“Paul Baker: not quite as expected .. a mappy ramble”

Richard Oliver

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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.
Paul Baker: not quite as expected…

a mappy ramble led by Richard Oliver

I – Buffo
Subjective significance: reminiscences of a collector

In the Ordnance Survey bi-centenary issue of *Sheetlines* in 1991 I made a short contribution to a group of articles on the theme of ‘my favourite map’. As I don’t have a single favourite, I decided to be bold and write about the map which stuck most in my mind and which I had least opportunity of studying.¹ So I described how, one day in July 1965, at the age of eleven years and four months, I had my first sight of a GSGS 3907 one-inch sheet in the short-lived style of the early 1930s, with no wood infill and all roads printed in the same yellowy colour. This impressed me more than anything I had yet encountered with a sense of the fourth dimension in mapping, and I wanted to own a map like it. The map was brought to school by a contemporary of mine called Paul Baker, as I had acquired something of a reputation for being map-minded, and for behaving enthusiastically when confronted with something new cartographically. I left the school a few days later and lost all contact with it, and then we moved from the town shortly afterwards, so I don’t know what has become of either Paul Baker or of what was really his father’s map. The sheet in question was 33 *Hull*, published at the War Office in 1932; as my father had a copy of the reduced-margin style of GSGS 3907 Second War Revision sheet 57, I knew that there was something called the Popular (1932) Edition, and it was evident that sheet 33 was an example.

¹ Richard Oliver, ‘A trip into the past or, Has anyone seen Paul Baker?’, *Sheetlines* 31 (1991), 10-11. In 1998 I was asked to contribute on the ‘favourite map’ theme to the newsletter of the British Cartographic Society Map Curators Group: I listed seven maps, headed by the ‘Paul Baker’ map which is the subject of this article: see Richard Oliver, ‘The problem with “favourite” maps’, *Cartographiti* 54, June 1998, 14-16.
Attentive readers will notice a confusion of Ordnance Survey and War Office mapping. They may also be wondering where they can find something with ‘Popular (1932) Edition’ printed on it. In fact, like the one-inch Old Series, which didn’t become ‘old’ till replaced by the New Series, there never was a map calling itself ‘Popular (1932) Edition’, and the term only appeared a decade later. Like so much else about the ‘Paul Baker map’, things turned out not to be quite as they seemed, but it took several decades to realise this.

The writer’s reconstruction of the scene in the playground at St James’s School, Grimsby, around lunchtime one day in lateish July 1965: he is second from left, Paul Baker (to be interpreted symbolically rather than realistically) is third from left. Observe complete lack of interest from the others in the vicinity.

Over the next few years I learnt rather more about OS mapping, some of it from published sources, and more by inference from the maps themselves. It became apparent that there were actually two parallel 1:63,360 series: the civil one which was referred to in what there was of the literature in those days, and a military one which only really surfaced when sheets of the War Revision and Second War Revision were put on sale as a makeshift measure during World War II. Generally, militaria has repelled rather than attracted me, which may be something to do with encountering my father’s old RAFVR uniform in mothballs in the spare room wardrobe when I was quite young, but there was an intangible quality of, for want of a better word, mystery about military versions of standard OS maps which was different. I continued to be haunted by the ‘Popular (1932) Edition’ generally and by sheet 33 in particular.

My father had been buying OS maps since the later 1930s, which was an inescapable influence: I started acquiring ‘old’ maps on my own account in the later 1960s. This was facilitated by the heyday of the jumble sale, and where we were now living in Surrey was well provided with them. Nowadays it is quite different; it is the Age of the Charity Shop, jumble sales are nearly as much a thing of the past as people who do not put an unnecessary, if not downright nonsensical, interrogative at the end of every other sentence, and no doubt in
a few decades historians will be writing theses and monographs with titles such as *Elections and party management in the age of the charity shop* and *The jumble sale and the crisis of economic management in the age of Wilson and Heath*, giving extraordinary insights of which contemporaries were quite unaware and would probably have disagreed with profoundly. Anyway, thanks to jumble sales several useful little collections of maps came my way, and in April 1969 one yielded Popular (1932) Edition sheets 32 and 38 (to the west and south-west of sheet 33). Sheet 33 seemed quite possible.

