Sheetlines

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

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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.
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**Sheetlines**
Published by THE CHARLES CLOSE SOCIETY
for the study of Ordnance Survey Maps

Sheetlines 67
August 2003

**Forthcoming meetings**

**2004 Annual General Meeting**

The next AGM will take place on 15 May 2004 at the Harley Centre, Ludlow College, Mill Street, Ludlow (Grid Ref: SO 510746), formal business commencing at noon. As usual we plan to arrange a talk beforehand and a members’ map market will follow in the afternoon. In view of the comments made at the last AGM, a ‘proper’ Welsh venue had been investigated, but, after consultations, it was considered that a venue on the Cardiff to Holyhead railway line would be more convenient for almost everyone.

**Midland Group Meetings**

Roger Helleyer’s book provided an excellent topic for the 22 May meeting of the informal Midlands Group of the Society. Lez Watson reports that ‘there were 2½" sheets flying all over the place’! The Group’s next meeting will take place at 19:30 on Thursday, 11 September at Voluntary Services Centre, Union Street Car Park, Union Street, Burton upon Trent (SK 246229). The topic will be ‘Birmingham’.

More information from Lez at 54 King Street, Burton upon Trent, DE14 3AF, Lez4Lynne@aol.com, (01283) 541303.

**Other visits**

This issue of *Sheetlines* includes reports on some of the very successful meetings and visits that Gerry Jarvis has arranged in recent months. He reports that the remaining meetings in this year’s programme are already more or less fully booked:

- **19 September** Royal Commission on Ancient and Historic Monuments in Wales and National Library of Wales Map Library, Aberystwyth,
- **9 October** Ordnance Survey Headquarters, Southampton.

Gerry is working on exciting plans for more visits in 2004 including, we hope, a trip to Dublin. Further details will be given in the next issue of *Sheetlines*, and on the website.
Ordnance Survey announced the publication of its Annual Report and Accounts to Parliament in a news release of 10 July, making the point that ‘appropriately for an e-business’ the web version at www.ordnancesurvey.co.uk/annualreport was available in advance of paper copies.

The news release highlights the launch of three new digital layers in OS MasterMap and contracts with companies such as Hutchison 3G to provide maps and geographical information via the latest mobile phones. In addition, new partnership initiatives have been launched to stimulate companies and individuals to exploit innovative uses for Ordnance Survey data; a national agreement has been signed to encourage the use of data throughout central government; and nationwide coverage of Explorer maps has been achieved.

Heavy investment is continuing in new technology and other initiatives to provide faster access to data, speedier updating, more versatile products and a more responsive service to customers. £29.8 million has been invested in addition to last year’s record £35.3 million.

Revenue from sales and licensing reached a record £93.9 million – up 8% on the previous year – despite most digital data prices being held and others reduced, and despite global events and general economic conditions impacting on orders from some partners and customers. Total turnover from operating activities was up by 5% to £108 million.

The operating loss for the year was £2.2 million (compared to the previous year’s £7.5 million), with current projections indicating a clear return to profit in the current year. The two years of deficit was a deliberate part of Ordnance Survey’s business plan to ensure money was available to fund the biggest investment programme in its history. Further long-term savings in running costs will arise through the reduction of staff posts by 355 in the current year under a voluntary scheme allowing staff to leave or retire early. Annual ongoing savings amounting to 20% of staff costs – around £11 million a year at current costs – will result from this programme.

With the exception of revenue, which while up 8%, was not as large an increase as originally hoped, all eight other government targets for the year were exceeded. These include surveying output, the updating cycles for various paper maps, efficiency savings in data collection and the production and distribution of products, the reduction of carbon emissions from the Southampton headquarters and the number of visitors to Ordnance Survey’s website.

Get an Explorer

Lez Watson points out that the 1:25,000 datasets at www.getamap.co.uk have now been extended to cover Scotland. Thus one can now download, free of charge, and print extracts from Explorer mapping (as well as smaller scales) covering the whole of Great Britain.

At the same time, OS has announced that it is extending its ‘free maps for eleven-year-olds’ initiative for a second year and is gearing up to print and distribute 800,000 Explorer maps to school children at the start of next year’s spring term. Eligible schools need to register for this scheme, see www.ordnancesurvey.co.uk/freemapsfor11yearolds for details.
Visit to Public Rights of Way Unit, Chester

Michael Richardson

Following the cancellation of the visit originally scheduled for last September, there was a good turn-out on 25 February and twelve members assembled at Goldsmith House in Chester, home of the Public Rights of Way (PROW) Unit of Cheshire County Council (CCC), to be welcomed by CCS member Alan Bowring. The usual coffee was served but the biscuits, kindly provided by Alan’s partner Morag, were specially made for the occasion and were decorated with the CCS logo and various OS symbols.

The formal proceedings started with a welcome from Jane Krause, the Countryside Access Manager, who then explained the lengthy process by which the Definitive Map of public rights of way for Cheshire was developed. This followed the passing of the National Parks and Access to the Countryside Act 1949 which came about following action over a period of time by groups such as the Ramblers Association and the Open Spaces Society. CCC and other authorities were then obliged to start producing Definitive Maps and statements. Cheshire did it very much by the book and the whole process consequently took a very long time, with maps for most of the county being published between 1966 and 1974. With the re-organisation of local government since 1974 some parts of ‘old’ Cheshire have now passed to other authorities but the PROW Unit retain all of the records for the old county area.

To ensure that a common procedure was followed, the Open Spaces Society published guidance that was used across the whole country. Parish Councils were invited to survey local footpaths and prepare maps (using the 1:10,560 sheets) and schedules and we were shown some of the original walking schedules and maps. Where discrepancies arose, due to paths having been moved or boundaries changed, these were investigated and eventually the draft Definitive Map was published parish by parish between 1953 and 1956. There was then a period for objections to be lodged and the Council set up a series of hearings to resolve these.

By the early 1960s CCC had started producing sheets of the Provisional Map – overprinted on existing 1:10,560 sheets. This caused problems when some of the registers were off and it was unclear whether the lines shown would have to be enforced as the ‘correct’ route – an error of 1mm in the register of the overprint represents 10m, so for example footpaths might appear on the wrong side of boundaries.

At this stage, only landowners had a further chance to comment or object – by appeal to Quarter Sessions (succeeded by Crown Courts by the 1970s). Finally the first sheets of the Definitive Map were published – starting with Wirral and Chester in 1966.

At this point the party split into two groups, with Alan telling us about the production of digitised versions of the Definitive Map, and Sue Sherliker explaining the process by which changes to the maps are made by Modification Orders. My group started by looking at the digitised version of sheet SJ 45NW, where there is a good network of paths and bridleways around the villages of Churton and Aldford; this is one of 160 sheets at 1:10,560 and 1:10,000 which show around 6500 individual paths. They have been digitised using Arcview GIS 3.2 and are currently available for use by staff on the CCC intranet; the intention is to make it available for public use by putting it on the CCC website, probably within the next 6-12 months.

Although the Ordnance Survey at Southampton have been sent the Definitive Maps for Cheshire and all subsequent modification orders, the PROW unit have checked five Explorer
sheets for Cheshire and noted about 350 errors and suggestions for improvement of access information by OS: is this typical or better or worse then average? Whatever the case, there are concerns about the long-term retention of OS maps with Rights of Way information.

We then looked at how changes can be made to the Definitive Map by means of a Modification Order, and were taken through the lengthy process, which resulted from a request to reclassify a path as a bridleway near Crossley, northeast of Congleton. This starts near the River Dane, crosses the Macclesfield Canal and then goes under the Congleton to Macclesfield railway line. The first stage was to consult the original canal plans of 1825, on which route 216 was recorded as Bridle Road. North Staffs Railway plans of 1845 indicated it as a public bridleway and the original OS sketch map from PRO Kew refers to it as Hall Lees Road. The Finance Act plan of 1910 was also consulted. Apart from many hours of research by the PROW unit, members of the local bridleway group did some of the research on the land. This case highlights the fact that the recording of bridleways has not been as thorough as that of footpaths, partly because there was less interest in leisure riding when the initial maps were produced.

After lunch the groups looked at the work of PROW officers in the field, with Carl Horton, and at the various projects, which have resulted from the CROW Act 2000, with Alan Bowring. My group looked first at the use of handheld Compaq iPAQ pocket PCs in recording the management of rights of way in the field. This is a key activity of the PROW unit since CCC has a responsibility to maintain signposts, stiles etc and to protect public access. Information is loaded into the handheld units from the Arcview database and they give the rights of way officers working in the field the ability to record information on path and furniture. There is also a link to a digital camera so that information logged can be backed up by photographic evidence if needed. All of this work is the responsibility of the Maintenance and Enforcement Unit based at Whitegate Station near Winsford and headed by Mike Taylor, another CCS member!

The final session for my group looked at the Countryside and Rights of Way (CROW) Act 2000 and the new duties which this has imposed on the Council. One of the most important has been the identification of Common Land and Open Country (moorland, heath and hill) following a process rather similar to that followed for footpaths. Binnie Black & Veatch managed the initial stages of this on behalf of the Countryside Agency and the draft maps have been made available for public comment, in much the same way that the Definitive Map was produced fifty years earlier. Provisional Maps were subsequently published and those with a legal interest in the land were able to appeal against land shown on them as open country. This process is continuing at present and the conclusive maps of registered common land and open country will follow. It was good to hear that the Forestry Commission intend to designate their land as open country.

Alan reminded us of the Discovering Lost Ways project (which he has written about in Sheetlines 64) and we were shown the computer database of ‘lost ways’ within Cheshire (of which there may be as many as 3000). All of these will need to be carefully checked so that where evidence exists they can be added to the Definitive Map before the ‘cut off’ date of 2026.

Finally, it was interesting to see examples of the parish footpath maps produced by the PROW unit, some of which were funded by the Countryside Commission’s Parish Paths Partnership scheme. These maps, at scales of 1:10,000 or similar, include a series of suggested walks in the area, and I hope to get out and enjoy some of these before too long!
This was a most informative and interesting day, and for those keen to know more about the work of the PROW Unit further information is available on their website www.cheshire.gov.uk/countryside/prow as well as in their bi-annual newsletter Cheshire Signpost. Thanks are due to Alan Bowring, Jane Krause and all the members of the PROW team for their hard work in ensuring the success of this visit.

Visit to UK Hydrographic Office, Taunton

Gerry Jarvis

I planned this visit ahead of a trip to Australia, and eventually found myself going to Taunton on 4 March by train, and returning directly to Manchester Airport to fly out. Perhaps understandably my concentration was not entirely on last minute arrangements, and I forgot to ask one of our attendees to write up the visit. So for this visit you have to suffer my memory.

But first my thanks to Lynn Gates for organising the visit; to Wendy Hadfield for looking after us on the day; to Dr Peter Wright for allowing the visit; and to all the staff who took the time to explain their roles.

I had asked for this visit for autumn last year, but UKHO were unable to accommodate us then, so offered us this March slot. I was very surprised to learn from Peter Wright that they only support six such visits each year, so I am very grateful to them for including us so readily. It is perhaps an indication of the reputation that CCS have built up in recent years, that we enjoyed that level of priority.

We were shown the various stages of chart production, including the latest electronic processes. UKHO are not restricted to UK waters, but offer their services around the world. The area that most intrigued me was the Chart Correcting Office. Perhaps it should have been obvious, but not being a sailor the importance of up to date charts had not occurred to me. But all Notices to Mariners not only have to be updated on their master records, but stocks of printed maps held at Taunton also have to be updated. UKHO have a considerable team dedicated to this work, either with printed amendments, or else amended manually.

UKHO are currently in the throes of a major rebuilding programme, but when this is complete, they will have a new home for their archives. Peter Wright has promised us a special visit when all the work is completed, just to view these archives.

When the visit was complete, we still had Roger Eckersley to show some of us around historic Taunton. Roger is not only a member of the Society, but a recently retired registered tourist guide for the South West, so we were treated to a very professional tour of the town.

Belton Delight

John Manterfield

The visit to Belton House in Lincolnshire must surely rank as one of the most delightful in the society’s programme in recent years. Over a dozen members gathered on Friday 2 May
under the clock turret gateway to the courtyard of Belton House a few miles north of Grantham. Our host was Peter Hoare, formerly librarian at the University of Nottingham, now engaged by the National Trust in cataloguing the libraries at Belton and other Trust properties. After showing us the small library (not normally open to visitors to the house), we descended below stairs where Peter had laid out for us a selection of the cartographic treasures he had located in the course of his work at Belton.

Much of the collection had been acquired by Sir Brownlow Cust, created Baron Brownlow in 1776 and his son, John Cust, the second Baron Brownlow, who in 1815 became the first Earl Brownlow. Brownlow Cust was the son of Sir John Cust (1718-1770) who was MP for Grantham and Speaker of the House of Commons from 1761 to his death. Several county maps including Benjamin Donn’s map of Devon (1765) and Captain Armstrong’s map of Lincolnshire (1779) were represented as were John Rocque’s map of the post roads of England and Wales (1786) and William Faden’s Roads of Great Britain (1795). As a young man the future Earl Brownlow travelled in Europe including as far as Moscow in 1800. This excursion resulted in an addition to the Belton collection in the form of a Russian atlas published in Moscow in 1795. Other non-European items at Belton displayed to members of the Charles Close Society were part of Arrowsmith’s map of the United States of North America (1796) and Cary’s New Map of Hindostan (1824).

For historians of the Ordnance Survey, Belton House has special significance in relation to the Old Series one inch mapping of England and Wales. It was Earl Brownlow who, as Lord Lieutenant of the county, wrote on 23 December 1817 on behalf of a number of the gentlemen of Lincolnshire to Earl Mulgrave, then Master General of the Ordnance, requesting that Lincolnshire landowners might be permitted to derive the benefit of those Surveys. After an exchange of correspondence involving Sir Joseph Banks, President of the Royal Society and a fellow Lincolnshire landowner, it was agreed in February 1818 that Lincolnshire could be mapped out of turn provided that 500 subscribers could be procured at four guineas and a half for the set. Lord Brownlow himself headed the published list of subscribers initially with ten copies of what eventually was published in 1825 as part X of the Ordnance Survey one inch map. Society members were able to handle one such set of the eight Lincolnshire and Rutland sheets which were identified as state 1 and were in their original slip-case decorated with the arms of Earl Brownlow and the Ordnance Survey. Of special interest however was a proof state of sheet 83 (Lincoln) printed on thin paper with no marginal material beyond the neatline and with the county name shown in outline only and without the hills added. Discussion took place as to whether this was the very sheet referred to by Captain Mudge in August 1821 when a proof sheet was sent to Lord Brownlow ‘trusting that his Lordship will have the goodness to cause the same to be inspected’. Even if the surviving proof turns out to have been slightly later, its very survival is testimony to the process of involving local gentry in commenting on the accuracy of the surveying and to the spelling of place names.

Our thanks to Peter Hoare for his specialist input and to Gerry Jarvis for organising the visit.

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1 Lincolnshire Archives Office 4 BNL 14/31.
The Edinburgh Three-day Event
8 – 10 May, 2003

This year’s annual general meeting took place in Edinburgh as part of the fifteenth three-day event arranged by the Map Curators’ Group of the British Cartographic Society, Edinburgh University Library, the National Library of Scotland and the Charles Close Society.

Over seventy participants from these organisations had registered and we were welcomed to the National Library’s Causewayside Building on the Thursday evening with a glass of wine, before being ushered (without our dangerous wine) to a neighbouring room, where a magnificent display of the Bartholomew Archive had been laid out.

The Library acquired the archive in instalments, particularly from 1985 when control of the firm passed to HarperCollins. One part, the Manuscript Archive, contains correspondence and other records from the mid-nineteenth century until the 1980s. The examples on display had been carefully chosen; of particular interest to CCS members was a forceful rebuttal to an Ordnance Survey charge of copyright violation. Examples from the Printing Record, which contains specimens of the firm’s output, were also on display. The job registers, which also form part of this Record, give dates of printings and numbers of copies for each sheet, an invaluable aid to identifying Bartholomew maps and sometimes a light on history, as with a sudden large and urgent order for maps of Poland in September 1939. Some fascinating original copper plates were also displayed.

In 1995 fifty-three antiquarian atlases were donated to the National Library in memory of John Bartholomew (1890–1962), who served as a trustee of the Library and was influential in establishing the Map Room. A full catalogue of the John Bartholomew collection is available online at www.nls.uk and a number of splendid early atlases were on show. A lot of work had gone into choosing and arranging all this material. The Bartholomew family and the firm were represented at this event; they and the exhibition organisers were able to see how much this display was appreciated by all present.

Afterwards, Margaret Wilkes conducted a short walk to the New Bell restaurant, appropriately passing the stately Edinburgh Geographical Institute, Bartholomew’s former headquarters. At the New Bell, the evening concluded admirably as Scottish hospitality and thrift had combined to arrange a delicious menu in good company at a very reasonable price!

Access, Access, Access

Friday morning found us back in the Causewayside building for a series of talks chaired by Ann Sutherland. First speaker was Duncan Moss, Ordnance Survey, who explained the new Pan-Government Agreement, which replaces a number of separate agreements with individual departments and allows central government generally to make better use of Ordnance Survey data. A striking example of the collaboration which this agreement encourages will be found in the large-scale mapping available at www.magic.gov.uk, the website for Multi-Agency Geographic Information for the Countryside.

The second talk was, perhaps, of more relevance to those in the audience who are not civil servants. Philip Graham of the Royal Commission on the Ancient and Historical

1 The editor apologises to those without ready access to the Internet for the number of Web references in this report, but these do provide far more detail and better illustrations than can be included here. Public access to the Internet is, of course, now available in many local libraries.
Monuments of Scotland (RCAHMS) described the online evolution of CANMAP. This allows users to view maps of the distribution of archaeological sites and buildings of historical interest in any chosen area of Scotland. Again, a look at the Commission’s impressive website, www.rcahms.gov.uk, is recommended. This also provides access to CANMORE, the ‘user-friendly’ interface to the records and photographs contained in the National Monuments Record of Scotland database.

