was that, first, there was as yet no vacancy, and second, that when there was, it should not be filled until the following spring, as an officer appointed at the beginning of the winter could do little surveying or sketching; this would give time to investigate the qualifications of the various candidates. Wellington agreed to this course.

In deferring an appointment in Victor’s place, Colby may have been guided by practical considerations: he was perhaps also swayed by the wider context. At first it seemed that the attempt to finance the survey of Ayrshire by subscription might work. The *Ayr Advertiser* of 26 April carried a notice from the Convenor of the County Meeting announcing that, were public funds alone to be used, the map of Ayrshire could not be complete in less than eight years, but that, were 500 subscriptions of £3.13s.6d. to be obtained, then Wellington would pledge that it would be completed in four years. Accordingly, a subscription paper would be laid before the County Meeting on 30 April, when the Convenor ‘has no doubt the usual public spirit of the County will set the matter going in such a way as to ensure access to the very desirable and important object of getting a good Map of the County, in so short a time, and on such reasonable terms’.

The immediate response was enthusiastic: ‘The Meeting were unanimously of opinion that every exertion ought to be used to promote the very desirable and important object … and the Subscription Paper produced was immediately signed by Gentlemen present for themselves, or others from whom they had authority, to the extent of one hundred and twenty-two copies.’ A committee of seventeen was appointed to manage the subscription ‘and to take all steps which might appear to them to be best or most efficient for promoting the object in view’ and, no doubt to demonstrate the prestigious support already gained, ‘the list of subscribers will shortly be published’. But no such list seems to have been published, and it must be supposed that, after the initial enthusiasm, far short of 500 copies were subscribed for.

In the previous year there had been some interest in expediting the Ordnance mapping of the west Midlands by subscription, either as a group of six to cover Warwickshire and Worcestershire, or a group of nine to include Shropshire, but this too came to nothing, though there was still interest in the late autumn of 1821. Colby said that 500 subscribers were needed and this, together with the Greenwoods’ activities in Warwickshire and Worcestershire (they published one-inch maps of both counties in 1822) may have dampened interest. Whilst there was undoubtedly some interest in Ordnance mapping, it was apparently not such as to reach the ‘critical mass’ necessary to finance out-

---

54 Colby to Hobbs, 21 August 1821: copy in OSLB, 362. In this letter Colby still refers to Victor as a lieutenant, whereas Connolly, in *Roll of the Officers…*, gives the date of promotion as 19 June.

55 Colby to Fitzroy Somerset, 21 August 1821, and note of 4 September 1821: copies in OSLB, 362-3, 373.

56 *Ayr Advertiser*, 26 April 1821: extract supplied by John Galloway of Ayr to Donald Moir, and quoted in Moir to Harley, 7 October 1971, in Harley’s ‘Scottish Survey 1819-1827’ file.

57 *Ayr Advertiser*, 3 May 1821: extract supplied by John Galloway of Ayr to Donald Moir, and quoted in Moir to Harley, 7 October 1971, in Harley’s ‘Scottish Survey 1819-1827’ file.

58 There was no further mention in the *Ayr Advertiser*, at any rate up to May 1823: Moir to Harley, 7 October 1971, in Harley’s ‘Scottish Survey 1819-1827’ file.

59 Lewis to Faden, 1 September 1820, Colby to Faden, 4 September 1820, Colby to Johnston, 26 October 1820, Prattington [?] to Colby and reply, 10 and 20 November 1821, and Colby to Caldecott, 21 November 1821: copies in OSLB, 113, 113-4, 152-4, 401-2, 404-5, 405; J B Harley, *Christopher Greenwood, county map-maker, and his Worcestershire map of 1822*, Worcester: Worcestershire Historical Society, 1962.
of-turn survey. 166 copies of Part IX of the one-inch, covering Pembrokeshire, might have been printed in the first twelve months, but that included presentation copies which would not have been covered by any subscription arrangement; thereafter sales seemed to tail off.60

And there was also the mapping of England and Wales to be considered. By 1821 37 sheets had been published, and ten more were being engraved. These included some of those for the subvented mapping of Lincolnshire, one for Middlesex (published as sheet 7 in 1822) and four – one for south Oxfordshire and west Berkshire and three for south Wales – which were apparently later scrapped and re-engraved.61 It must have been apparent that the misfortune attending sheet 28, showing Lundy, first published in 1820 but almost immediately found (by an Admiralty survey vessel) to be wildly inaccurate and hastily withdrawn, resurveyed, re-engraved and republished, was symptomatic of a wider malaise; almost immediately afterwards more bad work was found near Woodbridge, in Suffolk.62 The message seemed clear: OS mapping could not generally be conducted on a cost-recovery basis, but must depend upon the bounty of the Ordnance and the Treasury. In this is an anticipation of OS history in the last quarter of the twentieth century.63

In June 1821 Hobbs moved his base from Newton Stewart, first to Maybole and then in October to Ayr: ‘I have taken apartments … and mean to move there immediately; and indeed all the Officers will soon assemble there to finish the Plans, as there is no accommodation, except at Inns, any where else’.64 The promoted Victor, now a Second Captain on half-pay, left the survey on 9 November, after a brief experience of the air at Ayr. His removal was to be complete: Colby told Hobbs that:

It will be necessary for you to report that his Field Books &c are delivered up to you, and that he has performed his portion of the work in such a manner, and given such documents as will enable it to be used without further reference to them … I have no objection to his quitting the survey when his presence is no longer necessary to the perfection of his work.

I am sorry to be compelled to ask you for a statement of his qualifications in sketching, surveying and drawing; I am fearful that the Duke may ask me some questions, and I had not the good fortune to see his sketches when I had the pleasure of seeing him at Newton Stewart.65

However, Victor had apparently not finished drawing his work, as Hobbs reported:

… He speaks with great confidence of getting his plans in such order, that he will be enabled to give up his sketches, Field Books, &c, and start for London on Monday next. The drawing of course must lay over until the other Officers arrive here, which I expect will not be before the end of this next month, and I shall make the best arrangements I can in this respect. Captain Victor might be paid by making out a bill … for as many square miles as will be equal to the value of his work in its present state, allowing I presume about ½ for the drawing … he surveys with accuracy, sketches with exactness, and draws very neatly, and now we are on the subject I must entreat you not to allow any Officer to be appointed who

60 Note of 9 October 1820 in OSLB, 107: there are other lists of printings in 1819-22 throughout OSLB.
61 R Mudge to Crew, 20 May 1821: copy in OSLB, 314. The sheets being engraved at this time included 13, 36 and 37: one has only to compare the style of the published versions of these sheets with e.g. sheet 7 to realise immediately that these sheets were re-engraved ab initio in the late 1820s and early 1830s. A copy of the unpublished version of sheet 37 has recently been located in a private collection: it seems to be complete apart from the publication date.
62 Croker to Colby, 2 September 1820, and R Mudge to Colby, 11 October 1820: copies in OSLB, 112, 143.
63 [This last sentence is, of course, a deviation from ‘pure history’.]
64 Hobbs to Colby, 3 October 1821: copy in OSLB, 384. The movements are recorded in TNA PRO WO 17/2756.
has not produced some Plan, or given some proof of his skill or taste in drawing. There are no doubt some Officers of this description to be found. I am told Lt Henderson who [is] stationed at Armagh I believe is an excellent surveyor and good Draftsman.66 I dread having a successor to Captain Victor who has forgot the use of the Theodolite which I am persuaded is the case with many of our young officers.

An Officer cannot be fit for this duty who has to begin de novo. They are all anxious to be employed and very naturally so, and imagine they can soon learn, even if they have forgot entirely, and this may be the case with one in ten, but it does not apply generally.67

Unwilling to take just anyone, in the event Hobbs received no one. On 28 February 1822 Colby wrote to him, asking if Lt Walpole was still a possibility for the vacancy.68 Hobbs’s reply to this has not survived, and perhaps it was not such as either to give Colby encouragement, or cause him to worry, for on 4 May he wrote to his superior suggesting that the vacancy could be left unfilled for another season (i.e. until early 1823): ‘… as the map of Lincolnshire is promised to the Gentlemen of that county, and its prosecution materially retards the regular series of maps and occasions much loss of time in travelling, I am anxious to complete it as rapidly as possible and I am not aware of any inconvenience likely to arise from reserving the present vacancy for a season …’, and he proposed to use the money thus saved on the Lincolnshire work.69 By May 1822 six drawings were complete, and had been forwarded to the Tower. They covered just under 650 square miles (about 1,683 sq km), representing about 2.13 per cent of the total area of Scotland.70

The decline and end of Hobbs’s survey

After this, records of the survey become scanty. Hobbs still presumably continued with the triangulation and overall responsibility; it is unknown whether he contributed to detail survey. In April 1823 Colby proposed that Lt Gosset, RE, replace Victor; the Board of Ordnance approved this, as it appeared not to be contrary to regulations, but no more is heard of Gosset in this connexion, so evidently there was some hitch.71 Renny was absent on sick leave from 1 December 1822 to 26 March 1823, and again from 21 June 1823 for nearly a year; he left Ayr on 27 July 1824 ‘seriously ill’, and was removed from the survey on 8 August 1824. He was invalided from the Royal Engineers in January 1826 and retired on full pay in December 1831, dying in Montreal in January 1867, retirement having evidently agreed with him.72 His pattern of absences suggest either that he spent the surveying season of 1823 drawing his previous season’s work, or else making further surveys which would contribute to a backlog of drawing.

The vacancy occasioned by Renny’s departure was filled on 17 November 1824 by Second Captain Frederick English, who had been commissioned as Second Lieutenant in September 1807, and had had experience in the Peninsula in 1808-9 and in the Netherlands and France in 1815-17; he was promoted to Second Captain in 1813. He was ‘employed

66 [The reference is presumably to Alexander Henderson, who was commissioned on 20 March 1813 (the same day as Battersbee, so presumably they were instructed together), and promoted to Second Captain in 1829: he died in 1844.]
67 Hobbs to Colby, 1 November 1821: copy in OSLB, 391-2.
68 Colby to Hobbs, 28 February 1822: copy in OSLB, 464.
69 Colby to Fitzroy Somerset, 4 May 1822: copy in OSLB, 509.
70 Notes at back of OSLB, following page 543.
71 Board of Ordnance minute, 11 April 1823, in TNA PRO WO 47/1061, 3140. William Matthew Gosset had first been commissioned as Second Lieutenant in 1811; he was promoted to Second Captain in 1825.
72 Monthly returns, TNA PRO WO 17/2756; Connolly, Roll of the Officers...
preparatory to the Interior Survey of Scotland’ at the Tower; presumably he would have travelled north to join Hobbs at Ayr once the surveying season got under way, had he not been promoted to Captain on 23 March 1825, and consequently removed from the survey. He went on to be promoted to Lieutenant Colonel in 1837, and died in 1849 from wounds received during an artillery experiment at Woolwich Arsenal. 73

Thus after Renny’s removal only Hobbs and Battersbee were based at Ayr. Hobbs was promoted to Lieutenant-Colonel on 8 April 1826. Both men were still at Ayr on 14 May 1828 when the Master-General directed that they should be withdrawn from the survey: it was noted that ‘from the smallness of their number, the progress made is not of sufficient importance to retain them there’ and that Colby had reported that ‘measures have been taken to put their work in as complete a state as possible by the end of the present month’. 74 Since 1822 Hobbs and Battersbee had produced some 288 square miles (about 746 sq km) of mapping between them. 75 Hobbs may not have been in good health by this time: he died at Stranraer on 28 October. 76

The timing of the end of Hobbs’s survey: the Irish connection

With the promotion of Lt Victor, the non-appearance of Lt Gosset, the sickness and removal of Lt Renny, and the promotion and consequent removal of Captain English, the Interior Survey of Scotland dwindled in relative importance to that of England and Wales. Shortly before English joined the remit of the OS was greatly enlarged with the order of June 1824 to map Ireland at the six-inch scale. 77 What must have seemed at the outset to be a straightforward concept – a ‘military’ survey to produce what would be necessary for a published one-inch map, together with the careful mapping of townland boundaries – quickly turned into something both far more elaborate and much slower, more costly and more troublesome than had been envisaged. The first officer appointed to administer the survey in Ireland – effectively doing much the same as Hobbs in Scotland – was Major William Reid. His tenure of the post was marked by the painful discovery that much of the survey work being performed in Ireland was just not good enough and that any prospect of completing the job in seven or eight years, as expected at the outset, was wildly optimistic. Relations between Reid and Colby gradually deteriorated. Their ideas on survey organisation were different – Reid wanted a much larger civilian element than did Colby – and matters finally came to a head in May 1828, when a select committee of the House of Commons investigating public income and expenditure questioned Colby, and very nearly recommended that the whole Irish survey be abandoned. Colby took advantage of a minor error on Reid’s part to have him removed from the survey; he was enabled to win this round of his various battles because of the continuing support of the Duke of Wellington, who had recently become Prime Minister. 78

73 Monthly returns, TNA PRO WO 17/2756; Connolly, Roll of the Officers...
74 Board of Ordnance minute, 19 May 1828, in TNA PRO WO 47/1428, 4754-6; see also Colby to Mann, 14 May 1828, in TNA PRO WO 55/960.
75 Memorandum by Colby, 21 April 1843, printed in A return of the Year in which the Ordnance Survey of Scotland was commenced…. British Parliamentary Papers (House of Commons series) [BPP (HC)], 1843 (246) XLIX.137, 2.
76 Ayr Advertiser, 6 November 1828: extract supplied by John Galloway of Ayr to Donald Moir, and quoted in Moir to Harley, 7 October 1971, in Harley’s ‘Scottish Survey 1819-1827’ file.
77 Board of Ordnance minute, 22 June 1824, in TNA PRO WO 47/1148, 4822.
78 This is a bare and selective summary of events described in detail in Andrews, A paper landscape, 61-8.
The further difficulties attendant on the Irish survey after 1828 do not concern us here, but it is perhaps germane that the survey of Scotland was abandoned at a time when, first, Colby was ‘on top’, second, when one of the Ordnance’s survey activities was being investigated in Parliament, and third, when the Duke of Wellington had moved on from being Master-General of the Ordnance. In addition, it is to be suspected that Colby did not like working in a scattered manner: when the six-inch survey was authorised in October 1840 for both Scotland and northern England, he was extremely reluctant to begin work in Scotland, at any rate until there was a significant increase in the Survey Vote. Putting a stop to the Scottish survey in 1828 would tidy up operations in Britain a little, and might make a disproportionate contribution to lightening Colby’s considerable workload, and possibly his stress levels.

The work of Hobbs and his subordinates soon seems to have been forgotten. Not the least remarkable is the diagram of February 1831, discussed in these pages recently, which shows both one-inch sheet lines extending into southern Scotland and progress with survey and revision in England and Wales; it is noticeable that there is no indication that there had been topographical surveying in Scotland.79 It is as if this was a disagreeable episode, to be erased from the collective memory as soon as possible.

1852: the two-inch returns to Scotland

However, though Colby and the Ordnance may have regarded Hobbs’s work as something best forgotten, particularly once the six-inch had been adopted in 1840, there were memories elsewhere. The existence of Hobbs’s survey, lying unused, was referred to by the British Association in their memorial to the Treasury of 1834-5 which urged faster progress with the survey of Great Britain, noting that ‘a large portion of the south-west of Scotland’ had been ‘minutely and accurately’ surveyed. In their response, the Board of Ordnance said that ‘A very small part of Scotland was surveyed by the late Lieutenant-colonel Hobbs about fifteen years ago, but as the English Map has been gradually advancing towards perfection from its commencement up to the present time, and new uses requiring more perfect maps are almost daily arising, the Master-General and Board would feel reluctant to commence engraving a Map of Scotland until the scale on which the survey should be engraved, and the uses to which it is to be applied, had been thoroughly considered.’80 The memorial seems to mark the start of the movement towards the authorisation of the six-inch, and as both it and the response were included in a published Parliamentary paper the existence of the Hobbs survey was now advertised in print.

In October 1840 the six-inch was authorised, but though the Treasury subsequently authorised the completion of the one-inch of northern England, it refused to authorise more than the publication of the six-inch in Scotland. Even that was some way in the future when the existence of Hobbs’s survey was aired again in 1843, in the course of another agitation in the House of Commons, which resulted in Colby being forced to begin six-inch work in Scotland later that year. In a memorandum on the triangulation and detail survey of the

79 The diagram is in TNA PRO MPHH 1/239, and is discussed in Richard Oliver, ‘The sheet sizes and Delamere sheet lines of the one-inch Old Series’, Sheetlines 77 (2006), 27-51, 31-4.
80 Memorial, 28 May 1835, and Byham to Spring Rice, 15 June 1835, printed in Copy of the Memorial of the British Association for the Advancement of Science, in relation to the present state of the Trigonometrical Survey of Great Britain…., BPP (HC) 1836 (106) XLVII.89, 2, 3-4.
country he observed that ‘a Survey carried on at so slow a rate, and on so small a scale, afforded no proper ground for commencing a map of Scotland’.  

The question was raised again in 1851, in the course of the proceedings of the Select Committee of the House of Commons on the Ordnance Survey of Scotland; this had been appointed because of dissatisfaction with the slow rate at which the country was being surveyed, together with the lack of a one-inch map. Captain William Yolland, the Executive Officer and thus second-in-command of the OS, considered that the survey of Scotland had been begun in 1819 and had been suspended in 1827. Yolland’s evidence is more interesting for what he thought was the case than what seems to have happened: he said that the survey was suspended on Wellington’s orders, as Master-General, because ‘I believe it was considered that the manner in which the survey was at that time carried on was slow and unsatisfactory, and that a portion of the force which had been there was required for … the survey of Ireland’. Whilst ‘slow and unsatisfactory’ seems reasonable, Wellington’s involvement and the removal of the surveyors to Ireland was not, though the latter no doubt helped the perception that Scotland was losing out to Ireland. The Select Committee recommended that the six-inch scale be abandoned, and that the pre-1841 practice of survey at two-inch and publication at one-inch be reverted to, and on 16 December 1851 the Treasury issued a minute which the Ordnance interpreted accordingly.

