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“Uncle Joe knew where you lived. Soviet
mapping of Britain (part 2)”

John Davies

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

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

Uncle Joe knew where you lived

*The story of Soviet mapping of Britain (part II)*¹

John Davies

According to BBC radio recently,² the Red Army was poised to launch an invasion over Blackpool beach in 1976. This was the supposition of the presenter, Henry Dodds, and his interviewees after examining the Soviet military map of the town. Whilst this is probably not strictly true, it illustrates the excitement generated when one encounters these unfamiliar maps of familiar places.

The Soviet maps are indeed fascinating and the level of detail and the accuracy is quite staggering. The more one studies the maps, the more questions they raise. In the previous article we described the scope of the global mapping project in general and the maps and town plans of Britain in particular. Here we concentrate on the town plans to try to answer the question ‘How did they do it?’ and more specifically, ‘Does the claim that the mapping “is almost entirely an adaptation of Ordnance Survey material”³ stand up to scrutiny?’

The entire Soviet mapping project was a military secret, so any attempt to say what was done and how is inevitably based on circumstantial evidence and speculation. For that reason, it must be emphasised that what follow are the personal opinions of the writer, based on study of the maps and first-hand oral information.

The emergence of the maps

Before discussing the content and sources of the maps, it is interesting to note how they come to be available in the west today.

During Soviet times, maps (at all scales of all world locations) were stored in 25 military depots throughout the USSR, where they could be quickly accessed by locally-based officers if needed. When the USSR collapsed in 1992, the fate of these maps depended on where they were stored.

Those in depots in Belarus, Russian Federation and Ukraine remained under Russian control. Gradually channels of communication were established with dealers in US in order to start earning hard currency. Those dealers, notably Omni Resources and East View Cartographics, acquired large volumes of paper maps and subsequently sold them to libraries and collectors in the west and continue to make soft copies available through the Internet.⁴ The Russian government restricted what was made available and, for example, maps of Russian territory at 1:50,000 and larger were not released.

It was a different story in Latvia, though. In 1993 Aivars Zvirbulis, a keen orienteer in the town of Cēsis, 100 km east of Riga, had acquired a second-hand printing press in order to print orienteering maps and a catalogue for an artist friend. He heard a rumour that a couple of Russian officers were disposing of quantities of waste paper for pulping. On investigating, he learned of the existence of the Soviet map depot and discovered that its complete contents, over 6000 tonnes, had been ordered to be destroyed. He was intrigued and negotiated with

¹ Part I appeared in *Sheetlines* 72.

² ‘Balalaikas in Blackpool’ presented by Henry Dodds, broadcast on BBC Radio 4 on 9 May 2005.

³ Ordnance Survey statement to British Cartographic Society, September 1997, has been moved and is now at <http://www.cartography.org.uk/Pages/Membership/DesignG/Copyrit5.html>.

⁴ Omni Resources, www.omnimap.com; East View Cartographic, www.cartographic.com.

the officers to buy about 100 tonnes. These were moved by palette load to the yard of his printing house where, unfortunately, neighbourhood children set fire to them. Only two or three tonnes were saved and of the surviving stock, many were training maps or were not of interest (Aivars was particularly interested in large scale maps of Baltic countries and western Europe and smaller scale maps of elsewhere).

He showed some of the maps at a 1993 cartographic conference in Köln, attended by some Russian visitors, former KGB officers, who were astonished to see them. They threatened to cause real trouble, but were powerless to do so.

Aivars went on to start the Jana Seta map shop and publishing company. The Soviet maps were not intended as a core part of the business and he sold them cheaply – and continues to sell the remaining stock to this day at €2 each at the shop in Riga.⁵

The other Baltic city where the maps are available is Tallin where Aleksander Lesment, a former Soviet ‘officer-topographic’ who came to Estonia in 1993 can supply small scale maps of much of the world in paper or electronic form.⁶

How were the maps compiled?

One simple explanation could be that they were largely copied from Ordnance Survey maps. That is what the OS stated in 1997 when they effectively banned them by declaring that they contravened Crown Copyright. However, consideration of how the Soviets went about things and close examination of the content convincingly suggests otherwise.

For an understanding of the effort the USSR military invested in the world mapping project, the story appearing in *On-Line Pravda* in February 2003⁷ is instructive. This describes the shock caused in Sweden by the recent publication in the newspaper *Aftonbladet* of illustrations of Soviet maps, dated 1987, of Stockholm and Karlskrona (the main Swedish naval base). The detailed maps were of very high quality (‘better than the creations of the best Swedish military mappers’) and showed all defensive installations and depths of secret waterways.

The story continues :

The publication in the Swedish newspaper ruined two myths at once: the Swedish production is always of better quality against the Russian one, and Sweden managed to conceal very important information about its coastal defence from Russians. The published maps contained the information even about the berth length and the depth at secret naval bases, not to mention the location of secret mine fields. Christer Holm, a military intelligence chief, had to acknowledge that it was the first time, when they saw such revealing information about Karlskron army base. He added that the maps were most likely drawn on the base of secret agents’ information.

Tore Foshberg, the retired chief of the counterintelligence department of the Swedish secret police, told reporters about the way the exposed maps were drawn up. Russian Central Intelligence Administration and KGB agents (there were up to 45 of such agents at the Soviet Union embassy in Stockholm) would go on a tour around the country. During their short journeys they would check loading capacities of bridges, they would also measure the

⁵ Thanks to Aivars Beldavs of Jana Seta map shop, Riga for this information. Contact him at aivarsb@kartes.lv. Jana Seta web site is at www.kartes.lv.

⁶ Eastnor Ltd, PO Box 3191, 10505 Tallinn. Contact Aleksander Lesment at lah@hot.ee.

⁷ see <http://all.newsfromrussia.com/society/2003/02/21/43579.html>.

distance between trees in a forest. Such information was necessary to plan the moves of the Soviet incursion army on the territory of Sweden. Soviet diplomats would arrange picnics in the places of strategic interest, they would be very friendly and sociable to the local population. "One of them, military attaché Pyotr Shiroky, went to a beach near Stockholm one fine day in the summer of 1982. On that beach he started a conversation with an excavator driver (as if incidentally), who was resting on the sand nearby. As it turned out, the driver dug trenches for the cables, which were connected to mine fields. However, there was a Swedish secret agent on the beach too. He heard the entire conversation", Tore Foshberg remembers.