The third speaker, James Reid of EDINA, the Edinburgh University data library, continued the theme of online access to geographical data by describing the development of a digital gazetteer service for UK academia. This is a continuing project, in conjunction with Essex University. The project website http://hds.essex.ac.uk/geo-X-walk/ provides details.

Finally, the home team took the floor: Chris Fleet of the National Library titled his talk Serving SIDs from Jura to Java; delivering map images of Scotland over the Web. The Map Library has an impressive digital imaging programme, over 4000 map images have been captured and about 1200 of these can be viewed on the website www.nls.uk/maps in three main categories, Pont Maps (sixteenth century maps by Timothy Pont), maps of Scotland 1560 – 1928, and eighteenth century military maps of Scotland. The Map Library was currently adding images of 1900 OS large-scale plans dating from 1847-95, covering sixty Scottish towns. The Library also supplies digital images on CD-ROMS and printouts of scanned images at very reasonable prices.

Afternoon visits

The morning’s programme finished smartly to time in order to allow the audience to scatter to a number of well-organised visits to local map collections. Those of us going to the Royal Scottish Geographical Society in Glasgow were provided not only with a complete rail timetable, but also with notes on the points of interest visible from the train en route. Reports on this visit, and that to Edinburgh University library, kindly provided by two participants, appear below. Others visited the National Library, RCAHMS, and the XYZ Digital Mapping Company Ltd at Dalkeith.

Visit to the Royal Scottish Geographical Society (Chris Board)

The unremarkable office block which houses the University of Strathclyde and the RSGS contains treasures. The Society’s eminence is in studies of exploration, particularly in Africa and in geographical education. These and its links with the map and atlas publishers in nineteenth century Scotland conferred a status on the Society which it is hard to maintain on a modest membership base and budget. It is all the more remarkable that their premises house a research library, map library and office in very cramped circumstances.

The Society has a considerable collection of OS maps which is not well known, but can inspected by appointment. Apart from the inconvenience of the map library being on another floor from the rest of the headquarters, all available space was in good use and we were able to peer into map drawers and ask any questions. The afternoon visit was all too short, but thanks are due to David Munro (Director) and Margaret Wilkes (who made the cakes for tea) and the dedicated staff who were working on a major, web-based reference project on Scottish places. These will include recordings of how to pronounce place names – essential for the Gaelic ones.
Visit to Edinburgh University Library (Tinho da Cruz)

The visit to the Edinburgh University Library offered a chance to see material from the Percy Johnson-Marshall Collection. The group was met by Sarah Higgins, the project archivist, and escorted up to the Special Collections Division. Clive Fenton, a member of the architecture staff, who was largely responsible for saving the collection, talked about the items on display, bringing to life the career of the man. Percy Johnson-Marshall (1915-1993) was an urban designer, regional planner and educator. He joined the University of Edinburgh Department of Architecture in 1959, eventually becoming Professor of Urban Design and Regional Planning with his own department. He also worked for a variety of local authorities, and the Ministry of Town and Country Planning. He was a voracious collector as was evidenced by the material on display: survey material, planning reports, plans, drawings, and photographs. The collection also encompasses published books and journals, government reports, personal and professional papers, and papers relating to professional organisations. There were many items from his work as a consultant in the area around the University of Edinburgh and much from London and Middlesex. The collection is currently being conserved and catalogued in a project entitled Rebuilding the City. For more information see their web site, www.johnson-marshall.lib.ed.ac.uk.

The second part of the visit was conducted in a room full of computer terminals as the group was introduced to the Charting the Nation image collection. This is a digital imaging and cataloguing project giving access via the web to maps of Scotland and their associated texts. The site ranges from 1550 to 1740 and contains source materials for the study of the history of cartography, currently over 3,500 images. Also included on this website is the Board of Ordnance collection of military maps and architectural plans now held by the National Library of Scotland, dating from ca. 1690 to ca. 1820.

The group was given a tutorial in the use of this digital collection and allowed some time to explore it for themselves. If you have web access you can examine it too, just go to www.chartingthenation.lib.ed.ac.uk/. It is to be hoped that we shall see more projects of a similarly high quality in the future.

The Charles Close Society AGM

On the Saturday morning, reinforced by members making a day trip to Edinburgh, we gathered in the spacious Wolfson Suite, kindly made available by the University Library, for an invited talk by Dr Michael Wood, OBE, of the University of Aberdeen, on the mountain panorama in Alpine and Scottish contexts. We are very grateful to Dr Wood for providing an abstract, which follows, of his enjoyable lecture. The many stunning illustrations he showed could not have been reproduced adequately in Sheetlines without copious use of colour.

Following this talk, Chris Board’s announcement of the start of formal AGM business provoked a rapid exodus of non-CCS members. The minutes of this meeting, the Chairman’s report, and the annual accounts will be found in the accompanying Almanack.

After a brief visit to local pubs and cafés, 2.29pm saw the traditional throng in the Wolfson Suite, all trying to pretend that they were not aiming for pole position at the Map Market. When we were admitted, there proved to be plenty for everyone with many of the dealers providing a Scottish flavour to their stocks.

This was your Editor’s first experience of a three-day event. It far exceeded even the expectation created by its legendary predecessors. Our thanks go to everyone involved in the superb organisation and particularly to the Edinburgh people for their warm hospitality.
**The Mountain Panorama in Alpine and Scottish Context**

*Michael Wood*¹

The panorama is an art form which originated in the seventeenth and eighteenth centuries and grew in importance during the nineteenth. An illustrated summary of this evolution was offered, especially with relation to the European Alps. Early examples were presented, including the work of Goethe, and Barker’s claim to the origin of the word ‘panorama’. Growth continued with the development of rotunda buildings for viewing the panoramas (the first in Leicester Square, London, 1793?). And, with the rapid expansion of Alpine mountaineering, the emergence of the small printed (folding) panoramas in the nineteenth century, became (and continues to be) a huge commercial business in the Alpine countries serving mountaineer and general tourist alike.

Although some similarities exist between the Alps and the Scottish mountains with respect to the history and growth of mountaineering and tourism, perhaps surprisingly, this does not include an associated business in tourist panoramas. Some examples of Scottish panoramas (and of other similar pictorial forms) from the sixteenth through to the early twentieth centuries were presented but no evidence was found of a demand for their mass production as occurred in the Alps. The nature and significance of more recent panoramic images of Scottish mountains were examined (with reference to modern paintings by the author and others, and magnificent new computer-generated landscape views) and their potential value for both visitors and for the environment in the future. Although the Alps and the Scottish mountains may have attracted and challenged both natural scientists and mountain climbers and tourists, only the Alps inspired artists and publishing entrepreneurs. The Scottish legacy, although fine, is minimal. But with talent and new technology the potential for exploitation still exists.

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**Recent miscellanea from the CCS archive**

*Yolande Hodson*

Those of you who attended the AGM in Edinburgh this year may recall that I gave a short report on the accession to the Society archive, held in Cambridge University Library (Map Library), of several Directorate of Overseas Survey files, consequent on the disbanding of its successor body, OS International. I should add that the review of the DOS material was entirely carried out by Ian O’Brien. Afterwards, I received several enquiries about the Society archive and how material is acquired, and so I give here a brief explanation, together with a review of some recently acquired items. The archive of strictly Society-related material is not discussed here.

My role as the Society’s Records Liaison Officer is to review and accept on behalf of the Society, where appropriate, those records no longer required by Ordnance Survey and which are also not required by the National Archives (formerly the Public Record Office). This procedure began in the 1980s when, by chance, I learned that OS were to dispose of all the

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¹ Department of Geography and Environment, University of Aberdeen, St Marys, Elphinstone Road, Aberdeen AB24 3UF.
job files for the Seventh Series. When it became apparent that neither the Public Record Office nor the British Library were able to take the files, I became so concerned at the potential loss to scholarship of these records that I offered to store them, personally, in my own home.

Ordnance Survey were most willing and helpful collaborators in this initially amateurish scheme, and the Lord Chancellor’s approval of the stable, 16 Hertford Road, Tewin, as a place of deposit of public records for this purpose, was secured. The precedent having been set, the way was open for the reception of further unwanted superseded material and soon space was at a premium. More worryingly, although my stable had not seen a horse in decades, the storage conditions became far from ideal and so it was with great relief that the burgeoning archive was transferred to Cambridge University. This Society owes a great debt to Roger Fairclough, then Map Librarian at the University Library, for negotiating the space and permission to store the archive.

At present the system works smoothly, mainly owing to Ordnance Survey’s prescience in recognising the potential interest to historians of items which no longer serve a current Ordnance Survey purpose. Such material, not being required elsewhere, is set on one side to await my next visit. In practice, since I am personally an irredeemable hoarder, I discard nothing. The result is that all items offered, be they an OS advertising sticker or unique manuscript, see their way into the CCS archive.

The latest batch of acquisitions includes two such manuscript drawings. Each is a tangible and unique remnant of past drawing procedures and so I describe them here in the hope that someone will pursue in more detail the evidence they offer, for example, of the draughtsman’s technique.

Scottish Popular lettering – the Paisley, and not quite the Perth, sample

The art of hand lettering on Ordnance Survey maps, and its development from the eighteenth to the twentieth century, is a subject so far notable only for its neglect by students of Ordnance Survey maps. Practitioners of this art are now rare birds of whom a skilled survivor is one of our honorary members, Campbell Ballantyne. Our early Charles Close Society headed writing paper was graced by his essay in Fifth Edition style. This lettering, and other alphabets designed by Ellis Martin and predecessors await the scrutiny of historians of cartographic calligraphy.

An important break with nineteenth-century and earlier lettering practice was made with the Scottish Popular Edition one-inch map. In his excellent booklet on this series\(^1\) Richard Oliver describes, on pp5-6, the background to the very clear lettering on these sheets, and Winterbotham’s claim that he, together with Lt Col W J Johnston (o/c Publication Division) made recommendations for the style of lettering to be used on the new drawn, rather than engraved, maps. In particular, Winterbotham refers to his having made a ‘Perth sample’, on which the whole of the lettering of the Scottish maps was based.

Winterbotham was clearly struck by the effect of this example of lettering for he was to comment, a decade or so afterwards in 1931, that “the ‘Perth Sample’ will live long in Survey thought and history. Bold and neat compared with the transferred work [transfer from copper to zinc or stone] the writing so evolved proved a great advance”\(^2\). So far from living long in Survey thought and history, it is, perhaps, a matter for comment that absolutely no

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Figure 1: Part of the ‘Paisley Sample’ showing manuscript lettering and drawing for the Popular Edition one-inch map of Scotland.
Figure 2: Part of the ‘Perth Drawing’ used as an exemplar for Draughtsmen’s tests in 1925.
mention of this sample had been made by Withycombe in his paper on lettering on maps which was published in 1929\(^3\) two years before Winterbotham’s lecture.

Now, as Richard notes, no example of the original Perth sample has ever been seen. Nor do we know who executed it. But by one of those serendipitous coincidences that all too rarely lighten the life of the researcher, a new CCS archive acquisition has combined with one of my trawls through OS Instructions to give what may be some pointers in the right direction for others to follow up.

The new acquisition is a two-inch scale enlargement in blue of Scottish Third Edition one-inch sheet 30 printed on thick cartridge paper. (Fig.\(1\)) It measures 222 × 294 mm and is unevenly trimmed top and bottom, although cut to pencil guidelines on the left and right edges. On this, within a black ruled neatline measuring 175 × 259 mm, is drawn in black ink the roads, railways, settlement, woods, and parks. All the place-names are also hand-lettered. The area covered is Paisley and its environs within a radius of about two miles. Outside the drawing, bottom right, is the inscription: ‘Drawn by F.L. Smith, October 27, 1922.’ Below this is a further inscription, also in ink, which reads: ‘A specimen of work for photo-graphic reproduction, 4 months practise, 2 hours per day.’

Frank Leslie Smith was not only a draughtsman, but appears also to have been an engraver and, in the lead up to the final abolition of engraving in OS in 1924, may well have been retraining in different skills. An example of what may be his engraving work has also come to the CCS Archives in the form of a small copperplate, measuring 62 × 94 mm, for a calling card for his wife. Interestingly, if this copperplate is held up in raking light it is possible to notice the remnants of lettering, perhaps place-names, suggesting that part of an old map copperplate has been recycled.

To return to the ‘Paisley Sample’ – was it based on the Perth sample? We have Winterbotham’s own word that he was commissioned, along with Johnston, to look into the design of the new Scottish map in 1921, although the month is not specified. The Paisley Sample was drawn in October 1922, at least two months after Winterbotham left OS in the preceding August. Johnston left in September. Therefore it is reasonable to assume that the Perth Sample had provided the model for the Paisley drawing. But what did the Perth Sample look like?

Although the Perth Sample was completely ignored by Withycombe in his 1928 treatment of lettering on maps, Winterbotham’s claim that it would always be remembered may have had some currency at the time. Among a collection of loose-leaf circulars in OS Library is Circular C.C. 885, entitled Instructions for test of draftsmen as required by para.1 of Circular (C.C. 863), and dated 5 August 1925 (but print code is: O.S.O. – 250- 30-7-1925). The first section of this six-part test entailed the writing of twenty names. Ten of these were to be in Stump, three in Sans Serif (Hill Names), three in lower case Roman, one in sloping Egyptian, two in uppercase Roman and one in Roman italics. The Test instruction for this section reads: ‘The style and gauge of the writing should be similar to that on the Perth drawing’.

Happily, the Circular is accompanied by a slightly larger than A3 size printed example of the Perth drawing to which it refers, and part of this is reproduced here (Fig.2). The Paisley Sample lacks the variety of styles which is present overall on the Perth drawing, but the similarity is self-evident. All that is now required is for OS to find the original Perth Sample. In the meantime, members may wish to know that a few other examples of Frank Leslie’s writing have been acquired along with the Paisley Sample, and these will be placed together in the archive.

Manuscript drawing for Sixth Series one-inch sheet 131 (Birmingham)

The second unique item to be acquired for the CCS Archive is the only survivor of six two-inch drawings which would have gone to make up one-inch sheet 131 of the New Popular, or Sixth Series one-inch map. (Fig. 3) A reference to this drawing is made by Richard Oliver in his recent account of this series. The drawing is done on a sheet of heavy cartridge paper which measures 550 × 728; the drawing itself measures 473 × 410 mm. It is accompanied by a short note by John Paddy Browne, most of which I reproduce here:

‘A handwritten note in the margin of this MS says: *This is the only piece of manuscript drawing (2” to 1 mile) to survive the eventful night of 1-12-40 in Jubilee Block.’*

The ‘eventful night’ was the major German bombing raid on Southampton in which great damage was done to the London Road offices of the Ordnance Survey.

Jubilee Block was the tallest building on the site and was used as an air-raid lookout post. Its value as an observation post had already been proven during two previous bombing raids on 23 November 1940 and 30 November, the latter of which caused considerable damage to the compound.

Jubilee Block took a direct hit on the night of December 1 (actually the raid started at about 8.00 p.m. on Saturday November 30 and continued until well past midnight). The official report of the damage records that: *The whole contents of the building, including doors and windows [were] destroyed by fire resulting from a high explosive delayed action bomb which penetrated the roof (7” reinforced concrete), the second and first floors (both 7” reinforced concrete), and burst while passing through the first floor.*

The Block housed the paint and paper stores as well as repayments and One-inch Drawing Sections. In the basement the precious Ramsden theodolite (which had been placed there for safety reasons), melted in the heat.

Some records concerning work in hand did survive, but this was the only drawing to escape.

The most miraculous survivor of all, perhaps, was the lookout who was on duty on the roof of Jubilee Block when the bomb struck the building.’

The drawing itself is capable of revealing much about the state of revision of the area at the time it was made. I leave to others the comparison which can be made between the detail on this drawing, the preceding Popular Edition sheet (72 Birmingham), the actual published Sixth Edition sheet, which was based on the Popular reproduction material, and the succeeding Seventh Series sheet (131 Birmingham). Suffice it to say that a casual glance at the route representation, for example, shows that at the lower end of the classification system – especially footpaths/bridleways, there were significant differences between the various sources.

As interesting, and certainly revealing for the light they shed on the time taken to make these drawings, are the manuscript inscriptions in pencil and different colour inks on the reverse of the sheet. These are written in different hands in chronological order and read as follows (numbering is supplied):

1 Partly written by A. J. Holbrook in November 1939. Time taken 6 days.

2 Partly drawn by S A Batchelor [any relation, Bill?] Commenced on 23 October 1940 Completed on 26 October 1940 Time taken 3½ days.

3 Partly written by F Seward Carter Commenced February 19th 1940 to April 2nd 1940 Time:- 22½ days

Figure 3: Part of manuscript drawing 131/5 (sheet 131 Birmingham) for the Sixth Edition one-inch map.

5 Ornamented by A.T. Burgess Commenced 1st Nov: 1940 – Finished 2nd: Nov. 1940 Time 2 days.

6 A.O’s Remarks [not on map, have probably not survived] 5.11.40 1 Day C.H. [Thorn...?]

To the right of these inscriptions is a pencilled summing up of the time taken, with an acid comment: ‘95½ days Stupendous worth 30 days’. Certainly, if this time were realistic for this kind of drawing it would have taken at least 573 man days (rather over 18 months) to make the drawing for the entire one-inch sheet. This would not include the drawings for water and contours. However, it says much for the training of the draftsmen that it is well nigh impossible to separate the four different hands which contributed the lettering and detail drawing.

