“German maps of England of World War II and associated publications”

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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.
German maps of England of World War II
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R C Wheeler

German geographical intelligence on the UK from World War 2 has been in the public domain for some time. Oliver Rackham used Luftwaffe reconnaissance photographs in his work on ancient woodland. Charles Close Society members were shown the ‘military object’ folders on a visit to the Imperial War Museum in 1992. The investigations that stimulated this article arose originally from following up the Ordnance Survey’s odd treatment of a shell filling factory¹ and wondering how the German agencies had responded to this erroneous information. Results were inconclusive but the sheer extent of the German material came as a surprise and will no doubt be just as surprising to all but a few readers.

Before going further, a disclaimer is needed. My knowledge of the subject is extremely shallow and there is scope for a much more thorough review or, better, a cartobibliography. Until these are produced, these few pages may serve as an elementary guide to the material that is available. In particular, it may be of use to those who have acquired specimens of German products, often defaced and cropped,² and who may be trying to understand the abbreviated marginalia that have survived.

The article will concentrate on material of a topographical nature. General maps on a scale smaller than 1:250,000 are not covered. It will also concentrate on maps of England, for which the material is slightly richer than for Wales or Scotland. The UK is perhaps a little special in that German effort was focused in the period from 1937³ to October 1940, when invasion plans were abandoned. Nevertheless, similar publications were produced for a wide range of countries, though naturally the richness of the material varies with distance from Germany and with the extensiveness of the base mapping that was available.

Material is listed here by originating service and branch. This has been done, firstly to facilitate the use of library catalogues; secondly because different originators had different interests; and thirdly because one must avoid the assumption that material was shared freely between agencies – although it will be apparent that much exchange of data did occur.

1. **Army**

The great German innovation of the nineteenth century had been the creation of a permanent General Staff, the Generalstab des Heeres. This was divided into branches, or Abteilungen.

a. **Maps**

The production of maps and other geographical products was the task of the Abteilung für Kriegskarten und Vermessungswesen, often abbreviated to Gen St d H Abt f Kr u Verm. Their editions of foreign maps⁴ were normally described as Sonderausgaben (Special Editions).

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¹ At Quedgeley, Gloucestershire. It first appeared on the one-inch in 1936 despite having been demolished in 1926, as a result of cursory one-inch revision based on six-inch maps.

² In 1944, many allied maps were printed on the reverse of German maps from depots that had been over-run.

³ Hitler had forbidden the collection of intelligence on the UK from 1935 to 1937 [David Kahn *Hitler’s Spies – German Military Intelligence in WW2*, London: Hodder & Stoughton, 1978, pp346-7]

⁴ i.e. reproductions of the products of foreign mapping organizations, often with e.g. a German grid.
with date as, e.g., VI 40 (for June 1940), or as Vorläufige Sonderausgaben (Provisional Special Editions). The system provided for Truppenausgaben produced by mapping units in the field, but it is unlikely that such editions exist for UK maps.

The following series were produced:

(i) 1:25,000 by reduction of OS six-inch onto re-cast sheet lines. All English counties were said to be covered except the North and West Ridings of Yorkshire, Derbyshire, Nottinghamshire, Leicestershire, Rutland, Shropshire, Staffordshire and Westmorland.

(ii) 1:50,000 by enlargement of the OS one-inch but without the yellow road fill. The most up-to-date sheets available were used, so the series mixed Popular and Fifth Edition sheets (as did the Second War Revision in the UK!). Initially, OS sheet lines were retained, which led to some Popular Edition sheets being required only because of small strips which the corresponding Fifth Edition sheet failed to cover. OS sheet numbers were retained, but where the same number was used for both a Popular and a Fifth Edition sheet, the Popular number bore an ‘a’ suffix. By a remarkable coincidence (or was some renumbering required?) all the ‘a’ sheets largely overlap a Fifth edition sheet of the same number. From as early as December 1940, the ‘a’ sheets were eliminated by extending the area of the corresponding Fifth Edition sheet. This resulted in a hybrid map where symbols changed as one crossed an imaginary line, something of which the user was not warned in any way. Eight sheets were available as Wirtschaftskarten, though no specimens have been encountered: were these derived from the Land Utilization Survey?

