



Sheetlines

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

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

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

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Editorial

Millennium madness?

As we approach the end of this Millennium the Ordnance Survey Explorer maps continue to fly the flag as the OS's celebration product. Firstly they have been awarded the Design Council's 'Millennium Products' accolade. These are products that The Design Council have decided are forward-thinking, innovative products and services for the twenty-first century. Secondly the Explorers are now showing the Greenwich Meridian. Of the 17 Explorers that lie along the Meridian Line all but five have now been published, and all will be published by the summer. Although it is excellent for the OS to receive the accolade of Millennium Products (Land-Line is the other Millennium Product) one wonders what will happen in the future. When these maps are reprinted in the future will the Meridian line continue to be shown? Is the OS being dragged into the general madness which seems to be surrounding the end of the Millennium? As the OS themselves said in a News Release in December 1998 "... the Prime Meridian has no real significance for mapping in Britain...". Perhaps the OS should concentrate on ensuring the Explorer maps are as accurate as they can be rather than pandering to popular fads. This is brought strongly home in an article in this edition of *Sheetlines* from Richard Evans about the portrayal of railway information on recently the published London Explorers.

On page 48 is a note from Richard Oliver about the ending of our regular list of new OS maps and editions. The Publications sub-Committee has decided that perhaps space in *Sheetlines* should be used for other purposes as the information in the list is available from other sources. If you have any views on this, or indeed any other item in *Sheetlines*, or on the OS, ancient or modern, in general, then please write to me, or email me, at the addresses on the back cover.

Finally it is with regret that I announce that Jim Cooper will no longer be able to continue as Joint Editor of *Sheetlines*, for personal reasons. In future therefore all items for inclusion should be sent to me only. I would like to take this opportunity to thank Jim for all his help and guidance over the last couple of years.

Jon Risby



The Charles Close Society's World Wide Web pages

Peter Stubbs, Webmaster

The Charles Close Society now has its own World Wide Web pages at
ourworld.compuserve.com/homepages/pstubbs/ccshome.htm

Purpose

The web pages are another way to publicize the CCS; its aims, activities and publications including *Sheetlines*, and to further the society's object of making information generally available about Ordnance Survey maps.

The Society has produced excellent publications, but the casual map user may be totally unaware that all this research has been, and is continuing to be, done. The Internet provides the ability to search for sites about almost any topic including "Ordnance Survey maps" so the pages have been submitted to a number of search engines. Altavista www.altavista.com seems to be the best, with a search for "Charles Close" finding the CCS webs pages at number 1 out of 1,313,130 sites.

Searching for "Ordnance Survey" finds the CCS pages at number 9 out of 8927 pages and searching for "Ordnance Survey maps" finds the pages at number 2 out of 1214 sites. The search-engine Askjeeves www.askjeeves.com also produces good hits. Generally searching for "Ordnance Survey" brings many references to the Ordnance Survey pages rather than the CCS pages.

The verbose descriptions on the CCS home page were an attempt to influence web search engines in the way they catalogue the pages.

Questions

The intention is that the pages themselves will point an information seeker to where they can find the answer, whether that might be a CCS publication, or to an organization such as the Ordnance Survey, or to a library.

The email address on the site is mine and I have received some questions. One question was from a new member on the availability of the last one-inch Seventh Series Sheet 137, *Lowestoft*; he was directed to the CCS publications manager. Another was from a non-member asking for information on trig points; he was directed to the Ordnance Survey and their web site.

Currently the pages contain

- Details and objectives of the Charles Close Society;
- A short biography of Charles Close;
- Membership details and how to join the Society;
- A list of all of the Charles Close Society publications:

In print and out of print publications are listed. The in print publications can be ordered from the Publications manager and will produce income for the Society;

Out of print publications should be available in libraries and if enough interest is shown there exists the possibility for them to be re-published;

- The contents of the current and back copies of *Sheetlines*;
- Links to other sites:

There are a few links to other sites and this can be expanded considerably. There is a link to the Ordnance Survey pages and they have a link back to the CCS pages although it is rather obscurely placed at the end of a page on OS history.

Enhancements

I consider that the pages need more images of maps in particular and that is something I intend to add. Web pages are not static and can be changed very quickly so if you have something you think should be on the pages, ideas for extra pages, or if you spot any mistakes please let me know.

Thanks

I would like to thank Nigel James, of the Bodleian Library Oxford, who originally designed the web pages.

CCS visit to Ordnance Survey, 26 November 1998

John Streeter

On a very overcast day in Southampton twelve intrepid Society members gathered from far and wide at OS HQ. For many it was a first visit to the focal point of map making in the UK. Gerry Jarvis had arranged a very full and interesting visit and we were ably guided throughout the day by Phil Aldridge, and his colleague the Exhibition Centre Manager.

After a general introduction to the OS by Phil we were given an outline of the development, format and objectives of the new Outdoor Leisure series by Rick Morris the manager of the Outdoor Leisure, Explorer and Pathfinder Series. We then visited the section where the maps were being produced and engaged in a spirited discussion about aspects of the format and content of these maps. In particular, several members expressed doubts about the usefulness of double sided maps, especially for walkers and climbers, and questioned the technical feasibility of including an 'overlap' of 1km or so if for commercial reasons double sided maps were considered an unavoidable necessity.

The party then split into groups to observe various workstations with paired VDUs displaying raster and vector displays of identical survey areas. The staff, very patiently, explained the use of multiple files, each one containing data on specific elements of the final map, to build up layers of graphical detail and the method of updating files with information directly from the field surveyors digital notepads. Thus a map initially comprises 12 files, each holding data on individual items representing particular 'bits' of information for example; 'water detail, names and tint', 'contours, values, air heights and sand', 'boundary symbols', 'outline detail and house fills', etc. and these are further combined into 4 composite files in black, cyan yellow and magenta colour ways.

After lunch we were given a fascinating and very well illustrated talk by John Bryant about the scope and structure of the National Topographic Database, completed in 1995 and now called 'Land-line Data' together with the commercial, social and educational uses to which it is being put and its potential, including the development of 'three dimensional virtual images' of topography which can be generated from two dimensional survey data.

We then visited the printing shop and saw the newly installed high speed press which is at present being brought into service with runs of some 8,000 sheets per hour but is apparently capable of 14,000 sheets per hour (by comparison with the existing press with a speed of some 6,000 sheets per hour). We were able to observe the whole range of processes involved in the production of 'traditional' printed maps - from the preparation of printing plates, the printing of sheets and covers, their cutting, folding and assembly into the final folded maps ready for dispatch to the retail outlets. Much interest was shown in the 'almost antique' paper assessment machine which is used to ensure the quality of each batch of paper is maintained to the OS's specification. It works simply, by cyclically folding and unfolding small sample strips of paper until they break, and recording the number of cycles achieved before failing. Apparently the paper should survive at least 600 cycles before failure to meet the required standard. Here, as elsewhere during the visit, the staff were ready and willing to enthusiastically answer all our questions, however obscure they may have thought some of them!

The Exhibition Centre was our base during the day and venue for the introductory talks. At intervals during the day and at the end of our visit we were able to browse through the singular collection of historical exhibits illustrating the origins and development of the OS. This archive material is well worth a visit in its own right and includes all manner of artefacts related to the development of survey methods and the processes for transcribing the information onto paper, from the origins of the service to the present day. Included are some of the 'legendary' surveying instruments with personal items and records of the far sighted individuals without whom the accuracy, reliability and comprehensiveness of OS maps could not have evolved.

Apart from the usual shortage of time to ask more questions and browse for longer over the exhibits on display, our only regret was that the 'part-time' visitor shop could not be staffed during our visit. I suspect the OS's financial IOSs on this occasion was considerable. Given the exceptional enthusiasm of CCS members as potential purchasers for all things OS, and despite our small numbers, we would probably have cleared most of their stock.

Gerry and the staff of the OS are to be congratulated on a well organised and very informative day, especially for those members, such as myself, who were previously unfamiliar with all the 'mechanics' of map production and the scope and scale of national and international work now being undertaken by the Survey, particularly in the development of GIS, GPS and other uses for digital map data.



RGS/OS Education Consultative Committee

Gerry Jarvis

The latest meeting was held on 13 November 1998, and a precis of papers presented appears below.

Members are reminded that these papers and other information are published on the Internet at: www.ordsvy.gov.uk

Copies are also available direct from the Ordnance Survey by contacting:

Consultative Committee Liaison
Room 632
Ordnance Survey
Romsey Road
Southampton SO16 4GU
Tel. 01703 792545 Fax 01703 792039

Papers presented in November were as follows:

Consultation paper 2/1998 Names Policy
Information paper 8/1998 New pricing structure for Land-Line
Information paper 9/1998 Ordnance Survey and the new Competition Bill
Information paper 10/1998 Year 2000 compliance
Information paper 11/1998 Ordnance Survey in the information age - an update on developments
Information paper 12/1998 Global Positioning System and mapping in the twentieth century
Information paper 13/1998 Historical Maps and Map data - an update
Information paper 14/1998 Feedback on responses to consultation paper 1/1998
Information paper 15/1998 Trading Fund update
Information paper 16/1998 Miscellaneous items of interest
Information paper 17/1998 Promotional events - November 1998 to March 1999
Information paper 18/1998 The National Interest Mapping Service Agreement [NIMSA]

A cycling map

Christopher Romyn

I have been very interested in recent articles and comment on cycling maps, especially "Ordnance Survey maps for the cycle-tourist" by Richard Oliver in *Sheetlines* 51. When cycling in areas that I am not familiar with I put the map in a "map-trap" which is attached to the handlebars. Because glasses perched on the end of my nose are now a requirement if I am to follow the route I would favour the larger scale of 1:100,000 rather than 1:125,000. Clarity with completeness must be the guiding principle for cycling maps. That is to say that all minor roads outside built up areas should be shown; Goldeneye, please note.

I have recently purchased a cycling map of Herefordshire which I believe answers the needs of the cycle-tourist and is a fine example of what could be achieved over the whole country. It is based on Ordnance Survey material and the scale is 1:100,000. The Sheet measures 580mm x 413mm (A2) and is printed on both sides, Herefordshire South and North with generous overlap. It is printed on water and tear resistant material and comes folded with a guide. Grid numbers are shown but the lines are omitted.

Main roads, including motorways, are shown in red but roundabouts are not shown on the main map. Railways are depicted as thin line and crossbar. Contours are at 30m intervals and both gradient arrows and spot heights are included. Every available space is used and there are town inlays and a chart giving a numbered cycle network which includes distance, amount of climbing in metres and even a climbing ratio of metres per kilometre.

Woodland with access is in green with an initial F, N or W showing whether it is Forestry Commission, National Trust or Woodland Trust/other moor or common. No purple plague here.

Symbols are used for, amongst others, tourist information, car park, cycle facility (bike shop), pub and hotel, cafe and restaurant, telephone, shop, supermarket (a bit difficult to spot this one as it is a spindly outlined S), castle, museum, campsite, toilets and churches. Cycle paths, tracks, paths and bridleways are all shown. One also comes across underlined words such as Cheesemaking or Pig Pen which come under the heading of tourist interest.

Despite all this information the map does not appear cluttered and compared to my most recent OS purchase, Sheet 188 B3 it is a model of clarity. Of course Kent is not Herefordshire and the comparison is disingenuous.

The map is a praiseworthy piece of private enterprise and I believe that the print run is 1,500. It has been reviewed in the CTC's Cycle Touring and Campaigning magazine by Tim Hughes. It is the work of Mike Harrison and is available from the Cycle Users Group, 72 Park Street, Hereford, HR1 2RE at a cost of £6.50.

From the Inverness Advertiser, 9 August 1864

Height of Ben Macdhui and Cairngorm

A new measurement of Ben Macdhui and other mountains of the Cairngorm group has just been made by the Royal Engineers presently engaged upon part of the Ordnance Survey of Scotland. Ben Macdhui which was formerly supposed to be 4390 ft in height is now set at nearly 100 feet less than that, viz. 4296. Some years since, Ben Macdhui was supposed to be seventeen feet higher than Ben Nevis, the height of which was then put down at 4373 feet. Ben Macdhui was therefore at that time authoritatively stated to be the highest mountain in Britain. Since then, however, the tables have taken a turn, and Ben Nevis would now appear to be by far the higher of the two. The Ordnance Survey of Ben Nevis, so far as we are aware has not been made, but taking its height at the old measurement of 4373 feet, and Ben Macdhui at its newly ascertained height, viz. 4296 feet, Ben Nevis appears by this calculation to be nearly seventy-seven feet higher than the highest of the Grampian range. The difference is still greater in favour of Ben Nevis, if we accept its height as being 4406, as marked in a map lately published by Messrs. Chambers in Milners Gallery of Geography. Braeriach is set down in the New Survey at 4248. Cairntoul, which was formerly believed to be at 4245 feet in height, is now taken down five feet and made 4240. The height of Benabour is 3923 feet.

Bill Batchelor

Some recent maps from Ireland

Richard Oliver

With the publication at the turn of 1998-9 of sheets 32-35 and 39-41, and of the 'first edition' of Sheet 54, the 1:50,000 mapping of Ireland is now complete. It appears to have been conceived originally in the mid 1960s as a 96-sheet series, but Sheet lines have been subject to rearrangement, and by the time that the first Sheet to be published by the Ordnance Survey of Ireland (OSI) appeared, about ten years ago, the total number projected had been reduced to 89. The eighteen sheets which were the responsibility of the Ordnance Survey of Northern Ireland (OSNI) were first published between 1978 and 1985. They replaced the one-inch (1:63,360) Third Series, first published in 1960-64, which is chronologically roughly equivalent to the 1:63,360 Seventh Series of the Ordnance Survey of Great Britain (OSGB), but which derived ultimately from copper plates first engraved between 1854 and 1862. That in itself would have ensured a distinctive look; and there was further distinction in that the maps had hypsometric ('layer') tinting. These influences perhaps explain why the 1:50,000 cover of Northern Ireland, although contemporary with the OSGB 1:50,000 Second Series (1974-88), differs from it in two notable respects: the OSGB map is not layered,¹ and is lettered wholly in Univers. The Northern Irish map is layered, except that in wooded areas the layers are omitted in favour of a flat green wash for woods, and the lettering is a mixture of Univers and of Times Roman and Gill Sans; the two latter were used on the OSGB 1:63,360 Seventh Series and 1:50,000 First Series, and the OSNI 1:50,000 looks like an attempt to amalgamate British 1:63,360 and 1:50,000 practice. The result has never seemed to me entirely happy, perhaps subconsciously because, unlike the mix of Times Roman and Gill Sans on the Seventh Series, it has not been applied in a completely hierarchical manner to settlement names: Times Roman is used for larger towns and for townland names and Univers for small towns, villages and minor place names.² More interesting is the use of distinctive lettering - upper case italic Gill Sans - for names of hills and mountains; this is presumably a reflection of the use of a distinctive sans-serif ('Egyptian') writing for the same purpose on the engraved mapping of both Ireland and Scotland; that it was never used on published mapping of England and Wales is probably as much due to considerations of continuity and consistency as to utility.³ The maps were originally titled 'First Series', but reprints have appeared as 'Discoverer Series'.⁴ In 1993 a nineteenth sheet, 36A was published, extending well into County Louth, and sheets 35A and 34A appear to the west on some index diagrams; it is generally understood that 36A had military origins, and this presumably explains 34A and 35A, which were never published. 36A is not expected to be reprinted once stocks are exhausted.⁵

¹ An experimental layered version of OSGB 1:50,000 Sheet 42 was printed in 1981. The kindest thing to say about it is that its obscurity is just as well for OSGB's reputation.

² It is possible that this is a purely subjective comment, the result of conditioning by OSGB practice.

³ The style does appear on an unpublished incomplete re-engraving of 1:63,360 Old Series Sheet 10, datable to the late 1850s: see Richard Oliver, 'New light on the New Series', *Sheetlines* 12 (1985), 7-11: a copy of this map has since been located in Public Record Office class WO 78.

⁴ With the exception of the 1987 reprint of Sheet 29, which is still 'First Series' (information from John Taylor and Roger Hellyer).

⁵ Sundry verbal information.

It had long been understood that the 1:50,000 of Northern Ireland was being produced to a joint Belfast-Dublin specification, but continuity and consistency did not appear to be much in evidence when the first OSI 1:50,000 sheet, 78 *Kenmare*, reached Britain early in 1990. It was perhaps the most revolutionary map of its type ever to be offered for sale in these islands: one hopes, not unkindly, that it is now a collector's item. It was produced entirely by digital means and made no secret of the fact: everything was reduced to lines and elementary symbols and patterns. There was no layering; roads were uncased; and only one uncompromisingly computerised style of lettering was used.⁶ By 1993 eight other '1st Series' sheets⁷ had appeared, some titled 'The Rambler Series', of the same school of design, though with various modifications, including the substitution of flat yellow for black hatching for town infills, and flat green for green hatching for woodland, and many more minor place-names. Sheet 54, *The Slieve Blooms*, was notable in that there was an alternative version printed with a satellite map of approximately the same area on the reverse. Though these marked a small move in the direction of cartographic orthodoxy, they still represented a very different type of map from that which covered either Northern Ireland or Great Britain, even if one discounts the showing of cased roads in those portions of Northern Ireland which fell on these maps.

A much greater move towards orthodoxy came in 1993 with the start of publication of the Discovery Series by OSI. The maps were layered and had cased roads, and relatively conventional typography. However, they were still not obviously completely compatible with the OSNI maps: apart from stylistic differences, such as the imaginative use of synthetic grey for hill names, red for antiquities, grey (instead of red-orange) for building infills,⁸ and open green symbols instead of green wash for woodland, there were some differences of substance: the OSI maps included railway mileages,⁹ but excluded railway earthworks, they had one class of church instead of three, they distinguished both fossil and hydro power stations,¹⁰ and they omitted minor details such as milestones. (A difference of style, but a similarity of substance, was the use of a very subtle synthetic grey for names of hills.) With a few further small modifications, it was in this style that OSI published and republished their 1:50,000 sheets.

At the turn of 1998-9, just as the last sheets were appearing to complete cover of Ireland as a whole, so there was a new and very interesting development from OSNI. 1:50,000 Discoverer Sheet 8 was republished, as 'B Edition', derived from digital data; Sheet 9 has since been republished similarly, and it is intended that the other sixteen Discoverer maps will be similarly republished by the end of 2001.¹¹ In effect it is a completely redrawn and substantially redesigned map which goes a long way towards consistency with the OSI sheets: individual buildings are shown by small black rectangles, larger groups of buildings by synthetic grey, and woods by open green symbols. Antiquities are now named in red,

⁶ The map can perhaps be interpreted as a digital equivalent of the 'Preliminary Plots' of which a great number were produced in the late 1940s and 1950s by the then Directorate of Colonial Surveys (later Directorate of Overseas Surveys).

⁷ Published as '1st Series': 6, 54, 56, 71, 78, 79; Published as '1st Series', 'The Rambler Series': 16, 25, 70; Republished as 'The Rambler Series' (with no reference to 1st Series): 78, on new Sheet lines.

⁸ Except on the Northern Irish portions of earlier sheets.

⁹ At the request of Irish Rail: information from OSI, via John Taylor.

¹⁰ This distinction was first introduced by OSI on their 1:126,720 and 1:250,000 maps *circa* 1963.

¹¹ Information from OSNI, via John Taylor.

though, unlike on the OSI sheets, the symbols are still in black; on their early 1:50,000 sheets OSNI tried a sort of ‘Olde Iryshe’ lettering which was not very effective, and on the later ones gothic lettering, which was both distinctive and culturally questionable. The present solution seems far the best. Tourist symbols are mostly in a deep purple, rather than the red, green and blue used by OSI, and schools and other public buildings are in red which, given the educational possibilities of maps, is an inspiration, and should reduce school age eyestrain.¹² Although the pattern of serif and sans serif lettering is similar to the analogue predecessor, on the new map it is far better integrated.

The substantial content of the new mapping is very similar to the old, including the retention of railway earthworks and of the classification of churches by steeples. The edges of built-up areas are somewhat more generalised than before (though not as generalised as on the OSI sheets): it remains to be seen whether this disadvantage is real or only apparent. (I suspect the latter, given the much greater degree of building generalisation practised first by OSGB and then by OSNI from c.1950 onwards, which has already reduced whatever resemblance there might once have been at 1:63,360 and 1:50,000 to detailed building morphology.) A more substantial and definite reduction in information is the omission of bridges over and under roads, railways and rivers; admittedly this is already the practice on the OSI sheets, but they indicate underbridge clearances. All the same, this makes the photograph of a bridge (location unidentified) on the cover of Sheet 8 decidedly ironic. Although it could be argued that a bridge over or under a railway is implicit where there is no indication of a level crossing, it is still useful as a clarification, particularly as a map is never so legible in a moving vehicle as when stationary. A difficulty with water crossings is that neither the analogue OSNI nor the digital OSI 1:50,000s have distinguished fords, so a bridge cannot be assumed by default when a road encounters a stream. Or are there no fords in Ireland? The lack of road bridges creates a misleading impression at places on both Sheets 8 (at D 085867) and 9 (at D 402024).

The whole legend (which occupies the right-hand side of the map) is now given in French and German as well as in English, except for the grid working instructions, which are placed, rather oddly, between the sections of the legend dealing with communications and ‘general features’. There is now a hinged card cover, instead of an integral one, with a design that seems to have taken the OSI (integral) cover design as its starting point; the map is folded 9 x 4 rather than 8 x 4, and, measuring 115 x 177 mm as compared with 125 x 168 mm folded, is better suited to the pocket. (Unlike the OSI and the analogue OSNI 1:50,000s, the locations of the cover photographs are not stated, which seems remiss.) Although the pattern of serif and sans serif lettering is similar to the analogue predecessor, on the new map it is far better integrated.

The one intellectual blemish of these map is the lack of any compilation data, other than an unintelligent statement that they have been compiled from vector data; the thoughtful map user is left in the dark as to how up to date or otherwise the content of the map may be, and whether the strong resemblance to the sheets 8 and 9 of 1980 and 1978 respectively is a reflection of a comparative lack of change on the ground, or of a lack of thorough updating. A topographic map without proper dating of its sources is ultimately meaningless. That is a

¹² Perhaps the writer should confess that his own school only became large enough to qualify for distinct depiction on the OSGB 1:50,000 (on Sheet 113, at TF 114887) after he left it in 1973!

hard comment, but the beautiful execution of these maps deserves better. The OSI sheets acknowledge being based on aerial photography at 1:30,000 of 1973 or at 1:40,000 of 1995, though it is curious that, of the earlier sheets which were derived from the 1973 photos, most lack a subsequent revision date, including some republished sheets on which this information was initially given.¹³ But this is still superior to the complete lack of information from OSNI.

For the past five years the emerging sheets of the OSI 1:50,000 Discovery series have been providing an interesting comparison with the OSGB 1:50,000 Landranger; whatever reservations one might have had about the details of design, the OSI map has had the advantage in terms of execution and finish. The OSNI newcomer is even more beautifully finished than its OSI companions and, without wishing to be offensive, a comparison of the two makes the OSGB 1:50,000 (and the 1:25,000s, come to that) look scruffy, stale and second-rate.¹⁴

‘Could it happen here?’ Both OSI and OSNI have the advantage of depicting a landscape that is mostly far less developed and, apparently, far less laden with invisible attributes (for want of a better phrase) than does OSGB. Some idea of what a layered OSGB 1:50,000 might look like is provided by those 1:63,360 tourist maps which are derived from 1:50,000 material, of which a good exemplar is *Yorkshire Dales*; this has recently been republished, now without layers, but with ground-tinting, and retaining hill-shading.¹⁵ Terrain and settlement have an openness comparable with Ireland, yet the map appears cluttered, even when allowing for the difference of scale (which can be compensated for by judicious viewing distance): the eye is struck by a yellow National Park boundary, red highlighted ‘Selected places of tourist interest’, red long distance footpaths and public rights of way, splashes of green for woods, and, the *sine qua non* of an OSGB map, purple bands for ‘access land’. Much as one may dislike most of these, it is hard to see how they could be got rid of, and it is simplistic to suggest that the ‘Discoverer’ style could be imported by OSGB without drastic modifications, much in the same way that, under present conditions, a suitably modernised version of the OSGB 1:63,360 Fifth (Relief) Edition specification could not be used as it stood.