Archibald Frederick Brown

Amongst the other general ephemera recently received is an unusual small collection of documents relating to Archie Brown who was born on 4 October 1897. He enlisted in the Corps of Royal Engineers as a bugler (No.23587) at the age of fifteen years and 22 days on 31 July 1913 and entered the First World War on his eighteenth birthday as a sapper. His photographs show him to have been a handsome young man. He finally rose, on 31 December 1935, to become Warrant Officer II, and was awarded the Meritorious Service Medal in 1947, and retired from Ordnance Survey at the age of 65.

The earliest documents in this small collection of ephemera are two Army Council Certificates of Education, attesting that Boy A F Brown of the Training Battalion Royal Engineers, attained his Third Class Certificate in 1912. This involved a knowledge of Arithmetic (compound rules and reduction of money, avoirdupois weight and linear measure, simple addition and subtraction of vulgar fractions, a simple messing account); Writing from Dictation (proficiency in writing, Regimental Orders); Composition (writing a simple letter). For his Second Class certificate, a year later, Boy Brown, now of the 19th (Survey) Company R.E., undertook slightly more advanced work under the same headings. Also preserved here is his red-printed Army Certificate of Education First Class, which he took in March 1933, passing in English, Mathematics, Geography and Map Reading. A stamp on this certificate records that he was Distinguished in Map Reading having obtained 80% of marks.

His passports, Soldier’s Service and Pay Book, Soldier’s Small Book, and other effects, show that he was, at the age of eighteen, a proficient printer. At the end of the War, on rejoining Ordnance Survey, he was classed as a skilled surveyor. The group of papers include a 5th Field Survey Co., R.E. pass showing that Sapper Brown R.E. was authorised to carry out survey work (fixing gun-site positions) within the 4th Army area in 1917.

After the War he took part as a surveyor in the Germany-Belgium Boundary Commission work from which he was released in December 1921 having carried out his duties in a ‘conscientious, painstaking and efficient manner’. Indeed, so well did he perform his work that his services as a secretary were requested on the Commission’s work in 1922. This was followed by railway and road survey work in West Africa. His Warrant for promotion to Warrant Officer Class II is in pristine condition and from it we learn that he was Company Sergeant-Major. He was promoted to Assistant Superintendent of the Proving Section, Ordnance Survey, in 1951.
In 1977, when Chief Surveyor of a survey group in West Sussex, I was asked to visit someone who was in a nursing home near the village of Cowfold. I was told this person had had connections with the Ordnance Survey and would like to talk to someone from OS.

I found the large rambling old nursing home and was conducted to a sizeable bedroom, its walls hung with beautiful watercolour paintings, and I was introduced to 95 year old Mr Ellis Martin. He was frail, bedridden, with a wispy beard, but despite this, was very bright and eager to talk about the work he had done illustrating the covers of Ordnance Survey maps. I asked if he visited the places he illustrated. “No,” he said, “I had friends and correspondents all over the country and when necessary I asked them to send me a local postcard or photograph which I would work from. For instance, there was no need to go to Scotland to draw Scots Pines, I used some excellent examples growing on Southampton Common”.

Beside map covers, he had illustrated other publications and said he often used the facilities of the printing and proving departments to replicate parts of a design, particularly border motifs, which saved him much extra work.

The pictures around the walls were all painted by him. One in particular that caught my eye was an evening view of the Bank Holiday fair on Southampton Common seen partly through trees with the lights of the fairground booths and roundabouts shining through. It seemed to capture the warm distinctive atmosphere of the fair; one could almost hear the raucous music of roundabouts and the shouts of the stallholders drumming up customers.

Ellis Martin obviously enjoyed having his pictures with him and told me that he had had prolonged correspondence with Southampton Art Gallery where some of his pictures were on loan, and he wanted them back, “They are no use to me there,” he said.

He asked me to get a cardboard box from under the bed, rummaged through it, first showing me a delightful little watercolour of a French farmhouse with a red roof which had been his billet at one time during the Great War. Eventually he pulled out a Christmas card showing a view of the Ordnance Survey Office which he had drawn for Christmas 1919. He pointed to a window in the south range and said he had designed a stained glass war memorial window for it and one of his great regrets was that it had been completely destroyed in the blitz in 1940. He had a black and white copy of the design but had never been able to find one in colour (one clearly exists as it is illustrated in John Paddy Browne’s book1). A copy I drew of his picture has been used for many years on the menu at the annual dinner of the 1939 Royal Engineers Survey Battalion, some of whom are shown on morning parade in the square.

Intrigued by Ellis Martin, I arranged to visit him again and on one of these visits I showed him some of the current map covers being produced. He liked them, accepting that ideas had to move forward with the times as they had in his day, but as a watercolourist he wasn’t keen on the then new 1:25,000 Outdoor Leisure map cover. “Too much yellow” was his brief comment.

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Ellis Martin’s 1919
Ordnance Survey
Christmas card

Ellis Martin’s 1922
Christmas card of the
South Range of the
Ordnance Survey Office.

His war memorial window
is below the illuminated
clock
On a subsequent visit he was not very well and my last visit coincided with that of some of his family so I did not see him again. I was later informed that he had died soon after this.

I had assumed that Ellis Martin or his relatives had recovered his paintings which were on loan to Southampton Art Gallery but I recently made some enquiries just to be sure. There are more treasures tucked away in their store than are ever on display in the gallery. To my amazement they still hold one painting of his which had apparently been on loan to the Tudor House Museum, which displayed many artefacts, and illustrations of the history of Southampton.

That Museum is closed and awaiting refurbishment at present, so Ellis Martin’s picture was returned to the Southampton Collection store where it has recently been used to illustrate the cover of a new book written by the curator, Alastair Arnott, entitled *Maritime Southampton*.\(^2\) It shows a view of Southampton Docks in 1922. A sky of heavy cloud, lit by the high arc of a rainbow with far below some of the great liners of the age in port.

For me it evokes boyhood memories of summer days in the late twenties and early thirties when with friends we played and swam on the Weston shore and often saw those great liners coming up the Solent or leaving the docks, always escorted by their busy little tugs. The Majestic, The Mauretania, The Aquitania, The Berengaria, the distinctive white Empress of Britain, The Homeric, The United States and the elegant French liner Normandie which anchored in Cowes Roads in order to save docking fees and whose passengers were ferried to and from Southampton by tender.

I’m sure we would all agree that it is truly fitting that Ellis Martin’s work should be used once again to illustrate, for him, an entirely new subject.

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\(^2\) Alastair Arnott, *Maritime Southampton*, Breedon Books Publishing Co., 1992, ISBN 1 85983 297 0. The publisher’s website [www.breedonbooks.co.uk/publications/1859832970.html](http://www.breedonbooks.co.uk/publications/1859832970.html) has an image of the Ellis Martin cover illustration. Your editor regrets that he has been unable to render the delicate colours in a monochrome illustration for *Sheetlines*. 
THE ORDNANCE SURVEY OF THE UNITED KINGDOM.

BY

MAJOR FRANCIS P. WASHINGTON, R.E.

Please note new address below.

No. 17.
26 & 27, Cockspur Street
Charing Cross, London, S.W.
July 1st, 1890.

A RÉSUMÉ OF THE PUBLICATIONS OF THE ORDNANCE SURVEY FOR ENGLAND & WALES,

WITH AN INTRODUCTORY DESCRIPTION OF THE SURVEY

BY

MAJOR FRANCIS P. WASHINGTON, R.E.,

And a Supplement on Methods of Map Mounting.

London: EDWARD STANFORD,
Sole Agent for the Ordnance and Geological Survey Maps in England and Wales.

The description reprinted below of the processes current in the Ordnance Survey of 1890 comes from this résumé kindly provided by Eugene Burden from his own collection. Although not an exact facsimile, the reprint adheres as closely as possible to the original in style and layout.
GENERAL HISTORY.

The Ordnance Survey, the National Survey of the United Kingdom, was commenced in 1791 under the Board of Ordnance—whence its name—for military purposes, on the scale of One Inch to a Mile, and was carried on in England from South to North until the Borders of Lancashire and Yorkshire were reached in 1824.

The Survey of Ireland was then undertaken, and carried out on the scale of Six Inches to the Mile, and on the resumption of the English Survey this larger scale was adhered to.

About 1851 the question was raised as to the most suitable scale for a National Map, and after considerable discussion it was decided by a European conference that the \(\frac{1}{2500}\) scale was that most suitable for a Cadastral Map, and it was recommended that this should be accompanied by a Map on the scale of Six Inches to the Mile.

The scales finally adopted about 1862 for the Ordnance Survey Maps were:

- \(\frac{1}{500}\) or 10-ft. scale for Towns of more than 4000 inhabitants (excepting London).
- \(\frac{1}{2500}\) or 25-inch scale for Parish or Cadastral Maps.
- Six-Inch scale for County Maps.
- One-Inch scale for a General Map of the Kingdom.

For London and its Environs the scale of 5 feet to a Mile was adopted.

BASE LINES.

The two principal base lines are situated

One on Salisbury Plain, 7 miles long, measured in 1794.

One on the shore of Lough Foyle, in Ireland, 8 miles long, measured in 1827.

The former was measured with steel chains, the latter with General Colby’s compensation bars, composed of brass and iron bars; but in 1849 the Salisbury Plain base was measured again with the compensation bars, and these latter measurements were adopted for the Triangulation calculations.

Other bases of verification were measured with steel chains on Hounslow Heath, Misterton Carr, and Belhelvie.

TRIANGULATION.

The principal Triangulation covered the kingdom with a great network of imaginary lines, and determined the accurate positions of some 250 points. The measurements of the angles were made with 3-ft., 2-ft., and 18-inch theodolites, and some idea of the accuracy aimed at and the labour involved in making the necessary corrections may be deduced from the fact that in one calculation the computers had to solve equations with 77 unknown quantities.

The sides of the principal triangles are of great length, many exceeding 80 or 90 miles, whilst the longest, from Sea Fell to Slieve Donard, is 111 miles.

The principal Triangulation is divided into secondary triangles with sides of 10 to 15 miles, these latter being again broken up into tertiary triangles with sides averaging 1½ mile in length. It is within these last that the chain surveyors work.

For the great trigonometrical points lofty towers and hill tops were generally chosen, but in the flat Eastern counties the use of high scaffolds was resorted to. One of the most remarkable was that erected on Thaxted Church, Essex, the theodolite being placed 6 feet above the summit of the spire and 180 feet above the ground.
MERIDIANS.

In order that the trigonometrical points so found may be scored in correct position on the plan, some one point on the central meridian of each County or group of Counties is selected as the Initial point, and the co-ordinates of the other points are calculated parallel and perpendicular to the Meridian passing through such Initial point.

The 1/500, 1/2500, and Six-Inch scale plan lines are constructed entirely with reference to these County or Group meridians.

The One-Inch Maps of England, Scotland, and Ireland have each their own central meridian, with reference to which all their sheet lines are constructed.

ORGANISATION OF THE DEPARTMENT.

The essential feature is the combination of Military (Royal Engineers) and Civilians, the Military being as far as possible selected for Superintendence.

The Head-Quarter Office is situated at Southampton, and comprises:

- The Trigonometrical Department, which carries out the necessary triangulation and supplies information to the Field Divisions.
- The Publication Department, which examines and reproduces the MS. plans and carries out reductions to the various scales, as well as all Photographic processes.
- The Engraving Department, which carries out the copper-plate engraving of detail, hill features, &c., on the various scales.
- The Store Department, which supplies the necessary stores to the different Divisions, and has in its charge the Workshops and Electrotyping arrangements.

All accounts, returns, reports, and correspondence pass through the Head-Quarter Office, and it is here that the original documents of the Survey, such as Field Books, Manuscript plans, engraved copper-plates, glass negatives, &c., are preserved.

THE MANUSCRIPT PLANS.

The original MS. plans on the 1/500 and 1/2500 scales are prepared in the Field Divisions, which are stationed in the chief towns most convenient to their work as centres.

The detail survey from which the MS. drawing is compiled is based upon the Parish or tertiary triangulation, and is carried out by the method of right line surveying, all measurements being very carefully taken, and entered at once in ink in the Field Book. By means of these measurements an outline map of the detail (i.e. roads, rivers, buildings, fences, &c.) existing on the ground is plotted on the MS. plan. A tracing of this is then carefully examined and corrected on the ground, and these corrections are carried out on the MS. plan, which is then completed by a draftsman who pens in all outline, colouring the buildings and water, and hatching by vertical strokes all slopes such as those of embankments, cuttings, &c.

All ornament, trees, furze, shingle, rough pasture, is stamped on the plans, and all names or descriptions are typed.

Bench Mark (B.M.) and surface level altitudes are then inserted on the plans, the lines of levels running along the principal roads.

The datum plane for Great Britain is the mean tide level at Liverpool, that for Ireland is the low water of spring tides at Poolbeg Lighthouse.

In country 1/2500 levelling the Bench Marks occur about every third of a mile. In towns, about 15 to the linear mile are cut.
Surface levels are shown at any defined change of level between these Bench Marks.

On the Six-Inch and One-Inch scale Maps contours are shown at 50 ft., 100 ft., and every 100 ft. up to 1000 above the datum plane. These contours are inserted on the ground on a reduced photograph of the $\frac{1}{500}$ scale map, and are transferred to the copper-plate or glass negative at Southampton for publication.

Hill sketching in Great Britain is carried out on the Six-Inch and Two-Inch scales. In Ireland and the highlands of Scotland on the One-Inch scale. The execution is by the horizontal system with pen and ink, and a finished brush drawing is ultimately prepared from these Field Sketches for the use of the One-Inch Hill Engravers.

**PUBLICATION.**

Up to 1853 all Ordnance Survey Maps were engraved on Copper, but in 1854 Lithography was adopted for the larger scales, as being more expeditious and less expensive. This in its turn was rapidly displaced by Zincography and now since 1889 Photozincography has been finally adopted as the most certain and rapid mode of reproduction, and is used for the $\frac{1}{500}$, $\frac{1}{250}$ and Six-Inch scale Maps, the One-Inch scale Map alone being engraved.

Photozincography, or the art of printing a line photograph in permanent ink from a zinc plate, was discovered in 1859, simultaneously in England at the Ordnance Survey Office and in Australia, the way to the discovery having been already paved in 1854 by the application of Photography to the reduction of maps.

The process is shortly as follows:–

A negative of the plan to be reproduced is obtained in the usual way, developed, and fixed. A print is taken from this negative on Evans’ thin paper coated with potassium bichromate and gelatine. This print is coated with transfer ink and then floated on hot water and sponged, when the gelatine not acted upon by the light is washed away with the ink, leaving the lines rendered insoluble by the action of light coated with transfer ink. This is called the photo or carbon transfer. The photo transfer is damped with nitric acid, which neutralises the alkali in the transfer ink. It is then damped with water only to expand it to the same extent as the impression paper will contract on drying. Being now laid face downwards on the grained surface of the zinc plate, it is passed several times through the press, being moistened with water on the back.

The paper is then peeled off the plate, leaving the ink coated lines and letters on the zinc. The plate is now washed with water and etched with a solution of Aleppos galls, gum, and phosphoric acid. This latter affects the surface where there is no ink, producing phosphate of zinc, which has greater affinity for water than for oil or grease.

The solution is then washed off and turpentine is used to remove the transfer ink.

The plate is then rubbed over with a cloth and moistened with water. Lithographic printing ink is now rolled over the plate and adheres only to the lines or detail where the transfer ink has prevented the action of the phosphoric acid.

Extensive areas of mud or sand are put upon the plate by transferring a tint from a ruled copper plate.

In some $\frac{1}{500}$ scale plans the ruling of the buildings is similarly transferred.

* The preparation of the zinc plate is as follows:– The rough plate is first scraped with a razor blade, then planished with pumice stone and water, smoothed with steatite, and finally grained by rubbing with moulding sand. When completed the surface presents a beautifully even pearl-grey tint and has a remarkable affinity for greasy ink.
In drawing plans for reproduction by Photozincography it is absolutely necessary that all lines should be as black and sharp as possible. The typing of names, numerals, and initials must also be touched up, and only very light shades of carmine, indian ink, and cobalt may be used for buildings and water respectively.

The hatching of slopes must be fine and distinct, and it is most essential that the plan should be kept as clean as possible.

Maps not so specially drawn are reproduced by Zincography as follows:--

A tracing is made of all outline in greasy ink on tracing paper slightly coated with starch. The writing of names and hatching of slopes are also done by hand, but all trees, ornament, and numerals are stamped. Great care has to be taken that the composition is not cut through, and that no grease touches the paper. This tracing is then laid down on the zinc plate as already described.

SIX-INCH MAP.

The Six-Inch Photozincographed Map is obtained as follows:--

A blue impression of the \( \frac{1}{2500} \) scale plan is specially prepared for reduction, i.e. the detail is penned in to scale in black, but the names, ornament, trees, numerals, &c., are typed in an exaggerated style, so that they may be of suitable size when reduced. All parcel and area numbers and any small detail or names that would tend to confuse the reduced map are not penned in, and being in blue do not photograph.

Four such plans are placed together forming a quarter sheet, and a margin is placed round them showing the County name, Sheet number, Latitudes and Longitudes, Scales, and Imprint, and the whole is reduced at once by Photography.

After the transfer has been laid down on zinc, the parks, and also the mud and sand along rivers and sea-coasts, are inserted in a tint by transfer from copper, and impressions are then printed off for publication.

ONE-INCH MAP.

The outline for the One-Inch Map is obtained by preparing blue impressions on the Six-Inch scale for reduction, as before described, only so much of the detail being penned in as can be shown distinctly on the smaller scale. These impressions are reduced by Photography and transferred to a zinc plate, from which a transfer is taken for rubbing down on copper, and supplied to the engraver. The names and ornament are then typed on the Six-Inch blue impressions, and a reduced print is supplied to the engraver for his guidance.

The surface of the copper plate is covered with an etching ground and the outline transfer rubbed down on it, the accuracy of position being determined by the previously scored trigonometrical points and corners of rectangles of the reduced Six-Inch sheets.