The article goes on to describe the origins of the KGB agents in Sweden :

It is curious that KGB and Central Intelligence Administration used a specific category of so-called duplicate people in order to set up the intelligence network in Sweden. In the 1930s thousands of communists with their families emigrated from Sweden to the USSR. They came to live in the Soviet Union, because they admired the new country. However, romantic foreigners' lives in the Soviet Union ended up in a very sad way: they were killed in GULAG (a system of Soviet concentration camps). However, a lot of their children survived the horrific period of the Soviet history. They started going back to Sweden in the 1960s. Some of them left Sweden when little babies. Their relatives were left to take it for granted that a grown up man, who came back home all of a sudden, was that very 'baby Sven,' whose communist parents left for the USSR years ago.

As a rule, those new Swedes did not speak Swedish very well. It was an absolutely natural thing for children, who lived in the Russian environment, and who lost their parents at a very young age. As a matter of fact, there could be no better way to send secret Soviet agents to Sweden under the disguise of re-emigrants. The newspaper *Dagens Nyheter* has recently published a story about one such agent, 33-year-old Karl Ulof Svanson. He was born already in the USSR, but then he returned back to Sweden in 1961. His relatives were so happy about his return; they could never imagine that Karl was actually a KGB major. Karl lived in Sweden for several years and then disappeared as suddenly as he appeared there. The Swedish counterintelligence managed to learn about him incidentally, from the memoirs of a former senior KGB agent, who escaped to the West.

Tens of agents like Karl were supposed to work on the preparation of the Soviet Union incursion in Sweden. They would check their data over and over again, collecting the information for drawing up detailed maps of the country.

Interestingly, the maps which caused the shock in Sweden had been picked up 'for a dollar' in Riga.

Turning to the UK, we have no evidence of Soviet picnics in Kent, but it is surely probable that similar efforts were made. The Chatham map, for example, shows not only the full details of the Royal Naval Dockyard and the river depths, but also the dimensions, river clearance, carrying capacity and construction of the Medway bridges.

The Radio 4 program included an interview with Oleg Gordievski, former head of KGB station in London (and later defector). He claimed to know nothing about the maps and, shown an example, said he had never seen such a map before. It is impossible to know whether or not this is true.

There are about eighty known British and Irish town plans at scales of 1:10,000 or 1:25,000, mostly dated between about 1970 and 1990. We have examined many of these to derive the hypothesis given below. Plans of other European cities such as Calais,

Copenhagen, Helsingborg, Helsinki and Santander and several in India have also been studied for comparison.

The style of mapping and the use of colours, symbols, naming conventions and so on are identical for all the maps for the entire twenty-year period. The Indian cities have fewer street names, but otherwise it is not possible to identify the country or the city without translating the name. This suggests that the cartography was done to a very tight specification using a standard set of information gleaned in each country. Obviously publicly available local mapping would be of very variable quality; possibly the Russians assumed that it would be falsified, as theirs was. It is likely, therefore, that such local maps (including OS maps) were largely ignored.

Assuming that the picnicking diplomats didn't carry theodolites and plane-tables, then how were the maps created? The following set of assumptions has been evolved and tested against the British town plans and is now offered as a working hypothesis. Below is a summary of the findings and an explanation of how they were arrived at. The Dublin map largely conforms, but has some odd attributes which are discussed later.

Summary of probable sources of map content

The following list shows the probable derivation of the various types of content of the maps:

1. General topography and layout of roads, built-up areas, fields, forests, quarries etc: aerial reconnaissance.
2. Road classification and numbering: probably road atlases with supplementary information.
3. Outline of coasts, rivers, lakes, canals, etc: aerial reconnaissance.
4. Railways and ferries: largely derived from 1920s County series six-inch maps.
5. Spot heights, bench marks and contours: derived from 1920s County series six-inch maps.
6. Place names: local street atlases.
7. Annotated details e.g. widths, heights, clearance etc: probably visual inspection.
8. Hydrographic information: unresolved.
9. Proposed roads, etc.: unresolved.
10. Index of 'strategic objects': local investigations, trade directories and other publications.
11. Descriptive text: local investigations, trade directories and other publications.

Explanation of these findings

General topography and layout of roads, built-up areas, fields, forests, quarries etc.

In general, the features shown on the Soviet maps do not correspond to those shown on Ordnance maps which were then currently available. Typically, new developments or specific details appear on the maps which do not appear on OS maps until later revisions. Just a few examples will suffice to illustrate this:

- Blackpool (compiled 1974, printed 1976) shows fourteen such features which do not appear on OS until 1977 or 1981 editions (or, in some cases, at all).

