

Number 34

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CHARLES CLOSE SOCIETY ANNOUNCEMENTS

FUTURE MEETINGS

Manchester, Saturday 7 November 1992

10 a.m. to 4 p.m., at the Department of Geography, University of Manchester. *Programme:*

Chris Perkins: The Ordnance Survey five-foot plans

Richard Oliver: The 'replotted counties' reexamined

Open session: please bring along any OS large-scale oddities which you have, included OS maps which have been 'customised' by private firms or local authorities.

Those interested in attending should contact David Archer, The Pentre, Kerry, Newtown, Montgomeryshire, SY16 4PD.

(It would be appreciated if those attending could contribute £2:00 towards costs.)

London, Saturday 5 December 1992

Morning visit to Taywood Data Graphics, 10.30 for 11 a.m. Address: Greenfield House, 309 Ruislip Road, East Greenford, Middlesex. Those interested in attending should contact David Archer, The Pentre, Kerry, Newtown, Montgomeryshire, SY16 4PD. Taywood have been responsible for scanning and digitising the OS 1:50,000; the results are reportedly so good that people think they are the victims of a joke and try to peel the maps off the screen! See p.31 for further details.

Uppingham, Saturday 6 March 1993

Study meeting on the Half-inch map. Full details will be announced in *Sheetlines 35*, but book the date now!

Map-making in the Tower of London

The Society has obtained a residual stock of this, the official catalogue (written by our chairman, Yo Hodson) of the OS bi-centenary exhibition at the Tower of London last year. Copies are available at £1:50 each, including postage, from the Society Secretary (address on back page). The catalogue is now not otherwise obtainable - and is a bargain at the price!!

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It had been hoped to include in this issue an article by Richard Oliver on the OS 1:25,000 map, but the research has been protracted and this is now expected to appear in *Sheetlines 35* or *36*. It is also hoped to include in *Sheetlines 35* the carto-bibliography of the 1801 Mudge-Faden map of Kent, for which there have been some requests.

At the AGM on 16 May there were requests that the list of articles in the *Geographical Journal* collected for the abandoned reprint be published in *Sheetlines*. The Society's Committee have considered the matter, and feel that it would be more satisfactory were a more complete bibliography of journal articles and books about the OS to be compiled and published. If anyone is interested in helping with this work, could they please contact the Editor of *Sheetlines*?

(Continued inside back cover.)

A Man For His Time? Sir Charles Arden-Close 1865-1952

by C.I.M. O'Brien

Five Superintendents, or Directors General, of the Ordnance Survey appear in the *Dictionary of National Biography*, William Mudge (as do two of his sons), Thomas Colby, Sir Henry James, Sir Charles Wilson and Sir Charles Arden-Close, the most recent DG to be honoured with a knighthood or the Fellowship of the Royal Society. Sir Charles took the additional name of 'Arden' late in life but he will be referred to here, throughout, as 'Close'. Space will only permit a brief overview of a very full life before three facets are reviewed in more detail.

Charles Frederick Close was born in Jersey on 1 August 1865, the eldest of 7 sons and 6 daughters of Major General Frederick Close, late Royal Artillery. The family lived, perforce, 'quietly'.¹ Nevertheless Close passed second into the Royal Military Academy, and first out of it, to be commissioned into the Royal Engineers in July 1884. His first years with the Corps included a posting to Gibraltar, two years with the Balloon Section at Chatham and a spell constructing heavy gun batteries for the seaward defence of Calcutta.

While in India he took the opportunity to transfer in 1890 to the Survey of India. That institution enjoyed great prestige and attracted some of the ablest young RE officers, many of whom devoted the rest of their careers to its service. Close was to return to Chatham in 1894 but his experience with the Survey, employed on topographical survey and secondary triangulation in Burma, left a lasting impression. For the rest of his life maps and surveys were to be central to his career.

In the following year he was picked to lead the British element of a Commission appointed to survey a section of the frontier between the, British, Niger Coast Protectorate and the German Colony of Kamerun - a frontier defined by diplomats whose knowledge of African geography was, to say the least, hazy. The survey was successfully completed though the diplomats subsequently rejected the Commissioners' advice. Close learnt a lot about international co-operation and the need for caution in the application of new technology, under field conditions.

On return from West Africa, Close received his first posting to Ordnance Survey.

He also started work on a revised edition of the *Textbook of Military Topography*, (published in two volumes, 1898). In no time at all he was off to Africa again as the British leader of a much more important Joint Commission tasked with establishing the course of the Anglo-German frontier between Lakes Nyasa and Tanganyika (the present-day frontier of Tanzania with Malawi and Zambia). Close landed at Cape Town on Wednesday 27 April 1898, on his first visit to southern Africa. On Saturday he lunched with Her Majesty's Astronomer, Dr David Gill, and obtained his support for a unified survey department for British Africa, which proposal he then put to the Governor, Sir Alfred Milner, over Sunday afternoon tea. Moving up country to Zomba (administrative centre of the Central African Protectorate) he persuaded Wahid Ali Khan, of Survey of India, who had just completed a secondment, to delay his return home for a few months. He was to undertake nine-tenths of the Commission's plane tabling. Close wrote 'His work was not minutely detailed and in this respect it was inferior to the German topography, but it was available when it was wanted, which the German work was not'.²

Nevertheless Close established excellent personal relations with his German colleagues which were to serve him well many years later.

Close returned to Ordnance Survey but by February 1900 he was once more in South Africa, in command of the first survey detachment ever despatched from OS for active war service. Close wrote: 'whilst waiting at Cape Town, after a little opposition, I engaged a litho draughtsman and a litho printer and bought a litho press, stones and accessories, all ready to move up country'.³

¹ Close quoted by de Graaf Hunter, obituary, p.327.

² Close, Diary, Anglo-German Nyasa-Tanganyika Boundary Commission 1898, (RGS Archives).

³ Close, 'Fifty Years...', *ESR*, II, .3.

Once at the front this unit was to produce what Close claimed to be the first multi-coloured map litho-printed in the field by the British Army. Unfortunately though his men continued to make a useful contribution to operations, Close went down with enteric fever and was invalided home. His experiences re-enforced his belief in the need for a regular peacetime topographic mapping programme, convincing him that many British lives had been lost through its neglect.

Restored to health Close was appointed Instructor in Surveying at the School of Military Engineering, Chatham. He speedily set about revitalising the teaching programme. The trigonometrical course would now take place under field conditions. Printing and lithography were brought under the Instructor's control allowing further development of the concept of rapid map production in the field to support military operations.⁴

These activities were interrupted in 1904 by a summons to a Cape Town conference which was considering a scheme for the unified mapping of all British territories South of the Zambezi. Unfortunately while the scheme received unanimous approval it was never implemented because Imperial and Colonial governments failed to agree on the division of financial responsibility.

1905 was to be the turning point in Close's career. Hitherto he had gained unusually wide experience but had rarely stayed long enough in one place to leave a lasting mark. Now some of that experience was to be distilled in the first edition of the *Textbook of Topographical Surveying*,⁵ published at 3s6d a copy and destined, with two subsequent editions, produced in collaboration with E.W.Cox and H St.J.Winterbotham, to serve as a field surveyor's 'bible' for more than half a century. Then an unexpected vacancy occurred at the War Office and for the next six years Close was to serve as head of the Geographical Section of the General Staff during a critical, but very fruitful, period. The Section was then responsible for the provision of maps for the Army (other than in India) including those of potential theatres of war. Its head was effectively geographical adviser to both Foreign and Colonial Offices, particularly when international boundary problems arose. Finally GSGS was much in liaison with British Colonial and foreign geographical services and participated in various international congresses and conferences.

The British Army had been badly shaken in South Africa. This had stimulated a resolve to make it a well trained and equipped force, ready, at short notice, to fight a mobile war. Under Close GSGS, with some OS assistance, was to produce maps which matched this concept in scale and design and which, incidentally, met the criteria for 'the ideal topographical map' that he had presented to the Royal Geographical Society in 1904.⁶ Typically these were in the scale range 1:100,000 to 1:250,000, clear to read and free from clutter and, where completely new productions, showing an unmistakable house style regardless of whether they were of Belgium or Basutoland, Constantinople or Kenya. Of the first, Close's successor at GSGS, Hedley, recorded that in 1914 'the original Expeditionary Force was very well equipped with maps, chiefly owing to the great foresight of Sir Charles Close'.⁷

However we may see things in retrospect, it must not be assumed that contemporaries saw a major European conflict as inevitable. Close himself took part in many conferences and discussions with both future allies and future enemies, for example to resolve Anglo-Belgian-German boundary problems in Africa and, incidentally, identifying a mountain that a former foreign secretary had declared to be 'a myth'. This seemed to demonstrate that reasonable men could resolve apparently intractable problems.

In 1911 Close was appointed Director General of the Ordnance Survey, which appointment he was to hold longer than any other incumbent since Sir Henry James. However when he retired from the Army (and OS) in 1922 he was still only 57 and had 30 years as an elder statesman ahead during which if anything his range of activity broadened rather than contracted. He

⁴ Col B.R.Ward, *The School of Military Engineering 1812-1909*, Chatham, 1909, p.35.

⁵ Major C.F.Close, *Textbook of Topographical and Geographical Surveying*, London, HMSO, 1905.

⁶ Major C.F.Close, 'The Ideal Topographical Map', *Geographical Journal*, XXV (1905), 633-47.

⁷ Colonel Hedley, contribution to discussion on Lt.Col H.S.L.Winterbotham, 'Geographical work with the Army in France', *GJ*, LIV (1919), 12-28.

became Secretary to the International Geographical Union and served as its President at the time of the Amsterdam Congress in 1938, working hard behind the scenes to defuse the effects of increasing World tension. He became a very active President of the RGS at the time of its Centenary and the extension of its Kensington headquarters. He became deeply concerned about the rapid growth of World population and the demands this would make on resources while until his eightieth birthday he served as Chairman of the Palestine Exploration Fund. For these later years he will be remembered particularly for his writings, including *The Early Years of the Ordnance Survey*, *The Map of England* and a large number of short articles and notes in periodicals some of which were reprinted in *Geographical By-Ways*.⁸ At the same time he continued to correspond actively on one of his favourite subjects, map projections. (His last contribution to the *Geographical Journal*, 'A Forgotten Pseudo Zenithal Projection' appeared only shortly before his death in 1952).

It is now time to look more closely at three facets of Close's career, the promotion of colonial surveys and mapping, the International Map project and his work for Ordnance Survey. These illustrate in turn what initiative and drive could achieve and the extent to which it was constrained by the circumstances of the times.

Close acknowledged more than once his debt to the Survey of India. When faced with African mapping problems, like Holdich before him,⁹ he saw solutions in Indian experience. This implied that only an Imperial organization could respond adequately to administrative, defence and development needs. The South African scheme failed to take off. Nevertheless when Close took over at GSGS he found a small Colonial Survey Section (two officers and four NCOs) in being. Originally destined for Jamaica, financial problems caused Close to arrange re-deployment in South Africa, where it mapped the Orange Free State at 1:125,000, latterly under the command of H. StJ. L. Winterbotham (very much a Close protege). In concert with a senior Colonial Office Administrator, H.J. Read, Close arranged for the setting up of a three-man 'Colonial Survey Committee', the third member of which would be the Director General of the Ordnance Survey. Within weeks a despatch went out to Colonial Governors advising them that in future maps must be produced at specified standard scales (including 1:250,000 cover of each Colony or Protectorate).¹⁰ Annual reports of progress would be required and provision made for training natives of the colony (the Indian example was quoted). Topographic maps surveyed or compiled overseas should be sent first to GSGS for scrutiny and any necessary editing before they were passed on to OS for printing.

Very considerable progress was achieved before 1914 despite the lack of central (Imperial) funding, though the considerable autonomy enjoyed by Governors (one declared topographic survey to be 'a luxury')¹¹ made it difficult to secure uniform progress.¹² Even so by 1914, 84 officers and NCOs were serving overseas on secondment but the outbreak of war saw them recalled to their regiments while many of their civilian colleagues were diverted to war work. After the war the Committee was re-constituted but lacking the driving force of Close and Read, and with continued pressure for economy, much less was achieved. Nevertheless its formative years show how Close, recognizing that high powered schemes were not practical politics could achieve results through a combination of diplomacy and the prudent use of limited resources.

In 1891 Professor Albrecht Penck proposed the production of a map of the World at a scale of 1:1,000,000, at the International Geographical Congress at Bern. His proposal was welcomed

⁸ Sir Charles Arden-Close, *Geographical By-Ways and some other Geographical Essays*, London, 1947.

⁹ See e.g. Colonel Sir T.H. Holdich, 'How are we to get maps of Africa?', *GJ*, XVIII (1901), 590-601.

¹⁰ Mr. Lyttelton to The Governors, High Commissioners And Commissioners August 24 1905, Colonial Office Confidential Print, African No.777. Survey of British colonies and protectorates; Correspondence, pp 16-18.

¹¹ Report dated 26 May 1910 from Governor of Kenya to Colonial Office, Colonial Office Confidential Print, African No.954. Administration of the East Africa Protectorate.