In fact, sheets 32 and 38 must have been not merely a fluke, but almost a Flook. My copies aren’t unique, but other exemplars certainly don’t clutter the second-hand bookshops. As the 1970s became the late 1980s it became apparent that finding a ‘Paul Baker’ sheet 33 wasn’t going to be very easy. On the other hand, it still seemed within the bounds of possibility: in 1990 a bookshop in Sherborne (the only occasion to date that I have set foot in the town) yielded Popular (1932) Edition sheet 28 (the sheet to the north of 33). I continued to visit second-hand bookshops. The house continued to fill up, quite alarmingly so, but there would always have been room for sheet 33. The history of cartography generally, and that of the OS in particular, moved forward: cartobibliographies started to appear of OS one-inch maps. I was responsible for some of them, and prepared one for the military versions of the one-inch, based almost entirely on the British Library collection (then very restricted in scope), and a few private collections. It was not intended to be published, and was more for the convenience of a checklist for collectors. I wrote my little piece for *Sheetlines*, and said that I’d prefer a ‘Paul Baker’ sheet 33 to a 1913 *Killarney*, given the choice: but eventually a *Killarney* was offered, at a reasonable price (for a *Killarney*) and joined the collection. No doubt a sheet 33 would have been cheaper…

*Cartobibliography: the art of the publishable?*

In about 1994 Roger Hellyer and David Archer set on foot a project to produce a volume of small-scale index maps; this led to an investigation of numerous map libraries and collections, including that of the Ministry of Defence. This last was probably rather more important in its results than we had anticipated, as it suggested that it might actually be practicable to produce a plausible and hence publishable cartobibliography of the military versions of the OS one-inch. By the mid-1990s I had seen a considerable number of these, and both Roger and I had been actively acquiring pre-1939 examples for our collections. Even putting these together, and inferring what we could from cumulative print-codes, it was apparent that our knowledge was very fragmentary. However, it was not this so much as apparent holes in knowledge of post-1940 series which had suggested that a cartobibliography of the military one-inch was not going to be an easy proposition. There were two noticeable gaps. One was that quite a number of sheets which had been published in Second War Revision form in GSGS 3907 obstinately refused to turn up as War Revisions; the other was a similar lack of printings of a large number of Seventh Series sheets in the early six-colour style (GSGS 4620, later M722), *i.e.* without tree symbols in woods. Roger’s investigations for the indexes project drastically reduced the number of ‘missing’ War

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2 *Or How I learned to stop sniffing and love the stale smell.*

3 Charity shops do sometimes yield maps, and do sometimes offer more recondite fare than standard later twentieth century 1:63,360 and 1:50,000 mapping, as witness the large stock in the Amnesty Bookshop in Cambridge recently.

4 A strip-cartoon character in the *Daily Mail* between 1949 and 1984. The writer is a custodian of a specimen of the probably extremely rare North Lincolnshire Woolly Flook (*Flookus Trogus Decadus Lindsiensis*).
Revisions, and indicated that my assumption about conversion of the military version of the one-inch from a New Popular to a Seventh Series base in step with publication of the civil version was false: so I stopped looking for a treeless military printing of sheet 105. (Note the symmetry: in the early 1930s the military one-inch had tree-symbols but no infill, in the 1950s it had infill but no symbols). All those elusive 1931-39 printings with the Modified British System grid and their yet more elusive predecessors with the British System grid had to be out there somewhere, including the ‘Paul Baker’ sheet 33. I suppose another reason for my continuing pursuit of this map was that over the years I had acquired a number of maps which, on any rational estimate, ought to have been still more elusive. Either that, or I had seriously misled myself in the reading of OS records. But then there are at least three copies of the Seventh Edition pilot sheet 142 Hereford of 1949 in private hands, although only about 400 were printed and none were available to the general public. The impossible turns out to be realistic, even a matter of course, after all.