The outline, writing, and ornament are then cut into the copper through the wax. At this stage a duplicate is obtained by electrotypy, and on this duplicate the contour lines and altitudes are engraved. The hill engraving is then carried out by etching on the original plate. As a guide to the hill engraver a finished brush drawing on the One-Inch scale is made from the Field Sketches before alluded to. The vertical hachuring is engraved with fine needles or points, the requisite depth of tint being obtained by biting in with acid. Experiments have now been successfully concluded with a view to producing a One-Inch Hill engraved Map in which the detail, writing, &c., shall be in black, and the hill shading in colour, brown or grey.

FRANCIS P. WASHINGTON, MAJOR R.E.
The early years of the National Grid fifty-inch map

John Cole

A detailed account of the historical background to this map is to be found in Sheetlines 24 of 1989. Included for good measure was a broadly correct list comprising dates and map totals updated ten years later in Sheetlines 56.

In Sheetlines 52 I gave an account of my own experiences with this map and a brief account of the instrumental surveys involved.

J B Harley devoted nineteen pages to the series in his 1975 Descriptive Manual whilst more background information is to be found in the 1982 History of the Ordnance Survey and the 1992 Map Makers to Britain since 1791. Unfortunately there does not appear to be an official publication on the lines of Professional Paper No. 25 (1972) on the subject of the 1:2500 National Grid map.

This present article arises from the study of a large and very representative number of 1:1250 maps surveyed during the first ten or so years of its existence.

In 1934 the then Director General said ‘If the county has its twenty five inch and the moorlands and highlands their six inch, the concentrated taxpayers of the towns may well in the future claim their five or ten foot plans. These are matters best conducted by a wisely framed mass production system of survey.’ Elsewhere he observed that ‘If the question were to be rejudged today it is quite probable that the majority would favour the 1/1056 (or perhaps the 1/1250), as the official survey scale.’ That question was in fact the cessation of maintenance of the nineteenth century five foot and ten foot scales.

The Davidson Committee report of one year later agreed with this view and even whilst the 1939-45 War raged, the first pair of 1:1250 maps SZ0993SW and SE just to the north of Bournemouth’s town centre were recorded as complete in October 1943. The method to control the work was known as chain survey and since the following stages: revision point selection and recording, revision point fixation (by traverse between triangulation stations), chain survey reconnaissance, chain survey and plotting, had to take place before field completion of a map (estimated to have been a couple of months each in the case of the maps concerned), the precise start date must be open to conjecture. However a similar and slightly later start had commenced in Edinburgh and in July 1944 NT2575NW and NE and 2675SE were all recorded as complete. The publication date for both Bournemouth and Edinburgh examples was 1947.

The appearance of the map was not to alter greatly over the next twenty-five years. The map area occupied 40cm × 40cm whilst the paper area was 50cm × 59cm. Variations could occur on certain coastal sheets. At first, reference tables of conventional signs and other footnotes were omitted (a note to this effect appearing on the sheet) but in the early 1950s a selection of these including abbreviations for boundary mereings and descriptive names were included. The original price was two shillings per map.

It is fairly safe to say that the chain survey method was initially employed in all the largest cities – London, Glasgow, Birmingham, Manchester and Liverpool – but such was the duration of the work that improved instrumental or air survey methods were in use before completion. In areas also such as the Black Country and the industrialised South Wales valleys which had commenced with chain survey, a switch to an instrument known as the tacheometer in the late 1950s led to speedier and more accurate work.
Where established, revision points were always shown on the published map, originally by a ‘tadpole’ symbol,  , but from about 1950 a dot and the letters ‘rp’. Where they appear in quantity and invariably at every bend of a street or road, it is evidence more often than not of a chain survey. Exceptions are some former 1:2500 resurvey towns of the 1950s, in Cornwall, Devon, Dorset, Hampshire and Sussex, surveyed again at 1:1250 by tachy or air survey machine plotted methods during 1964-80. Accordingly substantial numbers of by now mainly redundant revision points appear on the new map. Also common are locations where the method was graphic plotted air survey and here the revision point count shows quite remarkable variations By way of example SK5804SE in the centre of Leicester has just four whilst ST7563NE just to the south of the centre of Bath has 68. The area is semi-rural and much detail on the air photo would doubtless have been obscured by vegetation. This could not have been the case at TQ8885SE in the centre of Southend, which has a total of 63 revision points. This may be accounted for by the fact that the town was largely the original air graphic experiment and certainly about a third of these points would have been superfluous for even a chain survey. The other exception is where the method was altered long after revision points had been established. SO9798NW at Willenhall (West Midlands) has nineteen revision points on the 1963 map but was in fact an instrumental (tachy) survey whilst SP1095SW at Sutton Coldfield with six (completed the same year) was machine plotted air survey. TQ2560SE at Banstead has no less than 68. Again these were clearly fixed with chain survey in mind but in fact this town was the subject of the original tachy experiments which ranged from 1950 to 1954 (and not simply 1952 as I suggested in Sheetlines 52).

I should also correct a further assertion I made about the air graphic method. Because of ‘fore and aft’ photograph overlap nine ground control points were required for each photograph – three in the centre and three near each edge. As a consequence one would expect to see a few of these air point/revision points on air graphic 1:1250 maps and such has been the case in nine out of ten areas examined. The tenth was London where no points at all were found on nine maps north of the Thames and a very clear-cut ‘boundary’ was found between TQ3280/3380 and 3281/3381. On TQ3280NE fifty revision points were counted and on 3380NW twenty-four but only a single point north of Cannon Street/Eastcheap/Great Tower Street. The reason for this absence on nine maps (ranging from Mayfair to south Islington to the Bank area) is not known. A fairly consistent average of 14 AP/RPs per map was arrived at from sample maps in six locations (Nottingham, Leicester, Gloucester, Cheltenham, Gravesend and the Medway Towns). Bath and Southend were excluded because of the experimental nature of both, whilst Poole was affected by the chain survey area of Bournemouth which would have involved sixteen or more maps.

The average number of revision points to be fixed in a chain survey area was of course laid down, the earliest official guide I have seen being dated March 1946, ‘normal’ being twenty, with lower and upper limits of twelve and thirty per map. This was put to the test by examining 79 ‘normal’ urban maps (averaging 27 points); 47 city or town centres (37); 21 semi-rural – usually on the urban fringe but including exceptions like Southampton Common (12) and a further category of twelve (major) industrial maps averaged 18 revision points. And as in the case of air graphic maps there were some remarkable variations. Whilst such normal urban maps such as SP0785NW (Birmingham) had six; NT2574SW (Edinburgh) and NS5965SW (Glasgow) seven each, SX9163NE (Torquay) had at least 106 with possibly a further seven destroyed, as the map examined was not the first edition. The long straight
streets of the Birmingham, Edinburgh and Glasgow examples appear to have tempted the economy but tended to defeat the object of the revision point – not simply to control the chain survey but to maintain the accuracy of the map at a time of future revision, and to enable bodies outside Ordnance Survey to undertake surveys of 1:500 scale if needed. It is also apparent that some of the chain lines on the Birmingham, Edinburgh and Glasgow maps must have been very close to, or even exceeded, the permitted maximum length of 500 metres. All examples were fairly close to the city or town centre and in Torquay’s case included part of the latter. But the difficulty here is numerous curving roads and lanes at differing heights.

Whatever the survey method and plotting of such there followed graphic completion. This is defined in the 1952 ‘Red Book’ as: ‘Any method of survey which does not depend on computations or angular or linear measurements on the ground. It comprises intersections, resections, directions and alignments.’ In later years this was to be regarded somewhat contemptuously as ‘joining up the dots’ but in the period covered by this account a high level of skill was needed – very high in the case of chain surveyed work which in the majority of instances could do no more than supply the road exteriors of blocks of houses. Thus the further away from revision points and these exteriors, the more scope for error and hence very rigorous quality control in the early days. There were as a consequence various time targets applicable to 1:1250 maps which were as follows (in hours per hectare):

<table>
<thead>
<tr>
<th>Standard Control</th>
<th>Twice Standard</th>
<th>Above Twice</th>
<th>Below Standard</th>
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<td>A+</td>
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<td>20</td>
</tr>
<tr>
<td>A</td>
<td>15</td>
<td>12½</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td>7½</td>
<td>5</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>2½</td>
<td>1½</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

A+ would apply most often to the older parts of city and town centres whilst B was considered ‘normal’ urban work and D often perimeters which might comprise fields. If reductions of superseded 1:500, 1:528 or 1:1056 (London only) proved useful this would also be reflected in the time allowed.\(^1\) A further guide for division of time was in the form of percentages: graphic survey 74%, collection of names and house numbers 10% and penning of work 16%. Apart from checking a percentage of this (according to its reliability) the surveyor in charge also dealt with administrative boundaries if any.

It was also quite common in the early days to complete difficult areas of chain survey maps by graphic air survey. One such example is Clapham Junction (TQ2775SW and NW, 1948) the absence of revision points (except one) inside the railway boundary being a clue. Certain industrial complexes at Birmingham and elsewhere are known to have similarly been surveyed.

This account spans only the years up to the introduction of machine plotted air survey – the most accurate cost effective method for a new location provided there was not too much in the way of vegetation and/or obstructions to flying. Dearne is thought to have been the last chain survey town to commence in 1960. Chesham, Grimsby and Shrewsbury the last air graphic in 1961. Frimley and Haslemere the last tachy in 1965, by which time some eighty locations had been surveyed by this method together with a good many extensions to existing...

\(^1\) See also Sheetlines 48.
(mainly chain) areas. In addition, the tacheometer had been the mainstay of the continuous revision surveyor over the whole country – a position it was to occupy until the 1980s.

Finally a comparison was made between the A, or first, edition of SX4855SW surveyed in February 1949 and the B edition revised in February 1966. This covers an area of Plymouth which has altered very little in the past hundred years. Thus the alterations to the map and to Ordnance Survey procedures had undergone few changes either. Patches of bomb damage from the 1939-45 war had mostly been built over but the term ruin had also been removed from at least large scale parlance. The ornamental trees (positioned) had become single trees (sketched) though they had in effect retained their positions. The original symbol was (after about 1952) thus to be found applying to a named or described tree on an administrative boundary. Flights of steps and other detail in private gardens, including outbuildings or greenhouses under eight square metres, were all removed, as were structures with glazed roofs when attached to a house or larger building. Places of worship and schools were more fully described on the 1966 map. A re-levelling had taken place in 1963 and values of bench marks had increased by between 0.1 and 0.3 of a foot.

Grid letters have been used throughout this article but when first published the original Bournemouth maps would have appeared as 40/0993SW and SE as would all others until 1951 when the 100 km reference changed from numerals to letters.

*List of survey methods, approximate start date and locations – 1:1250, 1943-1954*

1943 *chain survey:* Bournemouth

1944 *chain survey:* Edinburgh

1945 *chain survey:* Wolverhampton (part only)

1946 *chain survey:* Bristol, Chelmsford, Derby, Plymouth

1947 *chain survey:* Coventry, Glasgow, Hull, Manchester, Neath, Portsmouth, Southampton, Stoke on Trent, Swansea

1948 *chain survey:* Birmingham, Dalkeith / Lasswade, Exeter, Great Yarmouth, London

*air graphic:* Southend

1949 *chain survey:* Bolton, Brighton, Buckhaven / Leven, Cowdenbeath / Lochgelly, Dunfermline / Rosyth, Eastleigh, Falkirk / Grangemouth, Gosport, Kirkcaldy, Leeds, Liverpool, Llanelli, Lowestoft, Maesteg, Newcastle upon Tyne, Port Talbot, Sheffield, Thurrock

*air graphic:* Bath

1950 *chain survey:* Alfreton, Alloa / Stirling, Bedworth / Nuneaton, Burton on Trent, Cardiff, Castleford / Pontefract, Exmouth, Fareham, Felixtowe, Ipswich, Kidderminster, Leamington Spa, Middlesbrough, Oldham, Ripley, Wakefield, Salisbury, Torquay, Weston-super-Mare, Winchester

*air graphic:* Clacton, Colchester, Leicester, Nottingham, Poole

1951 *chain survey:* Birkenhead, Christchurch, Dudley, Dundee, the Hartlepools, Wigan

*air graphic:* Cheltenham, Gloucester, Gravesend, Rochester, Worthing

1952 *chain survey:* Totton (Hants.), West Bromwich

*tachy:* Banstead

1953 *chain survey:* Aberdeen, Belper, Bexhill, Brentwood

1954 *chain survey:* Barry, Bury, Coatbridge, Darlington, Dewsbury, Lancaster / Morecambe, Lewes, Newport (Gwent), Rotherham, St Helens, Sunderland

*air graphic:* Dover, Hastings, Maidenhead, Margate, Norwich

*air machine:* Oxford
Extracts from 1:1250 plans SX4855SW A edition, surveyed in 1949 (above), and B edition, revised 1966, (below). © Crown Copyright NC/00/1340
Notes:

Air Graphic at London commenced approx 1950.

In many of the larger cities and at place names representing large areas (e.g. Blackburn, Dudley, West Bromwich etc.) not completed by the late 1950s tachy and in some cases air machine replaced chain survey. The town of Dudley was in fact tachy surveyed in 1962 and parts of West Bromwich town similarly in 1964.

As has been mentioned the experimental survey of Banstead appears to have stretched from 1950 to 1954. All the above dates have been taken from Sheetlines 24.

Footnote

In Sheetlines 64, describing the revision point content of the original National Grid 1:2500 map SZ0598 (Dorset, and not Hampshire as stated) I suggested that the point on Hampreston church was probably a misprint. But now having seen similar on 1946 versions of Edinburgh sheets NT2673 NE and SW and 2776SW it is fairly certain these are secondary triangulation points, most probably church spires, flagstaffs etc. This practice, which involved only ‘tadpole’ variety RPs, appears to have ceased a year or so later and they would have been converted on subsequent editions to △ or omitted.

The Burton Hunt – an addendum

R C Wheeler

In an article in the last Sheetlines (p35), I expressed concern that the most unambiguous evidence for the role of the Burton Hunt in advancing the Ordnance Survey of Lincolnshire dated from some 60 years after the events related and might be unreliable. I have since traced a more contemporary reference, in The Lincoln and Lincolnshire Cabinet and Annual Intelligencer of Public Business for 1828 (Lincoln, J W Drury, 1828).

ORDNANCE SURVEY

… For the present map we are indebted to the suggestions of the Burton Hunt, zealously adopted by the Lord Lieutenant, and others of the principal nobility and gentry, who agreed to take as many copies as would induce the ordnance, to transfer their operations at once into Lincolnshire.

It may be presumed that Drury’s publication (effectively an almanack) was used by most of the gentlemen of the hunt so, had this statement been erroneous, it would have reflected seriously on his credibility. Unfortunately, 1828 was the last year in which the Cabinet was published!
The Thirty Nine Steps
Thoughts and suggestions on Richard Hannay’s travels through Southern Scotland

J A Paterson and W M Russell Paterson

This article first appeared in The John Buchan Journal No 7, Winter 1987, from where it was rescued by David Archer. It is reprinted with the kind permission of the authors.

The Thirty Nine Steps is John Buchan’s best known – and probably most popular – work. Like many of his subsequent romances it contains a mixture of real and imaginary place names, and so, while the general areas in which Richard Hannay’s adventures take place can be located on the map of South West Scotland, his detailed wanderings are open to conjecture. This article attempts to trace the movements of Hannay from the point where he leaves the “slow Galloway train” (at New Galloway station) in Chapter III until he eventually boards the “night express for the South” at Beattock junction in Chapter VII.

Our researches have been carried out over the actual terrain, making use of Ordnance Survey maps to fill in the detail. References in the notes that follow are to the National Grid Kilometre squares (not thought of in 1914!) using the 1:50,000 Landranger sheets numbers 72, 77, 78, 83, 84. The larger scale 1:25,000 Pathfinder Series has also been consulted, as have earlier one inch to one mile sheets, particularly those showing the Dumfries-Newton Stewart railway and its branches as still existing (up to the mid-sixties).

The fruits of our researches as set out below may be open to dispute in certain respects, and we will be happy to enter into correspondence with any members who may have contrary views!

CHAPTER III

Richard Hannay travels north from London by train, which he leaves at Dumfries, and joins the slow Galloway train.

About 5 o’clock the carriage emptied … I got out at the next station … set right in the heart of a bog. … I emerged on a white road that straggled over the brown moor.

This station is New Galloway at a wee place called Mossdale (6670) where the old railway line crosses the middle of Loch Ken (which did not exist pre-1914). Hannay travels north and swings round to the west between Cairnsmore or Black Craig (5876) and Cairnsmore of Fleet (4968-5164). He makes his way south to the station at Loch Skerrow (6068), see quote below.

The station … proved to be ideal for my purpose. The moor surged up around it. … There seemed to be no road to it from anywhere, and to increase the desolation the waves of a tarn lapped on their grey granite beach half a mile away.

Hannay boards the train with a ticket for Dumfries.

I found that we were approaching the station at which I had got out yesterday. Three men were asking the Station Master questions … they looked out across the moor where the white road departed … As we moved away from that station my companion woke up … My plan had been to get out at some station down the line,
but the train suddenly gave me a better chance, for it came to a standstill at the end of a culvert which spanned a brawling porter-coloured river.

The train had crossed Loch Ken bridge and turned south to Parton station, 3½ miles further on. The old one-inch Ordnance Survey map shows the old railway line crossing a river at ‘Waterside’ (7267) on an embankment, with no habitation around it at that point.

I was in a wide semicircle of moorland, with the brown river as radius, and the high hills forming the northern circumference. There was not a sign or sound of a human being. ... From my vantage point I could scan the whole moor right away to the railway line and to the South of it where green fields took the place of heather ... East beyond the ridge shallow green valleys with plentiful plantations ... where I must find a different kind of sanctuary. ... About six in the evening ... moorland ... white ribbon of road which wound up the narrow vale of a lowland stream ... the glen became a plateau ... reached a kind of pass where there was a solitary house ... the road swung over a bridge ... leaning on the parapet was a young man.