**The OS’s least-known survey?**

Thus between January and October 1852, whilst one group of Ordnance surveyors pushed on with the six-inch survey of Yorkshire, another worked in Scotland at the two-inch scale. In October 1852, following numerous representations from Scotland and northern England, the Treasury authorised resumption of six-inch survey, and further two-inch work was promptly stopped. A Parliamentary return of 1857 records that the whole of Haddingtonshire [East Lothian] was ‘plotted’ (i.e. presumably protracted from the field-books at two-inch) by October 1852, that half of Berwickshire was ‘surveyed’, commencing in June 1852 (but presumably the data in the field-books had not been converted into graphic form), and one seventh of Lanarkshire was surveyed and plotted between May and October 1852. None of the material generated by this two-inch survey is known to survive; it would have covered approximately 500 square miles (about 1,300 square kilometres).

The six-inch survey of Haddingtonshire had started in September 1851, and it seems likely that the two-inch survey only covered the area not already mapped at six-inch, perhaps using surveyors who had previously been working in the county at the larger scale. There being so much less to record in a two-inch survey, the fieldwork may have been complete by June 1852 when work commenced in Berwickshire: had not work been abandoned in October, that county might have been completed at two-inch around February 1853. The choice of Lanarkshire can be explained by its adjoining Edinburghshire [Mid-Lothian].

---

81 Memorandum by Colby, 21 April 1843, printed in *A return of the Year in which the Ordnance Survey of Scotland was commenced*, BPP (HC) 1843 (246) XLI.137, 2.
82 Report from the Select Committee on Ordnance Survey (Scotland), BPP (HC) 1851 (519) XX.359, evidence, q.1351.
83 Ibid., report page iv, e.g.
84 The minute is printed in *Copies of the Correspondence that has passed… in reference to the Recommendations… of the Select Committee… on Ordnance Survey (Scotland)*, BPP (HC) 1852 (506) LIII.455, 14-15.
85 Return, with regard to the Ordnance Survey in each County of Scotland, BPP (HC) 1857 (63-Sess.2) XXVII.413: this is the source for the extent of both two-inch and six-inch work, and for the dates of commencing one-inch engraving.
lack of any surviving sheet-line calculations make it impracticable to reconstruct the sheet lines of the two-inch work, but it may be that they followed contemporary six-inch practice, \textit{i.e.} bounded by irregular polygons with sides running between trigonometrical stations. \textsuperscript{86} The use of either the familiar $18 \times 24$ inch ($45.5 \times 61$ cm) sheet lines and drawings based on divisions thereof, or of six-inch sheet lines, would seem to be unlikely because of chronological considerations: the basis of the one-inch sheet lines was apparently only authorised late in 1852, after the two-inch had been abandoned. \textsuperscript{87} There is no indication whatever whether Hobbs’s mapping of part of Ayrshire would have been reused, or replaced by new survey; the latter seems more likely, as Hobbs’s work would have been at least 25 years out of date and thus in need of revision, even if its planimetric standard was acceptable.

The resumption of six-inch survey in October 1852 was followed six months later by the adoption of surveying adequate for plotting at the two-feet scale (1:2640), and which was actually drawn from 1854 onwards at 1:2500. With this semi-experimental adoption of the 1:2500 and vigorous prosecution of work at this scale in central and southern Scotland in the mid 1850s, the two groups of two-inch surveys, of 1819-28 and 1852, lost whatever relevance they had ever had. The fate of the 1852 survey materials is unknown; they might have been destroyed when some at least of the field-books for the pre-1841 two-inch mapping were destroyed in 1872, \textsuperscript{88} or they might have survived up to 1940, when enemy action destroyed vast quantities of OS manuscript material including, it seems, the ten drawings that were the tangible results of the work of 1819-28. However, it is possible that they were destroyed much earlier, for a ‘List of the Original Ordnance Surveys of Great Britain’, dateable to 1857, makes no mention of them, whereas it lists all the Ordnance Surveyors Drawings, including those for Hobbs’s survey, and all the rectangular drawings for the two-inch survey of north-central England of 1836-41. \textsuperscript{89}

There are no statistics on manpower used in Scotland on the two-inch surveys of 1852, and no information on survey methods. Given the nature of the work, traversing, along roads where possible, seems more likely than the ‘right lines’ method, along lines running directly between minor trigonometrical points, which had been developed in the earlier phases of the Irish six-inch survey, and was the standard method for six-inch and larger scale survey in Britain after 1841, though traversing was used in difficult country where ‘right lines’ was impracticable. \textsuperscript{90} It therefore ought to have been possible for at least some surveyors to switch from right-lines work at six-inch to traversing at two-inch. What might have been rather more difficult would have been the hill-sketching: the problems of procuring hill-sketchers and hill-engravers at this time, allied to the earlier change to deriving hachures from contours, suggests that, were it intended to make a complete reversion to the fieldwork methods used for the two-inch survey before 1841, it is unlikely that there was any field-

\textsuperscript{86} See the surviving manuscript drawings in British Library Map Library, Maps CC.1.a.2, CC.1.a.3.

\textsuperscript{87} Memorandum by Cameron, 4 December 1852, in TNA PRO OS 2/649, 7. This volume and OS 2/642 and 648 contain sheet line calculations of the 1850s; it seems to me that it would be much harder to argue that they contain ‘ghosts’ of the two-inch survey than that they postdate Cameron’s memorandum.

\textsuperscript{88} Note on Ordnance Surveyors Drawing 347: ‘Field books destroyed 1872’.

\textsuperscript{89} This list was formerly in the OS library at Southampton; it is now in TNA PRO OS 3/28. The dating is provided by the note ‘The County Ayr re-surveying in 1857 on the 1/2500 scale’.

\textsuperscript{90} I am not aware that there is any modern detailed description of the ‘right lines’ method, which was suited to new survey rather than to the revision that has been the main OS field activity since the late nineteenth century. The ‘textbook’ description is in Sir Henry James [ed], \textit{Account of the methods and processes… of the Ordnance Survey...}, London: HMSO, 1875. 39-83. More accessible for modern users, but not presented as a continuous narrative, is Andrews, \textit{A paper landscape...}, esp. 98-101 and 129-30.
sketching for hills in the two-inch survey areas in 1852. This in turn implies that the relative slowness in providing relief information would practically have dictated the course that was followed anyway for the one-inch of Scotland, of publishing first an ‘outline’ version and then a hachured ‘hills’ version.

The extent of the surveys of 1819-28

Whereas the extent and methods of the two-inch surveying in 1852 must remain uncertain, rather more can be said for the work of 1819-28. The two sources are the letter-book, ending in 1822, and the list of drawings prepared in 1857. A consolidated list is provided in the Appendix.

A consideration of the ‘localities’ specified for each drawing together with the assumption that the same practice was followed as in England and Wales, of using main roads and watercourses as the boundaries for drawings, enables the extent of each drawing to be reconstructed tentatively. Drawing was presumably on double-elephant-sized sheets of drawing-paper (about 40 × 27 inches; about 102 × 69 cm), as was certainly the practice for the Ordnance Surveyors Drawings in England and Wales, and for the six-inch survey in Ireland.

1, Mull of Galloway. The landward limit can be delineated fairly certainly by the main road from Portpatrick to Glenluce (now A77 and B7077) on the north. It could have been fitted onto a single double-elephant sheet.

2, Stranraer. This would certainly have included Loch Ryan; presumably the area stated in the survey bills excluded the area of the loch, at any rate below low water mark. This suggests that the landward extent of the drawing was determined by the Portpatrick-Glenluce road on the south, the Main Water of Luce from by Glenluce up to the vicinity of Beneraid (NX 135785) and the Water of App (the boundary between Wigtownshire and Ayrshire) on the north. Such a sheet would have required two sheets of double-elephant paper.

3, Glenluce, Newtown Stewart, Whitehorn, Wigtown Bay. In the context of drawings 4 and 5 the landward limits present a problem, which is best reconciled by using the main road from Glenluce towards Newtown Stewart (modern A75) as far as the vicinity of Kirkcowan (about NX 3261), and thence south-eastwards along the River Bladnoch to Wigtown Bay at Baldoon Sands: this would easily embrace the tidal areas in Wigtown Bay which Hobbs was anxious to complete in March 1821. This would probably have needed two sheets of double-elephant paper.

4, Wigtown, Newton Stewart. The southern or south-western boundary would be common with that of Drawing 3, which I suggest ran along the River Bladnoch. The north-east boundary of this seems to be fixed by the county boundary and the River Cree. To have crossed the Cree would have been to carry the survey into Kirkcudbrightshire, and there is no evidence to suggest that there was any surveying in that county. The northern limit would presumably have been in the vicinity of the county boundary somewhere near Benbrake Hill.

91 For relief depiction see Report from the Select Committee on Ordnance Survey (Scotland)…, BPP (HC) 1851 (519) XX.359, evidence, qq 1485-90, 1500.
92 These are the letter-book in TNA PRO OS 3/260 [‘OSLB’] (at back: unpagedinated) and the list of drawings in TNA PRO OS 3/28. It may be noted that the dating of the drawings for Scotland in OS 3/28 is given as ‘1819-28’ for all of them, whereas the drawings for England and Wales are more precisely dated.
The western boundary is less obvious but was perhaps along the Tarf Water. If oriented north-westwards this drawing might just have fitted into a single double-elephant sheet; if oriented north, then two would have been needed.

5, New Luce. This would presumably have filled the gaps between drawings 2, 3, and 4 and the county boundary on the north, *i.e.* bounded on the south by the main road east from Glenluce (A75), on the east possibly by the Tarf Water, and on the west by the Main Water of Luce. Such a drawing could probably have been fitted onto one double-elephant sheet.

6, Girvan, Ballantrae. This is the only one of the mainland Ayrshire drawings for which approximate limits can be deduced. Assuming that its southern limit was determined by the Water of App and the county boundary, its south-eastern corner was perhaps near Barrhill (NX 2382), and a logical eastern limit would be the main road thence to Girvan (modern A714) or possibly a little to the east, along the road through Tormitchell (NX 231946).

7, Maybole. If the figures quoted in the mid-nineteenth century are reliable (an extent of ‘about 937 square miles’), then the remaining three drawings for mainland Ayrshire covered an area of less than 300 square miles in total. The ‘Maybole’ drawing may have had its northern limit just north of that town, and have extended southwards towards the northern end of Drawing 4, and its eastern limit may have been perhaps somewhere to the east of Barr and Dailly (in the vicinity of easting 230 on the National Grid).

8, Ayr. It is difficult to make even a tentative suggestion of extent: this drawing might have extended north to Prestwick or Troon, and eastwards to join Drawing 9.

9, Killeen. A problem is presented by the name ‘Killeen’, for which nothing likely appears in the modern Ordnance Survey gazetteer. It seems most likely that ‘Kyle’ is meant, as the middle of the three historic divisions of Ayrshire, derived from the River Coyle, locally pronounced ‘Kill’. Assuming ‘Kyle’ to be correct, such a drawing might extend east towards Holmhead and Cumnock.

10, Ailsa I. This is the easiest of the drawings to identify, and presumably was confined to Ailsa Craig, though it might perhaps have extended to the nearest coast, around Girvan.

It remains to be considered whether the list of drawings prepared in 1857 represents the final extent of the survey. Although overall output in the seasons 1819-20, 1820-1 and 1821-2 – about 650 square miles (about 1680 sq km) by three surveyors – seems modest in comparison with Colby’s estimate in 1819 of 180 square miles per surveyor per year, it seems considerable compared with the known output during the last six years before

---

94 Memorandum by Colby, 21 April 1843, printed in *A return of the Year in which the Ordnance Survey of Scotland was commenced*. British Parliamentary Papers (House of Commons series) [BPP (HC)], 1843 (246) XLIX.137, 2: ‘altogether over a space of about 937 square miles’.


96 I owe this suggestion to Paula Williams, who quotes *The Ordnance Gazetteer of Scotland* (1901); see also *Handbook for travellers in Scotland*, sixth edition, London: John Murray, 1894 (reissued Newton Abbot: David & Charles, 1971), 119: ‘Ayrshire is divided into 3 portions – Cunningharn in the N., Kyle in the centre, and Carrick in the S.’ Other respondents to a query sent both to the lis-maps and ordnancemaps Internet discussion groups in November 2006 suggested Culzean, which is pronounced similarly to ‘Killeen’, but the location of castle and bay, taken in conjunction with the titles of Drawings 7 and 8, makes this unlikely, even if drawings which did not use roads, watercourses or watersheds are assumed. It was purely serendipitous that, just after the answers to my query were posted, Culzean castle featured briefly in a transmission of Nicholas Crane’s ‘Coast’ series on BBC TV.
operations were abandoned in May 1828. Even if we allow for putative problems of perfectionism and ill-health, the suspicion must remain that a certain amount more was surveyed on the ground and recorded in field-books, but not plotted in graphic form, or at any rate not worked up in a sufficiently finished form to be worth adding to the collection of ten drawings listed in 1857.

The ghost of published sheet lines?

I referred above to a putative eastern boundary for Drawing 7. My thinking was influenced by some of the Ordnance Surveyors drawings prepared around 1820 for the out-of-turn mapping of Lincolnshire, the extent of which seems to be determined by the sheet lines of the published mapping, though still delimited by roads and watercourses. This is in marked contrast to earlier drawings, the limits of which bear no relationship whatever to the sheet lines of the published mapping, even when they were prepared some time after engraving and publication were under way. I recently published in these pages the continuation of the sheet lines for Old Series 1-90 into northern England and southern Scotland, on the basis of Ordnance Survey work roughly contemporary with Hobbs’s survey in south-west Scotland. The germ of this investigation was in Hobbs’s letter to Colby of 20 February 1821, already quoted:

I recollect that when you were looking over the Plans which I took to Town last year that you made some remark respecting the Northern Boundary, which induced me the other day to refer to the Maps which you were good enough to send me. It appears as far as I can judge that one sheet of copper will take nearly the whole of the County of Wigtown; but I should be glad to be informed whether you wish as much of Ayrshire to be surveyed as will fit a second sheet…”

It is unclear from this whether the maps which Colby sent to Hobbs were specimens of published Ordnance mapping, or maps of Scotland, or both. The implication of the second sentence is a sheet line system so designed that most of Wigtownshire would fit neatly onto a single sheet of copper, leaving the northern part to be mapped with southern Ayrshire, though a butt-jointed arrangement would mean that a sheet to the north of one which neatly fitted in the Mull of Galloway on the south and Craig Laggan on the west would contain a good deal less than half of Ayrshire. In the event Hobbs’s question was overtaken by the change of direction into Ayrshire, but it is possible that Colby had not discussed sheet line schemes with Hobbs or, indeed, that the details of sheet lines over south-west Scotland had not yet been worked out. At any rate, the sheet line scheme that was published recently indicates a layout completely at odds with Hobbs’s apparent assumption, with a division running south-north across Wigtownshire from about Garheugh (NX 2744) to Knockeycauw (NX 2775). Carried north, this division passes approximately through Barr and Dailly and thus suggests a possible eastern limit for Drawing 7.


98 Hobbs to Colby, 20 February 1821: copy in OSLB, 223.
Are there any tangible remains of the two-inch surveys of Scotland?

So far as surviving mapping of Scotland at this scale is concerned, the answer is very definitely in the negative. However, the knowledge that a survey of Scotland had been started, and then abandoned, certainly helped fuel the agitation in Scotland from the mid 1830s onwards for the Ordnance mapping of that country. Even when the six-inch survey was started in 1843, its progress was slow, and dissatisfaction led to the events of the 1850s known as ‘the Battle of the Scales’, which resulted in the adoption of the 1:2500 as the standard scale for rural survey. If the six-inch is the ‘Irish scale’, then the 1:2500 is ‘the Scottish scale’. Hobbs’s aborted work thus contributed indirectly to the anecdotal reputation of Britain as ‘the best mapped country in the world’.

Does that leave the one-inch and two-inch as ‘the English scales’? There are two pieces of Ordnance Survey mapping of the 1850s which have been little noticed but which might just in some wise be connected with the brief revival of two-inch work in Scotland in 1851-2. These are the revision of an area around Southampton, which was duly published on Old Series sheet 11 in 1853, and the unpublished re-engraving of sheet 10, covering the Isle of Wight.\(^9^9\) The OS had moved to Southampton in 1841, and in 1845-6 mapped the town at 1:1056 as a training exercise. Is it possible that the area around the town was remapped at the two-inch scale in 1851-2 as another training exercise for surveyors who were then to be sent to Scotland to map there at that scale? And is it possible that the Isle of Wight was subsequently remapped at the two-inch scale for a similar purpose? It is noticeable that the engraved mapping uses Egyptian for hill names, which was standard practice in Scotland and Ireland, but unknown in England.

Acknowledgements

My main debt is to the late Brian Harley, who undertook most of the research on which this essay is based. Conceived apparently in 1971, he originally thought of offering the finished article to the Scottish Geographical Magazine, partly in the hope that some tangible souvenir of Hobbs’s survey might be unearthed. My contribution is largely restricted to a few notes on the OS letter-book (TNA PRO OS 1/260), to investigating the Wellington papers (via the internet: hardly demanding), and to adding the 1851-2 episode, which was not part of Brian Harley’s original scheme. I leave it to others to judge how far Brian might have approved what I have written here; all I ask is that they bear in mind that the essays for Volumes IV, V, VII and VIII of the Harry Margary Old Series facsimile were written at the same time as the essays which have been collected in The new nature of maps.\(^1^0^0\)

---

\(^9^9\) There are two known extant copies: one is in Cambridge University Library, Maps.aa.G.014.1, and the other is in TNA PRO MR 1/1311. The use of ‘Ordnance Map Office’ in the publication note suggests a date no later than 1859. Extracts were used in some area books for 1:2500 mapping, e.g.Mottistone, Newchurch, Northwood, Shalfleet and Shorwell.