It remains to be seen whether the republication of the Discoverers by OSNI will be accompanied by further development of the Discovery Series by OSI, who have recently dropped the ‘of’ from their name, and adopted a distinctive new logo, with ‘OS’ in white and ‘i’ in what looks like shooting star in orange, on a dark blue ground. The change came just too late to be incorporated on any of the Discovery maps, but it appears on a new issue of the Cork street map. I reviewed the Sixth Edition of this 1:15,000 scale map when it was published about four years ago;¹⁶ the latest version is described as ‘1st Edition’ on the map

¹³ For example, Sheet 70, which in its original ‘1st Series’ issue in 1992 was stated to be compiled from 1973 photography and revised in 1990-1, but which in its Discovery Series republication of 1994 has no specific mention of post-1973 revision.

¹⁴ Let me add in justice to the OSGB printing staff that the ‘stale’ image of the British 1:50,000 and 1:25,000 maps is a relative term, and that the fundamental fault is with the base material: scanned analogue mapping. It has been suggested by a well-known critic of the OS, on the staff of a rival official map production agency, that the fault lies with the use by OSGB of scanning at 400 rather than 1200 dots per inch, but I am rather more inclined to believe that the fault lies with the photomechanical duplication method that was an inherent part of the OSGB analogue map revision process.

¹⁵ *Yorkshire Dales* (Touring map 6), edition B, Southampton, Ordnance Survey, 1998. For a review of this map as first published in 1992, see Richard Oliver, ‘As they are and as they ought to be’, *Sheetlines* 34 (1992), 48-60, esp. 53-7.

¹⁶ See *Sheetlines* 42 (1995), 50-1.

and as ‘New 1st Edition’ on the cover. I see that in my earlier review I expressed some doubt as to whether the Sixth Edition was analogue or digital; this new ‘1st Edition’ suggests the latter. The colour scheme has been extensively reworked, with completely redesigned and very individual-looking tourist symbols, and the general look of the map is more in line with the OSNI ‘house style’ which has evolved in recent years, and which is well expressed by the relationship of the new 1:250,000 Holiday Maps to the 1:50,000 Discovery Series, such as the bled-off green stipple margin. Whereas the Sixth Edition had delicate shades of orange and brown for road and building infills and for ground tinting (extended into the margin and bled off), its successor has much bolder colours, including synthetic grey for building infills, and whilst there may be some small loss of delicacy, there is a considerable gain in legibility. There is also a gain in mapped area, as the new map extends 1 km further south to include the airport. I gather that the other OSI street maps are in the process of being republished in a similar style.¹⁷

I see that in my earlier review I drew attention to three defects. One was to the grid, for which values were given only at the Sheet corners, with the intention that alpha-numeric referencing be used. The grid lines are now at 500 instead of 1000 metres interval, but are not numbered at all!! The second was to the cumbersome 8 x 3 semi-Bender folding; this has now been rectified, and a 4 x 7 cross-Bender with hinged cover adopted instead. Although it is a similar size to the 1:250,000 Holiday Maps, folding to 112 x 260 cm, and thus rather large for the pocket, it is still a great improvement. The third complaint was about the method of gumming the street index booklet to the map, being ‘liable to flap open and make a nuisance of itself at the least provocation’; the index is now glued inside the cover and tamed.

A whole article might be written on eccentric map folds employed by both Surveys in Ireland: a strong contender for the worst of the lot is a 1:250,000 map which is hardly new, being dated 1988, but which is probably very little known outside Ireland. That is *Eire Thuaidh*, published by OSNI, and described on the cover as ‘A cultural map and gazetteer of Irish place-names’. The gazetteer is pasted inside the cover, and is wide enough to make opening the 8 x 3 semi-Bender map awkward, added to which the hinged cover is glued to the middle and bottom folds: real folding sadism. If you are prepared to tackle this obstacle course, you will find inside an interesting map, in essence Sheet 1 of the Holiday Map, originally published in 1980, with the tourist information omitted, and most names (‘about 450’, the cover claims) printed in both Irish and English forms: the former are the more prominent. Bilingual names are of course a prominent feature of the OSI 1:50,000 and 1:250,000 mapping, and it may be asked why the OSNI mapping could not be treated similarly. There are three possible objections. The first is essentially a technical and aesthetic one: bilingual names take up more space on a map, and are liable to add clutter. The second is that some of the inhabitants of Northern Ireland are not enthusiastic about certain Gaelic things, and are liable to make their feelings felt in no uncertain manner. A third, less dramatic, and therefore probably closer to the truth, is that the Irish language is not widely used in the Six Counties, and there is no Northern Irish equivalent of the Welsh Language Act: putting Irish forms of names on the map would be little more justified than adding, say, Domesday Book, or even early nineteenth century, place-name forms to OSGB standard

¹⁷ Information from Paul Ferguson.

topographic mapping. Support for this comes from a Disclaimer at the start of the Gazetteer: ‘The purpose of this Map and Gazetteer is to provide Irish forms of common place-names and it should not be taken as implying legal validity in the use of any particular form of place-name.’

Eire Thuaidh may not be the most commonly encountered OSNI map - the apparent lack of an ISBN can hardly help sales - but at least it is available.¹⁸ That is more than can be said for the 1:100,000 mapping of Ireland, the story of which has taken an odd turn. It may be recalled that the publication of a 1:100,000, derived from the 1:50,000, has long been both OSI and OSNI policy, that a 1:100,000 of Northern Ireland, in four sheets, was announced as imminent by OSNI in the mid 1990s,¹⁹ and that Sheet 4 was actually printed, though not released for sale: a description of the map appeared in *Sheetlines* 49.²⁰ Sections of it, trimmed to 10 cm square, are now appearing on sale as GeoStationery pads. Whilst there are cases of whole runs of maps being withdrawn because of some defect and then reprinted, with the defective stock suitably recycled, it must be a unique distinction for the entire stock of a map to be treated in this manner.

¹⁸ At present (March 1999) for £4:00, though I understand that the price may rise a little later in the year.

¹⁹ See e.g. *The Ordnance Survey*, [Dublin, OSI], 1989, 8; *Ordnance Survey Annual Report 1992*, Dublin, OSI, 1993, 26; *Ordnance Survey of Northern Ireland Maps & Services Catalogue 1995*, Belfast, OSNI, 1994; *ibid.*, 1995, 8; *ibid.*, 1996, 8.

²⁰ Richard Oliver, ‘Cartographic discoveries’, *Sheetlines* 49 (1997), 14-24, esp. 21-2.

The Mickleton Project - comparative map interpretation of a rural landscape 1820 - 1998 using Ordnance Survey maps

Alan Leather

This investigation was undertaken to help students answer map interpretation questions dealing with landscape development, arising in their own projects. An important part of the objective was to make students aware of the broad range of data obtainable from OS maps and of knowing the breadth of time-scale the information represented.

In researching an historic landscape the map is one of many tools. Sometimes the researcher comes up with an interpretation that is logical, given the data available but turns out to be incorrect. The Mickleton Project was set up to compare map data from each separate available Sheet of the one-inch and six-inch series of OS maps covering a specific site. The investigation assesses and evaluates interpreted map data, using map analysis and interpretation techniques, without reference to the earlier or later sheet, then compares the results. A few of the earlier sheets were unobtainable, not unusual for rural areas. Information was also gathered from the two-and-half-inch sheets and aerial photographs in order to give the broadest possible range of cross-reference data.

The site chosen was Mickleton, Gloucestershire (SP1643) within its nineteenth century parish boundary. The area of study thus covered part of the Vale of Evesham and the Cotswold escarpment, approximately 1540 hectares (3800 acres).

The periods represented by the sheets are as follows:

One-inch sheets	Survey/Revision dates	1812-28	1915	1936	1949
	Publication dates	1828	1919	1946	1953
1:50,000 sheets	Survey/Revision dates	1965	1977	1991	1997
	Publication dates	1974	1984	1992	1997
Six-inch sheets	Survey/Revision dates	1883	1903	1921	1950
	Publication dates	1885	1903	1924	1955
1:10,000 sheets	Survey/Revision dates	1969			
	Publication dates	1972			

A huge amount of data was collected from many sources to give a picture of the landscape over a much longer period than required for the project. Site visits were made regularly during a period of eight years and the villagers helped with questionnaires, old photographs and local history.

The data from map interpretation was tabulated into 'like' elements and then plotted onto a base map dealing with that type of information. The following separate elements were plotted - woodland and coppice, orchards, field boundaries; roads, tracks, bridleways and footpaths; farms, buildings, habitations and isolated barns. Additional features such as the railway, power lines, reservoirs etc., were plotted onto the base maps as they became a permanent part of the landscape. The base map was marked to show losses and gains of elements and eventually became a set of maps illustrating an historical sequence of those elements, according to the published maps.

The requirements of an outline base map was carefully considered. A trial using a much reduced and redrawn OS 1:10,000 scale (advantage of 5m vertical interval contours) was only partially successful due to the large reduction required and the resultant difficulty of redrawing old field patterns to overlay the modern. It was found simpler to redraw the Tithe Schedule map of 1840, although not OS mapping, was of good quality draughtsmanship and in outline form. Computer scanning and enhancement were used as an intermediate step in base map production. For changes in village detail, a 'cleaned' reduced copy of the 1903 1:2500 scale Sheet was used. 'Cleaning' entailed removing all lettering and conventional signs using Scangal computer programme, leaving roads, parcel boundaries, habitations buildings etc., enabling additional detail to be added and obsolete detail to be removed without losing clarity. [Fig. 1]

A field numbered copy of this map was used for parcel reference - the Tithe Schedule numbers were used in any referral to changing field boundaries. In this instance, it was not found to be too much of a problem as relatively few fields, over the whole site, had become too large in area to reference. We had the choice of Tithe, County Series and National Grid Series parcel numbering systems. It was found to be more convenient to stick to one system.

In dealing with various editions of the one-inch and six-inch scales, care was taken to make sure that conventional signs for that particular Sheet were understood. Care was also taken in using contours to plot sections or simply to analyse the topography of the site. Contours on OS sheets were derived from both surveying and sketching, the former being of greater accuracy. The 1:10,000 scale (1972) depicts contours surveyed in 1970, these were used as a standard reference for previously published contours. [Fig. 2].

The project not only gave an insight into practical use of the maps available during the nineteenth and early twentieth centuries, but illustrated the sort of information that could be gleaned from them at those times. It was interesting to note the importance of milestones (and the curious need to know the distance in miles to London); the need to know detailed watering places - human, equine and livestock; on the 'Old Series' sheets the turnpikes and turnpike mileages, windmills, water-mills etc.; the gradual change in character of conventional signs and loss of different 'writing' styles and sizes, sometimes brought about by the change in printing methods and origination; the introduction of reference grids and their development. It was also of interest to note the changing boundaries of the county at this north-eastern extremity of Gloucestershire due to the changing pattern of administration and social need.

The advantage of the one-inch series is the scale allows the whole site to be compared with neighbouring villages, parishes etc., and its position assessed in the wider landscape. The 'Old Series' described an early nineteenth century landscape based on a self-reliant rural life. Travellers using the Sheet could clearly see the relief (hachuring) and the hazards such as river crossings, fords, turnpike gates, woodland and heathland. The landscape was described in graphic detail - giving a suggestion of a precise sketch of that time. Where the land became steep detail was often obscured by the hachuring. This map precedes the Tithe Schedule map by about ten years and makes an interesting comparison.

Another advantage to the scale is the abundance of publication dates, surveys and revisions. Information which has come and gone between the six-inch revisions is shown on the one-inch. For example Mickleton Halt on the Worcester to Oxford railway - it appears

Examples of 'cleaning' (see text)

Six-inch sheet – Glou.VII.NE (Worc.L.NE) dated 1885 marked 2nd edition without contours

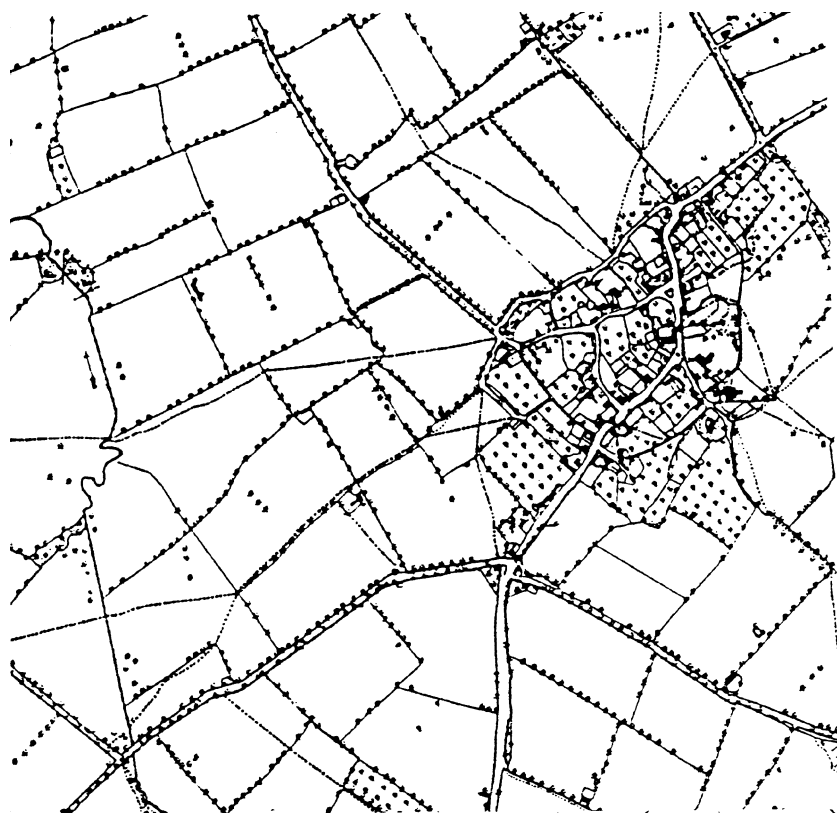
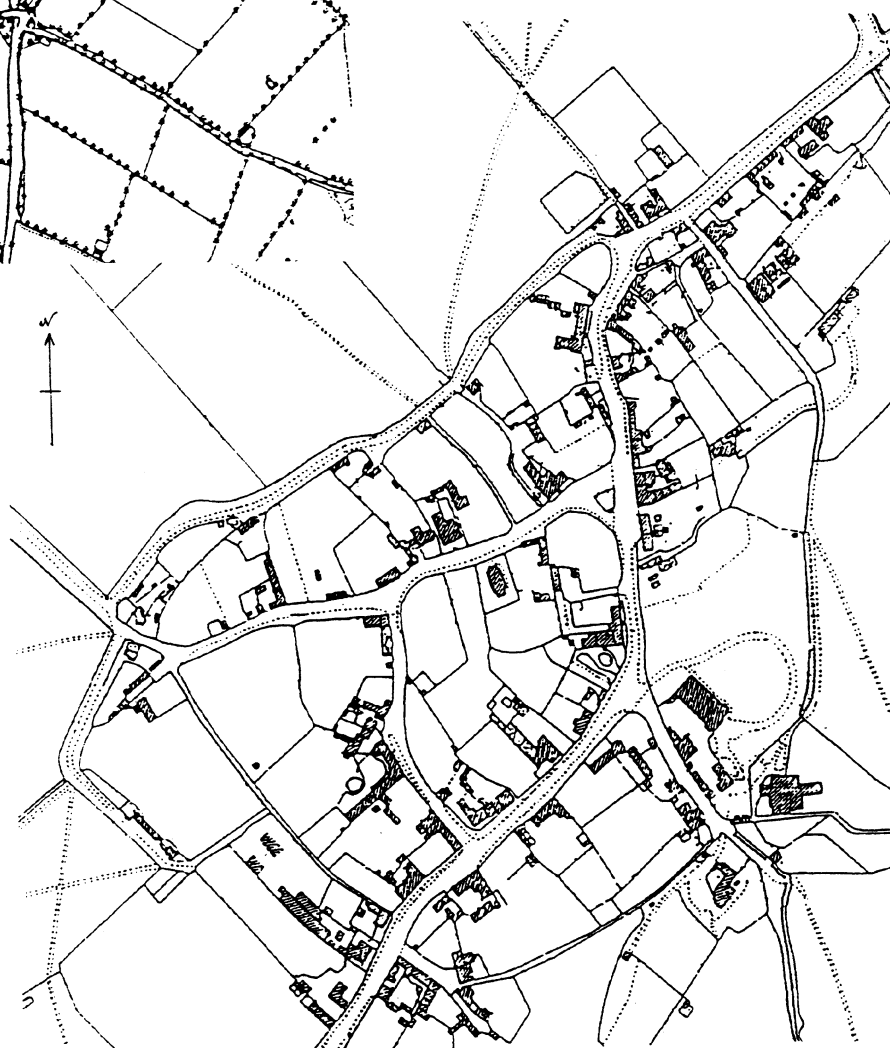


Figure 1



1/2500 plan – Glou.VII.NE.4 dated 1904

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Comparison of contour plots – Mickleton village.

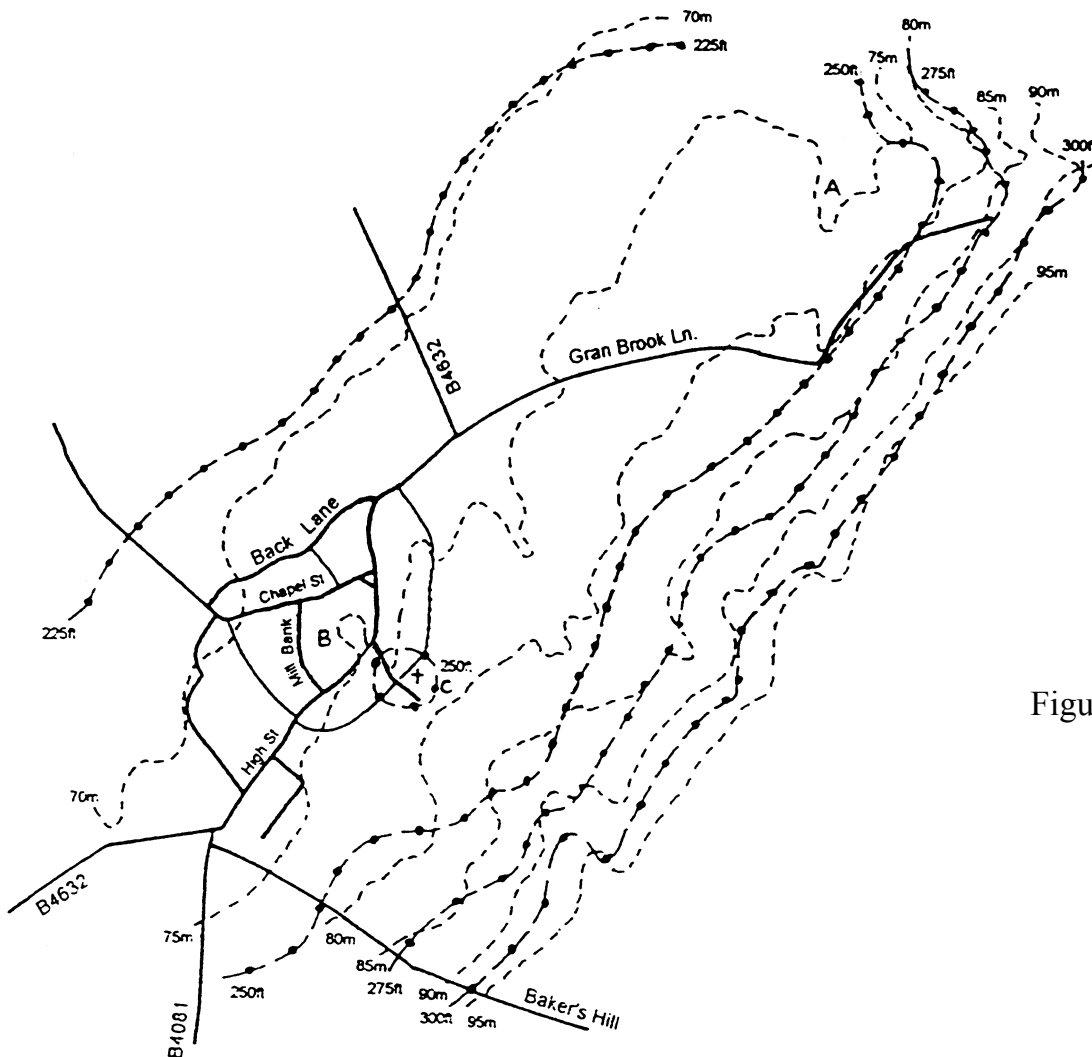


Figure 2

- Derived from contours 1/10,000 scale sheet SP14 SE, contours surveyed 1970
 —•— Derived from contours 1/25,000 scale sheet 42/14, pre-1939 survey.

This section of the site illustrates the confusing data when contours of different scales and derivation are compared. The vertical interval on the older is 7.6m and 5m on the more recent.

It will be seen the contours in feet miss Gran Brook's course (A) completely as its site here falls within the vertical interval. For the same reason the historically important brow and hillock within the village (B) is not recorded. The 250ft plot at (C) is an anomaly, it may be a misplacement for (B) or simply an error. This is the course of a stream, now in a culvert, that once flowed along High St. and Chapel Street.

For comparison the following conversions: 225ft = 68m 250ft = 76m.
 275ft = 84m 300ft = 91m.

It can be appreciated any section passing up the slope through the centre of the village based on the earlier contours would give a different result from the 1970 survey.

only on the New Popular edition of 1946. It was opened in 1938, closed in 1948, and finally removed in 1955. The six-inch 1924 Sheet was too early and 1955 too late. Another item of information only occurring on the same New Popular edition was Nineveh Farm, which became a Youth Hostel in 1931 and closed in 1948.

The six-inch map derived from the 1:2500 scale survey, has all the advantages of fine detail and space. The site was contained on five quarter sheets of the 1:10,560 scale and on three 1:10,000 scale sheets. The growth of the village, as in many rural communities, was slow over the publication period of the sheets (there were four editions of the County Series and one of the 1:10,000 series). The greatest difference between the six-inch and 1:10,000 scale from the point of view of interpretation, is the use of conventionalised buildings on the latter, especially within the village. This detail is of course readily available on the 1:2500 plans but would mean sets of eleven sheets of each publication, with further difficulty of finding copies of the earlier sheets. The cost would also be prohibitive, especially in using the last published plans and the digitalised version (Land-Line/Superplan), for such an area.

In comparing the interpretation data from one edition with another and from one scale to another, there are questions which arise that have their answers elsewhere. The surveyor is an observer as well as map maker. He can only record that which he observes. There appear from the investigation four problems which require clarification from other sources. The first, already mentioned, is when an important feature fails to be recorded because it comes and goes between editions (Mickleton Halt). This is frustrating for the landscape and local historian.