Hannay reaches the B794 (7671) and turns north. He joins the A712 (7675) turning left for a mile before turning right on to a minor road (7576) – still following the valley of the Urr Water. To the west of Loch Urr (7584) is Fell Rig (marked on the old one-inch map), a building with a bridge over the Fell Burn to the north of it. From this point on the map it is possible for a motorbike to travel west on minor roads to the A712, through New Galloway to Newton Stewart, where the Poet notifies the Police.

Richard Hannay ‘hi-jacks’ the enemy car.

... and stole gently out onto the plateau. Almost at once the road dipped so that I lost sight of the inn.

CHAPTER IV

... driving over crisp moor roads ... to a broad haugh of a river ... I entered a long straggling village ... stood the postmistress and a policeman ... I saw that main roads were no place for me, and turned into byways ... to get to the loneliest roads ... struck up a tributary of the river into a glen with steep hills all about me, and a corkscrew road ... climbed over the pass ... taking me too far North, so I slewed East along a bad track and finally struck a big double-line railway.

Hannay runs down to the A702 (7487) from the inn, turns right, through Moniaive (7891) to Penpoint (8594), which could be the “long straggling village” with the policeman outside the Post Office, where he turns left up the valley of the Penpoint Burn bearing right at Auchenbainzie (8397). He continues due north across the pass to the Marr Burn valley and crosses the River Nith at Eliock Wood (8305). He joins the A76 and turns left for Mennock (8107) where he turns right onto the B797 which runs up the valley of the Mennock Water, a tributary of the River Nith. This valley is very steep sided and twisty and is called the Mennock Pass. At Leadhills (8815) he turns right on to the B7040 travelling east towards Elvanfoot (9517) where it is possible to see the mainline railway for at least a mile before reaching it. The old B7040 crosses the A702 and continues down to the old village where there is now a pedestrian suspension bridge built on top of old abutments for a single track road bridge over the River Clyde. The road continues on the east side of the river to join the old A74, now a lay-by.
I had the sense to remember that on a bare moor I was at the aeroplane’s mercy. …
Down the hill I went like blue lightning … soon I was on a road between hedges, and
dipping to the deep cut glen of a stream. …

Suddenly on my left I heard the hoot of another car, and realised … I was almost
upon a couple of gate posts … and there before me a car was sliding athwart my
course. … I ran slap into the hedge on the right … and then dropped … 50 feet to the
bed of the stream.

Pre-1914 there was very little re-afforestation so the hills were bare. After crossing the
River Clyde, Hannay turned right on to the A74 and belted over Beattock Summit (9915) to
the narrow upper valley of the Evan Water. The old A74 swings east towards the railway –
now a lay-by (0212), turns sharp left under the railway and immediately the private road to
‘Nether Howcleugh’ (0312) is on the east side of the railway. Because of the new dual
carriageway any gate posts that might have been there have vanished. A photograph of the
construction of the dual carriageway shows how deep the river is below the road and how
much in-filling had to be done east and west of the railway bridge.

‘Bratleburn’ (0106) is actually the name of a farm at the head of the Clopfin Burn to the
west of the A74 almost due south of Nether Howcleugh. Lockerbie (1381) is most likely the
town where the ‘Liberal’ meeting was held.

The map told me where the main railway to the South could be joined and what were
the wildest districts near at hand. … At 2 a.m. Sir Harry woke me from my slumbers.

… First turn to the right up the long fir wood, by daybreak you’ll be well into the
hills … found myself in a wide green world with glens falling on every side and a far
away blue horizon.

At the end of the private road (0313) there is a gateway leading to the lodge with the road
deteriorating into a track climbing on to the moor. In May the dawn comes about 3 - 4 a.m.
so he only had about one hour of darkness. Refer to the *Pathfinder* map of White Coomb
where the tracks of the Roman Road and the old drove roads are shown.

CHAPTER V

I was on the central boss of a huge upland country and could see everything moving
for miles. … My enemies had located me … so I turned to the North.

The “central boss” could be Clyde Law (0217). Hannay starts to travel north but sees
several men advancing like a row of beaters. So he turns south – same again! There follows a
gap in the description of his route and we are plunged straight in to the ‘Roadman’ sequence.

There, in a tiny bight of road, beside a heap of stones, I found the roadman.

An old one-inch Ordnance Survey map shows the old coaching road from Moffat to
Edinburgh, i.e. A701, more clearly than the modern map. Referring again to the *Pathfinder,*
White Coombe, map, the bight of road could be just south of Tweedhopefoot (0517), and the
quarry where Hannay was to get the stones about half a mile down the road at the next mile
stone (0518).

You live at Blackhopefoot, and have charge of the section from Laidlawbyres to the
Riggs?
For Blackhopefoot read Smidhopefoot (0517) – the Smid Hope Burn joins the River Tweed at this point and there is a cottage just by the burn, to which the roadman had pointed when Hannay took over his job. The Roadman’s section most likely stretched from the county boundary (0414) to Nether Riggs (0823) a distance of about 6 miles.

Later in the day Mr Jopley in his touring car arrived travelling from the northern direction, i.e. up the valley. Hannay takes over the car and Mr J.

My plan was to go back the road he had come, for the watchers having seen it before, would probably let it pass unremarked. … We ran 8 miles down the valley, through a village or two … turned up a side glen which led into the hills … came to a lonely moor.

Hannay drove through Tweedsmuir (0924) and other clachans. Eight miles down the road would bring him to the Stanhope valley (1229), up which he turned and travelled about 1½ miles into the moors (1428). There he turned the car and returned it to Mr Jopley.

CHAPTER VI

I spent the night on a shelf of the hillside.

At the head of Stanhope Glen it divides into two – one valley bears left towards the north east and the main burn bears south east. The tongue of hill between is called ‘Lairdside Knowe’ (1627). From the lower slopes of the Knowe he could look down into the valley.

I raised myself on my arms and looked down into the valley … there were men below, not more than a quarter of a mile off, … I crawled out of my shelf into the cover of a boulder, and gained a shallow trench which slanted up the mountain face. This led me presently into the narrow gully of a burn … scrambled to the top of the ridge. … Keeping behind the skyline I ran for maybe half a mile till I judged I was above the uttermost end of the glen. There I showed myself … saw that the line of search had changed direction … went back the way I had come … behind the ridge overlooking my sleeping place … satisfaction of seeing pursuit streaming up hill at the top of the glen on a hopelessly false scent.

The “shallow trench” leading to “the narrow gully of a burn” could be Stone Graine (1528). From the top of which he ran south, behind the Knowe, to the head of the main Glen where he showed himself, returning to the Stone Graine Glen.

I chose a ridge which made an angle with the one I was on and so would soon put a deep glen between me and my enemies. … I saw in front of me a sea of hills, rising very high towards the South, but Northwards breaking down into broad ridges which separated wide and shallow dales. The ridge I had chosen seemed to sink … to a moor which lay like a pocket in the uplands. … My lack of local knowledge might very well be my undoing, and I resolved to get … to the pocket of moor.

The ridge that Hannay was on ran at an angle to the Dollar Law - Long Grain ridge (1728 to 1630), and to the north of the latter is a saddle of moor before the ridge rises to Pykestone Hill (1731).

I got off my ridge and down into the moor before any figures appeared. … I crossed a burn and came out on a high road which made a pass between two glens. … In the dyke by the roadside was a gate, from which a grassgrown track led over the first
wave of the moor … it became a very respectable road. … I did not follow the road, but the burnside which flanked it on the right … found a deserted cottage … plantation of windblown firs. From there I saw the chimneys of the house smoking a few hundred yards to my left.

Hannay travels eastwards towards the ‘Thief’s Road’ which is marked on the map as running north to south. On the eastern side of this ridge are two farms marked on the map – Old Kirkhope (1830) to the north and Manorhead (1927) to the south. The Manor Water road has a cottage marked on it and also a plantation.

After Hannay had blown up the store room and reached the safety of the dovecot, he observed “a blue line which I know was the sea.” From the hills around this area it is possible to see the Solway Firth.

... all I had to do was to steer a point or two West of South West to come to the stream where I had met the roadman ... I never knew the names of the places, but I believe this stream was ... the upper waters of the River Tweed. I calculated I must be about eighteen miles distant ...

Hannay was trying to remember Sir Harry’s map, so distances in the story do not necessarily transfer to distances on the Ordnance Survey map. Also John Buchan was writing this novel in Broadstairs (on the South Coast of England), and most likely had well-known and well-remembered places in mind from his boyhood tramps over the countryside between Peebles and Tweedsmuir. Suffice it to say, Hannay returns over the moors to Tumbull’s roadside cottage in thick mist.

... Twelfth day of June ... drover went past that morning taking some cattle to Moffat. ... Hislop was a cheery soul, who chattered all the way over the pass and down the sunny Vale of Annan. ... But driving cattle is a mortally slow job, and we took the better part of a day to cover a dozen miles ... dinner in a humble Moffat Public House and walked the two miles to the junction on the main line.

On the White Coomb map the Old Road and the drove roads are marked running over the pass (0514 to 0512 to 1511) on the east side of the A701. Above the Devil’s Beef Tub (0612) it crosses the ‘A’ road and cuts off the corner, re-crossing the ‘A’ road south of Ericstane Hill (0611 to 0711). The old Edinburgh Road then ran down the hillside to Ericstane where it crossed the River Annan, continuing down the valley to Moffat (0805). The track of the Old Road crossing the A701 is easily seen (0611). There is a gate on the west side with a ‘cart’ track disappearing up the hillside. Opposite there is another track leading down to the Annan Valley.

The Black Bull Hotel in Moffat is an old coaching inn. It has a framed map of old ‘Feus’ – the oldest appears to be that of The Black Bull. It has the right atmosphere and one can imagine John Buchan absorbing it and listening to all the local chat.

The railway junction was Beattock where Hannay boarded the night express for the South.

In the fifteen years since our original researches, there have been some changes to the scenery – mainly due to the construction of the M74 extension south of Beattock summit, where the access road to Nether Howcleugh is inaccessible from the old lay-by, and the ‘roadman’s cottage’ has now been demolished.
### Puzzle corner

Where would you find:

1. The westernmost point on the mainland of Great Britain?
2. The route from University to IBM?
3. The shortest distance between the city boundaries of Cardiff and Bristol?
4. The Islets of Langerhans?
5. Little Piddle Down draining into Little Puddle Bottom?

6. A British passenger railway looping back over itself?
7. A partly circular civil parish boundary?
8. A trig. point beside a river, three feet below mean sea level?

No prizes, but answers in the next issue.

*Sheetlines 66*, the April issue, provided a springtime collection of place names; adding up the numbers of the sheets used gives the total of 345.

*Map 1* showed the fenland railway town of *March* from the Quarter-inch Second Edition (Large Sheet Series) sheet 7 and not, as some readers thought, Third Edition sheet 6.

*Map 2* was of the area around *May* Hill (SO 696213) north of the Forest of Dean, taken from the 1939 German 1:100,000 reprint of the Half-inch Map (Large Sheet Series) sheet 27. Use of a German map was a pure red herring, as was the inclusion of ‘Dursley Cross’ when the town of Dursley is miles away on the other side of the River Severn!

*Map 3* included *Spring* hill House (SP 128340) near Chipping Campden, from One-inch Seventh Series sheet 144.

*Map 4* showed *Good Easter* (TL 626122) from 1:50,000 Second Series sheet 167.

The editor, who has run out of ideas, would welcome suggestions for future puzzles!
Deconstructing the Interest Quotient
Fraser Donachie

As a relative newcomer to the CCS, I recently purchased some back-issues of Sheetlines and my eye was caught by an article on OS map collecting.1 Although ‘collecting’ seems to be something of a taboo subject in CCS circles, I’m convinced that many members pursue this aspect of our studies with some vigour! The article got me thinking about what it is that makes an OS map ‘interesting’. Of course, one person’s ‘interesting’ is another’s ‘boring’, but there appear to be a set of recognised factors that contribute to an ‘Interest Quotient’ or map ‘IQ’.

I suspect that we all subconsciously ‘score’ prospective purchases when we rifle through a pile of New Populars in our favourite bookshop. We may only permit a high ‘score’ or ‘IQ’ to be attained before purchasing a gem for our collection, or, in moments of weakness or rare affluence, lower our acceptable threshold and purchase almost anything we see! Setting aside the instinctive and pecuniary nature of collecting, here is my very personal list of contributing (generally subjective) factors that make up any map’s ‘IQ’:-


• Detail. This factor is somewhat subjective, but can be basically described as ‘scale’; hence, a large scale map shows more ‘detail’ than a small scale map. Score ‘high’ for 1:1250, score ‘low’ for 1:100,000.

• Feature Density. This is equivalent to the ‘amount of information’ depicted on the sheet (another metric would be the ‘amount of ink’). Score ‘high’ for millions of lines and dots, score ‘low’ for tracts of blankness.

• Contemporary Real World Knowledge. This factor can be described as ‘how well do I know this area as it exists today’? This complements the Degree of Change factor (see below), in the sense that an ‘interesting’ map can provide hours of pleasure through comparing ‘then’ with ‘now’. Score ‘high’ for Christchurch, Dorset (my home town), score ‘low’ for Landranger sheet 9 (Cape Wrath, Durness & Scourie).

• Degree of Change. This factor is closely related to the Age and Contemporary Real World Knowledge factors and describes the amount of change visible on the map compared with a new Explorer. Score ‘high’ for areas that were once just fields and which have now become urbanised post-war housing sprawl, score ‘low’ for areas that have remained just fields.

• Chromatic Appeal. This is an entirely subjective ‘colourfulness’ factor. In my case, score ‘high’ for slightly grubby cream-coloured chart paper with black print, score ‘low’ for flashy seven-coloured editions.

• Annotations. Another very subjective factor, and somewhat related to the Condition factor (see below). Score ‘high’ for contemporary hand-applied information, either written or drawn, especially ‘proposals’ for landscape changes

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such as new buildings, roads, etc. Score ‘low’ for prior owner’s name on top right-hand corner of the cover (unless they are Royalty).

- Errors. These will certainly make a map ‘interesting’, but it seems unlikely that one could spot errors at the time of purchase without a photographic memory. Certain maps may be notoriously error-ridden. Score ‘high’ for a map depicting the Redbourne bypass, score ‘low’ for the perfect OS product (if such exists!).

- Curiosities. Yes, this is something of a ‘catch-all’ factor! But the letters pages of *Sheetlines* seem to thrive on the peculiar and the odd. I cannot provide an even vaguely concrete example of scoring, so the evaluation of this factor is left entirely as an exercise for the reader.

- Condition. We return to much safer and more objective ground here. Score ‘high’ for an untouched and pristine sheet and cover as they left the print shop (dream on!), score ‘low’ for a dog-eared, ripped and coffee-stained glove-box accessory. Personally, I enjoy ‘repairing’ tears in large scale maps, so for me the condition is certainly not the be-all and end-all. However, for one-inch maps I try to set much higher standards as there are more examples around, which brings us finally and neatly to …

- Rarity. This subject was covered very well in Richard Oliver’s article and I’m certainly not qualified to contribute more on the subject, suffice it to say that rarity is generally a function of ‘print run quantity’ (and its close cousin, ‘sales’), ‘survival rate’ and ‘availability’. I expect that the ‘survival rate’ sub-factor has a strong coupling with the first factor – Age.

So, by rapidly evaluating the eleven factors for any OS map that one might find, you can instantly work out it’s Interest Quotient and answer the key question; should this be in my collection or not? A few seconds later, you can forget the eleven factors and simply go on instinct like the rest of us. Finally, it is salutary to think that there must be many maps that have such a low IQ that no self-respecting CCS member would ever consider purchasing them; however, these currently tired and best-forgotten specimens may slowly mature into ‘interesting’ maps and might surely delight a future CCS membership. Save that boring map!

**Exploring Missing Territory**

*Alan Bowring*

‘Every part of England, Scotland and Wales – however remote – is covered by 403 sheets…’ so reads the introduction to the *Explorer* series on the Ordnance Survey website. Just how true is that assertion?

The Isle of Man is not covered of course but then it does not form a part of any of those three countries. We must turn to the Manx Department of Local Government and the

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4 There is a twelfth factor; the phase of the moon. Judging from my strange map collection, it appears that I’ve used this one to guide the majority of my own purchases!
Environment for its two-sheet *Public Rights of Way and Outdoor Leisure Map* with Norman Wisdom beaming out from its cover. Although the topographic detail relies on outdated six-inch OS material, these sheets also anticipate as yet unpublished 1:25,000 OS mapping in that they show ‘areas of public rambleage’, otherwise ‘open country’.

Jersey, Guernsey and the other Channel Islands are catered for by an array of sheets at a variety of scales appropriate to their size.

That is all very well, but many people will not be aware that some undisputed parts of Scotland, England and Wales are not mapped at 1:25,000 scale either and indeed some are not mapped at 1:50,000, nor were they at 1:63,360 in earlier times. I am not thinking now of militarily sensitive areas, which might be the subject of a separate discussion, but of parts of our coast which lie beyond current sheet boundaries.

On the recently completed *Explorer* series there are four instances of offshore islands which are simply referred to in the map margin. Sheet 102 bears the remark: ‘Wolf Rock at grid reference SW 268119 lies about 15 kilometres or 9 miles SW of lands End and falls within Penwith District’. Staying in the southwest, sheet 108 informs us; ‘Eddystone Rocks at grid reference SX 383337 lies about 15 kilometres or 9 miles SSW of Rame Head and falls within Plymouth District’. In the margin of sheet 382 we find; ‘Inchcape or Bell Rock, at Grid Reference NO 762270, lies about 18 km or 11 miles SE of Arbroath and falls within ANGUS.’ It is similarly treated on *Landranger* 54. Less usefully, sheet 446 offers; ‘The small rocky island of Duslic is situated 1 km NE of Cape Wrath’. The first three of these are graced by lighthouses, the last is of less significance. Wolf Rock appears simply as a lighthouse symbol on *Landranger* 203 but Eddystone Rock does not even merit a marginal mention on 201 or 202.

