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Published by
THE CHARLES CLOSE SOCIETY
for the Study of Ordnance Survey Maps

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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The Society’s proposed contribution to the London Mapping Festival (www.londonmappingfestival.org) will be an exhibition Plotting history, tracing the development of two key London locations. They are the Lower Lea valley, site of the main 2012 Olympic stadium and Crystal Palace. These sites have been chosen to illustrate how OS maps depict the changes that have taken place over the years between the 1860s and the present day. Displays will comprise newly-scanned and geo-rectified images from large-scale OS series, such as the County series first editions of the 1860s, the first revisions of the 1890s and the revised series of the 1930s. OS themselves will provide modern mapping for comparison and we hope to supplement the maps with photographs. The exhibition is scheduled for mid-September at a prestigious central London venue. More details in August Sheetlines.

Other forthcoming events of interest include:

Mind the Map: inspiring art, design and cartography will be London Transport Museum’s major exhibition for 2012, running from 18 May to 28 October. From diagrammatic, decorative and digital maps, through to contemporary artworks and interactives, Mind the Map will draw on the Museum’s outstanding map collection to explore how London’s public transport maps have not only aided navigation but have inspired art, design and cartography. Details: www.ltmuseum.co.uk/whats-on/exhibitions/upcoming-exhibitions

On Tuesday 8 May, Annaleigh Margey (National University of Ireland) speaks on Mapping during the Irish plantations, c.1580-1640, at Emmanuel College (Gardner Room), Cambridge at 17.30. Details: Sarah Bendall at sarah.bendall@emma.cam.ac.uk or 01223 330476.

On Thursday 24 May, CCS member Alexander Kent (Canterbury Christ Church University) on Modern European topographic mapping at School of Geography and the Environment, Oxford at 17.00. Details: Nick Millea at nick.millea@bodleian.ox.ac.uk or 01865 287119.

Thursday 14 June, afternoon visit to Bodleian Book Storage Facility at Swindon. Details Nick Millea as above.

Help needed! We are proposing to upload scanned images of early copies of Sheetlines on to the website. Anyone with a scanner who is willing to help with the necessary scanning is invited to contact the editors as soon as possible.
The Ordnance Survey’s colourful and attractive *Popular Edition* one-inch to the mile maps are familiar to map users and historians of cartography. Now staff at the Bodleian Library have uncovered a cache of maps from the rare and much lesser known *Unpopular Edition*, produced in 1918-19, which preceded it.

The first world war halted the development of OS one-inch to mile maps, and when the war ended there was considerable demand for an updated ‘contoured road map.’¹ The uncoloured and rather unattractive *Unpopular Edition* was a hasty attempt to fill the gap. Cheaply produced and poorly printed, they sold badly; only about a dozen different maps were produced, of the nearly 150 sheets that it would have taken to cover the whole of England. The OS then pulled the plug on the project and turned its resources to publishing the colourful Popular Edition instead. The Popular Edition, begun in 1919, remained the basis of OS mapping for nearly thirty years.²

‘This is a very exciting find,’ says Map Librarian Nick Millea, ‘Very few of these maps were ever produced, and they were so unpopular that even people who bought them didn’t take care of them and often ended up using them as cat litter.

These maps will be a significant addition to our collection; they’re an important missing piece of Ordnance Survey history.’

The maps were given to the Bodleian many years ago, but nobody fancied cataloguing them so they were just left in a heap in a dusty corner of the bookstacks. They came to light late last year when the move into the Bodleian’s new storage facility in Swindon necessitated sorting through the backlog of uncatalogued material. They have now been catalogued and digitised and a detail from one example can be seen above.

‘Sheets from the Unpopular Edition are incredibly rare,’ says map expert Roger Oliver, ‘The Unpopular Edition was a PR disaster for the OS. Once they moved on to producing the hugely successful Popular Edition, its predecessor was quickly forgotten.’

Despite the maps’ rarity, their monetary value is negligible as they’re still just not very popular.

Debbie Hall, Bodleian Library

The Bodleian Library’s new storage facility at Swindon came into use recently. Here the manager Boyd Roger (left) demonstrates the building to Map Librarian Nick Millea.

[photo Stuart Ackland, Bodleian Map Room]
New NLS online maps

Chris Fleet ¹

Ordnance Survey Ten-mile Planning maps series

In 2010, as Ordnance Survey weeded their library before moving from Romsey Road, NLS was very grateful to receive a handsome volume, measuring 86 cm by 63 cm, proclaiming itself to be the National atlas of Great Britain: Volume 1: Scotland. Although lacking a date of publication, and with only a brief contents list and an introductory page of text, the volume includes a set of 29 thematic maps, all Sheet 1 of the 1:625,000 Planning maps series in excellent condition - a rare example in bound form of these well-known sheets. (As an aside, it would be interesting to hear if anyone else knows of one of these in this form, or a Volume 2, covering only part of England and Wales?). I have always been fond of the Planning maps, so the receipt of this volume - half a national atlas, and after all, covering the most important top part of Great Britain - was a prompt for a small project to scan and geo-reference the Planning maps series to allow their broader availability.

CCS members will know that the OS Planning maps series has been thoroughly researched by Roger Hellyer,² as part of a broader history and cartobibliography of OS ten-mile to the inch maps. The ten-mile to an inch scale (1:633,600) has a long history, used by Ordnance Survey from 1817, especially as index maps to larger scale map series. The Planning maps series enters the story over a century later, initiated during the late 1930s, particularly by Professor Eva Taylor through the British Association for the Advancement of Science, and their encouragement of a National atlas. Eva Taylor and Dudley Stamp both gave evidence to the Barlow Commission (the Royal Commission on the Distribution of Industrial Population, reporting in 1939) and made strong cases for the importance of thematic maps showing geographical distributions for planning purposes. By 1942 a Maps office was set up within the Ministry of Town and Country Planning (as it became from 1943), Dr Edward Christie Willatts was placed in charge of map compilation, and by 1944 the first instalment of ten Planning maps was published by Ordnance Survey.

Roger’s history is also interesting for describing how very different the Planning maps series could have been, with advocates of different scales, a three-sheet rather than two-sheet map, and a number of different proposed thematic maps, several of which never saw the light of day. Industrial location, Land drainage, Recreation, Soils, and Unemployment, for example, were all planned and sometimes drawn, but not published. In spite of its critics, the series was successful in illustrating a number of important subjects to form a survey of national life and resources, particularly to support the war effort and post-war reconstruction. Our National atlas preface sums it up well: ‘The whole series of

¹ The author is Senior Map Curator at the National Library of Scotland (NLS).
maps is designed to present a detailed survey of many aspects of the economic, human and social facets of the county, including its physical structure and geology, mineral resources and uses, land use and quality, population, communications and other services.’

Today the maps themselves still have a value as a snapshot of Britain half a century ago, and a strikingly colourful display of physical and human geography. They also provide a nice window into some of the values and concerns of the time – regional disparities, industrial decline, agricultural production, mineral resources, population density and change, and a confidence in centralised state-funded planning. Numerous official bodies assisted with providing thematic information, including the Boundary Commissions, the Geological Survey, the Land Utilisation Survey of Great Britain, the Meteorological Office, the Ministry of Agriculture, Fisheries and Food, the Ministry for War Transport, and the Department of Health for Scotland.

Written explanatory texts were also published to assist with the interpretation of the series. They explain the compilation of specific thematic maps, often with further details of how the thematic content was obtained and aggregated, and sometimes with additional statistical information. We have made available PDF copies of these booklets that were published and out-of-copyright:

No. 1 - Land classification - 1950
No. 2 - Average annual rainfall - 1950
No. 3 - Population - 1950
No. 4 - Limestone - 1957
No. 5 - Vegetation - the grasslands of England and Wales - 1952
No. 6 - Local accessibility - 1955
No. 8 - Vegetation - Reconnaissance survey of Scotland - 1958

(A volume No 7 on Igneous and metamorphic rocks was described in 1958 as ‘in preparation’, but not published.)

During the 1960s increasing concern over funding the costs of new Planning maps and how out-of-date certain sheets were, as well as the large numbers of unsold copies of particular sheets contributed to the demise of the series. That said, the ten-mile base map, Administrative areas, Physical and Route planning maps were available from the Department of the Environment until the 1980s, and the series lives on in its way through the general, administrative, period maps (e.g. Roman Britain, Ancient Britain) Routeplanner.

Our website presents an initial set of twenty thematic maps (with two sheets covering Great Britain for each theme) including Administrative areas, Coal and iron, Farming, Geology, Land classification and land utilisation, Limestone, Local accessibility, Population density and population change, Railways, Rainfall, and Roads. We hope to include additional maps, especially those not published until the 1960s, when they fall out of copyright.

Planning maps – geo-referenced map search interface at:
http://geo.nls.uk/search/ten_mile

Planning maps – individual sheets and Explanatory texts at:
http://maps.nls.uk/os/ten-mile/index.html
Figure 1 (left, upper). Great Britain, Sheet 2. Land Classification, 1944. This colourful map shows the ‘Intensively Cultivated Arable’ lands of Lancashire in purple, the crop and grasslands of Cheshire and Flintshire in greens and browns, and the ‘Mountain, Moorland or Rough Pasture’ of Snowdonia in yellow. The smaller orange patches in North Wales denote ‘barley-turnip-sheep land where ploughable’.

Figure 2 (left, lower). Great Britain, Sheet 2. Roads, 1946. Perhaps a pre-motorway Route-planner? Road information was supplied by the Ministry of War Transport, with blue indicating trunk roads, and class I (A) roads in red, and class II (B) roads in green. The dots with R and A by them indicate telephone boxes owned by the Royal Automobile Club and Automobile Association, respectively. This part of Surrey is now bisected from northwest to southeast by the M25.

Figure 3. Great Britain, Sheet 2. Railways, 1946. This shows the extensive railway network in northwest England, two years before nationalisation. The lines in red are those of the London, Midland and Scottish Railway, whilst those in blue are those of the London and North Eastern Railway. Dashed lines are for single tracks, continuous lines for doubles, and thicker lines with three or more tracks. Note too, the newly electrified lines with cross bars near Manchester and Liverpool.
Figure 4 (left, upper). Great Britain, Sheet 1. Local accessibility, 1955. The flying saucers have landed in the Central Belt! This fascinating map attempts to portray the accessibility of towns and their hinterlands by bus. The accompanying Explanatory text goes on to explain that ‘as in general buses are the most widely used forms of public transport (used far more than the car or bicycle), an analysis of bus services provides a basis for illustrating the range of metropolitan centres in orange and their hinterlands in green’. The darker beige zones on the map are rather barsbly described as ‘Principal virtually uninhabited areas’.

Figure 5 (left, lower). The NLS Planning maps website search interface. Through geo-referencing, the Planning maps can be overlaid and compared directly to one another, as well as to modern mapping and satellite imagery for any place. It is also possible to search by a gazetteer of modern place names, postcodes, and National Grid references to view all the Planning maps for any particular place.

**Ordnance Survey County Series maps for Scotland (1892-1960)**

We have also been busy on other fronts, and over the winter added a further 25,000 detailed Ordnance Survey maps of Scotland to our Maps of Scotland website (http://maps.nls.uk). This includes two main map series – the six-inch (1:10,560) and 25-inch (1:2,500) to the mile maps for Scotland – both dating between 1892 and 1960. The first edition OS maps at both of these scales (1840s - 1880s) are already on our website, and this new website addition therefore completes the availability of the OS County Series maps for Scotland, just over 41,000 map sheets in total.

The six-inch to the mile series (7,486 map sheets) covers all of Scotland, and all sheets were revised between 1892 and 1907. Thereafter, urban or rapidly changing areas were updated up to the 1950s. The 25-inch series (17,466 map sheets) just covers the more inhabited regions of Scotland, less than half the total land area. Again, all sheets were revised between 1892 and 1907, with selective updates to more populous areas thereafter.

The website allows easy access to the maps by a zoomable Google and OS Opendata map interface, a gazetteer of place names, and counties and parishes. There are guides to abbreviations on the maps, and further information on the history of the series, map content, projections and meridians.

Six-inch: http://maps.nls.uk/os/6inch-2nd-and-later
Both series can be searched at: http://geo.nls.uk/search

**OS One-inch to the mile series maps of Scotland and Great Britain**

In February, we also made available two sets of smaller-scale series maps:

Stanley Cursiter (1887-1976) is best known as a towering figure in the artistic sphere of mid-twentieth century Scotland. He was an artist of exceptional ability, but his talents did not stop there. He was director of the National Galleries of Scotland from 1925 to 1948, HM Painter and Limner for Scotland until his death and excelled as an administrator, designer, architect, broadcaster, and writer. Possibly the least well known of his accomplishments lies in his association with mapping, but his list of honours includes a military OBE for services in this field.

Cursiter was born in Kirkwall, Orkney in 1887. The family was comfortably off, and though his father died when he was nine, he seems to have had a happy childhood. From his father he inherited photographic equipment, including a ‘magic lantern’ (which was to play a major part in his later wartime experience). He early developed a talent for drawing and design.

His first interests in mapping and surveying can be seen at the age of thirteen, while still at school. He attended an evening class in mechanical drawing, gaining a certificate in Advanced Building Construction after two years of study. This stimulated an interest in surveying and he determined to map the area in the vicinity of the family house in the outskirts of Kirkwall. After measuring a base line between two clothes poles he worked out for himself a system of plane table survey, constructing his own ‘instrumentation’, including a large brass protractor and an alidade. This early aptitude for problem solving and improvisation would remain with him. His main ambition at this time lay in the field of architecture.