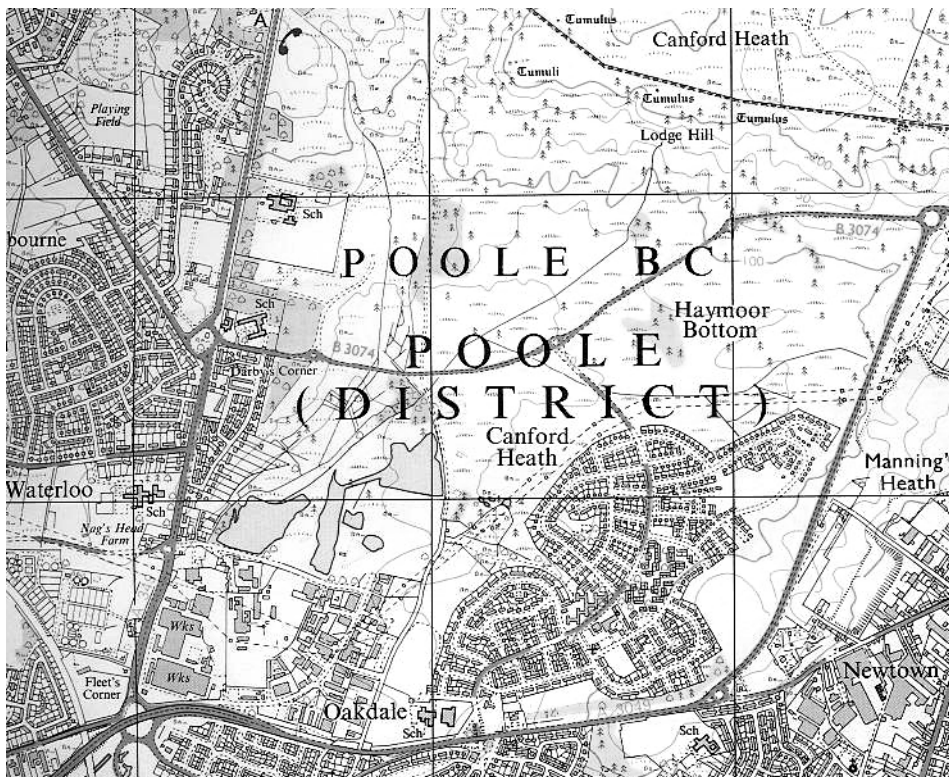


1 (above): Extract from Bournemouth & Poole (1:25,000 scale, compiled 1986). The unnamed road running approx north - south parallel to Burton Road and The Avenue, Poole does not exist and does not appear on any published British maps. It has evidently been deduced by the cartographers from the aerial view of the layout of the gardens.



2 (upper right): Canford Heath from Bournemouth & Poole (1:25,000 scale, compiled 1986) and ...

3 (lower right): ...the same area on the contemporary OS map (1:25,000 Outdoor Leisure Purbeck, revised 1984, published 1985).



Note the very different depiction on the two maps of the housing developments north and south of B3074, the ponds and industrial area north east of the A3049 flyover and the disused railway west of the flyover. These two illustrations alone are sufficient to prove the contention that the Soviet maps were not derived from OS material.

- Cambridge (compiled 1986, printed 1989) has eleven, including the Cambridge Science park which first appears on OS town plan of 1995.
- Oxford (compiled 1972, printed 1973) has at least six examples.

The only reasonable explanation for this is that the topography and layout of roads and towns is based on aerial surveillance, either satellite imagery or high-altitude ‘spy planes’. The technology is known to have existed at the time, as the ‘U-2’ incident demonstrates. (The US was operating high altitude reconnaissance flights over the Soviet Union using U-2 spy planes. On 1 May 1960, a U-2 piloted by Gary Powers was brought down, causing a major diplomatic incident and lasting damage to US/USSR relations). The first Soviet spy satellite (the Zenit) was launched in 1962.

More evidence that the maps are based on aerial images rather than published material comes from the Bournemouth map. There are actually two versions of this, one at 1:10,000 scale (compiled 1972, published 1974) the other at 1:25,000 scale (compiled 1984/6, published 1990). Both maps show a non-existent road parallel to Burton Road, Poole (*Fig. 1*). This does not appear on any map or street plan, but perusal of an aerial view in *GetMapping.com* reveals garden boundary hedges which look as if they could enclose a roadway.⁸

Incidentally, the Oxford map, although compiled in 1972 does not show the Marston Ferry link road which opened 1971, implying that the aerial images pre-date this (or possibly carelessness).

Road classification and numbering

The Soviet maps show European road numbers which do not appear in British maps but are found on official lists and some European road atlases.⁹ For example, the London map (printed 1985) names the M11 as both ‘M11’ and ‘E112’, the A12 as ‘12’ and ‘E8’ and the A127 as ‘127’ and ‘E108’. In fact, these particular E numbers were officially abandoned in 1983. There are also some examples of wrongly numbered roads, for example:

- Chester map has A51 east of the city named as ‘55’.
- Huddersfield map has A643 east of Outlane and A640 west of Outlane both named as ‘13’.
- Glasgow map has A740 shown as ‘T40’.

Otherwise, the numbering of A roads (omitting the A prefix), trunk roads with T suffix and motorways is generally similar to that shown on widely-available road atlases. Motorway junction numbers are not shown.

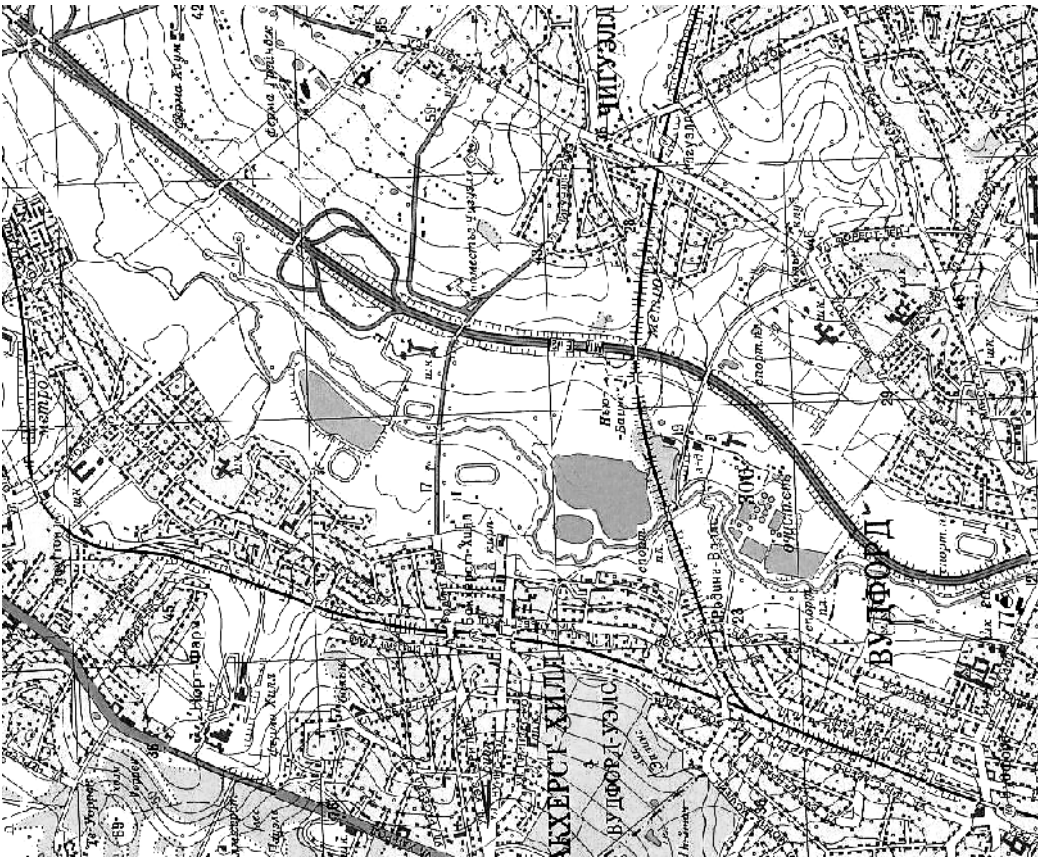
Outline of coasts, rivers, lakes, canals, etc