The second is the situation where the question asked is what happened to a specific feature on the map and no answer is forthcoming. Glebe Farm appears as a 'named' feature, on the six-inch (and 1:2500) and then subsequently 'named' on the one-inch, then completely disappears from all scales. No one in the village has any recollection of the farm although it is within three fields of Back Lane. It is also not shown or referred to in the Tithe Schedule (1840), nor is any building shown on that particular site on the accompanying map. No field marks appear on the 1946 or 1981 aerial photographs of the site.

The third ambiguity is that of the council houses. The question asked here is why were they so late in being recorded. They were started in 1926, too late for the 1924 six-inch edition, though the area where they were to be built, has been shown fenced off from the rest of the parcel. They are first mapped on the 1955 Provisional Edition of the six-inch as outlines. They are shown correctly on the 1:10,000 scale in 1972. The one-inch Sheet of 1946 does not record them at all. They are first seen recorded on the 1953 Seventh Series as an incomplete estate. They are recorded on the 'A' edition of the 1:50,000 First Series dated 1974. The 1946 aerial photograph shows 38 semi-detached council houses on this particular site. (No houses were built during the war period.)

The fourth is really asking the question, when is a feature first recorded as part of the landscape? An avenue of elm trees was planted on a section of the path leaving the village for Hidcote Bartrim, called Box Walk. It existed before the building of Kiftsgate Court (1891) but was not recorded on the six-inch maps until the 1955 edition. It is clearly visible on the 1946 aerial photograph as mature trees running up to the parcel known as 'The Park'. It is shown again using conventional signs, on the 1:10,000 scale (1972) sheet. It is not recorded on the one-inch or 1:50,000 scale because of lack of space. To complicate matters even more, it is not recorded on the Provisional 1:25,000 (1950) but does appear

conventional 'signed' on the later Pathfinders (1981 and 1993). The 1981 aerial photograph shows only stumps left after felling in 1979. Currently there is no intention of replanting the avenue.

Rural landscapes by their very nature are slow to change - the past fifty years has seen the re-growth in field sizes accommodating larger agricultural machines and this has been recorded on the flat land to the north west of the parish. The escarpment slope and hills have changed little. Few parcels of sheep range have lost boundaries but on the whole enclosure fields have remained. The vertical aerial photographs show clearly the older ridge and furrow of the medieval open fields beneath the enclosures of the eighteenth and nineteenth centuries. (It was too much of a temptation not to be side-lined and prepare a map of the ridge and furrow of the central parish).

The greatest recorded impact on this rural landscape over the whole period was the development of the railway. Its sudden growth and consequential alteration of parcel boundaries, its effect on the rural economy, then its untimely decay. It was a factor in the evolution of market gardening in the parish making distribution to the Midland cities possible. The growth of housing (estates) around and within the village in the last 25 years has made a recording impact only on the 1:50,000 and two-and-half-inch sheets. The single edition of the 1:10,000 scale (1969 survey) is too early for this rural building boom. This current Sheet (1972) is to be superseded by Landplan in due course.

Comparison of the base map plots illustrate the growing woodland pattern with very little loss over the period; the changing amount of footpath and bridleways information available, altering within editions of the same scale; the upgrading of roads and the loss of historically important older tracks (e.g. Cow Lane, once the main outlet from the village to the escarpment grazing fields and the hamlet of Hidcote Bartrim); the growth in orchards and their decline; the growth and loss of allotment holdings; the loss of horticultural land to modern housing and the expanding village. Within the village itself, the orchards, and small parcels have generally been lost to housing over a long period. The farms, within the village, the mill, two public houses, and shops, have become residences. The Post Office is recorded in three different premises, the blacksmiths became a shop and a garage came and went. The school has remained on site although the building was later purpose built. The manor house was divided in the late nineteenth century, a wing being removed to the top of Glide Hill to form the basis of Kiftsgate Court. The first housing estates filled in field parcels on High Street, Granbrook Lane and Pound Lane. Back Lane has been gradually filled with small estates.

If there is any outcome of this study, it must be the awareness to the local and landscape historian of the problems caused by the 'time factor'. Unlike the aerial or ground photograph, which is a fixed instant in time, the map may represent an information base spread over many years. For example - Sheet 42/41 of the two-and-half-inch series published 1949/50 has much of its data derived from the 1924 edition of the six-inch series. Reading the map and interpreting it as an image representing the early fifties would be wrong (the compilation dates unfortunately are not shown). It portrays the scene of 1924 with very few updated changes. The compilation dates may not be important to the general purchasing public but are important to the landscape and local historians, researchers and many other users.

Another important outcome of the investigation proves that reading a map is like reading music - knowledge of the symbols is essential but correct interpretation requires experience and a deeper understanding.

The maps used in the project were obtained from the following sources:

Current maps through our OS agent - Hereford Map Centre.

Older sheets from - Gloucestershire Record Office for photocopies of the Tithe Schedule and map and earliest six-inch Sheet (1883).

Ordnance Survey for copies of the older six-inch County series sheets and vertical air photograph (1981).

David Archer for original old six-inch County series and one-inch maps, also Provisional 1:25,000 Sheet (1949).

Harry Margary's facsimile of the Old Series one-inch from Volume IV "The Old Series Ordnance Survey Maps of England and Wales"

British Geological Survey for 1:50,000 Solid and Drift Sheet & Soil Survey for 1:250,000 Midlands sheet and RCHM England - National Library of Air Photos for vertical aerial photograph (1946).

Railways and the London Explorers

Richard Evans

The standard of depiction of railway information on the London sheets of the 1:25,000 Explorers issued at the end of January is, to put it mildly, disappointing.

The use of the familiar London Transport (L.T.) bar and circle logo as a symbol for London Underground stations first appeared on the *Windsor and Weybridge* Sheet 160 published in September 1998 at Heathrow Airport and Hatton Cross, but the number of errors which I rather rapidly found on the London sheets 161, 162 and 173 when they came out in January, and which I promptly reported to OS, include misspellings and confusion on the use of the normal red circle for stations or the L.T. alternative. Here is my rapid list:

- Edgware Station misspelt Edgeware;
- Edgware Road Underground station (Circle Line) misspelt Edgeware;
- Edgware Road Underground station (Bakerloo line) omitted;
- Willesden Junction station (main line & Underground) misspelt Willesdon;
- St Paul's Underground station misspelt St Pauls;
- Aldwych Underground station shown - it closed on 30 September 1994;
- Essex Road station omitted;
- Old Street station (LT symbol) served by both Underground and main line trains;
- West Hampstead station (North London line) is incorrectly shown as both main line and Underground - it is not part of the Underground system;
- West Hampstead station (Jubilee line) is wrongly shown as a main line station;
- Fenchurch Street station is not named;
- Moorgate station shown as only Underground - it is also served by main line trains;
- Barbican, station shown as only Underground - it is also served by main line trains;

- At Kenton the red infill to the station symbol is incomplete;
 - Tower Gateway treated inconsistently with other DLR station by being shown as an underground station;
 - Arnos Grove Underground station misspelt Annos Grove;
 - Maze Hill station not named - neither is the locality;
 - Westcombe Park Station not named - neither is the locality;
 - Ealing Broadway station shown as only Underground - it is also main line;
 - South Ruislip station shown only as Underground - it is also main line;
 - Northolt Park station is not named and neither is the locality;
 - Greenford is shown as Underground - it is also main line;
- (Main line refers to services provided by the successor companies to British Rail.)
My list makes no claim to comprehensiveness, and it may not itself be free from error.

In addition to the above there are some other areas of confusion about railway information, for example the Croydon Tramway at TQ300670 (the Therapia Lane depot) is confusing and suggests no through running to Wimbledon.

Another problem is apparent inconsistency between showing lines as 'single track' (broken line) or as 'sidings' (thin continuous line) at junctions. Hampton Court Junction west of Surbiton presents a particular problem with the diveunder (Cobham lines) being shown as single tracks, but the flyover (Hampton Court branch) is shown as sidings. In comparison the lines at the long diveunder on the Marylebone to High Wycombe line between Northolt Park and South Ruislip are shown as sidings. The through lines at Loughborough Junction are shown as a pair of sidings.

OS acknowledged my letter but pressed me to provide general observations on the 1:25,000 maps - and asked for comments on sheet lines, standards of information, and the commercial market for the maps - asking me if there will be a business and professional market. (Will there be?) One suggestion I did make is the introduction of a blue tourist and leisure information symbol for sports stadiums.

The good news is that OS say that my comments were fed into Mapping Intelligence to assess the situation and to advise Cartography on reprint of the maps later this year. Does this mean that these maps may come up for revision even before the northern and Scottish sheets are on sale?

I would also add another rather glaring error in connection with railways and the Explorer Sheets 161 *London South* and 173 *London North*. Holborn Viaduct Station, which closed many years ago, is still shown. This is all the more mystifying as the Landranger 177 *East London* edition D (revised 1995) correctly shows the new tunnel (which replaced the bridge over Ludgate Hill) and City Thameslink Station. Indeed these were shown on Sheet 177, edition C, 1996 revised for selected change in 1991. The Explorers seem to simply replicate the old *City of London* Pathfinder which dated back to 1985.

Jon Risby

Mirrors of History

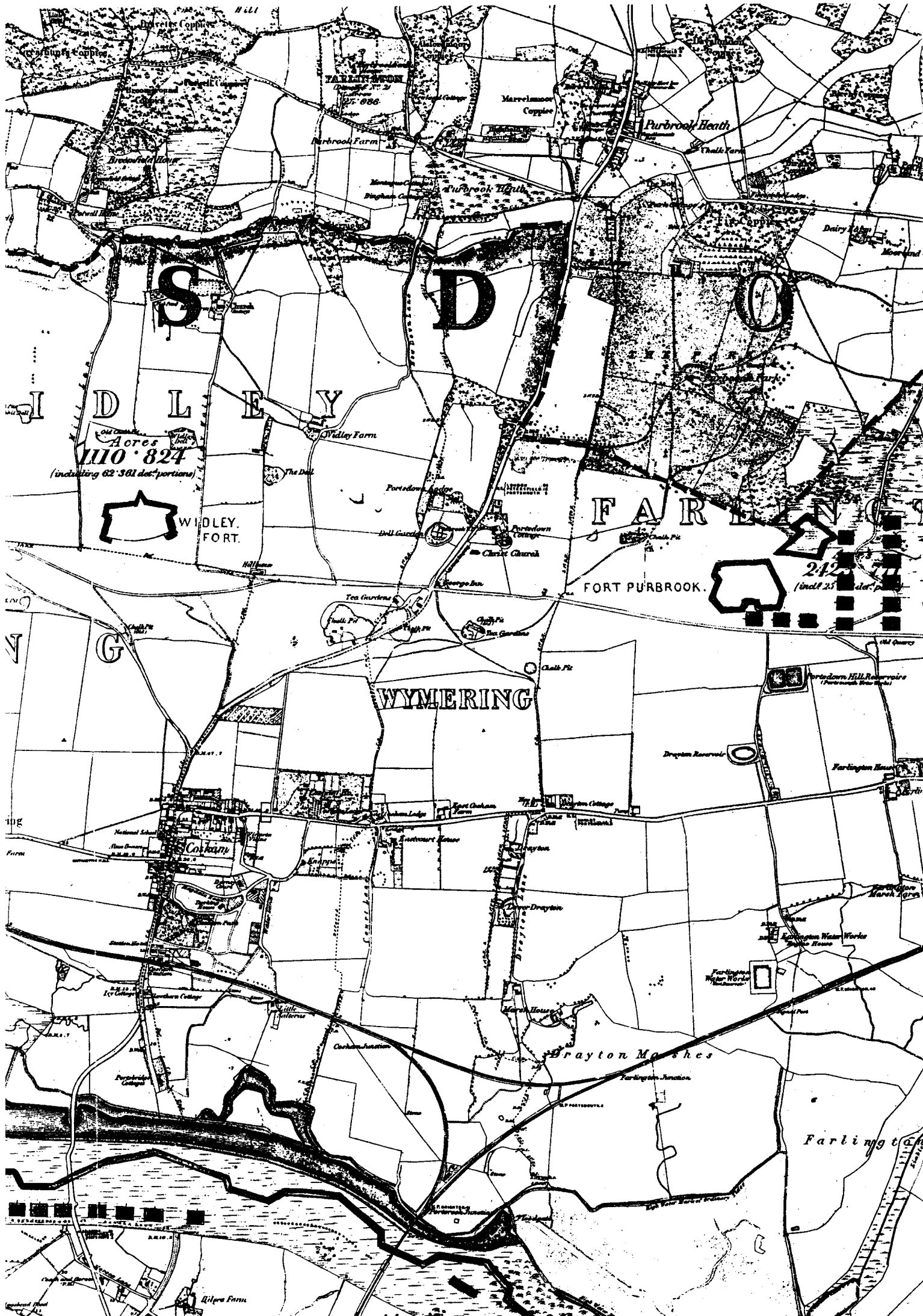
6 – Palmerston's Follies

Tim Nicholson

Public opinion in Victorian Britain was always ready to perceive an invasion threat from France, and when, in the late 1850s, the Emperor Napoleon III showed signs of wanting to emulate his infamous uncle, Parliament, led by the Prime Minister Lord Palmerston, created a new part-time volunteer army to back up the regulars, and began to modernise the fleet. Also, in its 1860 Report a Royal Commission on National Defence recommended that £11 million should be raised to build fortifications to protect Britain's naval bases against modern, long-range artillery. The most important of these bases was at Portsmouth Royal Dockyard. As well as other works, between 1861 and 1870 a line of five forts – from east to west, Forts Purbrook, Widley, Southwick, Nelson and Wallington – rose along Portsdown Hill overlooking the dockyard, just under four miles away as the shell flew. Their object was to protect the dockyard from bombardment by an invasion force advancing overland, so they faced inland. Two outlying redoubts, Crookhorn and Farlington, covered the eastern end of the hill, which was considered the most vulnerable. The public, misunderstanding the forts' role, called them 'Palmerston's Follies', because they faced inland rather than out to sea, and because the Government continued to ask for money to complete them after the current invasion scare had passed. The Hilsea lines – older works little more than two miles from the dockyard, defending the immediate approaches to Portsmouth – were modernised as a last line of defence.

As part of the Volunteer Reviews of 1868, 1882 and 1884, volunteers and regulars in the roles of invaders and defenders staged manoeuvres based on the Portsdown Hill forts and the Hilsea Lines. At least one special, Ordnance Survey based composite map produced for the occasion has survived, and an extract from it is shown here. The disposition of the troops on the map suggests that it was produced for the 1882 or 1884 review, when - in contrast with 1868 - units were positioned along the length of the hill. The map is about as far from standard as it can be, while remaining an OS product. Only its parentage is obvious. According to contemporary OS Annual Reports, the survey and drawing of the environs of Portsmouth for a 1:2,500 and six-inch map – for, it was said, the Royal Commission report – was complete by the end of 1859. However, they did not accompany the report. They were not, in fact, printed until 1863; and the writer has not seen them. The standard 1:2,500 sheets were not published until 1868; while the two relevant six-inch sheets reduced from them (75 and 76 of Hampshire) appeared in 1870.

The 1882/1884 review map was on a further reduced scale of four inches to the mile, and was a composite of parts of its parent maps. The information on it was a mixture also. Some was from the 1:2,500 map, some from the six-inch, and some from neither. The most obvious of the last can be found around the Hilsea Lines. Hilsea Channel, or Ports Creek, dividing Portsea Island and Portsmouth from the mainland, is shown dammed at both ends and flooded to high water mark, as would be done in the event of an attack such as that depicted on the map, in order to broaden what was a very feeble water obstacle. A new bridge carries the London road over the channel. It dates from 1868, and replaces the old one some 300 yards to the east, surveyed in the 1850s.



Most striking are the somewhat crude, hand drawn additions. The forts, redoubts and rebuilt Hilsea Lines – non-existent at the time of the 1850s survey, so not on the parent maps – are inserted as black outline with red fill, as are the bodies of the defending troops. The attackers are grouped around Fort Purbrook, where they are supposed to have arrived from the east. They are in blue, as are the various stretches of water involved in the action. The boundary line of the manoeuvre area is a dashed line overprinted in black, and accentuated by a hand-applied green wash.

The manual additions show many errors, in the shapes of fortifications and, most notably, in showing the Crookhorn redoubt, demolished in 1876, and not the Farlington redoubt to the south, completed in 1870, which the draughtsman may have intended to indicate. The misunderstandings no doubt arose because he had no Ordnance Survey data to work from, none of the OS maps involved having been revised since the works were completed. But they remain absent from the 1:2,500 and six-inch maps until the revision of 1930-31, which suggests that security was invoked, at least as far as the large-scale detail was concerned – even though the Portsmouth forts had been disarmed and decommissioned as obsolete in 1903. The showing of fortifications on small scale maps, too, was vetoed from 1870 to 1907; but in the latter year the War Office rescinded its ban. Early printings of the Third Edition one-inch map still lack the Portsmouth defences, but starting with the issue of Sheet 135 of the Large Sheet series in 1908, they are added.

Nowadays, Fort Purbrook is a youth activity centre, while Fort Nelson is open to the public as the home of the Royal Armouries Museum of Artillery, where members of historical societies in period uniforms give noisy demonstrations of gunnery from Victorian times to the Second World War. The other fortifications have either been demolished, or are still in Service hands.

Opposite - Extract from the 1882/1884 review map, scale four inches to one mile, showing Fort Widley (left) Fort Purbrook and Crookhorn redoubt with “enemy” troops (right) , and Hilsea Lines with defenders (bottom)



Off the rails - a significant error in Old Series one-inch revision

Richard Dean

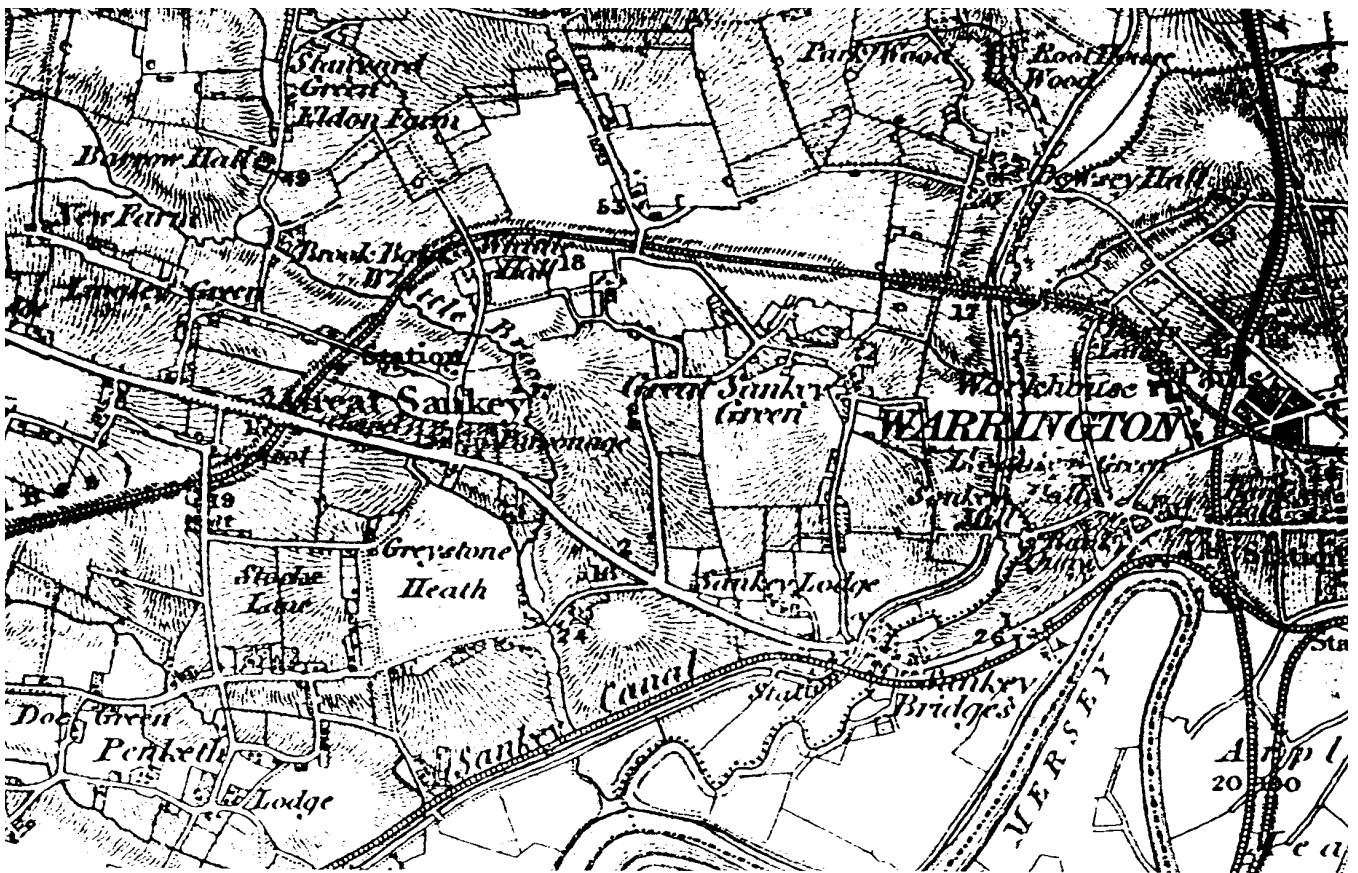
Sheet 80NW covering part of South Lancashire was published in 1842. This was of course prior to most of the railways in the area being built, but from the 1850s onwards it was OS practice to revise the published sheets with the addition of new lines as they were opened. Generally speaking this worked well, and the series became a useful *de facto* railway map of the country. The two main problems were the difficulty in fitting the railway detail on to earlier sheets with topographic inaccuracies, and the uncomfortable juxtaposition of data which might be many decades apart in date: examples can be found of lines with busy commuter stations which appear on the map to be in open country as the suburbia they served had not been added to the maps. Sheet 80 came relatively late on the scene and thereby largely avoided these problems.

The Manchester, Sheffield & Lincolnshire Railway needed to extend its system to Merseyside, and surveyed a route through South Lancashire running on the north side of Warrington. As first laid out it seems the trace followed a dead straight line nearly fourteen miles long between Padgate and Garston, but by the time the parliamentary plans were ready for deposit in November 1864 some minor adjustments had been made, including a definite kink some 90 yards northwards at Great Sankey, presumably to avoid the proximity of the church, and in this form the Act was obtained in 1865. Taking the Great Northern and Midland companies into partnership, the line eventually opened under the Cheshire Lines Committee to goods traffic in March 1873 and to passengers on 1 August, using the Warrington Loop which had been authorised in 1866. The final part of the original scheme, the straight line avoiding Warrington, was not opened until 1883.

The Ordnance Survey revisers were quick off the mark, and the new route to Liverpool appeared on an electrotyped version of Sheet 80NW dated 1873, the opening year of the railway [Fig.1]. However, the two miles of route between Warrington and Sankey are engraved up to half a mile to the north of their expected position. The map carefully details on this length the earthworks, bridges, mileposts, a road diversion, and the location of Sankey Station. The railway had not in fact been built on this alignment, nor is there any evidence in the records of an intention to do so. The inescapable conclusion is that this was a gross error. OS does not seem to have had their attention drawn immediately to the defect, and a fresh electrotype appeared in 1876 with the erroneous detail again re-engraved (although with the mileposts omitted); the 1878 issue seems to be the earliest with the mistake corrected [Fig. 2].