In 1904 he left Orkney for Edinburgh. While he still held ambitions to become an architect the necessary funds were not available; instead he embarked on an apprenticeship with a firm of lithographers and printers, giving him skills which again were to be exploited in later mapping applications. He also attended part time courses at Edinburgh College of Art. By 1909 he was earning a living through his painting and a variety of design projects.

On the outbreak of war in 1914 he volunteered for military service as a private in the 7th Battalion, Scottish Rifles but was rejected on the grounds of his health – he was prone to bronchitis but it also seems he was suffering from lead poisoning, attributed to the use of lead based paint. He was eventually accepted into the Officer Training Corps and was sent on training courses in London.

These courses included mapping, which revived his interest in surveying. Such was his ready understanding of the principles of plane tabling (due no

1 The author is a former Senior Lecturer, University of Glasgow.
2 Pamela Beasant Stanley Cursiter, a life of the artist, Orkney Museums and Heritage (Orkney Islands Council), 2007.
3 HM Painter and Limner of Scotland, OBE, CBE, RSA, FRSE, FRIAS, FEIS, LL.D.
doubt to his childhood investigations) that he quickly became an assistant instructor. In time he was posted to the 1st Battalion, Scottish Rifles and in October 1916 he found himself in the trenches at the Somme. Though the battalion was fairly soon withdrawn from the front to recuperate, the dreadful conditions brought on bronchitis and asthma and he was invalided out to convalesce in the South of France. He spent his time there sketching and painting and befriended an RE Colonel who shared an interest in water colour. This officer recovered before Cursiter and on returning to his unit showed some paintings by Cursiter to a colleague, Colonel Jack, who was head of the Map Section at GHQ (subsequently becoming Director General of the Ordnance Survey, 1922-30).

Cursiter was duly returned to his Battalion’s base but within a week succumbed to his illness and was once again hospitalised, coming close to being repatriated as ‘unfit for service’. He pleaded to be allowed to continue service in France and his letter listing his experience and skills (including, almost as an afterthought, lithographic printing) eventually found its way to Colonel Jack. Recalling the artist with the curious name Cursiter, on the basis of the lithographic experience Jack found a place for him with the 4th Field Survey Company at 4th Army Headquarters. There he quickly formed a lasting friendship with his commanding officer, Major (soon to be Lieut-Colonel) M N MacLeod ‘with whom I immediately established the happiest relationship as we had many interests and tastes in common’. MacLeod would eventually become the Director General of the Ordnance Survey (1935-43). Cursiter’s task was to oversee the printing of maps, and as he fully understood the process of lithographic printing he quickly earned the respect of the men under his command and was said to be an officer popular with all ranks. He had other duties in managing the supply of stores and equipment and he also later set up an experimental radio station to try and improve communications with observation points along the front, further demonstrating his wide range of interests.

In the often chaotic situations of the front up to date maps were essential. The chief compilation source for information on the ever changing trench lines, gun emplacements and other installations was aerial photography. Air reconnaissance in warfare was in its infancy in the 1914-18 war, indeed the first powered flight by the Wright brothers had only taken place some eleven years previously. Cameras were fairly crude, hand held or mounted on the aircraft fuselage. The terrain was fairly level so relief displacement was scarcely a problem, but the combination of light aircraft, enemy action and unsophisticated camera mounting led to considerable problems of tilt displacement in the images. Mapping from these images was a slow and complex process involving estimation of the displacement and using proportional dividers to transfer detail point by point from photograph

5 An anonymous note in *Pro Patria – The British Legion Scotland Journal*, VI (1930), p.9, reporting briefly on his military service and celebrating his appointment as Director of the National Gallery of Scotland testifies to his popularity.
to existing map. Cursiter recognised this as a problem of perspective, a subject he had been particularly interested in when attending courses at Edinburgh School of Art. He immediately saw it as a reversal of his previous experience, where he had been taught to construct perspective views e.g. of building elevations from a chosen viewpoint. Here, in the aerial photograph he had the perspective view generated through the camera lens – the problem thus was how to get back to the correct plan view of the terrain.

He hit on the ingenious solution of re-projecting the photographic negative onto a plane which replicated the tilt present when the photograph was taken. In other words he independently devised a simple method of single photo optical rectification. The ‘magic lantern’ which he had inherited from his father was used to project the aerial photograph onto a ‘map mounted on a board, which could be twisted into any position by means of a ball and socket joint’.7 Three or four common points were identified on map and photograph and the distance of the projector to the board and the board’s rotation and angle of tilt were adjusted visually to achieve correspondence of the points. The photographic image was thus close to correct plan and detail could be directly traced off.

After experimentation, a system was developed as follows. Once images had been obtained from the Flying Corps, the draftsman identified control points on map and photographic negative. These points were traced onto a sheet fixed to the board and the adjustments were made to achieve a fit. Cursiter’s account of this goes on to say that they then ‘made a print’ to which the ‘wanted detail could be inked in’.8 That is, photographic paper was fixed to the board and an exposure was made. Significant detail then could be drawn on this print and the draftsman then traced this to the map image to update the current situation. A major saving in compilation time was the chief benefit of the process together with improved accuracy (in spite of the fairly crude equipment). There was a dramatic reduction in the compilation time from days to a few hours.

The speed of the process came into its own in the rapid fixing of enemy gun emplacements. ‘Flash spotters’ and ‘sound rangers’ were employed to measure the bearings to gun batteries. Visual observations of gun flashes together with sound estimation of distance were employed. This data was used to direct the Flying Corps to areas for photography. The maps made from Cursiter’s photo rectification system were then employed to provide bearing and distance to direct counter-battery fire. One of the later discoveries made in the course of this mapping work was the identification and subsequent mapping of the ‘Hindenburg Line’. Originally thought to be training areas some distance back from the front, the linking of these areas along a single contour line was revealed when accurately transferred from photograph to map and the massive defensive line being constructed by the Germans in the winter of 1916-17 was verified.

In the early days maps still had to be returned to Southampton to be printed, so a six-week time lag ensued before the finished maps were available to the

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8 Stanley Cursiter, op cit.
forces. Cursiter had two hand-operated presses which could be used where there was particular urgency; in his words, they had to resort to ‘the unenviable task of mangling out copies’.\(^9\) However, he made a chance discovery of three lithographic flat bed presses in a local printing shop. An agreement was made with this local firm whereby the army had full time access to one of these presses. It should be remembered that the flat bed presses of the day were crude compared to modern four or six colour rotary or web offset presses of today, capable of printing full colour prints at speeds of several thousand copies per hour. The flat bed press used a lithographic stone or zinc plate bearing the image and this was transferred to the paper via a feed cylinder. Paper sheets were fed manually from the feed board and two hundred copies per hour in a single colour was an excellent rate of production from a skilled operator. Subsequent colours were added in succession, so any additional colours would need separate press runs. In spite of this, production rates were vastly improved, and the six week time lag in supplying map copies for the front eventually was cut to 24 hours.

Cursiter suggested further improvements to production, with requests for a rotary press which could be mounted on a truck to give a mobile printing unit. This idea was rejected by the War Office but he discovered from the press manufacturers that they had actually supplied such a system to the American Army which, by then, had entered the combat. He managed to visit the American Survey Unit to find that they were fully equipped with printing facilities. Indeed, they seem to have been over equipped, as he was able to borrow a mobile printing press from them.

Cursiter’s wartime contribution was recognised with a military OBE and he was twice mentioned in dispatches. He was demobbed in 1919 and returned to Edinburgh to resume his work as an artist. In 1925 he was appointed Keeper of the National Galleries of Scotland and in 1930 became Director. The story of his connection with the mapping world might have ended there, but there are two interesting footnotes.

His former CO, Colonel (later Brigadier General) MacLeod, published in 1923 details of an instrument which he called the MacLeod Tilt Finder.\(^10,11\) While this custom-built instrument was certainly much more sophisticated than Cursiter’s improvised assembly, it is possible that this original concept contributed in some small way to MacLeod's design as he would have been intimately aware of the method devised by Cursiter. The instruments were, in fact, quite different; Cursiter's device was intended to eliminate tilt displacement by optical projection while MacLeod's was directed at measuring the angle of tilt. Two examples of the device were built, at the Ordnance Survey and the Royal Aircraft Establishment, but it became largely forgotten. The concept was later ‘re-invented’ at the

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\(^10\) M N MacLeod, Recent developments of air photography: the adjustment of air photographs to surveyed points, *The Geographical Journal* 61, (1923), p.413-419.

Ordnance Survey. This new instrument was described as the Blogg Tilt Finder in a paper read at the Conference of Commonwealth Surveyors in 1951\textsuperscript{12} - a meeting attended by the then retired MacLeod. Petrie notes that this resulted in ‘a rather embarrassing situation for both the author and MacLeod’. One may only speculate as to whether MacLeod had any thoughts of Cursiter at the time.

MacLeod was appointed Director General of the Ordnance Survey in 1935, serving in this post until 1943. With the outbreak of war in 1939 he again thought of Cursiter and asked him to come to Southampton to assist with map production. Special leave was obtained from the National Galleries and Cursiter was put in charge of the drawing office, with the task of overseeing a staff of nearly a thousand draftsmen. Many of these were quickly called into military service so it was decided to take the then novel step of recruiting women and Cursiter was charged with the training of the initial intake. His time at Southampton was vital but short lived and he returned to Edinburgh late in 1940 with the sincere gratitude of MacLeod.

They remained in contact and a letter from MacLeod to Cursiter in June 1941, in addition to the obviously friendly exchange of news of family and mutual acquaintances, reveals some tantalising points regarding MacLeod’s appreciation of Cursiter’s work and ideas.\textsuperscript{13} The training of drawing office staff started by Cursiter had been successfully continued and, with the last of the original civilian drawing office staff due to leave for military service, some 200 women and 200 boys were now fully trained. Paradoxically MacLeod seems unsure of how he will keep them occupied! The mobile printing units that Cursiter had advocated in World War I were now to become standard with each corps to be allocated two presses and a lorry load of paper. There is reference also to a colour separation process suggested by Cursiter and this had been developed to a stage where MacLeod claims the some of the colour separated map prints look better than the originals! Colour separation of original printed maps was quite commonly carried out where copies or revisions of maps were required and no original separation material was available. Cursiter naturally would have been quite familiar with the colour separation process in connection with the reproduction of fine art.

Thus, while revered primarily as an artist, Cursiter’s connections with mapping and the Ordnance Survey seem to have been largely overlooked. He held the post of Director of the National Galleries until 1948 and was appointed to the prestigious office of HM Painter and Limner for Scotland in the same year, a post he held until his death. He returned to his native Orkney and continued an active life, painting and designing an astonishing range of items ranging from architecture and interior design to book covers and knitting patterns. He also participated actively in local Orcadian affairs, was appointed Deputy Lieutenant of


\textsuperscript{13} M N MacLeod, Private letter to Stanley Cursiter, 17 June 1941, in the Cursiter Archive, Orkney County Library (ref D26/6/1/M).
the County of Orkney and was granted the Freedom of the City and Royal Burgh of Kirkwall. He died in 1976 at the age of 89.

**Acknowledgements**

I wish to thank staff of the Orkney Library Archive Section (Kirkwall, Orkney) for assistance in accessing the extensive Cursiter archive material.

Peter Chasseaud adds:

The French were using photo-projection rectifying apparatus from 1915 – the Roussilhe apparatus – so there is a strong presumption that Jack, MacLeod, Winterbotham, Cursiter, etc., knew all about this (especially as we know that there was close liaison between Allied survey units and also their respective survey offices at GHQs). So MacLeod’s apparatus was not that unique. The Germans, incidentally, developed a similar system.

**Stanley Cursiter**

*Landscape in the Orkneys by Stanley Cursiter, 1954*

[left: photo courtesy Orkney Library and Archive, right: fair-use image from Wikipedia]

Other Cursiter paintings are found on National Galleries of Scotland website at [www.nationalgalleries.org/collection/artists-a-z/C/3030/artistName/Stanley%20Cursiter](http://www.nationalgalleries.org/collection/artists-a-z/C/3030/artistName/Stanley%20Cursiter).

**Fans of railway infrastructure will be fascinated by the plans and drawings which National Rail have now made available on their website at www.networkrail.co.uk/VirtualArchive.**
When the Charles Close Society first published pictures of maps in its monographs and in Sheetlines the images were derived from simple photocopies or conventional photographs of printed maps. What you saw on the page varied in quality, but was as far as possible a true representation of a particular paper map. For the last dozen years or so, we have used scanners to produce digital images. These are then manipulated in various ways before being sent to press in electronic form. Using computerised production methods should result in much better quality pictures but does raise a question as to how much manipulation of a digital image is legitimate.

Some image processing is both necessary and desirable. For the majority of its history Ordnance Survey printed coloured maps by mixing inks to the required shades and depositing each colour in a separate pass through the printing press. When such a map is scanned, the composite image is not separated back into the original colours. Instead each square inch of the map is represented in the computer by around a hundred thousand or more dots or ‘pixels’. The colour of each pixel is shown on the computer screen by a particular combination of red, blue and green light. This ‘RBG’ image is then converted into ‘CMYK’, the spots of cyan, magenta, yellow and black ink used by a modern printing press.

The printed image thus uses a different gamut of colours from the computer screen, but if the various conversions are done by capable software, possibly aided by competent human intervention, the end result should be a very acceptable facsimile of the original map.¹

Image processing need not stop there. We are familiar with newspaper photographs in which Adobe Photoshop, Corel Photopaint or other software has been used to erase the facial wrinkles or enhance the physical attributes of a fading film star; we may not realise that fading Ordnance Survey maps can be ‘Photoshopped’ in a similar way.