(iii) 1:100,000 by enlargement of OS half-inch. The standard forty-sheet series was available, as were the handful of new Large Sheets (Cotswolds, Greater London, etc). The old outline sheets on county lines were also published.

(iv) 1:250,000 by enlargement of OS quarter-inch. This started with the OS sheet lines, but it would seem that some progress at least was made in re-casting the series on sheet lines that avoided overlaps. By 1944, they were being replaced by a 1:200,000 on graticule-based sheet lines, with names re-lettered according to German cartographic conventions. OS quarter-inch material was also used in a five-sheet series of the English Channel (Der Kanal) which employed 1:200,000 French material for the opposite shore. Submarine contours are in fathoms on the English side and in metres on the French side. Those parts of the sea covered by neither an English nor a French sheet are uncontoured.

(v) Smaller scales are not covered here.

I have not noticed any editing or correction of the topographic content of these maps. It would be interesting to know of any corrections or updates that have been spotted.

b. Mil-Geo dossiers

Militärgeographische was a term used for products which took the basic topographical information, together with additional material, and applied military knowledge to it in order

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5 Sheets 94, 96, 115, 123, 124, 125, 132.
6 Sheet 125 in CUL Maps 35.016
7 See forthcoming article by C Board. The sheet lines followed a new universal system, the Deutsche Heeres Blattschnitt (DHB).
8 The BL catalogue indicates subsequent expansion by a further two sheets.
to present it in a form of greater value to the military commander. The Abteilung für Kriegskarten und Vermessungswesen produced two products of this sort which we might now term dossiers. The first, Militärgeographische Angaben über England, comes in a number of portfolios or Mappen.

(i) Mappe A provides an interesting collection of small-scale maps on different themes. One covers population density. Another is an Operations Map in two sheets at 1:500,000, not quite a ‘going’ map as UK Armoured forces would understand it but going beyond layering to distinguish regions of convoluted relief from mere plateaux. There is a map of power stations and the National Grid, and another of the trunk telephone network and radio-telephony stations. The latter acknowledges the assistance of Chi OKW, the ciphers branch of the Armed Forces HQ. It also includes an inset of the London to Birmingham co-axial cable\(^9\) with locations of main and subsidiary amplifying stations. However, having provided such a map, the compiler clearly felt his task was done: there is no indication of where in St Albans the first main amplifying station might be, nor whether the coaxial cable itself is buried or hung from telegraph poles alongside the main road. To round off the portfolio, there is a booklet of fuzzy photographs showing different landscape types.

(ii) Mappe B offers a 1:20,000 town plan of London.

(iii) Mappe C provides coastal maps and photographs in a series of volumes running up the west coast to Oban and up the east coast to the Tay. The photographs are somewhat unappealing: all too many lines of fuzzy beach huts. Perhaps more interesting are the reverse sides of the sectional maps: one copy\(^10\) re-uses medium-scale maps of France and the Netherlands.

c. Objektkarten.

The second dossier produced by the Abteilung für Kriegskarten und Vermessungswesen has a confusingly similar title to (b), namely the Militärgeographische Einzelangaben über England. More informative is its sub-title, the Militärgeographische Objektkarten und Objektbildern. They will be referred to here as the Object Maps.

They were issued in folders, each containing one sheet of the 1:250,000 series, overprinted in purple with the symbols for the different types of ‘military object’, principally industrial installations. Where towns had a significant number of military objects, a 1:10,000 sheet (or sheets) was provided, the areas of these sheets being outlined in purple on the 1:250,000. The selection of ‘military objects’ within these 1:10,000 sheets was more extensive: for example, every railway bridge seems to have qualified and to have been duly overprinted in purple. Notes were also provided stating, for example, the products of any factories shown.

With each folder came a booklet of photographs of military objects, the Objektbildern, about 100 low-resolution images from the area of each folder.