The military one-inch cartobibliography has now been published by the Charles Close Society, between hard covers. Roger Hellyer’s name and my name both appear on the title page: at a conservative estimate Roger did 95 per cent of the work, being responsible for the cartobibliography and all the travelling that entailed, whereas I only wrote the introductory essay, which is really largely a reworking of existing material. (Another symmetry: for the last three volumes of the Harry Margary facsimiles of the OS one-inch Old Series I was mostly responsible for the cartobibliography and Brian Harley was mostly responsible for the introductory essays.) As the work went forward, so some of the gaps were filled, but there are still a considerable number of instances in the finished book where we are morally certain that a sheet existed either in the British System style (printed 1923-32) or the early Modified British System style, without wood infill (printed 1931-3), but no copy has turned up. One such was the ‘Paul Baker’ sheet 33. We got as far as the likely print-code for it, 1250/33, from a cumulative run on the 1936 printing of the sheet, but then there were quite a lot of instances where these cumulative print-codes were the only evidence for a printing. Anyway, I’d actually seen the thing in 1965! However, we did learn enough from the print-codes to get some idea of the chronology of printing both the British System and Modified British System maps. It was apparent that a nominal War Office publication date did not necessarily imply printing in the same year, and indeed sheet 28, nominally published in 1932, was actually printed in 1933. Had ‘Paul Baker’ turned up, then he would have been a 1933, not a 1932 map. But then I didn’t learn anything about OS and WO print-codes until, probably, some time in 1966.

A difficult time for authors

The most fraught time for the author of a book is the 48 hours before and the 48 hours after the first printed copies are received. Some important point comes to light which it is too late to do anything about, or the ISBN is wrong or, despite everything, there is an elemental idiocy in a caption to an illustration. If there are illustrations in colour you sometimes feel you should have put your foot down a bit more firmly about the precise shades used. A case in point is the first printing of my Ordnance Survey maps: a concise guide for historians, where I noted a 1:2500 revision of Taunton in about 1913-14, recorded in an OS annual

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report, but said that no copy was known. On the day, or the day following, receiving my first copy of the *Concise guide* I was in the Somerset Record Office in Taunton, and a copy of the missing mapping presented itself to me. I put it that way because, first, I was there to look at enclosure maps rather than OS maps and, second, someone had had the maps out of their cabinet, presumably to find out what Taunton had been like eighty years earlier, or otherwise in The Past, and there they were, waiting to be put away again. No doubt I am nosy, but maps lying around do rather invite inspection, don’t they, in the way that books or loose papers somehow never do. Anyway, the *Concise guide* sold well enough to justify reprinting within the year, and I took the opportunity to make the necessary correction. However, I don’t usually go to reprint, and thus get off so lightly.

For *Military maps* the apparently critical time turned out to be the 48 or 72 hours before the computer files got beyond adjustment before being used for direct-to-plate printing technology. Roger had found a small group of pre-war GSGS 3907s advertised on Forbes Robertson’s website which filled in some of the gaps. It turned out that amongst them was a copy of the 1250/33 printing of sheet 33, the ‘Paul Baker’ map. It wasn’t the same copy, as the one I’d seen in Grimsby thirty-nine years before had been folded six-by-two, and this was folded four-by-four. I suppose I shouldn’t be so standoffish about the Internet… Anyway, a few weeks later we had a Charles Close Society committee meeting at my home in Exeter, and persuaded Steve Braim to take the photograph on page 37.

I probably had less time to look at sheet 33, 1250/33, in 2004 than in 1965, but I did notice something which I wouldn’t have looked for until a few months before. To understand its significance I must explain a little.

One of the things which had struck me immediately in 1965 was the colour scheme: not just a single colour for roads, but no colour at all for woods. I had not then seen many pre-war OS maps, but the examples of the War Revision (orange or chestnutty roads), New Popular Edition (red and yellow roads) and Seventh Series (red, brown and yellow roads) suggested a tendency to increase the number of colours. Introducing green for woods some time after 1932 seemed logical enough; after all, the only Old Series sheet to hand, a small reproduction of part of sheet 46, was unquestionably monochrome. Introduction and increase in colour seemed part of a positivist paradigm, of Things Getting Better All The Time, whatever contrary signals might have been emerging from Mr Wilson’s government, seen from the viewpoint of an instinctively conservative schoolboy, who would not have known a positivist paradigm if one had been served up instead of the fish and chips at Friday lunches. Widening acquaintance with OS maps over the next couple of years showed that things had developed rather differently. True, road infills had started with a single colour, but the civil version of the Popular Edition used two. And woods had been infilled since the 1900s… Oh, and the depiction of buildings on the Seventh Series turned out to be more generalised than on the New Popular Edition: I remember being greatly disappointed on realising this as I studied the suburbs of Tunbridge Wells from a distance of 170 miles or so, one evening in the dormitory at school early in 1966. Still, I suppose this implied disruption of lineal development was a useful start for one who would be collaborating with J B Harley a couple of decades later…