Although the Hebridean islet of Dubh Artach is referred to in the margin of *Landranger* 48 as ‘Dubh Artach, at grid reference NM 122030, lies about 26 kilometres or 16 miles SW of the island of Mull and falls within Strathclyde Region, Argyll and Bute District’ it puts in no appearance at all at 1:25,000 scale.

Two other distant islands appear as insets on *Landranger* 6. Sule Skerry and Stack Skerry are described as being ‘60 km or 37 miles west of Brough Head’ and ‘66 km or 41 miles west of Brough Head’ respectively. Strangely the neither appear as insets on any *Explorer* or its predecessors nor is any marginal reference made to them.

By far the most extensive areas which are unmapped are intertidal zones. My own research reveals parts of Salter’s Bank and Foulnaze at the mouth of the Ribble (E286), parts of Taylor’s Bank and Great Burbo Bank in Liverpool Bay (E266, E275 and E285), Salisbury Bank in the Dee estuary (E265, E266), part of Lavan Sands and Dutchman Bank in Conwy Bay (OL17, E263), part of Cefn Sidan Sands in Carmarthen Bay (E164, E177 and E178), parts of Middle Grounds, Usk Patch, Welsh Grounds and Monk Stone in the mouth of the Severn (E151, E152, E153 and E154), sands in Exe estuary (E110, E115), the Goodwin Sands (E138, E150), parts of Maplin and Foulness Sands (E176), Gunfleet Sand and Rough Tower off Essex (E184), parts of Wainfleet Sand and Long Sand in the area of The Wash (E250, E261), the offshore banks of Inner Knock and Outer Knock off Gibraltar Point (E274), sands at Cleethorpes and Bull Fort (E283, E284), part of Trinity Sands also in the Humber estuary (E292) and finally Abertay Sands and Elbow on the Fife coast (E371).

Many of these are represented on *Landranger* mapping although it is of some note that Salisbury Bank, Goodwin Sands, a number of sandbanks in the outer Thames estuary and parts of Gunfleet and Knock Sands are not included. The boundaries of the omitted areas
differ in earlier mapping for reasons both of altered sheet lines but also of shifting channels in a number of estuaries.

Comparison of old and new mapping of the Mersey and Dee estuaries and Morecambe Bay reveals very considerable coastal change over 50 years. In the first two instances the land has advanced over two kilometres in this time, whilst an un-named new island has appeared in Morecambe Bay some three square kilometres in extent. A question arises as to how OS might treat areas where change is such as to cause the high water mark to migrate seaward beyond the boundaries of existing sheet lines. A rather small area of mud and sand above high water mark off the Essex coast at TQ 9883 was mapped on Landranger 178 in 1981 but omitted from Explorer 176 published in 1998 whose sheet lines could have been adjusted to accommodate it. This small piece of land may no longer exist however as, rather oddly the most recent Landranger seems to show the low water mark cutting across the high water mark which defines the piece.

There is perhaps also an argument for the inclusion of the various structures which decorate the UK’s major offshore oilfields. A scatter of oil and gas rig symbols across the face of Landranger and Explorer mapping might provide added interest but then maybe the platforms would not have sufficiently long life spans to make it onto the sheets as topographic features. These platforms are within our territorial waters so they ought to count as parts of the mappable realm but they are all so far offshore that it is perhaps unreasonable to expect them to be shown.

Oil and gas platforms notwithstanding, the Ordnance Survey could clearly achieve a more complete coverage of the country. Let us hope that the already much discussed successor to the Explorer really can lay claim to covering the whole of England, Scotland and Wales – however remote.

‘Unfolding Landscapes’: an exhibition review

Jack Kirby

The exhibition ‘Unfolding Landscapes: Maps of Cambridgeshire from Elizabeth I to Elizabeth II’ is currently on display at Cambridge University Library.\(^1\) As befits one of the oldest and largest libraries in the country, the exhibition contains a very fine selection of maps and related items. The collection of exhibits and accompanying text take a broad view of maps and how they are made and sold. The design also makes the most of the compact space in the library’s exhibition centre. About a quarter of the objects on display were produced by or related to Ordnance Survey, and these will form the focus of this review. However, I shall firstly summarise the pre-Ordnance Survey material on show.

The exhibition opens with Christopher Saxton’s influential atlas of 1579. Many maps derived from this and other early works were produced, some more openly than others. In 1610, John Speed wrote ‘I have put my sickle into other mens corn, and have laid my building upon other mens foundations [sic]’. Other map-makers acquired and updated Saxton’s plates, and the final maps derived from his work were published in about 1772, nearly two hundred years after the originals had been commissioned.

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\(^1\) The exhibition opened on 30 April 2003 and runs until 18 October 2003. Opening times are listed on the exhibition website at [http://www.lib.cam.ac.uk/exhibitions/unfold/index.htm](http://www.lib.cam.ac.uk/exhibitions/unfold/index.htm). See also inside back cover of this Sheetlines.
The first part of the exhibition addresses several themes: mapping the city of Cambridge, the Fens, and the road network, each illustrated with carefully chosen exhibits from both better and less well-known mapmakers. For example, John Ogilby’s 1675 map of the road from Oxford to Cambridge is interesting as an example of his pioneering use of the scale of one inch to one statute mile, subsequently adopted by both private county mapmakers and the Ordnance Survey.

The exhibition avoids a narrow focus on the maps themselves, for there are also a number of items related to the processes of surveying and making maps. These include Elizabethan descriptions of triangulation and the theodolite, a seventeenth century text on surveying, and a copper printing plate from a map of London of 1798 (the only exhibit whose subject matter is not related to Cambridgeshire). There is also a copy of the volume of An Account of the Trigonometrical Survey covering Cambridgeshire, published in 1811 by William Faden, who had published the ‘first’ Ordnance Survey map of Kent ten years earlier. The account was written by William Mudge, the then Superintendent of the Survey, and his future successor, Thomas Colby. This volume is displayed as open at plate XIII, a plan of Cambridgeshire trigonometrical stations at a scale of four miles to one inch.

Although much of the triangulation for Cambridgeshire had been completed by 1811, it was a quarter of a century before the Old Series map of the county appeared. Indeed it was not until 1821 that even a good privately produced map appeared for sale. This was produced by the surveyor Richard Baker and paid for by subscriptions, a common practice and one being used more or less contemporaneously by Ordnance Survey to prioritise between counties which were pressing harder than Cambridgeshire for the Survey’s maps. A newspaper article containing a long list of subscribers to Baker’s map (including the future prime minister, Viscount Palmerston, MP for the University) is reproduced on a panel. It left me wondering what proportion of the local nobility and gentry subscribed to the venture: it must have been quite a high percentage.

Baker’s map, at the now familiar one-inch scale, was published in 1821. Intriguingly, he then offered it for sale to the Board of Ordnance. Perhaps inevitably, he was turned down, but the fact that he thought his map accurate enough to sell to the Board led me to compare it to the 1836 Old Series map. Regrettably there is no actual quarter sheet from the Old Series sheet 51 of Cambridge on display (admittedly the Baker map is very large and with associated illustrations takes up a display case of generous size), but part of the third state is helpfully reproduced on a wall panel.

The most obvious contrast between the two maps is that Baker’s map features vividly coloured Hundred boundaries. This aside, the representation of relief on the Ordnance Survey map is noticeably finer than Baker’s efforts, and the city of Cambridge is depicted in greater detail by the Survey, avoiding the use of shaded blocks in the built-up area. However, it is worth noting that the Survey had had fifteen years in which to refine its techniques and revise its survey of Cambridgeshire (indeed the overstretched Survey of the 1820s may have actually welcomed an excuse to delay publishing Cambridgeshire²). Baker’s map is a reminder of how sophisticated and relatively accurate the productions of private surveyors had become by the early nineteenth century.

On the next panel, the text skilfully summarises the ‘Battle of the Scales’ and the development of County Series mapping. Part of the 1892 index to the six-inch maps is reproduced. In the adjacent case are couple of exhibits relating to the sale of maps in the Victorian period – a good reminder of the social context in which the maps were used, and as interesting as the maps themselves. One is a retailer’s guide to the plethora of options available to purchasers of Ordnance Survey mapping in the 1850s. Produced by Longman, Brown, Green and Longman’s, it includes an index diagram of one-inch maps additionally shaded to indicate the availability of geological sheets (a copy of the very attractive geological sheet 51 SW is also on display). There are also references to mapping at the six-inch scale. There is a complex table specifying prices for a variety of options that could be chosen such as mounting on rollers of several types. Buying a map could clearly be a serious business.

Four decades later, in 1892, a Stanford’s booklet describing methods of map mounting shows that the options for map buyers had increased. On display is a storage box for one-inch maps, designed to look like a landscape format book. It held eight sheets dissected and mounted on linen. The printing on the ‘spine’ shows that it held sheets 49 to 56 covering central England and East Anglia, including Cambridgeshire. This luxurious production would have been aimed at those able to buy large sets of the maps.

The final text panel looks at the introduction of the National Grid and other key twentieth century developments. The panel features reproductions of recent user-friendly sheets featuring cartoon characters showing how to give a National Grid reference. Modern leisure mapping is represented by two current maps, Landranger 154, Cambridge and Newmarket, and Explorer 209, Cambridge. This is a good way of showing that the library’s collection is still growing and not of solely historical or purely academic scope. There is not space to cover all the various rivals of Ordnance Survey since the time of Richard Baker, though it would have been nice to see a mention of, say, Bartholomew, and the growing leisure market. However, the subject is not neglected, for a number of the latest maps and street atlases are exhibited, produced by familiar competitors such as A-Z, Estate Publications and the AA. The OS-derived Philips Street Atlas of Cambridgeshire is also displayed.

The city of Cambridge is featured in large-scale maps from Victorian times and the present day. Published in 1888, 1:2500 Cambridgeshire sheet 47.2, shows Victorian developments including tramlines and new museums, but also gives a sense of the amount of open space in the city, including college gardens and cricket grounds. Some of this land has now been built over: the caption notes that Clare College cricket ground is now the site of the University Library. The map is presented in a beautiful hand coloured version, which at fourteen shillings cost nearly five times as much as the uncoloured version (three shillings).

A modern user-defined Landplan at 1:10,000 scale provides an opportunity to spot developments since 1888. Supplied by Stanford’s (actually an example of continuity rather than change), it is centred on the University Library (precisely TL 44110 58390). Finally there is a site-centred Superplan at 1:1250 to bring the story right up to date. Supplied by local Cambridge booksellers, Heffers, it was produced on 2 April 2003, just a few days before the exhibition opened. Both these maps are unique commercially supplied productions derived from digital data, but the caption explains that Ordnance Survey voluntarily deposits an annual snapshot of data in the legal deposit libraries to preserve a record of changes to the landscape.
At the end of the exhibition is a small area of seating with a number of books for reference, on maps, the University, and Cambridge. There is a computer terminal with access to a commercially-produced CD-Rom of local historical photos, maps and street directories. Also available is a really excellent leaflet of further information entitled Finding out More. Written by Anne Taylor, the head of the Map Department, it lists books, web sites, repositories of mapping, vendors of modern and facsimile maps, and societies – including the Charles Close Society. The leaflet is a model example of how to encourage interest in a specialist subject.

In conclusion, this is a splendid exhibition. The exhibits are well-chosen and carefully presented and the text is informative and clear, explaining why particular types of mapping developed at different times. Both specialists and the general visitor will benefit from seeing the exhibition (as evidenced by positive feedback in the comments book). I would encourage any interested readers within easy reach of Cambridge to visit the exhibition before it ends in October: my journey from London was well rewarded.

Small Repairs to Antique Maps
Compiled by Hans Kok and Corinne Hillman

This bulletin, which was brought to our attention by Francis Herbert, was originally distributed by IMCoS, the International Map Collectors’ Society, who have kindly agreed to its republication. Although their main interest is in antique maps, much of the content is also relevant to repairing old OS maps and other paper documents. Further information about IMCoS may be found at their website, www.imcos-mapcollecting.org.

Introduction

The following information applies only to maps on paper and consequently excludes silk and vellum.

‘Conservation’ is the process that preserves the object in its present condition. Treatment is carried out in order to stabilise the object for the future, without attempting to recreate the original appearance. Only toning of repair materials may be used to complement the original.

‘Restoration’ is the process used to bring back the object to its original appearance, using materials to fill missing areas in order that they blend in with the original.

A. Handling

a. Wear protective cotton gloves when examining material.¹
b. Place map on dust-free surface during examination, i.e. conservation board support² or unbleached calico/linen.³

B. Preparation

Before beginning any examination or treatment, you will need:

¹ Unbleached cotton gloves available from larger chemists.
² Conservation board available from artists supply shops or from Falkiner Fine Papers, Southampton Row, London, in varying weights. They will send a sample book (small charge) on request.
³ Unbleached calico/linen from John Lewis, London and branches, or textile outlets.
• Adequate space, i.e. clean, dry space and surface larger than map.
• Suitable support when handling objects, e.g. conservation board.

**Essential basic tools and equipment.**

- scissors, 4
- needles, 5
- blotters, 6
- small to medium fine hair artists brushes, 7
- Staedtler Mars Plastic eraser and nutmeg grater, 8
- a pair of tweezers, 9
- gluten-free wheat starch powder (makes up with water to form a paste), 10
- a set of boards (beech is best; formica-topped is protective) larger than largest map, 11
- stainless steel spatula, 12
- cotton wool, 13

• Tools, solvents and materials should be kept apart from the object to be treated. Being an amateur calls for caution in every respect. Be content to be successful without causing collateral damage. Expect to learn by experience and by following professional guidelines such as these.

• Plan, and consider which tools and materials are required beforehand, otherwise searching for a missing item may force you to use unsuitable tools, or interrupt a time-managed sequence, i.e. solubilised glue may dry again and re-bond.

• Ensure that there is sufficient lighting.

• When applying any adhesive or liquid, start on a corner or the reverse side (verso) where potential damage may be monitored without causing major damage to the object.

• Test knives, erasers and fluids, either on some other paper or in the margin or the verso of the map.

• Remember it is easier to add than to take away.

C. *Removal from frame or mount*

Opening a frame should not cause too many problems, as long as the process begins at the back and you manage to keep all the glass in one piece. Wear cotton gloves as protection. Opening the mount may prove more difficult as the map may be attached on all four sides or only one – or it may be attached to the top or bottom panel of the mount. It may even be adhered to both panels, so be cautious. Next, assuming the mount to be open, the map may be removed (see *Tape Removal* below). If in doubt at any time, consult a professionally accredited conservator. 14

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4 Surgical scissors (small pair) from medical suppliers or chemists.
5 Needles from textile outlets (varying lengths) – to shape repairs.
6 Multisorb blotters from Falkiner Fine Papers as before in small quantities.
7 Artists materials outlets, e.g. The London Graphic Centre in Covent Garden, London.
8 As above. Nutmeg grater from kitchen/household suppliers.
9 Tweezers from larger chemists.
10 In small quantities, Falkiner Fine Papers as above.
11 Boards available in pairs – contact Camberwell College of Arts for more information, email: c.hillman@cambridgeinst.ac.uk
12 Artists materials outlets.
13 Major chemists – surgical cotton is safest and least abrasive.
14 The Institute of Paper Conservation located at Leigh Lodge, Leigh, Worcs, holds a list of professionally-accredited conservators in the UK. Otherwise contact a local museum for information in your area.
A mount may be re-used, e.g. if decorative or inscribed, but in order to counteract the
acid content, it should be lined with a strong acid-free paper\(^{15}\) containing an alkaline buffer to
protect against future acid attack.

**D. Surface cleaning**

a. Use a soft squirrel hair brush to remove surface debris.
b. Using a nutmeg grater, grate a Staedtler Mars Plastic eraser. Rub the gratings gently in a
circular motion using a pad of cotton wool. Note that Draft Clean in pads or loose
powder form are not recommended for the removal of surface dirt owing to abrasion and
the problem of particles becoming embedded in the paper fibres.
c. Cotton swab.

**E. Tape Removal**

a. Dry with a spatula or scalpel blade. Consider dry mechanical removal by scraping away
adhesive residue with a spatula, then add moisture with a cotton swab to encourage
solubility and removal.
b. A small amount of moisture on a brush should loosen the tape carrier.
   Be aware that the area **must** be dry before any pressure is applied, as if not – or if the
   object is contained in a humid atmosphere – the adhesive may become moist and re-adhere.
   If applying water to solubilise adhesive, begin with very little, and at most, a damp
cotton swab (non-commercial, made by twisting a piece of surgical cotton wool around the
ends of a pair of tweezers). Be patient and wait until the effect is visible: if it is not,
cautiously add some more and wait again. Using too much at the start will leave you with
water staining and paper that may cockle and warp.

**F. Stain Removal**

**Do not remove candle wax, inked or pencil inscriptions, library or owner’s stamps as
they may form part of the object’s provenance and history.**

Do not attempt to remove discolouration caused by light or acidity, foxing or rust
staining – take the object to a professionally accredited conservator.

**G. Removal of Water Staining and Cockling**

The removal of paper cockling (where the paper does not lie flat and is buckled) and planar
distortion is not always a simple process, and a professional conservator should be consulted
if the problem is too severe, i.e. if the object has possibly fugitive heavy overpainting or
hand-colouring.

For small areas, the verso should be very lightly dampened with water on a natural
sponge in order to humidify and swell the paper fibres to allow flattening and relaxation to
take place. After damping, place the paper between blotters and allow to dry with a small
amount of pressure. Note that with printed material, there is occasionally what is termed a
‘printer’s crease’ where the paper is naturally creased during the printing process. There
should be no attempt to release the crease, as doing so will distort the paper.