Grand in its conception, this scheme was flawed by shoddy execution and by the inadequate base of topographic intelligence used to support it. If one takes, for example, the 1:10,000 sheet covering Lincoln one finds that all but one of the engineering works are

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\(^9\) Capable of carrying forty simultaneous conversations, according to the BT website.

\(^10\) BL C104.e.13 – within the Humanities collection.
annotated ‘product unknown’ – this in a city which had been one of the main centres of production of tanks and aircraft in World War I. The gas works is marked but not the electricity works, despite the latter being shown on the OS 1920 Town Map. The building marked as the Town Hall is actually St Swithin’s Church Hall, some 100m along the road. Finally, a purple ‘Railway Bridge’ symbol was overprinted on each of Lincoln’s many level crossings!

The photographs are no better so far as Lincoln is concerned, the one Object depicted being Le Tall’s mill, a splendidly tall brick windmill of the 1830s, lacking its top and largely surrounded by later buildings. The caption quotes a production rate of 20 tonnes/hour (an order of magnitude too large – perhaps someone had confused bushels with tonnes) but the map records that the location of this most interesting building was unknown. Taken together with the gratuitous information about the production rate, this suggests that the photograph may have been copied from a trade magazine: certainly a very similar photograph appeared in the English magazine Milling in the 1920s.¹¹

Overall, one gains the impression of a product gleaned from the libraries of Berlin and starting to lose touch with the military requirement which had first called it into being.

d. The Heeresplankammer

The Heeresplankammer (Army Map Room) was closely associated with the Abteilung für Kriegskarten und Vermessungswesen. It did not itself publish maps,¹² but it did produce a catalogue (known as a Planheft) for each country, listing in detail the products summarized at (a) to (c) above and with diagrams of sheet lines. Successive editions of the Planheft Grossbritannien have been drawn on in producing the above account.¹³

e. Fortification Maps

The Army’s Intelligence Branch, known as ‘Foreign Armies’, had by 1940 been split into two branches, covering the Western and Eastern theatres. Abteilung Fremde Heere West produced a series of overprints to all the maps listed at (a) up to the 1:250,000 scale, showing such anti-invasion defences as they were aware of. Of the 1:250,000 series of these Befestigungskarten Grossbritannien, Sheet 12 is the only one I have encountered. Of the 1:50,000 series, at least nine sheets were produced in November and December 1940 covering SE England from the Thames to the Solent. One sheet (124) explicitly acknowledges the assistance of the Luftwaffe, but it must be presumed that most, if not all, of the detail on the overprints was derived from air reconnaissance. The 1:50,000 overprints include a certain amount of topographical updating, such as the Crawley by-pass.

Only a scattering of 1:25,000 sheets have been seen by the author, all covering eastern Kent and dating from June and July 1940. These have two separate overprints, a red one with fortifications, and a purple one with topographical revision: for example housing development on sheet 1/74, the buildings of Lympne airfield on sheet 1/75. The fortification plate indicates by cross-hatching areas rendered unusable for the landing of aircraft by the

¹¹ Lincolnshire Past & Present 36 (Summer 1999), pp7-10.
¹² That is to say the English sheets are declared to be published by the General Staff, even though the Heeresplankammer may have provided much of the technical effort needed for their production.
¹³ BLML has copies but they are awaiting conservation and do not yet have entries in the map catalogue.
erection of obstacles (Sperranlagen), something for which it is unlikely that any detailed British records exist.