\(^1^0^0\) J B Harley, The new nature of maps, Baltimore: John Hopkins Press, 2001. [It is to be regretted that this volume has been allowed to go out of print.] For a detailed exploration of Brian Harley’s writings see Matthew Edney, ‘The origins and development of J B Harley’s cartographic theories’, Cartographica 40, Monograph 54 (Toronto: University of Toronto Press, 2005).
### Appendix

<table>
<thead>
<tr>
<th>Sheet no.</th>
<th>County</th>
<th>‘Locality’</th>
<th>Area (sq. miles)</th>
<th>Date(s) of bills</th>
<th>Author</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wigtown</td>
<td>Mull of Galloway</td>
<td>42.76</td>
<td>10:03:20</td>
<td>Renny</td>
<td>Three bills; area attributable to each officer not stated.</td>
</tr>
<tr>
<td>2</td>
<td>Wigtown</td>
<td>Stranraer</td>
<td>161.34</td>
<td>10:03:20</td>
<td>Hobbs, Victor, Battersbee</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Wigtown</td>
<td>Whitehorn [1822]</td>
<td>46.28</td>
<td>24:03:21</td>
<td>Hobbs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glenluce [1822]</td>
<td>82.72</td>
<td>24:03:21</td>
<td>Renny</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Newton Stewart [1822]</td>
<td>38.03</td>
<td>23:05:21</td>
<td>Hobbs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wigtown Bay [1857]</td>
<td>167.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Newton Stewart [1822]</td>
<td>62.54</td>
<td>24:03:21</td>
<td>Battersbee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>120.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Wigtown</td>
<td>New Luce [1822]</td>
<td>67.44</td>
<td>23:05:22</td>
<td>Renny</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loch Maberry [1857]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ballantrae [1822]</td>
<td>65.51</td>
<td>23:05:22</td>
<td>Battersbee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ballantrae [1857]</td>
<td>90.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Ayr</td>
<td>Maybole</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Ayr</td>
<td>Ayr</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Ayr</td>
<td>Killeen</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Ayr</td>
<td>Ailsa I.</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
</tbody>
</table>

Comrade Baranow, the bouncing Czech,
Penkilian Head and the World Map

John Davies

Following the brief mention of the Soviet World Map in *Sheetlines* 77, two documents have come to hand which shed some intriguing light on this gargantuan project, together with a clue as to the source of the content.

The first is a book of papers about mapping in the German Democratic Republic which has recently been translated into English. Appendix 5 contains a report of a visit to Moscow by Comrades Schilling and Nischan (technical director and editor, respectively) of VEB KD (the East German state-owned Cartographic service) and their meeting on 29 May 1964 with Comrade Baranow, Head of Main Administration for Geodesy and Cartography and others in Comrade Baranow’s office. The following extract is taken directly from the minutes.

**Item 1: World Map 1:2.5 million.** The view was taken that the advertisement and marketing of the World Map could begin (also in the foreign capitalist states). The best opportunity would be the International Geographers Congress in London in July. It would be mentioned in a conference paper (Dr Haack) that the socialist countries have produced this World Map or will be completing it by 1965. The first sheets (produced in the GDR) should be presented to the Congress. Great success is expected.

The finished sheets of Rome, Madrid, London and, if possible, those of South America should be shown at the exhibition in London. It is absolutely necessary that the sheet index (nomenclature) of the World Map is made available in sufficient numbers both for the Congress and for general advertising. An advertising brochure will need to be printed in Russian, French, English and German. Comrade Baranow agreed to the prices suggested by Prof Radó. He stated that by 1965 the Soviet Union would have completed 100 sheets.

In connexion with the fact that the People’s Republic of China is not participating in the production of the World Map and that, as a result, the data regarding the Chinese territory are, at this time, not being compiled, Comrade Baranow suggested that the Geodesy Office of Hungarian People’s Republic and the GDR should take over production (6 sheets each).

He reported that in 1960 Soviet Union had printed an atlas of China in large numbers but, due to a request from People’s Republic of China had to refrain from publishing it.

Whether or not sample sheets were ready in time for the 1964 Congress is not known, but the London, Rome, Madrid sheets were published in Berlin in 1965 and the South American sheets were published in Berlin in 1964 and 1966. Production of the China sheets was shared between Budapest, Sofia and Moscow, appearing from 1973. The series was eventually completed in 1976, the other offices contributing to the project being Bucharest, Warsaw and Prague.

The second document, unearthed by Richard Porter, is the original promotional brochure. This was published by Pergamon Press, (proprietor Robert Maxwell, the ‘bouncing Czech’ who maintained close links with the socialist regimes).

---

This undated brochure is headed ‘World Map Series scale 1:2,500,000; The First and Only Complete Comprehensive and Uniform World Map Series in this scale’ and states that place names on the map are in their official form using the Roman alphabet. (As noted previously, places in the Irish Republic are named solely in Irish.)

The sheet diagram shows 234 sheets, which are described as being uniform paper size of 80 × 100 cm. In fact there are also about another forty sheets of smaller size providing overlap where projection changes occur. The text describes the sheet numbering system based on the 1:1 million International Map of the World system of lettered bands at 4º intervals of latitude and numbered zones at 6º intervals of longitude. In the 1:2.5 million series, each sheet comprises at least three such bands and zones.

The clue to the source of the content comes from the appearance of the name ‘Penkilian Head’ at the southern-most point on the Llyn Peninsula. This name has never appeared on any OS map (subject to anyone contradicting this assertion), but does appear in the publications of John Bartholomew from (at least) the Library Atlas of 1890 to the Times Atlas of 1985, as well as the eponymous half-inch maps.

The original idea of an International World Map, with consistent content and specification at a scale of 1:1 million, was proposed by Albrecht Penck (1858-1945) at the Fifth International Geographical Conference in 1891. The project officially began in 1913, but few sheets were completed by the beginning of World War I with another 400 during the 1930s. After World War II, the United Nations took on the project, which was never completed and eventually abandoned in the 1980s.

By contrast, the Soviets mapped the world twice! The secret military mapping of the world at 1:1 million was produced, revised and re-issued throughout the period from 1930s to 1990s. The non-secret 1:2.5 million series was a separate one-off production. To demonstrate the distinction: Penkilian Head is not so named on the military map; here it appears as ‘Trwyn Cilan’, as on Ordnance Survey maps.

**Harmston puzzle corner – the answers**

In *Sheetlines* 77 we printed a ‘doctored’ map extract prepared by David Andrews for an exercise during the CCS surveying weekend. Readers were challenged to find at least four deliberate errors.

The Hon. Sec. lives at Sycamore Cottage, Chapel Lane, Harmston. In the printed version of the map, the village name had gained an extra ‘e’; Chapel Lane had been renamed after David Andrews Rob Wheeler himself, and his house had become the most remarkable shape. You should also have spotted that All Saints’ church tower had been grossly elongated.

In addition, you might have rightly suspected that both the airfield and the skateboard park were figments of David’s imagination and, if you knew the village, would have seen that the local pub, ‘The Thorold Arms’ had been renamed ‘The Old Bull and Bush’.

Norfolk airfields

David Marris

Being born in Norwich, that city and the county of Norfolk holds much to interest me, despite the fact that I moved away many years ago. Maps have also held a fascination for me. That interest led me a couple of years ago to the Charles Close Society and that has been an eye opener!! However, reader, unlike many articles in Sheetlines this will not tax the mind but is rather more of a gentle stroll through one aspect of mapping.

In Richard Oliver’s book, *Ordnance Survey Maps a concise guide for historians*, he states that “from 1928 to 1957 no detail inside the perimeter of military airfields was shown on published mapping. Since then runways and buildings have been shown, but not armament stores.” He also comments that the apparent omission of runways on older mapping of airfields is because of the absence of hard runways, rather than any censorship.1

At the start of the Second World War in 1939 there were five airfields in Norfolk; at the end there were 37. The oldest airfield in the county was at Narborough, which opened in 1915. After the First World War it was little used but in 1937 it was reopened 1.5 miles away at Marham. There were two others that were also First World War, Bircham Newton and Feltwell both opened in 1916. Coltishall opened in 1936 and West Raynham 1938; Docking, Methwold and Watton followed in 1939. As many as eight were opened in 1940 and 1942, three in 1941, six in 1943; whilst even in 1944 four more were added.

I have studied the New Popular and Seventh Series maps, though occasionally reference had to be made to some Popular Editions. The sheet numbers quoted (except where otherwise stated) are those of the New Popular or Seventh Series, where the sheet numbers are the same. Norfolk is covered by sheets 124-126 and 135-137. No less than seventeen of the airfield sites fall on sheet 125; a further eight are on sheet 136.

Having read Sheetlines, I am very conscious that members of the Society are far more well versed in the intricacies of the OS than I, and apologise in advance for any lack of knowledge and understanding that becomes apparent!

Dealing firstly with the three WW1 sites, the Popular Edition maps of Norfolk, which were subject to third revision in 1919-20, make no reference to them at all. Narborough (Popular sheet 57) was, at 908 acres, the largest aerodrome in the country and occupied most of what, on the OS maps, is marked as Narborough Field. This airfield’s existence could not have been gleaned from the one-inch maps. Bircham Newton, the second oldest, again has its presence hidden. Just over one mile due east of the church however, where the airfield was, buildings are shown on the Popular sheet 57. Interestingly, these continue to be shown (grid reference 790340) on New Popular sheet 125 of 1946, but are totally missing from 1962 A// on which the airfield is actually mentioned by that single word. They reappear on 1969 B. I have a copy of the Land Utilisation Survey of 1931/2, also sheet 57. This is at one-inch to the mile scale. The airfield is actually marked on this map ‘aerodrome’. However I suspect this is because these maps were surveyed at six-inch scale and then reduced. Feltwell also falls into the category of being hidden from the Popular maps despite its long-standing existence.

None of the 37 airfields are identified on the New Popular maps. There were at least seventeen sites where the road system was changed to some degree to facilitate the airfield.

---

However in only three cases and all on sheet 136, is the amended road system shown. Seething on sheet 137 shows some small traces of modification.

**Sheet 124.** Maps referred to are New Popular issue of 1946 15046/Cr subject to full revision in 1920. The Seventh Series print A 1954 was fully revised 1950, whilst the published edition of 1963 B/* was fully revised 1960/1.

This has only two airfields within its covered area. Downham Market (625040) and Marham (see above) (730085). Downham Market closed in 1946 yet it is still shown as ‘airfield’ on the 1954 map. It was sold in 1957 reverting to farmland. On the 1963 map it is shown as ‘airfield disused’ with the runway layout. Marham, as noted above one of the oldest in the county, remained in use until 2001. It does, though, conform to being marked ‘airfield’ on the 1954 map, with runways and buildings being detailed on the 1963 edition.

Contrasts from Seventh Series sheet 125, B edition, © Crown Copyright, NC/00/1340.

(Above) North Pickenham and Attlebridge; (below) Sculthorpe and Great Massingham.

**Sheet 125.** Maps referred to are New Popular sheet 20046/Cr fully revised 1920, Seventh Series print A/ fully revised 1950, published 1954 with unspecified corrections in 1958. A/ is the same as A/ except for road revision 1961; B was fully revised 1966/7 and published 1969.

This makes reference to eleven of the seventeen airfields by use of that single word. Docking (790394), which closed in 1946, is not mentioned and is one of those that thus never appeared on a one-inch map. However what is surprising is North Pickenham (845068). This did not close until 1965, yet apart from noting road closure, the fact that an airfield existed is not referred to on the Seventh Series of 1954 or even 1962. Print B of 1969 (after closure) shows the runway layout but the word ‘airfield’ or even ‘airfield disused’ remains absent. Also surprising is Sculthorpe (860315), which opened in 1943 and developed into a very large station. There had to be considerable alteration to the road system. The initial road
changes are dealt with on the A/ print but the area is not marked ‘airfield’. The area is left blank. Marking it had to wait until the A// edition. By the 1969 B print the runway layout is shown and the airfield is one of the few to be specifically named. Yet another station which lacked some publicity was West Raynham (850245). This opened, as already noted, in 1938 and remained so until 1994. Again, whilst a road closure is noted, no reference to the airfield’s presence is shown on the 1954 map. The 1962 map edition however marks it ‘West Raynham Airfield’ with complete absence of any other detail.

Attlebridge (105147) is also interesting. It was opened in 1941; its last mission flew out on 25 April 1945. The land was not sold until 1959 when Bernard Matthews’ turkey farms took over the site and remain there to this day. Road changes only are noted on the 1958 and 1962 maps whilst the 1969 edition shows the runways with Matthews’ buildings standing on them. This location has never been marked ‘airfield’ in any way.

Great Massingham (810235) was Norfolk’s highest airfield at 300ft. It was also the first sold by auction after the war, this in 1958. The farmer uses the runways for private flying. The airfield’s existence is noted on the 1958 and 1962 maps, yet the 1969 map, with runways, marks it as ‘disused’.

Langham (990420) was Norfolk’s most northerly airfield, being only three miles from the coast. As late as the 1962 map edition, whilst the road that was cut between Langham and Cockthorpe is noted, there is still no mention of the airfield. By 1969, the runways with buildings are shown and the airfield is noted as disused. The buildings on the runways are in fact turkey breeding sheds.

Swanton Morley (000185) shows yet a different approach. The 1958 and 1962 maps are identical with road cuts and in this case the word ‘airfield’ appears. Unusually the 1969 map shows no runways, merely the perimeter track accompanied by a large number of buildings and internal roads, yet the airbase remained open until 1995. It is now an army barracks.

This does indicate that there was no consistency in the detailing of airfields.


This has only four airfields on it. Coltishall (262225) developed into a leading RAF base and only closed in 2006 whilst another, Horsham St Faith (225136), is now Norwich Airport. Coltishall is specifically named on the 1969 edition. Horsham remained as an RAF station until 1967 and by 1969 had been bought by local authorities for development as Norwich Airport. The 1969 map marks it as an ‘aerodrome’ an interesting distinction! Of the other two, Ludham (400195) was Norfolk’s most easterly airfield and closed in 1945. It is still marked ‘airfield’ on the 1954 map; the runways and the fact that it was disused waited till the 1969 edition. It was re-opened as a flying club in 2003. The fourth airfield was at Rackheath (290145), which also closed in 1945 yet it too was described as ‘airfield’ in 1954.

Sheet 135. Maps consulted are New Popular 20046, fully revised 1930 and published in 1946, together with Seventh Series A/, fully revised 1950 published 1954 with unspecified corrections 1956, plus A//, which had a road revision in 1960.

This covers only two Norfolk airfields, namely Feltwell (710895) and Methwold (730935), both within a few miles of each other. Feltwell, as noted above, is pre WW1 yet its existence

2 It was the first place from which De Haviland Mosquitoes entered service (November 1941) and also the first base from which USAAF personnel operated (June 1942).
is not acknowledged by Popular sheet 57, nor, as is common, by the 1946 sheet. The road that ran between these two places and which was taken out by the building of Methwold is shown intact on the 1946 map. Both are however marked ‘airfield’ on the A/ edition.

**Sheet 136.** Maps referred to here are print 20046 published 1946, fully revised as early as 1914; Seventh Series sheets looked at are A/ fully revised 1950, published 1954 with unspecified corrections in 1956 and B, fully revised 1966-7 and published 1968.

This is the 1946 sheet which, whilst not mentioning the existence of an airfield, actually shows the amended road systems in three cases. The three are Deopham Green (030990), Snetterton (005895) and Watton (940000). These airfields were built in 1944, 1943 and 1939 respectively. In Richard Oliver’s guide to the New Popular Edition comment is made that there was a road revision in 1944-5 for only part of this map. It so happens that these airfields all fell north of the revision line. In each case the 1954 maps noted their being, despite the fact that Deopham Green station closed in 1948. Snetterton eventually became a motor racing circuit and still is today: a fact recognised by the 1968 edition map. Watton continued in use until 1978 but it was not until the 1968 map that the considerable number of buildings on the station were shown. This sheet houses two sites which have never been marked as an airfield. First is Bodney (840990), which operated between 1940 and 1945. No mention of it occurs on the 1946 maps, as ever, whilst by the 1954 map only the perimeter outline is shown. The position is replicated by East Wretham (905895), 1940 to 1946.

**Finally sheet 137.** Consulted maps are 30046, again fully revised as early 1914, published in 1946 and Seventh Series sheets A/, fully revised 1951-2, published 1954 with unspecified corrections 1958, and print B, fully revised 1966-7 with road revisions in the year of publication 1969.

The four airfields falling within its area are Hardwick (250905), Hethel (155008), Seething (320960) and Thorpe Abbots (185805). All opened in 1942 except Seething, a year later but closing in 1945. This is really in a countryside district. I have concluded that the 1946 map did show some minor changes to the little country roads or tracks in the area with regard to this one airfield though not the others. Its runways remained in being and it is now home to a private flying club. Thorpe Abbots, marked ‘airfield’ on A/, actually closed in 1956 whilst the 1969 map indicates it is disused. Hardwick (closed 1962) has the runways are fully shown. But there is no comment as to its status. Hethel perhaps deserves mention. Whilst it closed in 1948, it was not sold until 1964. It was on these abandoned runways that the writer made his first attempts at driving father’s car! However, more famous than that is the fact that it became the manufacturing site and testing grounds for Lotus Cars, the runway being used as a testing track.

I have deliberately not mentioned many airfields to keep the article to a reasonable length. What I have attempted to do is detail some to emphasise the inconsistent way the subject was dealt with. Some never lasted long enough to appear; others were shown and whilst it is obvious what they were, no description appeared. Yet others were shown as airfields long after they were closed whilst some were marked ‘disused’ and others not. I have found many combinations of all these. What it actually proves is another matter!