Figure 1 shows the raw unprocessed scan of a one-inch tourist map. The image looks discoloured and says more about the capability of the scanner than the state of the original map. By applying a (usually automatic) colour correction we arrive at figure 2, an image as close as I can get to the actual appearance of the dissected sheet in my hand. However, the reader’s eye is distracted by the brown stain, the scuff marks just east of the pier, the crudely pencilled arrow and, in particular, by the wide gutters resulting from the dissection.

¹ As sometime editor of Sheetlines and also being involved in the production of the Society’s books, I personally have had to learn these skills on the job and certainly do not regard all my own interventions as competent nor all the end results as necessarily acceptable.
For publication, I much prefer something like figure 3. The colours are brighter; blocks of the image have been closed up to disguise the gutters and clean patches of sea have been cloned and digitally pasted over the ugly marks and graffiti. We now have a representation of the map more as it would have emerged from the Ordnance Survey’s presses in 1925, but it is a generic representation of the 5000 copies of that print run rather than a true representation of the current state of my particular copy.

We can go a lot further than this. Figure 4 gives the image false colours, adds a magenta squaring and transposes important information. This is a facetious example but it does illustrate the dangers of taking digital manipulation too far. After my recent book went to press I realised that in erasing a previous owner’s annotation from one scanned image I had also mistakenly removed detail which almost certainly formed part of the original printed map. To give another example, Soviet maps were sometimes relatively crudely printed on poor quality paper. By scanning them, adjusting the colour, sharpening the image and then printing on better paper, we can produce a result which is actually superior to the original map that we are trying to depict.

My own ideas on the legitimacy of these digital techniques have evolved as I have employed them. It all seems to depend on the context in which the illustration is used:

1. It is always desirable to correct the scanned image so that the printed picture is as close as possible in appearance to the actual sheet copied.
2. Where this sheet, as an artefact, is the subject of interest we should go no further than this. For example, in an article about a new state of Mudge’s map of Kent being discovered in Timbuktu, the Timbuktu University Library stamp would remain visible in the illustration.
3. More commonly, the text of the article will describe a print run, edition or series of maps. The individual copy used for the illustration is of no relevance in itself. In this case I consider it reasonable, although definitely not essential, to correct fading, to cover up damage or blemishes and to remove library stamps and any other annotation peculiar to the particular copy scanned.³
4. Although less likely in Charles Close Society publications, a map may simply be a tool to elucidate a completely different subject. In an article on railways it is acceptable to scan any available out-of-copyright map of Brighton, artificially emphasise the line of Volk’s Electric Railway and highlight other points of interest to the railway historian. The exact state of the original map is not of importance to the reader but, unless the alterations made to the image are obvious, it would still be good practice to include a note about them.

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³ Full digital retouching may not be possible without undue effort or at all. Authors must understand that editors find it a lot easier to create a reasonable facsimile of a silk purse if they are given something better than a poor photocopy of a sow’s ear to start from.
Figure 1. Unprocessed scan of one-inch Brighton tourist map, 5000/25

Figure 2. The corrected scan, as this particular copy appears today
Figure 3. Additional processing provides a much cleaner but generic image.

Figure 4. We can take things further still …
The Vandyke process

Mike Nolan

F R Vandyke is seated on the right in this group photograph of the senior staff of the Photo Litho office of the Survey of India in Calcutta, taken in the early years of the twentieth century.

[photograph reproduced by kind permission of the British Library]

Richard Oliver’s article on photo-zincography and helio-zincography refers to the process of ‘Vandyking’. At the end of the nineteenth century, the inventor of the process, F R Vandyke had achieved some prominence and the present article provides contemporary descriptions and further explanation.

The following paragraph appeared in the Royal Engineers Journal in 1900.

Reproduction of Drawings in Black and White

The Assistant Surveyor-General in charge of the Photographic and Lithographic Office, Survey of India Department, reports that a very simple and cheap method of reproducing drawings in black and white has recently been discovered by an assistant of that office. The advantages of this process are that it entirely does away with the two first stages in the ordinary process.

1 Richard Oliver, ‘Photo-zincography and helio-zincography’, Sheetlines 90, 41.
2 The Royal Engineers Journal, December 1900, 262.
of photo-zincography, the image being obtained upon the zinc surface by
direct printing through the original, without the intervention of a negative or
transfer. The results obtained are better than those yielded by photo-
zincography, as there is no loss of sharpness, while the saving effected, both
of time and money, is considerable. Any subject drawn or printed in black on
paper or tracing cloth can be dealt with, but the process can, of course, be
applied only to drawings intended to be reproduced to the same scale. It is
now being utilized for the reproduction of a large number of village maps of
Orissa, and 25 plates of the ordinary cadastral size are being prepared daily
by its means. It is the invention of Sub-Conductor F R Vandyke, RE, Foreman
Litho Printer, who has been granted a patent for it. The Surveyor-General
congratulates Mr. Vandyke on his most useful discovery, and on the skill and
perseverance with which he has overcome the many difficulties met with in
bringing it to a successful issue. Details of the working of the process can be
obtained on application to the Assistant Surveyor-General.

In 1913, the Survey of India produced a pamphlet describing the process for
use in a Field Reproduction section.\(^3\) I have yet to find a copy of this pamphlet.

During the Second World War, presumably when security restrictions limited
what could be published relating to current operations, *The Sapper* published the
following short article about the Vandyke process.\(^4\)

For the benefit of those not acquainted with the art of lithography, let me first
explain that the trade was invented by Aloys Senefelder in the year 1796 and
comes from the Greek words *lithos* – a stone and *graphos* - I write.

The principle of lithography is that water and grease will not combine,
and a drawing made with a fatty substance on the surface of a clean stone or
zinc plate, adheres to it so strongly as to require a mechanical force to
remove it. The parts free from the drawing receive and retain water; therefore
a roller covered with fatty ink being applied to the printing surface, when
wetted, the fatty ink will attach itself to the fatty drawn parts and be repelled
from the wetted parts.

It will be appreciated that to draw a plan in reverse – on a stone or zinc
plate is a long, tedious and expensive business, but the Vandyke process, as
evolved by ex-Sgt. F R Vandyke, eliminates all drawing when it is desired to
reproduce a manuscript or printing plan, at the same scale, provided the
existing plan is drawn or printed on paper that will allow the light to
penetrate through, and the detail and line work is opaque.

For the Vandyke process a zinc plate is coated with a solution of fish
 glue, sensitized with dichromate. This solution is soluble in water until it is
dried and exposed to light, after exposure it is insoluble in water.

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\(^3\) Survey of India Notes & Instructions No. 3 – Notes on the ‘Vandyke’ or direct zinc printing
process, with details of the apparatus and chemicals required for a small section. Compiled in
the Photo and Litho office, Survey of India, Calcutta, 1913.

\(^4\) *The Sapper*, May 1940, reprinted with permission of the editor.
The zinc plate is washed, then clamped to a motor whirler and started in motion. The centre of the plate being the centre of gravity a small amount of the solution poured on to the centre will be evenly distributed over the whole surface of the plate by the motion of the whirler. The plate is then placed on a gas table and dried. The whole of the operation must be carried out in subdued light, to prevent premature exposure of the sensitized solution.

The manuscript plan is then placed on the glass sheet in a large printing frame face upwards, the sensitized plate placed on the plan, the printing frame closed, and perfect contact made between plan and plate by exhausting the air from the frame.

The frame containing the plan and sensitized plate is taken from the subdued light, and the sensitized film now covered by the manuscript plan exposed to the full daylight, in inclement weather the exposure may be made in strong artificial light.

The action of the light where it reaches the sensitized film causes that film to become hard and insoluble in water, but where the light does not penetrate, the film remains soluble in water, hence the reason for the paper bearing the plan to be transparent enough to permit the light to penetrate, and the actual detail of the plan to be sufficiently opaque to exclude all light.

After exposure the frame is taken into subdued light again, water and a solution of aniline dye poured over it. The dye stains the solution on the plate, violet or scarlet being generally used. The plate is then dried over a gas table.

The plate is now taken into full light for inspection, and it is found that where the light has acted on the sensitized solution, the film has become insoluble in water, and is now stained with aniline dye, but where the light could not penetrate through the line work and detail of the original plan, the solution, still being soluble in water was washed away from those parts, having the clean metal exposed, as the aniline dye does not stain the bare metal.

Any defects in the film can also be seen at this stage. They may have been formed by specks of dirt on the manuscript plan, or by dark patches caused by uneven texture of the paper on which the plan was drawn; they appear as clean metallic spots, and no dye will be present on them. The spots are removed by painting them over with a weak solution of gum arabic. The plate is again dried on the gas table.

The next process is to ‘ink up’ the plate, this is done with a fatty mixture made up of re-transfer ink and bitumen solution. The mixture should be about the consistency of cream and applied evenly all over the plate with a roller.

When the ink is dry the plate is immersed in a weak solution of sulphuric acid. The acid disintegrates the film of fish glue which is completely removed by wiping the plate very lightly with a piece of flannel.

The sulphuric acid is diluted to such an extent that it attacks neither the
metal nor the ink, consequently when the plate has been thoroughly washed and dried there remains the detail of the plan in fatty ink on the plate, in reverse, in other words we have arrived at the stage where the plate is passed on to the printer, or where we would be had the plan been drawn direct to the plate by an artist.

The whole Vandyke process occupies a matter of hours, whereas it would take an artist probably weeks or even months to produce.

The above article was illustrated by a photo of a memorial plate to Vandyke, location not known, but presumed to be in the Survey of India Offices in Calcutta.

The Vandyke process is particularly suitable and convenient for work in the Field. The process is a rapid one, and under good conditions it is possible to turn out a plate in an hour or two, though such speed is not desirable except in an emergency. The apparatus is not bulky. It is possible to work without the two biggest items – namely, the whirler and artificial light – in which case the only bulky parts are the two developing baths and the printing frame. A whirler is, however, very desirable, and unless artificial light is available the process cannot be depended on to turn out urgent work with certainty in a northern climate, and with the possibility of night work coming in.

There are certain points which must be recorded as against the many advantages of the process:

(1) For registered work in colour it is necessary that the different drawings should be exactly to size. No small adjustments can be made, as the drawing is in direct contact with the zinc plate. The difficulty is minimised if all the

In Memoriam
Frederick Reginald Vandyke
Born 28 September 1865
Died 24 June 1936
Enlisted in the Corps of Royal Engineers 1885
Joined the Survey of India 1889
Appointed Manager Photo Litho Office 1903
Retired 1923
Served in Mesopotamia during The Great War in 1916.
Awarded the Kaiser-Hind Gold Medal 1st Class
Inventor of the Vandyke Process
Erected by those who served with him
in the Photo-Litho Office, Calcutta
in admiration of his distinguished service

The reference for the following brief note, presumably taken from a military survey manual, has been mislaid.

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There are certain points which must be recorded as against the many advantages of the process:

(1) For registered work in colour it is necessary that the different drawings should be exactly to size. No small adjustments can be made, as the drawing is in direct contact with the zinc plate. The difficulty is minimised if all the
drawings are made in the same room and the plates are made close at hand and under the same conditions as nearly as possible.

(2) Being a contact process, it does not allow for enlarging or reducing from the original.

(3) The best results are only got from finished drawings in firm black lines, which entails good draughtsmanship. The fineness of the line, however, is immaterial provided that it is thoroughly clean and opaque. If the drawing is poor it is better to photograph it for the Helio process.

The process was taught to trainee cartographers at No. 2 Survey Production Centre RE and the following description is taken from the lecture notes used for many years by Ken Stephens.°

**The Vandyke process (Glue reversal)**
The plate-coating or colloid used in the Vandyke process consists mainly of process glue, ammonium-bichromate and water, as previously mentioned the plate is first made chemically clean by washing in a weak acid solution, washed in running water, coated with the fore-mentioned colloid and finally exposed.

Although development can be accomplished by using a developer of low-water content (as in the Gum reversal process) the normal method of development is to rinse or spray away water under a tap all the soluble glue and assist removal by gently swabbing with cotton wool. The plate is now drained and placed in a dye-bath, the purpose of the dye is to make the developed image more clearly visible, a variety of dyes may be used but the normal process employs a mixture of methyl-violet and industrial spirit.

After dying the plate is washed until all work detail appears as clean metal, great care is taken during this operation since the glue-stencil will have become soft and tender during processing, it is for this reason the plate is dried as rapidly as possible immediately after washing, drying is carried out in the whirler.

The plate is now immersed in a weak acid bath to ensure that all metal appearing in the stencil is fully grease-sensitive, the dye-strength is diminished during this process, the plate is washed and dried once again. A solution of shellac (this contains a fatty base) and industrial spirit is rubbed well into the plate surface and then a greasy ink is applied, polished to dryness and the plate finally dusted.

The removal of the glue-stencil is achieved by immersing the plate in a solution of hydrochloric acid and water (this bath is slightly stronger than that employed to ensure the metal is grease-sensitive) the glue commences to swell and soften and it is then gently scrubbed away. The plate is washed to remove all traces of acid, wiped dry, it is then covered with ‘etching solution’.

Although etch makes the plate-surface sensitive to any following solution its purpose may be summarised thus, ‘Etch serves the purpose of building up

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° From Cartography lecture notes used at Survey Production Centre RE by Ken Stephens.
a perfect water-retaining and grease-resisting surface and also reduces the
tendency of the plate to oxidise when in contact with water.

The etch is rinsed away and the plate gummed up in readiness for the
printing machine.

The fundamental differences between the Gum reversal and Glue reversal
processes are:

(a) Colloid contains gum as opposed to glue.

(b) Development in the Gum reversal process employs calcium-chloride
or glycerine whereas water is used for developing the image in the Glue
reversal process.