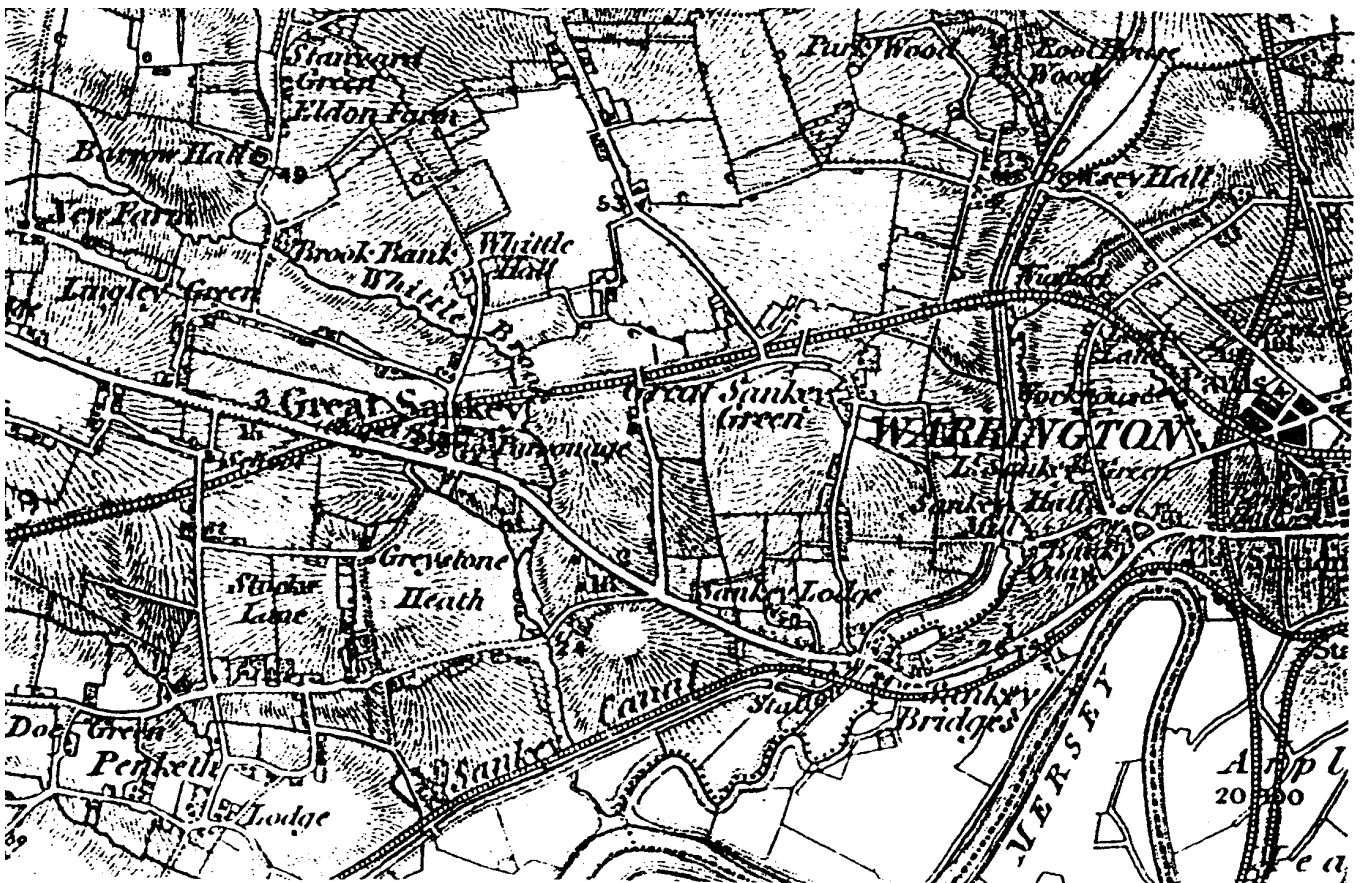
It is possible that errors such as this could throw further light on the revision methods in use at this time. Whatever checks and controls were in place, it seems to have slipped through the net undetected. The actual cause of the problem was doubtless in the ground work, and we may visualise a tired and hungry reviser at the end of a raw March day, hurriedly walking the last few miles along the new line with the prospect of a train home uppermost in his mind. Progress would have been good on the long straight stretches, but the kink at Sankey obscures through sighting along the line and between there and the start of the curve into Warrington it would not have been difficult to insert the short straight in the wrong position. It is very easy to misjudge the extent to which direction is changed by a curve, although even a simple compass bearing would have shown up the problem.

Every mark on the map relies on human activity for its accuracy, and the novelty of serious mistakes such as this is testimony to the thoroughness with which the Ordnance Survey was carried out: but was revision always up to the same standards?



Above – Figure 1: One-inch Sheet 80NW, 1873

Below – Figure 2: One-inch Sheet 80NW, 1878



The representation of railway stations on one-inch Seventh Series maps

Alan Young

Scope for error or inconsistency:

A railway station can offer remarkable opportunities for inconsistency and error in mapping. Where, precisely, is it? What is its layout? How important is it? What is it called? Is it a halt? Is it to be named on the map? Is it open or closed? Is it actually on a tramway rather than a railway? These seemingly simple questions are often complex, as the following examples, all found on one-inch Seventh Series maps, will show. (Locations are identified by Sheet numbers and, if necessary, the six-figure grid reference. First edition - identified on maps by letter A or a unique number in the series 4003-4022 - is referred to unless another edition is specifically stated).

Where was the station?

In selecting the conventional sign of a circle to represent a station the OS gave prominence and clarity to an important element of the built environment. For small stations with a single or island platform or facing platforms the symbol could be accurately placed. Problems arose, however, where platforms were staggered. In many cases on a multiple track railway, the platforms were on opposite sides of a level crossing or bridge, and it was considered improper to show the station twice. The normal practice seems to have been to place the symbol on the platform where the main booking office was sited (Wylam 77, 78). A problem arose where staggered platforms were a considerable distance apart, and neither had a major building (Dilton Marsh Halt 166). At Launton (145, 146) the station was shown in the middle of the level crossing.

The problem of showing underground stations was approached by omitting them if they were on the Glasgow Subway, or in the inner area of the London Underground, unless they were *actually* on the surface (Gloucester Road 160: 262788). However, in the London suburbs underground stations at Wanstead, Gants Hill, and Redbridge on the Central Line were not shown (161) whereas Southgate on the Piccadilly line was (160: 297943), although being in the middle of an A-class road roundabout meant that it could easily be overlooked on the map. In later editions Southgate's symbol was moved slightly, allowing it to be more easily seen. Underground 'main line' railway stations were shown, as at Liverpool's James Street (100: 342903).

Stations situated at junctions also posed problems for the cartographer if the platforms were placed beside the diverging tracks. The representation of Manors (78: 253643) as two stations could be justified by the official designation of five platforms as Manors North and four as Manors East, but at Earlestown (100: 578951 and 578952) the distance between sets of platforms must have dictated that it be shown as two stations; on the same map as Manors, Scotswood station with separate pairs of platforms on diverging lines, was shown with only one symbol. On Sheet 109 at 329508 one unnamed station is shown on diverging lines south of a junction. In reality there were two separate stations here; Wrexham Exchange and Wrexham General. British Rail eventually combined them (as Wrexham General) in 1981. Triangular stations were shown differently at Queensbury (96) where the symbol was placed within the triangular layout of lines, but not on any of them, and at Ambergate (111), where

one line was incorrectly shown to have no platforms. This latter inaccuracy, of one line apparently missing the station at a junction, was also found at Audley End and Bartlow (148): the railway (*via* Saffron Walden) which ran from Audley End to Bartlow was in fact served by a separate platform at both of these stations. Grosmont (86) and The Mound (22) were two other junction stations which were similarly mis-represented. A different inaccuracy was at Hyde North (101), where the station was misleadingly shown as being situated on the lines from Manchester to Glossop and to Hyde Central, whereas it was only on the latter line.

In a few cases a station was simply omitted in error. Such ignominy was experienced by Haddiscoe (High Level) (137). Tilbury Town (171), and Gatehouse of Fleet (80), were also omitted, though overlapping sheets (161 and 73 respectively) showed the stations correctly.

How important was the station?

More important stations could be shown by the 'principal station' conventional sign: this was usually a rectangle. Some of the indisputably important stations such as Crewe (110), York (97), Aberdeen (40), Newcastle Central (78), Perth General (55), and Carlisle (76), were shown not as a rectangle but in their more-or-less correct shape and size. Even some smaller stations, such as Tynemouth (78) and Blackburn (95) enjoyed this privilege. The criteria for selection of principal stations seem to have been inconsistent throughout the life of the Seventh Series maps. In the first editions of the Seventh Series there seems to have been a willingness to grant 'principal' status to many stations which scarcely deserved it. Sheet 101 was awash with principal stations, including Eccles, Patricroft, Ashton Charlestown, Heywood, Middleton, Leigh, and Tyldesley, as was 95, which included Colne, Nelson, Haslingden, Bacup, Rawtenstall, and Darwen. Elsewhere Cardigan (139), Swanage (179), Richmond (Yorks) (91), Ardrossan Town (59), Broughty Ferry (50), Laisterdyke (96), and Barry Island (154) had greatness thrust upon them. Stapleton Road (Bristol) appeared on the overlapping sections of sheets 155 and 156, but it was shown in its correct shape on the former and as a conventional rectangle on the latter sheet. There were many further inconsistencies. Why did diminutive Whitby Town (86) have a principal station symbol whilst the much larger seaside town station at Eastbourne (183) did not? Other stations which were not considered important enough for 'principal' status included Stirling (54) and Winchester (City) (168).

During the 1960s the OS became reluctant to designate stations as 'principal'. There was a mass demotion for Sheet 101 stations (B/* 1965), even Rochdale (but not Oldham Mumps) succumbing. The demotion of Norwich (Thorpe) (126 B), Cambridge (135 B), Carlisle (76 B), all stations of national importance as recognised by *Inter-City* status on the British Rail network of the 1970s-90s, was a strange decision, but could be justified as they were the sole - and therefore not the principal - station in these cities! If this was the policy, then York (97) should have been demoted too. More appropriately, Swanage (179 A/) was swiftly relegated.

An interesting cartographic decision was to use a closed principal station symbol in some places. The question arises of whether a station could really have been principal if its closure took place in 'pre-Beeching' days, and, in any case, once it had closed it was no longer principal! Crystal Palace High Level (160, 170), Gravesend West (161, 171), Hull

(Cannon Street) (99), Selkirk (69), and Dalkeith (62) all entered the Seventh Series in this sad state; revisions added three on the 126 A// Sheet - Norwich City, Yarmouth Beach, and Cromer High - which had closed since the A/ edition.

What was the station called?

The naming of stations is a subject abounding in oddities and contradictions. In some cases the choice of name was entirely straightforward, and the OS did not need to state the station's name on the map. However some railway companies, faced with the problem of identically named stations within their system, selected the name of a village, stately home, or other landscape feature rather distant from the station. The North Eastern Railway was fond of this practice.¹ In Hampshire the OS helped the map user to avoid confusion by identifying the station in Burghclere village as Highclere (taking its name from a village and a castle two miles distant); some two miles south, on the same railway route, was Burghclere station, adjacent to the hamlet of Old Burghclere (168). Where a station possessed a 'duplex' name, of which there were many in the East Midlands, the OS often faithfully recorded it, as at Welford & Kilworth and at Yelvertoft & Stanford Park (132, 133). Inconsistencies crept in, however, when 'for' rather than '&', linked the names. Even railway documents and station nameboards failed to agree on whether the second name was official or not. Generally the OS played safe and ignored the second name in such cases, but they made an exception and named Aby for Claythorpe (105) and Irlam for Cadishead (101 B/*), the latter having formerly been rendered as Irlam & Cadishead.

Rarely did the OS simply get the name wrong, but this happened at Kirkby Bentinck (misnamed Kirkby & Bentinck on 112) and St James Deeping (123) which the OS erroneously named Deeping St James, the name of the nearest village. At Hanborough (145) the *railway* spelling of the station of Handborough was not acknowledged. The Mound was inaccurately rendered as Mound (22) and Howdon-on-Tyne as Howdon (78). In the latter case, the station had formerly been known as Howdon, and this points to another problem: possibly two-thirds of stations have changed their names at some time during their life² and the OS sometimes continued to use the old name, as at Kielder Forest, wrongly shown as Kielder (76), and Holton-le-Moor, wrongly shown as Holton (104).

The OS also often included Junction (or Junc) in the name, even when the suffix had ceased to be used by the railway operator: the numerous examples included Fullerton Junction (168), Crowhurst Junction (184), Pilmoor Junction (91), Tillynaught Junc (30), Orbliston Junc (29) and Arthington Junc (96). Conversely the station known as Mawcarse Junction was rendered simply as Mawcarse (55).

A problem in using the OS Seventh Series maps to identify stations - and still a shortcoming of the Landranger 1:50,000 - is related to cartographic decision rather than error. Many stations are not identified by name, despite there being no other clue as to the station name on the map. Principal stations serving some city centres were named on the

¹ The N.E.R. found itself with four stations serving settlements called Sherburn! Two serving Sherburn in County Durham were named Sherburn House and Sherburn Colliery. In Yorkshire one Sherburn was identified by the suffix '-in-Elmet', but the other, between Malton and Scarborough caused problems. In 1874 it was re-named Wykeham after a village 4 miles north by road, but in 1882 Wykeham received its own local station on the Pickering to Scarborough line, so Sherburn was re-named once more, this time after a village almost 5 miles south, called Weavertorpe.

² C. R. Clinker, *Register of Closed Passenger Stations and Goods Depots in England, Wales and Scotland 1830-1977*, Avon-Anglia 1978, page iii.

map. Those in London (except Holborn Viaduct, Blackfriars, and Marylebone), Glasgow, Manchester, and Leeds were named, but major stations in some other cities were left anonymous. Bradford's Forster Square and Exchange stations were not identified by name; nor were any of the three principal stations in Leicester, Wigan, and Great Yarmouth. Within built-up areas, stations named after local roads, such as the sequence of stations at Bruce Grove (160: 338901), White Hart Lane (160: 337913), and Silver Street (160: 339924), were rarely identified by name. More surprising was the reluctance to name stations on some predominantly rural maps, such as Sheet 187, whilst sheets 123, 124, 133, and 134 liberally named the stations. Particular stations whose names were not obvious, yet to include them would not have obscured important detail, included Elliot Junction (50: 622395), Clifton Moor (83: 542262), Muthill (55: 893167), Uralite Halt (161, 171, 172: 702737) and West Leigh & Bedford (101: 623000).

Whereas on the Sixth Edition maps many closed stations were named, this practice was discontinued on the Seventh Series. A surprising exception was the long-closed Whitegate (110). If a station closed shortly before the publication of a map, then the red infill might be removed whilst the name remained, as at Gwys (153 A, B, B/), Sun Bank Halt (108), Llantrisant (154 C), Rowden Mill station and Westwood Halt (130), and [Southend] Halt (153B/*).

The nomenclature of 'halts' and 'platforms' was also fraught with difficulties. These stations defied precise definition, but they usually had no staff and had simple shelters and short platforms. Such stopping-places were most common in the territories of the former Great Western and Southern railways, but scarce in some other areas, such as North Eastern England. The OS chose to identify stopping-places with the suffix 'Platform' as *HALT* such as Wootton Wawen (131) and Aynho Park (145). Even if the name was not given on the map, the word *HALT* - in upper case print, with a few exceptions such as at Truthall (189) - was usually printed beside the station symbol. A few halts or platforms were not recognised as halts on the map, such as Perranporth Beach (185, 190: 757539), Glencarron and Duncraig (26). On the other hand some ex-L&NW Railway 'motor stations' at Aspley Guise and Bow Brickhill (146) which had not carried the halt suffix, were identified as halts, being upgraded to stations on the A/ edition. Some halts lacked buildings, platforms, or both, but they were still shown if they appeared in the public timetable. Imperial Cottages Halt was one of four tiny halts consisting of a few old sleepers at railway track height added to the Boat of Garten to Craigellachie line in 1959. This halt was added to Sheet 29 A/ edition of 1962 (214415) with the normal station symbol plus *HALT*, but without the name.

During the 1950s and early 1960s, some stations were officially downgraded to halts by British Railways, generally when they became unstaffed, and the OS tried to keep abreast of this. Thus Frankton station became Frankton Halt (118 B), but in the process the hand-lettered name was replaced clumsily in letterpress across the line of the railway. At Weston Subedge the hand-lettered *STA* was replaced with *HALT*, but in letterpress (144 A/). The process of identifying unstaffed stations as halts on OS maps came unstuck in British Railways' North Eastern Region, where substantial numbers of stations became unstaffed in the early 1960s without being officially designated halts: thus on Sheet 76 the name of Featherstone Park Station was unhelpfully replaced with the one word *HALT*, whilst *HALT* was simply added to Coanwood and Slaggyford station symbols. Elsewhere, a particularly zealous cartographer transformed practically every station on Sheet 135 C (1969) into a halt, including Manea (479912) which was to remain staffed for some years. Whilst most of the

stations on Sheet 135 had indeed become unstaffed in the previous two years, none was officially given the halt suffix; and, to compound the error, the Eastern Region had abolished the use of the suffix in 1968, except for untimetabled stopping-places!

Was the station open or closed?

Here again is information which would seem simple enough to record accurately, but there was plenty of scope for error and confusion! If a station was open to passengers the circular symbol had a red infill; if closed, there was no infill. Where the rails had been removed, no station symbol was used at former station sites. On a surviving railway, 'closed' often meant 'formerly open to passengers, but retaining a goods service', and this type of closed station was common between the 1930s and the late 1960s. However the OS was inconsistent in that respect, as could most clearly be seen when a station or halt which had handled only passenger traffic was closed yet was shown on the map, as at Hacheston Halt (137: 310593). Aberdeen's former suburban stations at Schoolhill (40: 937063) and Hutcheon Street (40: 933071) likewise had never handled goods traffic, but were shown on the map over 20 years after their total closure in 1937; perhaps the survival of their platforms was seen as ample justification for keeping them on the map. However, their equally well, or better, preserved neighbour at Murtle, (40: 873018) also closed in 1937, was missing.

Goods stations which had never enjoyed an advertised passenger service were generally not shown by the station symbol, but exceptions were made at Riccarton & Craigie (67: 426365), also at Stanely (60: 463615) and Glenfield (60: 476611), which had been built c1902 as passenger stations but were used only for goods traffic. On railways shown as mineral lines, sidings, or tramways which had no regular passenger service at the date of revision, goods stations were not shown, even if passengers had formerly used the station. This is illustrated by the branch-line terminus at Ponteland (78: 163729) on editions A and B; curiously the branch, closed to passengers in 1929, was re-drawn as a single track railway in the C edition of 1965, with Ponteland and Coxlodge (228688) added as closed stations.

Stations built, but never opened, might be shown by the 'closed station' symbol, as at Lullingstone (171: 530664) which had been scheduled for opening in April 1939, or not shown at all, as at Gwaun-cae-Gurwen (153: 700118), which was built c1923. Another variable was the depiction of a station as open to passengers many years after it had closed. The Spilsby branch, including the intermediate station at Halton Holegate, was shown as open on Sheet 114 (published 1954), yet it had closed to passengers 15 years earlier. Baglan Sands Halt, closed in 1939, was open and named on Sheet 153, published in 1952; Bolton (Great Moor Street) closed in 1954, was still shown as open on Sheet 101 B/* of 1964; whilst Old Kent Road & Hatcham, closed to all traffic in 1917, was shown as open on Sheet 171 (352773), published in 1959. Where this Sheet overlapped with Sheet 161 (published 1958), the problem was reversed. Old Kent Road & Hatcham was shown as closed, but its neighbour, Queen's Road (Peckham) (350768) was incorrectly shown as closed, as were Surrey Docks (357789) and Rotherhithe (353798). Grange-over-Sands should have been shown as open on Sheet 89, as should Boxhill & Westhumble, Mitcham, and North Sheen on Sheet 170. On Sheet 159 A/** (1964) Tring and some other stations were incorrectly shown as closed, but this was corrected by hand on some unsold folded stock and by overprinting on unsold flat stocks.³ Late arrival of information concerning closures might explain some

³ Dr Richard Oliver, *A Guide to the One-Inch Seventh Series*, Charles Close Society, London, 1991, page 40.

confusion on Sheet 98, published in July 1955. On 20 September 1954 ten of the stations between Selby and Driffield closed to passengers, but three of them, Southburn, Bainton, and Middleton-on-the-Wolds, were mistakenly shown as open. (Was ten months sufficient time to respond to the information?) This explanation could not be offered for the recording of certain stations between Grimsby and Boston which lost their passenger service in September 1961 as open on Sheet 114 B, published in November 1962, when other stations on this route, closed on the same date, had been correctly recorded as closed on the adjacent Sheet 105, published in December 1961!⁴

The normal practice from 1965 appears to have been to remove disused stations from the one-inch map and to include only those which continued to have some railway function.⁵ The C edition of Sheet 78 *Newcastle upon Tyne*, published in July 1965 made bold strides in this direction. Most of the stations between Backworth/Monkseaton and Blyth/Newbiggin, and Pelaw/Sunderland to Fencehouses, which had closed to passengers within two years of the publication date, were not shown, and many stations which were already shown as closed on the B edition of 1961 were also erased. Sheet 102 B/*/*/* of 1972 showed that even major city stations could be removed from the map, as happened to Sheffield (Victoria) although its extensive platforms and buildings remained intact.

Some stations which were officially open but had a very sparse service were shown as closed, including Saughtree (70: 564981) served on Mondays, Thursdays, and Saturdays only, and Usworth (78 B: 321576) with one train calling in each direction on Mondays to Fridays. These ‘closures’ could, of course, have simply been cartographic errors, although Usworth station’s name had been removed in the conversion of Sheet 78 from hand-lettering to letter-press.

Stations that remained open for seasonal passenger traffic after the withdrawal of regular services posed a problem. Several stations in Nottinghamshire were in this category, such as Skegby and Pleasley (Sheet 112), closed to passengers since 1931. For several summers, starting in June 1954, (too late to catch the A edition!) Saturday specials called. Edition A/ of 1958 promoted these stations to ‘open’, even though passengers could use them on only a little over a dozen days in the year.

Perhaps the most difficult category of all stations for the cartographer to deal with were what could be described as ‘private’ or ‘untimetabled’.⁶ They existed for a wide variety of reasons, and ranged from substantial structures, indistinguishable from ‘normal’ public stations, to sites without any buildings, where passengers could climb aboard or alight from trains unofficially. Workmen at a nearby steel mills could use Warrenby Halt (86: 573248) which was not shown on edition A, but appeared as closed plus *HALT* on edition B. Folkestone Warren Halt (173: 249379) was shown as closed: it had closed to the general public in 1939, but continued in use, first for military personnel, and latterly for railway staff. Gorton (or Gortan) (47: 394481), also shown as closed, served as a passing place at an isolated site on the single-track West Highland line, and was used by railway staff. For a time it had an old railway coach on the platform, accommodating a schoolroom for railwaymen’s children.

⁴ *Ibid.* page 15.

⁵ Private correspondence from OS, 1968.

⁶ For fuller details, including a list of such stations, see Godfrey Croughton, Roger Kidner, and Alan Young, *Private and Untimetabled Railway Stations*, Oakwood Press, 1982.