As with general topography, the depiction of water features does not directly correspond with OS maps, suggesting that these also are derived from aerial reconnaissance. A few examples are :

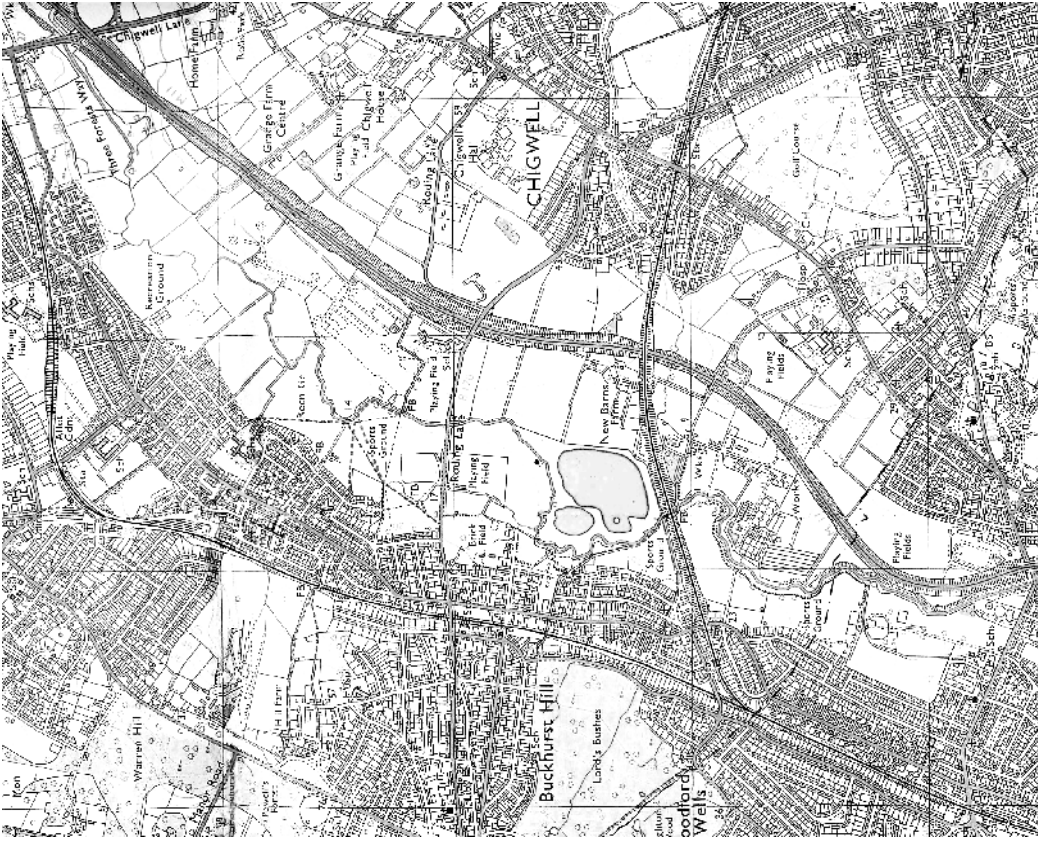
- Glasgow: banks of Clyde estuary not as OS.
- Blackpool: shape of Marton Mere and surrounding drainage channels not as OS.

⁸ Thanks to CCS member Tony McCartan for spotting this.

⁹ For a list of European road numbers see <http://homepage.mac.com/longueville/lijste.html>.



4: From London (east sheet) 1:25,000 scale compiled 1979
 Note the area where the B170 (Roding Lane) crosses the motorway. The Soviet map shows motorway works area just to the north and a lake to its west which do not appear on OS maps until later editions. The three 'running tracks' on the Soviet map are symbolic for sports fields. The Central Line tube stations are marked with M symbol (shown as 'Sta' on OS) and the M11 is named also E112. Spot heights 17 (by B170) and 19 (SW of railway/motorway crossing) are on both maps, derived from earlier six-inch 'County series' map.



Roding Valley and M11

5: As shown on OS (1:25,000 sheet TQ49/59 revised 1983, published 1985)
 Note the area where the B170 (Roding Lane) crosses the motorway. The Soviet map shows motorway works area just to the north and a lake to its west which do not appear on OS maps until later editions. The three 'running tracks' on the Soviet map are symbolic for sports fields. The Central Line tube stations are marked with M symbol (shown as 'Sta' on OS) and the M11 is named also E112. Spot heights 17 (by B170) and 19 (SW of railway/motorway crossing) are on both maps, derived from earlier six-inch 'County series' map.

- London (printed 1985): has water filled sandpits in Roding valley (alongside M11) which are not shown on 1983 OS maps but are on later versions (*Figs. 4, 5*).

Railways and ferries

The railway lines, stations, sidings and ferry connections shown on the Soviet maps are generally considerably out of date. Old information appears to have been used and added to the aerial images, even where the line would no longer have existed at the time (although it may be that track bed, for example, would have been visible). As far as can be judged, the information seems to correspond to the old ‘County’ series six-inch OS maps of the 1920s, although some updating has occurred. Signals are shown at frequent intervals along lines, as shown on the old maps, although many of these would have been dismantled by the 1970s. Some examples to illustrate this:

- Blackpool (1976): railway network north from Poulton-le-Fylde serving chemical works north of Stanah, including two jetties in River Wyre, all shown as old OS, not on contemporary OS. Wardleys ferry across River Wyre also shown as old OS; conversely, the line running east from South Shore is shown on current (1971) OS but shown as disused on Soviet map.
- Oxford (1973): ferries SW of New Marston, and at Kennington and North Hinksey are as old OS and are not shown on recent maps.
- Newcastle sheet (compiled 1974, printed 1977) shows six ferries across the Tyne between the city and Tynemouth, of which only one (Shields ferry) is on contemporary OS maps.
- Glasgow sheet (compiled 1975, printed 1981) has six ferries over the Clyde between the city and Erskine Bridge of which only three appear on contemporary OS maps.