¹² See e.g. Gerald McGrath, 'The Surveying and Mapping of British East Africa 1890 to 1946', *Cartographica* No.18, Toronto, 1976.

by many and succeeding congresses settled many relevant issues, such as altitudes to be expressed in metres, longitude referred to Greenwich and standard sheets to extend 4° in latitude and 6° in longitude. Several countries produced sheets at 1:1M scale and GSGS even commenced a hachured 1:1M map of Africa (GSGS 1539) on what subsequently became International Map (IMW) sheetlines. Congress delegates, however, had no power to commit their respective governments to participation.

Several distinguished British geographers, including Close, attended the 1908 Congress at Geneva. Interested delegates were invited to an informal dinner at which a five-man committee (including Penck and Close) was formed.¹³ At a subsequent meeting, on a lake steamer, this group drafted proposals which were to form the basis of all subsequent decisions. Returning to London, Close called on the Foreign Office and persuaded it that Britain should invite representatives of the leading nations to London to put the project on a formal basis. The meeting took place in November 1909. It entrusted GSGS, that is to say Close, with the drafting of all resolutions, so that the project was launched in harmony and light. Finally at the Paris conference in 1913 the British Government was empowered to set up a Central Bureau at O.S. headquarters, Southampton.

Over the next few years a number of countries produced pilot sheets but no extensive areas had been covered before war intervened. It was quickly apparent that small scale planning maps would be needed. On the strength of a telephone conversation between Hinks of RGS and Hedley of GSGS, the former society was launched into the compilation of what became quasi-IMW cover of Europe as well as parts of the Middle East and Africa. Sheets could only conform to the official specification so far as data and resources permitted. Close's attitude was ambiguous. While OS made a significant contribution, fair drawing as well as printing many sheets, he would not have this acknowledged for fear of prejudicing its peacetime role as Central Bureau.¹⁴ The later history of IMW is outside the scope of this paper but it is notable that the major contributors have been the American Geographical Society and various military agencies rather than national civil cartographic services, few of whom gave it much priority.¹⁵

When Close took up the Director General's post at Southampton his previous OS service amounted to only a couple of years or so. (Compare this with Henry James' 27 years, or even Charles Wilson's ten years). Nevertheless he felt that he had the measure of the Survey and knew what had to be done. In 1897 he had found it 'an exceedingly well organised department' for the production and revision of large scale plans, faithfully executing procedures introduced by Colby 70 years before. Little thought was given to training for overseas service or for war and when Close commented unfavourably on the state of the trig records his chief minuted 'In spite of our inferiority we seem to have done pretty well hitherto'.¹⁶

Clearly things had progressed by 1911. Not a few officers and men had served overseas while colour printing was now the norm for small scale maps. It was though characteristic that Close opened his first OS Annual Report with a 'General review of the operations of the Ordnance Survey and of the work which lies before it'. He identified four groups of duties:

- (1) The completion of the 1:2500 map of Ireland and the revision of each sheet of Great Britain once every 20 years. Plans at larger, 'town', scales should be prepared or revised when required.
- (2) The preparation of official small scale maps. No one-inch sheet should be more than 15 years out of date when issued to the public.

¹³ *Geographical By-Ways*, 112.

¹⁴ 'We might have occasion in the future to invite a chastened Germany to join again', Winterbotham to Hinks, 6 October 1914 (RGS archives).

¹⁵ E. Meynen (compiler), *International Bibliography of the 'Carte Internationale Du Monde Au Millionieme'*, (*International Map of the World on the Millionth Scale*), Bibliotheca Cartographica, Sonderheft 1, Bad Godesberg, 1962, reviews project up to that date, crediting GSGS and OS (and by implication Close) with the publication of the very first sheet in the series, SH 34, *Kenhardt*.

¹⁶ Close, 'Fifty Years...', *ESR*, I, 199.

(3) Training surveyors for service in colonies, protectorates and self-governing dominions.

4) Providing specialised mapping services for various Departments of State, for example to show the density of London traffic.

He described some tasks pending, drawing attention to the unsatisfactory state of contouring of areas above 1000 feet. He concluded: 'The Department which ignores its scientific duties tends to fall into routine and to adopt a habit of accepting methods which are supposed to be just good enough, but which, as a fact are never good enough in the long run.'¹⁷

Like a good regimental officer, Close had first to secure a square deal for his men. Pay and terms of service for civil assistants were reviewed, evidently to their satisfaction. Scientific work was revived and the second geodetic levelling launched. The Irish 1:2500 was completed while Close directed his thoughts to the amelioration of the difficulties caused by the plethora of meridians employed for the county series maps and plans of Great Britain, a task hindered by the loss of trig records. In the end only 5 out of 43 meridians were eliminated before financial stringency terminated the project.¹⁸ The demand for larger scale plans for valuation and land registration was met by photographic enlargement from 1:2500 to 1:1250 rather than by any revival of the old 'Town Scales'.

However all hopes of maintaining the large scale revision programme were destroyed by the First World War, through loss or diversion of manpower. Finally in 1918, in response to the Select Committee on expenditure, it was decided that the more thinly populated counties could only be revised once every 40 years.

For contemporary map users, as for present day collectors, Close's most significant impact was on small-scale map production. He was not a cartographic radical. As late as 1916 he advised against the inclusion of cartographic drawing in a training scheme devised by the RGS on the grounds that first quality work could only be obtained by engraving on copper¹⁹ and one of his steps on taking over at Southampton had been to ensure that the Irish half-inch would be so produced. (Nevertheless by 1919 he was ordering preparation for a new, hand-drawn one-inch map of Scotland). Looking at Close's influence on the small-scales it can be seen to progress from an initial experimental stage, largely using existing engraved base material but enhancing this by the imaginative use of colours. The best known example was the *Killarney* one-inch, even though, as Winterbotham unkindly pointed out, it owed its success as much to the finger of God as to the hand of man. From such experiments, for example from the Keswick extract in the second edition of Close's *Textbook*²⁰ we can get some idea of what might have been achieved but for a regrettable incident on the streets of Sarajevo. However in retrospect the 1914 prototype 'Popular' of *Aldershot (South)* was more significant. Despite its use of existing base material it seems more in keeping with Close's 'ideal topographical map' of 1904/5 and the clean austerity of his GSGS productions.

There was no point in producing maps which were not used so the next step was to promote sales. A confidential committee made a wide-ranging set of recommendations, including the more rigorous enforcement of copyright, a more effective network of agents and placing maps in attractively designed covers which would afford better protection in use. The war delayed action but once peace returned Close invited Ellis Martin to join the Survey with rather dramatic consequences for how its products were seen by the outside world.

It is impossible to do justice here to Close's and Ordnance Survey's contribution to the allied cause in the First World War. Its men were the backbone of the survey units in France, while back at Southampton millions of maps were printed for field use. Close was denied the opportunity to go on active service. Instead he was the back-up man, called over to France once or twice to give advice and encouragement to men like Jack and Winterbotham whose careers he

¹⁷ *Ordnance Survey Annual Report*, 1911/12.

¹⁸ See Brian Adams, '198 Years and 153 Meridians, 152 Defunct', *Sheetlines*, 25, (August 1989), 3-7 26 (December 1989), 15-20 and 27 (April 1990), 3-9.

¹⁹ Note dated 26 November 1916, (RGS archives).

²⁰ *Textbook of Topographical and Geographical Surveying*, by Colonel C.F.Close, revised by Captain E.W.Cox, London, HMSO, 1913, Plate XXIV.

had advanced, otherwise minding the shop with dwindling resources, faced with new problems such as the re-definition of parliamentary constituency boundaries and meeting the first wave of demands for post-war economy.

In 1918 peace could be welcomed but many of its consequences could not. The impending separation of the Irish Survey would mean a reduced establishment but further cuts were demanded by the Treasury. Close seems to have accepted the first wave of economies as part of the necessary sacrifice which all must bear to pay for the war. What he resented was the second round, the notorious 'Geddes Axe' of 1922, as he felt OS was one of the few departments to make genuine economies in the earlier phase and should have received credit for this.

Close's last years in office were clouded by increasing staff discontent. Nonetheless he did not give up. New small-scale maps appeared, such as the English 'Popular' one-inch, the layered quarter inch and an increasing number of Tourist and District sheets. An Archaeology Officer and a Research Officer were appointed. The former, O.G.S. Crawford, was to make a major contribution to the Survey's public image as a forward looking organization despite the hard times.

In retirement Close did not forget his obligation to the Survey and through speech and writing sought to foster a positive view. His final contribution was perhaps his far seeing evidence to the Davidson Committee in which he linked present and future demands for maps to demographic trends.²¹ He opposed any changes in map scales unless the metric system was to be made obligatory in which case 'very soon we should find ourselves obliged to re-contour Great Britain': prophetic words.

It remains to re-assess our man. Most witnesses present him as mild mannered, a father figure to his staff who would go to great pains to avoid a row. Correspondence suggests that nonetheless he could sometimes be insensitive or even tetchy. In 1911 his presidential address to Section E of the British Association was seen as almost treasonable by the RGS's inner circle for its criticism of the intellectual aspirations of geographers. Years later as the Society's President he could drive the Secretary to distraction by authorising the re-arrangement of the New Map Room furniture in Hink's absence.²² The impression received is of a man considerate of those around him but who, if he felt something should be done, went ahead, regardless of whether a few eggs might be broken. Consequently in a long and active life he marked up a remarkable range of achievements.

Standing back a couple of decades these achievements may seem to dim a little. His fine schemes for African mapping only bore limited fruit. The International Map project never really prospered as a collaborative venture. His scheme for consolidating the county series maps and plans petered out for lack of funds but could be said to be flawed because of deficiencies in the original data. Finally had Close not co-operated so conscientiously in the post-1918 economies might the blow of the Geddes Axe have been blunted?

If we look today for physical evidence of Close's career we can find all but one sheet of his engraved Irish half-inch map still in print and that massive blockhouse on the corner of Exhibition Road that houses the RGS lecture hall, where Close's name has joined those of other giants of the past. We can though take a more detached view of the man and his works. If we see him as the last of the giants it is because he was a man of his time and his time was one of change. In his memoir he contrasts his relationship as DGOS with his first Permanent Secretary, an administrator of the old school, who never interfered in the internal running of the Survey but whose experience could always be sought when needed, with his less happy relations with his successors. Many years later Winterbotham was to caricature this change, contrasting the Victorian DG 'X', corresponding with fellow members of the scientific elite, with his Twentieth Century successor 'Y', embroiled in the petty minutiae of office.²³ In this new world the simple

²¹ 'Memorandum prepared..... by Sir Charles Close', 24 January 1936, OSC 59, Minutes of Evidence, Davidson Committee, (OS Library, File G 5186); Sir Charles' verbal evidence is precised in Paper OSC 86 in same file.

²² Close to Hinks, 12 September 1928: 'There was a need for immediate action', (RGS archives).

²³ Brigadier H.S.L. Winterbotham, 'The Ordnance Survey', *Empire Survey Review*, VI (1942), 450-458.

direct approach, such as dropping in on Cecil Rhodes to secure the use of the British South Africa Company's telegraph network, no longer worked as it had.

Despite this Close offers us a legacy. High flown language can be translated into practical action by dedicated men. Concentration on immediate tasks should not be allowed to obscure a broader vision. But above all he must be remembered as a man who through speech and writing, and by imaginative moves, such as his invitations to Martin and Crawford, caused Ordnance Survey to be seen as more than a worthy, but dull, body beaver away behind the scenes. Rather it was to be recognised as a national institution which if it could sometimes generate irritation, as well as respect, from its public could equally stir a loyalty which, when threats were perceived, would generate letters to the press and questions in Parliament.

Acknowledgments

This sketch of Sir Charles Arden-Close's professional career was first presented at the British Cartographic Society's annual symposium at Southampton in September 1991. Its author is very grateful to Charles Lane and the members of the BCS Programme Committee for inviting him to take part in their OS Bicentenary session. He would also like to acknowledge the help he received from Mrs Christine Kelly, Archivist to the Royal Geographic Society, and Mrs Pat Poppy, OS Librarian, as well as advice and encouragement freely given, as always, by Mrs Yolande Hodson.

Sources and References

The fullest account of Close's professional life is to be found in his memoir, Col. Sir Charles Close, 'A Fifty-Years Retrospect', *Empire Survey Review*, Vol I, pp 146-150, 194-200, 242-248, and Vol II, pp 2-6, 66-73, 130-137, 194-200, 258-264, 322-328, 386-391, (1932-34).

His wide ranging interests earned him many obituary notices, probably the most useful of which is that by J. de Graaf Hunter in *Obituary Notices of Fellows of the Royal Society*, Volume 8, November 1953. A later memoir by T.W. Freeman, *Geographers Bibliographical Studies*, Volume 9 (1985) emphasises his geographical interests. Both de Graaf Hunter's and Freeman's bibliographies are very incomplete.

Close's years as Director General are discussed in W.A.Seymour (ed.), *A History of the Ordnance Survey*, Folkestone, 1980.

His performance as historian of that organisation was assessed by J.B.Harley in his introduction to the David and Charles reprint of *The Early Years of the Ordnance Survey*, Newton Abbot, 1969.