(c) The plate is dyed after development only in Glue reversal process
thereinafter, the processes remain the same.
Writing notes for the Godfrey Edition

Richard Oliver

The Godfrey Edition, local history and I

My first contact with Alan Godfrey was in January 1978, when he advertised in, I think, the Railway Magazine, along the lines of ‘Old Ordnance Survey maps bought – also sold’. Over the next few years I bought rather than sold, and when the Charles Close Society got going in 1981-2 I began to know Alan as rather more than a telephone voice. This was also the time that the Godfrey Edition was getting going, offering reduced-scale reissues of OS 1:2500 County Series maps. Whilst the basic formula of the Godfrey Edition was established from the start, of putting historical notes, and usually some street directory extracts, on the back, the early issues, up to about 1985, differed from that now familiar in that each map actually had two sets of historical notes on the area covered by the sheet, a general local-history one and another more carto-bibliographical one. In 1983-5 I wrote perhaps a dozen of these latter. These notes tended to be rather formulaic and probably often not of much help to those without ready access to the original maps, and after a while Alan decided, wisely, that it would be much better to concentrate on the local history. So what follows is one author’s experience of writing these general local-historical notes.

Since 1986 I have written notes for twenty of the 1:2500 maps and for 28 of the one-inch New Series of England and Wales that was issued between 1997 and 2011. To put this in perspective: Alan’s on-line newsletter for October 2011 credits 59 sets of one-inch notes to Barrie Trinder, 35 to Derrick Pratt, and 23 to Tony Painter, and those who subscribe to the whole of the Godfrey Edition will know that these authors, as well as Alan himself, have also contributed numerous notes to the 1:2500 series. Thus I can hardly claim to be prolific. What I can claim is that these notes have enabled me to return to a path from which I strayed over thirty years ago.

Let me briefly explain. When in 1977 I applied to go to university as a mature student to read history, it was a short-term tactic, to get away from working in a bank, rather than any thought-out grand strategy. One thing that I did feel that I wanted to contribute to was ‘local history’: it had been very much ‘in the air’ in the 1960s when I had been at school in Lincolnshire. In the event a further tactical improvisation led me away from ‘local’ towards ‘national’ history. The rot probably started with an undergraduate dissertation on the official handling of the cattle plague of 1865-7 in Lincolnshire, and continued with my doctoral work on the OS in the mid-nineteenth century. There are very few areas where the OS can support even a regional essay: I tried one on the early six-inch mapping of Lancashire, and was commissioned to do another on mapping of south-west England, but elsewhere there is often little more than episodes, such as the mapping of Lincolnshire in 1817-24.¹ For this reason it is certainly useful to be

informed about OS conventions and practices when writing notes to accompany reissued maps, but it is difficult to write essays around the Ordnance Survey on less than a national basis, so the Godfrey Edition has enabled me to contribute a little to ‘local history’ after all.

Having been commissioned to write notes for a particular sheet, how does one set about it? First, the author is sent a photocopy of the map: this may seem an obvious step, but is important in shaping one’s thoughts as to what might and cannot be written about. It also enables a ‘desk assessment’ using modern mapping of what an exploration of the ground might entail. All the Godfrey Edition notes belong to the genre of ‘sheet memoir’, that first appeared with the Geological Survey in the mid-nineteenth century. The sheet memoir is really very awkward, whether for geology or local history or anything else: the limits of the area of interest are determined by arbitrary calculation carried out for purely geodetic purposes, literally miles away in several senses, that have nothing to do with local convenience or administrative or historical or cultural logic. It is purely fortuitous if a sheet happens to cover conveniently the core of a town, as at Exeter or Torquay, though that can mean that the adjoining sheets may be such marginal commercial propositions that they are unlikely to be essayed. But the 1:2500s are, I think, far more tractable in this regard than are the one-inch sheets. With the 1:2500s the focus is usually on one or two centres or districts, but where are the limits with the one-inch? One can possibly say something about the geology, probably about the railways, possibly even about the parish churches if they are reasonably homogeneous or strongly contrasted – provided that these are not too complicated, or too numerous. Thus for the one-inch notes I had to devise a fresh formula for each sheet. In an ideal world, each ‘sheet memoir’ would ‘find its own length’, and provide consistent information for each place. In practice sheets vary, from not much more than a quarter of land, and sparsely populated at that, to half of London, yet all demand their four panels of notes, no less and no more – about 3300 words, including some mention of ‘sources and further reading’.² One of my interests is railways – to judge from the timetable extracts that appear on the backs of some Godfreys, I am evidently not alone – and they can provide an important element, though on sheet 270, South London, the railways were a bit too much of a good thing. Indeed, by its very complexity this sheet was perhaps the most troublesome of the one-inches that I wrote for, so it was perhaps as well that it appeared in the final batch of the project.

² In fitting essays to such a rigid length, the word-count facility of word-processing programs is enormously valuable, though long quotations involving indenting may eat into one’s allowance very considerably: the penalty of being lazy, perhaps.
Fieldwork
It is inadvisable to write about either the one-inch or larger scales without having some knowledge of the ground. Here again the one-inch can be troublesome, particularly if one knows a strip through it by road or rail traverses, but is hazy about the rest. This has led to some strange zig-zag journeys, ably abetted by my wife, and usually combined with family visiting. They include a very flattened oval through sheets 309 and 310, with particular attention to church bell-openings; a strange meander across sheet 299 on New Year’s day, with a stop in Stockbridge, giving one a sense of what towns dependent on the ‘coaching trade’ must have felt like after the coming of the railways; and a very strange route across sheets 322 and 336, including an encounter with Port Isaac. This is a place to be avoided, certainly at October half-term, unless you drive a particularly aggressive four-by-four. Our 798 cc tiddler hardly stood a chance, so we drove on to Wadebridge for lunch. I do now, however, have a suspicion of what the original of Tresoddit is, in the Posy Simmons cartoon strips.

Mention of Wadebridge enables a nearly seamless change to the 1:2500s that are the mainstay of the Godfrey Edition. (Incidentally, has anyone pointed out in print that, in these digital days of residual raster-scanned Landrangers and Explorers, Alan Godfrey now publishes about four times as many hard-copy ‘OS maps’ as does the august Ordnance Survey itself?) The problems of writing notes for the larger scale are quite different from those of the one-inch: the town or district of a town immediately suggests a theme and possibly a structure. But then there can be problem of sources. For a city such as Exeter or Lincoln there is a plethora of writings, and the problem is to pick out a few leading points and, in the ‘sources and further reading’, to risk offence by listing three books and omitting thirteen equally deserving others. For such as Wadebridge there is the opposite problem: not much seems to have been written, and when you visit there does not seem to be much to write about. Don’t get me wrong: Wadebridge is a very pleasant place, even on a damp day in lateish October. The trouble is, like many small places, overall pleasantness is counterbalanced by a lack of the outstanding. One reason why Wadebridge seems to ‘miss out on history’ to some extent is that it is a ‘secondary settlement’, a relatively late development in an ‘ancient’ parish where the original church and village lie elsewhere, and can’t be drawn on much for any story. Thus I was driven to write at disproportionate length about the Bodmin and Wadebridge Railway – a most interesting line, admittedly, but an ‘urban’ map really ought to concentrate on the town itself rather than on what was once the fastest way out of it.

The third dimension: photographs and Pevsners
But what when printed sources appear to be readily available? Words are one thing, pictures quite another.

3 ‘Missing out on history’ will no doubt revolt certain readers: and so perhaps it should, as it suggests that history is some sort of commodity, perhaps like blackstrap molasses (only not so sweet), supplied in large oil-drums. To a large extent history is ‘in the mind’.
By itself the map only offers an abstraction of two dimensions: photography offers the illusion of the third. 4 A quite large proportion of local history publishing since around 1970 has been of collections of ‘old’ photographs, of very mixed quality. Though there are honourable exceptions, usually for larger centres, what we tend to get is volumes that cover everything from 1860 to 1960 or later, which by themselves are unobjectionable, but in which a good deal of space is taken up with school, sports or other group photos of, I suggest, doubtful general interest. 5

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4 A point that does not seem to have been explored in the numerous map-philosophical and allied writings of the past half-century or so is the way in which the problem of relief depiction on maps, and the allied one of multi-level structures, is simply a question of the angle of view. A conventional ground photograph, with the axis of the camera level and looking in the \( x \) and \( y \) axes, can only show the \( z \) axis to the limit of the first obstruction. This is a subject that someone ought to explore further.

5 For an antidote to all this see Martin Honeysett, *The not another book of old photographs book*, London: Methuen, 1981. The sad thing is that, as with Monty Python and others guying of certain traits of broadcasting, such ridicule does not appear to have stemmed the flow.
The ideal would be a volume of photos which were taken at much the same time as the Ordnance surveyors were on the ground. Admittedly, given that the number of suitable photographs available tends to increase exponentially with time, for a town such as Exeter that was surveyed in 1875 and revised in 1888, 1904 and 1932, a 1930s volume would be much easier to compile than a 1870s one. In practice, the sharp definition of the OS's lines runs up against the sometimes very vague definition of half-tone or scanned images, and the woolly chronology – ‘as it was’, whenever, or if ever, that was – of published pictures. Having said all that, something that I enjoy with the published Godfreys is trying to deduce the location of the cover photo without reference to any caption, even though quite a number are heavily freighted with young males in knickerbockers.

Though useful supplements to the maps, and for ‘further reading’, old photographs are not usually what I first look for, or at, when researching notes. As has been hinted before, there are two elements: one is library work, ascertaining the basic ‘invisible’ history, and the other is actually seeing the place. Which comes first depends purely on convenience. As I have access to a set of The Buildings of England series (‘Pevsners’), it is easy to extract from them notes of architecturally notable buildings, and to annotate the map in advance. This may help to plan a perambulation of the sheet, though often other factors will decide that, such as buildings shown on the map but not mentioned in Pevsner, which may need a mention. Whilst ‘Pevsner’ is a magnificent achievement, there are limits to what can be covered in a single manageable volume, even in the series of special city ones that have appeared in recent years. A great many second- and third-rank buildings that are not ‘Pevsner-worthy’ nonetheless give character to a place; the whole is greater than the sum of the parts. For example, there are several places in east Surrey where there are terraces of small houses of yellowish brick with red-brick trimmings of, I suppose, circa 1870: if you want to be flattering or high-flying, the ultimate in the essence of reference to post-Perpendicular. All that the OS will show you will be a terrace of houses: you have to go there to experience them. Sometimes the map helps expose an anachronistic style, for example streets and streets of houses in Grimsby and Cleethorpes whose porches and window surrounds look like a combination of Italianate and Early English, which might be expect to be passé by 1870, yet which date from between about 1906 and 1914. Mention of these in notes can capture the spirit of a place far more than dates of churches or railway openings. Some places have more to say about themselves than others: the part-demolished Bodmin gaol is an unforgettable visual drama, particularly on a dull late autumn day.

There is also the question of who the notes are written for. To be honest, one

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6 Another aside: given that the work of demolition and new building continues, and that the volumes – not all written by Sir Nikolaus Pevsner in the first place – are subject to revision, it would be interesting to calculate what of the diminishing proportion of the whole at any one time was actually written by Pevsner.

7 For example see Alan Dowling, Street names of Cleethorpes, Chichester: Phillimore, 2010, 18 (conservative) and 63 (advanced).
answer is for oneself, what one would like to read on another map, though the
diverse approaches of other Godfrey Edition authors suggests that different
people like to read different things. One might add, ‘and answer the questions
that one might ask’, but that is perhaps too much: often the published sources
don’t answer it. Sometimes, rather than supplementing the map with extra-
cartographic information, it can be worthwhile to draw attention to certain
mapped features, for example the juxtaposition of agriculture and industry, or to
explain ‘traps’ or ‘silences’, for example unnamed gas holders or – Bodmin again –
completely ‘silent’ gaols. Usually authors have a free hand, but Alan particularly
asked me to work in somewhere on Exeter 1888, one of the colour-printed sheets
that are now appearing in some quantity, mention of the convention that carmine
shows masonry buildings and grey denotes wood and iron ones. (For good
measure, I added something on triangulation stations, having a little earlier had
occasion to visit them in a futile quest for traces.) Sometimes an interesting
feature appears on the map but is unnamed: such a one on Exeter 1888 is the
southern end of the Crediton canal, which was started and then abandoned circa
1810, and the remains of which were obliterated in the 1960s by a massive flood
relief channel.

A walk round Mitcham

The practical side of this can be illustrated by the two latest sheets for which I
have written notes: Surrey 13.04 Mitcham and 13.12 Carshalton and Wallington
North, both using the revision of 1910. I perambulated them on successive days in
late January. Starting out from Mitcham Junction station, having arrived on a
modern tram on the route of what is claimed to be the oldest public railway in
the world – can’t leave that out! – the first problem, already apparent from the
1:25,000 Explorer, is a rectangular mound with an uneven top that occupies a
large part of Mitcham Common, rather suggestive of a reclaimed rubbish tip – and
indeed subsequent library work shows that that is just what it is, and a
particularly controversial tip at that.8 On I go, noting what semi-
rural large
Victorian houses were demolished to produce the illusion of seamless inter-war
development. Places such as Mitcham often made the transition from village to
urban in two phases, the first characterised by prosperous villas and residual
villageyness, and the second by middle-class semis. Similarly, the centre of
Mitcham has been redeveloped since 1910: there are limits to what can be set
down in 3300 words, and a collection of old photographs may be extremely
useful to shunt the curious reader on to. Anyway, I walk past a car park with a
supermarket beneath, surmounted by a tall lift-tower that later turns out to be
conspicuous from the Common – but, again, there are limits to the abuse that can
be fitted into 3300 words and people can be asked to pay for. This isn’t Port
Isaac, after all.