Many maps have instances of railways shown as normal lines which are shown as disused, dismantled or ‘freight line, siding or tramway’ on contemporary OS maps. Examples include

- Bristol sheet (compiled 1971, printed 1972): Avon Gorge and Mangotsfield lines.
- Glasgow: line running south west from Neilston.
- Chester (compiled 1972, printed 1973): Northgate terminus and Hawarden airport curve.

On the Manchester sheet, the area adjacent to Dairyhouse Farm (near Dunham Massey) is shown as having railway sidings, but this is blank on contemporary OS maps.

There is a symbol in the specifications for ‘electrified passenger line’ but this rarely occurs on the maps. One map where it does appear is the Chatham, Gillingham and Rochester sheet. This sheet has other instances of additional annotation (e.g. clearance on Medway bridges) which suggests it had special attention due to the proximity of the Royal Naval Dockyard.

Spot heights, bench marks and contours

There is considerable consistency between the positions and values of spot heights and benchmarks on the Soviet maps and those shown on the old six-inch OS County series. Many of these are omitted from the later National Grid series six-inch sheets and others have changed values due to re-levelling etc. The height values are converted to metric to one

decimal place and the contour lines appear to be interpolated from these, mostly at 2.5 metre intervals.

Oddly, the Cambridge sheet contains heights from two different editions of the OS six-inch maps. Some of the values are taken from the 1903 edition, others from the edition published in 1924, after re-levelling. This can be seen in two adjacent spot heights near Grantchester.

Place names

The study was confined to district names within urban areas, as these can most easily be traced back to a source, due to the positioning of the name and, indeed, the choice of the names themselves. The general conclusion is that place names are for the most part derived from combining information from all available commercial street atlases and town plans. However a number of cases are found where the names appearing on the Soviet maps may be in common currency locally, but do not appear on any contemporary published maps or plans.

Some interesting examples :

- Blackpool: the following names are shown on the Soviet map and appear on Geographia but not OS maps: Holmes, Whiteholme, Grange Park Estate and Mereside Estate. Conversely, Anchorsholme appears on all scales of OS but is not on the Soviet map.
- Cambridge: Red Cross, Haverfield, Kings Hedges and Douglas House all appear as district names on the Soviet map but not on OS, Geographia or A-Z. Soviet map has Brooklands (suburb east of city); this is named as Brooklands on 1983 Geographia but Brookfields on OS, A-Z and 1987 Geographia. Newtown is located near to Fen Causeway on Soviet and Geographia maps, but near to Botanic Gardens on OS and A-Z.
- Oxford: Barton Estate and Sunnymead Estate appear as district names on Soviet plans but are not named on OS or any of Geographia, Geographers or Barnett's maps. Sandyhill is named on Soviet map; this is Sandyhills on OS, Geographia and Geographers and Sandyhill Estate on Barnett's. St Ebbe's is named on Soviet map, this is a commonly-used name locally but does not appear on any map except Barnett's and old six-inch OS.
- Teesside map (compiled 1973, printed 1975) has Preston upon Tees, Eaglescliffe Junction and Acklam Garden City. Former appears as Preston-on-Tees on OS and street plans; other two do not seem to exist as place names on any published map (so far seen).

Annotated details e.g. widths, heights, clearance, surfaces etc

Some maps have annotation giving the widths of roads, rivers and canals; the length and width of bridges and tunnels; construction material for bridges and surface material for roads. This information is generally sparse, but where it does appear there is often an abundance in the same locality. This could imply that special exercises were undertaken in certain cases, but there is no obvious reason why this should be so.

For example, the Edinburgh map has about twenty instances of road widths, mostly on the eastern fringes of the city; Blackpool has five in two localities; most maps have none. In a few cases, road surfaces are indicated (usually asphalt).

As noted earlier, the Chatham, Gillingham and Rochester map has the dimensions and height of the two Medway bridges shown. They are also indicated as being of reinforced concrete. The Thurrock map shows the dimensions of the Dartford Tunnel, whilst the

Liverpool map has the width of the Leeds and Liverpool canal annotated as '18 metres' in three places; presumably this is a mistake (possibly 18 feet?).

The curious case of the Reserves: The Oxford map has the words ЗАПОВЕДНИК ОКСФРД at Old Boars Hill to the south west of the city, in similar sized typeface to important place names. This translates as 'Reserve (or Preserve) Oxford'. The land here is marked on larger scale OS maps as belonging to the Oxford Preservation Trust. The Liverpool sheet has ЗАПОВЕДНИК СПИК ('Reserve Speke') at Speke Hall (National Trust property) and the Manchester and Huddersfield sheets have ЗАПОВЕДНИК ('Reserve') on National Trust land at Marsden Moor in the Pennines.

It is not obvious why this was considered useful information, unless the Russian term implies land reserved for military use.

Hydrographic information

Submarine depths and underwater obstructions cannot be seen from the air and they cannot be discovered by picnicking diplomats, so it is natural to suppose that they must have been taken from Admiralty charts. However, apart from three specific cases, there is hardly any similarity between the information depicted on the Soviet maps and the respective Admiralty charts.

The three cases of close similarity are a short stretch of the River Medway (*Figs. 6, 8*), Granton Harbour (Edinburgh) and Dover Harbour. All the other areas examined (fifteen harbours and estuaries round the British and Irish coasts), simply do not correspond.

It has been suggested¹⁰ that the marine data is taken from captured German WWII charts. If so, it has been updated, as many navigation channels have the legend 'Dredged to xx metres (19yy)' where yy is a recent (60s, 70s) year.

Proposed roads, etc

Roads under construction, such as the Edinburgh southern by-pass and sections of M62 and M66 are shown as such, even when not shown on contemporary OS maps. Presumably they could be observed from the air or derived from other road atlases etc.