*See also John V Nicholls, ‘Depiction of airfields on New Popular and Seventh Series one-inch maps’ Sheetlines 46, 24-26. A letter from Richard Oliver follows in Sheetlines 47, 66-68. – CJH.*

---

Thumbnail sketches on one-inch map covers from 1945
Part 1. The first phase of sketch maps on New Popular covers

K S Andrews

The sketch map, or location map as it is sometimes termed, has been a common feature of the front of an OS folded map, especially one of a series planned to cover the country. The front, whether it be a real cover or that convenient cartographer’s oxymoron ‘integral cover’, carries printed identification to help the user to pick the right map for the task in hand.¹ Usually, the whole area covered by the map is indicated by a small, crude diagram giving a bare minimum of information.

At a scale of 1:1,200,000 and measuring a mere 38 by 33 mm, the location maps on the covers of New Popular and Seventh Series one-inch maps undersell the quality of the map inside to a marked degree, being designed to orientate the user, showing some of the places on the sheet and very little else. This series of articles aims to report their design and development on one-inch ‘blood and custard’ covers from the mid 1940s until the Seventh Series was fully withdrawn on completion of the Landranger Series in the 1980s. This first instalment sets the scene and describes the sketch maps in general and the characteristics of the first wave of sketch maps used on the covers as the New Popular Edition was rolled out. Study of the replacement sketches on later New Popular covers and the transition to the Seventh Series is as yet incomplete but the results will be reported in due course.

The 114 sheets of the New Popular Edition were first published in two cover styles, named in a previous article KA1 and KA3.² Sheets 157, 158, 161, 167, 169, 171, 172, 179, 182, 183 and 184 (the eleven ‘Ellis Martins’) were published in 1945 with a hand-lettered cover design KA1 which was soon replaced by a letterpress cover KA2 which resembled the first cover KA3 used for the remaining 103 sheets. This simple scenario conceals the fact that the sketch maps are of four different types which cut across the groups of cover styles. As an aide-mémoire, a diagram of the early cover groups is shown below.

---

¹ A map sheet with identification information printed on part of the back and visible when folded is said to have an ‘integral cover’ but cover there is none.
² Sheetlines 76, 14-28.
Sketch Type 1

Sketch type 1 is found only on sheet 161. As shown in Figure 1, it has a 3-box frame, as do the other ten Ellis Martin cover sketches, but the Caslon typeface used for the lesser placenames in the sketch is quite small. Sheet 161 is also singled out in that, in addition to the generic lettering, the sheet number line ‘Sheet 161’ and the sheet title ‘LONDON, N.E.’ are hand-lettered on the cloth cover, the paper and dissected EM covers having those features in letterpress. The type 1 sketch is carried through from KA1 to KA2 covers of sheet 161. The 3-box sketch for sheet 161 is also unique in the use of ten lollipops and some dots for Epping Forest, named in italic sentence case, the only natural land feature to be illustrated by symbols on a New Popular sketch. It is re-drawn with only nine lollipops and some dots on its replacement type 4 sketch (see below and Part 2 of this article).

Sketch Type 2

Sketch type 2, which also has a 3-box frame, has a larger Caslon typeface for the lesser placenames as shown in Figure 2. Type 2 is found on the other ten Ellis Martin covers in group KA1 and on their successors in group KA2. At this point it is pertinent to note that the
3-box frame is not a template, but was drawn individually as can be seen by comparing 167, *Salisbury* with 183, *Eastbourne*. The outer thin frame lines are more closely spaced on the former. These sketches were also replaced later in type 4 format.

**Sketch Type 3**

Type 3 sketches have a 2-box frame, maybe because it was thought that the bold 3-box design resembling a funeral notice was a distraction from the details in the sketch. These sketches again use the larger Caslon typeface, having the distinctive ‘g’ with a flattened lower loop and a short-tailed ‘y’. This sketch type, shown in Figure 3, was used on all covers on sheets first published after the ‘EM eleven’ up to the end of 1946, and some published subsequently, there being a chronological overlap with type 4. The last type 3 sketch was made for sheet 130, *Kidderminster*, published 6.47. Type 3 sketches are found on covers in group KA3 (but see Part 2 where they will be reported as lingering in south Wales on later cover groups after being replaced in type 4 design everywhere else). Again, the frame is not a template, as shown, for example, on the cover of sheet 166, *Frome*, where it is interrupted by the locating circle for Bath.

**Sketch Type 4**

On type 4 sketches the typeface for lesser placenames is changed from Caslon to Times, giving a greater clarity and more modern appearance to the sketch (see Figure 4). The first
type 4 appears on sheet 85, *Durham*, published 1.47. Thus the sketch design attained the form to be retained until the launch of the red H132.1 covers for the Seventh Series in 1969. No clear division of publication dates is evident but a clear line can be drawn across the country between type 3 and type 4 sketches. This geographical division is illustrated in Figure 5.

**Sketch map features**

Sketch maps always show any coastlines with (usually three) echoing wave lines to distinguish them. These lines are artwork possibly depicting waves of the sea; they have no factual basis in high or low tide levels, or submarine contours. Main rivers, canals, and lakes (some with wave lines, e.g. Derwent Water on sheet 82, *Keswick*), are also depicted. Large conurbations such as London and Birmingham are blocked round with diagonal hatching infill, and location circles are used for all other named settlements, up to about 15 per sketch. Placenames are added in three styles; LONDON and BIRMINGHAM are in upright capitals and other conurbations are in italic capitals, as are larger settlements only shown as circles. LONDON has its name within the hatched area, all others are outside. Lesser named places are in upright sentence case. *‘BRISTOL CHANNEL’* and some other large sea features are in italic capitals and may not be shown horizontal. A few bays, promontories and rivers, including *‘Mouth of the Severn’* are named in italic sentence case and some canals bear the word *‘Canal’*. Railways and airports are not shown.

**Printing procedure**

Spacing differences on different printing batches of the covers of sheets with first wave sketches show that the sheet number line was not on the sketch block but set up with moveable type. It is known that by 1948 the generic data on the covers was printed by lithography but the sheet-specific information was still added by letterpress.\(^3\) New Popular coverage was complete by the end of 1947, so the first wave of sketches were all printed by letterpress. A contemporary textbook, *Practical Printing and Binding* edited by Harry Whetton, has a well-illustrated contribution by A E Dent describing how line blocks (*‘zinco’s’*) were made and used.\(^4\) To summarise, the line drawing, which may be quite large, is first photographed. The negative is pressed on a metal plate coated with albumen and ammonium bichromate. By exposure to light, a photochemical reaction forms insoluble lines which are treated to form the acid-resist of the plate. After nitric acid etching, the printing surface stands up in bold relief, with the non-printing areas being etched down, the larger areas then being cut down further with a routing machine. The zinco, mounted on a wood block to be *‘type-high’*, is placed with moveable type in a forme to print the sheet-specific data on the part-printed cover.

**Misleading maps**

The following idiosyncrasies have been noted on the first wave of sketch maps but the list may be incomplete. Where the difference is in spelling, the version on the sheet is indicated in parenthesis.

---

3 *Sheetlines* 76, 17.

4 London: Odhams Press Ltd, undated (c. 1945), 262-270. The reader is also instructed on grippers, wet and dry flong (and how to beat it) and much else.
<table>
<thead>
<tr>
<th>sheet identifiers</th>
<th>sketch type</th>
<th>discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>T4</td>
<td>Dumfries, Locherbie (Lockerbie)</td>
</tr>
<tr>
<td>107</td>
<td>T4</td>
<td>Snowdon, Penmaen Mawr (hyphenated)</td>
</tr>
<tr>
<td>115</td>
<td>T4</td>
<td>Pwllheli, Llandyfn (Llanyfni)</td>
</tr>
<tr>
<td>117</td>
<td>T4</td>
<td>Bala &amp; Welshpool, Llanfair Caereinion (hyphenated)</td>
</tr>
<tr>
<td>128</td>
<td>T4</td>
<td>Montgomery &amp; Llandrindod Wells, Llanfair Caereinion (hyphenated)</td>
</tr>
<tr>
<td>139</td>
<td>T3</td>
<td>Cardigan, Rosebush (located across on sheet 138)</td>
</tr>
<tr>
<td>152</td>
<td>T3</td>
<td>Carmarthen &amp; Tenby, Llanmadog (Llanmado)</td>
</tr>
<tr>
<td>166</td>
<td>T3</td>
<td>Frome, Sketch shifted eastwards^5</td>
</tr>
</tbody>
</table>

Part 2 of this article will explore the replacement sketch maps on later New Popular covers.

The assistance of Peter Gibson, who reported in detail on his map collection, is gratefully acknowledged.

^5 See Sheetlines 48, 4-5 for an article on sheet 166 sketch maps by Brian Dobbie.

This week, women of Britain, I bring you the must-have Manopedia... everything you ever need to know about men and how to drive them mad. Literally!

There is no faster route to male insanity than holding his map upside down...

Deborah Ross, Daily Mail, Saturday February 10, 2007, courtesy of Jane Barton.
Richard Oliver\textsuperscript{1} asks what became of the members of a field section whose photograph appeared in *The national plans* (1934).

Clem Gay and Peter Lasbury do not appear in the complete OS staff lists for 1952 and subsequently. The others named below were ‘ex-regular RE’ when they joined OS after the war.

Ernie Morande is probably E C Marande (sic), a surname still extant in Southampton: born 9 July 1906; joined OS 15 April 1947; became a draughtsman grade III 27 July 1950. From at least 1951 until 1971 he was in Large Scale Examination and then presumably retired at 65.

Bert Landon must be A[bert] H Landon: born 20 April 1910; joined OS 9 May 1949 as a surveyor grade III based in the field division, Bristol. Unlike Marande he was disestablished soon after reaching 60 (1 December 1970) and continued as a surveyor grade 4 until 1972.

Leonard C Guilder: born 4 November 1907; joined OS 11 June 1947 as a surveyor grade II in the field division, Nottingham; disestablished as a surveyor grade IV by 1 January 1968 and had left OS by January 1970.

Jock Stewart is more difficult as ‘Jock’ is presumably a nickname and not probative of his initial. There were half-a-dozen possible candidates above the basic grade in 1951 and three more qualify by birth date in the first complete staff list, 1952, but eliminating (perhaps unjustifiably in the light of others’ regradings to draughtsman) all the 1952 non-surveyors and those born after 1916 we are left with:

George E Stewart: born 10 August 1908; joined OS 20 November 1945; became a surveyor grade II in the field division, Edinburgh, 21 March 1946; promoted surveyor grade I 25 February 1958; Assistant Divisional Officer, Field (HQ) 22 August 1960; Divisional Officer (Training and Information) 5 September 1966 – 1970.

or

J Stewart: born 13 December 1911; joined OS 25 April 1949 as a surveyor grade III, Trig. and Levelling Division; moved to Geodetic Control 1953/4; became a draughtsman grade III in 1960 and so continued until 1976.

Oh, but are there not two bicycles in the photo? One for the lance corporal, and perhaps one for the lower-arm chevron wearer: is this a service stripe, or was there a special RE rank of ‘second corporal’? But we cannot see all their forearms …

---

\textsuperscript{1} Sheetlines 75, 26-27.
Further exploration

John Cole

In Sheetlines 71 I gave somewhat qualified praise to the B editions of the twelve Explorer maps which wholly or partly cover Cornwall and the Isles of Scilly. This was based on a comparison with the B editions and A editions of 1997 which I had ‘revised’ from 1:10,000 scale maps revised 1995-2000 held in the local library. An extension of this exercise covering sheets 102, 104, 105 and 111 indicates that I ought to put the record straight with a considerable increase in praise for the revision levels observed.

In my previous article field boundaries (mainly deletion) were noted to be revised on a rather ad hoc basis but on sheets 102 and 111, possibly for different reasons, this is far less apparent and indeed it would take a very keen eye on both maps to spot deletions or additions of such detail which had not been picked up. There can be little doubt with hindsight that the A editions were something of a ‘confidence trick’, albeit a justifiable one, in that Ordnance Survey simply did not have the resources or staff to undertake a revision of the constituent Pathfinders which by 1997 were, more often than not, badly out of date. Cosmetic improvements involving sketched lakes and large rural buildings were resorted to; most, if not all, being corrected on the B editions. But in spite of it being a major task, especially on sheets 102 and 111, field boundary revision had by 2003 been all but completely updated as well.

Sheet 102 had included a Pathfinder – one of only two in Cornwall to be fully revised by the late 1980s. But the Pathfinder to the immediate north contained over 50 km² originally revised in 1961 where a vast amount of field boundary clearance had taken place in the following twenty years. This area of Explorer 102, when published in 1997, remained in its 1961 condition with the exception of some built up area improvements.¹

Sheet 111 included two Pathfinders where some 68 km² were in their 1905 state; a further eight circa 1932, and eight more part 1905/32. Whilst a number of squares had received attention prior to 1997, more than half (apparently) were in their original condition. The actual extent of this revision task carried out on the 2003 Explorer has to be seen to be believed!

Whilst revision of names was not fully investigated, it was obvious that many changes had taken place, especially where farms and isolated rural buildings or large houses were concerned. These can doubtless be attributed to the Address-Point programme of OS which is kept very much up to date. Yet another advance is that fire breaks, as opposed to tracks, are clearly shown in woods simply by a break in the colouration, though this is not mentioned in the general information section of the legend.

Are there any drawbacks, and are Explorer B editions as good as this in other parts of the country? Well, I have some doubts about vegetation classified from air photos rather than ground inspection. What may well appear as dense non-coniferous wood on a Cornish air photo is often no more than dense scrub. It was also noted that there had been much deletion of areas of scrub, bracken, heath or rough grass which could be questionable in certain instances. Also, tidal revision is probably a low priority. Alteration (if any) would not be apparent to the majority of tide lines at 1:25,000 scale in Cornwall, bar long sandy beaches or

¹ Roughly an area bounded by Penzance, St Ives and Marazion.
river estuaries, instances being pointed out on *Explorers* 106 and 107 in *Sheetlines 71*. In an extension of that exercise a single change was spotted on the beach at Bude (*Explorer* 111) where a river course has altered.

Finally, the contours mentioned in *Sheetlines 57* have not been deleted at Hayle Towans on *Explorer* 102. They are deleted on the 1:10,000 maps, the land coloured yellow and annotated ‘dunes’.

---

*Interpreting the 1:2500 County Series*

*Dennis Mills and Rob Wheeler*

![Figure 1: extract from Lincolnshire 1:2500 sheet LXX.7 (second edition)](image)

Making sense of urban areas as depicted on large-scale maps is not easy. Indeed, it has become more difficult as the style of the maps has become more austere. However, for the revisions of the early years of the twentieth century, a knowledge of the exact rules being followed, together with the typical forms followed by contemporary builders can take one a long way.

Readers are invited to try their hand at the block of buildings here from Lincolnshire sheet LXX.7, revised 1904-5. Oliver’s *Concise Guide*, 2005, p77 *et seq* may be of use.¹ The challenge is to say what the buildings A to E were, including some indication of their number of storeys.

---

$D$ is a good plot to start with. The buildings here have broken lines to their sides; they are therefore open sheds.

Since $D$ cannot be a Baptist Chapel, and $B$ hardly looks like a chapel, the name must refer to $C$. We expect a building of two-storey height, perhaps with vestries at the back, and the little indentation (perhaps for steps to a coal cellar) seems to confirm this. Clearly the building is of similar height throughout; otherwise a division line would separate the single storey parts at the back from the rest of the chapel.

Skipping $B$ for the present, we turn to $A$. With its symmetrical facade, it looks a building of some grandeur. (It was designed to be a school ‘or other public building’, the suggestion being that it might be turned into a new town hall if the school failed.) That it was of at least two storeys is confirmed by the separate part adjoining the left-hand light well, which is most easily explained as a single storey feature of some sort. (Because of the slope of the ground, the southern part of the building stood on a substantial basement, and the part distinguished adjacent to the light well was actually a chemistry laboratory at basement level within the light well.)

Now consider $E$. This is divided into three parts, of which the middle runs the full depth of the building but is only 2m wide. At its south end is an open-sided extension bridging the gap to the school. It looks like a corridor of some sort, which seems to imply that $E$ was part of the school, and probably not very high, for otherwise it would make the rear rooms of the main block excessively dark. (Actually, the largest part to the east was a manual instruction workshop for woodwork and metalwork, the part to the west an elementary electrical laboratory, both these being high-ceilinged but cut into the hillside. Between them, steps descended from Cathedral Street to the yard between the two parts of the school, open to the winds (as one of the authors remembers too well) but with a roof that rose with the steps. One cannot fault the surveyor for the way he drew it but one would never deduce the form of the building from the map.)

Finally returning to $B$, the central archway through to a small courtyard implies a front part of at least two storeys. The rear block is in two parts. The multiplicity of tiny divisions in between suggests that the surveyor was trying to indicate something, but we are at a loss to say what. Overall, it looks a commercial establishment of some sort.

That, we believe, is as far as one can take the evidence of Figure 1. It is worth a few words about the sources that can add to it. First, there is the contemporary six-inch map. Since this marks public buildings in black, one can confirm that $E$ is indeed part of the school. $B$, unsurprisingly, is not a public building.

At this point, local street directories can be useful. Kelly’s *Directory of Lincolnshire* for 1905 tells us that between the School and Chapel were numbers 6 and 8 Monks Road. No 6 was occupied by Richard Keyworth, a cattle dealer; no 8 was occupied by Edward Porter-Smith, veterinary surgeon. Going back to Kelly’s 1896 Directory, we find a William Morris, cattle dealer, in place of Porter-Smith. Going back further to White’s Directory of 1882, we find no entry in the relevant section of Monks Road and both Keyworth and Morris listed with addresses elsewhere in the City. That might lead us to deduce that the buildings were put up after 1882; however, directories are not always up to date. In this case, Akrill’s *City of Lincoln Directory* for 1881 lists both individuals in the relevant part of Monks Road (Morris

---

2 Lincolnshire County Council, Legal Services Dept, Wallet 3085, indenture of 23 Sep 1885.
3 Numbers 130 and 129 respectively in an earlier system of numbering.
being ‘butcher and cattle dealer’) and the 1881 Census Enumerator’s Book tells us that both individuals were living on the relevant part of Monks Road, together with their families and servants. In short, B consisted of two houses, initially occupied by cattle dealers – the cattle market was only 100 yards to the east – and it is possible that some of the buildings at the rear were associated with butchery.