I am now at the Upper Green, which isn’t at all green these days, even though
for the past twenty years it has been largely pedestrianised. It is here that sheet

8 A photograph of protesters in 1954 in Eric Montague, Mitcham Common, Chichester:
Phillimore, 2001 is an example where a ‘group photograph’ is fully justified.
lines become important: the most striking secular building in Mitcham is Eagle House, just off the map to the north. From here I turn south-east, to check a memory of weatherboarded houses from when my family used to travel this way regularly: the *Victoria County History*, published in 1912, says ‘many of the old cottages are entirely of timber construction, the quartering being externally covered with weather-boarding’. There are still a few, but they hardly qualify for ‘many’. On south-eastwards, back to the Common to check a ‘monument’: it proves to be to George Parker Bidder, though later investigation shows him to be the son of the ‘calculating boy’ who served on the OS for a few months in 1824-5 and gave evidence against the 1:2500 to a Select Committee in 1861. Never mind, both were local residents. Then south-west, to investigate *Tramway Path*, which seems to be on the original course of the Surrey Iron Railway, the world’s oldest, etc, opened in 1803. This is one of the few sections of the tramway to escape either conversion to a conventional steam railway in 1855, and thus to part of the Croydon Tramlink in 1997-2000 – trams to trams in three conversions – or being built over. A railway enthusiast can hardly pass up the opportunity to place his Clark’s footwear where the very shoes of the horses must have trod but, on a January day when it’s just stopped raining and might restart, it’s not the most inspiring of industrial-archaeological walks. There are six-foot high fences on one side – reasonable enough – and fly-tipping on the other, including several fridges. You wonder how people manage to get such bulky things there in the first place.

Anyway, then it’s on to Cricket Green and Lower Green. Cricket Green is where the game is still played, though not in January, and has the additional advantage of an information board – very useful for the hit-and-run topographer – so I spend ten minutes gratefully scribbling notes on damp paper with a succession of shy ballpoints. The information includes the explanation of the name of the adjoining pub, the *Burn Bullock*: it’s named after a Surrey cricketer who was later its landlord, rather than, as the flippant or blackly-humorous might assume, a version of a hog-roast that got out of control. In the event the 3300 words don’t accommodate this information. On through a devious route, mixing busy main roads with back paths that are recognisably descended from those of 1910. The gas works is too conspicuous to need a close approach, but its outline is unexpectedly relieved by a radio mast, that is worth commenting on, though not, it transpires, in any of the 3300 words. Then on to the church, which I expect to be a call of duty – gothic of 1819-21 suggests the very worst – but it proves to be a pleasant surprise, as the tower is at the south-east, and the building is an interesting shape from whatever angle you view it. On, across the railway at a new tram station, down what in 1910 was a footpath and delivers you to – weren’t you waiting for it – a car-dealership. A 3300-word limit has its uses. A deviation through a damp park provides an antidote, and something that does make the 3300: angling, ducks and rubbish on the River Wandle. I could never be an angler; apart from anything else, I couldn’t manage the huddled-up position

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for hour after hour.

The end – Mitcham station – is now coming into sight, but there are still a few buildings to check up on, not least the former station. The 1855 line was economical in its construction, and for its station at Mitcham it reused an older building, embodying a carriage-entrance. Proximity seems to have inspired the legend that the Surrey Iron Railway actually passed through the archway: perhaps someone got the idea from the Queen's House at Greenwich, which bridged the Dover road. About half a second suffices to dispose of the absurdity of this idea. Then it's home on the tram with a late lunch of sandwiches and flask-tea.

**East of Sutton: Carshalton**

The following day it's Carshalton, another sheet where I've known a road across it for over 40 years, but the rest is new to me, despite our family home being less than ten miles away. And I don't get there directly today. I start off with an exploration of what the map suggests is the north end of Wallington, but proves on further investigation to be the south side of the original settlement. This takes me past The Grange, a restaurant which was, I gather, the subject of frequent correspondence in the local papers around 1970. We would drive past and snigger about all those people enduring 'rotten dinners'. In those days it probably served, well, just food: under the present management it offers the 'best of two cuisines', continental and Indian. I'm afraid I can't tell you that the newspaper carpers have been seen off, as it's far too early for lunch and, anyway, I have my own sandwiches: cheese and Brinjal pickle. Cuisine?

There is nothing further to note for the next half-mile, till reaching Hackbridge station. The main building is being converted to a dental surgery: not quite as strange, perhaps, as the time that Walsingham station in Norfolk spent as a Russian Orthodox church, complete with onions, but still worth drawing attention to. The centre of Hackbridge is off the map, so sparing me either description or invention, and after that it's mostly inter-war housing estates, but there are a number of islands of earlier building to be checked up on. Passing an inter-war shopping parade prompts the reflection that whereas European and Asiatic cooking may have rescued British eating from blandness, bottom-of-the-range convenience stores shows that all is not gained even yet.

Laburnum Villas produces a strange thing: what appears to be a sewer-vent with a weather-vane on top. (fig 2, right)

There are two buildings to be checked up on now: the Sutton Model Laundry and a tramway depot, both in what, I discover later, was at one time known as New Sutton (but in Carshalton parish), though this name was not recorded by the OS. Never mind, ‘New Sutton’ does as a heading when I come to write the notes. The model laundry has been rebuilt as offices, so no checking whether the trig point on it was an intersected point on a chimney, and the tramway depot is now one of those self-storage places. Back towards Carshalton village, and – another combined vent-'n'-vane! I must admit to
a certain fascination with sewer-vents: they have a haunting, elusive quality, and seem somehow so evocative of earlier twentieth-century streets on dull afternoons. Why, I wonder? Was it on one such that I first saw, and understood? And as they don’t appear on OS 1:2500s, and most of them probably postdate the period of the 1:500s, there’s all the excitement of an unexpected discovery. Did the Victorians and Edwardians seek to Morally Elevate the Odours by ornamenting their exit? A subsequent internet search (‘sutton sewer vent vane’) reveals that there are at least eight of them around Carshalton, and that the purpose of sewer-vents is not always understood. (I mean about venting the gases, not promoting morality.)

According to ‘Pevsner’, not the least interesting building in Carshalton is the Water Tower serving Carshalton House – but is it on the map? There is no mention of it, so I am somewhat surprised when what seems to be a church tower appears ahead where no church should be, even allowing for occasional strange Pevsnerian lacunae. It’s the water tower, which the OS in 1910 describes as a school. Now perhaps we should expect this of Surrey: buildings that drive OS classifiers to distraction. Here we have a water tower looking a bit like a church turning into a school (figure 3, left); a few miles away on Reigate Heath we have what looks like, nay is, a windmill, the base of which has long been used as a chapel. Anyway, a definite instance here of ‘mentioning the map’. Then on into Carshalton High Street, which is dominated by ponds, which may be artificial but make for an interesting villagescape. There are benches round them, which in principle could be useful to rest on whilst eating one’s sandwiches, though all but two have been fouled comprehensively by the fowls of the air and water, and one of those is occupied by feeders of white sliced bread to said fowls….

As well as numerous water-fowl, there are also squirrels running about, quite the tamest, most personable and shapely that I’ve ever seen. I must say, both the birds and squirrels know their places, and do not make the mistake of many of their brethren, as to the motivation for the manufacture of sandwiches. Or perhaps the cross-cultural combination of ingredients repels them…

I have been walking, both yesterday and today, for about three and a half hours before stopping to eat. This is about ‘par for the course’ for a full 1:2500 sheet; one with a small town in it, such as Axminster, can be dispatched more quickly. I discussed the point once with Alan, and he reckoned one could walk about eight or nine miles to ‘do’ a sheet properly, which at three miles an hour comes to much the same. However, it is still quite early, what little remains can
be seen very quickly in walking back to the station, and Carshalton has a library: will it have a local history section? – Yes – and there are useful books, and I scribble away frantically. If I look up, I can see through a high-level window to the best bit of the parish church.

The note-taking isn’t complete until the notes have been typed up. This may seem pedantry, but as one is dependent on secondary sources rather than original research, and sometimes in using judgement or instinct in choosing between accounts not always quite in accord with each other (a question as to whether the trams stopped running in 1928 or 1936 cannot be fudged), it is advisable to have something to refer to should someone more knowledgeable query what one has written. This happened to me with Surrey sheet 20.11. The late Alan A. Jackson, the well-known writer on London railways (and later a contributor of Godfrey Edition notes) queried my statement that a certain local developer, William Gilford, was a railway director. I was quite certain that I had read it when researching 20.11, but I could not find my notes, and I had to admit defeat. Much more recently I have had to wonder about Gilford’s relationship with the railway, in view of certain earthworks on his estate at Woldingham, a couple of sheets to the south. A historian’s work is never done.

[Figures 2 and 3: photographs © Dr Neil Clifton, posted on www.Geograph.org and licensed for reuse under Creative Commons Licence.]

What the papers say

Roger Carn has been catching up on Ordnance Survey news in the press.

Ireland

The Director of the Ordnance Survey accompanied by an Officer of his corps, have recently arrived at Head-quarters (the Tower), from a tour of upwards of 1,200 miles in Ireland, where they have been taking points &c preparatory to the survey of that country in the ensuing spring. A detachment of Sappers and Miners, selected from the different companies in England, are now receiving instructions at Chatham, in surveying, drawing, &c, and will be attached to that service. They will amount to about a full company (sixty). In Ireland, the Director has established his Head-quarters at a house he has taken in the Phoenix Park, Dublin.

The Morning Post (London) Monday 1 November 1824.

Rifle Corps at Southampton

The civilians belonging to the Ordnance Survey establishment at Southampton, and who number between 200 and 300 persons, have resolved upon immediately forming themselves into a rifle corps. A meeting has been called by the town clerk of Southampton, of principal tradesmen in that town, for the purpose of forming also a rifle corps.

Constructing the M1
Rob Wheeler

In Roger Hellyer’s cartobibliography of the 1:25,000 First Series,¹ the B/* printing of Sheet SP 59 qualifies for a note ‘Showing the M1 under construction’. I recently acquired that printing and realised that motorways under construction on a 1:25,000 map are rather more interesting than at a smaller-scale, because of the depiction of fences. The OS might well follow the principle that temporary works were not to be mapped, but the fences that bounded the works were permanent features and therefore needed to be shown.

In fact one can distinguish three states of completeness on this sheet, all of which appear in figure 1 (far left).

a. North of the B582, the bounding fences are shown. In the space between is the ‘Motorway under construction’ symbol but nothing else, except for the faint remains of an imperfectly-deleted fence.

b. Immediately south of the B582 is a section where the ‘Motorway under construction’ symbol is simply overlaid on the previous field system. In principle, this might represent a section where construction had not started. It seems more likely that there was a depot of some sort, a temporary feature whose presence delayed the construction of the permanent bounding fences.

c. Just a little further south is a section where the earthworks were deemed to have reached a permanent state; they are shown in addition to the boundary fences.

All this seems to imply a genuine ‘snapshot’ of the state of the works at the time of survey. Figure 2 (near left) provides further evidence for this. At the southern end, we see the new bounding fences where a minor road is being realigned to go under the motorway at a less acute angle. At its northern end, the bounding fence to the east is broken just south of where a track crosses over the motorway. In due course, a ramped access to the field east of the motorway would be provided at this point. One might well imagine that the new embankment was still in a temporary state and the fencing was still in a temporary state.

However, closer inspection shows that what we have is less than a proper revision. The bounding fences are always the same distance apart, whereas common-sense (or inspection of a later state of the 1:25,000) would indicate that they will be further apart when the motorway requires an embankment or cutting than when it is on the level. Bridges also are shown schematically rather than being surveyed. Thus towards the bottom of figure 1 it will be seen that the bridge over the A46 is wide enough to carry not just the motorway but the embankments as well. Consequently the junction of the A46 with the old route through Narborough is under the bridge. In fact it is west of the motorway. Railway crossings are similar: the line to Nuneaton tunnels under the motorway’s embankments rather than just its carriageway. Further south the embankments of the former Great Central Railway, as well as its track, are carried over the new motorway.

The most obvious explanation for this is that the works in progress were drawn on the basis of air photographs but that no measurements were taken from those photographs. Thus the new boundary fences were indeed inspected and even the small gap at figure 2 was noted, but everything – even bridges – was drawn at a standard distance from the motorway centre-line.

Of course, this is only speculation, but I shall certainly look more closely at any other works in progress I may encounter on 1:25,000 sheets.
Yorkshire boundaries: a postscript
John L Cruickshank

Further to my recent article 1 another example of a complex disputed boundary in Yorkshire, surveyed and published by the OS only after it had been defined by the Tithe Survey, has come to my attention.

In 2002 David Bourne described the complexity of the boundaries within the North Riding township of Flaxton, and their historical origins. 2 In summary, Flaxton is a compact, near-rectangular township with well marked boundaries that follow geographical features. One quarter of it (by area) lay in the small parish of Foston, while three quarters lay in the large parish of Bossal. The definition of these parochial boundaries by the tithe survey in 1843 had required the resolution of a dispute that had been running since the early eighteenth century, if not before. The Foston element of Flaxton was eventually defined by the tithe survey as being fourteen separate detached areas within the township, including one area in the middle of the actual village of Flaxton that had the effect of dividing the settlement into three parts.