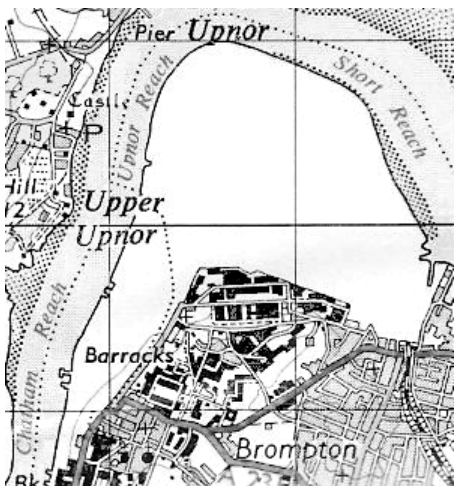
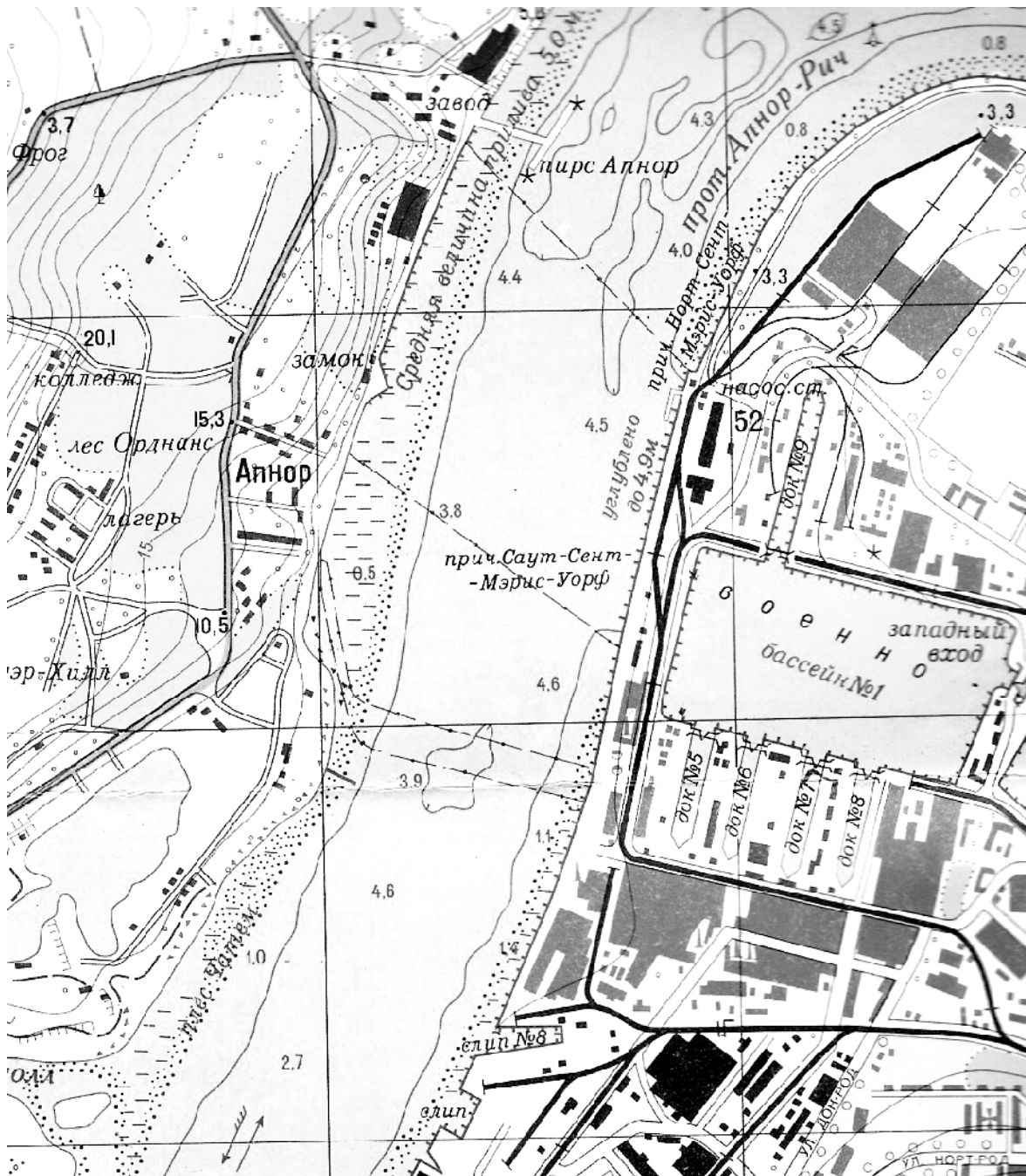
However, one road is shown in dotted lines (indicating either proposed or under construction) that was never built and does not appear on any map or atlas so far seen. This is on the Teesside map, running SW from old A19 (now A135) south of Stockton, crossing the Tees at grid reference 437155 to join A1045 south of Thornaby. The source of this information is not known.

Index of 'strategic objects'

All the maps have selected 'strategic objects' identified, colour coded (black for industrial plants, purple for administrative premises and green for items of military significance) and indexed.

The Chatham, Gillingham and Rochester sheet has 70 such, including 22 factories, 8 transport facilities, 6 barracks / military schools, 15 depots / utility plants, 6 post offices, 2 police stations and various buildings such as airfield, broadcasting studio, customs house, town hall. The Dublin map has 63, including airfield, prison, Ordnance Survey office, Observatory, Court, Bank of Ireland, 20 factories, 9 barracks, 13 port, bus or train depots / stations and 7 colleges.

¹⁰ by CCS member 'Anon'.