Close's wide ranging interests have lead to collections of his papers being deposited in a number of institutions. Those consulted for this paper included:

Royal Geographical Society: African diaries. (Apparently tidied up c. 1940). RGS correspondence. International Map of the World.

Ordnance Survey: Correspondence on map projections (mostly post-retirement). Submission to Davidson Committee.

Fringe of the fringe: some Ordnance Survey bicentenary covers

by Tim Nicholson

Most Ordnance Survey ephemera of the older sort is hard to find; but modern ephemera is more readily obtainable - one area of it especially, which sprang into being around September 17 last year. On that day, to celebrate two centuries of the Ordnance Survey, the Royal Mail issued the familiar set of stamps illustrating the surroundings of Hamstreet in Kent, as depicted on the One-inch and 1:50,000 maps at four different periods. In conjunction with the stamps, the Royal Mail, the stamp trade, and other interested parties poured forth a wide range of special covers.

The covers produced by the Royal Mail featured an Ellis Martin publicity drawing of the early 1930s behind some modern OS conventional signs, but made no mention of the bicentenary. They consisted of a first day cover to mark the stamp issue, and a souvenir cover of identical design. The Royal Mail offered a number of different special postmarks, pictorial and plain, seen on both its own covers and those of others. The postmarks were for Hamstreet, Southampton, the Tower of London, and the official British Philatelic Bureau in Edinburgh, but not, oddly enough, for Ruckinge, the village at the end of the Ordnance Survey's first Kentish baseline. It was left to individuals to ask the Ruckinge sub-post office for an ordinary postmark on the day of issue; and it was overwhelmed.

Other special postmarks on offer at Post Offices were for Westminster, marking the 150th anniversary of the Survey Act of 1841, and one for Greenwich. This curiosity consisted of a sketch of Mount Everest, with the words 'Sir George Everest' above and 'Surveyor' below, followed by 'Greenwich, London 17 Sept 1991'. It could be taken to commemorate the 150th anniversary of the completion of the Survey of India, of which Everest was latterly Superintendent, but this is guesswork: it did not say so. And why Greenwich?

A Royal Mail first day cover, with different, normal Scottish postmarks, was seen with the special slogan 'See the World with the Royal Scottish Geographical Society' and a globe. The slogan was sponsored by the Royal Mail, and marked a series of lectures held by the Society in Scottish cities. The OS took a Royal Mail first day cover with a pictorial Hamstreet postmark, and offered it with a stamped cachet to the effect that 'This First Day Cover was Carried by Mail Coach from the end of the OS Baseline Ruckinge, Kent, to the Post Office at Hamstreet on 17th September 1991'.

'Unofficial' covers were legion. The OS created a design of its own, showing surveyors in early 19th century military uniform and in today's informal civilian garb. This cover was a souvenir of the bicentenary from the OS to its serving staff, distributed to them alone. Perhaps the finest and most imaginative of all designs was issued by the organisers of the International Cartographic Association's 15th annual conference, the theme of which was 'Mapping the Nations', and which was held at Bournemouth between September 23 and October 1. The entire cover, back and front, was devoted to an extract from the 1801 OS map of Kent including Hamstreet and its surroundings. When the four map stamps were affixed, the 24p value stamp, with its smaller extract of the area from the same map on the same scale, was made to coincide exactly with the image on the cover. The special Bournemouth postmark, featuring a globe, was dated September 23 to coincide with the opening of the conference, so this was a commemorative rather than a first day cover.

A promotional cover was offered free to readers of the *Sunday* magazine section of the *News of the World*. Below a big gold OS logo were the words 'Ordnance Survey Bicentenary 1791-1991' - or, in the case of some copies, presumably those first off the press, 'Bicentenary'. Inside, instead of the usual stiffener with notes on the stamps and the history of the OS, was an advertising leaflet for Stanley Gibbons, the dealers.

First day covers produced by the stamp trade varied greatly in quality and in relevance. Some were commemorative covers for previous, more or less 'topographical' occasions, recycled for further use with the map stamps. Among the most interesting of the trade covers directly related to the bicentenary was one produced for the Hamstreet Historical Society and carrying a sepia

photograph of the village in bygone days. Another, done for the Royal Institution of Chartered Surveyors, bears a photograph of modern surveyors at work and a special London postmark with the RICS heraldic lion logo. A few were sold with the signature of Peter McMaster, OS Director General at the time. The only cover the writer has seen actually to show an OS map was offered by Cotswold Covers of Marshfield, and this takes the form of a graphic joke. It purports to be a folded 1:50,000 sheet 172, *Bristol and Bath*, stood on end to show on the front cover a map extract centred on Marshfield village.

Perhaps the least likely trade covers were a set of five produced nearly 5,000 miles away from Britain by an American firm, Fleetwood, of Cheyenne, Wyoming. All are headed '200 Years of Ordnance Survey', and carry the Edinburgh British Philatelic Bureau postmark. The designs are elaborate, and pleasing. One cover has all four map stamps, a reproduction of the OS christmas card for 1932, and the same Ellis Martin publicity drawing as the Royal Mail covers - with one difference. In the original 1930s drawing, which is of a hiker consulting a map, the hiker smokes a pipe, which was a contemporary symbol of manliness. On the Royal Mail cover the pipe has been expunged, presumably as anti-smoking censorship, obtusely disregarding the fact that it is integral to what is quite clearly a period illustration. On the American cover, hailing from the home of Political Correctitude, the hiker retains his pipe. Here is irony, as well as foolish arrogance.¹

The other four Fleetwood covers each carry one map stamp, with an illustration more or less appropriate to the period of the map extract: Jesse Ramsden and his Great Theodolite for the 24p Old Series, a selection of OS District and Tourist Map covers for the 28p Third Edition, a photograph of a surveyor taking observations from a triangulation station in 1952 for the 33p Seventh Series, and images computer-generated from digitised data for the 39p 1:50,000. Accompanying text, American in style and spelling, is on the back of each cover, and lets the side down here and there, most noticeably in referring to Maybush as a district of London.

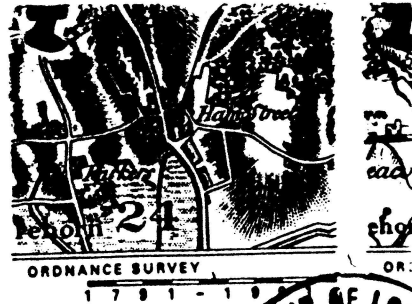
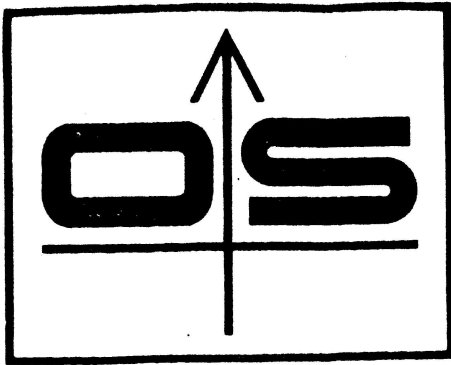
Bicentenary covers are not (yet) regarded as specially desirable by collectors, so are cheap - ranging in price between £1 and £10 - when compared with some commemorative covers, for which hundreds of pounds may be asked.² Covers apart, OS ephemera collectors skirting the fringes of philately should search ephemera dealers' stock for other Royal Mail products: the attractive stamp Presentation Pack; four picture postcards, each with an enlargement of a different map stamp; another picture postcard, issued at the same time, showing an extract from Cary's *New Map of England and Wales* (1819) with Hamstreet; and the Royal Mail press pack marking the map stamp issue, with its colour and black and white reproductions.

As a pendant to the above, OS News for April 1992 reports that the OS bicentenary stamp issue was voted the most popular overall, and the second most popular with overseas readers, according to a poll by the British Philatelic Bureau. A German found them useful when he got lost in Hamstreet, and a philatelist whose house is shown on the 33p and 39p stamps observes 'There can't be many other philatelists who can claim this honour.'

¹ [Perhaps the Americans felt that their tobacco industry needed a boost in the anti-smoking age. (Ed., *Sheetlines*.)]

² The writer found that the following dealers had the most to offer: Brian Reeve, 27 Maiden Lane, London WC2; London Road Stamps, 54a London Road, Leicester; The Cover Shop, The Bayle, Folkstone; A.G. Bradbury, 3 Link Road, Leicester (postal only).

(10)



ORDNANCE SURVEY BICENTENARY 1791~1991

NoW, NoW...

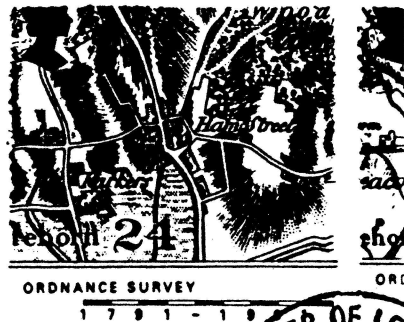
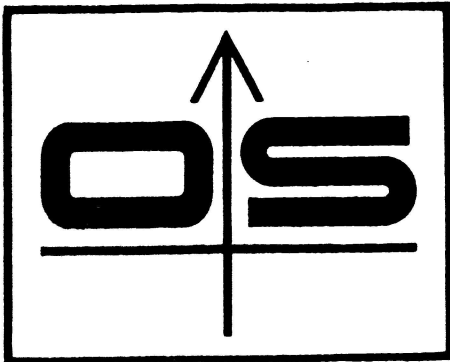
**NEWS OF THE
WORLD**

Sunday



STANLEY
GIBBONS

ROYAL
MAIL
STAMPS



ORDNANCE SURVEY BICENTENARY 1791~1991

That's better!

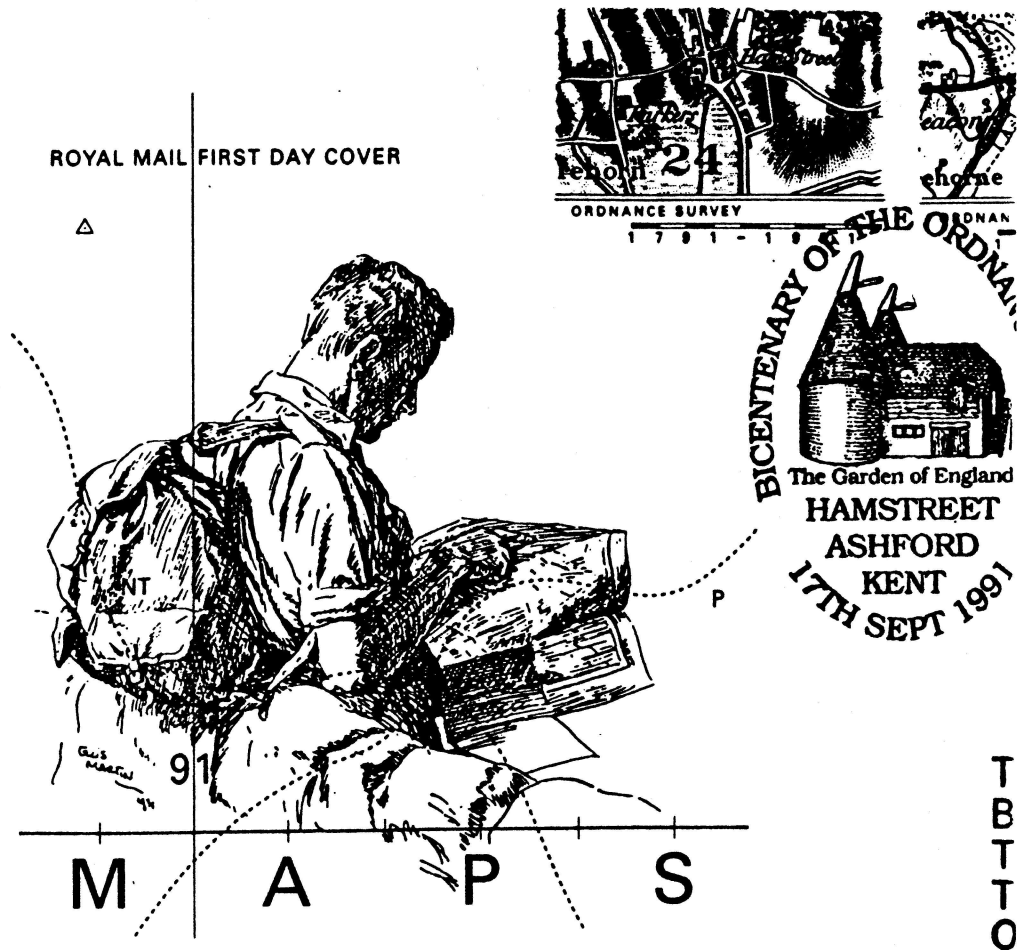
**NEWS OF THE
WORLD**

Sunday



STANLEY
GIBBONS

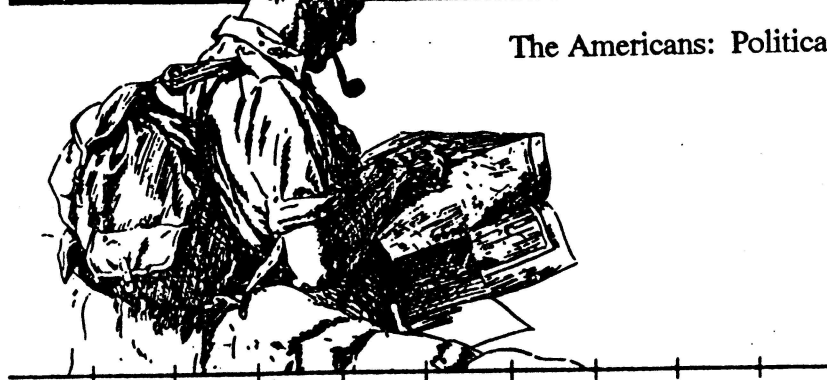
ROYAL
MAIL
STAMPS



The Royal Mail: Politically Correct, but Wrong



The Americans: Politically Wrong, but Right



200 YEARS OF ORDNANCE SURVEY

Ordnance Survey Christmas card from 1932
and sketch of hiker by Ellis Martin.