That is about as far as printed sources will take one. In our case, we knew that the school was about to expand in 1908 onto the plot D and we wondered whether the school was already using these sheds for some technical purpose. Most towns took advantage of provisions in the Public Health Acts to adopt bye-laws requiring new buildings to be approved; those applications often survive. One such application, of 1902, shows that the sheds were in the occupation of Halkes Bros, of Friars Lane, which can be seen emerging opposite the Sessions House. The street directory tells us that they were builders: evidently they found their yard in Friars Lane too small.

Figure 2: detailed plan (8ft to an inch) of proposed development, 50% of actual size,
John R. Halkes, architect & surveyor, 11 Mint Street, Lincoln

Figure 2 is an extract from that plan, showing the stables and store that were to be inserted at the southern end of the shed. The accompanying application states that the floor was to be of stone flags, the walls of brick, the roof of corrugated iron. So far as one can tell, the stone flags were only to be laid in this stable and store; the rest of the shed seems to have had open sides, and a corrugated iron roof supported on six piers of brick or wood. The rather short-lived stable was, according to the OS definition, a permanent building and, since it was structurally one with the open shed, that would have made the open shed permanent. But suppose the stables had been inserted after the date of large-scale revision, and suppose the roof supports to have been timber posts, would the entire shed have been omitted as a

4 TNA (PRO) RG 11/3243, folio 90, entries 433, 434.
5 Lincoln Central Library, Municipal Technical School Prospectus, 1907-08.
6 We are grateful to City of Lincoln Council for providing access to these plans which are held within their Heritage Team, and for kind permission to reproduce figures 2 and 3.
‘temporary building’? Or would the surveyors have cleared away the clutter at the base of a post to see whether it rested on a pad-stone, and regarded that as a ‘stone foundation’ making the building permanent? Were there other buildings in the yard, not shown because they were deemed temporary? The block plan submitted with the building application (Figure 3) enables us to answer that last question in the negative.

![Block Plan](image)

*Figure 3: block plan of site at 33ft to an inch, from building development application, 75% of actual size*

We close with two observations. The first concerns what one does not see. One must be alert to the possibility that empty spaces on the OS map were not empty at all but filled with temporary buildings. Likewise, the development application plans only show us Halkes’ sheds because the brothers wanted to put stables into the southern end, and horses require drainage in some form.

The other observation concerns the very generous curve between Cathedral Street and Temple Street as though to allow immense low-loaders to deliver massive machinery to the back of the technical school. One cannot fault the depiction of that boundary by the ordnance surveyor. Or rather, one can observe from the building development plan that it was actually polygonal, consisting of six straight lengths of rail supported on eighteen posts, and was not quite as symmetrical as shown on the 1:2500. However, it was not provided for the convenience of the technical school, for when they built their extension, they rounded only the last 3m of the corner. All we can suppose is that when Halkes’ men went to fence in the yard they found they didn’t have enough fencing and made do by enclosing as much of the plot as they could. A temporary fix, perhaps, but not a ‘temporary fence’ as defined by the Ordnance Survey.

---

7 If this be thought implausible, we can only observe that according to the original sale particulars (of 17 Nov 1876 in Wallet 3085) the plot should have been trapezoidal, with the corner rounded at a radius of about 5ft. As occupied by the school after 1908, it was trapezoidal with a corner radius of 14ft. The radius of curvature on Fig 3 (so far as one can be defined) is 70ft, whilst the tidied version on Fig 1 has a radius of 50ft.
The railway from Inverness to Wick has always pursued a tortuous course on its journey north. The rail journey is 161 miles whereas a crow, flying directly, would only have to travel 79 miles, just under half the distance. One reason for this is the long term failure to provide a rail bridge across the Dornoch Firth means that a long diversion has to be made inland through Sutherland before returning to the coast and turning north again. The map shows part of this section in Sutherland, with the railway heading ESE off the edge of the map on its way north. But - this is not the way to Aberdeen. The best way to get to Aberdeen from here would be to proceed the 70 (rail) miles south to Inverness before heading east.

Beware of bogus surveyors!

Recently advertised for sale on e-bay:

‘Ordnance Survey’ high visibility site coat brand new

Ordnance survey logo on left breast and ‘ORDNANCE SURVEY’ clearly marked on rear. This is a top quality, UK made jacket that will give years of service. Ideal for ‘covert’ site inspections!
**Russian maps now widely available**

*John Davies*

It is probably just a coincidence, but ever since *Sheetlines* broke the story of Soviet military mapping, the maps themselves have started to become widely available, at little or no cost.

Landmark Information Group recently acquired city plans of over a hundred British towns and cities and has released them in the Historic Maps section on their Envirocheck website. This is restricted to subscribers such as developers and environmental engineers, but some examples may be viewed on the website. The maps are mostly at 1:10,000 or 1:25,000 scale, dating from 1970-1990, as documented in *Sheetlines*, but curiosities include the 1:5000 of Milford Haven of 1950 and a 1997 plan of Falmouth.

Meanwhile, topographic maps of five scales between 1:50,000 and 1:1 million are available for free download on three websites: [http://poehali.org](http://poehali.org), [http://www.topomaps.eu](http://www.topomaps.eu) and [http://maps.vlasenko.net](http://maps.vlasenko.net). These sites have different coverage, but between them cover much of Europe, Russia, Asia, Africa north of the equator and South America. British mapping seems to be limited to 1:500,000 at present. The Poehali set is also available on DVD from [http://mapstor.com](http://mapstor.com), which is offering twelve disks comprising almost 20,000 maps at $20 per disk.

Now, just suppose you did collect 20,000 world-wide maps of various scales (or even a fraction of them), how on earth would you find the one you want and how do you view them without slowing your PC to a crawl (the files are typically between two and ten megabytes each)?

This problem has been addressed by *Soviewer* software (but to declare an interest here, this has been developed by my son, Alastair). What we have done is integrate a world gazetteer having six million names with a program to display the relevant map. When you select the place and scale you want, you get an extract of the map in a window, centred on your target. Using the mouse you can scroll continuously in all directions across the sheet and over neighbouring sheets (assuming, of course, that you have them on file). You can also switch between different scale maps of the same place, copy to clipboard, print the map at approximately true scale and, best of all, overlay the Cyrillic names with their Roman script equivalent.

*Soviewer* is described on [www.SovietMaps.com](http://www.SovietMaps.com), which also has all the links mentioned here. The Personal Edition (for personal use on stand-alone PC) is downloadable, but, as the Charles Close Society has played such a key role in revealing Soviet mapping, CCS members are offered a special half-price deal plus a bonus of a free set of Soviet 1:100,000 sheets of the British Isles. For more information and to take advantage of this offer, contact *John@SovietMaps.com*. Also available is the Library Edition, with network capability, catalogue maintenance and other professional functionality. An independent review of *Soviewer* will appear in a future issue of *Sheetlines*.

---

1  *Sheetlines* 72, April 2005.
2  [http://www.envirocheck.co.uk](http://www.envirocheck.co.uk)
The Cassini Old Series and Past and Present issues

Richard Oliver

A specimen of the first instalment of the Cassini issue of the Ordnance Survey 1:63,360 Old Series was reviewed in Sheetlines 74.1 At that time the publisher was called Timeline; now it is called Cassini, and the series is now complete, at any rate for England and Wales.2 The maps, both the Old Series and the new Past and Present series, seem to be on sale fairly widely, and there should be no great difficulty in obtaining local sheets, at any rate, from chain bookshops.3

This is the third complete ‘reproduction’ of the Old Series to appear, at any rate in conventional paper form: the others are in sheet form by David & Charles, published 1969-71, and still available at £4.99 per sheet, and in a series of eight volumes by Harry Margary, published 1975-92, of which only Volume VI (Wales) is still available.4 Both series were edited by J B Harley, unassisted for David & Charles, and helped by various hands (including this reviewer’s) for Margary. The David & Charles series used a mixed bag of originals from the early 1860s onwards, which meant that, outside parts of northern England, the maps were hybrids, subject to the addition of railways and other partial revision, and thus not always representative of what had originally been published, never mind surveyed. The ‘First Edition’ claims were rendered frankly risible by eight of the sheets being based on fully revised re-engravings of the 1830s and 1840s. The Margary series was based as far as practicable on first or at any rate very early states, and the accompanying cartobibliographies enabled readers to ‘filter out’ the additions. Both David & Charles and Margary had notes which elucidated original field survey and revision dates, which are particularly important for the Old Series. Taken together, one can learn a lot from the editorial matter, but there is no good concise history of the Old Series.5

The Cassini offering differs from the previous two in that the mapping has been enlarged by 1.2672 to 1:50,000, the National Grid has been superimposed, and the original sheet lines have been discarded in favour of those of the current 1:50,000 Landranger. The recasting on modern sheet lines ought to help sales, but it has the attendant disadvantage that the component sheets have to be joined. This sometimes results in a grinding discordance. Along the Preston-Hull line on sheet 107, where 1820s and 1850s material have been joined, this may be unavoidable; elsewhere it may reflect variable plate-wear on the individual impressions used as a starting-point, together with deficiencies in edge-matching the originals. There are also difficulties where sheets in different states of revision have been

---

1 Sheet 189, reviewed by Chris Higley in Sheetlines 74 (2005), 45-7.
2 Strictly speaking, it is not quite complete, as only sheets 75, 80, 81 and 85-204 have been published, so that some areas adjacent to the Scottish border are not available. The change of name was an enforced one as, some time after an application had been made to register the name Timeline, it was found to have been ‘bagged’ by someone else. It seems extraordinary in this age of instant communication that there is no online register which would enable such a point to be settled within nanoseconds.
3 In case of difficulty, the company’s website is www.cassinimaps.com. My comments here are based on copies of sheets 107, 113, 122, 176-8, 187 and 192 and Exeter and Exmouth obtained by purchase, and sheet 110, Ely, Haddenham & Littleport and the trial sheet Chatham, Gillingham and Rochester supplied by Cassini. I am also indebted to Dan Réem for elucidation on several points.
4 At least, that is my current understanding: a web search will elucidate current availability and prices.
Figure 1. Old Series sheet 27 (first published 1809: late printing), with grid added, 1996.

Figure 2. Old Series sheet 85 (nominally published 1824, actually published 1825, late printing of geological version), with grid added, 1996.
Figure 3. Old Series sheet 54 S.E. (1831: late printing), with grid added, 1996.

Figure 4. Old Series sheet 48 N.W. (1838: late printing of Index to Tithe Survey version), with grid added, 1996. All figures have been reduced to approximately 70% of true size.
used; thus on sheet 110, at SK 020950, a railway is left ‘hanging’, and on sheet 143 part has been made up from Index to Tithe Survey material, with the result that parish boundaries stop dead and link-lines for detached parts shoot off into nothingness. The David & Charles issues were not free from discontinuity between sheets, but it was mitigated by retaining the original sheet lines.

The reproduction, at any rate on the sample of sheets examined in detail, is good, and if anything improves on both David & Charles and Margary; the slightly ‘grey’ effect apparent under stronger light is perhaps a consequence of enlargement and, if anything, helps legibility. The drawbacks are the joins and the variable state of revision of the originals. Of the nine sheets examined in detail, 107, 113, 122, 176-8 and 187 (component originals published 1805-25) all seem to be based on very early states; 192 (component originals published 1809-11) uses originals dateable to 1835-44 which have had geological information (unobjectionable) and other revision (partial and objectionable) added; and 110 (component originals published 1840-44) mostly uses late 1850s and early 1860s states of the plates, with railways added, incompletely.⁶ All I know of 143 is from the extract on the Past and Present Ely sheet, but the mixture of earlyish pre-railway and later Index to Tithe Survey (with some railways) material is not inviting. These inconsistencies presumably represent what was available to Cassini from libraries prepared to co-operate, rather than what would be ideal, which is the earliest states. Whilst there is a note of the terminal dates of first publication, there is no hint of either the earlier dates of fieldwork or the later ones of partial revision. These would not have removed the heavy handicap of using some ‘hybrid’ originals, but they could have mitigated it. Is it too much to hope that, should the venture prove successful enough for sheets to be reprinted, this information could be added? As it is, it is difficult to recommend purchase to libraries or anyone else who has either the Margary volumes or the David and Charles sheets.

The boldest aspect of the venture is the addition of the National Grid. That this is not entirely successful in planimetric terms is unsurprising: the errors in much of the mapping are inconsistent, and the only way that the grid could have been in sympathy with this mapping’s modern successors would have been by ‘warping’ either the grid or the mapping. Figures 1 to 4 show the effect of ‘warping’ the grid to fit the detail; they were originally prepared in 1996 in order to demonstrate the inadvisability of using the Old Series in conjunction with the National Grid. In these circumstances, differences of 150 to 200 metres between grid positions on the Cassini mapping and those on the OS Landranger are unsurprising, though it is fair to add that the differences are much less in the northern part of sheet 107, based on mapping on the Delamere origin which eventually became part of the New Series and finished its career as part of the New Popular Edition.

Whereas the David & Charles and Margary OS projects were limited to the Old Series, Cassini have much wider horizons, as demonstrated by their Past and Present series. A specimen sheet was produced in the summer of 2006, and circulated for criticism, and the company have acted on some of the comments. The concept is an interesting one: the same 15 × 15 km area is shown variously in the Old Series (using the same scans as for the

⁶ The make-up of sheet 110 seems to be as follows: 81 NW (surveyed 1838, published 21 March 1842), states 1-4, ?state 1 (pre-1856); 81 NE (surveyed 1837, published 30 September 1840), states 2-6, ?state 2 (pre-1858); 82 NW (surveyed 1837, published 1 June 1840), states 4 or 5 (c.1856-60); 87 NW (surveyed 1838), states 3-6 (c.1852-62); 87 SW (surveyed 1837-8, published 2 August 1841), states 6-8 (c.1857-64); 88 NW (surveyed 1838-9, published 1 March 1844), states 6 or 7 (c.1856-60); 88 NE (surveyed 1838-9, published 20 February 1843), states 6-9 (c.1856-64); 88 SW (surveyed 1838-9, published 18 September 1843), possibly state 7 (c.1856-8).
Landranger-aping series), the revised New Series with hills in black, the Popular Edition, and the current Landranger. The same size of paper, trimmed to 1000 × 890 mm, is used as for the Landranger and the Cassini Old Series issues, and this brings the first disadvantage: the relative expense. I am told that one of the appeals anticipated is to the gift-market where, presumably, novelty and a degree of personalisation or locality outweigh more sober considerations. The expense of the Past and Present series is both relative and absolute. The map area within the neat line of the Landranger and Cassini Old Series is 71.9 % of the total paper area; on the Past and Present series it drops to 40.4 %.

Much of the remainder is made up by a title, top centre (pointless on a folded map), legends (desirable), indexes to the sheet lines of the original maps (questionable), and historical notes on the map series and gestures towards social context (very questionable); in short, I could have done with less chat and more map. Had an extract area of 18 × 18 km been used, with a minimum of necessary marginal matter, it would have been far more satisfactory. The Old Series sells at the same price as the OS Landranger, i.e. £6.49; the Past and Present series sells for £7.99. One new penny buys 2.46 sq km of Landranger or Old Series, but only 1.13 sq km of Past and Present. A £4.99 offering would be more acceptable.

The layout on the sheet is also open to question: Old Series top left, Revised New Series top right, Popular bottom left, Landranger bottom right. It would have been much more satisfactory had the Popular and Landranger exchanged places; as it is, it is difficult to make Revised New Series to Popular or Old Series to Landranger comparisons.

For the Revised New Series and the Popular Edition the choice of originals was presumably dictated by what could be agreed upon with co-operating libraries rather than by what is ideal. Taken together, the Popular Edition extracts on the pre-publication trial sheet of the Medway towns and the published Ely and Exeter sheets suggest that a set assembled in the mid to late 1920s was used, which means that about half the mapping will be based on reprints with roads and other additions. This may not be as troublesome as with the Old Series issue, but once again there is no indication of the all-important fieldwork dates, never mind of the constituent individual sheets, and the potential value of the enterprise is reduced. It is reduced further by the choice of the revised New Series with hills in black; one would have thought it much easier to assemble originals without the hills, which we are stuck with willy-nilly on the Old Series, but are easily avoided on the New Series, as any collector pursuing the hills format will attest. The ‘noise’ of the hills has the same disruptive effect on the ‘music of antiquity’ as a car stereo thumping away at 350 decibels three octaves below middle C in an otherwise quiet suburban side-street.

Bottom left on the Past and Present sheets a box announces the availability of not only the Old Series, but also the Revised New Series [it is unclear whether the hills are included], the Popular Edition, and the New Popular Edition. The box is perhaps a little optimistic, as at the time of going to press only the Old Series was available, though I gather that it is likely

---

7 On Landranger sheets with a Welsh legend on the left-hand size, which are trimmed to 1125 × 890 mm, the map-area is 63.9 %. Were a 1 km overlap on the north and east sides to be introduced, as I have long urged, then the mapped area would increase to 75.5 % on the standard 1000 × 890 mm sheets. This whole question of the ratio of map area to paper area seems to be one which has been little studied, at any rate in print, though it would not surprise me were it to be the subject of one or more dissertations produced in the days where cartography was taught as a discrete subject in higher education.

8 It buys 2.33 sq km of map in the Godfrey Edition, but the comparison here is complicated by the notes and large-scale mapping printed on the reverse. If these are admitted, then the Godfrey Edition one-inches are by far the best value for money.
that some Popular Edition sheets will be available within a few months: no doubt Cassini’s website will oblige with the details. The reproduction of the Popular Edition material is good, and the only real drawback is the ‘noise’ of the original squaring, which overwhelms the light blue of the modern grid: it would be interesting to see purple tried, as of course it was used for just this purpose on the military printings of this mapping.