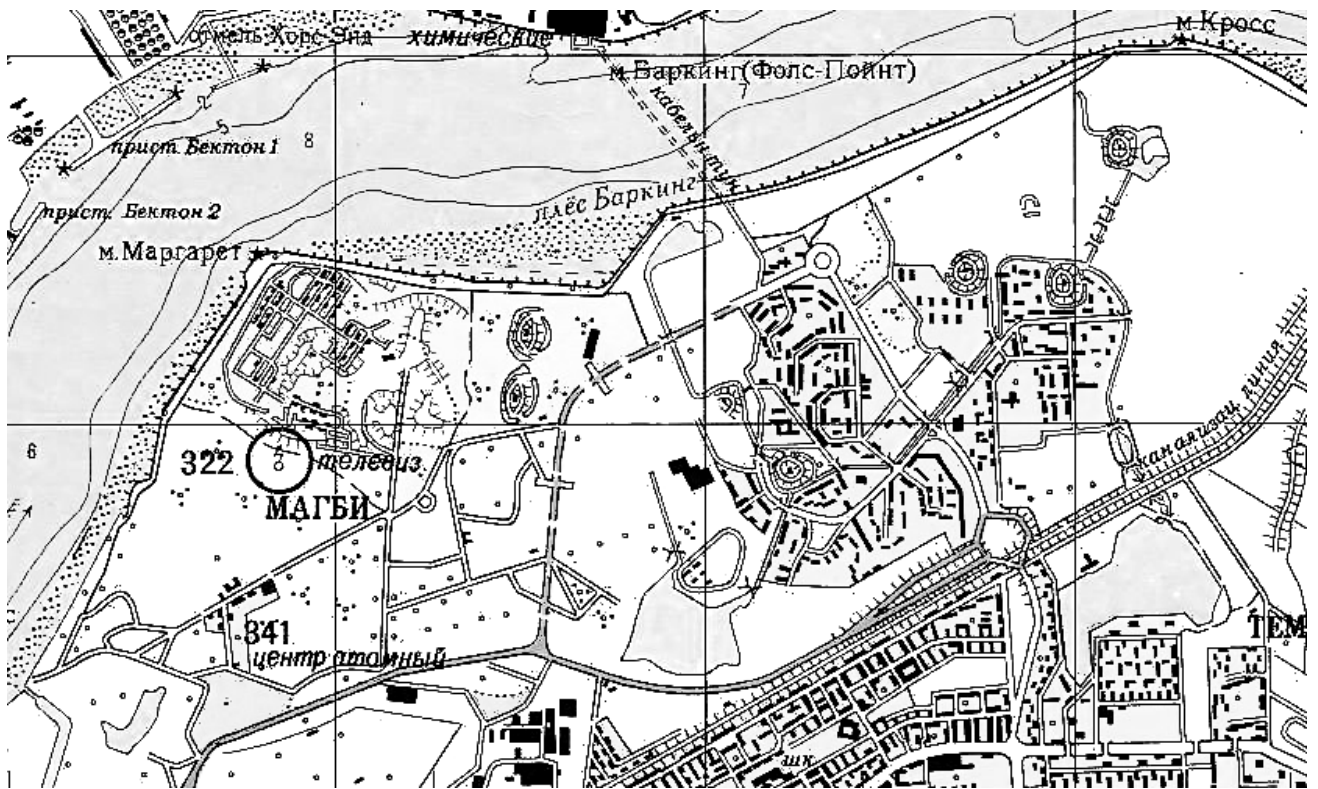
Chatham Royal Naval Dockyard and River Medway

- 6 (above): from Chatham, Gillingham & Rochester, 1:10,000 scale, 1982.
 7 (left): from one inch sheet 172, 1964, © Crown Copyright NC/00/1340.
 8 (right): from Admiralty Chart 1835 River Medway, 1:6000 scale, 1977.

This short stretch of the Medway is one of the very few places where the Soviet maps correspond to the respective Admiralty chart. In this case, the spot depths, the bathymetric contours and the submarine cables are similar, as is the annotation 'Dredged to 4.9 metres' and the names South St Mary's Wharf and Upnor Jetty. The buildings and railways, however, are quite different. In the stretch of river immediately east of here – as in practically the entire country – the hydrography on the Soviet maps differs from Admiralty charts. In the 1960s the OS maps blanked out the dockyard, but the detail did appear in later sheets.



Reproduced from Admiralty chart 1835 by permission of the Controller of Her Majesty's Stationery Office, Medway Docks and Harbour Company Limited and the UK Hydrographic Office (www.ukho.gov.uk), licence HO 1941/050511/0. Not to be used for navigation.