Keeping a record of your maps

by Gerry Jarvis

I have a reputation at home for never throwing anything away. Even worse, I actually go out of my way to collect books and maps. And with increasing age I have identified another problem, that of remembering what I have collected. This results in increasing duplication of books and maps.

Some years ago, I therefore started to index my books and maps, using a simple card index. This provided a separate record of my books and maps, but was not really a practical solution to having the information with me when I visited bookshops and fairs.

With the acquisition of an early IBM compatible personal computer, the problem disappeared with the purchase of an inexpensive data-base program, as I was able to transfer all my card index information into the computer data-base.

For those of you who are not familiar with computers, a data-base program stores information such as card indices, and enables you to search for any particular item of information or print lists of selected details.

For the computer literate, I use PC-File. This is a shareware program, which means it is available for under £5, including a limited version of the instruction manual on disk. The theory behind shareware is that if you find the program useful, you should register your copy, which entitles you to the latest version and a printed manual. Even at the registered price of around £50, PC File is good value, and ideal for my requirements. My latest version, v6.5, does indicate that this version is no longer shareware.

However the previous versions were excellent for my books and maps. And being shareware, the hardware requirements are minimal. The program easily runs in 640K memory, and can run on a twin floppy system, although any data-base runs more efficiently from a hard disk.

The information I can hold for each map is shown in figure 1. The layout of the information is not particularly important, since information can be viewed on the computer screen or printed in any order and position. The layout shown is intended for ease of keyboard input, although if I were starting again from scratch, I would organise it differently.

The layout started from my card index records, intended to cover maps generally, but gradually I have added information as my interests changed, and you will see that it is now heavily oriented towards Ordnance Survey. I use David Archer's coding system for covers and condition, although for the former I now include the Hellyer coding. The only disadvantage is that part of my John Paddy Browne is becoming increasingly dog-eared!

I have also included in figure 2 a typical listing that I use for shopping around for additional maps. It contains a limited number of columns, adequate for shopping, yet enabling the characters to be large enough for easy reading. I should mention that I have not yet reached the stage of large print library books! I can of course produce far more detailed lists for other purposes.

If any member is interested in a more detailed explanation of the codes I use in the data-base, or any other aspects of the program, I would be happy to correspond with them.¹

¹ Address: Rulow House, Buxton Old Road, Macclesfield, Cheshire, SK11 1AG.

Index: AREAKY ascending

MOD

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AreaKey [OS7 ] Type [OS ]
Mapmaker [ ]
Title [King's Lynn ]
DatePrinted [ 1969]
ORDNANCE SURVEY MAPS
Scale [One inch ] Series/Edition [One-Inch (Seventh)]
Number [ 124] PrintCode [B_* ]
FullRevisionDate [1963 ] IntermediateRevision [1969] Published [1969]
Cover [D/p ] David Archer code HellyerNo [132/1 ]
Colour/Outline [c ] PriceCode [44p ]
Format [p] d=dissected,c=cloth/linen,p=paper,f=flat
Condition [2/2] Map/Cover David Archer coding
NOTES
Notes1 [D Archer 5/92 £3 ]
Notes2 [D A Catalogue 20 Item 1044 ]
Notes3 [ ]
Notes4 [ ]
FileNo [ ] Size

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Please respond. (F10) when complete. (Alt)H for help.

Figure 1

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OSMAPS
7 June 1992 at 11:39 a.m. Page 1

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NUMBER	TITLE	DATE
=====	=====	=====
0		0
0	Ordnance Survey Fifth Edition	0
94	Oxford	1938
95	Luton	1935
95	Luton	1937
95	Luton	1935
96	Hertford & Saffron Walden	1938
106	N.W.London and Watford	1935
106	NW London & Watford	1935
111	Bristol & Bath	1937
111	Bristol & Bath	1937
112	Swindon & Devizes	1938
113	Reading and Newbury	1933
114	SW London & Windsor	1934
115	S E London & Dartford	1934
119	Exmoor	1940
122	Salisbury & Bulford	1937
124	Guildford	1934
124	Guildford	1934
125	Reigate & Tunbridge Wells	1935
127	Bideford & Bude	1933
129	Taunton and Minehead	1937
136	Bodmin	1934
136	Bodmin	1934
143	Truro & St Austell	1934
144	Plymouth	1931
145	Torquay	1932
0		0
0	Ordnance Survey Fifth Edition	0
105	Oxford & Henley on Thames	1943
112	Marlborough	1942
114	Windsor	1941
118	Barnstaple	1940
119	Exmoor	1941
122	Salisbury & Bulford	1940
127	Bideford & Bude	1941
144	Plymouth	1931
95	Luton	1942
111	Bath & Bristol	1942
137	Tavistock & Okehampton	1941

Figure 2

Major-General Reginald Llewellyn ('Bruno') Brown writes...

(to *The Times*, 4th August, 1973):

ORDNANCE MAPS AS A COMMUNITY SERVICE

Sir,

I have been urged, as the oldest surviving former Director General, to write to you about Mr Crossman's remarks on the Ordnance Survey in his Personal View (*The Times*, July 25) and, dare I say it, to correct and amplify them. I hesitate because I am now a bit out of touch. But I know too much and the public knows too little. So here goes.

First the correction, a minor slip. The Ordnance Survey was begotten in the XVIII century, that is, in the 1700's. After 40 or more years of gestation it formally saw the light of day in the Tower of London in 1791 - not 1866 as Mr Crossman writes. So it is one of our oldest national services.

And a national service it is, quite rightly 'doing for all', if I do not misquote, 'what no individual or group of individuals can do for themselves so effectively or at all'. In this it has striking parallels in and bears favourable comparison with other national services, many examples of which spring to mind.

Now for amplification. Mr Crossman mentions only the imminent demise of the 1/25,000 (2« inch-to-the-mile) map. He does so with commendable clarity and brevity. He omits much else that is under sentence, but perhaps he does so for the sake of clarity and impact. Other equally important matters are more technical and correspondingly more difficult to make clear.

The network of tertiary level heights is to be abandoned. No one will notice this for a while, but in a few years it will have fallen into decay and become useless. It is the only indication on the ground of precise height that is readily accessible throughout the length and breadth of the land to the general public. (Contours are not indicated on the ground and are not of the same precision.)

In flat country where there are no contours the tertiary levels give the *only* indication of ground height.

What do the multifarious users of this level network do in its absence as a national service? A repayment service is offered in lieu. Oh, I say! Well, they simply go without as, when there was no National Health Service, the poor simply went without a doctor until he was called in to give a death certificate.

Then the large-scale plans - this is highly technical and unsuited to a letter to you, Sir - are to be stored in computer memories. Think of old Mrs Jones wanting a plan of her small property and receiving a computer tape. Where does she put it? In her washing machine? There is much to be said for the proposal - I mean the proposal to use computer storage - but has the general public been considered?

I am aware that I have pulled mildly on the stops of emotion, rhetoric, analogy, sob-stuff and so forth, and that pure reason alone can lead us to a logical conclusion. But only to a right one if the premise is ample and without major omissions.

But what has been done? It seems that a government committee has sat; that its terms of reference are unknown, though one may guess that they were to make everything cost-effective regardless; that its witnesses were selected and not publicly invited. Its report is not published. The name of the chairman seems to be a secret, though one may suspect it was a woman, a Jane Somebody-or-another. I intentionally bark up the wrong tree.

Compare this with Lord Davidson's Committee on the Ordnance Survey (1935-39). Chalk and cheese. Give me cheese.

Cost-effectiveness is well enough if you know enough. But how shall the relative cost-effectiveness, the true value to the nation of having or not having a National Health Service be determined? That is a matter, in a democracy, of public debate, public understanding, and public will; not a matter of pouring selected 'facts' into a computer. One day it may be so, but not yet. It is much the same with the Ordnance Survey except that the National Health Service is large

and politically sensitive, while the Ordnance Survey is small and might not be missed until it is too late to restore it.

And another thing, Sir. You have not yet put my birthday into your columns.

(Major-General Brown was born on 23 July 1895 and died on 17 July 1983. He was Brigadier in charge of Royal Engineer Survey in the Middle East, Africa and Italy during World War II, Director of Military Survey 1946-9 and Director-General of the Ordnance Survey 1949-53. The One-inch Seventh Series in its early form is perhaps his most tangible memorial. He was interned in Germany during the whole of the first world war, and lost his right arm in a shooting accident in Ghana in the 1920s, whilst on surveying work; this disability (reminiscent of Colby) did not apparently hinder his career. He was a keen advocate of air survey, and even learned to fly! In his farewell address to the OS in 1953 he threatened that were the principle of Continuous Revision ever to be abandoned he would return from the grave to haunt the management.)¹

Puzzle Corner

On which One-inch Seventh Series sheet is there a village appearing under a different name from that shown on the cover? (Thanks to John J. Smith for providing this.)

The answer to the riddle in *Sheetlines* 34, p.11, 'There are five; some would say that there are only four; some would say that there are six' is the Half-inch Second Series. Five sheets of this are known to have been printed, 28, 36, 37, 39 and 43. Sheet 43 was published in 1962 as the *Greater London* special sheet, but a proof copy is known, bearing the number 'Sheet 43'. Sheet 37 was taken to proof stage, and two copies are now known to survive, (see *Sheetlines* 32, p.6). These were all at some time titled 'Second Series', but what is often regarded as the fifth published Second Series sheet, 51, was titled in the top margin, (which was trimmed from folded copies), 'Provisional Edition'. However, one can try counting another way by discounting Sheet 37 as unpublished, and treating Sheet 51 as *de facto* part of the Second Series!

Addendum to 'Puzzle Corner' in Sheetlines 33, p.11:

Brian Adams points out that though the small area of Scotland falling on One-inch England & Wales Popular Edition Sheet 6 was left blank, coverage of this area was provided by the standard one-inch overlaps of Scotland Popular Sheets 80, 81 and 85.

Obituary

Norman Gillard

We are sorry to have to record the death of Norman Gillard, who joined the Society not long after its formation. Although in poor health for much of the time, he made many friends amongst members, and will be greatly missed. He had a particular interest in geological maps. (Incidentally, we must apologise belatedly for misprinting his name on page 22 of *Sheetlines* 30. So far no-one has come forward to answer his query, which was as to what was the purpose of a cast-iron object, 5.75 inches in diameter, with 'OS' in 2-inch raised letters on its top surface, and weighing about 3 lb, which he found on a remote hillside in mid-Wales.)

¹ These details are taken from Owen and Pilbeam, *Ordnance Survey, Map-makers to Britain since 1791, Who's Who*, and the obituary in *The Times*, 21 July 1983. I am grateful to *The Times* for assistance, though the copyright of this letter belongs to Major-General Brown's executors. I am also grateful to Michael Holroyd for drawing my attention to this letter in the first place.

Month end

by Nick Hanbury

[One occasionally encounters references in Ordnance Survey literature to the making of 'crash maps', but the descriptions never seem to go beyond a mere mention. The following article, from a recent issue of OS News, does something to redress the balance.]

Date: Friday 30th August. Time: 11.00am

Again the telephone was ringing. I left the computer, dumped the paper copies on a nearby desk and picked up the receiver.

'John Insley here - Emergency Planning (Powys). Will you take a call from a Mr. Coghill at the scene of the Carno air crash? He is investigating the accident and needs assistance from a surveyor'. John's voice sounded urgent. I asked him to give Mr. Coghill my number.

A few minutes later the telephone rang again and a rather distant voice on the other end introduced himself as Charles Coghill from Farnborough. He said that he was the Senior Air Accidents Investigator and that he needed a surveyor to plot the plane wreckage on to OS large scale maps before removal by salvage teams. Was I interested in doing the job? Could I come up straight away? All being well he would meet me at the scene in a couple of hours.

I thought for a minute. Last night's local news had focused heavily on the mid-air collision of the previous afternoon when a Jaguar from R.A.F. Coltishall had collided with a Cessna 152 over the village of Carno west of Newtown. One crewman of the Jaguar and the civilian pilot of the Cessna had lost their lives in the accident. The remaining R.A.F. pilot lay injured in hospital at Aberystwyth. The whole issue of low-flying training exercises was again top of the agenda locally and the subject of much heated discussion.