Eryholme (85: 303060), on the East Coast Main Line was closed to advertised services in 1911, but in the 1950s it served an RAF base. Despite having platforms and substantial buildings, the station was omitted from the map. Further north on the same line, the private Fallodon station (71: 208240) also boasted platforms and buildings, but unlike Eryholme it was depicted on the map, as closed, even though it had fallen out of use by 1935. It formerly served the residence of the aristocratic Grey family. Some other untimetabled stations which were shown on the Seventh Series maps included Margam (153 B/*: 783867) serving Port Talbot steel mills; Allens West (85 B: 414146) serving a naval depot, and from 1971 to become a public station; Hirwaun Pond Halt (154: 943063) serving an ordnance factory and a trading estate; and Newmarket Warren Hill (135: 652643) serving the race course until about 1938. Elsewhere untimetabled stations served miners, golfers, fishermen, ferry terminal passengers, and mourners!

To check the accuracy of the OS one-inch Seventh Series map as a record of the ‘status’ of stations (open or closed) at a given time, Sheet 71 Edition B was chosen (Table 1). The geographical choice was guided by the ‘manageable’ number of both open and closed stations in a dominantly rural area, whilst the date was selected to be in the heart of the Beeching closures era, affecting passenger and goods stations. The reader will reach his own conclusions and may feel inclined to put some other maps to the test.

What about stations on tramways?

Much ink has undoubtedly been spilt on the issue of ‘when is a railway a tramway?’ and this is not the place to pursue it. The OS ignored stopping places within urban areas on street tramways (as in Blackpool: 94), and also on the Grimsby & Immingham route (105), yet the Mumbles tramway was shown as a single track line with open stations (153). In the Isle of Man (87), the Ramsey-Douglas route was also shown to have open stations on a multiple track (narrow gauge) line. On Sheet 100 the Liverpool Overhead Railway was surprisingly shown by the tramway symbol, yet open stations were indicated on it. Quite what policy the OS was following in the above instances is not easy to fathom.

And finally...

Some other inconsistencies of station cartography may be of interest. Why were some stations dignified with the full word *STATION* whilst most had to be content with a mere *STA*? The favoured few with the full word included Allhallows-on-Sea (172), Corrour (47), Hutton Gate (86), Marishes Road (92: but abbreviated on A/), Arlesey & Henlow (147), Culham (158), Bletchington (145), Sudbury Hill (plural) (160), Lydford (plural) (175), and Savernake (plural) (167). An odd collection indeed.

In a few cases junction stations names were rendered without *STA*, as at Clapham Junc (160, 170). On Sheet 141 4008 Three Cocks Junction is without *STA* whilst Pontsticill Junction and Tal-y-Llyn Junction are followed by *STA* in slightly denser hand-lettering, looking as if it was an afterthought.

Two very early Seventh Series maps used a rather smaller circle for some stations. On Sheet 154 this was used for all non-principal stations, open and closed, within the 100 sq km bounded by eastings 10 and 20 and northings 70 and 80, including central Cardiff. On Sheet 142 small station symbols were randomly scattered across the map, including Stoke Edith

(615414) and Ashperton (652403). These two stations appeared on the overlap of the slightly later Sheet 143 where the symbols were enlarged to the normal size. Unfortunately at Ashperton, to avoid interfering with the station name, the new symbol was displaced, but it was also a little mis-shapen and too boldly outlined. On sheets 78, 100, and 142 some of the non-principal stations also had a small black dot in the centre of the symbol. Further curiosities are the absence of the black circle, with only the red infill, at Keynsham (Sheet 155: 656688) and the red infill but no black circle at Little Sutton (Sheet 100: 372768). Both of these stations were represented correctly on the overlapping sheets 156 and 109 respectively.

Table 1

Analysis of railway station information

OS one-inch Seventh Series: Sheet 71 *Alnwick*
B Edition. Published October 1965; revised 1963-64

Station	How depicted	Passenger closure (if pre Oct 1965)	Goods closure (if pre Oct 1965)	Correct?
Acklington	Open			Yes
Akeld	Closed	22 September 1930	29 March 1965	?
Amble	Closed	7 July 1930	6 October 1969	Yes
Alnmouth	Open			Yes
Alnwick	Open			Yes
Belford	Open			Yes
Brinkburn	Omitted	15 September 1952	11 November 1963	Yes
Broomhill	Closed	7 July 1930	4 May 1964	?
Chathill	Open			Yes
Chevington	Omitted	15 September 1958	10 August 1964	?
Christon Bank	Closed	15 September 1958	7 June 1965	?
Cragg Mill	Omitted	October 1877		Yes
Fallodon	Omitted	(Private: 1935)	No goods	Yes
Kirknewton	Closed	22 September 1930	30 March 1953	No
Little Mill	Omitted	15 September 1958	7 June 1965	?
Longhoughton	Closed	18 June 1962	18 June 1962	No
Newham	Closed	25 September 1950	25 September 1950	No
Rothbury	Omitted	15 September 1952	11 November 1963	Yes
Smeafeld	Omitted	1 May 1930#	No goods	Yes
Warkworth	Omitted	15 September 1958	2 April 1962	Yes
Wooler	Closed	22 September 1930	29 March 1965	?

Smeafeld station continued operating as a private station for some time after official closure to passengers. It was disused by 1965.

? These goods closure dates are within 18 months of publication, so it might be unreasonable to expect OS to have been able to respond to them. Although Broomhill closed entirely a year before Little Mill, the removal of Little Mill but not Broomhill from the map might be because the buildings and platforms at Little Mill were no longer standing.

1:100,000 versus 1:125,000: some comments

Richard Oliver

When I wrote my article on Ordnance Survey maps for the cycle-tourist, published a year ago,¹ I was unaware of the work previously carried out at Glasgow by David Forrest and Ewan Kinninment on 1:100,000 mapping.² The colour originals of the specimens which they have published in *Sheetlines* 53³ are both seductive and frustrating: I so wish that this mapping was on sale! It would be an effective solution to the problem to which I drew attention, of the lack of a suitable map for long-distance cycle-touring in Britain.

However, it would not necessarily be the only solution, nor even, from a cycling point of view, an ideal solution, and, in the present state of things, I still feel that a 1:125,000 scale would be a better proposition for *cycling*. From the point of view of design, and probable standard of execution, and therefore public utility there can be no doubt that what I will call for short the Forrest-Kinninment 'Glasgow' type of mapping, derived by working downwards from 1:50,000 material is superior to what may be termed the CycleCity-Oliver 'Exeter' type, which works upwards from 1:250,000, but I can see nothing to indicate that the 'Glasgow' method could not serve equally well to create a 1:125,000 as a 1:100,000 map.

The main advantages of the 1:100,000 over the 1:125,000 scale would appear to be as follows:

- (1) It is an international standard, widely used.
- (2) It permits either a greater resolution of detail, or else the same resolution of detail as might be shown on a 1:125,000 with greater boldness and clarity.

The disadvantages of the larger scale over the smaller are:

- (1) The type of detail which can be shown is broadly similar to that at the smaller scale: accordingly, over 150 per cent more paper is needed to cover a given area, with a corresponding increase in bulk.
- (2) It increases the possibility of competition with the existing and well-established 1:50,000 mapping.

¹ Richard Oliver, 'Ordnance Survey maps for the cycle-tourist', *Sheetlines* 51 (April 1998), 14-31.

² This was originally the subject of a poster session at the British Cartographic Society's symposium at Leicester in 1997 (see David Forrest and Ewan Kinninment, 'What might 1:100,000 scale national mapping of Great Britain look like', in David Fairbairn (ed.), *British Cartographic Society ... Symposium ... Proceedings*, (London, BCS, 1997), 56-64); a copy of Ewan Kinninment's MSc thesis, which contains 1:100,000 mapping in full colour in a wide variety of styles, was on display at the BCS's symposium at Keele in 1998, where I had the opportunity of studying it.

³ David Forrest and Ewan Kinninment, 'What might 1:100,000 scale national mapping of Great Britain look like', *Sheetlines* 53 (December 1998), 17-26.

From the point of view of the cyclist, the need is to get the bulk *down* as much as possible, and from that point of view a 1:125,000 of about two-thirds the bulk of a 1:100,000 is an attractive proposition. Whilst I quite accept that there are those, such as troops returning from Germany, who would prefer the larger scale, I cannot help feeling that were the military or other public service requirements that pressing, we should have had a national 1:100,000 by now, and *Sheetlines* would have to find something else with which to fill its pages! From the point of view of the leisure map market (whether for cycling or motoring), I can see no advantage in the larger scale.

It will perhaps help if we consider the nature of topographic mapping in Britain and Ireland as practised during the twentieth century. Setting aside the 1:250,000-253,440 ('quarter-inch') scales, there are three types or groups with three strongly marked characteristics:

Type A: 1:20,000, 1:25,000, 1:25,344, 1:31,680. This group of scales is the smallest suitable for showing most field boundaries, and for a reasonable fidelity of shape of all but the smallest or most intricate building groups. It is therefore well-suited both for walking and for detailed geographical study. The importance of the 1:25,000 scale has been increased in recent years by the substantial increase in price of OS 1:10,000 mapping.

Type B: 1:50,000, 1:63,360. This group of scales is the smallest at which it is possible to show with clarity footpaths and a fairly comprehensive selection of names of isolated farms, woods, etc. in open country, and a practically complete street layout and indication of public buildings and churches and similar landmarks in built-up areas. In Britain the 1:63,360 is the smallest scale suitable for pedestrians; at the same time a large area can be encompassed within each sheet. A scale of around 1:50,000-1:63,360 is ideal for those with their feet on the ground. Were only one of the three scales in groups A, B and C to be chosen, it would surely be this; this would have happened had the 1:25,000 been abandoned as a national scale, as was threatened several times in the past.

Type C: 1:100,000, 1:125,000, 1:126,720. The main attraction of this group of scales is that it is the smallest scale at which the rural tarred road network can be shown with absolute clarity, and at which sufficiently detailed contours can be shown to be suitable for cycle-touring purposes. A subsidiary advantage is that it often enables a whole region to be covered on a single map, or, in a national series, within a single map.

Various combinations of these are possible. The ideal is to produce one map series of each type, A, B and C. In practice, this has never happened in Britain:

A, B, C: this was policy in Great Britain from 1938, when the Davidson Committee recommended introduction of the 1:25,000 scale (admittedly in a more tentative manner than the OS wished, or clung to) until the official abandoning of a national 1:126,720 in 1961.⁴ In practice, the 1:126,720 went out of publication after 1940; publication of the 1:25,000 began in 1945.⁵

⁴ There is an unfortunate error in both versions of Forrest and Kinninment, 'What might...', where it is stated (1997, 57, 58; 1998, 20) that OS 1:126,720 cover of Great Britain was never completed; in fact, it was completed in 1910, and the German 1:100,000 mapping of c.1938-9 was produced by photo-enlarging the OS mapping: its legibility was improved!

⁵ After 1940, and into the mid-1960s, the 1:126,720 remained available in outline and water form (see Roger Hellyer, 'A summary of the printings of the half-inch map of Scotland and England and Wales since 1942', *Sheetlines* 48 (April 1997), 58-63), but was not publicised, and was hardly a map likely to be bought by the general public, any more than were the 1:100,000 outline maps of counties which replaced them.

B only: this was effectively the policy in Britain and Ireland until the authorisation of a national 1:126,720 map in 1902.

B and C: this was the effective policy in Britain and Ireland from 1902 to 1938, and it lasted longer in Ireland.

A and B: this has been the effective practice in Britain since 1945, and official policy since 1961.

A and C: this has never been policy in Britain, but the 'Glasgow' suggestion is that a good 1:100,000 might eventually enable the 1:50,000 to be dispensed with. This is not enlarged on, but the following considerations suggest themselves:

- (1) As national cover could be effected in about a quarter of the sheets needed for the 1:50,000, it might be an attractive sales proposition for smaller libraries and retailers, amongst others, where space or money is limited.
- (2) It would probably be cheaper in terms of field revision to maintain per square kilometre than would the 1:50,000, as there would be a reduction in fine detail to be surveyed.
- (3) It would be a very effective way of ensuring a future for the oft-threatened 1:25,000 scale in Britain.
- (4) Whilst it would solve the 'scale gap' at present between the 1:50,000 and 1:250,000, it would create another, between the 1:25,000 and the 1:100,000. This is particularly serious in view of the long-established character of the 1:50,000-1:63,360 family in Britain.
- (5) It would imply an increase in cost of maintaining the 1:25,000, as that would probably take over some of the functions of the 1:50,000 and would need to be more thoroughly revised than it is at present,⁶ but without necessarily a corresponding increase in sales; even when the conversion to the large-sheet format is complete, nearly twice as many sheets (about 350) will be necessary to cover Britain as with the 1:50,000 (204).
- (6) The example of France as a country covered, so far as the ordinary public is concerned, only by Types A and C mapping, is not necessarily a good one, at any rate without further consideration of the respective cartographic cultures of Britain and France. Elsewhere in Europe, with the partial exception of Italy, there is cover by type B mapping. Adopting 1:100,000 in place of 1:50,000 in Britain would result in a diminution of cartographic plurality.

Type C mapping - 1:100,000, 1:125,000, 1:126,720 - presents certain practical problems in British conditions. The technical ones of producing it would appear to have been solved triumphantly by the 'Glasgow' experiments, but there are two aspects of it which are not very tractable, particularly in comparison with the 1:50,000, and which are more so at 1:100,000 than at 1:125,000-1:126,720. These are the selection of minor roads, more particularly in built-up areas, and of minor names.

For the 'Exeter' 1:125,000, I suggested that only tarred roads (corresponding to those with colour infill on the 1:50,000) be shown. Subsequent correspondence with the Cyclists

⁶ The literature is wearisome: Richard Oliver, 'Revision and some recent OS 1:25,000 and 1:50,000 maps', *Sheetlines* 47 (December 1996), 58-64; Richard Oliver, 'Recent 1:25,000 and 1:50,000 sheets', *Sheetlines* 48 (April 1997), 76-7; Richard Oliver, '1:25,000 matters', *Sheetlines* 49 (August 1997), 37-40; John L. Cruickshank, 'The maps of the Ordnance Survey - as they are and as they ought to be', *Sheetlines* 50 (December 1997), 3-8.

Touring Club⁷ suggested that ‘white roads’ and bridleroads should be shown outside built-up areas,⁸ and I think this could be done, even at 1:125,000 (it was effectively done by both OS and Bartholomew at 1:126,720), by using the digitised rights-of-way and access-routes information already on or being added to the 1:50,000. Minor roads in built-up areas present more of a problem: comparison of Figures 4 and 5 in the *Sheetlines* article with OS 1:50,000 Sheet 64 shows that ‘white roads’ in built-up areas are only shown selectively; and if they are shown selectively, what is the basis for the selection?, and in that case, why show them at all? The resulting expanses of building infill would, of course, be less obviously so at 1:125,000 than at 1:100,000 scale!

The ‘Glasgow’ solution to the problem of minor names appears to be similar to the ‘Exeter’ one, of excluding all those in the smallest size of type; my investigations suggested that this would give a name density per square kilometre of a quarter of that on the 1:50,000 (0.34 as against 1.36), i.e. about the same density per square centimetre of paper on the 1:100,000 and rather greater on the 1:125,000. This point might not call for further discussion, were it not that the Philip 1:100,000 - apparently not considered in the Glasgow experiments - and the Bartholomew 1:126,720/1:100,000 have name densities of 0.83 and 0.88 per square kilometre respectively, with no loss of clarity, but using smaller typefaces than have been favoured by OS in recent decades. Whilst the Philip and Bartholomew maps are thus well provided with minor names, they immediately raise the question as to what the basis of selection is for all these minor names! Now, it may indeed be that the minor names on the 1:50,000 are in fact a selection, but if they are only a proportion of all the names that might appear, all things being equal, then at least they represent a much greater proportion of those names that occur in ‘reality’.

In sum, the question of ‘1:100,000 versus 1:125,000’ seems to resolve around the following:

- (1) Whether the map is to be a ‘core map’, with a substantial official requirement as partial justification - in which case 1:100,000 would be self-selecting - or whether it is to be a ‘commercial’ map, in which case, given the divergence from international standards elsewhere, some other scale (1:125,000?) could be used.
- (2) How far such a map should co-exist alongside the 1:50,000 Landranger, and how far it would seek to replace it.

A further solution, which might please everybody, would be to produce a ‘Glasgow’ 1:100,000 for general use, and an ‘Exeter’ 1:125,000 specifically for cyclists. One possible ‘Exeter’ solution might be a radically different-looking map, possibly along the lines of the early (1988-93) 1:50,000 mapping of Ireland, i.e. characterised by contours and uncased roads. Whilst a ‘Glasgow’ map would be ‘a triumph of science and art’,⁹ an ‘Exeter’ map would meet immediate needs: and this cyclist has waited long enough!

⁷ In the writer’s possession.

⁸ At present, in England and Wales, cyclists have a right of way on bridleways but not on footpaths.

⁹ A paraphrase of Thomas Aiskew Larcom, *apropos* the proposed hachured 1:63,360 of Ireland, in *Correspondence respecting the scale for the Ordnance Survey...*, B.P.P. (H.C.) 1854 (1831) XLI, 187, p.348.

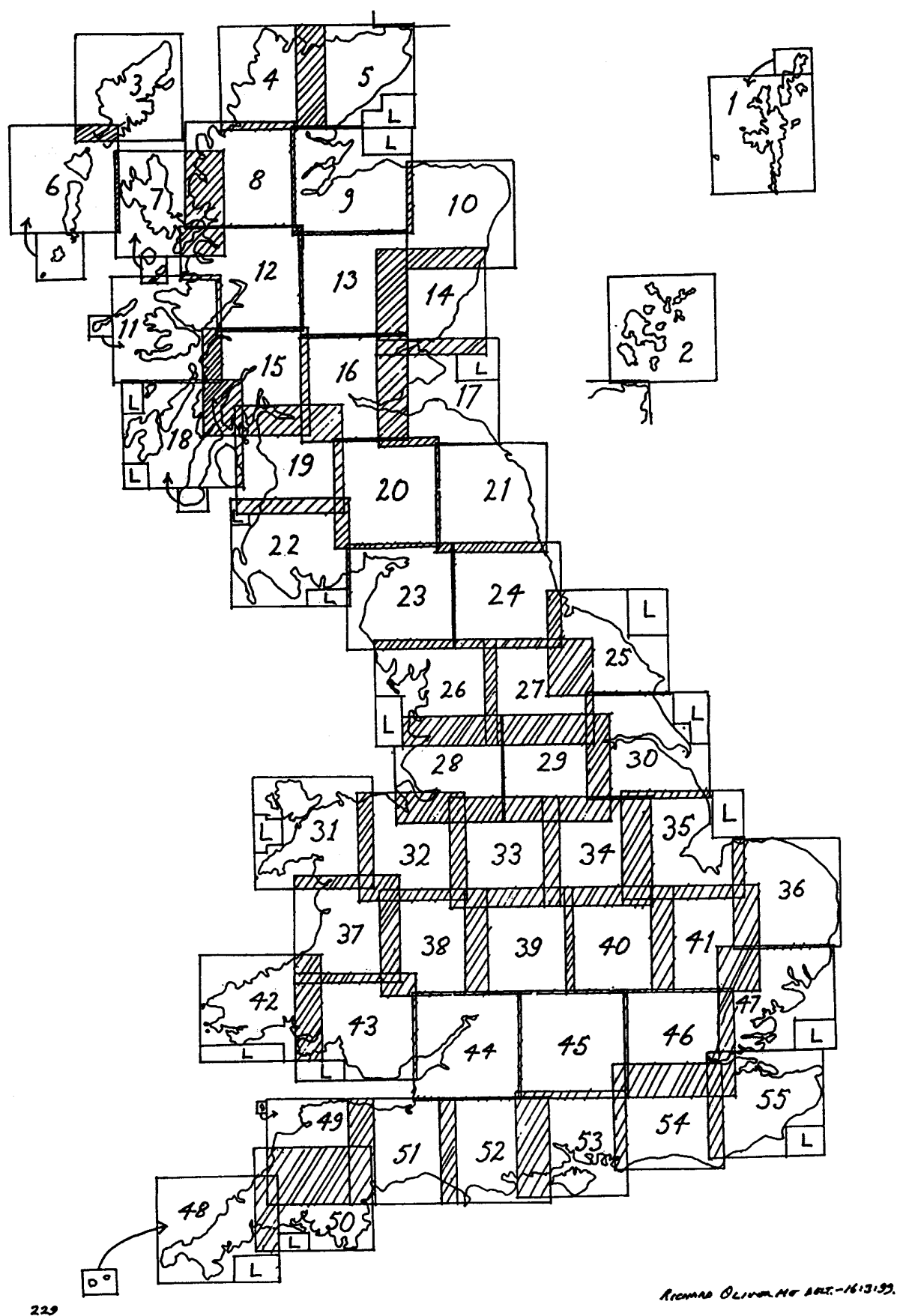
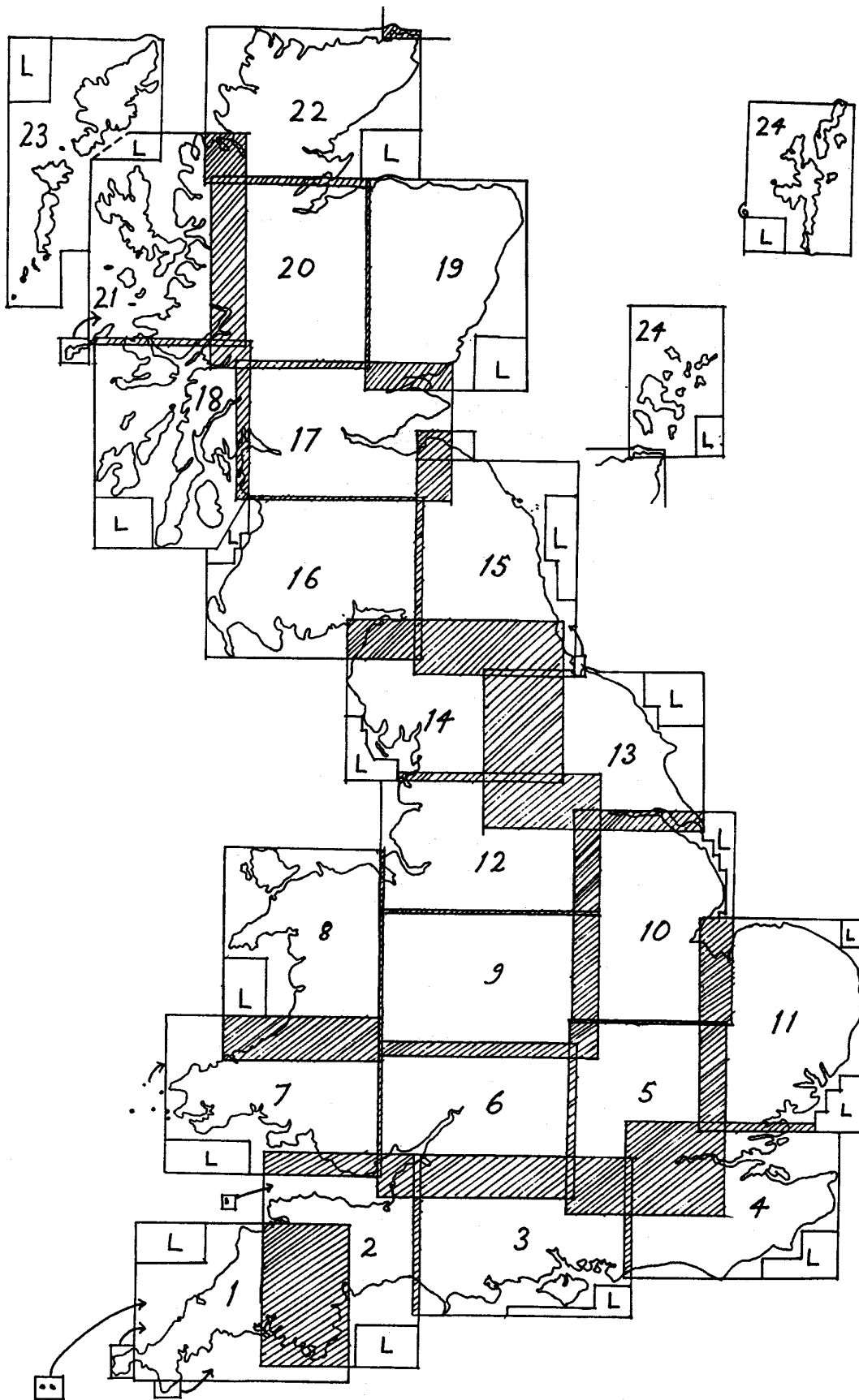


Figure 1. Layout for 1:100,000 map of Great Britain, suited to paper trimmed after printing to 1000 × 890 mm.