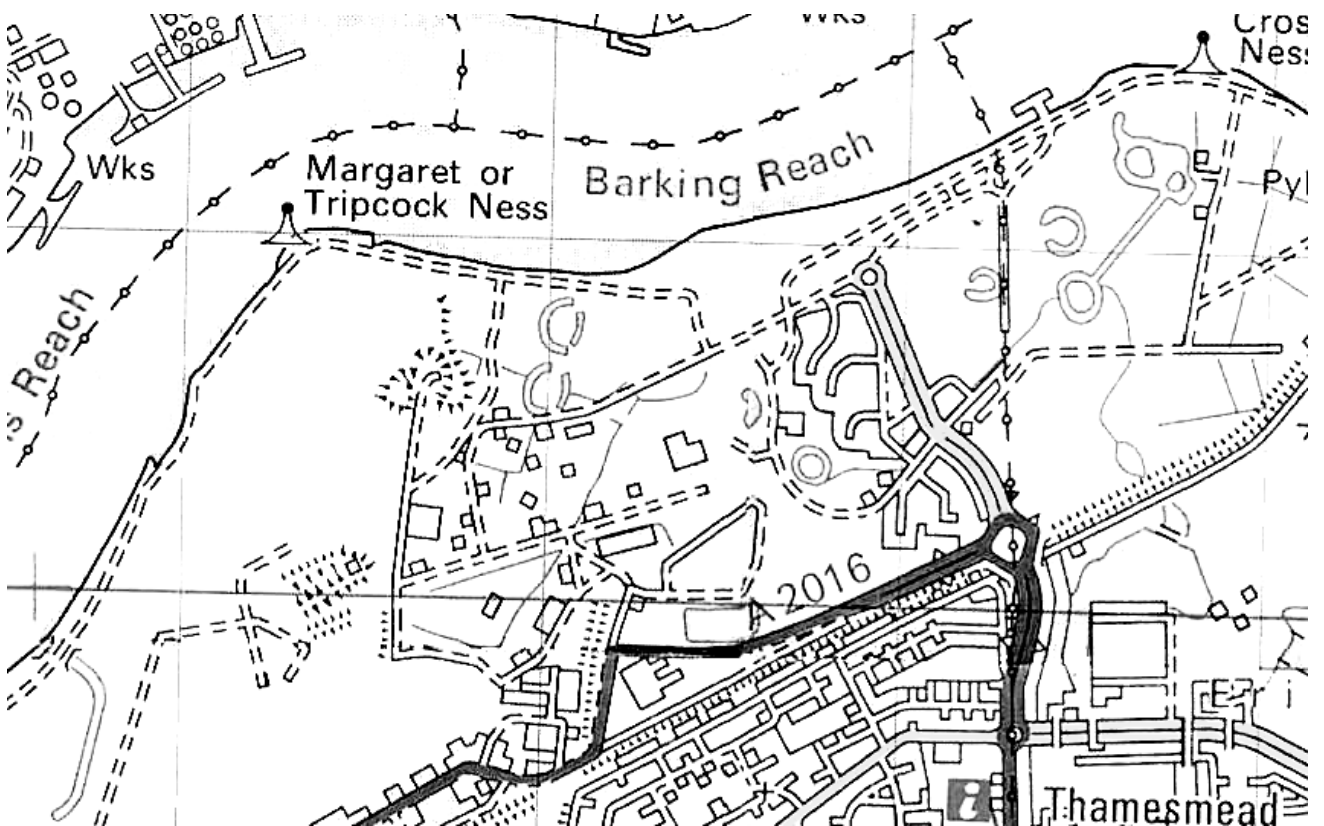


Plumstead Marshes, Woolwich

9 (above): from London (east sheet) 1:25,000 scale compiled 1979.

10 (below): as shown on contemporary OS (1:50,000 sheet 177, East London, 1978), © Crown Copyright NC/00/1340.

The Soviet map shows the Thamesmead development more advanced, but also has a 'cable tunnel' under the Thames to Barking (which appears only on Admiralty charts) and two 'strategic objects', 341 'Atomic Centre' and 322 'Television tower'. Neither of these appears on any published material. This area had once been used for weapons testing by the nearby Woolwich Arsenal, but this had supposedly ceased by the 1960s when the land was sold for housing.



Most of the industrial premises have the product identified and many have the companies or proprietors named.

Some strange anomalies are found, however. The airfield marked on the Dublin map is in fact the racecourse in Phoenix Park and there is no evidence on any published map that this was ever used for aircraft. Similar unlikely airfields appear on the Liverpool map (the reclamation ponds by the river at New Ferry) and the Blackpool map (the Royal Lancashire Showground). The Cambridge map has the residential housing development at Harvey Court identified as the law courts, presumably due to misinterpretation of the name.¹¹ Strangely, the Dublin map does not identify Leinster House, seat of the Irish Parliament.

These lists would appear to be compiled from a combination of sources such as trade directories, street plans, various reference books and, probably, visual investigations.

Descriptive text

Another impressive feature of the maps is the Description of the Locality. Typically, this runs to about 1500 - 2000 words, with considerable detail about the population, topography, climatic conditions, vegetation, communications, housing types, districts and layout of the city, utilities, industrial production, 'communal enterprises and sanitation facilities' and so on. The text for Birmingham includes the observation 'railroad tunnels may be used for cover [with locations and lengths] and also many working and abandoned coal mines and quarries'.

The source of the information is likely to be the same as for the Strategic Objects, above.

The Dublin Map



11: Dublin City Centre (1:10,000, compiled 1970). Street tramways are shown although these were abandoned in 1949. The Liffey is annotated as 47 metres wide and the banks are shown as suitable for moorings. Strategic buildings identified include Bank of Ireland (2), General Post Office (37), Trinity College (29), Four Courts (53), but not Leinster House or Custom House ('маможня' north of river by railway bridge).

¹¹ Thanks to Charles Aylmer, Head of the Chinese Collections at CUL, for spotting this.

The Dublin map (compiled 1970, published 1980) (*Fig. 11*) is a bit of an oddity. The area covered by the OSI 1:25,000 Dublin District map (1948) is shown in detail and the district names correspond exactly. The areas outside the boundary of the OSI map – and recent developments – are rather crudely drawn and have no street names and sparse detail. The contour interval is thirty metres and there are few spot heights. Those that are shown are (more or less) similar to earlier OSI six-inch maps.

The Soviet map also shows street tramways, which appear only on the 1928 Bartholomew street map (although there are several differences between the networks shown on the two maps). The city trams were abandoned in 1949 and the Howth Head tramway (also shown on the Soviet map) was abandoned in 1959.

What seems to have happened is that a recent aerial image has been superimposed on an earlier detailed map, with little or no additional information added other than what can be seen from above and no updating of the older information.

Conclusion

Possibly this assumption about the origin of the Dublin map gives a clue to the real answer, especially when considered in conjunction with the Crewe and Wolverhampton maps.

These two are the only British town plans so far seen which pre-date the satellite age. Crewe was printed in 1957, Wolverhampton in 1963. The style, colouring and conventions are different from the later maps. However, the source material named on the Crewe map includes 1:10,560 survey of 1910 and the Wolverhampton map names a 1:10,000 survey of 1942. The former is the old OS County series six-inch map, the latter, presumably, captured German WWII map.

It is possible, therefore, – and this is pure speculation – that all the cities were originally mapped during the 50s and 60s from similar material and that the maps from the 70s and 80s are based on these old plans with current aerial images superimposed to bring the topography up to date, with the addition of latest intelligence for strategic objects and so on. This theory fits neatly with the findings of this investigation, but there is no direct evidence to support it.

The Ordnance Survey 1997 statement says that the mapping *'is almost entirely an adaptation of Ordnance Survey Crown copyright material. It was produced without the permission of Ordnance Survey and thus it infringes Ordnance Survey's Crown copyright'*. As demonstrated above, it is not that simple. As far as the later town plans are concerned, most of the content has been sourced independently and any OS material that was used (heights and railways) was already out of copyright (and potentially out of date) at the time.

I am very grateful to the following for valuable advice and information: Paul Ferguson, Map Librarian, Trinity College Library, Dublin; Nick Millea, Map Librarian, Bodleian Library, Oxford; Anne Taylor, Head of Map Department, Cambridge University Library.

In the Appendix on page 38 of Sheetlines 72, I omitted several items from the list of holdings of the Bodleian Library, for which I apologise.

There will be the opportunity to examine the Soviet maps and corresponding OS maps and to learn more about the circumstances of their production at a study day to be held at Cambridge University Library on Saturday, 8 October. See page 1 for more information.