The medieval village and its three named common fields had been a planned settlement. The individual strips in the open fields before enclosure were arranged in the same order as the corresponding houses along the village street. Thus next-door neighbours in the village were also next-door neighbours in the fields, so-called solskifte. The partition of Flaxton between two ecclesiastical parishes can be traced to a division of ownership of the township that was already in existence by the time of Domesday Book (1086). 1½ carucates (or 12 oxgangs) within Flaxton were recorded then as being soke of Foston, which corresponded to a quarter of the township. Bourne was able to establish that the individual tenements held by Count Alan as lord of Foston (which were in the centre of the village) became those that lay in the parish of Foston, while the remaining tenements became part of Bossal parish. The open fields of the township were eventually enclosed by agreement in 1658. It was following this enclosure, in which newly enclosed separate fields scattered round the township were allocated to each land-owner and his tenants (who still retained their existing houses and garths in the village), that conflict arose about exactly which fields owed tithe to which parish. The key issue here is that the only administrative importance of this very complex parish boundary was for the collection of tithe, and perhaps for the registration of births, marriages, deaths and wills. Once all these had ceased to be ecclesiastical matters this boundary became administratively irrelevant. In this case the abandonment of the recording of ecclesiastical parish boundaries by the OS in the late nineteenth century was sensible, practical and simple. In essence, by merely recording the township of Flaxton as a civil parish, without subdivision, the OS swept aside a millennium of tenurial complexity and returned matters to what had, no doubt, been their primordial condition.

1 John L Cruickshank, ‘Surveying the administrative boundaries of Lancashire and Yorkshire after the 1841 Ordnance Survey Act’, Sheetlines 92,6.
**Defence Surveyors’ Association annual seminar 2011**

The DSA held its fifth annual ‘Maps and surveys’ seminar at the Royal School of Military Survey, Hermitage on 11 June 2011. The seminar was organised by Mike Nolan, supported on the day by Peter Walker and Tony Keeley.

The seminar concentrates on presentations and discussion of military and hydrographic surveying, mapping and charting and their production, and this year’s programme was demonstrably of interest to Charles Close members who attended. The DSA would welcome future speakers from CCS. The content of Maps and surveys is unclassified and CCS members and the public are welcome to attend.

This year there were six, forty-minute presentations. First up was Michael Cooper, Professor (emeritus) at City University and (visiting) at UCL. His topic was the Sumerians who in 3300BC were civilisation’s earliest surveyors and calculators (by one millennium). They invented, so far as is known, arithmetic. The Sumerian ‘number’ was related to the length of a strip of land with unit width; ‘positive’ was your land, ‘negative’ was your neighbour’s. They had no concept of ‘zero’, since of what use is absent land? To calculate an area the surveyor would take out known shapes such as rectangles and regular triangles, to leave a residue of irregular quadrilaterals. Then presuming the irregularity is not too great, area was a product of the four sides of these quadrilaterals, apparently sufficiently accurate for purpose.

Next to speak was Dominic Fontana (University of Portsmouth) who reviewed the Cowdray engraving of the sinking of Mary Rose on 19 July 1545 in comparison to contemporary military maps. All aspects topographic, architectural and military are found accurate both for town, dockyard, harbour and the middle-distant Isle of Wight. Cowdray shows the moment just after Mary Rose has sunk, dead English sailors floating exactly at the spot where the flagship went down, and the vital bridge near Cowes on fire.

During the lunch break a display of historical military mapping/charting was set up; two examples can be mentioned. One, showing a large-scale map of the Bocage in Normandy, was immediately recognisable as British ‘Benson Project’ 1:25,000 map but on closer examination turned out to be a map captured on D-Day + 2 and turned round by the Wehrmacht in less than two weeks with full German language legend and graticule in a delicate green. The second example showed how, for the D-Day landings, beach profiles were derived from air photographs taken at differing tide levels and knowledge of tide heights from Admiralty tables.

After lunch Mike Nolan spoke on the WW2 RE Air Survey Liaison Sections describing the Z(M) chart programme and the photography and production of very large scale, closely contoured, potential airfield sites in Normandy for advanced airstrip construction planning, these being plotted by a Canadian survey unit using multiplex stereoplotters. Similar work was carried out by other sections in Sicily, Italy, Burma and Malaya.
The next speaker was Rod Siggs another retired RE surveyor whose subject was the 1950s mobile train, supposedly ‘a timely dinosaur’. The mobile originated as WW2 field-deployable printing equipment in Leyland Retriever 3-ton trucks, descendants of the Boer war horse-drawn printing wagons. Whatever methodology of map generation/ storage/ reproduction prevailed the train had it.

Then CCS member John Cruickshank spoke on Russian and Soviet military mapping since the Russo-Jap war of 1904. He began in 1904-05 when the Tsarist army found itself fighting (and losing) a war across an unsurveyed part of its own territory. The famous trans-Siberian railway was only properly surveyed to the barest minimum of a kilometre or so on either side of its route. Not much had improved at the debacle of WW1 or solved at WW2, during which conflict the Wehrmacht often had better maps. Nevertheless by the 1980s the entire world had been mapped by dint of tremendous Soviet effort and organisation.

The final speaker, Chris Howlett (UK Hydrographic Office, Taunton) began his talk ‘Surveying for Safety – modern hydrographic surveys on the UK continental shelf’ by noting that although ‘by the 1980s the entire world had been mapped’ the seas and oceans remain largely unsurveyed. Of the UK continental shelf only 48% has been surveyed to a modern standard, 22% surveyed but not updated, and a startling 24% never systematically surveyed. The principal reason is that a ship must sail directly over the seabed in order to map it and ship availability has always been a limiting factor. We do indeed need to make a full survey because a shelf seascape is the most hazardous, and surveys by the oil industry and Royal Navy are not in the public domain. The EU, being desirous for complete coverage of all European inshore waters provided funding to Ireland, who went ahead fast on their steep Atlantic shelf. Sea floor survey continues to use the well-known ‘pinging’ of ultrasonic pulses. With modern rastering and sideways sonar this has become very powerful and, no doubt, involves defence secrets. Chris told a cautionary tale demonstrative of the hazards. Whilst a UKHO ship was in transit to a designated survey area it responded to an SOS mayday call from nearby, as all seafarers must. At full speed ahead the ship therefore drove directly over an unswept area; and yes, went aground herself! Meanwhile their instrumentation was switched to echo-sounding. Its unobserved record was later found to show depth inexorably decreasing to zero until the crunch.

*John Seeley*

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The Defence Surveyors’ Association’s sixth ‘Maps and surveys’ seminar on historical military and hydrographic surveying, mapping and charting will take place at the Royal School of Military Survey, Denison Barracks, Hermitage near Newbury on Saturday 16 June 2012. The cost of attendance is £20, to include tea and coffee breaks and a finger-buffet lunch with drinks.

Information and bookings to Mike Nolan at maptnolan@googlemail.com or 01635 253167.
A new Guernsey official map

Gerry Zierler

Last year saw a new map of the Bailiwick of Guernsey from the States’ map contractor, Guernsey Digimap Services - hosts of the 2009 visit by CCS members.

A new map and (to the writer anyway) at a new scale for the island of Guernsey too, 1:15,000. My thought on first opening this map was that it is a reduction of an OS-style six-inch map. Please forgive this fleeting thought, GDS, for the new issue is a splendid map!

The result of this choice of scale is a very clear representation of the small field system of the Guernsey countryside, not attempted in the earlier 1:25,000 maps, produced by The Guernsey Geographical Information Service. In the towns too, the scale allows the naming of principal streets, though this might have worked better with a more careful choice of font.

Opened out from its 225mm by 135mm card covers, this is a big sheet of 1200mm by 840mm. This has allowed not only the whole of Guernsey on one side, but room for four further large scale maps on the reverse. These are of Alderney, Herm and Sark, each at 1:10,000, and of St Peter Port town centre at a novel 1:3000, or as the helpful descriptive notes state, ‘approximately 22 inches to the mile’. Scale bars are however in ‘kilometers’ [sic!].

But caveat emptor! The front cover is most alluring, but a bit of a cheat. This is a colourful fudge, graded between (left) an enlarged extract from the map and (right) aerial photography of the same area, around Grand Havre. The back cover is a location map, of the English Channel showing Guernsey and Alderney to be roughly equidistant from Weymouth and St Malo. Les Îles Normandes? Non! Not even the words ‘Channel Islands’ here – and the bigger island of Jersey is relegated too: this is strictly a map for the Bailiwick of Guernsey.

It is interesting to compare this new publication with what has gone before from OS. My own collection threw up two 1:21,120 (3 inches to the mile) folded OS maps, from 1934 and 1966, the latter almost unchanged in format since the former except for very heavy layer colouring, and looking decidedly dated even for that period. (The ‘War Office & Air Ministry’ published sheets in the 1950s at 1:25,000 and at 1:50,000 as GSGS (Misc) 1769 and 1768 respectively. I know I have them somewhere but they wouldn’t appear in time for this report – sorry! Any takers?).

CCS visitors to Alderney will remember our excitement at finding the 2004 OS sheet still in stock in St Anne. No doubt the shopkeeper was equally excited at selling them all, five or more years later! At 1:10,560 scale (six inches to the mile)
this map provides a closer comparison with that of this island on the 'B' side of the new Bailiwick map. Whilst the OS offering was a very pleasing product and certainly much more colourful, it may be the denseness of the colour which made it, in the writer's view, much less readable. This is particularly true of the solid green covering most of the land area, which on both sides of the new GDS product is instead an extremely subtle layer tinting using very pale peachy and green colours.

Recommended to connoisseurs of good mapping – you know who you are!

Published by the States of Guernsey. No price marked but I paid around £8.
Dealing with cartoholism

Richard Dean

It all started a very long time ago.

‘Why can’t I find our road’ I said to my father, idly running a grubby twelve-year-old finger over an equally grubby Popular Edition Sheet 43 which was being binned as he cleared out the glove box of the family car. I was surprised by the answer that most of our street, which I naively thought dated from time immemorial, had not been built by 1919 when the map was revised. A more thorough examination revealed all sorts of other interesting variations between the map and the neighbourhood I knew.

I was hooked.

The addiction spread, slowly at first, aided by the donation of an early Seventh Series sheet, and comparison of the two maps thirty years apart and very different in style. Others followed, and canal boat holidays with a school friend cemented the relationship between maps and waterway history that has been with me ever since. Visits to the school library revealed a battered scrapbook of old prints and maps, including one printed in 1796 of the Ellesmere Canal from which it was easy to see how the existing parts of the Shropshire Union fitted into a grander but unfulfilled project to link the Rivers Mersey, Dee, and Severn. Many years later I was finally able to acquire one of these maps, and it is still a treasured part of the collection.\(^1\) Visits to the Cheshire Record Office in Chester Castle revealed wonderful big plans of ancient canal and railway schemes, roll after roll stored in rows of floor to ceiling wooden cupboards, all a huge mine of historical information avidly quarried, and with all the different large scale OS editions equally to hand.

When the time came to start work it was natural to seek something connected with maps, and I found myself in the Liverpool District Estate Office of British Railways. The Cavern Club was in the next street, but the Beatles held no appeal – it was the second-hand bookshops that attracted, and soon the map collection was expanding fast. A week’s holiday was spent in similar pursuit through London with an A-Z in my pocket, discovering such gems as Stanley Crowe’s immortal Bloomsbury basement. Complete Old Series coverage of Nottinghamshire sectioned and folded in a leather case for thirty shillings: the book trade did not rate Ordnance Survey maps very highly then!

With cupboard space rapidly filling and a move in prospect it was clear that duplicates and maps I did not really need would have to go, and a foolscape disposals list advertised in Exchange & Mart brought a good response and some useful funds. Without realising it at the time, I had become a cartoholic dealer. The name ‘Cartographics’ was coined soon after.

\(^1\) Which grew into the Canal maps archive www.canalmaps.net.
Twenty catalogues\textsuperscript{2} and thirty years later the stock was still growing faster than sales despite book fairs, the CCS, and many loyal customers. Large scale plans with their wealth of detail had become a particular fascination, and collections of old OS County Series sheets were often available from estate agents and surveyors as old-established firms were swallowed up by multinationals. The advent of the internet was a boon, a potential customer base of hundreds becoming millions and a map of Billericay as likely to be sold to Brisbane as Essex. If a map is properly described, sensibly priced, and preferably illustrated, someone somewhere will want it.

But with around 80,000\textsuperscript{3} maps and many other calls on my time it is now clear that adequately listing and marketing them is a hopeless task. So if anyone wants to pick up the torch I will be happy to discuss the sale of ‘Cartographics’ to a new owner – requirements are a computer, lots of time, storage space, an understanding partner, and an incurable addiction!

\begin{itemize}
  \item Richard Dean is selling his personal collection of Ordnance Survey related books, maps, and ephemera, around 100 items of rare, interesting and unusual material collected over the last forty years. An illustrated catalogue is at
  \texttt{www.sites.google.com/site/ordnancesurvey} or a printout will be sent on receipt of a stamped addressed envelope to the address below. The items will be open to bids on eBay during the week ending 20 May 2012, and none of the material will be sold prior to the auction. Richard will have the items available for viewing at the Map Market following the AGM at Lincoln on 12 May, or will gladly show them at any time to visitors by prior appointment. He can be contacted at 49 Grange Road, Biddulph, Stoke on Trent Phone 01782 513449; email \texttt{Carto@tesco.net}
\end{itemize}

\textsuperscript{2} A set of these, kindly collected and listed by Roger Hellyer, are located in the CCS Archive at Cambridge University Library (ref GBR/3296/CCSA/CG).

\textsuperscript{3} A guesstimate – I have never counted them!
A large scale contributor

Regular readers of *Sheetlines* will be familiar with the writings of John Cole, one of our most prolific contributors. Since his first appearance in issue 46 in 1996 (the year he joined the Society), few issues have lacked a John Cole article or letter. John’s favourite topic was OS large scale plans, a subject largely neglected by other writers. As mentioned in a footnote to his latest article in *Sheetlines* 92, John has now laid down his pen, other than for those occasions when he can’t resist adding a brief comment to something that has appeared in these pages.