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6 The significance of this is that easily the worst fish and chips I have ever had was for Friday lunches between January 1962 and July 1965, courtesy of the Grimsby school meals service. At that time Grimsby had a claim to be the greatest fishing port in the world: which is perhaps a proof of the proverb that cobblers’ children are the worst shod.
II – Serio
Colour schemes of the 1930s

Before 1923 there was no separate military edition of the national one-inch map. In that year special military printings began, distinguished by the replacement of the squaring on the black plate by a military grid – the British System – on a separate purple plate. The military edition thus needed one more printing than did its civil counterpart, and needed a specially doctored black plate. The British System grid was unsuited for operations over a large area, and so the Modified British System was devised. Between 1931 and 1933 all the British System military mapping of Britain and Ireland was replaced by sheets carrying the Modified British System. The opportunity was taken to redesign the military one-inch; in future one road-infill colour would be used and woods would be shown only by symbols on the black plate. This would save two printings, and though it would still be necessary to print the grid in purple, the military version of the one-inch would need one less printing than would its civil counterpart. That economy in printing was in mind is evident from later (1930-2) printings of the British System sheets also lacking wood infill. No woods and one colour for roads was the style used on what I used to refer to as the ‘Popular (1932) Edition’, and it was also used on later printings of the 1:25,344 military map of the Eastern Counties (GSGS 3036), but it was evidently not wholly satisfactory, as from 1934 the military one-inch was once more printed with woods in green. Perhaps even less satisfactory to users was omitting road infills entirely: GSGS 3907 sheet 144 was printed in this style, but unfortunately the only known copy has had its margins cropped, and it is at present impossible to place it chronologically. The actual shades of ‘yellow’ used for the road infills varied considerably: for example the 1931 printing of sheet 115, which seems to represent the earliest stage, is decidedly lemony, whilst that of sheet 28, of 1933, is orange-brown. The intention is clearly the same: the practice, and so the whole ‘feel’ of the map, is radically different.

Though the style introduced in 1931 apparently economised on printings by using one road-infill plate instead of two, it followed its civil counterpart in another respect, in that separate water-infill plates – standard on the Scotland Popular, and used for most sheets containing tidal water on the Popular of England and Wales, such as sheet 33 – were retained. The very earliest Popular Edition sheets, printed in 1918, had combined water outline and infill on a single plate, but this was evidently unsatisfactory – did it complicate the production of an outline edition? – and the separate infill plate, already used on some experimental printings, was introduced. By 1931 the OS was prepared to have another try at combining water outline and infill: it started with the one-inch Fifth (Relief) Edition, which sought to get a thirteen-colour effect with half that number of printings, and this was the usual practice on newly-published small-scale maps into World War II, and also on some late

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7 By 1923 a considerable number of one-inch maps wholly or mainly for military purposes had been produced by the OS, but these were all either single sheets or small groups covering particular districts of military interest, such as Aldershot. A few Third Edition coloured maps are known overprinted with military reference systems, but these should be regarded as forms of military district map produced for training purposes rather than as a start to an alternative comprehensive national military series: see Roger Hellyer and Richard Oliver, A guide to the Ordnance Survey one-inch Third Edition maps, in colour, London: Charles Close Society, 2004, 32.

8 My provisional interpretation of this frustrating exemplar of sheet 144 is that it is an early – 1931 – attempt to dispense with road infills entirely and rely wholly on the road-casings for road classification. This was, after all, the style of the 1:20,000 and 1:25,000 series, GSGS 2748 and GSGS 3906. An alternative interpretation is that it was a special printing, perhaps for training purposes and perhaps made some years later, akin to Bordon, Farnborough and Netheravon, for which road infills were unnecessary: see Hellyer and Oliver, Military maps, 71, 156, 161, 162, 163. A full-margin copy of 144 ought to settle the point. Ought!
1930s printings of the one-inch Popular Edition. However, it was only introduced as standard to the military one-inch in 1940, so late, indeed, that one War Revision printing, presumably in the second half of 1940, retains the infill plate, and two others omit it, but do not replace it with stipple on the remaining water plate.\textsuperscript{9}