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\(^{15}\) Acid-free papers in small quantity may be obtained from Falkiner Fine Papers in Southampton Row, London WC2.
They also hold reference volumes of their current paper and tissue stocks, which may be consulted on the premises.
Note that there are specialist paper suppliers for Japanese and Oriental papers, e.g. John Purcell Papers based in
London.
Water staining can be reduced or removed locally by placing the affected area between two dampened blotters (check to see that inks, etc are not fugitive or at risk), then dry blotters on each side, then sandwiching the whole between a set of beech or formica-topped boards. Small glass weights may be placed on top. Leave for fifteen minutes, then check. Change blotters if cockled.

**Washing, deacidification, bleaching and re-touching should be carried out by or under the guidance of a professionally accredited conservator.**

**H. Small Remedial Repairs**

For tears, breaks or weak areas, Spider (excellent wet strength) or Lens tissues may be used with a gluten-free wheat starch adhesive to reattach fibres.

Repairs in conservation are always rounded – never with straight edge as this impedes bonding – and if using Japanese papers such as Tono sawa (34 gsm), the long fibres of the paper are utilised in the attachment of the repair in order not to create an overlap onto the object.

When bringing home a newly acquired old map, it is not unlikely that the map may have a split centre fold or a number of smaller tears in the paper margins.

Lifting the map, especially with one hand only, may easily cause these tears to increase. It is therefore recommended that temporary repairs are done to prevent this, until the map can repaired properly. Use Scotch tape 811 (Removable Magic Tape) or Filmoplast P.

Sticking a small piece across the tear will effectively prevent the tear getting larger; extending the strip around to the reverse side may be even better. Although this tape is easily removed, it is still good practice to use it only on margins or a blank reverse side as removal for the final repair may sometimes damage thin paper or lift off some small part of the image/text.

An amateur can do much in terms of preservation to effect the long term stability of his or her map collection – but be aware that if in doubt, there are professionals who can help and advise on the best course of action.

*These bulletins are sent out free to IMCoS members with the Summer Journal, and to new members when they join IMCoS. Subjects already covered include: 1. Judging a map’s condition; 2. Distinguishing fake from real; 3. Looking after antique maps and prints; 4. Photographing your maps; 5A. Mounting maps and prints; 5B. Framing maps and prints.*

Some time ago Graham Moss ran a very useful workshop on map cleaning and repair for the Charles Close Society. Members who would like further information on the repair of maps, their storage, and the use of conservation materials may like to consult Graham’s booklet, *A collector's guide to the care and repair of books and documents*. David Parsons notes that this is still available, price £3.50, plus postage and packing, from Papersafe, 2 Green Bank, Adderley, Market Drayton, Shropshire, (01630) 652217. Papersafe also sell appropriate tools and materials in small quantities, see [www.papersafe.demon.co.uk](http://www.papersafe.demon.co.uk) – CIH.

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17. *Sheetlines 44*, 56.
**Short queries**

*Detached parts of counties*

Regarding question 3 from David Purchase’s list (*Sheetlines 66*), I don’t know whether he would be interested to know of the following two publications, published by the Royal Historical Society and still listed on their website ([http://www.rhs.ac.uk/guides.html](http://www.rhs.ac.uk/guides.html)):


At 800+ pages each, he should find all the information he needs therein as to when the changes he refers to occurred. They were £25 each when I purchased mine many years ago. The cover to Volume 1 proclaims ‘Professor Young has prepared a comprehensive guide, by counties, to the changes in nomenclature, status and extent of all the parishes and other ecclesiastical and civil units in England … covering all the alterations affecting the ancient parishes, civil parishes, local government units and parliamentary constituencies, from the early middle ages to the local government act of 1973, which created the modern divisions’.

They will not answer the Monmouth part of his query though, as Volume 1 does not cover Monmouthshire.

*Roger Taylor*

**DS?**

I have a query concerning an inscription adjacent to a bench mark on Bridge Gate in Chester. The inscription consists of the capital letters ‘DS’, which have between them, a depiction of a ship’s anchor, and also a scribed metal dowel, similar to (but approximately twice the diameter of) those used to give a more accurate height mark to a bench mark.

If any readers can throw some light onto the inscription, I would be very interested.

*Roy Beacham.*
Venturing into the Queries Department is a stressful experience for the lightweight member. There is a feeling that what baffles muggins may be perfectly plain to almost everyone else. A nagging wish to know has overcome diffidence.¹

The question concerns the meaning of the word ‘Expansion’ in the context of its appearance in the bottom left hand margin of three adjoining sheets of the Third Edition Map of Scotland, all published in the years 1907-09. On one it is printed horizontally and on two vertically. In each case it is accompanied by a 0.6 inch line with arrows at both ends.

The first thought was that this is a slightly eccentric indication of overlap, but there is none between any of these three sheets or between them and other adjoining sheets. The relevant copies of sheets 44 and 53 happen to be ‘cut into sections and mounted on linen’, but the remote possibility that ‘expansion’ represents the sum of the gaps between sections can be dismissed as the sheet 52 example is not dissected. The word may appear elsewhere in the Edition but is absent from a further 22 sheets examined, including No. 45.

Peter Warburton

¹ Members should not be bashful. The Editor is a very lightweight muggins. If he cannot answer a query himself, he takes the view that it is well worth printing as other members will also be mystified! – CJH
**Book review**


The 1:25,000 First Series map had a split personality: a large scale plan that thought it was a small scale map (or vice versa); a new scale for a civil series, but based on out-of-date surveys – hence a ‘Provisional Edition’ that lasted forty years; a map conceived for military use, but promoted as the rambler’s friend – and yet not normally showing rights of way. The ‘Ordnance Survey’s fan club’ has now produced this definitive A4 hardback in its honour.

Describing Richard Oliver’s very readable 51 page description as an ‘introductory essay’ hardly does it justice. Richard is in fine form, combining his usual meticulous scholarship with insights on the likelihood of boy scouts preferring to spend money on cans of cola rather than maps, and doubts on whether a map having one margin missing would handicap the military in fighting a nuclear war in the UK.

For there was certainly military interest in mapping at this scale and we are given a fascinating description of ‘the military predecessors: GSGS 3036, 2748 and 3906, 1910-39’. Those at Exeter will have seen examples of this little-known mapping; unfortunately, presumably because of cost, none appear among the eight colour plates in this book.

What we do get is a full description of the development of the civil 1:25,000 map, its compilation, cartography, and the public reaction to it. Richard covers the ante-natal traumas, the overextended Provisional phase, short-lived Regular adolescence and finally graduation to Second Series maturity and eminence as today’s *Explorers* and *Outdoor Leisure* mapping.

The bulk of the book is taken up by Roger Hellyer’s cartobiography which, he casually remarks, covers ‘over 25,000 separate states of the 2027 sheets’. The copious information on each state has been condensed to a single line in such a way that the more important facts are immediately accessible while minutiae of price, marginalia and similar details are reduced to single letter codes. All significant aspects of the sheet’s specification are included: one can support the decision (if not the pun) not to record the presence or otherwise of certain footnotes ‘considered of marginal interest’.

Roger’s description of the creation of the cartobiography has appeared in *Sheetlines*\(^1\) and could well have found a place in the volume itself. We can only marvel at the magnitude of the task that he has so successfully completed, particularly as he knew that, following destruction of the OS job files, it would be impossible to determine if every state of every sheet had been recorded.

Publication of the book will send collectors scrabbling through their First Series maps to find a state not in Hellyer and Oliver. Gratification will be rare, but a few additional states will probably appear. Should the Society then have published the cartobiography not in paper form but as a more easily updated CD-ROM? Is it better to have a complete CD in a format which may be rapidly superseded, or a book which may only be 99.9% complete, but will be still accessible by, and invaluable to, historians of the Ordnance Survey and of the twentieth century for generations to come?

One other question concerns the cover. The colours, as is our policy, are meant to be reminiscent of the colours of the covers used on the maps themselves. The actual result has a

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1 *Sheetlines* 65, 7
rather strange taste of mustard. I should declare an interest in that I converted the Society’s standard cover design to two colours for this volume. Should we change our policy and use colours that are visually attractive even if not relevant to the subject?

Chris Higley

Kerry musings

David Archer

An invitation to look at someone’s map collection should always be accepted, because it is bound to contain something slightly unusual. No matter how small the collection, fifty or eighty maps, the owner will always say “And what do you make of this?” producing something that I have never seen before. Not that I claim to have seen everything, you understand. It is just that the Ordnance Survey has produced so many maps that have not been included in a cartobibliography, nor mentioned in Sheetlines, that by the law of averages, most people have something not recorded, which often means, not known of. This is not to belittle the cartobibliographers, who set out to detail only certain elements of a map, leaving an open field for investigations into the unrecorded features. “And this one has no sheet number on the cover, have you ever come across that before?” they ask. Spelling mistakes, transport routes going over when they should go under, tourist maps invariably found in pictorial covers turning up in hiker covers, the list is endless and finding these things is one of the joys of collecting and studying Ordnance Survey maps. But should not the results of such discoveries and study be shared with everyone in our Society, rather than passed verbally to the few? For if these observations are not written down, they can easily be lost again. I cannot think of anyone who ‘writes-up’ their collection, either by slips of paper in the maps, marginal notes in soft pencil or in a more permanent way. Maybe our hobby is not mature enough for this to have arisen yet. Postcard collectors and philatelists are great ones for having albums with the results of research appearing alongside a stamp or postcard. However, compared to ten years ago, Sheetlines has an increasing number of short articles initiated by casual observations, so perhaps we are at least on the right track.

On a much larger scale, though far fewer in number, some of our map collections, and more pointedly, some sections of many more collections, are important and not only should they be written up, they should also be kept together in the future and be made available for public inspection. Again, in many cases, it is only the current owner who is able to identify the significance and importance of such maps. As a mapseller, I know a little bit about most map series and usually have an idea of which are the more common or less common sheets. But a collector of any specific series will know far more than I do, if they concentrate on only one series. They will know the really rare print codes, variant cover titles or any combination of these and other features. Very common sheets might sometimes be found with a rare cover price, which only avid series collectors will know. Any collection boasting a substantial number of such maps will be worth keeping together. But, unless the specialist collector shares the information with others, a notable collection could well be dispersed.

2 I am also responsible for the sheet index diagrams and would be very pleased to hear from volunteers not connected with the Society’s book production who would be willing to write properly independent reviews of future volumes!
Unless such collections are written-up they risk being broken up and the compiler will not have the pleasure of sharing discoveries and increasing our combined knowledge. Other map enthusiasts will miss out on the details gained by the collector, and if sold, the true monetary value of the maps might not be realised. This is not to say that all of these funny little differences will have any monetary value, but they might. If a collection were written up, it would certainly increase its value, both monetarily and in usefulness.

Increasingly these days, we are accustomed to having objects and events ‘interpreted’ for us, to having the unusual pointed out and its significance explained. No longer will it pass just to point to a group of maps and call it a great collection because it was put together by member so-and-so, who really knew their stuff. Today, such a collection needs to be justified; each item must be shown to be interesting; the reasons why, are demanded by the audience. Should the great collector not be around to explain, then a written guide to the collection is vital, although there will always be oddities that go unrecognised by owners, and things that will never be recognised. However, most specialist collectors hold such information only in their heads, and only a few write a book or a Sheetlines article about it.

I am guilty of an even worse crime. For several years I put anything I knew to be unusual or worthy of study into a box until I had time to investigate further. This activity lapsed, and when I came across the box a couple of years ago, I had no idea why most of the maps had been put aside, except the few that had a very light pencil note, and even then, I did not know what most of the notes meant, e.g. price?!!!? Map after map was pored over, but I just could not remember why it had been set aside as unusual in some way. Now that email has arrived, things are a little better. I can quickly jot down brief details and send them to whoever I think is working on that particular series, in the hope that they will one day share the earth shattering discovery with one and all.

So, what sort of things should we note when writing up our collections? Basically, anything you think is or might be unusual and the reasons why you think this. Anything you have discovered or observed and think that others might not know. If in doubt, note it. If possible, research it. Articles in Sheetlines have frequently mentioned that certain maps are not in the copyright libraries, so if you find this to be the case with one of yours, note it. On acquiring a map listed as “Not found” in a cartobibliography, note it. A friend rang recently to say that he had just bought a copy of the 1936 tourist map of Oban lacking both the monarch’s initials and a price on the cover. Sounds unusual, so note it. Note too that a previous owner J T Blank was the first person to be awarded the Queen’s medal for whatever, or that dissected maps in Ordnance Survey covers are, from observation, extremely rare in this particular series. Such things might or might not be important, but alert others to what you think is significant, in case they are lost again and go unrecognised. If you observe something that relates to previous CCS research or a cartobibliography, tell the person who undertook the work.

Perhaps we should initiate a competition at each AGM whereby members display the results of a piece of research on a three-foot square board. Thirty pounds for the winner. Even small research projects can be very time consuming, but if it is part of the hobby, why worry? One of my favourite articles in recent issues of Sheetlines is that by Peter Warburton in number 64, in which he combines his interest in Scottish history and OS maps. Read it again, look at the sources he used and consider whether this sort of thing is beyond your ability? No. So why not start following up one of those little things that you have always pondered, yet never done anything about?
Ordnancemaps topics

The archive at http://www.yahoogroups.com/group/ordnancemaps holds copies of all the messages sent to the ordnancemaps discussion group. In this issue of Sheetlines we only have space for two which have caught the Editor’s eye (but see also page 64).

Revision point books

Fraser Donachie enquired about a page from a Revision Point book featuring a very brief text description of the location and a black and white photograph of the RP itself being literally pointed out by an OS field surveyor, wearing a 1950’s trench coat and holding up a large cardboard or wooden arrow pointing at a spot on a bridge abutment or pillar.

Richard Oliver responded that the Revision Point Albums were declared obsolete by OS quite some years ago and were apparently not regarded as of sufficient interest for the Public Record Office. There is a set for Lowestoft in the record office there, but he had not encountered references in similar libraries elsewhere, though this may depend on how the cataloguing is organised. ‘Rescue’, as at Lowestoft, was perhaps the result of local initiative. He knew of no central list of these interesting things: ‘you could be like a late friend of mine, and strike lucky, and find one of the site of your house as it was long before development!’

New specification for Explorer map

Jeremy Stokes of Ordnance Survey used the discussion group to correct an article by Simon Jenkins appearing in that morning’s Times by providing reassurance that we are not wiping churches or Christianity off the Explorer or any other OS map. We are not making any changes to how we show places of worship on our Explorer maps. What we are doing is making a slight amendment in the description at the side of the map to make it easier to understand that some places of worship have changed use. Current and former places of worship with towers, spires, minarets or domes are also helpful navigational aids. These buildings will continue to be shown with the traditional symbols. However, in these cases the description ‘place of worship’ in the key will be amended to read ‘building/place of worship with...etc’ to reflect the fact that some have changed their status. Where a former place of worship has no tower, spire, minaret or dome – and is therefore of little or no help for navigation – the building will continue to be shown but will not be highlighted with a symbol. For current places of worship without such architectural features, the traditional symbol will be retained and they will continue to be described in the map key as a ‘place of worship without a tower, spire, minaret or dome’.

He added that the extent of the new access areas will be indicated by a pale yellow tint with a pale orange border. Simplified National Park boundaries will be shown on the map cover, but not on the map itself. Civil parish, community and other administrative boundaries will be shown on Explorer maps but will appear in magenta rather than black to avoid confusion with other features. Physical paths currently shown by black dashes will be shown with black dots instead. Changes to the green rights of way symbols will make it easier to see where they coincide with these paths. Similar changes will be made to the depiction of permissive paths shown in orange. In Scotland, Core Paths under the Land Reform (Scotland) Act will also appear on Explorer maps as the information becomes available.

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2 See http://www.ordnancesurvey.co.uk/media/newsreleases/2003/may/exp_roam.htm for an OS news release that includes an example of the new specification.
Letters

Comments on Sheetlines 66

What an accumulation of comment-worthy stuff!

To start at the back and work forward. I have for many years been somewhat obsessed with trying to work out which of the two early nineteenth century Benjamin Bakers was my main man, and now there is another, apparently born on the first of April! Perhaps your readers’ attention should be drawn to a real Chronology of the OS, compiled by R F C Tear, Superintendent of the Boundary Section in 1919. As a result of our earliest BCS meetings held at the OS generating a lot of interest among the old-stagers, James McKay, Supt. OS, in 1965 copy-typed it from a fading manuscript in the possession of a nephew B M O Tear. RFC was the author of Notes on Boundaries...1915, one of several editions for internal use, but not identified in Booth’s monumental OS publication of 1980.

Roger Hellyer’s ‘Cartographic discovery’. Large sheet Irish One Inch sheets do not appear in the 1862 Catalogue, but in the Catalogue dated 1 August 1876, where the One Inch sheets are listed under counties. There are six entries for what are described as ‘joined up sheets’, but don’t get too excited, as two of them appear under two counties! Sheets 28, 29, 36, 37 (Belfast) would appear to be Belfast. Sheets 91, 92, 101, 102 (Dublin and Meath) are the northern half of Dublin (the city falling on 111, 112, 120, 121 is not listed). The other two sheets are 13, 14, 19, 20 (Antrim and Londonderry), and 1, 2, 5, 6 (Donegal). They are priced at 2/6d (the small sheets were 1/-). All the sheets have coastal elements, pointing to some possible production economy.