I downloaded the computer and finished other routine work before loading the Red Mini kit back into my car together with any other items that I thought might come in useful. The kit had only been cleared from my boot the previous day in anticipation of annual leave the following week. I grabbed the chargers for radios and the Red Mini so that I would not be tied to the office over a weekend.

It had been arranged for me to pick up Master Survey Drawings and paper copies from our Newtown office en route to Carno. So, after an early lunch and saying something about being late to my wife, I was on my way. I decided to take a 12km square of 1:2500 and 1:10,000 of cover around Carno as the exact extent of the debris was unclear from my telephone calls earlier in the day. As I drove up to Carno, about one hour's drive, there was time to ponder that this accident was unusual in at least two respects: firstly that a civilian aircraft was involved and secondly that wreckage had dropped on the edge of a large village. The local M.P. would have a field day with the M.O.D. over this one.

There must have been at least six crashes involving R.A.F. jets in the past seven years in Mid Wales with all but one well clear of houses and roads. One, it is true, had missed a farmhouse by a small margin at the hamlet of Aberedw, but in general the planes, by luck or otherwise, had found open space.

In local people's minds Carno is the home of the Laura Ashley business. Anybody driving through towards Machynlleth and the coast is struck by the imposing dark green factory buildings that dominate much of the village on the right-hand side of the road. Although the clothing business now has international connections the roots of the enterprise are still in Mid Wales and especially in Carno. Local people have long relied on job opportunities being just up the road, with the result that the village has grown in recent years.

I slowed as I spotted the familiar red striped plastic tape sealing off an area behind the council estate on my left. A policeman, after briefly checking my business, waved me onwards through a gate to a field between the housing estate and a stream on the edge of a copse. I drove slowly along a newly made track over the grass for a hundred yards or so before parking on the end of a line of official-looking cars.

Suddenly the scene before my eyes was unfamiliar and sadly out of place on that hot summer

afternoon.

A mobile police centre was flanked by several R.A.F. bell tents and various other open-sided mess tents. Shirtsleeved R.A.F. personnel and policemen were much in evidence with many stretched out in the grass taking a breather or just mulling over a mug of tea. Now my attention was drawn to the right of the vehicles where dry grass and bits of paper whirled in the air as a large Puma helicopter came into land a short distance behind the police centre. The beating rotors died slowly, allowing a party of R.A.F. top brass to exit from the machine and walk to the nearby tents.

As I got out of my car, a rather strange figure dressed in a white boiler suit and short black wellington boots walked across from the police van, shook hands, and introduced himself as Charles Coghill. He said that he wanted me to attend a meeting right away so that details of the coming task could be discussed with representatives from the R.A.F. investigators and the police. Across the edge of our field, I could see R.A.F. personnel walking steadily over the ground, occasionally stooping to pick up something or make notes before moving on.

About eight of us squashed into a small R.A.F. caravan adjacent to the police centre and made ourselves as comfortable as was possible in the circumstances. Then Charles Coghill introduced me to Flight Lieutenant 'Tex' Dallas from the Aircraft Salvage & Transportation Flight, two R.A.F. experts on ejector seat mechanisms, an R.A.F. engineer, Fl-Lt. Maurice, and two police inspectors. We were one inspector too many - for comfort anyway!

I explained briefly what I could do in the way of surveying the wreckage on to 1:2500 maps. I needed to know the extent of the accident and what was known about the whereabouts of all the surveyable wreckage. Lastly, I needed a prism holder for the duration of the task.

The police told me that they had been able to reach the scene in about ten minutes and had made some brief notes on where most of the debris was to be found. A sheath of foolscap was handed to me on which long lists of references were accompanied by a description of each part and a field number. We spent a minute or two trying to tie up the police field numbering to OS parcel numbers. Policemen always seem to sketch everything square and parallel; it must be their training.

The R.A.F. wondered whether I would find a flight in the Puma useful to check-out the extent of the accident so I agreed to the idea. But first, it would fly the visiting 'brass' to see the surviving pilot who was recovering in Aberystwyth hospital and then return in about an hour. Although the accident had taken place some 24 hours earlier, the difficult job of locating all the Cessna pilot's remains continued throughout the afternoon. I waited nearly an hour for this work to finish before setting up my tripod in the adjacent field with 'Kev' Hodges who was to be my labourer. High velocities at impact had blown much of the Cessna's fuselage into small pieces which had been carried by a light wind over an area of 4-5 acres.

The plane table and Red Mini proved an almost ideal combination for this work. After taking two or more LROs for orientation, Kevin moved methodically around the markers and radioed back a reference number and description of each part. The plotting sometimes became complicated when several small parts were to be found within a short distance of one another. Also new instructions were received from Charles about certain bits which would no longer be required on the plot after all. Still, after one sweep of the area clockwise and some back-tracking, Kevin declared himself satisfied that nothing had been missed and we compared notes before moving to the next small field. I was struck by the fact that all the pieces were much smaller than I had expected and everything was soaked in fuel - rather like a coating of three-in-one oil to my eyes.

The Puma came back to the site as promised, but I declined the ride in the event. At this moment I needed to be on the ground, not swanning around overhead, at best making sketch maps.

Work went on into the early evening, mostly surveying by graphical methods where this permitted the crash detail to be added more quickly. Sometimes, the sparse markers were difficult to locate in corn stubble and at other times we found unrecorded items which were added to the plot anyway. By seven o'clock we called it a day and we agreed with Charles Coghill to meet in the car park at nine o'clock the next morning.

Saturday was another beautiful morning and after an uneventful journey up I was soon making myself at home in the mess tent making tea with the Salvage & Transportation Flight. 'Kev' introduced me to the drivers and 'riggers' who make up a small but highly mobile team. They explained that on average they might attend twenty or so crash sites a year where they were expected to clear up the mess and salvage the major wreckage with the help of heavy transporters and lifting gear. At other times they operate from their base at Abingdon dismantling and moving aircraft around the country by road which could include some historical aircraft for museums. The Lockerbie 747 was reconstructed by this same team, although the Press had not given the R.A.F. much credit for this unenviable task. Kevin was proving quite a character who delighted in regaling me with outrageous stories of his colleagues' exploits over the years.

I now moved southeastwards a few hundred metres to an area of small fields adjacent to a narrow lane lined with cottages and bungalows. The most prominent bit of wreckage was the complete main wing of the Jaguar aircraft. The Flight engineer explained to me that the four one inch diameter steel pins holding the wing to the fuselage had sheared on impact with the Cessna - leaving the pilots helpless in an uncontrollable projectile. Evidence of the impact could be seen in the port wing where pieces of the yellow Cessna's bodywork could be seen embedded into the armoured leading edge. Unfortunately, the point of collision on the smaller Cessna was the plane's engine compartment which caused the maximum stress to the Jaguar's wing at a speed of possibly 350 knots.

We set the plane table up several times, surveying mostly debris from the Jaguar but then finding the Cessna's engine in pieces and lodged deeply into the turf in two places. Wingtips, pylons, tanks and instruments: everything went on as the hours slipped by. In a field of longish grass we plotted a single white glove blown inside out and a piece of rank braid. It was only much later in the investigation I came to understand the importance of these details. We eventually got to the bungalows and started work plotting amongst the vegetable and flower gardens. Owners looked visibly shocked by the incident and related stories of near misses from falling debris. In one example the Cessna's wing had landed in the back of a garden narrowly missing a volatile tank of liquid gas. Still, by some miracle, the only visible damage to the bungalows was the odd broken tile.

We stopped for lunch and I made my way to the Aleppo Merchant Hotel on the main road. I had to lunch with three policemen who were enjoying the change in their work routine. One reckoned that he had already made over £200 in overtime! The barman was doing a good trade with onlookers and press adding numbers to the emergency services and single OS surveyor. I finished lunch and then arranged with the Laura Ashley offices to photocopy my existing plots as a security measure.

What remained of the Cessna's fuselage had now been dragged out from the copse and lay in the open by the tents. I walked over and studied a bizarre collection of personal belongings taken from the cockpit. A pair of large black plastic flipflops, various paperbacks and a fishing bag containing rolls of unused film. Strangely enough, my brother had worked for the owners of this aircraft, Skyviews & General, some years ago in Leeds. They operated about ten light aircraft around the country, mainly taking oblique photographs of private houses. He told me of how the pilots take pictures and fly the planes at one and the same time.

On Sunday morning, Kev Hodges navigated me to a new site some distance away where the two R.A.F. pilots had ejected before impact. We drove slowly up a winding lane and parked behind the now familiar estate car of Charles Coghill. He got out and explained that the ejector seat experts were going to need some additional information in order that they could determine exactly why one pilot had lost his life. They wanted bearings and vertical angles to the tops of two trees where the ejector seats had clipped the uppermost branches before striking the ground. I started by plotting the usual array of plane parts in adjacent fields before then setting the table on a point where the contour cut through some local map detail. I transferred this point from the 1:10,000 map to my 1:1250 plot. From here, I could determine the altitudes of the two tree tops. I repeated the exercise from a new position as a check and the results tallied. The surviving pilot landed safely after parting from his ejector seat in mid-air. A clear rectangular outline could be seen quite clearly through the leaves of the tree where his seat had crashed down into

the side of the lane. The other pilot - still in his seat - had clipped the top of a tall oak set in a hedge before crashing to the ground some sixty metres away. A one metre diameter crater marked this spot exactly. A further forty or so metres along this bearing the unfortunate pilot had been catapulted across a low hedge into an orchard beyond. All these points were fixed so that investigators could estimate the height, roll and speed of the Jaguar. Apparently, the pilots have an ejection 'envelope' which they must be within at the moment of firing. If the plane rolls over beyond certain limits, the pilot will in effect be shot downwards. Timed explosive charges allow the seats to leave the cockpit at different angles to prevent collision between the pilots. Presumably in this instance the roll had been excessive.

We noticed a number of ewes wandering about with nasty looking black holes on their backs. I learnt later from the farmer that bits of burning plane were responsible for these wounds and some twelve animals had to be shot on the afternoon of the accident.

Kevin now went off for Sunday lunch with his landlady in Newtown while I finished off bits of graphical survey. A bouquet of wilting flowers marked the dead pilot's last resting place and I taped the point dutifully to the nearby hedge. How sad that Wing Commander John Mardon should survive the Gulf War only to lose his life during a routine training exercise in Mid-Wales. I ate my sandwiches and sat down by the hedge. I felt that I had seen enough; I was tired and thirsty in the heat.

Kev shouted his return from across the lane and soon helped me stow away the gear. He explained that the farmhouse next to the orchard was an absolute 'cert' for cups of tea and we should at the very least be seen in the vicinity of the yard, just in case!

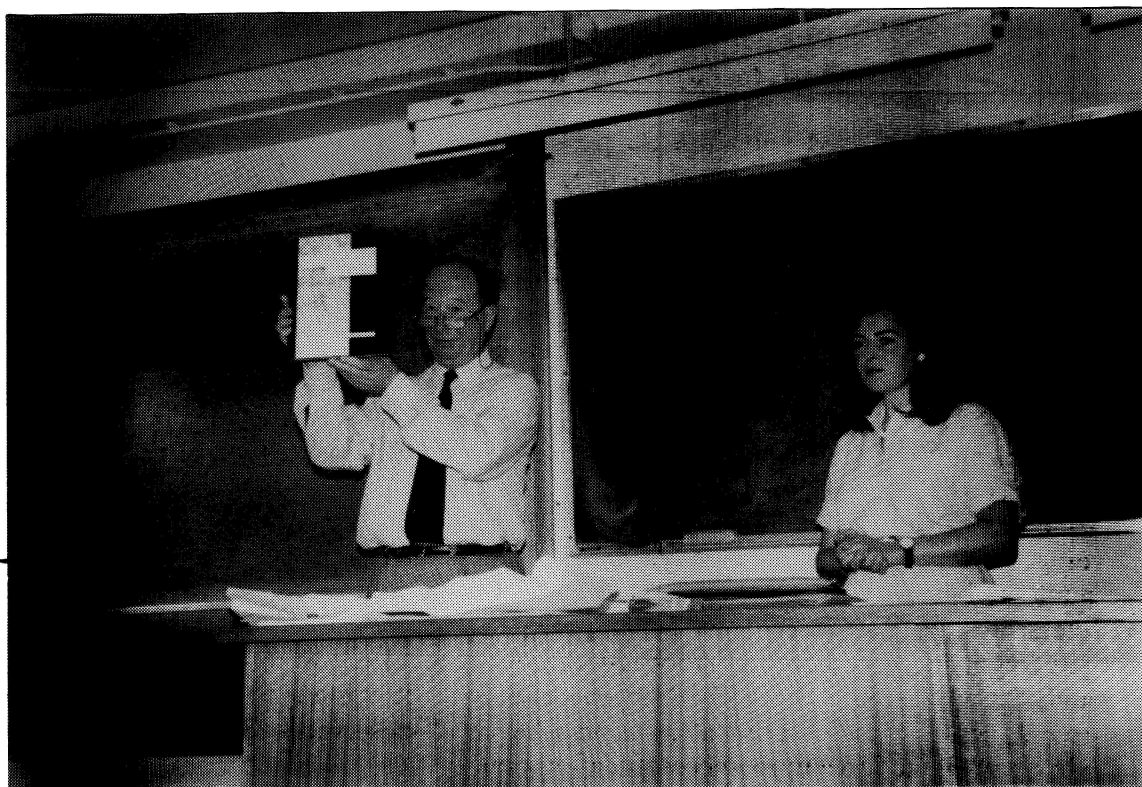
Well, I had grazed my finger, slightly. Mrs Morgan allowed me to wash my hands and then ushered us in past a kitchen full of neighbours and on through to a dark, low living-room somewhere in the interior. Murray Walker boomed out a commentary from the television set as we joined a disheartened black cat on the sofa. Soon a large pot of tea and an assortment of home-made cakes was set in front of us. Kevin grinned broadly and switched on his radio. 'Survey party to Salvage wallahs. Come in please! We're sitting in front of the television with a cup of tea scoffing Mrs Morgan's cakes.'