Many of John’s pieces refer to his experiences in the field as an Ordnance Surveyor and we asked John to mark his retirement by giving us a short summary of his OS career. Here is his history:

- January 1952. Joined OS at Bristol office. Spent most of three months trying to master drawing pen, first on paper then on 40cm by 40cm enamel-coated zinc plates.
- April 1952. Basic survey course at Elmsleigh, Southampton. One of the exercises was to survey the main OS office at London Road.
- October 1952. Posted to Dudley and later West Bromwich on 1:1250 map completion.
- March 1954 to March 1956. National Service. Due to loss of a ‘recommendation’ paper was placed in army post office and spent one and a half years in Korea (post-armistice).
- April 1956. Refresher course at Southampton, slightly longer than original basic course due to accent on 1:2500 revision.
- Mid-1957. Posted to West Bromwich. Participated in experimental ‘in-the-field’ tachymetry course at Wolverhampton. Completed course but could not become an operator due to eye problems.
- 1958 to April 1964. 1:1250 map completion and some 1:2500 revision mainly in Cannock National Coal Board area.
- April 1964 to October 1965. Posted to Nettlebed, Oxfordshire (voluntarily, as a means to get into SW region). Surveys for HM Land Registry and 1:2500 revision, including a single 1:1250 map in Reading continuous revision area.
- October 1965 to April 1967. Posted to Redruth and later Newquay. 1:1250 map completion initially but mainly 1:2500 revision.
- April 1967 to September 1967. Posted to Plympton, ostensibly to help Plymouth 1:1250 extensions. Only one map materialised, spent remainder of the time on 1:2500 revision backlog.
• 1969-1979. Course on 1:2500 revision using air photographs. 1:2500 revision in mid and SE Cornwall (300+ maps), validation, work for continuous revision section, including new editions and 1:10,000 preparation.
• 1979-1981. Posted to Totnes for 1:1250 map completion at Brixham, 1:10,000 re-survey of South Dartmoor and revision on down-graded 1:1250 and 1:2500 revision of surrounding area.
• 1981. Posted to Redruth continuous revision office (moved to Truro 1987).
• 1981-1994. Varied tasks including 1:10,000 and 1:25,000 derived mapping, new editions, sweeps, validation and relief turns at Newlyn tidal observatory.

The present editors, on behalf of themselves and their predecessors, thank John for his contributions and look forward to receiving his letters for years to come.

Dartmoor, looking towards Burrator reservoir, site of some of John Cole’s survey work. Details of John’s contributions to Sheetlines can be found in the online indexes at www.charlesclosesociety.org/Sheetlinesindex and in the Almanack.

What was Ordnance Survey’s worst mistake?

John Cole, as a lifelong OS man has his own opinions about some of the things that Ordnance Survey ‘did wrong’ over the years. His opinions will appear in a future Sheetlines story. Meanwhile, we would be very interested to hear your opinions. Which maps do you think were a ‘mistake’? What should OS have done that they did not? What did they not do that they should? It’s a party game that everyone – employee, historian, customer, librarian, collector, enthusiast – can play. Let us know your ‘OS worst mistake’.
Kerry musings

David Archer

A question. Was there ever a Golden Age for Ordnance Survey maps? A Golden Age being when nearly everything is portrayed as having been not only far better than at any other time, but also, unlikely to be seen again. A period of outstanding excellence that is no more, and might not have been for a good while.

As so often when considering OS matters, one must think in terms of large scale and small scale maps. For large scale maps, resoundingly there was a Golden Age. It came at the very beginning and has been long gone. A fact: the early, full sheet six-inch engraved maps were the finest work the Ordnance Survey has ever produced, at any scale. Never again would both engraving and printing receive full marks from a panel of judges.

Engraved Irish maps from 1833, followed by English, Welsh and Scottish examples, were all superb. By comparison, most one-inch Old Series are crude beyond belief. Look at any early six-inch sheet and the quality of the engraving is the first thing to hit you. The detail is so clear, orchards, towns, lettering, all are finely shown. Fine lines, fine engraving, fine printing. A Golden Age.

But has it been continuously downhill since? Have there been any high points? Although the detail is less fine, I believe that the hand-coloured 1:2500 First Edition maps must be mentioned. Gold plated rather than solid gold? Certainly precious. Had the six-inch not existed, I am sure that these would have been nominated as a Golden Age product. Why? Because the hand-colouring adds a special element to these maps. Uncoloured, one is not impressed. Colouring brings forth praise. But they lack the quality of line work, of clearness in printing and are only mentioned because of the appealing colouring. I would add to the ‘Highly commended’ section, the re-drawn National Grid large scale maps. These are particularly clear and easy to read, very modern, especially the metric 1:10,000 National Grid Series.

A Golden Age for Ordnance Survey small scale maps? Four things instantly spring to mind: the coloured one-inch Revised New Series, Close’s brief ‘experimental period’ up to the end of 1914, the 1920s and 30s, and the Seventh Series. The Revised New Series was the first series to be offered in colour. One specification with warm light reddish-brown hachures, fine pale red contours plus light yellow roads, is particularly striking, especially when set off by black and white railways. I have a weakness for soft brown hachures, especially, as in this case, when woods are not coloured green, just brown, red and yellow colouring. But such maps are seldom found, as the road colour kept changing, usually getting darker along with darker hachures, and eventually green woods appeared, essentially the Third Edition style. Not so good. A single series, striking in parts, is not what we are looking for. In 1912, Sir Charles Close initiated a programme of experiments focusing on the representation of relief, which produced the celebrated 1913 map of Killarney District, using layers, hachures, contours and hill shading, with a clutch of similar experiments following in 1914. Although very
attractive and technically ambitious, they are just a handful of maps, little known by the public and cannot claim to be a Golden Age. So, thank you very much but not this time.

At this point, I would argue that a Golden Age must surely contain an outstanding one-inch map, the series that was seen by the general public as being synonymous with the Ordnance Survey itself. The Popular Edition was popular with the public, and still is with today’s collectors, but is not a fine map; nice, but look closely, could do better. Glancing at Chapter 2 and the Afterword of Popular Maps,¹ the general picture emerges: unequally worn copper plates from the old one-inch Third Edition small sheet series were cut up and riveted together ... further damaging the detail .... deterioration of the image .... with subsequent loss of clarity .... by the mid 1930s .... so worn out .... impossible to correct them any further .... a map which, when printed in colour, was distorted .... it could not be regarded as a ‘complete and authoritative record of the country’ .... Although the production of the map spanned the entire inter-war period, it had come to the end of its useful life even before the completion of its first publication in 1926 .... was therefore in most respects a map behind the times .... So again, not this time. Yes, but what about the Fifth Relief, which continued the striving for excellence in relief depiction, with only a few sheets being issued? Admirable, but nothing to stake a claim on. Is this just clutching at straws?

Three down, one to go. Consider the Seventh Series and associated maps. I say associated as since the adoption of the National Grid, all maps have been bound together by the grid. A map reference, SO 155891, is meaningful at any scale. The soft ten-colour printings of the Seventh Series were truly superb, and the cold six colour versions still exceedingly clear. A totally fresh specification, a newly drawn map covering the whole of Great Britain, and so clear. The newly drawn quarter-inch and tourist maps, also sparkle. The modern approach to marketing saw the adoption of a house style for map covers and associated ephemera, which helped to consolidate the whole operation. For the first time in OS history, we find all maps, large and small scales being nice and clear, presented in a uniform and attractive way. Across the board, the best yet. But Golden? No.

This isn’t getting anywhere. Something is not quite right. On paper (no pun intended), it looks like the Seventh Series to the end of the 1960s comes out best, but try as I might, I just cannot see this as a magical period; a fine series of maps, but not a Golden Age. Well, not just yet. I assume that someone has written to the effect that one can be too close to history to be truly objective, so the real test will come in 2212, when the 1890s, 1920s and 1950s will all seem equally long ago. Come this time, the Seventh and co. will be very well placed. Just you wait and see. With hindsight, it is obvious there could never have been a Golden Age for small scale maps in the nineteenth century. To appeal to the mass market, they need to be ‘a product’, be put in covers, and marketed, with the resulting

accumulation of ephemera and so on. And in such circumstances, the whole product must be considered, map quality and quality of cover, allowing a slightly lower standard for one to be outweighed by the other. For large scale maps, the situation has been entirely different, in that plans have virtually always been issued as flat sheets, and must be considered in this context.

So, I will now state the blindingly obvious (as Robert Peston would say) and lay claim to 1913 up to the mid-1930s as being the Golden Age of Ordnance Survey small scale maps. Yes, I know what you have just read about the Pops, but that was to get your attention and keep you reading. And even if it was true, which it is, it only puts a stick in the spokes because I suggested a Golden Age must have an exemplary one-inch series. Without this stipulation we can really get down to noting all the wonderful things the OS produced in the twenty odd years after 1913. And here, one must include non-map items, as they were and are so closely linked to the maps. The same tingly feeling that one gets from the map is also received from the ephemera, the advertising material and OS paperwork such as the Professional Papers.

So, we start in 1913 with Killarney District, then Dorking and Leith Hill, and the Aldershots, all available alongside the one-inch Third Edition, a nice tidy competent map, with white or decorative covers, accompanied by Scotland in the same style. Also, the fairly new half-inch large sheet series, in three styles, again in smart white covers. A flying start, certainly popular with collectors in my day. The First World War stopped the experiments but allowed the OS to rise to the occasion and produce a vast number of excellent trench maps, plus the mysterious and little known Air Packets in the white cases.

Enter Ellis Martin and Arthur Palmer to provide colour and excitement for both the Golden Age and today’s collectors. In 1920, Snowdon District was the first tourist map issued in attractive pictorial covers. And once it was seen that these ‘worked’, then everything received this treatment, tourist, district, aviation, ten mile and town maps. But perhaps the finest series maps produced during this period were the newly drawn Scottish Populars, an undeservedly neglected and exceedingly beautiful map. Probably the only one-inch map series that I would call beautiful, with a capital B, the most attractive one-inch map ever, if you want it laid on thick. Not forgetting the six-inch town maps found in the card envelope covers. So why were all of these not mentioned earlier? Because I needed them in this bit.

Many exceedingly fine maps and cover designs resulted from O.G.S. Crawford’s appointment as Archaeology Officer for the Ordnance Survey in 1920. After a point, everything snowballed with ephemera, booklets, leaflets and Professional Papers, all appearing with inspiring artwork or being fine works in themselves. Then at the very end, the Fifth Relief Edition closes the Golden Age, allowing the reader to supply the terminal date, 1933 or 1939.

And still I have not mentioned the much loved Popular Edition, and they are loved, the maps that really lured me into all this. People liked them at the time; they were bought as never before, and our members cannot resist collecting them. Indeed, it is the only map series which attracts fanatics. Why worry if it
would not win a cartographic competition? Go for the total number of points scored, it’s a team effort for this era thing. A team that wins gold: experimental maps, Half-inch, Thirds, Pops, Scottish Pops, Fifth Relief, tourist and district maps, archaeological maps, ephemera, booklets and Professional Papers. Not to mention aviation maps, town plans, air packets, trench maps, and a secret map of London.

All produced within about twenty years. Beat that.

David Archer adds: John Henry is to be congratulated as the winner of the 2011 Christmas competition (Sheetlines 92, page 2). A prize of Sheet 114 in both the Fifth Relief Edition, and matching Fifth Relief Edition, Physical Features alone will give even more hours of fun than the competition.

After Sheetlines was distributed, Mike Cottrell predicted that readers would find ‘references’ that I had not noticed, and so it was. In case anyone has not finished, and to avoid confusion, there were six named Director Generals and two Superintendents. At least.

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**Ordnance Survey press release of 14 February 2012**

**Avoid a ‘life on the edge’ with new custom-made maps from Ordnance Survey**

Map owners no longer face a ‘life on the edge’ thanks to a new range of customisable paper maps from Ordnance Survey.

The much loved OS Explorer Map and OS Landranger Map series of maps have now been extended further with the introduction of a new customisable version.

The new OS Explorer Map – Custom Made and OS Landranger Map – Custom Made allow anyone to customise their own map, choose their own title and select an individual cover image from a wide selection photographs.

Matching the existing look and feel of the OS Explorer Map at 1:25,000 and OS Landranger Map at 1:50,000 scales, which are recognised as the definitive maps for outdoor activities, the custom-made version will be the same quality and detail which customers have come to love.

The new maps allow anyone to go online and select their own special location to centre the map on. Helping to avoid a ‘life on the edge’, the customer decides what goes in the centre of the map. It could be any location that is important – someone’s home, their town or favourite walk. The maps are specially printed to order, including the customers' own personal title, like ‘Our Family Holiday’, for example, as well as a wide choice of selected cover photographs.

A new production process means that Ordnance Survey custom-made maps are now printed on the same paper as standard ‘off-the-shelf’ Ordnance Survey maps. This makes them thinner, tougher, easier to fold and a practical option for outdoor enthusiasts as well as a fantastic gift for the person who has everything.

The customer can choose to have the map delivered folded or flat and with or without a cover so that it can be easily used outdoors or framed for the perfect print in the home. The maps are available in two scales of detail – 1:25,000 and 1:50,000 – making them perfect for planning an outdoors adventure or getting active.

Richard Oliver comments:

What would be more useful than cover pictures would be the ability to (1) filter out certain information, and (2) to adjust the colour-scheme!
This is a complementary volume to Crispin Jewitt’s *Maps for empire: the first 2000 numbered War Office maps*, published by the British Library in 1992, and reviewed by me in *Sheetlines* 36.\(^1\) I see that I described *Maps for empire* as ‘thoroughly worthwhile’, but decidedly pricey, and a broadly similar comment applies to the present volume, though it is better produced and the cost does not seem so steep.