Still on Irish matters, and Richard Oliver’s survey. I found the One Inch Revision Instructions dated 1896 and several later ones for Yo when she was doing her thesis. They were among the incredibly rich and frustrating papers which were photo-copied for the OS after the War in three very confusing volumes described as Southampton Circulars. Later when Peter Skelton started to get to grips with the problem of finding OS records which had for long been conveniently reported to researchers, such as Peter Clark when he was at Cambridge University, as destroyed in the bombing of Southampton, stuff poured into the Library from all the Divisions and, after the move back to Southampton, filled several hundred foot-run of shelving in the back of Ron Thornton’s operational library. Amongst the guardbooks there I found the set of Circulars which had been sent in from Division 8 at Bristol, and a later collection created by the OS Whitley District Committee dealing mainly with terms of employment and training. The importance of the ‘Irish’ volumes is that they contain many fragments of nineteenth century detailed Instructions on a wide range of topics as seen from OID’s position, such as the Instructions, dated 27/11/94, for keeping the History Sheets of the English One Inch Revision plates which were being engraved in Dublin.

Tear is also useful in providing dates for particular events, such as the Treasury Minute of 4/7/72 which specified the two new styles of the One Inch map, and the later production and printing of the One Inch in colour by photozincography.

I feel there is a doctoral thesis waiting to be created from what is embedded in the so-called OS Circulars, whether numbered as such or not.

Ian Mumford
Roger Hellyer writes:

Ian Mumford sent me a copy of his letter to your editor, and I have done a little further digging, mostly among the Ordnance Survey catalogues in the Bodleian Library. They have catalogues of Ireland dating from 1862 and 1863, where indeed there are no entries to joined one-inch sheets. Their next is dated to 14 February 1873, where the four “joined” sheets noted by Ian as present in an 1876 catalogue all appear – sheets 1, 2, 5, 6, sheets 13, 14, 19, 20, sheets 28, 29, 36, 37, sheets 91, 92, 101, 102. Next in the Bodleian sequence dates from 1881, which has the same entries, and only in the catalogue to 2 December 1884 does the first of the Dublin large sheets, 101, 102, 111, 112, appear. The second Dublin large sheet, 111, 112, 120, 121, copies of which, as I noted earlier, are in the British Library and the Bodleian Library, makes its first catalogue appearance in 1 January 1893. Access to further catalogues may of course refine these dates more precisely.

There are several points worth making. Ian appears to make the not unreasonable assumption, and one that I would agree with, that the catalogue entries listed here relate to the various ‘large sheets’, which implies a certain looseness in wording on the part of the Ordnance Survey. The three sheets so far recorded all have phrases ‘large sheet’ and ‘united by electrotype’ in their headings, phrases which are ignored in the catalogue where ‘joined’ is preferred. Secondly there is still no reference found to a large sheet Galway, or Killarney, or Cork. Thirdly, the first appearance of the first of the Dublin sheets is surprisingly late. The only copy so far recorded of what may be the same map is in Trinity College Dublin. The copy is defective, lacking a considerable amount of its lower marginalia, but it does at least reveal that it was published while Sir Henry James held the rank of Colonel (ca 1862-70), and he was not the man to permit such details to be incorrectly expressed. Thus its first appearance in the catalogue is either at least eleven years late, or there is yet another state of the map awaiting discovery.

Fourthly we have to confront the very obvious conundrum – assuming these maps were issued, why are copies of them so elusive? Why in particular do they appear not to be in the copyright libraries? Not that this is certain, since it is not obvious where to seek them, and apparently it was not obvious to the cataloguer where to list them. A random search of the British Library catalogue for words like ‘joined’, ‘united’, ‘electrotype’, ‘large sheet’ did not produce any results. But that is hardly a surprise. The one sheet known to be there, the Dublin (large sheet) of c.1891 also ignores all these obvious search words, mostly present in the map heading, other than Dublin itself. It is listed as ‘[Map of the Environs of Dublin. Being Sheets 111, 112, 120 and 121 of the Ordnance Survey of Ireland]’.

But there is persuasive corroborative evidence that all the large sheets were issued, since all six have been added by hand onto an index of one-inch maps of Ireland once held by Military Survey. Again the terminology used (‘13, 14, 19 & 20 joined’) prefers sheet numbers, and that word ‘joined’. The index, probably dating from the 1920s, is now in the CCS archive at Cambridge. Is anyone in a position to trace what happened to the maps themselves?
A gallows euphemism

In 1640, Miss Warburton of Bickerton, Cheshire, a member of a clan numerous in the county, had two suitors. She chose to marry a Mr Spark. The rejected suitor, a Mr Holford, eschewing the sportsmanlike behaviour expected of a silver medallist, stabbed Mr Spark to death. A crime passionnel no doubt, but that was not regarded as a mitigating factor.

Holford was duly arraigned, tried and condemned to death. The sentence was carried out in the parish at a conspicuous rise on the salt way between Nantwich and Farndon (SJ 515537). The place became known as Gallowstree Bank. It is so named on Burdett’s map of 1777. By the time of Bryant’s 1¼ inch map of 1831 a local gallows was regarded as less of an asset and an alternative is offered, the name being shown as Gallows or Gallantry Bank. In 1833 the OS draughtsmen, beset by hachures and a web of tracks, and publishing to a slightly smaller scale than Bryant, opted for the euphemism alone and Gallantry Bank it has remained.

It should be emphasised that the change is an example of metanalysis (I think) or, with more confidence, is a genteeilism. In either case a linguistic matter. There is no question of the glorification of Holford: he was not a gallant or even a bounder. The fellow was an out-and-out rotter. One’s thoughts go out to the grieving widow.

Peter Warburton

*Ordnance Survey six-inch sheet
Cheshire LIV SE (1912)*

The sycamore used for the occasion is supposed to have stood close to the 480.4 bench mark.
**Gibbet Hill**

With regard to the letters on pp 61-2 of Sheetlines 65, and page 53 of Sheetlines 66, I note there is a Gibbet Hill not mentioned in any of the three letters: SX 504812. It has the usual gruesome tales attached to it, and also a story that it was eventually cut down and thrown into a nearby mineshaft.

I can find no mention in the literature that it was connected with the nearby Lydford Castle, where transgressors of the Tinner’s Law were incarcerated – just the usual ‘Highwaymen and other felons’.

Bill Radcliffe

**Cartology**

Yes, Chambers Dictionary does indeed give ‘cartology’ as ‘the science of maps and charts’, so that seems to be ideal for the subject of our interest.¹

Norman Read

Maybe we should still consider ‘cartomania’? I would suggest ‘cartophily’, ‘love of maps’, but Chambers already defines this as ‘the hobby of collecting cigarette cards’! – CJH.

**Exploring the central Lake District**

Richard Oliver commends the 1:25,000 Explorers (Sheetlines 66). I recently purchased a set of these relating to the Lake District prior to a fell-walking holiday there. They certainly are the best maps for this activity, compared with previous editions and also the Landrangers, which come a poor second.

However, I offer the following observations on their utility relating to the Lake District.

1. Did the OS test reversing the map (as you know, they are printed on both sides) in a high wind? Not only in the open – it was amusing to see a couple wresting with one in a car.

2. To walk extensively in the central fells, say a ten mile radius centred on Angle Tarn, requires four maps to be carried. Could not a ‘special’ be published covering this area, printed on one side only of course? My solution to reduce the volume of paper was to cut off the extraneous parts of the maps where I was unlikely to walk. (I here visualise a Batemanesque cartoon of a CCS meeting: Shock! Horror! “The man who cut up an OS map”.)

3. Explorer map covers are even larger than Landranger ones. Pockets in walking clothing (mine at least) are inevitably smaller, which makes carrying a map for quick access (i.e. not tucked away in a rucksack) as inconvenience. A special central area map could be made more compact.

Walter Paterson

¹ Sheetlines 66, 48.
For Roger Holden’s information, I am a defender of the 1:25,000 map and I think Richard Oliver’s comments about this map series, such as ‘some OS maps which I consider to be of very limited use to historians … The 1:25,000 map is a particular case in point’,¹ to be very misleading to say the least. Clearly his comments and opinions are those of the map historian rather than those of the historian who uses maps. As co-compiler of the Railway Record of the British Isles for the past 25 years I am wedded to my vast collection of First Series 1:25,000 maps, as they are ideally suited to our ‘historical’ requirements.

The Railway Record is a database that records the history, development and change of the railway’s infrastructure. The datum of the database is 31 December 1912 which is used for preferred site name, company ownership, civil boundaries and other purposes (although the content of the database encompasses the whole span of the public common carrier railway from day one through to today).

The slightly hybrid nature of the 1:25,000 First Series has assisted us in the compilation process because it includes so much ‘dead’ railway and industry on a post-war NG map. The early twentieth century revisions to the 1:10,560 mapping are the closest to our datum and this mapping forms the core of the 1:25,000, what could be better? If we had had to access all the relevant six-inch material we would still be at the task. Whereas I have in my possession a map that shows all the boundaries we require, delineates field plots and water courses, shows the contours and the railway in the landscape, details relatively minor elements of the railway and its industrial connections, has the national grid, and is in a convenient 10km square format – it all works very well.

We use ‘A’ states in the first instance and then later states to obtain data on post war revisions, in particular new road works (bridges). The appearance of Roger Hellyer’s weighty tome is a bonus in checking the existence of later states; as well as for Richard’s excellent summation of the 1:25,000. My collection was built up from three main sources; a large gift of early states; superseded later states from OS; and ‘acquisitions’ from John Coombes.

One of the basic tasks of the Railway Record is to define all of the features along every railway line in correct railway mileage order. Add the relevant railway coding (bridge and crossing numbers), also the railway mileage / chainage point (to the nearest ¼ chain) which is then cross referenced to the national grid, two letter / eight digits – always to the notional centre point as defined in railway use. The 1:25,000 is reasonably accurate for this purpose (in the first instance); checks we make at regular intervals give a 9 out of 10 positive result when scaling a known railway mileage distance onto the relevant 1:25,000 sheet. We recognise that the exact ‘point of junction’ of two railway lines may be difficult to define, but in strict railway terms this is still a serious problem at 1:2500 scale.

I know there are errors and misinterpretations on the maps, but they occur on all maps. ‘When is an underline bridge a level crossing on the 1:2500 County Series’ to mention the most common large scale map problem we encounter (which is then often wrongly transcribed onto the 1:25,000).

Another advantage of its hybrid origins is that it often reveals earthworks of early ‘dead’ railway and is handy for gridding surviving landmarks to help put old railway lines and sites into a modern context.

Another plus point is that the 10 km format can be photocopied onto A3 paper (in two halves) which is ideal for research notation.

In my view the 1:25,000 serves its purpose, but the historian needs to be aware of its limitations, then they will not be disappointed. Too many general users seem to have little insight into the whys and wherefores of OS mapping and perhaps a new edition of Oliver 1993 might address some of the basics in a more interpretative and graphic form, and rather less dismissing assorted map series ‘as of little historical value’. Or is there a case for a more ‘popular’ version of Oliver; Brian Harley’s little historical guide still has its merits.

Sorry Richard but you are wrong about the 1:25,000.

David Milbank Challis

Renumbering the Explorer series

David Purchase\(^1\) quite rightly suggests that the renumbering of the entire Explorer series is undesirable, but proposes renumbering the 33 remaining Outdoor Leisure maps, either from 51 to 83 or from 501 to 533. While this would enable their special status to be identified, it would (as with their present numbering) give no ready indication of location.

I am unaware of the suggestions made to the OS at Exeter,\(^2\) but a rather more user-friendly solution might be to give each Outdoor Leisure sheet the number of an adjacent Explorer sheet, suffixed with ‘A’. This would indicate both its status and its approximate location. Thus the present OL16 (Cheviot Hills), which falls between Explorer sheets 331 and 332, would become 331A; OL15, 22 and 29, covering the area between Purbeck and the Isle of Wight, would become 117A, 118A and 119A; and so on. The only area where this approach becomes slightly difficult to apply is the northwest, which has a profusion of contiguous Outdoor Leisure maps, but the problem is not insuperable.

Why complicate matters by renumbering the whole Explorer series, when there is such a simple solution?

Graham Bird

Boundary trees

The incomparable Oliver Rackham\(^3\) tells us that the English parish boundary system was frozen in about 1180 and that many boundaries are much older than that. Sheetlines 65 and 66 carry articles by Roger Hellyer noting the appearance of named species of tree as parish boundary markers on e.g. Explorer maps.

In general, these trees cannot be over 900 years old, so have they been systematically replanted over the years? Or, did the OS surveyors fix previously indeterminate boundaries by reference to handy rows of trees?

Chris Higley

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1 ‘Exploring the mountains’, Sheetlines 66, 41.
New maps
Jon Risby

This list covers small scale maps published between 11 March and 20 July 2003. 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 up to 30 September 2003 (in order of their proposed publication).

After the list of OS maps is a résumé of maps published by Alan Godfrey between March 2003 and July 2003.

OSGB

Landranger – new editions

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<th>Latest revision date</th>
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134 Crawley & Horsham, Cranleigh & Billingshurst B 2003 2003 - 10/06/03
135 Ashdown Forest, Royal Tunbridge Wells, East Grinstead, Hayward’s Heath & Crowborough B 2003 2003 - 06/05/03
136 High Weald, Royal Tunbridge Wells, Cranbrook, Hawkhurst & Bewl Water B 2003 2003 - 06/05/03
137 Ashford, Headcorn, Chilham & Wye B 2003 2003 - 14/05/03
138 Dover, Folkestone & Hythe B 2003 2003 - 08/05/03
145 Guildford & Farnham, Godalming & Farnborough B 2003 2003 - 10/06/03
146 Dorking, Box Hill & Reigate, Leatherhead & Caterham B 2003 2003 - 03/06/03
147 Sevenoaks & Tonbridge, Royal Tunbridge Wells & Westerham B 2003 2003 - 14/05/03
148 Maidstone & the Medway Towns B 2003 2003 - 12/05/03
149 Sittingbourne & Faversham, Isle of Sheppey B 2003 2003 - 12/05/03
150 Canterbury & the Isle of Thanet, Herne Bay, Deal & Whitstable B 2003 2003 - 03/06/03
163 Gravesend & Rochester, Hoo Peninsula B 2003 2003 - 12/05/03

Tour Map series – new publication

Oxfordshire & Berkshire A 2003 Jan 2003 Feb 2003 24/04/03

Tour Map series – new edition

Scotland 3 A 2003 Jan 2003 May 2003 12/06/03

Irish maps

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1:25,000 maps

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3 This map is technically a new publication, as it replaced the former Scotland Touring Map.
Forthcoming OSGB Maps

The following maps have been announced for publication.

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Tour Map series

- Lake District & Cumbria

Forthcoming Irish maps

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Ireland Series – new editions

- Ireland Touring Map
- Road Map Ireland
- Bord Failte Tourist Map
- New Ireland Map
### 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, [http://www.alangodfreymaps.co.uk/](http://www.alangodfreymaps.co.uk/), tel. 01207 583388, fax 01207 583399.

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</tr>
</tbody>
</table>

### England and Wales one-inch

<table>
<thead>
<tr>
<th>Number</th>
<th>County</th>
<th>Sheet number</th>
<th>Title</th>
<th>Date of map</th>
<th>Month of issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>SW Durham (includes map of West Auckland)</td>
<td></td>
<td></td>
<td>1904</td>
<td>03/03</td>
</tr>
<tr>
<td>53</td>
<td>Vale of Pickering (includes map of Slingsby)</td>
<td></td>
<td></td>
<td>1904</td>
<td>04/03</td>
</tr>
<tr>
<td>73</td>
<td>North Holderness (includes map of Aldbrough)</td>
<td></td>
<td></td>
<td>1905</td>
<td>05/03</td>
</tr>
<tr>
<td>81/82</td>
<td>South Holderness (includes map of Hedon)</td>
<td></td>
<td></td>
<td>1905</td>
<td>06/03</td>
</tr>
<tr>
<td>92/93</td>
<td>Anglesey (North) (includes map of Llanerch-y-medd)</td>
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<td>1903</td>
<td>05/03</td>
</tr>
<tr>
<td>95</td>
<td>Rhyl &amp; Colwyn Bay (includes map of Rhuddlan)</td>
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<td>1904</td>
<td>04/03</td>
</tr>
<tr>
<td>105</td>
<td>Anglesey (South) and Caernarfon (includes map of Newborough)</td>
<td></td>
<td></td>
<td>1903</td>
<td>05/03</td>
</tr>
</tbody>
</table>
An old chestnut

On 3 June, in a posting to the *ordnancemaps* discussion group, Tom Baldwin wrote:

I've just bought New Popular Edition sheet 166, *Frome*. It clearly shows the GWR Camerton / Limpley Stoke branch crossing **over** the S&JR line at Midford. Everyone and his dog knows it is the other way round – indeed, the old S&JR viaduct, with the GWR track bed **below** it, still exists. If you have any doubts, watch the opening scene of *The Titfield Thunderbolt*; an unrebuilt Bulleid Pacific thunders south across Midford viaduct while a diminutive GWR 0-4-2 emits a constipated whistle underneath. Are there other examples of the venerable Ordnance Survey getting it wrong?

Alan Bowring replied:

There was a similar instance in Cheshire on *Landranger 117*, but here the M53 was shown going under the roundabout at its junction 10 with the A5117 – rather than over it as it ought. This error (or is it deliberate?) has now moved along the same motorway to junction 12 where the A56 roundabout is again shown over the motorway on the latest edition!

He then asked whether the directions to ‘Chestnut’, shown below in the margin of *Landranger* sheet 177 B/**/** edition, 1984, were ‘error or mischief’?

Wants

Wanted for personal research: *Abstracts of the principal lines of spirit levelling in England and Wales*, 1861. Also, *The second geodetic levelling of England and Wales 1912-1922*, 1922. Lots of tempting swaps available. David Archer, The Pentre, Kerry, Newtown, Montgomeryshire SY16 4PD. Tel: 01686 670382, email: david@david-archer-maps.co.uk

I apologise for the slight delay to this edition of Sheetlines. Contributors are reminded that strict adherence to the copy dates on the back cover is essential for timely distribution – CJH.