2. **Air Force**

All Air Force publications were nominally issued by the *Oberbefehlshaber der Luftwaffe*. The *Luftwaffe* had a *Generalstab* like the Army’s. In the same manner as the Army, it had a superior *Führungstab*, whose members frequently also headed branches of the General Staff. Thus the intelligence function, for example, was carried out by the Fifth *Abteilung* but, since the head of that branch was also 1c of the *Führungstab*, its publications are sometimes credited to *Führungstab 1c*.

a. **Maps**

The Seventh *Abteilung* (*Kart. und Luftgeo.*) was responsible for the production and supply of maps. They also produced a catalogue (*Verzeichnis*),\(^{14}\) listing the cartographic products available at that time through map stores. This notes the availability of relief maps at scales down to 1:25,000. However, the only 1:25,000 relief map was for Dover and the 1:50,000 and 1:100,000 relief maps were only available for Dover and other port areas. The full range of Army-produced maps was also available, although the only fortification maps listed are those at 1:50 000.

b. **Luft-Geo**

The 7th *Abteilung* also produced a *Luftgeographisches Einzelheft*. Despite its title it came in multiple volumes. BLML has Band 1.1 *Südengland* (1942) and Band 1.2 *Ostengland* (1943).

Typically, each town in the area described is illustrated by a vertical air photograph and an oblique. The caption generally points out any objects of cultural significance; also industrial areas and items, such as bridges, of military significance. For example, the view of Lincoln draws attention to the Cathedral and the Castle on the hill, the river basin with the adjoining railway yards, and the ironstone quarries to the east of the city.

According to the *Verzeichnis*, the Army’s Mil-Geo dossier (1b above) was available through Air Force map stores, but not the Object maps (1c above).

c. **Target Cards**

The Fifth *Abteilung* (Foreign Air Forces) had always had ‘target study’ as one of their duties. As early as 1931, it was maintaining a file of target cards (*Zielstammkarten*) – literally 12×16-inch grey index cards.\(^{15}\) Each target bore a number: GB for the country, two digits for the target type (e.g. 73 = airfields) and up to three digits to identify the particular target. By 1940, the cards had generally been replaced by manila folders containing an aerial photograph of the target, a large-scale map with features from the photograph transcribed

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\(^{14}\) Reichsminister der Luftfahrt u. Oberbefehlshaber der Luftwaffe / Generalstab 7.Abtl. (Kart.u.Luftgeo.) Az.:45c Nr. 365/42(II) *Verzeichnis der bei der Luftwaffe vorhandenen Karten, Luftgeographischen Bearbeitungen, Reliefs und Militärgéographischen Arbeiten*, dated 1 January 1942. (It is understood that a copy has been passed to the PRO – reference unknown.)

\(^{15}\) Kahn, *op cit* p.382.
onto it, further information on the target, such as critical nodes, and information to assist in locating the target.

For example, the Ruston and Hornsby works in Lincoln (GB 82 47 & 48) is carefully marked on a vertical aerial photograph. Advice on navigation is given (find the Humber, follow Ermine Street which runs due south, and Lincoln is at the far end); locations of nearby RAF stations were noted. Critical facilities (*Lebenswichtige Teile*) were noted for both East and West sites but in a somewhat mechanistic manner: the ‘machine- and work-shops’ noted as critical for the West site actually constituted 90% by area of the buildings on that site!

The Imperial War Museum holds the principal collection of target cards in the UK. They may be inspected by prior appointment. The RAF Museum at Hendon also has an extensive and well-organized collection.

d. **Special Series.**

The *Führungstab 1c* also published reports giving the same information as the target cards for all targets of a particular type. These are known as *Sonderfolge des „Frontnachrichtenblattes der Luftwaffe”*. BLML has at least two: *London – utilities*; and *Night-bomber airfields*.

What can these products tell us about the historical geography of the UK that we do not know already from other sources? Essentially it is only those products that had an intelligence input (where the term is taken to exclude the re-issue or re-arranging of existing UK maps) that have something to contribute. The *Luftwaffe* target cards are valuable here, as is all the copious imagery from which the target cards were derived. Among the cartographic products, it is principally the fortification maps that stand out as an important source, particularly the 1:25,000 series. It would be useful to know whether any survive beyond the few sheets in BLML.

Reviewing the products in this way also clarifies their intended uses. I hope it has also served to dispel the confusion, widespread among those who have only encountered the former, between Army military objects and Air Force targets.

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16 BL Maps 46.c.24 and Maps 46.d.3.