In theory, the fewer the number of printings per copy needed, the more economical a map series is to produce. 10,000 copies of a map in four colours need 40,000 passes through the press; were the same map printed in six colours then 60,000 passes would be needed. Similarly, the cost per copy of making a plate from which 10,000 copies are printed is a tenth of that from which 1000 copies are printed. However, economies on the number of press-passes and the costs of making up plates need to be balanced against each other. For example, a black printing plate which carries (a) outlines of roads, buildings, woods, etc, (b) text, (c) stipple building infill and (d) vegetation symbols may well have a separate ‘drawing’ for each, which have to be combined in register with each other on the printing plate: this was the basic procedure for later printings of the Seventh Series, for which the print-runs were comparatively large, and therefore the cost per copy of making up the plates from several separate elements was comparatively small. Before World War II print-runs for both civil and military maps were much smaller than they have been since, and the extra cost and complication of making up plates which combined several elements, and thereby saved one or more printings, would have had to be balanced against the machine-time saved. Further, there was the possibility that changing an existing design, so that for some years a mixture of sheets with, say, solid and stipple water-infill would be on sale, might have some effect on sales or on the OS’s public image. At any rate, whilst it was evidently worthwhile to print the military one-inch with road infills redrawn for a single printing, it was not worthwhile to do this for the water-infill. Which seems a little odd, as military maps, not on sale to the public, do not have to humour the public…

\textit{Can you believe it? One colour, two printings?}

In 1938 a five-colour scheme for the one-inch Popular Edition and its contemplated replacement, the New Popular Edition, was devised: a combined water-outline and water-infill plate would be used, contours and second-class roads would be printed in orange-brown, and the black outline (linework and text), first-class roads and wood infills would continue to be printed separately, as before. This was in fact the colour-scheme used for the earliest Popular Edition sheets, printed in 1918, but those responsible for the five-colour scheme of 1938 seem to have been unaware that they were reinventing what had been devised twenty-odd years earlier. Nor do they seem to have noted that the early one-inch Fifth Edition ‘non-relief’ printings of 1934-6 were also printed in five colours, but with the difference that it was the first-class roads which were on the contour plate.\textsuperscript{10} The five-colour scheme used in 1934-6 seems much more robust than that used from 1938 onwards, but the adoption in 1937 of scarlet for first-class roads may have something to do with criticisms made to the Davidson Committee which was reviewing the OS at the time.\textsuperscript{11}

\textsuperscript{9} A separate water-infill plate is retained on the 24,000/40/R printing of GSGS 3907 sheet 101; water infill is omitted from GSGS 3908 sheet 30, 16,000/40/R and sheet 31[no code].

\textsuperscript{10} The discussion, with an experimental five-colour printing of sheet 109, will be found in National Archives (Public Record Office) [PRO] OS 1/52, and is excellently summarised in Yolande Hodson, \textit{Popular maps}, London, Charles Close Society, 1999, 109-10.

\textsuperscript{11} For more on this see Richard Oliver, \textit{A guide to the Ordnance Survey one-inch Fifth Edition}, London: Charles Close Society, 2000, 13. Having the contours on the orange-brown plate might be a little more flexible than having them on
At any rate, the five-colour scheme was adopted for the Popular Edition of England and Wales, and sheets with second-class roads and contours in roughly orange or orange-brown were duly printed in six or seven passes.

No, you have not misread that sentence; I have not miswritten it. The retention of separate printings for water-outline and water-infill is fairly obvious on many of the printings of this period, and can be readily explained by its being less trouble to retain existing serviceable plates and incur the extra expense of printing the infill separately than to go to the expense of making up a new combined plate. What is more remarkable is that, though the colours for second-class roads and contours appear nearly the same, orangey, it can be seen when the roads and contours cross that there were separate printings.

In other words, though there was one policy for the colour scheme, it was evidently often less trouble in the short-run to reuse serviceable existing plates, as with the water.

And there was another instance. At least two nominal five-colour Fifth Edition sheets printed in 1936 – sheets 96 and 106 – were definitely printed with six passes through the press: the grid was printed separately from the other ‘black-plate’ detail.

So much I had known for over twenty years when, one day early in June 2004, I needed to look at my copy of the 2500/39 printing of GSGS 3907 sheet 105, to answer some minor query of Roger Hellyer’s. At present, my flat maps are stored in a room which enjoys very strong light in the morning, and it was a very sunny morning when I was answering Roger’s queries and looked at sheet 105.