In summary: there is much that is commendable here, but there is also considerable scope for improvement. In fairness to Cassini, they are willing to consider comments: a good demonstration is the cover of the Old Series sheets, the original version of which sported a late Victorian photograph which was both hopelessly anachronistic and suggestive of an ancestor-hunting approach which is uncongenial to some of us. No doubt family historians will patronise both the Old Series and the Past and Present maps, but the national series mapping, in particular, ought to enjoy a much larger market. The covers of the later issues use roughly contemporary prints. There are also a good many points of detail on the Past and Present series which were improved following comments on the trial sheet. Of the three series announced but yet to be realised, the Popular Edition would seem to be the most promising, as it will break new ground. The Revised New Series will come into competition with the one-inch sheets offered by Alan Godfrey, and the New Popular Edition is surely only commended by its being both out of copyright and carrying the National Grid: the Welsh and northern sheets are simply another version of the Popular. Far better, surely, to wait a few years and reissue the Seventh Series; but as most of what became the Landranger started out as a photo-enlargement of Seventh Series material, perhaps the less instructed public might have difficulties in distinguishing the various realities on offer.

One might also hope for something from Cassini for Scotland and Ireland. Although the market for both countries is no doubt smaller than for England and Wales, and probably a substantial part of it is better served, particularly in Ireland, by the 1:10,560, at least one series ought to be provided for each. The whole of Scotland was covered in the late 1980s by Caledonian Books, mostly using the de facto second edition published in 1896-8, and shortly afterwards the whole of the Irish first edition with hills was issued by Phoenix Maps. Both series used the original sheet lines, and both still seem to be available, from the publishers if not in bookshops. In addition, first edition mapping is available on a print-on-demand basis. However, something along the lines of what Cassini has done for England and Wales (though ideally without the hachures) would be welcome.

And is this the company to give us something akin to the OS Select service: site-centred historic small-scale mapping?

9 Monochrome scans of the New Popular Edition were used as bases for the University of Exeter historic boundaries mapping (see Sheetlines 61 (2001), 31), in which I had a hand: the enforced close acquaintance with this mapping did not do much for my respect for some of it.
10 Apparently complete first edition 1:10,560 cover of Ireland is available: see www.pasthomes.com. (I am indebted to Dan Réem for this reference.)
11 The Caledonian Books issue was noted so briefly in Sheetlines 19 (1987), 19 that it escaped indexing: the venture is now known as Caledonian Maps, http://www.caledonianmaps.co.uk. (Incidentally, they have performed a valuable service in issuing most of the town maps by John Wood, published in 1819-27.) Phoenix Maps issues were noted in Sheetlines 26 (1989), 28; Sheetlines 27 (1990), 22 and Sheetlines 28 (1990), 20. Phoenix also issued some larger scale Irish OS mapping and a few pre-OS county surveys: I understand that most of the one-inch maps are still available, and that those interested should contact Leonard Hynes, 26 Ashington Avenue, Navan Road, Dublin 7, Ireland.
12 From PastHomes: see http://www.pasthomes.com/info/samples.php#researchmaps.
A map in my collection

Peter Warburton

Let me attempt to disarm you with a confession. I think I understand triangulation but latitude and longitude values have never aroused my curiosity and projections remain an arcane no-go area. It does not surprise or dismay me when maps of adjoining country fail to line up. This attitude, which could put me at risk under Clause 10 of the Society Constitution, has never got me lost nor affected the pleasures of map reading. What I look for is the maximum amount of information that the scale can accommodate, clear and varied typefaces and sizes and the intelligent use of colour. An interest in the way things were weights preference in favour of older maps. Idiosyncratic touches are a welcome bonus. With such a map one thing leads to another and bedtime passes unnoticed. A sheet which satisfies these desiderata is a well worn copy of Scotland from Keith Johnston’s Royal Atlas, price 7/6 to the first buyer, D Crawford of Edinburgh, £3.25 (c. 1985) to the present owner.

Royal in this context can be ambiguous. In the case of Bowen’s Royal English Atlas of 1762 the word refers to the sheet size (25 × 20 inches) although buyers were at liberty to suppose otherwise, encouraged by Emmanuel Bowen’s billing as Geographer to his late Majesty. However Johnston’s atlas was ‘Dedicated by Special Permission to Her Majesty’ as well as being of royal paper size. The measurements are for untrimmed sheets so that book pages are smaller. The atlas was issued in ten parts beginning in 1858. The timing probably allowed Johnston to steal a march on, and possibly a title from, Blackie & Son whose rival work was published, complete, in 1860 as The Imperial Atlas of Modern Geography (imperial paper is 32 × 22 inches).

Johnston’s Scotland occupies two double page spreads at ten miles to one inch and it is an updated offprint of these atlas pages that was later published as a single sheet, on cloth, dissected in a stout cover. There is an index using a reference system based on lower case letters to the sides and capitals top and bottom. It can be safely opened to display two 4” × 8” panels and would have made a serviceable travelling map. It carries no date but c. 1870 seemed probable as the Highland Line is shown as reaching Bonar Bridge (1864) but not Golspie (1870) and neither the Loch Maree Hotel nor the Gairloch Hotel, both of 1872, are marked. This dating was somewhat undermined by the later realisation that the Callander and Oban line is marked all the way to Oban (1880). In 1870 it had only reached Criainlarich. However the practice of cartographers of anticipating railway construction ‘which they could confidently rely upon as progressing’ may still justify a c. 1870 (not proven) verdict.

The Daily News reviewer wrote of the atlas ‘The maps, with such a multitude of inscriptions are so clearly and delicately executed that they positively invite the eye, for pleasure not less than instruction and utility, to study them’. Sir R I Murchison, President of the Royal Geographical Society, in the course of a passage on ‘the improvement made in chartography (sic) by Mr Keith A. Johnston’, went on ‘But that which most pleases my eye and instructs me, is the remarkable distinctness given to every watercourse, lake and canal by the use of ‘light blue ink’.’ Blue rivers in particular were ahead of their time. Even Bartholomew’s, several years after they had introduced contour layer colouring had blue lakes but black rivers in their English Imperial Atlas and Gazetteer of the World, published by Nelson in 1892. Johnston may also have been the first to depict lakes with a waterlining infill, a style first used by the OS, along with blue rivers from 1897.
(above) Some parts of Cromarty and Nairn, the Highland line to Bonar Bridge, Culloden at the bottom of the map and the defeat of Montrose at the top. (below) A plethora of light houses.
Before then Stanford’s and others would, for a consideration, colour OS sheets. The deal typically included railway lines in a splendid pillar box red, green woodland, sienna main roads and blue lakes except that, in the Highlands, the colourists, often child labour, were apt to miss many a hill loch, leaving bald patches among the Stygian hachuring. Johnston’s hachures are elegantly understated by contemporary OS standards and he leaves no loch empty.

Like every other commercial map publisher Johnston had to make ritual obeisance to his OS sources but the wording of the offshore acknowledgement seems a little grudging with an emphasis on the great expense involved in licking official data into shape.

As the note indicates, the map is strong on marine matters. As well as L.H., Light House, four specific types are marked: L.H.F. (Fixed), L.H.Fl. (Flashing), L.H.R. (Revolving) and L.H.I. (unexplained, but probably intermittent). There are five magnetic needles, which is slightly eccentric, as is the range of dates on offer. To the north variation data are given for 1838, 1842 and 1855 and for South Scotland sailors the choice is 1842 or 1859. A small number of OS sheets include a second needle indicating a reading at another location but at the same date. The Prince of Wales feathers design as a pointer to true north is a nice, old-fashioned decorative touch. Small islands get a good showing. Several of those whose neglect by the OS was recently deplored by Messrs Bowring and Purchase¹ appear on Johnston (Dubh Artach, Sule, Stack, Inchcape Rock, Skerryvore).

Military events have their place on the map. Bannockburn, of which too much is made in Scotland, it having been a difficult away fixture for our gallant lads, is given greater prominence than Culloden. There may also be a hint of bias in the treatment of Montrose’s campaigns. Particular attention is drawn to his defeat at Carbisdale, which was little more than a skirmish, whereas only the crossed swords sign marks the several larger scale engagements. It would be unrealistic to expect in an Edinburgh publisher that degree of impartiality that comes naturally to us in England.

Considering the scale, there is a commendable amount of information of interest to the traveller. The tourist waterfalls and caves from Fingal’s to Samuel’s are all there, as are the spas and spa wells of the day and notable cliff scenery. Rural schools, an OS specialty, are absent but country inns are fully recorded, including many long closed Highland establishments – Loub, Craig, Annat, Torgoyle, Shiel, Heilim, Dalnardoch among others. Spot heights are confined to a selection of summits, but where the cartographer strays from OS data there are a few unwise assertions e.g. ‘L. Errocht [i.e. Erich] is about 1500 ft above the Sea’ (1150 ft in fact). Just south of that loch the item ‘Rock 200 ft’ invites sceptical inquiry. The entry ‘Road 1200 ft high’ north of Helmsdale is certainly imaginative, the maximum altitude being 750 ft. My current favourite is the mysterious ‘White Woollen Hill 1500ft’ towering above Lockerby. These should not be regarded as serious deficiencies. We all like to find mistakes.

Sir George Mackenzie of Tarbat, on becoming the first Earl of Cromarty in 1703, got his fourteen² widespread estates recognised as the new county of Cromarty which remained as a

¹ Sheetlines 67, 39-41; 68, 54; 71, 67; 72, 3.
² The authority for this number is W J Watson, Ross and Cromarty, Cambridge, 1924, but Cromarty presented a moving target as estates changed ownership. The original large enclave on the southern shore of Little Loch Broom provides

NOTE
This Work, constructed at great expense from the Trigonomatrical and Detail Surveys of the Boards of Ordnance and Admiralty, and an extensive collection of private and unpublished materials, is the only General Map which represents the true Physical and Topographical Features of the Country.
curious patchwork creation until the Boundary Commission tidied Scotland up in 1891. The Thane of Cawdor had much earlier established three nicely scattered enclaves of Nairn, his home county, one each in Ross, Elgin and Inverness. Elgin, Banff and Inverness also had detached parts. The map deals competently and clearly with these complications. The neat colour shading to the exterior of enclave boundaries is in advance of the generally inadequate demarcation of the detached parts of English and Welsh counties in contemporary mapping.

An interesting choice of scale bars is provided:

![Scotland Map](image)

The geographical mile is an alternative term for the nautical mile but the British and Commonwealth nautical mile is 6080 ft (1.85318 km) whereas the international nautical mile, as used in Italy, is 1.852 km (6076.1033 ft). In my unprofessional way I have no difficulty in absolving Johnston of blame for equating the two. A French terrestrial league (lieue de terre) was 4.445 km and the lieue marine was 5.556 km, equal to three international nautical miles. Without this map I would have remained ignorant of all these conversation stopping facts.

Napoleon is generally thought to have done away with all ancien régime measures but Monsieur V A Malte-Brun, reviewing the atlas for the Société de Géographie, did not comment on that point. In his view the Johnston Atlas ‘ne laisse rien à désirer’. A single entry recently discovered among the Greenwich based longitude markings is perhaps another nod to the Auld Alliance: ‘Longitude 6° West of Paris’. 4

In both senses of the word this is a diverting map. It might of course be deplorably skew whiff. And so to bed.

---

3 Eggs and wine are still traded by the dozen and shoppers often ask for a livre rather than a demi-kilogramme or 500 grammes, but the lieue has been relegated to the context of sayings.

4 France did not recognise Greenwich as the prime meridian until 1911, having resisted until then the recommendation of the International Meridian Conference of 1884.
A few new maps

Richard Oliver

In *Sheetlines* 74 I reviewed briefly and favourably a pair of 1:100,000 cycle maps of Devon and Cornwall, published by Mike Harrison of CroydeCycle. These were followed in May 2006 by a pair of walking maps at 1:12,500: *Croyde & Georgeham* and *Mortehoe & Woolacombe*. They are similar in general style to the cycle maps, with the same high standards of production on tear-and-water-resistant paper, and the same disinclination to waste space; the paper size is 50.0 × 35.0 cm, and they are printed back-to-back. There are enlarged plans of villages, and geological, historical and ecological notes. Those who enjoy clear, simple, high-quality cartography should secure copies.¹

The Philip *Navigator* atlas was mentioned briefly in my survey of commercial topographic map series in 1996, when I wondered whether ‘this extraordinary production’ (most of Britain at 1:100,000 for a penny less than £20) would enjoy commercial success.² Evidently it has, for it has now run to six editions, without any price increase. The latest, of 2005, embodies some revision to the colour-scheme, so that non-primary ‘A’ roads are in red, which I must say suits me better than the yellow espoused by this mapping for the previous thirty years.³ However, the image-quality, presumably produced from scans of 1970s analogue material, is getting a little stale-looking, which may not matter if it has the market to itself, but does if there is a competitor.

For the *Navigator* now has a slightly more expensive (by a penny) rival from the Automobile Association, which is produced to a rather more elaborate specification, and, *mirabile dictu*, in two versions, a larger format one the same size as the *Navigator* (page size about 29.0 × 39.4 cm) and a smaller (page size 21.4 × 29.4 cm, *i.e.* slightly larger than A4). The two versions share the same title and the same cover design (Exeter: what is the attraction of the place?), and the only differences, bibliographically, seem to be the number of pages and the ISBN.⁴ The claim on the cover ‘The largest scale road atlas of Britain’ is justified by a much greater proportion of mainland Scotland being mapped at 1:100,00 than is the case with the *Navigator*, which completes that country at 1:200,000, whereas the AA manages to do it at 1:150,000. The mapping goes beyond the *Navigator* in several respects: there is some indication of relief by hill-shading, though the result seems less graphic and less functional than Saxton-style ‘molehills’, unclassified roads over and under 4 metres in width and *de facto* public and private ‘white’ roads are distinguished (the latter not very clearly), and there are several novelties, including petrol and LPG stations (these don’t seem to be complete), AA-recommended pubs (though these don’t include many ‘landmark’ pubs: a black mark), and the names of some rural roads (perhaps half of which, if limited

¹ The maps are £2.00 each and are available from CroydeCycle, Rose Cottage, St Mary’s Road, Croyde, Braunton, Devon, EX33 1PF, croydecycle@tiscali.co.uk. *Croyde & Georgeham*: ISBN 0-9550168-3-5; *Mortehoe & Woolacombe*: ISBN 0-9550168-4-3.
² Richard Oliver, ‘The rivals: notes on some intermediate scale commercial topographic map series of Britain and Ireland since 1868’, *Sheetlines* 47 (1996), 8-36: the Philip 1:100,000 mapping is discussed on pp 34-5.
investigation is representative, carry name-boards). (The inclusion of the Sustrans National Cycle Network seems eccentric – not a phrase one would normally use of the AA – but perhaps there is a rational explanation.) The Navigator and by implication the large-format version have always struck me as really too large, at any rate in smaller cars, whereas the smaller-format version is an ideal size. Two particular regrets are, first, the lack of contouring (surely that inexpressive hill-shading was generated from OS data), and second, in common with the Navigator, the ignoring of churches as landmarks, with the result that vast swathes both of urban areas and of the countryside lack a physical ‘anchor’. Were the AA to attend to these, and some infelicitous name-placement (I suspect a computer is to blame), and offer the mapping in sheet form (728 pages to cover 200 km or so from Exeter to the in-laws is a bit much) then the lack of a good official 1:100,000 map of Britain, or else complete ‘Harrison-style’ cover, would be much less regretted.

The Reichsamt für Landesaufnahme: a correction

John L Cruickshank

In my articles on the Reichsamt I stated that the 1:50,000 map of Germany failed to progress during the 1930s.¹ I now appreciate that this is incorrect. After the declaration that the 1:50,000 scale was to be a matter for the Reich rather than the Länder, there is almost no mention of the scale in the Mitteilungen des Reichsamts für Landesaufnahme. I had incorrectly taken this to indicate that no progress was made. In fact between 1935 and 1939 (when work stopped) a substantial group of sheets were produced. The bulk of these covered the area of Germany adjacent to the then Polish frontier, that is Niederschlesien, the part of Mark Brandenburg east of the Oder, and Hinterpommern. All these areas are now within western Poland. Rolf Böhme gives an unhelpful account of the development of the series but a very clear index map showing not only the sheets prepared, but also those for which no reproduction material survived the war.² Beck gives a brief but useful outline of the evolution of this series drawing on scattered previously published sources.³ Strictly speaking however, the sheets of this series were not published. They were issued subject to the security classification ‘Nur für den Dienstgebrauch’ and carried a four-line paragraph explaining that the sheet was a ‘geheime Gegenstand’ (secret object) within the meaning of section 88 of the 1934 Reichs-Straf-Gesetzbuch. This is why the series was not publicised in the Mitteilungen! I am grateful to Ian O’Brien for drawing this error to my attention.

¹ Sheetlines 72 and 73.
² Rolf Böhme, Der Verbleib der Original der amtlichen Kartenwerke des deutschen Reiches, Deutsche Geodätische Kommission, Reihe E, Heft 16, (Frankfurt am Main, 1978), 22 and Beilage 2.
Here and now = place and time = maps and clocks, but as far as I am concerned, the ‘and’ does not imply equality. Maps are not equal to clocks, they are far more useful. One can get by without a clock, but a map is needed. Knowing the exact time is not a high priority for me. I have never worn a wristwatch, finding that I usually have a good idea of the time, can see a clock nearby, or I can ask someone to look at their watch and tell me the time. However, I do like to know exactly where I am, and can seldom ask anyone to look at their map and tell me where I am. Most people do not carry maps, and as the early Ordnance Surveyors found, locals can get things terribly wrong at times.

Like so many of our members, whenever I go to a new area, I must have a map of the place. To know how the roads work, what should be over that hill, and where the river came from. I always found it strange, when I lived in London, that people in cars would stop and ask directions to a certain street written on a scrap of paper (always a scrap of paper). They drive across the city, aim for a particular area and then hope to find the street. An A-Z is very inexpensive and not bulky. We still have one for London in the car, so why don’t residents? I have a handful of quite old A-Zs for most major cities, ready for any visit, even though today one can call up a useful map on the internet. But an A-Z is still essential for getting in and out of a city.

