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Ordnance Survey digitisation.”

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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.

An uneasy transformation: Ordnance Survey digitisation

Richard Oliver

The Ordnance Survey paper map is largely a thing of the past, at any rate in terms of the number of ‘titles’. Some time in, I think, the late 1980s OS claimed to publish the largest number of ‘titles’ of any individual organisation, certainly in Britain, and possibly further afield. As there were something like over 230,000 of these ‘titles’ the claim was difficult to assail. Yet within a decade or so such a claim could no longer be made, at any rate in respect of paper maps, where the total is today about 620 to 630 or so.¹ And this drastic reduction was all of OS’s own doing.

The reason is not far to seek: digitisation. When this started, in the mid 1960s, it was seen very much as a means to more efficient map production; when completed, thirty years later, it was clear that the main benefit was for users to be able to interact with the mapping, and which was ‘seamless’ and not subject junctions between sheets. Digitisation offered the possibility of getting away from the need either to redraw mapping periodically, with the loss of accuracy inherent in any manual copying operation, and with the inherent inefficiency of replicating much work already done that was in itself satisfactory in order to incorporate patches of new work, or of photo-mechanical duplication, with gradual decline in visual quality, and the possibility of a loss of clarity. In the 1960s users wishing to add information to maps had to annotate them, and with the appearance of a new edition of the map, they were faced with the choice of either obtaining the new edition and having to repeat all the earlier annotation work, or else of continuing to annotate an out-of-date base. Digitisation offered the possibility of maintaining the annotations – for want of a better term – as a separate ‘layer’ that could be updated independently of the base mapping, which in turn could be updated and renewed independent of the annotations. Digitisation also offered the prospect of commercial map publishers producing mapping by adapting OS data, rather than by having to input afresh.

It all seems so simple that today one takes it for granted, yet this neat state of things took some time to develop, and the ultimate outcome seems to have been envisaged by few if any people when OS set out on the digitisation path in 1962-3. Here, it might be thought, is a suitable subject for a historian, yet histories of OS have paid comparatively little attention to it.

A recent book addresses some of this deficiency. Peter Wesley, who first joined the OS in the mid 1960s and retired from it in 1995, was commissioned by the then Director-General and Chief Executive, Professor David Rhind, to produce a history of the operation. This was completed in

¹ Composed of 403 sheets at 1:25,000, 204 sheets at 1:50,000, 8 sheets at 1:250,000, 1 sheet at 1:550,000, and a handful of miscellaneous ‘non-core’ sheets.

1999 and has belatedly been published.² As Peter Staniczeko explains in a Prologue, the delay was entirely due to OS: what had evidently started with a view to publication was by 2001 found somewhat embarrassing on account of ‘the candid portrayal of the organisation’s struggles’, and so it progressed no further than the printing of a few copies. It probably remained quite unknown outside OS until the autumn of 2023. In 2021 Mr Wesley, concerned that his work might be lost, contacted OS with a view to publication being considered, ‘but it seemed that the organisation was still not ready to embrace this part of its past’. He then turned to Mr Staniczeko for assistance, and late in 2024 one of the unpublished copies was deposited in the Charles Close Society Archive in the Map Library at the University of Cambridge.³ This seems to have marked a change of official heart, and in February 2025 *An uneasy transformation* was published – with OS’s consent, but not under its imprint. The text is the same as the unpublished version, but there are no illustrations: it is difficult to see why these should have been excluded, though the loss is not a significant one.

That said, *An uneasy transformation* has two substantial drawbacks. One is that the story ends with the completion of the digitisation operation, of the basic scale mapping variously at 1:1250, 1:2500 and 1:10,000, in 1995. Since then there have been substantial developments and refinements (not least in what appears at present to be the abortive exploration of deriving the 1:25,000 and smaller scales direct from the larger-scale data), of which any published record is scattered amongst specialist journal articles, yet which deserves a synoptic view. The second limitation, which I suspect may have played a part in OS’s reluctance to publish, is that the book, frankly, really needs a lot of editing and shortening. It is written often in over-formal, over-long ‘official’ style, which might do for internal communication, but is not the way to engage an outside readership. A sentence beginning ‘Up to this point in time’ seems distinctly inferior, on several grounds, to ‘Hitherto’. It is distinctly repetitive, with a great deal of recapitulation which is perhaps better suited to serialisation in a form where previous episodes cannot readily be referred back to, but which is at best unnecessary in a single-volume book. The text could probably be reduced to about two-thirds, or even less, of its length without sacrificing anything. I suspect that OS does not regard the necessary effort to put the manuscript into a publishable form to be justified by likely sales – themselves likely to be influenced by the lack of treatment of post-1990s developments – and in this respect they are probably correct. A third objection is that it is avowedly a ‘personal’

2 Peter Wesley, *An uneasy transformation: Delivering Ordnance Survey’s digital mapping of Great Britain 1962-95; a personal account* [no publisher], 2025. Available from Amazon, £13.99 (softcover): see <https://www.amazon.co.uk/UNEASY-TRANSFORMATION-Delivering-Ordnance-personal/dp/B0DXKQ5LX>.

3 CCSA_CCS_629_2.

account, and such things as tensions in the 1960s between military and civil staff on the OS need a more objective and understanding treatment than they receive here.

This is a pity, because there is an interesting story buried in these pages. Whilst the Director-General of the time, Major-General Henley Dowson, correctly foresaw in 1962 that production methods for paper mapping might well be improved by the adoption of automation, the hoped-for efficiencies were long in coming, and until they did come any digitisation efforts were bound to remain 'experimental'. It is symptomatic of this that a 'pilot project', begun in 1970, was still running at the end of the decade. Limited resources meant that only limited areas, often single isolated sheets, were input; there was also a limited 'customer base' that appreciated the likely uses of mapping in electronic form, and potential users could not always be matched with completed or in-progress inputting.

A hostile critic might suggest that the digitisation was actually spectacularly mistimed, as it began when the post-war remapping of Britain was approaching its half-way point in time, with much of the urban resurvey at 1:1250 complete, but with substantial areas still to be completed at 1:2500 and 1:10,000. Digital production might have reduced costs at the smaller scales, but in practice any demand was at the larger scales and, rather than it being a question of reducing overall remapping costs, it was a question of seeking to reduce the cost of digitising. Until the expense of the whole operation fell below that of manual cartography, computerised mapping could not move beyond its pilot stage, and in practice very few sheets of the remapping were produced from the start by digital means, and even then a certain amount of manual finishing was still necessary.⁴ It was therefore necessary, effectively, to 'redraw' vast swathes of rural mapping which had undergone little if any change. Of some 240,000 'tiles' to be digitised, only about 10,000 had been digitised by early 1981, and a significant proportion of those would be found to need redoing; only about 100,000 had been input by January 1991, though there was then a spectacular increase, as work moved from 'heavy' sheets of built-up areas to very open rural sheets. Many of the principal customers for digital data were the utility groups, which wanted lists of 'assets' in advance of privatisation, and much of the inputting was undertaken by them, and also by numerous private contractors. In order that the data could be structured, it was necessary to devise 'feature codes', and earlier elaborate schemes were subsequently greatly rationalised.

An uneasy transformation is not that easy a read, but it will be a required one when a comprehensive account of OS map digitisation comes to be written. I hope that we shan't have to wait too long.

⁴ This is effectively demonstrated in the extract from the first published sheet, 1:2500 sheet SO 5052-5053, issued early in 1973: vegetation ornament and parcel acreages were supplied manually.