There was something very odd about it for a 1939 GSGS 3907. The road infills were printed in two colours. They were so nearly the same that, had the light not been so strong, I should not have noticed the phenomenon, but there it was: the first-class roads were printed in a slightly lighter shade of orangey-sienna than were the darker ones.

Well, if one’s like that, what about the others?

the red-chestnut plate, as it would be possible to use the latter for further information, such as public rights of way, which would stand out better. However, as the modern system of recording public rights of way was only enacted in 1949, this might be thought anachronistic.

12 I’m not sure if, in good English, you can ‘miswrite’ something, but, anyway, I didn’t do it.

13 For examples of England & Wales Popular Edition sheets with contours and second-class roads printed in similar colours see: 25, 3040…; 27, 2539…; 34, 2039…; 38, 2040…; 90, 2040; 109, 3040…. Examples of Popular Edition sheets where second-class roads and contours are printed from the same plate are hard to find: the best I know of is the experimental printing of sheet 109 in PRO OS 1/52, which demonstrates the symptomatic ‘fusion’ of roads and contours. This can also be seen on the eleven New Populars printed in 1940-1: 157, 158, 161, 167, 169, 171, 172, 179, 182-4.

14 The effect is most striking on my copy of sheet 106, printing 6036, where the grid is consistently grey over the whole sheet. On my copy of sheet 96, 4036, the effect is strange: the grid is grey in the west part of the sheet, but gradually darkens towards the east. The late Guy Messenger’s collection (now in ‘Maps Messenger’ in Cambridge University Library) contains two copies of sheet 96, 4036, both with a uniformly black grid, but with minute differences in position, which are symptomatic of separate printing. That the grid is black on the Messenger copies indicates that it was intended to be in the same colour as the other black plate. It is at present difficult to determine whether the uniformly grey grid on my copy of sheet 106, 6036, is intentional or accidental, though the resemblance to the style devised in 1950 for the nascent Seventh Series is striking: the variable grey on my copy of sheet 96, 4036, is perhaps an argument against.

Neither ‘grey grids’ nor ‘grid shift’ have so far been reported for any other Fifth Edition sheets. (As the grid seems to have been drawn direct onto the printing plate, grid-shift between different printings is merely a symptom of making up fresh plates.) Some years ago it occurred to me that the 1:63,360 New Forest sheet of 1938, which can be interpreted as a prototype New Popular heavily disguised as a Fifth Relief, might have been printed initially without a grid, with a view to overprinting part of the stock with the yard grid for immediate sale, and part later with the new metric grid. However, none of the pairs of copies examined gave any support to this idea.
I drew out sheet after sheet: a substantial minority of GSGS 3907 and 3908 printings showed the same bizarre effect. As I was visiting Roger a few days later, I took the opportunity to examine his collection (fortunately under very bright natural light), and there was a great deal more of the same. And so often the first-class roads were printed slightly lighter than the second-class ones. Now, this was really very inconveniently timed, as it was far too late to revisit numerous collections and look for something which needed strong light and careful judgement, and all we were able to do was to make a brief reference in the essay, with a footnote of course.\(^{15}\)

It was evident that, for both the civil map in 1938-40 and for its military counterpart in 1931-9, it was policy to have a colour scheme suggesting a combination of colours, but often to effect this by using existing pairs of plates, rather than making single new ones. Were there to be separate sets of road plates for the civil and military versions, all revisions would have to be carried out twice. This was perhaps the more usual practice, though at least one case is known where a separate single plate made around 1932 for the military version was combined in 1939 with a revised outline plate, making for an odd effect on the Scunthorpe by-pass.\(^ {16}\)

So far, so good: but why should there be a distinction in colour-shades? Why not use the same mix of ink for both?

\textit{Printing in battery: suitable for military maps}

There are three possible answers. One is that for some reason the ink changed in shade in the course of a print-run: this is certainly known to have happened with the 1936 printings of Fifth Edition sheet 96. Another answer may be that rather more sheets \textit{were} printed with two roads printings, but that the same mix of ink was used for both, or managed to retain its consistency of colour, and so the procedure is not readily apparent.