I suppose that an ‘in-car’ (does this distinguish them from ‘out of car’?) satellite navigation system might help. Tell it where you are and where you would like to be and it takes you there. Easy, just like looking at a map or road atlas. But instead of glancing at notes on a piece of paper on the passenger seat whilst at traffic lights, you can watch a very small screen as you drive. No, these are not autopilot machines as well, you have to do the slowing down and watching for pedestrians, as well as looking at a screen. I have always believed that keeping my eyes on the road is more important than keeping both hands on the wheel, yet mobile phone use whilst driving is banned (one hand off the wheel), but looking at a small screen is not (both eyes off the road). Some machines will give spoken directions as well (for the blind or those who cannot / will not look at a screen whilst driving). So why not just have taped instructions, which would be much safer? One could press a button on the steering wheel to move the tape to the next instruction. What is wrong with planning a route using an atlas? Why are reading street signs out of favour? Memorising directions helps keep the brain working, rather than being spoon fed everything. Do drivers remember the route next time after using a machine? I am always surprised, how one can retrace a route in the opposite direction, after having been given instructions by someone at the side of the road (well, I don’t have that many A-Zs). But maybe these gadgets are intended for those who have no sense of direction at all?

On a similar theme, says he who has never seen either at close range, are GPS (Global Positioning System) devices. I have heard that they are quite tricky to use, which explains why I only know of two people who have them, both over seventy, with ample time to spend on them. It seems that about one in three machines are returned to the shops as not wanted. Ok, you turn it on and it tells you where you are, with various grid references, and even shows the location on a map. Then what? Fine if you are out on the ocean or in the middle of a desert, and can get an instant idea of your location, but what if you are sitting on the sofa at
home? Actually they will not work indoors, in woods or where there is limited access to satellites. So no good for caving, where they would be extremely useful. They might be fine if you are lost, in the open; but I assume the idea is to use them before you are lost. Much better to have a map.

Whenever I need to buy something that I know very little about, I look at the excellent ‘Quick guide’ product introductions in the Argos catalogue. In very concise terms, the main features of an item range and ‘important considerations when deciding to buy’ are given, and are usually spot-on. But after reading about GPS machines, I thought I had stumbled into the toys section. “Track points: an electric breadcrumb trail recording where the user has been. Reverse routes: after navigating a route, users can reverse the route to travel back exactly the same path. Waypoints in routes: a series of waypoints can be grouped together to form a navigable route”. Three of the five selling points. If they do not exist, I assume that the time will soon arrive when GPS systems can be had to wear like a wristwatch. If lost half way up a mountain, it would be much better if a rescuer knew where you were, rather than your knowing exactly how lost you were. And don’t tell me people do not get lost whilst carrying them. Something that gives out a signal would be more useful. Perhaps this could be built into maps, assuming most people at risk take maps with them. Why not make the grid lines of very thin metal foil, as found in bank notes. These could be connected to a micro-chip, and if anyone was in difficulty, they would just stick a pin in the map, showing where they were and an electrical circuit would be activated, sending out a distress call and giving the exact location. Even if the location was not exact, it would help, and rescuers would be alerted sooner than waiting for someone not to return to base. I know that the patent professionals amongst us will point out that one cannot patent an idea, but if anyone takes it up, please remember me.

A small pocket compass could come in handy more often than one would think. Most of us would only take one for a walk, but I have a friend who lives in the heart of central London, and he would never be without his. It is ideal for taking short cuts down unfamiliar streets, but really comes into its own when leaving Underground stations. Whenever I am ascending from the depths at Piccadilly, I always wonder where I will see daylight. But with a compass, one can get a bearing and go round to the next exit in order to gain the street one seeks. Again, driving in unfamiliar cities is often much easier if one has a compass handy, on the dashboard even, but one should not look at it, as this means taking your eyes off the road, so you drive hoping to be stopped by traffic lights before you go too far in the wrong direction. We really are badly designed, surely two pairs of eyes are not much to ask for?

After this goes out, I will be living in fear, that in response to my never having seen a GPS system, one will be sent to me by a well-wisher, just as a plastic map case (with a nice string to go around my neck) arrived for Xmas from a devoted reader. Actually, it was rather good and I was quite impressed with it. Even more so after I investigated a query from Roger Hellyer. Yes, I can recommend them for keeping sandwiches nice and dry when walking in wet weather. An excellent product. But I cannot even start to think what other uses a GPS system could be put to. Answers to the Editor, please.
Letters

Expectations doubly confounded

In *Sheetlines* 75 page 30, Peter Warburton discusses how long it took for some of the hydro-electric schemes in the Scottish Highlands to appear on the Ordnance maps. His extracts show that in the area of Loch an Daimh, over a period of almost twenty years, walkers would have had their expectations confounded by finding a substantial reservoir rather than a small lochan. Both the published map extracts also show incidentally, in the SW corner, Creag Doire nan Nathrach rising to the 2,250 ft contour.

Peter does not go on to show how this area was portrayed on the Second Series *Landranger* map. Extracts from the relevant maps are printed overleaf for comparison. Remarkably, in the late 1980s, Creag Doire nan Nathrach grew in height to 837 m. That is 2,746 ft, showing a previous under-recording of nearly 500ft. In the nineteenth century contours over 1,000 ft should have been instrumentally surveyed every 250 ft. It must have been a very misty day when the surveyors visited Creag Doire nan Nathrach if they did not realise that they were such a distance below the summit.

Walkers in this area might not only have been confounded by a large reservoir for up to twenty years but would have been doubly confounded for over 100 years by finding a hill considerably higher than expected.

*Peter Haigh*

**H E M Newman**

Andrew Cook\(^1\) referred to Lt.-Col. Newman’s *The work of the Ordnance Survey outside Great Britain and Ireland* [not *Northern Ireland*], produced in 1934.

This is simply to record the existence of copies of this document, as at November 2006, in, *inter alia*:

- Ordnance Survey Library (original typescript plus two carbon copies),
- British Library, Map Library,
- Bodleian Library, Map Room,
- Cambridge University Library, Map Library.

*Richard T Porter*

---

\(^1\) *Sheetlines* 76, 57-58.
New maps

Jon Risby

This list covers small scale maps published between 7 November 2006 and 6 March 2007. They are listed by series, and in sheet number order. The columns are as follows: Sheet No. / Title / Edition / Copyright date / Full revision date / Latest revision date / Date of publication. There is also a list of those maps due for publication by OS (by series and in order of their proposed publication).

After the list of OS maps is a résumé of maps published by Alan Godfrey between November 2006 and March 2007.

OSGB maps

Revision notes are referenced in column six as follows:

<table>
<thead>
<tr>
<th></th>
<th>'Reprinted with minor change'</th>
<th>'Revised for significant change'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>'Revised for selected change'</td>
<td>'Revised with significant change'</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>'Revised with selected change'</td>
<td>'Major roads revised'</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where details are shown in italics I have not been able to confirm the details by seeing the map itself, and therefore information is based on Ordnance Survey’s list of new publications. I hope that I shall be able to confirm information in the next edition of Sheetlines.

Landranger – new editions

<table>
<thead>
<tr>
<th>Sheet No.</th>
<th>Title</th>
<th>Edition</th>
<th>Copyright date</th>
<th>Full revision date</th>
<th>Latest revision date</th>
<th>Date of publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>Dalmellington, New Galloway &amp; Galloway Forest Park</td>
<td>B2</td>
<td>2007</td>
<td>1997-98</td>
<td>2006²</td>
<td>16/02/07</td>
</tr>
<tr>
<td>78</td>
<td>Nithsdale, Annandale, Sanquhar &amp; Moffat</td>
<td>B2</td>
<td>2007</td>
<td>1999</td>
<td>2006²</td>
<td>16/02/07</td>
</tr>
<tr>
<td>87</td>
<td>Hexham &amp; Haltwhistle</td>
<td>D</td>
<td>2006</td>
<td>2002</td>
<td>2006¹</td>
<td>03/01/07</td>
</tr>
<tr>
<td>93</td>
<td>Middlesbrough, Darlington &amp; Hartlepool</td>
<td>C2</td>
<td>2007</td>
<td>1999</td>
<td>2006²</td>
<td>08/02/07</td>
</tr>
<tr>
<td>97</td>
<td>Kendal, Morecambe, Windermere &amp; Lancaster</td>
<td>C2</td>
<td>2006</td>
<td>1997</td>
<td>2006²</td>
<td>23/01/07</td>
</tr>
<tr>
<td>104</td>
<td>Leeds &amp; Bradford, Harrogate &amp; Ilkley</td>
<td>C3</td>
<td>2006</td>
<td>1997</td>
<td>2006²</td>
<td>09/10/06</td>
</tr>
<tr>
<td>105</td>
<td>York &amp; Selby</td>
<td>C3</td>
<td>2006</td>
<td>1998</td>
<td>2006²</td>
<td>18/12/06</td>
</tr>
<tr>
<td>106</td>
<td>Market Weighton</td>
<td>C2</td>
<td>2006</td>
<td>1999-2000</td>
<td>2006²</td>
<td>24/01/07</td>
</tr>
<tr>
<td>107</td>
<td>Kingston upon Hull, Beverley &amp; Driffield</td>
<td>C2</td>
<td>2007</td>
<td>1998-99</td>
<td>2006²</td>
<td>11/12/06</td>
</tr>
<tr>
<td>108</td>
<td>Liverpool, Southport &amp; Wigan</td>
<td>E</td>
<td>2007</td>
<td>2003</td>
<td>2006¹</td>
<td>06/02/07</td>
</tr>
<tr>
<td>110</td>
<td>Sheffield, Huddersfield, Glossop &amp; Holmfirth</td>
<td>C3</td>
<td>2007</td>
<td>1998-99</td>
<td>2006²</td>
<td>15/01/07</td>
</tr>
<tr>
<td>111</td>
<td>Sheffield, Doncaster, Rotherham, Barnsley &amp; Thorne</td>
<td>C2</td>
<td>2006</td>
<td>1998-99</td>
<td>2006²</td>
<td>16/10/06</td>
</tr>
<tr>
<td>112</td>
<td>Scunthorpe &amp; Gainsborough</td>
<td>C2</td>
<td>2006</td>
<td>1998</td>
<td>2006²</td>
<td>09/10/06</td>
</tr>
<tr>
<td>113</td>
<td>Grimsby, Louth &amp; Market Rasen</td>
<td>D2</td>
<td>2006</td>
<td>1999-2000</td>
<td>2006²</td>
<td>08/11/06</td>
</tr>
<tr>
<td>115</td>
<td>Snowdon &amp; Caernarfon</td>
<td>C2</td>
<td>2007</td>
<td>1999</td>
<td>2006¹</td>
<td>06/02/07</td>
</tr>
<tr>
<td>120</td>
<td>Mansfield &amp; Worksop, Sherwood Forest</td>
<td>D1</td>
<td>2006</td>
<td>2001</td>
<td>2006²</td>
<td>30/10/06</td>
</tr>
<tr>
<td>121</td>
<td>Lincoln &amp; Newark-on-Trent</td>
<td>C2</td>
<td>2006</td>
<td>1998</td>
<td>2006²</td>
<td>27/11/06</td>
</tr>
<tr>
<td>122</td>
<td>Skegness &amp; Horncastle</td>
<td>C2</td>
<td>2006</td>
<td>1998</td>
<td>2006²</td>
<td>30/10/06</td>
</tr>
<tr>
<td>123</td>
<td>Lleyn Peninsula</td>
<td>B1</td>
<td>2007</td>
<td>1998</td>
<td>2006¹</td>
<td>08/02/07</td>
</tr>
<tr>
<td>143</td>
<td>Ely, Wisbech &amp; Downham Market</td>
<td>D</td>
<td>2007</td>
<td>2000</td>
<td>2006¹</td>
<td>19/01/07</td>
</tr>
<tr>
<td>144</td>
<td>Thetford, Diss, Breckland &amp; Wymondham</td>
<td>B2</td>
<td>2006</td>
<td>1999-2000</td>
<td>2006²</td>
<td>26/06/06</td>
</tr>
<tr>
<td>146</td>
<td>Lampeter &amp; Llandovery</td>
<td>B2</td>
<td>2007</td>
<td>1999</td>
<td>2006²</td>
<td>25/01/07</td>
</tr>
<tr>
<td>147</td>
<td>Elan Valley &amp; Builth Wells</td>
<td>C2</td>
<td>2007</td>
<td>1999-2000</td>
<td>2006²</td>
<td>31/01/07</td>
</tr>
<tr>
<td>148</td>
<td>Presteigne &amp; Hay-on-Wye</td>
<td>B2</td>
<td>2007</td>
<td>2000</td>
<td>2006²</td>
<td>18/01/07</td>
</tr>
<tr>
<td>149</td>
<td>Hereford, Leominster, Bromyard &amp; Ledbury</td>
<td>B2</td>
<td>2007</td>
<td>1998</td>
<td>2006²</td>
<td>12/02/07</td>
</tr>
<tr>
<td>180</td>
<td>Barnstaple, Ilfracombe, Lynton &amp; Bideford</td>
<td>D</td>
<td>2007</td>
<td>2003-04</td>
<td>2006¹</td>
<td>09/02/07</td>
</tr>
<tr>
<td>186</td>
<td>Aldershot, Guildford, Camberley &amp; Haslemere</td>
<td>C2</td>
<td>2006</td>
<td>1999</td>
<td>2006¹</td>
<td>15/01/07</td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Editions</td>
<td>Date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Bude, Clovelly, Boscastle &amp; Holsworthy</td>
<td>D</td>
<td>2006 - 2003 - 2006</td>
<td>18/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>191</td>
<td>Okehampton &amp; North Dartmoor</td>
<td>D1</td>
<td>2007 - 2003 - 2006</td>
<td>12/02/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>194</td>
<td>Dorchester, Weymouth, Cerne Abbas &amp; Bere Regis</td>
<td>C2</td>
<td>2007 - 1998 - 2006</td>
<td>19/02/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203</td>
<td>Land's End, Isles of Scilly, St Ives &amp; Lizard Point</td>
<td>D</td>
<td>2006 - 2002 - 2006</td>
<td>02/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explorer – new editions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OL26</td>
<td>North York Moors – Western area</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>15/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OL43</td>
<td>Hadrian's Wall</td>
<td>A1</td>
<td>2007 - 2002 - 2006</td>
<td>15/02/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Salisbury &amp; Stonehenge</td>
<td>A1</td>
<td>2007 - 2004 - 2006</td>
<td>05/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>188</td>
<td>Builth Wells</td>
<td>A1</td>
<td>2006 - 1999 - 2006</td>
<td>09/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>198</td>
<td>Cardigan &amp; New Quay</td>
<td>A1</td>
<td>2006 - 1998 - 2006</td>
<td>05/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>263</td>
<td>Anglesey East</td>
<td>A1</td>
<td>2007 - 1996 - 2006</td>
<td>06/02/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>333</td>
<td>Kilmarnock &amp; Irvine</td>
<td>A1</td>
<td>2006 - 2000 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>334</td>
<td>East Kilbride, Galston &amp; Darvel</td>
<td>A1</td>
<td>2007 - 2000 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>335</td>
<td>Lanark &amp; Tinto Hills</td>
<td>A1</td>
<td>2007 - 2000 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>337</td>
<td>Peebles &amp; Innerleithen</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>338</td>
<td>Galashiels, Selkirk &amp; Montrose</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>339</td>
<td>Kelso, Coldstream &amp; Lower Tweed Valley</td>
<td>A2</td>
<td>2006 - 2000 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>342</td>
<td>Glasgow</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>343</td>
<td>Motherwell &amp; Coatbridge</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>344</td>
<td>Pentland Hills</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>346</td>
<td>Berwick-upon-Tweed</td>
<td>A2</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>347</td>
<td>Loch Lomond South</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>348</td>
<td>Campsie Fells</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>349</td>
<td>Falkirk, Cumbernauld &amp; Livingston</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>359</td>
<td>Oban, Kerrara &amp; Loch Melfort</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>360</td>
<td>Loch Awe &amp; Inverary</td>
<td>A1</td>
<td>2007 - 2002 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>361</td>
<td>Isle of Arran</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>362</td>
<td>Cowal West &amp; Isle of Bute</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>13/11/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>363</td>
<td>Cowal East</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>364</td>
<td>Loch Lomond North</td>
<td>A1</td>
<td>2007 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>365</td>
<td>The Trossachs</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>366</td>
<td>Stirling &amp; Ochil Hills West</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>372</td>
<td>Coll &amp; Tiree</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>373</td>
<td>Iona, Staffa &amp; Ross of Mull</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>374</td>
<td>Isle of Mull &amp; Tobermory</td>
<td>A1</td>
<td>2006 - 2002 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>375</td>
<td>Isle of Mull East</td>
<td>A1</td>
<td>2006 - 2002 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>376</td>
<td>Oban &amp; North Lorn</td>
<td>A1</td>
<td>2007 - 2002 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>377</td>
<td>Loch Etive &amp; Glen Orchy</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>378</td>
<td>Ben Lawers &amp; Glen Lyon</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>383</td>
<td>Morven &amp; Lochaline</td>
<td>A1</td>
<td>2006 - 2002 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>384</td>
<td>Glen Coe</td>
<td>A1</td>
<td>2006 - 2001 - 2006</td>
<td>22/01/07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The English and Welsh maps listed above show Access Land and are in new style Explorer covers. The Scottish maps do not show Access Land, but are in the new style Explorer covers.