Appendices

Sheetlines for 1:100,000 and 1:125,000 maps

In my earlier article, I suggested that, using paper trimmed to 1250 by 935 mm (i.e. the same size as used for the OS 1:250,000 Travelmaster maps), it would be possible to cover Britain (excluding the Isle of Man) in about 40 sheets at 1:100,000 and 29 sheets at 1:125,000. This was based on layouts which I devised in 1990 in 41 and 29 sheets respectively; these were constrained by a rigid map area of 110 cm west-east by 88 cm south-north, with a view to integral covers being used. In March 1998 I devised (at the small expense of dispensing with the integral cover) a 1:125,000 layout on 1250 x 935 mm paper in no more than 24 sheets; this is illustrated in Figure 2 below, and there are notes on the layout in Appendix (2) below. As yet, I have not been able to devise a completely satisfactory layout for the 1:100,000 on 1250 x 935 mm paper, but I have devised one for that scale on 1000 x 890 mm paper (the same size as for standard 1:50,000 Landranger sheets) in 55 sheets, which is illustrated in Figure 1 below, with notes thereon in Appendix (1); this may be compared with cover of Britain in 50 sheets in the abandoned OS 1:126,720 Second Series.¹⁰ It is not completely satisfactory, and could no doubt be improved upon.

Common to all these layouts is a minimum overlap of 2 km between adjoining sheets, and placing the legend (assumed to need about 75 per cent of the space which it occupies on 1:50,000 sheets) in otherwise empty sea areas wherever possible, thus creating several L-shaped sheets.¹¹ The cautious numbering from south to north of the 1:125,000 compared with the bold numbering from north to south of the 1:100,000 could be interpreted as indicative of the 'Exeter' and 'Glasgow' approaches to the problem. For a strictly fair comparison, layouts for a 1:100,000 on 1250 x 935 mm paper and for a 1:125,000 on 1000 x 890 mm paper ought to be prepared; an obvious example of unfairness in the layouts offered here is that the 'large' 1:125,000 covers the country between London and Berwick upon Tweed in only four sheets, whereas the 'small' 1:100,000 needs seven! Still, I find a national 1:125,000 in 24 sheets a most seductive idea!¹²

In both appendices the figures following the working title for each Sheet indicate its position on the National Grid. Thus for 1:100,000 Sheet 1 the western Sheet line is on easting 400, the eastern Sheet line on easting 482, the southern on northing 1120 and the northern on northing 1200. This information will enable anyone interested to study and criticise the layout in more detail than is possible with the small-scale indexes offered here.

¹⁰ The Isle of Man is excluded, as it is conveniently covered by a single 1:50,000 sheet, and there seems no point in including it either as a separate 1:100,000 or 1:125,000 sheet, or as an inset on a mainland sheet. It was excluded from the original 50-sheet layout of the OS 1:126,720 Second Series of 1938, but was added some time in the 1950s: see Public Record Office file OS 1/351.

¹¹ This was not done on the 'integral cover' layouts of 1990.

¹² A makeshift 1:100,000 on 1250 x 935 mm paper might be prepared based on dividing the 1:125,000 sheets in half, but that would destroy much of the care in centring the 1:125,000 sheets.

Appendix (1)

Notes on 55 sheet layout suitable for a national map at 1:100,000 scale

The layout assumes the use of paper trimmed after printing to 1250 by 935 mm, i.e. as for present 1:50,000 Landranger mapping (except for Welsh sheets). A basic map area of 82 x 82 km is assumed, with the legend in the right or left hand margin.

- 1 - *Shetland* - 400-482, 1120-1200. Northern part on inset.
- 2 - *Orkney* - 310-392, 975-1057.
- 3 - *Lewis and Harris* - 080-162, 888-970.
- 4 - *West Sutherland* - 190-272, 895-977.
- 5 - *East Sutherland and Caithness* - 250-340, 895-977. Legend to occupy sea in south-east.
- 6 - *North and South Uist* - 030-112, 818-900. Barra, etc., to be on inset.
- 7 - *Skye* - 110-192, 798-880. Rhum and Eigg to be on inset.
- 8 - *Ross* - 165-247, 820-902.
- 9 - *Nairn and Moray* - 245-337, 815-897. Legend to occupy sea in north-east.
- 10 - *North-East Scotland* - 335-415, 788-870.
- 11 - *Mull* - 108-190, 700-782. Tiree to be on inset.
- 12 - *Fort William and Great Glen* - 160-252, 740-822. Legend to occupy south-west, thereby reducing overlap onto Sheet 11.
- 13 - *Cairngorms and Glen Garry* - 250-332, 735-817.
- 14 - *Angus* - 310-392, 720-802.
- 15 - *Central Argyll and the Firth of Clyde* - 175-257, 660-742.
- 16 - *Stirling and Kinross* - 250-332, 655-737. This also covers most of the lowland country between Glasgow and Edinburgh.
- 17 - *Edinburgh and Fife* - 310-402, 650-732. Legend to occupy sea in north-east.
- 18 - *Kintyre and Islay* - 114-206, 620-702. Legend to occupy sea in north-west and south-west. Southern part of Kintyre to be inset.
- 19 - *Glasgow and Ayr* - 200-282, 600-682.
- 20 - *Ettrick* - 275-357, 575-657.
- 21 - *Northumberland* - 355-437, 570-652.
- 22 - *Galloway* - 195-287, 530-612. Legend to occupy sea in north-west and south-east.
- 23 - *Cumberland and Solway Firth* - 285-367, 495-577.
- 24 - *Durham* - 365-447, 495-577.
- 25 - *North Yorkshire Moors and Coast* - 445-537, 458-540. Legend to occupy sea in north-east.
- 26 - *North Lancashire* - 305-397, 420-502. Legend to occupy sea in south-west.
- 27 - *Wharfedale* - 388-470, 420-502.
- 28 - *South Lancashire* - 320-402, 360-442.
- 29 - *South Yorkshire* - 400-482, 360-442.
- 30 - *River Humber* - 463-555, 378-460.
- 31 - *Snowdon and Anglesey* - 210-292, 313-395.
- 32 - *Denbigh and Chester* - 290-372, 303-385.
- 33 - *Staffordshire* - 360-442, 298-380.
- 34 - *Nottingham and the Trent* - 430-512, 298-380.
- 35 - *Lincoln Fens and the Wash* - 490-582, 303-385. Legend to occupy sea in north-east.

- 36 - *Norwich* - 573-655, 264-346. North part of Sheet to be broken by protrusions to accommodate coast.
- 37 - *Mid-Wales* - 240-322, 240-322.
- 38 - *Hereford* - 305-387, 230-312.
- 39 - *Birmingham* - 370-452, 230-312.
- 40 - *Leicester and Northampton* - 445-527, 230-312.
- 41 - *Cambridge* - 510-592, 230-312.
- 42 - *Pembrokeshire* - 168-260, 180-262. Legend to occupy sea in south of map.
- 43 - *Glamorgan and South Wales* - 240-332, 165-247. Legend to occupy sea in south of map.
- 44 - *Bristol and the Severn* - 330-412, 150-232.
- 45 - *Oxford and the Thames* - 410-492, 150-232.
- 46 - *London* - 490-572, 150-232. This includes the whole area within the M25.
- 47 - *Essex Coast* - 560-650, 184-266. Legend to occupy sea in south-east; south part of Sheet to be broken by protrusions to accommodate coast.
- 48 - *West Cornwall* - 132-224, 010-092. Legend to occupy sea in north-west; Scilly Isles might appear as inset in south-east, though case for continuous cover at this scale appears questionable.
- 49 - *North Devon* - 818-900, 070-152. Lundy might appear as inset.
- 50 - *South Devon* - 804-896, 033-115. Legend to occupy sea in south of map.
- 51 - *East Devon and West Somerset* - 280-362, 070-152.
- 52 - *Dorset* - 270-352, 070-152.
- 53 - *Hampshire and Isle of Wight* - 408-490, 075-157.
- 54 - *Surrey and Mid-Sussex* - 480-562, 093-175.
- 55 - *Canterbury and East Kent* - 550-642, 100-182.

Appendix (2)

Notes on 24 sheet layout suitable for a national map at 1:125,000 scale.

The layout assumes the use of paper trimmed after printing to 1250 by 935 mm, i.e. as for present OS Travelmaster and Outdoor Leisure mapping. The basic Sheet area would be either 135 by 110 km or 150 by 100 km, but almost all the sheets deviate from these. Sheet numbering was devised so as to enable publication which could exclude either the whole of Scotland, or else most of the highland and island areas.

- 1 - *Cornwall* - 132-284, 018-130. Scillies and Lizard area to be insets; legend to occupy sea in north-west. This Sheet covers the whole of Cornwall and also west Devon. An alternative would be to move the Sheet 15 km east so as to include Exeter, at the expense of including the Lands End area as an inset.
- 2 - *Devon* - 230-350, 030-180. Lundy on inset; Hartland area (also mapped on Sheet 1) to be inset in sea in south-east; legend to occupy sea and what would otherwise be a pointless duplication with Sheet 7 of some Glamorgan mapping in the north.
- 3 - *Wessex* - 345-495, 068-180. Legend to occupy sea in south-east part. This covers a similar area to OS Touring Map & Guide 15, *Wessex*. It covers nearly the whole of Dorset, Hampshire and Wiltshire.

- 4 - *London, Kent, Surrey and Sussex* - 490-640, 095-207. Legend to occupy sea in south-east part. This includes all but the western parts of Surrey and Sussex, and also includes the whole of the Greater London area within the M25. The sea area in the north-east might be used for insets of continuations to Luton and Stansted airports.
- 5 - *London and South-East Midlands* - 450-560, 140-275. Legend to be in bottom margin. This includes an area similar to the OS 1:126,720 *Greater London* maps of 1935 and 1962, and the 1:126,720 *City Link* map of 1986, and includes both the whole area within the M25 and all four existing London airports, as well as the whole of Bedfordshire, Buckinghamshire and Hertfordshire and most of Berkshire and Surrey.
- 6 - *Cotswolds* - 320-455, 150-260. Legend to be in left-hand margin; an extension might enable Cardiff to be included. This covers the whole area included in the OS 1:126,720 *Cotswolds* Sheet of 1931. It includes the whole of Gloucestershire and most of Herefordshire.
- 7 - *South Wales* - 170-322, 165-275. Legend to occupy sea in south-west. Islands outside Sheet to west to be insets.
- 8 - *North Wales* - 210-322, 245-395. Legend to occupy sea area in south-west.
- 9 - *Birmingham and West Midlands* - 320-470, 250-352. Legend to be in bottom margin. The area is inconveniently split between 1:250,000 Travelmaster sheets, and the proposed Sheet includes the whole area covered by the OS 1:126,720 *City Link* map published *circa* 1988. It includes almost the whole of Leicestershire, Shropshire and Warwickshire.
- 10 - *Lincolnshire* - 453-565, 273-425. Legend to occupy sea area in east and part of otherwise redundant overlap of Yorkshire mapping in Sheet 13. This county is cut badly by the present 1:250,000 Travelmaster Sheet lines. It has been laid out carefully so as to include the Humber Bridge, Nottingham, Leicester, Huntingdon and Kings Lynn: the last two are of some significance as the limits northward of Network South-East railway services. It also covers routes from Doncaster, Nottingham and Leicester to the Lincolnshire coast. A practical advantage of the layout overall is that only four sheets - 5, 10, 13 and 15 - are needed to cover the whole route from London to Berwick upon Tweed.
- 11 - *East Anglia* - 543-655, 200-350. Legend to occupy sea area in south-east. There is no single Sheet map published which covers the whole of this region at so large a scale.
- 12 - *Lancashire and West Yorkshire* - 320-470, 350-450. Legend to be in bottom margin. This includes the area covered by an OS 1:126,720 *City Link* map published *circa* 1988, but is extended to include the whole of the Lancashire and West Yorkshire conurbations. An extension in the south margin might reach down to Nottingham.
- 13 - *Yorkshire* - 390-542, 412-524. Legend to occupy sea area in south-east. This includes most of the historic county, which could not be covered in a single Sheet at a scale larger than about 1:175,000. The southward extension enables Humberside airport to be included, at the possible expense of the Redcar-Saltburn area having to be covered by a small inset.
- 14 - *Lake District and The Dales* - 295-445, 445-557. Legend to occupy sea area in south-west.
- 15 - *Northumbria* - 340-452, 520-670. Legend to occupy sea area in east. Hinterland of North Berwick (340-380, 670-690) and Tees mouth area to be included as insets. This

covers a somewhat similar area to OS Touring Map & Guide 14, *Northumbria*, and includes the whole of Northumberland and most of County Durham and the border country.

- 16 - *Galloway and Dumfries* - 195-345, 530-642. Legend to be placed in north-west, thus occupying sea area and an otherwise redundant part of Arran which is mapped in Sheet 18. There does not appear to be a single-sheet tourist map of this region on sale at present.
- 17 - *Edinburgh and Glasgow* - 215-365, 640-740. Legend to be in bottom margin. This covers a similar but larger area to the OS 1:126,720 City Link map of 1988; unlike that map, the proposed Sheet includes the Clyde and Fife coasts. An extension in the bottom margin might complete the route to Prestwick airport.
- 18 - *Kintyre, Argyll & Mull* - 115-225, 605-755. Legend to occupy sea area in south-west.
- 19 - *North-East Scotland* - 303-415, 720-870. Legend to occupy sea area in south-east. This Sheet has the advantage over the 1:250,000 Travelmaster of including Dundee and Aberdeen on the same sheet.
- 20 - *Great Glen* - 195-307, 735-870. Legend to occupy bottom margin.
- 21 - *Skye and West Coast* - 110-220, 750-900. Tیره to be on inset in sea on south-west. Legend to occupy sea area and otherwise redundant mapping of a small part of Harris in north-west, covered by Sheet 23.
- 22 - *Sutherland and Caithness* - 190-340, 865-975. Legend to occupy sea area in south-east.
- 23 - *Outer Hebrides* - 050-160, 115-965. Sea area and otherwise redundant overlap onto Skye in south-east to be occupied by large inset (050-090, 075-115) of Barra, etc. Legend to occupy sea area in north-west.
- 24 - *Orkney and Shetland* - 315-370, 970-1180 and 395-470, 1108-1218. Legend to occupy sea areas to south-east of Orkney and south-west of Shetland. These archipelagos are not well served by the 1:250,000 Travelmaster mapping, as they are shown at a reduced scale.

Yet another literary reference

There is a reference to an Ordnance Survey map in the late Anthony's Glyn's novel 'The Dragon Variation', published in 1969, p 186:

“He'd told old Hammond that he hadn't yet been able to draw a longitudinal profile on graph paper of Watendlath Beck from 275160 to 165193 on the Ordnance Survey Map, It was the sort of thing that took hours.”

Christopher Romyn

Second War Revision Sheet 117A East Kent (Special Sheet) - the military one (inch) that became civilised

Brian Dobbie

In Sheetlines 33 Tim Nicholson listed various one-inch military special sheets generally derived from Popular Edition material. He divided these into two groups :

- i) Sheets produced for military examinations and manoeuvres. These would essentially be one-offs.
- ii) Sheets covering areas of interest to the military, e.g. Aldershot. These would have a longer life with reprints over the years.

Amongst the latter group was a Sheet entitled *East Kent (Special Sheet)* first published in 1935. This was one of the military maps using Popular Edition material in which the Sheet lines (frame) were aligned with the Cassini grid (fig. 1) rather than on the projection (figs. 2 and 3). The map is 42 kilometres square. The Special Sheet was reprinted several times.¹

Most military one-inch sheets were formed from parts of two or more Popular Edition sheets so the military map would not cover all the area of any one Popular Edition sheet. However the geography of East Kent is such that the special military Sheet covered more than the area of Popular Edition Sheet 117. This latter sheet, also entitled *East Kent*, is one of the portrait shaped Popular Edition sheets. The military special Sheet is approximately 12 kilometres wider than the Popular Edition Sheet 117 with the extension of the area covered entirely to the west.

Vertically the area mapped on the military Sheet is about two inches shorter. The reduction is achieved by eliminating part of the Thames estuary north of Margate. The military map in fact extends about one mile further south than the Popular Edition sheet.

On GSGS 3907 military printings the small civilian index map showing adjacent sheets is augmented by an additional index map called 'Relation of grid letters and Sheet numbers'. On printings up to and including early Second War Revision printings this covered a considerable area, generally four lettered squares, i.e. an area 200 by 200 kilometres. In addition to numbered sheets special military sheets are normally shown by a pecked outline and named. Such military sheets I have for the relevant dates and area show only Sheet 117 and the special Sheet is not shown (fig. 2). This is possibly because the special sheet postdated the overprint block. Despite the existence of the special sheet, military printings of Sheet 117 continued up to and including the (first) War Revision.² Printing of the Popular Edition of Sheet 117 continued until 1939 plus an ungridded outline and water printing in 1942 (1000/3/42 LR) and this was the final civilian printing.³

With the introduction of the Second War Revision in 1941 the military Sheet 117 was replaced by a redrawn version of the *East Kent Special Sheet* using unpublished Fifth edition

¹ Tim Nicholson lists printings as WO 7000/35, WO 7000/35.8000/37 and WO 7000/35.8000/37.8000/39

² Roger Hellyer gave printings as WO 11,050/31; WO 7000/34; WO 3500/35; WO 3500/35.3000/36; WO3500/35.3000/36.1500/38; WO3500/35.3000/36.1500/38.6000/39C; WO3500/35.3000/36.1500/38.6000/39C.40,000/40W; WO 16000/40 OR 18000/40; WO 6000/40 and WO 10,000/41 in War Revision.

³ Yolande Hodson in *Sheetlines* 33 gives printings as:- 1920(4/20, +03/21); 3000/23; 3500/26; 5500/28; 5500/29; 5500/29.6300/31; 2500/33 ;2035;4036;4038 M37 R31(37/8); 1239 M37R31(39/40). To which Roger Hellyer adds 1000/3/42 LR as the outline and water edition.

material. It covered the same area as the earlier special sheet⁴ and retained the Sheet (frame) lines defined by the military Cassini grid. The map was titled *East Kent (Special Sheet)* and numbered 117A and stated it contained parts of sheets 116, 117 and 126⁵ (and see fig 1). Note that the early Second War Revision printings preceded the final civilian outline printing. War Revision printings with the military grid would presumably not be released for sale to the public until the outline printing had sold out. The copy I have is of the last printing (20,000/6/44 Ch) and has the red 'Sales Copy' imprint with a price of one shilling and sixpence. It is likely that copies would be available to the public before the end of the war. The initial Second War Revision printings on large sheets of paper retained the civilian conventional signs panels (Fifth Edition style) and the large military 'Relation of grid letters and Sheet numbers'. I have been unable to check if these show Sheet 117 or 117A. On later printings on smaller sheets of paper the conventional signs panels are omitted and the index map greatly reduced in size and scope (fig 3). Sheet 117A tended to hide its existence under a bush though shown on sheets 126 and 117A. However Sheet 117 is shown on sheets 108 and 135 and I have not seen a relevant printing of Sheet 116.

The 1947 issue of the OS 'Description of small scale maps' indicates the civilian availability of War Revision and Second War Revision one-inch maps as a temporary measure. The index map (plate 8) shows Sheet 117A not Sheet 117 (fig. 4).

A reminder of two other points is now relevant. The last pre-war edition of the 'New Forest' tourist Sheet was framed by the OS metric grid but had the yard grid shown on its face. Before the end of the war New Popular one inch sheets framed by the OS grid and including a grid spaced at one kilometre intervals had been printed. Their sale was prohibited by the War Office until the end of hostilities. Sheet 117A would have been on sale before then. It could not have had a long life though as its New Popular replacement (sheet 173) was on sale by September 1945.⁶

Sheet 117A therefore has two claims to fame:-

- (1) It was the first one-inch map to go on public sale that included a grid spaced at one kilometre intervals on its face aligned with the Sheet frame, though the grid was the military Cassini grid.
- (2) It is the only military Sheet to become incorporated into a numbered 'Civilian' series, in so far as sales copies of War and Second War Revision maps are Civilian maps.

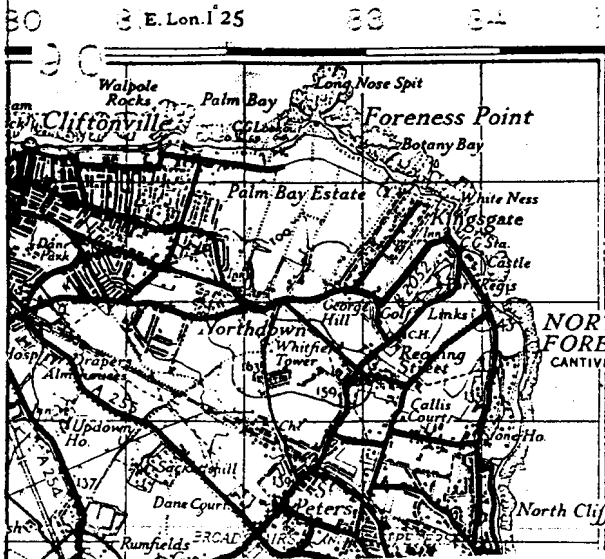
My thanks are due to Tim Nicholson and especially to Roger Hellyer who kindly supplied information, assistance and correction in correspondence. The responsibility for any remaining errors is mine.

⁴ Roger Hellyer confirmed this for me and supplied printings as:- WO 45,000/4/41, 20,000/7/41, 20,000/11/41 A, 30,000/3/42 LR, 40,000/10/42 A, 50,000/10/43 Wa, a 30,000 reprint by 14 MRS in 1944 and 20,000/6/44 Ch.

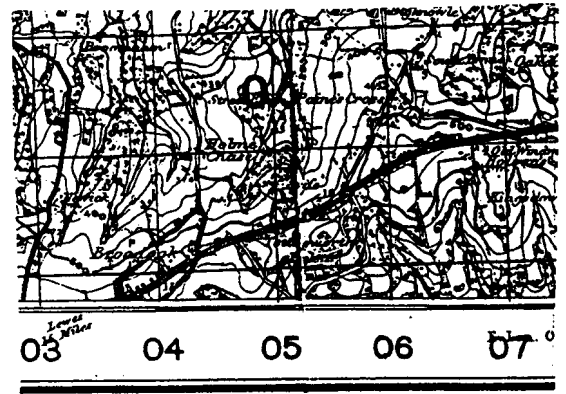
⁵ This is in an understatement and concerns part of England that nearly got away from OS Popular Edition mapping. At the bottom (LHS) of civilian Sheet 117 the edge of the land is about a quarter of a mile from the left hand edge of the frame. There is no extrusion on the bottom of Sheet 117 to show the area of land presumably because this would interfere with the 'Conventional Signs' panel. This bit of land is not shown on Sheet 126 which is the logical extension to Sheet 117. To find this bit of England we have to go to Sheet 135. The top of this map aligns with the bottom of Sheet 117. The missing piece of land is found as an extrusion at the top right hand corner (fig 5). By virtue of its southern extension Sheet 117A also includes part of Sheet 135 and the extrusion is no longer necessary. Roger Hellyer has confirmed however that the extrusion was retained on Second War Revision printings of Sheet 135, as does a copy I have recently obtained (11,800/12/42. LR.).