It was getting towards the end of the afternoon when we arrived at the final site at Trawsgoed-pellaf Farm. I parked a little distance below the house and stopped for a word with Charles about what needed to be done. This final survey of where the fuselage of the Jaguar exploded in flames was to prove the most difficult part of the job. The scene was one of utter devastation with much of the nearby garden plot vaporised by the intense heat of the fireball which accompanied the crash. Charcoaled remains of trees staggered at crazy angles in all directions along the two hundred metre line of impact. Above all, the whole area had a sickening reek of burnt aviation fuel. Lines of runner beans stood in ghastly ashen rows alongside grey cabbages which, from a distance away, somehow looked like rumpled polythene sheeting.

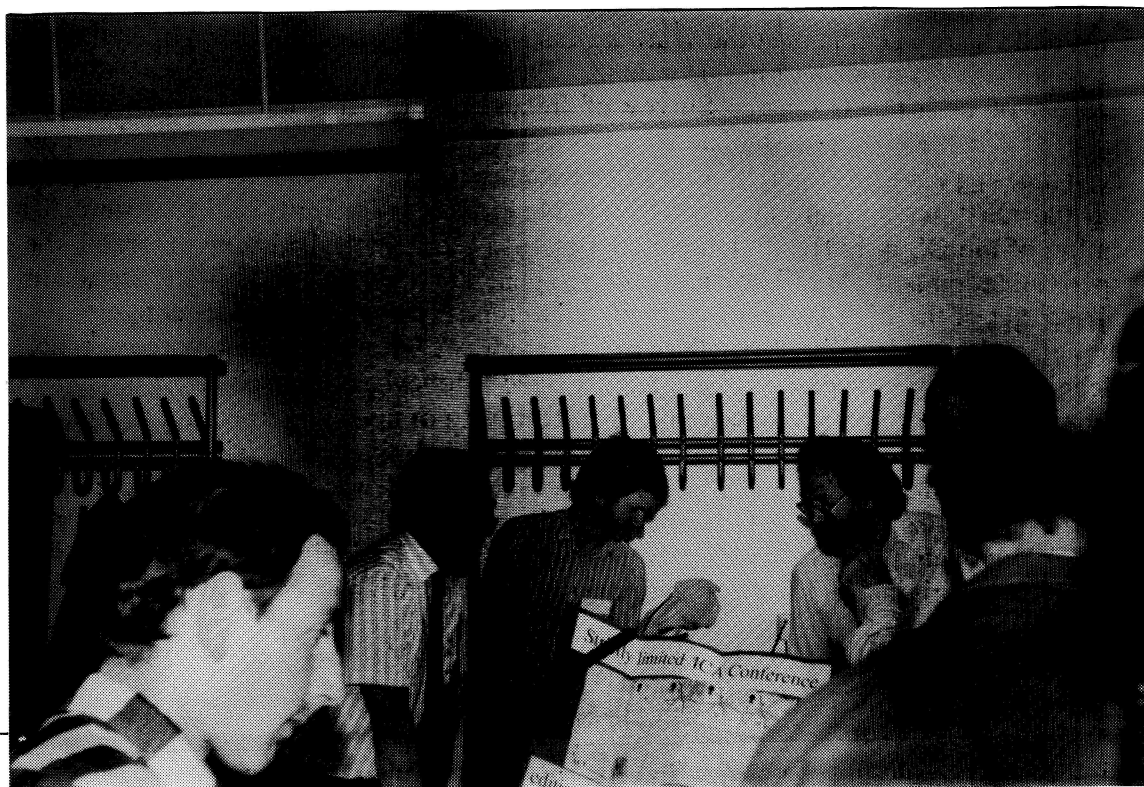
I set up the table for the last time and plotted the skewed line of impact and a bearing and vertical angle to another tree on the flight line. More levels were found and the remaining wreckage located and pencilled in. We made our way over to the house and inspected the damage. The owner, Mr Selwyn Rowlands, recounted how he was changing in his bedroom when he caught sight of the Jaguar heading straight for the house over the trees from the west. As he dived to the floor an oxygen cylinder crashed through his bedroom window and missed him by a few inches. The exploding fuselage then touched the side of the building before disintegrating totally in the next field. He knew he was lucky to be alive.

I said my goodbyes to the R.A.F. and Charles Coghill. We had become good friends in the past days and I knew I would miss them all. Some of them did contact me in the weeks ahead, but that is another story.

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Mr Peter Clark, the outgoing Chairman of the Society, with his presentation copy of Ordnance Survey, Map Makers to Britain, at the Annual General Meeting, 16 May 1992; the Society's new Chairman, Mrs Yolande Hodson, is on the right. (Negative R.100/5.)



Group at the Annual General Meeting, 16 May 1992: left to right, Nick Krebs, Chris Board, David Archer, Alan Godfrey, Tim Nicholson, back of someone's head. (Negative R. 100/7.)

Recent Meetings

Visit to Royal Engineers Museum, 2 May 1992

For a former unpaid part-time Sapper¹ an afternoon at the Royal Engineers' Museum, Chatham², was an exhilarating experience, the icing on the cake being a talk by our then chairman-to-be, Yolande Hodson. My afternoon began unusually enough when, on the way from Gillingham station, a stranger asked me the way to the museum and then explained 'I am the present Earl Kitchener'. The formal proceedings began with an introductory talk by the Director of the Museum, Colonel Gerald Napier, setting the scene for R.E. surveying within the wide context of the Corps' history and responsibilities. Yo Hodson, who is also Hon. Secretary of the Palestine Exploration Fund, then gave her illustrated talk on 'The survey of Western Palestine 1871-1878' sponsored by that fund and executed by the Royal Engineers, a comprehensive operation which is unfortunately less well-known than the Ordnance Survey's smaller survey of Jerusalem.

This part of the proceedings was concluded by Rev. Raymond Goodburn, who delivered a travelogue on the Biblical sites today. Some of these sites situated on commanding heights had been adopted by the 1870s survey as primary triangulation stations, and were illustrated by both speakers, but from different aspects. The party then visited the museum's special exhibition 'Royal Engineer surveys in the Holy Land', after which they were treated to a conducted tour through the whole museum by Col Napier. The final act was a sumptuous tea prepared by Mrs Sharren Jones of the museum staff, during which well-deserved tributes were paid to all those who had contributed to a most successful afternoon.

Brian Adams

'More suitable to the English tongue': the cartography of Celtic placenames

by Professor John Andrews, was the title of the final seminar, on 12 May, in the first series of Maps and History seminars at the Warburg Institute, London. It is to be hoped that a version of this paper will be published in due course. Professor Andrews is of course well known as the historian of both the Ordnance Survey of Ireland and of Irish mapping generally, though he observed that some of what he had to say was applicable to the mapping of Welsh and Scottish placenames as well. Although many of us associate the definitive recording of Irish placenames with the OS townland survey started in 1824, Professor Andrews said that though before the coming of the OS only five to ten per cent of Irish placenames had been recorded, the period of experimentation and consolidation, leading to general acceptance, was in the eighteenth century. A 1665 Act of the Irish Parliament attempted to render placenames 'more suitable to the English tongue', and more intelligible (to the English, anyway), but was ignored by the populace at large. 'Meaningful' names such as Bagenalstown (*vice* 'Moneybeg') were indeed devised, but where they used them cartographers were merely recording, not inventing or acting as agents of cultural imperialism, and even today, though Ireland is overwhelmingly English-speaking, 92 per cent of its placenames are of Celtic origin. An interesting point was that many of the enthusiasts for Celtic placenames were non-Celts; conversely, many Celts were among the doubters, such as John O'Donovan, the OS's orthography expert. The OS principle was an original one: not to use either the original or the most common spelling, but whichever current spelling came closest to the original.

In recent years Brian Friel's play *Translations* (1980) has brought OS recording of Irish placenames into prominence, and the play has been widely accepted as fiction with an accurate historical basis; Professor Andrews demonstrated that in fact the play was constructed on a completely false premise, which was epitomised by its title, for what the OS did *not* do was to 'translate' Irish placenames! Unfortunately, the play has led to a popular misconception that the

¹ R.E. Unit, Cambridge University Senior Training Corps/8th Cambs Home Guard.

² Those with good editions of maps, showing parish boundaries, will see that it is actually in Gillingham.

OS of Ireland was an act of capricious, militarised, intellectually wanting act of cultural imperialism. Professor Andrews concluded by observing that a small piece of scholarship had been invaded by political considerations, and that he had come from his pensioner's rocking chair to claim it back!³

Charles Close Society Annual General Meeting, 14 May 1992

About fifty members attended the Society's eleventh annual general meeting, held once again at Birkbeck College, London. The occasion was marked by the retirement of Peter Clark from the chairmanship of the Society, which he has held since 1980; he is succeeded by Yolande Hodson. Mrs Hodson presented Mr Clark with the first copy off the press of *Ordnance Survey: Map makers to Britain since 1791*, obtaining which had necessitated a special journey to Southampton the previous day. (Apart from the change of Chairman, and Peter Clark's retirement from it, the Committee remains unchanged.) The occasion was also marked by the election to Honorary Membership of Dr E. Christie Willatts. Dr Willatts has a long association with Ordnance Survey maps; in 1931 he joined the late Sir Dudley Stamp as Editor of the Land Utilisation Survey of Britain, and early in World War II moved to the Ministry of Town and Country Planning, later the Ministry of Housing and Local Government. As such he was intimately involved in the preparation of the 1:625,000 'Planning Series', and was also involved in such questions as the future of the 1:25,000 map. The Society is delighted to welcome Dr Willatts to its number.

The 'business' part of the meeting was preceded by a talk by Chris Board, the substance of which had been given in Bournemouth in September 1991,⁴

'Not to be shown...'

This was based mainly on exploration of two files in the Public Record Office,⁵ which deal, firstly, with the review of security in maps, charts and plans which led to the framing of new security rules in 1928, and secondly with their implementation. The review was brought about by the then OS Director-General, Brigadier E.M. Jack, pointing out in 1923 that the recent development of aerial photography meant that any potential enemy could by that means obtain 'secret' information which was not permitted to appear on official maps. The result of the review was that a number of features which had appeared on earlier maps were deleted on reprint; this was illustrated by slides of R.A.F. Cranwell as mapped on the 1922 and 1930 printings of One-inch England and Wales Popular Edition Sheet 55. On the earlier printing the airfield buildings are shown in considerable detail; on the later the airfield buildings have all been removed, as has part of the Military Railway serving them, which is no longer named. This was not the end of the matter, as a few years later E.C. Willatts visited the district whilst working on the Land Utilisation Survey; he found there to be far more buildings than were shown on the current maps, and asked the OS as to what he might show. The OS passed him on to the Air Ministry, where the matter caused considerable discussion. Willatts did not wish to commit 'academic perjury' by showing something which was not there: the eventual solution was to show the aerodrome as grassland. In the 1950s the security rules affecting the depiction of airfields was considerably relaxed, and a slide of One-inch Seventh Series Sheet 113, edition B/*, (1968) showed considerable detail at Cranwell.

Another sequence of slides showed changes at Chatham. One printing of One-inch England and Wales Popular Edition Sheet 116 showed the name 'Royal Dockyard' and a white space; a later printing removed the name. There were similar changes at Farnborough, resulting in the

³ Some rocking chair.

⁴ Christopher Board, 'Things maps won't show us: reflections on the impact of security issues on map design', *Mapping the Nations*, Proceedings, vol 1, London, ICA Ltd, 1991, pp.136-48.

⁵ AIR 2/1463, and OS 1/***.

disappearance, cartographically, of the Royal Aircraft Establishment in the mid-1920s. One of the most extraordinary security deletions was on One-inch Scotland Popular Edition Sheet 64. As originally printed it included the name at Leuchars 'R.A.F. Aerodrome'. This was held to be a breach of security, and so, apparently before any of the 5000 copies printed were released outside the O.S., someone was instructed to scrape away the offending 'R.A.F.'; this was duly done, and no copy of Sheet 64 as printed has been found. (Chris added that when he asked Peter McMaster, late DGOS, about this, Mr McMaster said that in the event of such a *faux-pas* today the whole print-run would be scrapped and reprinted!)