Although complementary, *Intelligence revealed* does not cover the same ground as *Maps for empire*. That volume covered the first two thousand items in what is most familiar now as the ‘GSGS Series’, and was able to use cryptic references in elderly hand-lists to give summary information for some 300 items for which no exemplar could be found. The mapping which survived, and could be described with scale, title, authorship, printer and size, was printed both in-house by the War Office, and elsewhere, notably by the Ordnance Survey. The end-product omitted those OS series and editions that were produced mainly or exclusively for military use, but it was otherwise a comprehensive guide to military mapping activity in the United Kingdom in the quarter-century leading up to the renaming of the Intelligence Division, War Office (IDWO) as the Topographical Section, General Staff (TSGS) in 1905; TSGS in turn became GSGS (Geographical Section, General Staff) in 1908, at a time when it was headed by Major Charles F. Close.

An introduction explains the less than straightforward organisational background to the maps. In 1803 a Depôt of Military Knowledge was created within the Quarter Master General’s Office in the Horse Guards: it reported to the Commander in Chief. In 1855, in response to the Crimean War, a separate Topographical and Statistical Depôt was set up, and in 1857 these two were amalgamated into one, known variously as the Topographical Depôt and Topographical Department of the War Office (TDWO), under common management with the Ordnance Survey, and reporting immediately to the WO. The OS had been under the Board of Ordnance up to 1855, when the Board was abolished and its functions transferred to the War Office. OS and TDWO continued under common management, otherwise Colonel Sir Henry James, to 1870, when oversight of the OS was transferred to the Office of Works. (There is a side-on illustration of a bust of James, which makes him look particularly ferocious and unlovable.) TDWO remained with the War Office: in 1874 it was reorganised as part of the Intelligence Branch of the Quarter Master General’s department (IDWO). The military origins of the OS are undisputed, from 1857 it undertook some printing of mapping that was really part of TDWO’s remit, and after 1870 it continued to print a wide range of work for successively the War Office and the Ministry of Defence, though TDWO and its successors rarely undertook any purely civil work to help the OS out. The printing of some plates

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\(^1\) *Sheetlines* 36 (1993), 34-5.
for the survey of Sinai in 1869 appears an exception but, like the earlier survey of Jerusalem in 1864-5, may have been justified by broader diplomatic and strategic considerations. In short, there was always a close relationship between the distinctly military TDWO and its successors, and the national, predominantly domestic and civil, OS.

This lengthy explanation is necessary in order to set into context the scope of *Intelligence revealed*: it concentrates purely on what was printed, invariably it seems lithographically, at Horse Guards and by TDWO and IDWO, up to where *Maps for empire* begins early in 1881. As with the earlier volume, we are given scale, title, authorship, printer and size, brief explanatory comment if necessary, and the location of copies. It excludes, with a few unavoidable minor exceptions, anything printed elsewhere, whether by the OS or by civil contractors; for the whole period covered by *Intelligence revealed* the latter printed most official letterpresses, for publication or otherwise, and most associated ‘graphics’. The scope also excludes anything that did not progress beyond the manuscript stage, and anything which is not known to survive. Although there are no tantalising summary lists for the periods 1803-57 and 1870-80, a combined OS-TDWO annual report was issued from 1859 to 1870, and this does list TDWO output, including some items not mentioned in *Intelligence revealed*.

Unlike *Maps for empire*, then, *Intelligence revealed* is not a broad guide to the scope of military mapping activity for the period 1803-80. To give a single example: the index gives two entries for Gibraltar, a 1:9600 of military establishments of 1823, and a 1:21,120 *Hunting map of the country adjacent to Gibraltar* of 1874, but there is no mention of the 1:600 of the town printed by the OS in 1868, and very similar in style to the contemporary domestic zincographed-and-hand-coloured 1:500. Similarly, there is no mention of ‘Isle of Wight, Sectional Drawings, &c., of South Coast, Military Road (for making contracts)’, presumably for what we now know as the A3055, which is nonetheless listed in the annual report for 1863. Most of the entries are based on holdings by the British Library and The National Archives [Public Record Office], supplemented by holdings in six other collections: this is not a union list, but there is plenty of space for notes of other copies. Material apparently not represented in BL and TNA includes some in Library and Archives Canada and the National Library of Australia, and leads one to wonder what else might survive only at a distance from Britain, but not find a place here as it was printed by the OS. The print-run information given in the reports of the 1860s suggests that most items were produced in very limited runs: but might we hope that there will be further finds in private or as yet unexplored institutional collections? There is a challenge here for searchers of lists of ‘varying cataloguing standards’, as the euphemism is for interpreting the runes.

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2 The Gibraltar map is at British Library Maps 18425(28): this set was received by TDWO on 22 November 1870, and by the British Museum on 12 April 1913.

From the point of view of the perfectionist, the limitation of production agency and repository may be a disadvantage, but the sheer size of Intelligence revealed shows that at least one more volume would be necessary to widen the scope to that of Maps for empire, and probably another for the military-oriented work of the OS, if not up to 1881, then certainly up to 1905. Better that we have a thorough exploration within clearly defined parameters that is likely to stand the test of time, than a wider and more superficial work that would cost as much to produce, yet would quickly become of limited worth as its deficiencies were shown up. As it is, although the credentials of Intelligence revealed for review in an OS context may seem limited, in fact, even without exploration of all those OS ‘War Department Only’ printings, it sheds considerable light on the OS’s military-oriented activity between 1857 and 1870, which represent over half the number of items described. In the earlier part of the period an important OS preoccupation was the survey at 1:2500 or larger of a number of areas, mostly around naval stations, as part of Palmerston’s defence scheme started in 1859: as Sir Henry James loudly trumpeted, these surveys were made as part of the national ‘cadastral’, i.e. civil, mapping. At the same time, and continuing throughout the 1860s, there was a programme of surveying forts, barracks and similar establishments in Britain and Ireland: the actual survey and drawing was undertaken by the OS, ‘under the direction’ of officers whose main responsibilities were elsewhere (for example Captain Wilkinson, who was in overall charge of OS operations in Ireland), but the printing was by TDWO, and so this extensive series finds a place here. Incidentally, an apparent oddity is that the standard scale for fort and barrack mapping was 1:500 in Britain and 1:600 in Ireland. 1:500 was the standard scale from 1855 for urban survey in Britain; I suspect that 1:600 was related to the old Board of Ordnance standard, of scales relating inches to hundreds of feet: 1:1200, 1:2400, 1:4800, 1:9600, or 1:1800, 1:3600, 1:7200, 1:14,400. 1:600 fits neatly into this. These scales illustrate both the interconnection with mainstream OS work, and – if my hypothesis is correct – residual influence of Board of Ordnance practice.

The fort and barrack series apart, one is left with the impression that TDWO tended to concentrate on confidential work and single-sheet maps, leaving more extensive multi-sheet projects to be handled by the OS at Southampton. The ‘cartographic’ qualification is important, as a minority of Horse Guards, TDWO and IDWO work was ‘graphic’, for example diagrams of military equipment or sketches of battlefields, rather than ‘carto-graphic’. The majority of TDWO’s work can be classed as ‘reactive’ rather than ‘proactive’, ‘occasional’ rather than ‘institutional’: a long series of plans of battles from one campaign after another, starting with Wellington in the Peninsular, and including those in Europe to which the United Kingdom was not party, for example in Italy in 1859 and the Franco-Prussian war of 1870-1 as well as, inevitably, the long series of colonial ‘small wars’. There was plenty of scope for fighting the previous war, or previous-but-one – or more. Symptomatic of the limited role of the proactive is item I.149, ‘Index to Map of Afghanistan Scale of Map 8 Miles to an Inch’ [sic], about 1:6 million, dated 1878, of which it is noted ‘Shows the sheet lines of an abortive 16 sheet series at eight miles
to one inch printed by the Ordnance Survey’.

Only those who have embarked on cartobibliography know how demanding it is in terms of accuracy and completeness. Crispin Jewitt is to be congratulated on *Intelligence revealed*: one hopes for a companion volume of a *Southampton Confidential* sort to cover contemporary OS ‘military’ printing. The relatively high price will inevitably restrict purchase to libraries and some specialists. Production is better than for *Maps for empire*, but it is a pity that the typeface chosen is occasionally spoilt by the intrusion of Times Roman for scale ratios: page 265 is particularly bad. It is the job of a publisher to ensure that such ‘glitches’ do not reach the public. Otherwise, a thoroughly worthwhile endeavour: more, please!

*Richard Oliver*

**Also noted:**

These images are from *London in Maps, a changing perspective* published by The GeoInformation Group in connection with the London Mapping Festival. For details see [www.londonmappingfestival.org](http://www.londonmappingfestival.org).
Letters

When I first joined the Charles Close Society, several years ago, my expectation was that our journal would feature the maps that we claim to ‘study’. Of course there are two meanings to the word ‘study’; one is an acquisition and growth of knowledge about the subject (something that Sheetlines admirably embraces through its very learned contributors), but another is a more colloquial meaning that is to simply look at and enjoy the subject in a visual sense. As a non-academic and collector of Ordnance Survey maps, it is the visual delight that I seek and that stirs my curiosity and imagination. I’m not ashamed to say that I also crave nostalgia; something that older maps are very good at providing. So, it was rather disappointing to receive Sheetlines 92. It runs to 60 well-crafted pages, now printed in high resolution and on glossy paper. But to my dismay, there are just six reproductions of Ordnance Survey mapping, all of them of small size and two of them can best be described as mere fragments. So, please, let’s we have more illustrations of the actual mapping itself.

May I also say that I will miss John Cole’s contributions - he has been a stalwart contributor over the years. I do hope that someone will emerge to enliven the specialised topic of large scale mapping in future.

Fraser Donachie

[We would be very happy to include many more stories illustrated with maps; all we need is for contributors to submit them (as has occurred for this issue!). Ed]

I have had the misfortune to need to visit the X-ray department of Salisbury District hospital a number of times over the last couple years. However, the first visit was rewarded by the chance to spend ten minutes or so gazing in awe at a cartographic treasure. There, in a very large glass frame, on the wall next to the reception desk was a hand-coloured copy of the 1881First Edition 1:2500 sheet of Salisbury. It is a ‘wow’.

My wife, long used to my inability to walk past any map, on any wall, anywhere, sighed and pondered which magazine to browse whilst I was lost in wonder at the skill of the Victorian cartographers. I examined the Cathedral Close, was entranced by the depiction of the famous water meadows so beloved by Constable and wondered at the extent of the railway network through the city, most now long gone.

At each subsequent visit the inevitable ‘wait’ was turned into a pleasure by the huge and beautiful map. Alas, few weeks ago yet again a visit to X-ray was required and I anticipated another good gaze at the Salisbury of yesteryear but – oh no – the waiting room had been revamped to ‘make your stay more enjoyable’. There, directly in front of the stunning map, was a large Wendy house and hanging from the wall above the map, covering the whole of its top half, was a large format TV screen showing somebody trying to ‘escape to the country’. Enjoying the map was now out of the question, time dragged by as only it can in an NHS waiting room and I was reduced to muttering, whilst my wife…. just sighed!

Alan Gordon
I was interested to read in your account of the OS motoring atlas\(^1\) that most of the country was shown at three inches to the mile, with the Highlands and Islands at seven inches to the mile. Big book, was it?

\[A \text{ Nerd}

[No, a normal book, careless editing, should be miles to the inch. Our apologies. Ed]

Whilst I very much enjoyed Chris Higley’s *Old Series to Explorer – A field guide to the Ordnance map,*\(^2\) I was amused to read his rather partisan descriptions of OS map cover designs. He describes the 1969 Seventh Series cover design (H132.1) as ‘bland ... apparently intended to look modern ... but now seems dated’ and dismisses the 1971 1:25,000 covers (H132.4) as ‘unimaginative’.

Personally, I think these late 1960s/early 1970s covers are simple, clear and modern, and compared to some of the fussy OS designed covers that went before, the new house style was a breath of fresh air. To me, the Central Office of Information covers are iconic examples of graphic design which accompanied me on many a family holiday as a child and beyond.

\[Paul \text{ Swindell}

I apologise that the information I gave for obtaining a copy of the Cannock Chase map\(^3\) was incorrect. I am sorry for inconvenience caused. Correct details are at [www.charlesclosesociety.org/files/CannockChaseCorrections.pdf](http://www.charlesclosesociety.org/files/CannockChaseCorrections.pdf)

\[D \text{ C Kimber}

The thinly-veiled reference to Cook, Hammond and Kell in *Kerry Musings*\(^4\) prompts me to mention that this firm’s long-established National Map Centre in Caxton Street, Westminster, sadly, closed down in September.

\[Graham \text{ Bird}

Can a member tell me where I can source the fine linen used by OS to back their maps? I don’t plan a major repair, but I hope I could stop “dissecting” becoming literally true on one or two of my old series.

\[Chris \text{ Noble}

*Chris Higley replies:* I have never tried remounting a whole sheet but I strengthen individual weak folds in cloth maps by a strip of archival quality self adhesive linen tape on the back of the fold.

See: [http://www.papersafe.demon.co.uk/Self_Adhesive_Linen_Tape_5m_Roll.htm](http://www.papersafe.demon.co.uk/Self_Adhesive_Linen_Tape_5m_Roll.htm)

*Chris Board replies:* I cannot add to what Chris Higley has suggested. I once did the unpardonable by soaking off all the panels of a dissected on linen third edition one inch map and remounting on the linen four one-inch geological maps with special library paste. I suggest this only if you have a rather dirty and unwanted map such as I had in its slip case. You would have to remove your special map from its worn mount of course.

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\(^1\) John Cruickshank, ‘OS motoring atlas of Great Britain’, *Sheetlines* 91, 8.

\(^2\) Published by the Charles Close Society, 2011.

\(^3\) *Sheetlines* 92, 51.

\(^4\) *Sheetlines* 92, 56.