⁶ Richard Oliver, *A Guide to the Ordnance Survey one-inch New Popular Edition etc.*, p 11, London, The Charles Close Society, Second Edition, 1989.

FIG 1
SHEET 117A
 PARTS OF SHEETS 116, 117, 126.



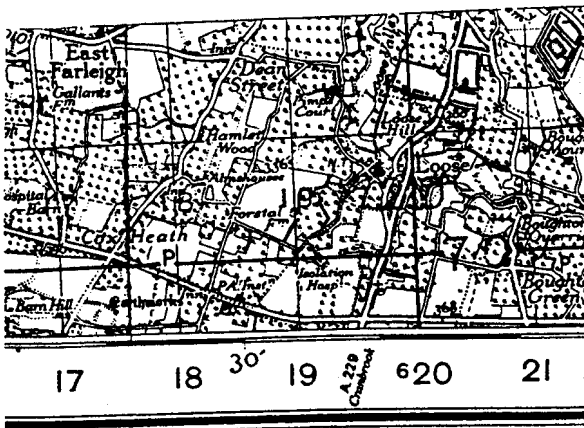
(1)



RELATION OF GRID LETTERS AND SHEET NUMBERS

300				76	77
83	84	85	86	87	
94	95	96	97	98	
105	106	107	108		
113	114	115	116	117	
123	124	125	126		
132	133	134	135		
100					

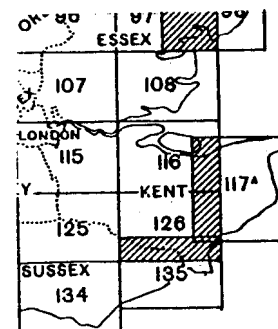
(2)



(3)

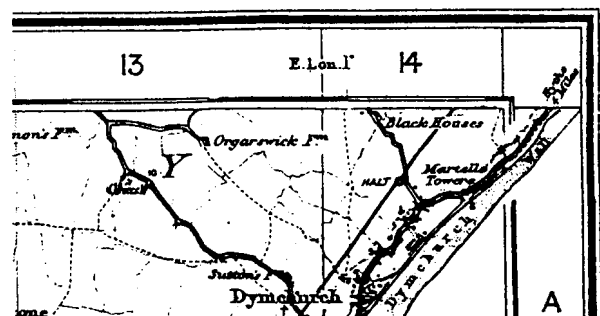
L		M
200	107	108
	115	116
	125	126
Q	134	135
		R

RELATION OF GRID LETTERS AND SHEET NUMBERS



(4)

SHEET 135 (Kent & Sussex)



(5)

New maps

Richard Oliver

The listing of certain new and revised maps published by the three Ordnance Surveys of Great Britain, Ireland and Northern Ireland and by various private publishers has been a developing component of *Sheetlines* since 1990. It started in a modest way as no more than a paragraph, but has grown in length to three or four pages. Whilst this information seems to have been welcomed in some quarters, I understand that in others the listing at length of current map series and new issues is not so highly thought of, and in the light of this the Society's Publications Sub-Committee has decided that 'New maps' should be discontinued for the present. (Apart from anything else, the inclusion of this information increases the cost of publishing and distributing *Sheetlines*.)

When the listing of new publications began, the Ordnance Survey of Ireland 1:50,000 was just starting publication, and the new maps were not often seen on sale in Britain. The 1:50,000 of Ireland has recently been completed, the distribution of the small-scale maps of both Irish surveys is now handled by their British counterpart, and these maps are much more readily available.

The current state of publication of the small-scale and popular maps of all three Ordnance Surveys is now conveniently summarised in a single listing produced by Ordnance Survey of Great Britain, and issued monthly: 'Maps, Atlases & Guides current editions and forthcoming titles'. Several readers are already on the mailing list for this: anyone else interested should contact Rick Hunt, Publishing Officer, Ordnance Survey, Romsey Road, Southampton, SO16 4GU.

The only private publisher who regularly republishes old OS mapping is Alan Godfrey: he issues about seven or eight new titles each month, and has recently set up a web site. This is kept up to date as new titles are issued, and is the best source for his recent publications: www.alangodfreymaps.co.uk. Alternatively, for a current catalogue (issued twice a year) send a stamped addressed envelope to Alan Godfrey Maps, 12 The Off Quay Building, Foundry Lane, Newcastle upon Tyne, NE6 1LH.

Other OS reissues are made occasionally by other organisations, notably local history societies, and it would be useful were readers to draw our attention to them.



Review: Touring map 3, Lake District, One-inch to one mile - Edition 'C' 1998

Bill Batchelor

When looking through my copy of the OS *Maps, Atlases and Guides catalogue 1999*, I noticed that the example used to illustrate the section on *Touring maps* was a portion of the 1 inch to 1 mile *Touring map 3 - Lake District*. There was something different about the look of the map used, and when I compared it with my current B edition of the *Lakes* map I could see that major changes appeared to have taken place. I rapidly acquired a copy of the new edition from my local OS agent and found there were indeed changes, most of which are discussed below.

Cover

This follows the current design style for small scale mapping. On the front at the top is the purple & magenta OS logo. The title *Lake District* coloured yellow, (the same as the previous edition,) is within a pink strip across the width of the cover. The colour photograph is of Derwent Water, with a view looking across the lake to Blencathra. At the bottom of the cover the scale is stated three ways, 1:63 360 scale, 1.6 cm to 1 km and 1 inch to 1 mile. The back cover has the new logo at the top left corner, an area map, and below the area map is the same index as on the previous edition. The area map differs from the previous edition in that the National Park is now shown in green, whereas previously only the boundary was shown as a black pecked line. Long distance (recreational) paths are marked with red diamonds, small lakes are shown, some villages and more mountain tops are named.

Map

When you first open the map the most obvious feature is the change in the depiction of relief. Gone is the yellow and purple hill shading. This has now been replaced by a completely new style of hill shading that shows undulations of the terrain far better than the previous shading. Hills and ridges now appear more rounded (see Fig. 1) compared with the old shading, which tended to finish abruptly on the crest of ridges and spurs, making them look sharper¹ than they really were (see Fig. 2). This hill shading now extends to below the 150m level, and the green layer colouring used to show land from sea level to 150 metres (500 foot contour on the earlier maps based on the Seventh series) has been omitted.

I do not know by what method the hill shading on the new map was derived, no doubt by computer, but I think it is far better than the shading used on the Dolgellau Landranger sheet², and the *Yorkshire Dales* one-inch Touring map. But, not only has the quality of the shading been improved on the Lake District map, the screen printing too is superior, with much improved gradation between the large black dots of the darkest area of shading, and the very fine dots at the edges of the shading - fading almost to nothing. However there are some places where the shading is so dark that it masks out text, contours and rock features. In some areas, such as Dungeon Ghyll in the Langdale valley, purple, used for access land boundaries, has been used *with* the hill shading, further obscuring topographical detail.

To give the map a less cluttered appearance, the font size of all the feature names has been reduced. I consider this to be the worst thing about this map as it has made it far more difficult to read than previous editions (Compare Figures 1 & 2).

The National Park boundary has been changed from a prominent green to a less prominent yellow. Tree symbols are now green instead of black, and have been reduced in size. The purple symbols and boundary used to identify 'Forestry Commission access land' (note, not 'Forest Enterprise') and 'National Trust land' is the same as on the *Landranger* maps.³ 'Other Public Access' information is also as on the latest *Landranger* maps i.e. magenta 'diamond' symbols for 'Selected recreational paths'. Orange bicycle symbols as used on some 1997 editions of the *Landranger* maps depict 'Selected cycle routes'.

¹ Having looked at maps in my collection this is less obvious on earlier pre-metric editions of this map that used the one-inch *Seventh series* as a base, and I presume, a different printing technique.

² See *Landranger Sheet 124, Dolgellau & surrounding area* - David Watt *Sheetlines* 44 Dec. 1995 page 52

³ See "Access Land" on *Ordnance Survey 1:50,000 maps* - Richard Oliver - *Sheetlines* 50 Dec 197 page 38

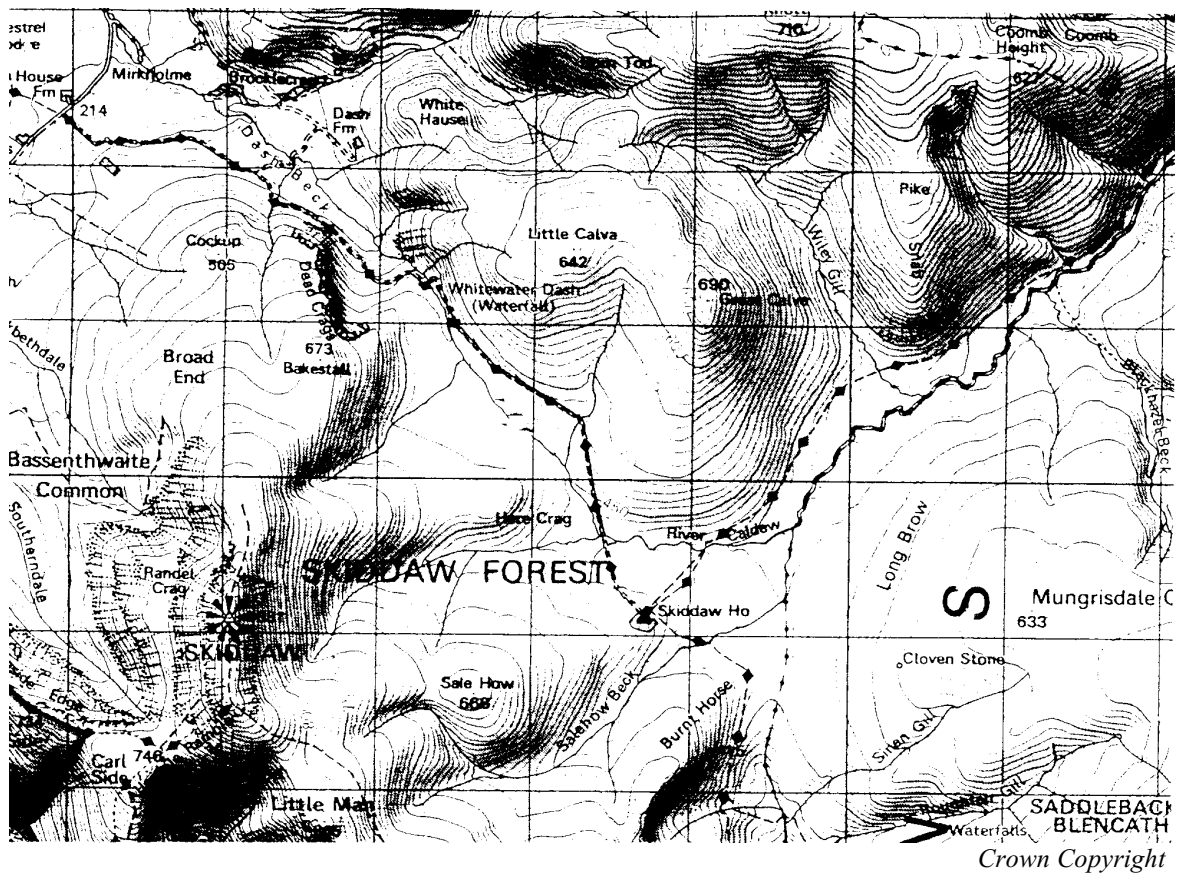


Fig 1 – Lake District One Inch to One Mile Touring map – edition ‘C’ 1998

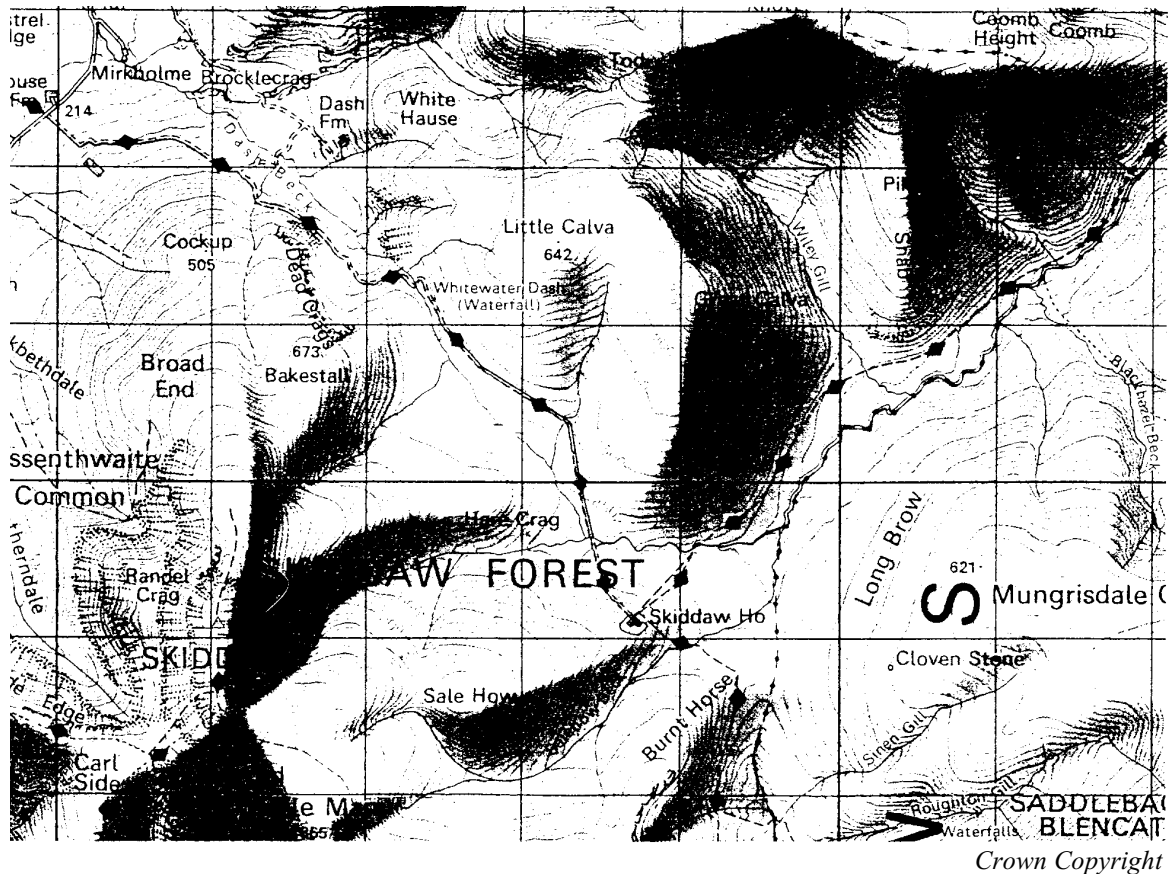


Fig 2 – Lake District One Inch to One Mile Touring map – edition ‘B’ 1994

On this map cycle routes are found around the fringes of the Park, and in the flatter areas, though there is one 'mountain' route over Whinlatter Pass to the west of Keswick. 'Selected places of tourist interest' names are now highlighted with a less dominant orange striped bar instead of the previously used bold magenta highlight. Whilst this new version is 'quieter', the old method was more obvious as a highlighter.

There are a couple of anomalies that I have seen, firstly, the point symbols for 'Places of Worship' are missing from the legend panel at the bottom of the map, but they are used on the face of the map. Secondly there appears to be a major landslip on Illgill Head above Wastwater as the contours along Easting grid line 17 have disappeared.

The illustrated guide has now been omitted from the reverse of the map, as is happening on other *Touring maps*.

When I first looked at this map I thought "Oh dear, what have they done to 'my' beautiful hill shading". I do miss the colourful effect of the old map, but I can say that I have no qualms in accepting the new shading. If the OS did a trial printing with the new shading plus the old yellow 'sunny side' illumination I would certainly like to see it.

With the exception of one or two areas, where the hill shading appears very dark, the overall visual effect of the map is quite acceptable. However, as I have said before, I find it extremely difficult to read text that is less than 1mm high - maybe it has something to do with my age - so I think that this is a map for my wall rather than my rucksack.

Editors note: on my own copy of the C edition the symbols for Radio & TV mast; Windmill, both Lighthouses and Beacon are also missing from the legend.



Help wanted – 1

Having exhausted (apparently) various CROs and libraries, I am anxious to obtain copies (either photo or by hand of Survey Diagrams for 1:10,560 regular or part regular sheets published approximately 1955-69 as follows:

Dorset/Hants/Wilts:	ST80NE; ST92SW; ST92SE; SY78NE; SY78SE; SU02SW; SU02SE; SU12SW
Sussex:	TQ30NW; TQ33NW; TQ33NE; TQ40NE; TQ41NW, TQ43SW
Kent:	TR15SE; TR26NW; TR34NW; TR35NE; NE35SE
Staffordshire:	SJ85NW; SJ90NW; SJ90NE; SJ94SW; SK04SW
Leicestershire:	SK51SW; SK51SE; SK61SW; SK61SE
Northumberland:	NZ38NW.

Please write to me at 2 Trefusis Close, Truro, Cornwall, TR1 1LJ.

John Cole

NT and OS revisited

Richard Evans

My previous attempts to pursue the subject of the use of purple vignetting and the two National Trust pictograms - 'open always' and 'limited access' - have only led to even greater puzzlement about the information NT sends to OS for inclusion on *Explorer* maps. My original interest (see *Sheetlines* 50 & 51) was prompted by the publication of the *Haslemere and Petersfield Explorer* Sheet 133. The Trust explained that properties with no public access are not shown at all, and the question whether they are to be classified as 'open always' or 'limited access' depends on a number of factors including the wishes of donors and terms of leases.

Since the publication of 133, further Explorers have only deepened the mystery of NT and OS. The Guildford Sheet 145 for instance shows the Wey Navigation as NT 'limited access'. The Godalming Navigation is not shown as NT at all, even though there is access to the whole of the towpath without any apparent restrictions, and there are a number of the Trust's familiar silver signposts as well as Trust information boards. The 1999 Handbook entry for the Wey properties is entitled *River Wey & Godalming Navigations and Dapdune Wharf*. Ten other Surrey properties are given separate entries in the Handbook; nine are shown on Explorers. The exception is the tiny Oakhurst Cottage at Hambledon at SU964380 on Sheet 133. Equally small buildings elsewhere are shown on these maps. The two main properties listed but not given separate entries - Frensham and Hindhead Commons - both make it onto sheets 133 and 145.

Of the thirteen properties given a separate entry under 'London' in the 1999 Handbook, all are shown on the London Explorers published in January 1999 except Eastbury Manor (Sheet 162 TQ457838) which earns a three inch entry in the Handbook but no NT symbol on the map. Why should Eastbury be singled out for partial anonymity? Six properties are given grid references but do not get individual entries: five are shown on the 1:25,000 maps. The sixth is Chislehurst Common where according to *Properties of the NT* it is only owner of two small strips of land as part of a larger scheme for conserving the Common.

Following an item in the Spring 1999 *NT Magazine* saying the question of the arrangements to ensure that the Trust's property is correctly shown on OS maps had been raised at its AGM, I again wrote to the editor and requested the answer given to the questioner at the AGM. The reply came from top management (The Deputy Director) who recalled my telephone conversation with its cartographer, Ivan Parr, over a year earlier and saying that if anything changed Mr Parr would be in touch. A letter from the Trust's Director of Estates, P.J. Dixon, in the Spring 1999 issue of *Rambling Today* says that NT is committed to providing as much access as possible to its properties and to showing the extent of access on OS maps, and that it is currently reviewing with OS how such access including permitted routes can best be shown. I await developments.

This discussion only serves to raise a wider question regarding the 1:25,000 and 1:50,000 series. As they develop as rights of way and leisure maps, OS itself does not have direct control over many of the most important details and must rely on highway authorities and other bodies who may have priorities greater than that of ensuring the accuracy of OS

maps. In fairness to NT, the letter to *Rambling Today* suggests that it is aware of the problem and is confronting it.

Letters

Donald C Clayton writes in response to two items in Sheetlines 53 - John Seely's letter on pages 53/54, and Richard Oliver's on page 55.

1. Regarding pages 53/54 and the booklet 'Around Aldershot'; published 1947. At that time the names and details of military airfields and government establishments were not identified, but flying club airfields and manufacturers' airfields were shown - locally to this area, Fair Oaks and Dunsfold were so identified.

The one-inch Seventh series Sheet 169 of 1959 (fully revised to 1956) shows Blackbushe (Hartford Bridge in WW2) in detail as it was then primarily a civil airport, although largely used by charter aircraft for transport of British military personnel. Odiham airfield is indicated by name only and Farnborough is still shown in its virgin common land state (i.e. as about 1912!).

More detail appears with the B edition of Sheet 169 in 1971. Blackbushe with slightly less detail (why?) and a truncated main runway; Odiham with complete runways and buildings in some detail and Farnborough with great detail and shown 'Royal Aircraft Establishment'. The National Gas Turbine Establishment is also at Pyestock, to the west of Farnborough.

This later edition of Sheet 169 was revised in 1967-69, so the decision to include military or research sites or establishments was apparently taken between 1956 and 1967. Was this decision made because it was assumed that our 'enemies' knew where they were anyway?

2. Regarding page 55; security classified sites.

Yes, the USAF armaments depot on the old airfield of Welford has appeared in detail on Explorer 158 edition A in 1998 (a fine air-to-ground view appears in *UK Airfields of the Ninth – then and now* of about 1994) complete with access points to and from the M4 motorway (at SU422726). Some remains of the old access branch from the Lambourn Valley railway are also shown, in use until 1967; thereafter minor roads were used for access until the M4 became available. These road and rail access points had previously been shown on Landranger 174 edition B of 1993, but not the site details.

The armaments storage site was in use by the USAF from September 1955 until the early to mid 1990s when their bomber squadrons left their permanent bases in England and Cruise Missiles were removed from Greenham Common airfield. Strangely enough the details of the Greenham Common airfield are not shown on Explorer 158, the vast area reverting to its title 'Greenham Common', but these details were shown on Landranger 174.

Donald C. Clayton

The Centre Tree

I would think the tree is (was?) located at a spot claimed to be the centre of England – somewhere in Warwickshire near Meriden.

Walter Paterson

OS Maps in Literature

In that turn of the century classic, Erskine Childers' "The Riddle of the Sands", one of the heroes, Carruthers, is spying out canals in Northern Germany. To aid his efforts he "bought a pocket ordnance map of Friesland on a much larger scale than anything I had used before". German maps of the time would hardly be known as Ordnance maps, so I presume the word was being used generically, on the same principle that all vacuum cleaners are hoovers.

Walter Paterson

Grid Referencing

I had expected to see in your last issue a spate of authoritative correspondence on David Forrest's article 'GSGS Misc Series 1999 and 2000' (*Sheetlines* 52, pp17-20) but in its absence permit me to remark upon his comment on the 1:100,000 map, that the 'grid at 1km intervals ... is rather dominant and a two or five kilometre spacing would be more appropriate.'