It was necessary to include certain information on the original drawings of some maps for use on 'secret' editions, such information being suppressed from the published 'sales editions'. The Royal Geographical Society has an unusual example of such 'secret' information on a printed, though not a published, map, in the form of a copy, at one-inch scale, of the two-inch drawing for the north-east quarter of One-inch Fifth Edition Sheet 114. This appears to have been prepared for a lecture at the R.G.S. in 1933.⁶ It includes R.A.F. Barracks and Depot, (both buildings and names), and the Royal Army Service Corps depot at Feltham, which should have been deleted from the published Fifth Edition map, but wasn't.

In the late 1940s the OS prepared, as a stopgap, two series of Air Photo Mosaics (APMs), at 1:1250 and 1:10,560 scales. Chris showed slides of different *published* versions of two 1:10,560 APMs. One included an anti-aircraft battery on Datchet Common, Berkshire: the earlier version showed several gun sites, which the later concealed by artificial cloud cover, indeed almost the only evidence of cloud on the whole APM! Another example showed how the Hawker aircraft factory at Iver, Bucks was removed from a reissue of the APM, this time by painting on artificial cultivation; close inspection showed the imposture for what it was. A slide was then shown of a Luftwaffe target photo of the factory: Chris asked 'Why bother?', and answered that it appeared to be an example of regulations acquiring a momentum of their own.

Chris concluded by showing a sequence of slides of one-inch and 1:50,000 mapping of West Middlesex from the 1920s onwards, showing in particular how the depiction of an industrial school, a borstal and a barracks changed, with earlier naming and highlighting gradually giving way either to anonymity and ordinary building infill, or to a name - and a blank space!

Visit to the Imperial War Museum

On 10 July 11 members visited the Imperial War Museum Library. The IWM was set up in 1917 as a memorial to World War I, although its scope was widened with the outbreak of World War II, and its terms of reference now cover all subsequent conflicts. (The National Army Museum has responsibility for the period before 1914.) Since 1930 it has been housed in the former Bethlehem Hospital. The IWM map collection is a miscellany, mostly acquired by donation, plus a few MoD disposals, and though there is little OS material *sensu strictu*, there is plenty in the collection to interest all but the most narrow-minded. The vast bulk relates to the two World Wars, with little between or since. Colin Bruce had got out for us a representative cross-section of IWM holdings, and gave an excellent introduction to them, from which the following points are extracted.

The IWM has a good collection of OS-produced World War I Western Front mapping; the 1:10,000 sheets are popular with people who wish to visit the battlefields, either to see where their relations fought, or merely from curiosity. The 1:20,000 is only used for those parts where the 1:10,000 cover is not very good; we were shown an example of the unusual, but stylish, layered version of the 1:20,000. The collection only has a few examples of corresponding French maps; it is more likely to have such things as GSGS 4040A, France 1:50,000, Sheet 12 SW, enlarged from the French 1:80,000 and printed by OS in 1938, (with the full co-operation of the French, let it be added), and GSGS 4250, also a 1:50,000 of France, sheet 7F/1, *Caen*, 2nd

⁶ [The R.G.S. copy is in the 'OS Specimen Drawer' in the Map Room, and was on display in the Bicentenary Exhibition last year; there is another copy in the PRO, in OS 1/48.]

edition, 1943, which was wholly redrawn. Whereas the hachured GSGS 4040A, by comparison with contemporary British OS maps, looks antique, GSGS 4250 looks startlingly modern,⁷ even half a century on, with its san-serif lettering and uncased roads.

Third-party mapping of this sort can either be defensive or offensive in intention. I.D.A.M. No. 13, (1:25,000, OS July 1918), is an air bombing target map of Constantinople, which apart from marking targets shows distinctively those parts of the city built mainly of wood. During the Second World War the Germans prepared several series of 'invasion maps' and also invasion handbooks, which included 1:10,000 maps of urban areas with industrial installations, hospitals, post offices (a characteristic Central European horn symbol) and other features highlighted in colour, and photographs (on perforated pages) of what were presumably considered strategic factories and bridges, though the selection of these struck this observer as distinctly eccentric; yet more eccentric was the touching up of many of the photographs, which can hardly have added to their value. Nonetheless, some of the photographs may be of value to local historians. The invasion handbooks were arranged by 1:250,000 sheetlines, these maps being a straight copy of the OS 1:253,440 Fourth Edition.

Owing nothing directly to the OS were the German 1:100,000 target maps, printed on a plastic material with a yellow ground, for easier use with red light after dark. The specimen shown was centred on Liverpool on one side and Manchester on the other, and though drawn in a very bold style was careful to show an internment camp outside Liverpool and a PoW camp near Oldham!

Escape from a British PoW camp was not easy; escape from one in Europe was thought a more practicable proposition, and maps on tissue paper were produced, capable of being folded into buttons and other tight places. We were shown 1:500,000 Sheet L32/6, which was a full colour direct reduction of the GSGS 3982, Europe (Air) 1:250,000 sheet.

By 1939 air photography was well developed, and thus the Germans were able to map the Maginot line; towards the end of World War II the Allies had complete air superiority in Italy, and were able to photograph what they liked. We were shown a 'going' map which showed off-road conditions for armoured vehicles, and included such information as 'Cultivation with Irrigated Channels'; even with the aid of air photos, such maps could only be prepared for actions planned well in advance. The Allied advances sometimes produced interesting cartographic results; the Liberation of Brussels in August 1944 included the stock of German invasion maps of Britain, (although the content of some of these maps dented the German reputation for thoroughness and super-efficiency,⁸ their jettisoning redressed the balance), and the backs of some of these were used by the allies for maps such as a 1:12,500 map prepared by the British for crossing the Rhine at Frankfurt.

The end of war was sometimes celebrated in maps: one example was a colourful map produced to show the area of operations by the 79th Armoured Division. Another was produced more recently in Russia to commemorate a battle in eastern Europe during the advance on Berlin; it was printed in plastic (curiously, in view of the shortage of this material in Russia), and is not at all beautiful to western eyes! The IMW specimen was presented by the Soviet Embassy. Wars can also leave problems: we were shown specimens of Falkland Islands mine clearance maps, (adapted from the 1:50,000 DOS series), which are issued to both the military and civilians. Unfortunately, the Argentinians left no records of where they placed mines, and clearing is a slow job.

This was a most enjoyable visit, and the Society's best thanks go to Colin Bruce.

'Viator'

⁷ On one side of the Irish Sea, anyway.

⁸ A further example of German efficiency being not quite all it is cracked up to be is the rendering of 'Ho.' as 'Hotel' in the glossary printed in the margin of the 1:100,000 maps of Great Britain.

Notes, news, queries, answers and editor's jottings

The way we live now

OS News for January 1992 reports that the cost recovery target for 1994-5 is 80 per cent, (70 per cent in 1991-2); the OS annual report for 1991-2 reports that OS revenue was only 2 per cent down on budget for 1991-2, despite the recession.¹ Professor David Rhind, the Director-General, is reported as saying: 'In 1991-92 we managed 68 per cent cost recovery against a target of 70 per cent. I think that's [pygmalion] good in the depths of a depression.'²

... but as for the customers...

The same organ, for April 1992,³ reports that recent market research shows that 85 per cent of OS customers considered the products of good quality, 60 per cent thought they were good value for money and up to date and 70 per cent said that the product satisfied their needs. However, when asked 'What is Ordnance Survey?', 51 per cent *did not know*, 21 per cent said it was a government department, 11 per cent said it was a map publisher, and 6 per cent a *private publisher*; 2 per cent thought they were *part of the AA*.⁴ Of 1200 people interviewed, 90 per cent owned or used a map, atlas or guide during 1991, and 45 per cent purchased one.

This rather surprising discovery that OS is not as well known as it might be is borne out by reports of variations on The Name, apparently used in good faith. One instance reported is 'Ordinary Surrey', on junk mail; others are 'Audinance Survey' (also on junk mail) and 'Dance Survey'.⁵ Compared with this, 'Royal Ordnance Survey' (used by an ex-R.A.M.C. former landlord of your editor's) is pedestrian; even appropriate, bearing in mind how many visits from the royals OS seems to have.

Most peculiar, as well as unappetising

The *Morning Star* of 23 May 1992⁶ contains the following curious item: 'We hear that... Ordnance Survey has appointed a new consultant to advise it on market-testing. His name? Patrick Bacon. Ordnance Survey's new Director General just happens to be Professor David Rhind. Asks Civil Service union IPMS: is this a carve-up?' Now, it might be thought that this is merely evidence that communisim has declined so far that it is now a bad travesty of a nineteenth-century *Punch*, but a curious rumour has reached us, of a certain privatisation intended for 1995. Talpaic information would be welcome.

A welcome concession

The Director-General of the Ordnance Survey, Professor David Rhind, has written to all heads of geography and similar departments in further and higher education, seeking to develop 'our relationship with Higher and Further Education'. One of the initiatives being taken is that 'for a five year trial period, no royalty will be charged on the use of OS mapping published in monochrome in texts written by staff in Higher and Further Education'.⁷ The assumption of Executive Agency status by OS in May 1990 was accompanied by a statement that the

¹ The main figures (with those for 1990-1 in brackets are): turnover £48.7M (£44.9M); costs £71.9M (£70.3M); trading deficit £23.2M (£25.4M); net assets £49.7M (£49.8M). Cost recovery rates are: core activities 60% (56%); small scales and special products 97% (84%); public sector repayment 103% (101%); overall cost recovery 68% (64%). 'All government targets concerning cash generation and expenditure were met or exceeded.' *Annual report 1991/92*, (Southampton, Ordnance Survey, 1992, pp.14-15).

² Interview with Jonathan Horrell, published in *Government Computing*, June 1992, and reprinted in *OS News*, August 1992, pp.15-16.

³ This goes to show that your editor has some variety of reading-matter.

⁴ The possibility for misunderstanding should OS get involved with a certain Aussie...!

⁵ *OS News*, April 1992, p.16; *ibid*, June 1992, p.5.

⁶ Quoted in *OS News*, July 1992, p.16.

⁷ Letter of 6 August 1992.

department would have 'more flexibility in [its] financial arrangements',⁸ but this appeared at first to mean merely that prices and royalty demands would be increased still further in real terms; any suggestion that copyright royalties should take account of ability to pay was rebutted with a stern reminder of Current Government Policy and Full Cost Recovery.⁹ The present concession is therefore most welcome; it reflects some of the thinking of Professor Rhind's paper delivered to the SMA meeting in May 1991.¹⁰

General Roy, on Hounslow Heath, in French, and in Scotland

Apropos the pages from *Description des moyens employés pour mesurer la base de Hounslow Heath* illustrated in *Sheetlines* 33, John J. Smith observes: 'It is always interesting... to discover the French equivalent of "household words". Some are quite amusing, such as the French for a light engine - "une machine haut le pied" - a high stepping engine!' Mr Smith also points out that at NJ 142406, near Elgin, (One-inch 7th Series Sheet 29, 1:50,000 Sheet 28) is 'Roy's Hill'. Close by is Paul's Hill. 'Who, I wonder, was Paul?' Your Editor doesn't know, but there is another Roy's Hill nearby at NJ 2735 (also 1:50,000 Sheet 28), and further afield in Kinross is Roy's Folly (NO 1201, 1:50,000 Sheet 58). (Is this a new light on the social side of the Military Survey of Scotland?)

What's in a name?

This set your editor wondering how many OS Superintendents and Directors-General enjoy names¹¹ which are also placenames. *The Ordnance Survey Gazetteer of Great Britain*¹² comes in most useful here; 1:50,000 sheet numbers in brackets follow the four-figure grid references:

Edward Williams (1791-8) - Williams Hill, SE 1287, (99).

William Mudge (1798-1820) - Mudge's Farm, Somerset, ST 3518, (193).

Thomas Colby (1820-47) - Three villages (Cumberland, NY6620 (91); Isle of Man, SC 2370 (95) and Norfolk, TG 2231 (133), Colby's Farm, Norfolk, TM 2385 (156), and as an element in several minor names.

Lewis A. Hall (1847-54) - A very common element, (and yet another rebuff for one of the less fortunate OS heads).

Henry James (1854-75) - James's Farm, Denbighshire, SJ 3043 (117); James's Thorn, Derbyshire, SK 0894 (110), James's Thorns, Glos., ST 5498 (162).¹³

John Cameron (1875-8) - four occurrences by itself and several others as an element.

Anthony C. Cooke (1878-83) - nothing.

R.H. Stotherd (1883-6) - nothing.

Charles Wilson (1886-94) - three placenames and an element in several minor names.

John Farquharson (1894-9) - nothing.

Duncan A. Johnston (1899-1905) - one village in Pembrokeshire, SM 9310 (157, 158) and two minor names.

R.C. Hellard (1905-8) - nothing.

S.C.N. Grant - small place in Perthshire, NO 1316 (58), and a common element elsewhere.

Charles Close/Arden-Close (1911-22) - No 'Arden Close' appears on the 1:50,000 map; 'Close' appears an element in many names, but never by itself. (There is a road 'Arden

⁸ See *Sheetlines* 28 (September 1990), p.15, quoting *OS News*, May 1990.