**Explorer Active**

Every Explorer and Outdoor Leisure Explorer sheet is now also available in the Explorer Active format. Editions are the same as the relevant standard Explorer.
# Travel Maps, Tour series – new editions

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cornwall</td>
<td>D</td>
<td>2006</td>
<td>2006</td>
<td>04/12/06</td>
</tr>
<tr>
<td>5</td>
<td>Devon &amp; Somerset West</td>
<td>D</td>
<td>2006</td>
<td>2006</td>
<td>04/12/06</td>
</tr>
<tr>
<td>7</td>
<td>Hampshire &amp; the Isle of Wight</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>29/09/06</td>
</tr>
<tr>
<td>9</td>
<td>Dorset, Somerset East, Bath &amp; Bristol</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>21/09/06</td>
</tr>
<tr>
<td>13</td>
<td>Oxfordshire &amp; Berkshire</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>10/11/06</td>
</tr>
<tr>
<td>15</td>
<td>London including M25</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>14/08/06</td>
</tr>
<tr>
<td>16</td>
<td>Beds, Bucks, Herts, NW London</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>07/08/06</td>
</tr>
<tr>
<td>17</td>
<td>Essex &amp; NE London</td>
<td>C</td>
<td>2006</td>
<td>2006</td>
<td>07/08/06</td>
</tr>
</tbody>
</table>

# Travel Maps, Route map – new edition

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

# Irish maps

## Discoverer maps

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Ballycastle</td>
<td>D edition</td>
<td>19/02/07</td>
</tr>
</tbody>
</table>

## Discovery maps

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>Cork</td>
<td>Third edition</td>
<td>Dec 2006</td>
</tr>
<tr>
<td>81</td>
<td>Cork, Waterford</td>
<td>Third edition</td>
<td>Dec 2006</td>
</tr>
<tr>
<td>45</td>
<td>Galway</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>50</td>
<td>Dublin, Kildare, Meath &amp; Wicklow</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>56</td>
<td>Wicklow, Dublin and Kildare</td>
<td>Third edition</td>
<td>15/01/07</td>
</tr>
<tr>
<td>63</td>
<td>Clare, Kerry</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>68</td>
<td>Carlow, Kilkenny, Wexford</td>
<td>Third edition</td>
<td>08/01/07</td>
</tr>
<tr>
<td>71</td>
<td>Kerry</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>72</td>
<td>Kerry, Cork, Limerick</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>87</td>
<td>Cork</td>
<td>Third edition</td>
<td>29/01/07</td>
</tr>
<tr>
<td>78</td>
<td>Kerry (Weatherproof Map)</td>
<td>Third edition</td>
<td>05/02/07</td>
</tr>
<tr>
<td>65</td>
<td>Clare, Limerick, Tipperary</td>
<td>Third edition</td>
<td>26/02/07</td>
</tr>
<tr>
<td>67</td>
<td>Kilkenny, Tipperary</td>
<td>Third edition</td>
<td>26/02/07</td>
</tr>
<tr>
<td>69</td>
<td>Wexford</td>
<td>Third edition</td>
<td>26/02/07</td>
</tr>
</tbody>
</table>

## Irish map atlases and guides

- North Leinster town map atlas | 05/02/07
- Brandon Mountain (waterproof) | 05/02/07
- Sperrins – activity map (water resistant) | 05/02/07
- Slieve Croob – activity map | 05/02/07

## Irish street maps

- Armagh City | 05/02/07
- Craigavon, Lurgan & Portadown | 05/02/07
- Derry | 05/02/07
- Galway | 26/02/07
- Lisburn City | 05/02/07
- Newry & Mourne | 05/02/07
- Omagh & Fintona | 05/02/07
- Waterford | 26/02/07
### Forthcoming OSGB maps

The following maps have been announced for publication.

#### Landranger – new editions

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Edition</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Forthcoming OS GB maps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Stranraer &amp; Glenluce</td>
<td>C2</td>
<td>05/03/07</td>
</tr>
<tr>
<td>84</td>
<td>Dumfries &amp; Castle Douglas</td>
<td>B3</td>
<td>19/03/07</td>
</tr>
<tr>
<td>79</td>
<td>Hawick, Eskdale &amp; Langholm</td>
<td>C2</td>
<td>26/03/07</td>
</tr>
<tr>
<td>187</td>
<td>Dorking &amp; Reigate, Crawley &amp; Horsham</td>
<td>C3</td>
<td>02/04/07</td>
</tr>
<tr>
<td>76</td>
<td>Girvan, Ballantrae &amp; Barrhill</td>
<td>C3</td>
<td>02/04/07</td>
</tr>
<tr>
<td>83</td>
<td>Newton Stewart, Kirkcudbright &amp; Gatehouse of Fleet</td>
<td>C1</td>
<td>23/04/07</td>
</tr>
<tr>
<td>60</td>
<td>Islay</td>
<td>B2</td>
<td>23/04/07</td>
</tr>
<tr>
<td>61</td>
<td>Jura &amp; Colonsay</td>
<td>B2</td>
<td>14/05/07</td>
</tr>
<tr>
<td>68</td>
<td>South Kintyre &amp; Campbeltown</td>
<td>B2</td>
<td>14/05/07</td>
</tr>
<tr>
<td>69</td>
<td>Isle of Arran</td>
<td>C2</td>
<td>14/05/07</td>
</tr>
<tr>
<td>70</td>
<td>Ayr, Kilmarnock &amp; Troon</td>
<td>B2</td>
<td>14/05/07</td>
</tr>
<tr>
<td>178</td>
<td>The Thames Estuary, Rochester &amp; Southend-on-Sea</td>
<td>D3</td>
<td>14/05/07</td>
</tr>
<tr>
<td>80</td>
<td>The Cheviot Hills &amp; Kielder Water</td>
<td>C2</td>
<td>18/06/07</td>
</tr>
<tr>
<td>62</td>
<td>North Kintyre &amp; Tarbert</td>
<td>C1</td>
<td>23/07/07</td>
</tr>
<tr>
<td>73</td>
<td>Peebles, Galashiels &amp; Selkirk, Tweed Valley</td>
<td>C2</td>
<td>23/07/07</td>
</tr>
<tr>
<td>129</td>
<td>Nottingham, Loughborough &amp; Melton Mowbray</td>
<td>C3</td>
<td>23/07/07</td>
</tr>
<tr>
<td>63</td>
<td>Firth of Clyde, Greenock &amp; Rothesay</td>
<td>B2</td>
<td>30/07/07</td>
</tr>
<tr>
<td>65</td>
<td>Falkirk, Linlithgow &amp; Dunfermline</td>
<td>D2</td>
<td>30/07/07</td>
</tr>
<tr>
<td>71</td>
<td>Lanark &amp; Upper Nithsdale</td>
<td>B2</td>
<td>30/07/07</td>
</tr>
<tr>
<td>46</td>
<td>Coll &amp; Tiree</td>
<td>C2</td>
<td>03/09/07</td>
</tr>
<tr>
<td>49</td>
<td>Oban &amp; East Mull</td>
<td>B2</td>
<td>03/09/07</td>
</tr>
<tr>
<td>50</td>
<td>Glen Orchy &amp; Loch Etive</td>
<td>B2</td>
<td>03/09/07</td>
</tr>
<tr>
<td>54</td>
<td>Dundee, Montrose, Forfar &amp; Abroath</td>
<td>B2</td>
<td>03/09/07</td>
</tr>
<tr>
<td>59</td>
<td>St Andrews, Kirkaldy &amp; Glenrothes</td>
<td>C2</td>
<td>03/09/07</td>
</tr>
</tbody>
</table>

#### Explorer – new editions

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Edition</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>147</td>
<td>Sevenoaks &amp; Tonbridge</td>
<td>B2</td>
<td>05/03/07</td>
</tr>
<tr>
<td>145</td>
<td>Guildford &amp; Farnham</td>
<td>B2</td>
<td>12/03/07</td>
</tr>
<tr>
<td>367</td>
<td>Dunfermline, Kirkcaldy &amp; Glenrothes South</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>368</td>
<td>Crieff, Comrie &amp; Glen Artney</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>369</td>
<td>Perth &amp; Kinross</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>370</td>
<td>Glenrothes North, Falkland &amp; Lomond Hills</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>371</td>
<td>St Andrews &amp; Fife</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>379</td>
<td>Dunkeld, Aberfeldy &amp; Glen Almond</td>
<td>A1</td>
<td>19/03/07</td>
</tr>
<tr>
<td>149</td>
<td>Sittingbourne &amp; Faversham</td>
<td>B2</td>
<td>26/03/07</td>
</tr>
<tr>
<td>135</td>
<td>Ashdown Forest</td>
<td>B2</td>
<td>02/04/07</td>
</tr>
<tr>
<td>277</td>
<td>Manchester &amp; Salford</td>
<td>A2</td>
<td>02/04/07</td>
</tr>
<tr>
<td>276</td>
<td>Bolton, Wigan &amp; Warrington</td>
<td>A2</td>
<td>30/04/07</td>
</tr>
<tr>
<td>150</td>
<td>Canterbury &amp; the Isle of Thanet</td>
<td>B2</td>
<td>07/05/07</td>
</tr>
<tr>
<td>380</td>
<td>Dundee &amp; Sidlaw Hills</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>381</td>
<td>Blairgowrie, Kirriemuir &amp; Glamis</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>382</td>
<td>Arbroath, Montrose &amp; Carnoustie</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>385</td>
<td>Rannoch Moor &amp; Ben Alder</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>386</td>
<td>Pitlochry &amp; Loch Tummel</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>387</td>
<td>Glen Shee &amp; Braemar</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>388</td>
<td>Lochnagar, Glen Muick &amp; Glen Cova</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>389</td>
<td>Forfar, Brechin &amp; Edzell</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>390</td>
<td>Ardnamurchan, Moidart, Sunart &amp; Loch Shiel</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
<tr>
<td>391</td>
<td>Ardgour &amp; Strontian</td>
<td>A1</td>
<td>28/05/07</td>
</tr>
</tbody>
</table>
Travel Maps – Tour Series, new editions

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>North York Moors</td>
<td>C</td>
<td>05/06/07</td>
</tr>
<tr>
<td>3</td>
<td>Lake District &amp; Cumbria</td>
<td>C</td>
<td>03/07/07</td>
</tr>
<tr>
<td>10</td>
<td>North &amp; Mid Wales</td>
<td>C</td>
<td>15/07/07</td>
</tr>
<tr>
<td>11</td>
<td>South &amp; Mid Wales</td>
<td>C</td>
<td>15/07/07</td>
</tr>
</tbody>
</table>

Irish Discovery maps

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Third edition</th>
<th>To be confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Mayo</td>
<td></td>
<td>Third edition</td>
</tr>
<tr>
<td>36</td>
<td>Armagh, Down, Louth, Meath, Monaghan</td>
<td>To be confirmed</td>
<td></td>
</tr>
</tbody>
</table>

Cassini Maps (formerly Timeline Maps) Historical Maps

Cassini’s Historical Map series now covers the whole of England and Wales. It is based on Ordnance Survey one inch to the mile (Old Series) maps, published between 1805 and 1874. A central feature of the series is that the originals have been combined, re-scaled and re-projected exactly to match Ordnance Survey modern-day Landrangers. They have the same sheet number and the same British National Grid references. More details are available from http://www.cassinimaps.com, where the maps can also be purchased.

Cassini have also started another series – Past and Present. These present an area in four maps on one sheet. Each map is from a different era: mid nineteenth century; late nineteenth century; the 1920s and the present-day. Each map is adjusted to a scale of 1:50,000. The areas covered to early March are as follows:

Brighton & Hove
Bristol
Canterbury, Herne Bay & Whitstable
Chatham, Gillingham & Rochester
Ely, Haddenham & Littleport
Exeter & Exmouth
Guildford & Godalming
Letchworth, Stevenage Hitchin & Baldock
Maidenhead, Marlow & Bourne End
Manchester (Central)
Newbury & Thatcham
Norwich
Plymouth & Saltash
Portsmouth & Havant
Richmond & Ealing
Taunton & Wellington

1 See Richard Oliver’s review on page 51.
**Alan Godfrey Maps**

Details of Alan Godfrey’s reprints of old OS maps are available from Alan Godfrey Maps, Prospect Business Park, Leadgate, Consett, DH8 7PW, tel. 01207 583388, fax 01207 583399, or from their website at [http://www.alangodfreymaps.co.uk/](http://www.alangodfreymaps.co.uk/). Maps may be ordered directly from the website.

The columns are as follows: County / Sheet number / Title / Date of map / Month of issue.

<table>
<thead>
<tr>
<th>County</th>
<th>Sheet number</th>
<th>Title</th>
<th>Date</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co. Durham</td>
<td>51.05</td>
<td>Billingham (South)</td>
<td>1939</td>
<td>01/07</td>
</tr>
<tr>
<td>Cornwall</td>
<td>10.13</td>
<td>Tintagel</td>
<td>1905</td>
<td>02/07</td>
</tr>
<tr>
<td>Cornwall</td>
<td>14.11</td>
<td>Camelford</td>
<td>1905</td>
<td>12/06</td>
</tr>
<tr>
<td>Denbighshire</td>
<td>34.15</td>
<td>Llangollen</td>
<td>1910</td>
<td>11/06</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>6.10</td>
<td>Central Glasgow</td>
<td>1934</td>
<td>11/06</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>6.11</td>
<td>Glasgow (High Street)</td>
<td>1933</td>
<td>12/06</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>6.13</td>
<td>Glasgow (Bellahouston &amp; Dunbeck)</td>
<td>1934</td>
<td>12/06</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>11.08</td>
<td>Bellshill</td>
<td>1935</td>
<td>01/07</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>12.09</td>
<td>Motherwell (North)</td>
<td>1939</td>
<td>02/07</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>12.13</td>
<td>Motherwell</td>
<td>1910</td>
<td>02/07</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>25.15</td>
<td>Lanark</td>
<td>1896</td>
<td>01/07</td>
</tr>
<tr>
<td>Lancashire</td>
<td>62.15</td>
<td>Blackburn (West)</td>
<td>1929</td>
<td>12/06</td>
</tr>
<tr>
<td>Lancashire</td>
<td>62.16</td>
<td>Blackburn</td>
<td>1929</td>
<td>12/06</td>
</tr>
<tr>
<td>Lancashire</td>
<td>107.11</td>
<td>Whiston</td>
<td>1925</td>
<td>02/07</td>
</tr>
<tr>
<td>Lancashire</td>
<td>110.05</td>
<td>Lower Irlam &amp; Cadishead</td>
<td>1926</td>
<td>12/06</td>
</tr>
<tr>
<td>London</td>
<td>24</td>
<td>Wanstead</td>
<td>1894</td>
<td>01/07</td>
</tr>
<tr>
<td>London</td>
<td>95</td>
<td>Plumstead</td>
<td>1894</td>
<td>01/07</td>
</tr>
<tr>
<td>London</td>
<td>129</td>
<td>Catford &amp; Hither Green</td>
<td>1894</td>
<td>01/07</td>
</tr>
<tr>
<td>London Large Scale</td>
<td>7.12</td>
<td>Camden Lock</td>
<td>1870</td>
<td>12/06</td>
</tr>
<tr>
<td>London Large Scale</td>
<td>7.73</td>
<td>Charing Cross &amp; Trafalgar Square (new edn)</td>
<td>1871</td>
<td>11/06</td>
</tr>
<tr>
<td>Norfolk</td>
<td>59.06</td>
<td>Swaffham</td>
<td>1926</td>
<td>12/06</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>8.07</td>
<td>Peterborough (North) &amp; New England</td>
<td>1924</td>
<td>12/06</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>8.11</td>
<td>Peterborough</td>
<td>1924</td>
<td>11/06</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>8.16</td>
<td>Peterborough (South)</td>
<td>1924</td>
<td>02/07</td>
</tr>
<tr>
<td>Pembrokeshire</td>
<td>2.12</td>
<td>Cardigan &amp; St Donnaels</td>
<td>1904</td>
<td>02/07</td>
</tr>
<tr>
<td>Somerset</td>
<td>2.05</td>
<td>Portishead (North)</td>
<td>1930</td>
<td>01/07</td>
</tr>
<tr>
<td>Somerset</td>
<td>2.09</td>
<td>Portishead (West)</td>
<td>1930</td>
<td>01/07</td>
</tr>
<tr>
<td>Somerset</td>
<td>2.10</td>
<td>Portishead (East)</td>
<td>1930</td>
<td>02/07</td>
</tr>
<tr>
<td>Somerset</td>
<td>38.03</td>
<td>Highbridge</td>
<td>1929</td>
<td>01/07</td>
</tr>
<tr>
<td>Worcestershire</td>
<td>10.07</td>
<td>Northfield (North)</td>
<td>1903</td>
<td>01/07</td>
</tr>
<tr>
<td>Worcestershire</td>
<td>23.07</td>
<td>Redditch (West)</td>
<td>1903</td>
<td>12/06</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>161.12</td>
<td>Great Driffield</td>
<td>1909</td>
<td>12/06</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>240.02</td>
<td>Hull (West)</td>
<td>1908</td>
<td>12/06</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>240.04</td>
<td>Hull (Alexandra Dock)</td>
<td>1908</td>
<td>02/07</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>240.15</td>
<td>Hull (NE)</td>
<td>1908</td>
<td>02/07</td>
</tr>
</tbody>
</table>

**England and Wales one-inch**

The italicised place name in brackets after the title is covered on a large scale map on the reverse.

<table>
<thead>
<tr>
<th>Sheet number</th>
<th>Place Name (Edition)</th>
<th>Date</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>129</td>
<td>Hunstanton &amp; The Wash (New Hunstanton)</td>
<td>1907</td>
<td>01/07</td>
</tr>
<tr>
<td>215</td>
<td>South Herefordshire (Kilpeck)</td>
<td>1908</td>
<td>02/07</td>
</tr>
<tr>
<td>220</td>
<td>South Bedfordshire (South Apsley)</td>
<td>1893</td>
<td>02/07</td>
</tr>
<tr>
<td>233</td>
<td>Monmouth, Wye &amp; Forest of Dean (Lower Lydbrook)</td>
<td>1908</td>
<td>11/06</td>
</tr>
<tr>
<td>248</td>
<td>Rhondda Valley &amp; Pontypridd (Coed Ely Colliery)</td>
<td>1904-14</td>
<td>02/07</td>
</tr>
<tr>
<td>262</td>
<td>Vale of Glamorgan (St Donats)</td>
<td>1904</td>
<td>01/07</td>
</tr>
</tbody>
</table>