Dr Forrest is perhaps regarding the maps as aesthetic objects, to the exclusion of the role as scientific artefacts designed for use. The method of giving grid references by interpolating tenths between grid lines is now, I would have thought, universal and widely taught in our schools and, especially, to military personnel. An essential concomitant of this method is that the lines themselves must correspond to the units, tens of units, or hundreds of units, etc. employed in the grid; to have a mixture such as tens of units, fives of units, tens of units, is quite simply out of the question.

Admittedly, the *War Office Manual of map reading, photo reading, and field sketching* (1940 edition) gives one (German) example of a 1:100,000 map with grid lines spaced at fives instead of tens, and devotes a page to explaining how to cope with this, but any such deviation now from the norm would be bound to lead to innumerable errors and be anathema to users.

Many cartographers have approached the whole question of putting grids on their maps with reluctance, echoing the town planner who cried

'When shall we be rid
Of the curse of the 'GRID'?'

(M. Nay)

It is however, surprisingly easy, when studying a map, to look through the grid and effectively ignore it, yet to bring it into focus when needed. The problem of over-dominant grid lines at 1cm intervals is to be resolved by choosing an appropriate line gauge or screening, not by disrupting the whole basis of the accepted method of giving grid references.

Richard Porter

The Centre of London - the last word?

I should like to thank those correspondents to *Sheetlines* 53 for their suggestions and knowledge. From the point of view of the remote traveller it is sufficient for him to know his distance from London, that is to say how far before he reaches the outskirts of the City and thereby its protection. On the other hand, I, standing at the centre would have a different distance to go before leaving London according to which way I went. This is no special difficulty unless I had a fixed appointment on the boundary.

My whimsical question has shown a clear interest in the problem of city and town centres but without any 'official' position emerging. Perhaps the Lord Mayor of the City of London could be persuaded to lay down a fiduciary mark somewhere and formally define it to be the centre of his city. Sensibly this should be done before the new Mayor of London comes up with his own idea for the centre of London, a spot outside the proper City,

My thanks to all the contributors, I shall have to make up my own mind and do some calculations

A. G. Hunt

Railways, cyclists and the purple plague – the debate continues

May I thank Richard Oliver for his additions to my letter in *Sheetlines* 52 in his article "Railways, cyclists and the purple plague" in *Sheetlines* 53 and say that my wrath would have been greater had I known of the further examples of "misrepresentations" that he cited. In a separate article "Improvements and changes to 1:50,000 and 1:25,000 mapping", *Sheetlines* 53, Richard Oliver steals my thunder, this time, on the subject of censorship. What is the policy on censorship? I offer some examples:

1. Camping at St. Fillans, at the eastern end of Loch Earn in the early 80s, I came across a small hydro-electric power station (approximately NN738226) near Comrie. The building is not shown on Seventh Series Sheet 54 edition A or Landranger Sheet 51 edition A//*.
2. Just to the north of the power station above, are farm buildings (NN739228), near a black dot, partially concealed from the road, which may have housed furry animals - again not shown on the maps above but may have been too new.
3. The Ruddington MOD depot, south of Nottingham, (SK575320) is not shown on Seventh Series Sheet 112 edition A, but is shown on Landranger Sheet 129 edition B. Edition B must have been published after the depot closed but before landscaping of the site was carried out to provide a home for a transport museum, country park and commercial premises.

These examples raise several questions:

- a. Governments can censor what they like but there appear to be inconsistencies in the OS representational policies. But can a commercial organisation, or private individual for that matter (say, a mink farmer) request that property is not shown on OS mapping?
- b. Whereas omission on one-inch/1:50,000 maps may go unnoticed it would be difficult to conceal the omission of the Ruddington site, or for that matter Aldermaston or Burghfield on 1:2,500 maps. Were the items which were censored on one-

inch/1:50,000 maps all shown on 1:2,500 maps? What is on the ground should be on the map. If it is sensitive, put a fence round it and don't cover it with purple vignetted bands!

Tim Hadfield

David Forrest's 1:100,000 Article, Sheetlines 53

To my mind it left out the most important point. There was no mention whatsoever of the geography and topography of the ground in relation to map scales. To make clearer what I mean, and to give as an example I know reasonably well - Irish mapping. For large areas of that country there is no point in mapping at a scale larger than 1:50,000 because there is no need for it. No point in mapping large areas of featureless bog for example. To my mind the two scales they intend to use is right for that country.

For the same reason the three 'popular' scales promoted in this country suit us well. I have to say though I am not all that keen on the practicality of the present 1:25,000 and doubt its value in large areas of Scotland for example.

For France different reasons apply. Again I consider their scales to be perfect for that country A 1:25,000 in an easy to handle format for those who need it. Then a jump up to 1:100,000 because the population and topography of the country suits that scale.

Now back to that table! It claims for example that Ireland is one hundred per cent mapped at the scale of 1:50,000 - it is not even now, and certainly would not have been when the table was drawn up. When I went into Stanfords recently and looked at the chart of those completed they still had around half a dozen to complete the publication.

It is errors such as these I am afraid which throw doubt on the validity of the rest of the table. A pity because to my mind the mapping of other countries is a most important subject. One that has been dealt with already by the CCS - at the 1996 Shap meeting for example. But is well worth further comment.

We all need maps to travel abroad. But how good are they? What are their National Mapping Agencies like? My own enquiries indicate not good at all. Spain and Portugal for example "may" have 1:50,000 maps, but I for one find them very difficult to obtain. In Portugal two years ago I was lent a couple of 1:50,000s for the area in which we were staying. (I could have sworn that they were produced by our own OS, being so similar. No evidence to indicate so on the map however).

These were utterly useless because they were thirty years out of date. This is because the north of that country had changed so much since the time they were drawn up, they were best left at home. My enquiries at Stanfords and other map specialists indicate the same applies to Spain. Norway is another country I have motored through in which it is really difficult to obtain any decent maps. Another member has told me he has seen 150,000s, but I never have. The best I could find was at 1:325,000 - not good at all!!

Philip Fry

A footnote to Footpath Guides

The distinctive series of Footpath Guides which John Seeley described in *Sheetlines* 53, p53 so precisely turns out to be far larger than the two titles he mentions and the two which I possess. My copy of 'Around Rye and Winchelsea' happily includes a flier promoting both the series and the National Trust. This lists 92 titles, numbered 1 to 101 with gaps. Of these a total of 52 are shown as already published. The cost of each was 2/6 (12½p) which equates to about £2.50 at current prices. Of those listed 66 are in stock at the British library, which also has a copy of one not listed on the flier. On the other hand the British Library appears to lack one title listed as published. The whole series seems to have appeared at great speed after the end of World War 2, the first title being dated 1946 and the most recent 1949. It was one of the numerous ambitious topographical projects of the late 1940s which fifty years later can only be admired for their enterprise and originality. It would be interesting if members had further experience of these diminutive, OS-wrapped guides.

Malcolm Stacey

Ordnance Survey trade marks in the later 1930's





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SERIES SHOW
THE NATIONAL
GRID

PUBLISHED BY THE DIRECTOR GENERAL,
ORDNANCE SURVEY, CRESSINGTON, SURREY

Reading the recent article in *Sheetlines* 52 (pp 6-12) by Richard Oliver about various trade marks used by the OS, and David Archer's illustrations, prompted me to look at my collection of Ward Lock & Co.'s Red Guides for the pre/post second world war period for similar examples.

Surprisingly there seem to be relatively few adverts for OS publications whereas John Bartholomew & sons usually had a advert in each addition (probably because their maps were invariably the basis for the folded district maps bound into the guides). However I came across three, fairly uninspiring but possibly typical, examples of OS advertising which may be of some interest to readers. Enlarged photocopies are below and opposite. These are taken from (left) a 1935 Guide to Stratford-upon-Avon; (overleaf top) an undated, post war Guide to Swanage. As the footnote implies the date is immediately post war but the guide still refers to railway companies pre-nationalisation, so could be around 1946/7; (overleaf bottom) a 1950 guide to Filey and the Yorkshire Coast.

John Streeter

ORDNANCE MAPS.

A holiday in any part of Great Britain is incomplete without a

"ONE INCH"

Footpaths, byways, woods, streams, villages, hamlets, antiquities, every little valley and hill, these and similar details are clearly shown on the "ONE INCH" MAP. Prices range from 2s. 0d. according to style of mounting.

A new popular edition is now being prepared for England and Wales, and the popular edition for Scotland is being brought up to date.

AN ENTIRELY NEW MAP— THE "TWO-AND-A-HALF-INCH"

is in course of preparation. This larger scale is ideal for ramblers and others interested in a close study of the countryside, and should prove an invaluable addition to the range of Ordnance Survey publications.

For the motorist, the "QUARTER INCH" and TEN MILE ORDNANCE MAPS are recommended, and new editions are in course of production.

All the new maps will incorporate the NATIONAL GRID system of referencing. Under this system any particular place or feature has the same map reference on maps of all scales.

ORDNANCE MAPS are obtainable from the various official Agencies and good class Booksellers throughout Great Britain. In the event of difficulty write to the DIRECTOR GENERAL—ORDNANCE SURVEY—CHESSINGTON—SURREY.

If the sheet you want is not yet available, this is because the whole of the Ordnance Survey staff has been engaged on the production of operational maps for the fighting forces, so please be patient.

A holiday in any part of Great Britain is incomplete without a

"ONE-INCH"

ORDNANCE MAP

Footpaths, byways, woods, streams, villages, hamlets, antiquities, every little valley and hill—these and similar details can only be shown clearly on a "ONE-INCH" Map.

"ONE-INCH" ORDNANCE Maps are available for the whole of Great Britain. Specially elaborate "Tourist" maps are prepared for all the noted holiday districts. Prices from 1/9 according to style of mounting.

Ask any Bookshop or Bookstall to show you the Local Sheets.

Harry Margary: some corrections.

My obituary notice of Harry Margary, published in *Sheetlines* 53, pp 3-8, contained a few statements which need to be amplified or corrected.

First (p.3): the facsimile of the Andrews and Dury map of Kent of 1769 was reissued in 1968.

Second (p.5): Yolande Hodson was Brian Harley's collaborator and co-author, rather than his research assistant, for Volumes I-III of the *Old Series Ordnance Survey*.

Third (p.5, n.6, and p.6): the cartobibliographies for Volume VII of the *Old Series Ordnance Survey* were begun by John and Barbara Manterfield, and I only took over after they had substantially completed work at the British Library Map Library and elsewhere on sheets 61-63.

Fourth, and last: in February 1999 all the working papers for compiling the cartobibliographies for Volumes VI, VII and VIII of *OSOS* were deposited with Cambridge University Library map library, which already holds both numerous OS files deposited by the Charles Close Society, and various papers in the Messenger Collection.

Richard Oliver

Road numbering

Road Numbers were devised in 1923 by the recently formed Ministry of Transport, which superseded the Road Board. These introduced A and B Classified Roads and these were shown on overprinted half-inch OS maps. A1 to A6 radiated from London in a clockwise series, with A7 to A9 in Scotland. Two digit numbers were in the same areas, followed by three and four digits for less important main roads or those further from London. Some roads, of course, crossed from one area to another, but retained their same A or B number. Updated half inch maps were issued annually in the early years as changed numbers were quite frequent such as the elimination of the A42, which became bits of the A239, A423 and A34. A303 was also devised, taking various sections of different A and B roads. By about 1930 the system had become fairly stable, and road numbers were gradually included on O.S. one-inch and other maps.

The initial reason for classification was to define which roads qualified for the different percentages of Ministry grant towards maintenance and improvement (if any). Road numbers were, however, added to guideposts, and would have helped any motorists who knew what was going on.

A more local numbering system followed a few years later for Class C roads, but was never generally published, so was only administrative. Road funding has changed since then, but the classification has never been abolished as far as I know.

The Trunk Road system was set up by the 1936 Act, and extended by the 1946 Act which also downgraded some roads and replaced them with others without changing the road numbers concerned; trunk roads were wholly financed by the Ministry, but were open to all forms of traffic including pedestrians, flocks of sheep, horses and you-name-it, so Parliament (literally a talking shop) had to pass yet another change, the Special Roads Act 1949 to

legalise motorways and other rights of way for special kinds of traffic. This has led to the downgrading of further trunk roads, some to B classification with new road numbers. It's all so simple, isn't it!

John Bentley

Help wanted - 2: The one-inch Popular Edition map of Scotland

Richard Oliver

Several readers will recall that in 1987 the Society published two booklets of mine, listing the then known printings of the one-inch Fifth Edition and of the one-inch New Popular Edition of England and Wales and the post-1945 printings of the one-inch Popular Edition of Scotland with the National Grid; second editions of both were issued in 1989. Publication of these booklets led to the discovery of several hitherto unknown printings of these maps. In 1990 I printed two or three dozen copies of a similar listing of the pre-1945 civil printings of the Scottish map, in the hope of obtaining details of a number of printings known only from references in Ordnance Survey annual reports and map dealers' catalogues; this listing had a limited circulation, and I am grateful to those readers who enabled me to fill some gaps in my knowledge.

There is now a very distinct possibility that a booklet listing all the known printings of the Popular of Scotland, both pre- and post-war, will be published by the Society later this year. Whilst I am pretty confident that the listing of the post-war maps is fairly complete, I am much less confident about the pre-war maps. Accordingly, I list below in summary form all those pre-1945 (i.e. pre-National Grid) printings which I know of. I would be very pleased to hear from any readers who may own, or have access to, (1) any of those printings listed below annotated '**No details**', or (2) any printings which are not listed at all.

The following conventions are used:

C - full colour printing

O - outline edition (black, blue, brown only)

OW - wartime printings with black outline and blue water

A square-bracketed date preceded by a dash denotes a first printing without a print-code: see e.g. Sheet 72, where - [1925] denotes the first printing of 1925.

Other bracketed dates are taken from OS annual reports and dealers' lists, and it is for these printings that details are needed. If anyone finds either any '**No details**' or completely unlisted printings, could they please contact me at the address below, and I will reply with a request for information on certain points. I should add that whilst all assistance will be gratefully acknowledged in print, there will be no unseemly identification of the contents of individual private collections!

It would be appreciated if anyone able to help could contact me by early July at Department of Geography, University of Exeter, Exeter, EX4 4RJ or by email to r.r.oliver@exeter.ac.uk

Sheet 1

C 1600/31
O 1600/31
OW 1000/4/42 LR

Sheet 2

C 1600/32
O 1600/31
OW 1000/4/42 LR

Sheet 3

C 1600/31
O 1600/31
OW 1000/6/42 LR

Sheet 4

C 1600/32
O 1600/32
OW 1000/6/42 LR

Sheet 5

C 1600/31
O 1600/31
OW 1000/6/42 LR

Sheet 6

C 1600/32
O 1600/32
C 838.M37.R37
OW 1000/3/42 LR

Sheet 7

C 1100/32
O 1100/32
OW 1000/5/42 LR

Sheet 8

C 1600/31
O 1600/31
OW 1000/5/42 LR

Sheet 9

C 3600/30
O 3600/30
OW 1000/5/42 LR

Sheet 10

C 3600/30
O 3600/30
OW 1000/5/42 LR

Sheet 11

C 3600/31
O 3600/31
OW 1000/5/42 LR

Sheet 12

C 3600/31
O 3600/31
OW 1000/5/42 LR

Sheet 13

C 1600/31
O 1600/31
OW 1000/5/42 LR

Sheet 14

C 1600/32
O 1600/32
OW 1000/7/42 LR

Sheet 15

C 3600/30
O 3600/30
OW 1000/5/42 LR

Sheet 16

C 3500/30
O 3500/30
OW 1000/6/42 LR

Sheet 17

C 3600/30
O 3600/30
OW 1000/5/42 LR

Sheet 18

C 1550/31
O 1550/30
C 1040 - No details
OW 1000/6/42 LR

Sheet 19

C 3500/30
O 3500/30
OW 1000/5/42 LR

Sheet 20

C 3500/30
O 3500/30
OW 1000/5/42 LR

Sheet 21

C 4500/30
O 4500/30
OW 1000/3/42 LR

Sheet 22

C 1600/32
O 1600/32
OW 1000/3/42 LR

Sheet 23

C 1600/31
O 1600/31
OW 1000/1/42 LR

Sheet 24

C 4500/30
O 4500/30
OW 1000/6/42 LR

Sheet 25

C 3500/30
O 3500/30
OW 1000/5/42 LR

Sheet 26

C 1700/29
O 1700/29
C 10/37.M36.R33
OW 1000/2/42 LR

Sheet 27

C 2300/29
O 2300/29
C 1039.M39.R38
OW 1000/5/42 LR

Sheet 28

C 2300/29
O 2300/29
C 1038.M38.R37
OW 1000/10/41 LR

Sheet 29

C 2300/30
O 2300/30
OW 1000/8/42 LR

Sheet 30

C 2300/30
O 2300/30
OW 1000/1/42 LR

Sheet 31

C 2300/30
O 2300/30
OW 1000/3/42 LR

Sheet 32

C 2400/31
O 2400/31
OW 1000/6/42 LR

Sheet 33

C 2400/31
O 2400/31
OW 1000/5/42 LR

Sheet 34

C 1800/29
O 1800/29
C [1931] - **No details**
C 1035
C 935 - **No details**
C 836 - **No details**
C 1039.M38.R38
OW 1000/5/42 LR

Sheet 35

C 1800/29
O 1800/29
C 935
C 10/35
C 1038.M37.R36
C [1939/40] - **No details**
OW 1000/2/42 LR

Sheet 36

C 1800/29
O 1800/29
C 836
C 1038 M37 R37
OW 1000/6/42 LR

Sheet 37

C 1700/29
O 1700/29
C 836
C 1539.M39.R39
OW 1000/6/42 LR

Sheet 38

C 1700/29
O 1700/29
C 10/37
OW 1000/1/42 LR

Sheet 39

C 2300/29
O 2300/29
OW 1000/2/42 LR

Sheet 40

C 2300/29
O 2300/29
OW 1000/3/42 LR

Sheet 41

C 1700/28
O 1700/28
C 836
C 539
OW 1000/6/42 LR

Sheet 42

C 3300/28
O 3300/28
OW 1000/11/41 LR

Sheet 43

C 1700/28
O 1700/28
C 1036
C 2039.M39.R38
OW 1000/2/42 LR

Sheet 44

C 4300/29
O 4300/29
OW 1000/5/42 LR

Sheet 45

C 4000/29
O 4000/29
OW 1000/6/42 LR

Sheet 46

C 1800/29
O 1800/29
C 10/37.M36.R34
C 1539.M39.R.39
C 1500/40
OW 1000/2/42 LR

Sheet 47

C 3300/28
O 3300/28
C 2050/32
C 20/38.M37.R36
C 2040.M39.R39
OW 1000/10/41 LR

Sheet 48

C 2300/28
O 2300/28
C M37.R37.1038
OW 1000/5/42 LR

Sheet 49

C 1250/28
O 1250/28
C 1000/32
C M37.R36.10/37
OW 1000/2/42 LR

Sheet 50

C 2800/28
O 2800/28
C 1540.M39.R39
OW 1000/2/42 LR

Sheet 51

C 2800/28
O 2800/28
C 500/30
OW 1000/11/41 LR

Sheet 52

C 650/27
O 650/27
C 900/32
C 839.M38.R38
OW 1000/5/42 LR

Sheet 53

C 850/28
O 850/28
C 1000/32
C 1040 - **No details**
OW 1000/6/42 LR

Sheet 54

C 1150/28
O 1150/28
C 2200/31
C 1534
C 20/38.M38.R38
OW 1000/10/41 LR

Sheet 55

C 3500/27
O 3500/27
C [1931] - **No details**
C 1500/34
C 1540.M39.R39
OW 1000/10/41 LR

Sheet 56

C 1150/27
O 1150/27
C 1150/27.1500/29
C 1539.M38.R38
OW 1000/2/42 LR

Sheet 57

C 1650/28
O 1650/28
C 500/33 - **No details**
C [1936/7] - **No details**
C 538 - **No details**
OW 1000/2/42 LR

Sheet 58

C 1650/28
O 1650/28
C 10/37.M36.R34
OW 1000/5/42 LR

Sheet 59

C 2750/27
O 2750/27
OW 1000/5/42 LR

Sheet 60

C 2750/27
O 2750/27
OW 1000/6/42 LR

Sheet 61

C 3000/27
O 3000/27
C 1534
C 1538.M37.R37
OW 1000/2/42 LR

Sheet 62

C 2500/27
O 2500/27
C 2700/33
OW 1000/3/42

Sheet 63

C 1250/27
O 1250/27
C 1250/27.1500/29
OW 1000/5/42 LR

Sheet 64

C 5000/28
O 5000/28
C 1538.M37.R37
OW 1000/3/42 LR

Sheet 65

C 2500/27
O 2500/27
OW 1000/11/41 LR

Sheet 66

C 4000/27
O 4000/27
OW 1000/5/42 LR

Sheet 67

C 1250/27
O 1250/27
C 2200/31
C 2038.M37.R36
OW 1000/3/42 LR

Sheet 68

C 1900/28
O 1900/28
C 1236 - **No details**
C 1039 - **No details**
OW 1000/5/42 LR

Sheet 69

C 2750/27
O 2750/27
OW 1000/5/42 LR

Sheet 70

C 2750/26
O 2750/26
OW 1000/1/42 LR

Sheet 71

C - [1926]
O - [1926]
OW 1000/5/42 LR

Sheet 72

C - [1925]
O - [1925]
C 2500/30
C - [1935]
C 2036
C [1938] - **No details**
OW 1000/5/42 LR

Sheet 73

C 4000/27
O 4000/27
C 1500/32
C 1539 - **No details**
OW 1000/5/42 LR

Sheet 74

C 5000/27
O 5000/27
C [1928] - **No details**
C 1000/34
C 1036
C 20/38.M37.R36
C 2539.M39.R38
OW 1000/1/42 LR

Sheet 75

C 2750/27
O 2750/27
C 1038.M38.R37
OW 1000/5/42 LR

Sheet 76

C 3250/27
O 3250/27
OW 1000/11/41 LR

Sheet 77

C 3750/26
O 3750/26
C 3000/34
C 30/37.M37.R34
C [1938-9] - **No details**
OW 1000/6/42 LR

Sheet 78

C - [1926]
O - [1926]
OW 15,000/11/41 LR

Sheet 79

C - [1926]
O - [1926]
C 1037.M36.R32
OW 1000/3/42 LR

Sheet 80

C 2500/26
O 2500/26
C 1036
C 1539.M39.R38
OW 1000/5/42 LR

Sheet 81

C - [1926]
O - [1926]
OW 1000/3/42 LR

Sheet 82

C - [1926]
O - [1926]
OW 1000/2/42

Sheet 83

C - [1926]
O - [1926]
C [1938/9] - **No details**
OW 1000/6/42 LR

Sheet 84

C - [1926]
O - [1926]
C 1500/33
OW 1000/11/41 LR

Sheet 85

C - [1926]
O - [1926]
C 1039.M38.R38
OW 1000/2/42 LR

Sheet 86/3 (England)

C - [1926]
O - [1926]
C 2150/34
C 3038.M38.R.37
C [1939/40] - **No details**
OW 1000/8/42 LR

Sheet 87

C - [1925]
O - [1925]
O 1040M39R39
- No details
OW 1000/5/42 LR

Sheet 88

C - [1925]
O - [1925]
C 1040.M39.R39
OW 1000/10/41 LR

Sheet (England) 5/89

C - [1925]
O - [1925]
C 3000/32
OW 1000/8/42 LR

Sheet 90

C - [1924]
O - [1924]
OW 1000/6/42 LR

Sheet 91

C - [1924]
O - [1924]
OW 1000/5/42 LR

Sheet 92

C - [1925]
O - [1925]
C 1539.M.38.R37
OW 1000/6/42