A third ‘answer’ could be that in the 1930s some of the printing of GSGS 3907 and 3908 may have used the method known as ‘printing in battery’: this was certainly used in the 1950s for the 1:25,000 Provisional Edition.\(^ {17}\) Both that series and many of the pre-war printings of GSGS 3907 and 3908 and the British System-gridded predecessors were printed in very modest quantities, and it would be natural to look for economies, either of money or time or both. This would particularly apply to replacement of the British System by the Modified British System, which meant that all 250-odd GSGS 3907 and 3908 sheets had to be printed in the three years 1931-33, in addition to some reprinting; most of these sheets were printed in comparatively modest quantities, 1000 or 1250 copies being pretty typical. I have to say that I have no proof that printing in battery was used in the 1930s, and it may be that more knowledgeable readers will conclusively contradict me, but perhaps in so doing they might explain why the road infills differ slightly in colour.

‘Printing in battery’ is a means of minimising the need to ‘wash down’ a press once each colour has been printed, in order to avoid contamination from the previous colour on the rollers. If a multi-colour map is being printed on a single press as a single job, it will be

\(^{15}\) Hellyer and Oliver, \textit{Military maps}, 17 and n.87.

\(^{16}\) GSGS 3907, sheet 39 (the sheet to the south of sheet 33!), W.O.1000/39C: evidence that a single military road plate was used, rather than a pair of obsolete civil road plates, is provided by the legend, where the road infills have been redrawn to fit the redesigned road casings.

\(^{17}\) See Roger Hellyer, \textit{A guide to the Ordnance Survey 1:25,000 First Series} (with an introductory essay by Richard Oliver), London: Charles Close Society, 2003, 23, citing minute 228 in PRO OS 1/383.
necessary to wash-down the press after each printing has been completed. The same amount of time will be taken to wash down the press after each colour has been printed off, regardless of whether the print-run is comparatively large (perhaps 20,000 to 30,000 copies) or fairly small (perhaps 500 to 1000 copies). But supposing that, say, ten six-colour sheets are printed as a single job: then, once the first colour of the first sheet has been printed, all that is necessary is to change the plate and print the first colour of the second sheet, and so on, so that the first wash-down of the press is only necessary after the first colour of the tenth sheet has been printed: a total of six wash-downs instead of sixty. It follows from this that the particular shade of colour used ought to be common to the whole batch of sheets; however, as colours are liable to change in shade during a print-run, printing what is nominally the same colour in two separate passes may show differences.\(^{18}\)

What I cannot explain as yet is why the first-class roads always seem to appear slightly lighter than the second-class ones.

**Objective significance: the real importance of sheet 33**

In 1965 I did not look for signs that the roads on sheet 33 were printed from two plates, because for one thing I was used to single-colour roads on the Second War Revision and made positivist assumptions about a progressive increase in colour which were wide of the truth, and for another I doubt that it would have been apparent to my untrained eleven-year-old eyes; after all, I passed my half-century before making the discovery, and then only by chance. However, when sheet 33 visited Exeter on 2 October 2004 I naturally looked for signs of two-stage road printing: and there they were, the first-class roads distinctly yellowy, the second-class roads distinctly browny, once one knew what to look for.

But there was something much better than that, something which provided a double proof of two printings: the first-class roads were in perfect register, whereas the second-class roads, particularly on the right-hand side of the sheet, were distinctly out of register. This was something which I hadn’t noticed on any sheet in my collection or Roger’s. It would have been so useful to illustrate it as proof of two-stage printing: the subtle difference in shade might have been difficult to reproduce satisfactorily, but the mis-register would be incontrovertible.

The stock of the book arrived from the printers on 4 October.

**Conclusions**

First: elusive maps do eventually turn up. They may however turn up is somebody else’s collection rather than yours. (And maps you never knew existed may also turn up, but that’s another story.)

Second: it is apparent that, strange as it may seem, in the 1930s the OS were prepared to go to the trouble of two separate printings in nominally the same colour in order to maintain a particular colour specification for a particular series, presumably because it was cheaper to use two existing plates than to make up a single new one.

Third, authors should continue to be apprehensive of the 48 hours before and the 48 hours after stock is delivered.

\(^{18}\) Changes in shade are well demonstrated by the different shades for the grid plate on the three copies of Fifth Edition sheet 96, printing 4036, referred to above.