⁹ Your editor writes with some feeling, on the basis of a correspondence with Copyright Branch at OS in 1990-91.

¹⁰ See *Sheetlines* 31, September 1991, p.27.

¹¹ Military ranks have been omitted.

¹² Southampton, Ordnance Survey, and London and Basingstoke, The Macmillan Press Ltd, 1987.
[Current price is £75.00 for the book, £120 + VAT for the fiche version.]

¹³ The last two are evidently references to the opponents of the 1:2500.

'Close' in South Harrow - not named at 1:50,000!)¹⁴

Evan M. Jack (1922-30) - Numerous examples as parts of other names.

Harold S.L. Winterbotham (1930-35) - nothing, though there is a *Winterbottom* in Cheshire, SJ 7081 (109).

M.N. MacLeod (1935-43) - nothing with MacLeod, but in Skye (Sheet 23) are Macleod's Maidens, NG 2436,¹⁵ and Macleod's Table North and South, NG 2144, NG 2244.¹⁶

Geoffrey Cheetham (1943-9) - Cheetham, Lancs, on older maps now appears as 'Cheetham Hill', SD 8400 (109).

R.L. ('Bruno') Brown (1949-53) - 'Brown' is exceedingly common, but there are no Brunos. (There is of course Brno in Czechoslovakia, though that is rather stretching things.)

J.C.T. Willis (1953-7) - Willis Hill, Mon., ST 5092 (162, 172).

L.F. de Vic Carey (1957-61) - 'Carey' occurs three times as a village or hamlet, and as part of six other names; 'de Vic Carey' not at all!

A.H. Dowson (1961-5) - Dowson Garth, Yorks, North Riding, NZ 8103 (94).

R.C.A. Edge (1969-73) - Four villages or hamlets, and a very common element in other names.

B. St John Irwin (1969-77) - Unfortunately for the DG who oversaw the introduction of the 1:50,000, nothing!

Walter P. Smith (1977-85) - A common part of names.

Peter McMaster (1985-91) - Nothing in the *Gazetteer*, though one does wonder whether the appearance of a 'Mountainmaster' map a few years ago was merely coincidental!

David Rhind (1991-) - The new DGOS (a Northumbrian) does rather better than some of his predecessors: there are Rhind, Stirlingshire, NS8691 (58) and Rhind Hill, Fife, NO 2503 (59), and three more names in Scotland of which it is a part.

...and come to that, where did it come from?

When your Editor moved down to Exeter last year, he was suprised to see signposts to 'Pathfinder Village'. He assumed at first that this was an OS 200 gimmick, but as the signs were not in magenta that was obviously impossible. Pathfinder Village (SX 843933) is in fact a holiday village; the name was certainly in being by 1976, when 1:25,000 Second Series Sheet SX 89/99 (Pathfinder 1314) was published. The series names 'Landranger', 'Routemaster' and 'Pathfinder' were adopted in 1979-80, and whilst it might be supposed that they grew out of the 'Routeplanner', which had been going for some time, Pathfinder Village suggests an alternative explanation. Can anyone say which is correct?

Inter-war oddities

Golf Links on Salisbury Plain, (Sheetlines 33, p.60): Tim Nicholson writes: 'Golf Links may have been added to the 1927 edition of *War Department Land on Salisbury Plain* for the information of military pilots, rather than for the enjoyment of the Officers' Mess (which is the other possible explanation). In the days when military aircraft could use grassy fields, when proper aerodromes were thinly spread, and when machines might be frail and unreliable, emergency landing grounds had their uses. In Britain, golf courses seem to have been introduced to aviation maps with the British Isles Aeronautical Series (Provisional Edition) of 1921-2 (Sheetlines 23, page 7).'

The outline version of the North Staffordshire district map of 1930, (Sheetlines 33, p.60): Tim Nicholson points out that this was an ordinary OS publication, listed in the Oct-Dec 1930 publication report, and with copies in the Copyright Libraries. Your editor wonders whether publishing the sheet in both coloured and outline versions was an intentional experiment, to see if there was a demand for outline versions of tourist and district sheets. Evidently there was not.

¹⁴ I owe this information to Christopher Moss.

¹⁵ Draftswomen working on the 1:25,000 or the New Popular Edition, perhaps?

¹⁶ Spread out with an array of rational scales, possibly?

Although the One-inch Fifth Edition *St Albans* and *London* sheets were published in both coloured and outline versions, they are not really comparable with the earlier map, as it was intended that in due course they would become standard numbered 'large' Fifth Edition sheets 95 and 114 respectively,¹⁷ a scheme unfulfilled due to the development of the New Popular Edition.

'The largest map in the world'

Although the French may have described the OS as long ago as 1867 as 'a work without parallel', they are not going to concede the game entirely. It will be remembered that last year a set of the OS 1:50,000 was assembled in an aircraft hanger at R.A.F. Yeovilton and claimed to be 'the largest map in the world'. Vanity, vanity! In June 1990 the French equivalent to OS, the Institut Geographique Nationale, assembled a complete set of their 1:25,000 (the *Serie Bleu*), measuring 40 metres square, at the Gare de l'Est, Paris. However, OS claim still to have the biggest *folded* map.¹⁸

Parcel numbers and acreages on 1:2500 maps

In *Sheetlines* 33, on p.53, we reported that it was the 'firm intention' of Ordnance Survey to discontinue the calculation and publication of parcel numbers and areas on large scale maps. This was taken from a report in *OS News*¹⁹, which, it appears, did not tell the whole story. However, *Sheetlines* was not alone in forming a misleading impression, and the following draws on *OS News* for April 1992.

In October 1991 OS conducted market research amongst 800 users of large scale products (of whom 305 replied), asking for comments on almost all map detail, including roads, buildings, slopes, vegetation and railways, as well as areas information. The results suggested that, of all the information shown on large scale maps, areas information was the least important. About this time a few letters arrived at OS, referring to the department's intention to cease providing this information. At first individual replies were sent, but then large numbers of very similar letters started to arrive, and like epistles were sent to the DGOS, MPs, OS regional staff and any other victim the senders could find. It transpired that they were the result of circularising by Nicholas Woolley, President of the Rural Practice Division of the Royal Institute of Chartered Surveyors, and Anthony Harrison, Chairman of the Central Association of Agricultural Valuers, urging a protest against an OS decision which had not in fact been taken. Mr Harrison wrote to *The Times*, and lesser ones wrote to the OS; the latter rather spoiled their case by referring to area information on the 1:1250 (which has never borne it) and to holding large collections of old county series mapping. OS decided to counter this by a further survey in January 1992, aimed specifically at purchasers of 1:2500 mapping, and with questions about areas information not conspicuous. This was largely though not entirely successful, as one agent sent a stock of forms to their account customers, asking for completion, saying that OS were considering removing the areas information. The 145 forms completed suggested nonetheless that they represented customers buying a third of all chart paper 1:2500 maps sold! Some important customers were interviewed personally, and some of 'the more apparently influential correspondents', including Messrs Woolley and Harrison, were invited to a seminar at OS HQ, so that OS could explain its problems, and the correspondents could discuss their needs. Mr R.B. Hewett of OS observes: 'We have always had the gut feeling that sales of rural mapping, small as they are in any case, are sustained mainly on the benefit of areas information being depicted. Trying to get an accurate measure of that has been difficult. A small proportion of the total production costs of 1:2500 mapping is incurred in including the areas information on the mapping - yet I suspect that omission of this information would reduce sales by a huge proportion, perhaps by as much as 90 per cent.... Proving this feeling with hard scientific evidence has not been easy!'

¹⁷ See PRO OS 1/297.

¹⁸ *OS News*, January 1992, p.9.

¹⁹ March 1992, p.16.

Demise of OS 1:10,000 greatly exaggerated

That appears to wrap up that, but then an idea got abroad that OS were going to abandon the 1:10,000, as a result of which Mr Hewett had to write to *Farmers Weekly*,²⁰ denying the gloomy their grouse. *Inter alia*, Mr Hewett observed: 'Ordnance Survey has not made the suggestion that farmers would have to pay any huge sums for the mapping to continue to be made available. It is true that prices of 1:10,000 maps have been raised significantly over the past 12 months,²¹ but this simply reflects the very poor viability of the map series, the revenue from which barely covers half the costs incurred in its production, and the value of so much information.

'The increased revenue as a result of the price increase is being invested in improving the currency of the mapping generally. We have instituted a comprehensive programme during the coming year to ensure major new features (such as new highways and significant urban development) are shown on the 1:10,000 maps as soon after construction as possible.... The number of new maps being published will rise dramatically: in 1992-3 alone, almost 1000 of the total 6,500 sheets of urban and rural areas will be revised, a three-fold increase on previous years.' As a result of anticipated short-term demand, OS are prepared to print on demand any 1:10,000 sheet which may be out of stock; in order to claim a European Community oilseed rape subsidy²² farmers must give exact acreages, though quite how they get them from the 1:10,000 is a mystery to your Editor. Anyway, the OS agents in Redcar, Yorks North Riding, are reported²³ as saying that 1:10,000 sheets, at £30 each, are selling at the rate of 60 a day or 400 a week.²⁴

Parish Lists of the 1930s

Following the note in *Sheetlines* 34, p.48, Brian Adams suggests that revised parish lists were required due to the extensive alterations in parish boundaries, including many amalgamations, which had taken place since the last similar lists had appeared in an OS *Catalogue*.

The first Land Utilisation Survey

Following the notes in *Sheetlines* 33, pp.39-42, the Editor of the maps, Dr E. Christie Willatts, has written with some corrections. 'While the precarious finances of the LUS necessitated a pragmatic approach to publication policy, it was *never* planned to limit publication of the One-Inch maps to specimen sheets. The first to appear, in January 1933, but printed by the OS in 1932, were 114 and 142 (*not* 115). The OS not only printed, but published, the first sixteen sheets. Ellis Martin designed the cover for the folded maps, succinctly portraying rural and industrial Britain. The OS kindly gave us the printing blocks of the drawings which were thereafter used on the covers of *all* the other 154 published sheets. These included Sheet 92, Scotland.'

Circular landscape features

Michael Holroyd draws attention to the circular boundary of part of Glossop parish which, as it also forms part of the boundary of the Peak District National Park, appears conspicuously on one-inch and 1:50,000 maps. The Glossop boundary probably dates from a time in the early nineteenth century when newly created boundaries were sometimes devised so as to run at a certain radius from a central point; at Glossop it seems to be one mile from the cross-roads in the centre of the town. Although such boundaries can readily be described verbally, a disadvantage

²⁰ of 1 May 1992, quoted in *OS News*, June 1992.

²¹ [From £16:00 per sheet in November 1990 to £30:00 per sheet in November 1991; for comparison, 1:1250 maps and 1 x 1 km 1:2500 maps rose from £21:00 to £22:50 and 2 x 1 km 1:2500 maps from £29:65 to £32:00 over the same period. (Is this what the present DGOS means by [pygmalion] good?!) *Ed., Sheetlines.*]

²² Guaranteeing that, *independent of droughts*, England will be a yellow and not-quite-so-pleasant land.

²³ In *Darlington and Stockton Times* and *Ripon & Richmond Chronicle* of 9 May 1992, reported in *OS News*, July 1992, p.16.

²⁴ Presumably not simultaneously? Or is this a hint of *Sunday trading*?

is that they can only be defined on the ground by careful survey; the OS prefers boundaries which follow a definite feature, such as roads, streams or field boundaries. Examples of circular or geometrical boundaries are rare on small-scale OS maps, (there is one around Rochdale at the junction of One-inch Old Series sheets 88 NW and SW), but are more common on large-scale maps; a recently revived example is on the Alan Godfrey reprint of the Arbroath 1:2500 map.

The map of Hardy's Wessex

In *Sheetlines* 33 I mentioned a version of 1:50,000 Sheet 194, overprinted with fictitious names used by Thomas Hardy in his novels. Through the kindness of Bill Henwood I have been enabled to see a copy. The base map is 1:50,000 First Series Sheet 194, edition A/, (dated 1974, but in a late 1970s 4-colour reprint). The overprint is in purple, and includes the title, *The Heart of Hardy's Wessex*, neatly fitted into the northern border, the fictitious names in purple, in Times Roman and Gill Sans to match OS usage, broad purple stipple to cover names such as Dorchester for which Hardy invented a substitute, such as Casterbridge, and the route of Tess of the d'Urbervilles's walk from Flintcomb Ash to Emminster. There is a considerable density of overprinted names to the NE of Dorchester/Casterbridge, around Hardy's birthplace. Marginal names have been amended as necessary as well. The overprint was prepared and printed by Cook Hammond and Kell. The map is in a green and white Bender cover, and includes a folding index of real and fictitious names used on the map. The map is well worth seeking out, but I am sorry to report that enquiries²⁵ have confirmed that it is no longer in print.

The IMCoS/Tooley award

...for 1992 has been presented to David Woodward and the late Brian Harley for their work on the History of Cartography project. Though this is perhaps not the place to say it, we rather suspect that the late 'historian of the Ordnance Survey' would approve! Volume Two, Book I, *Cartography in the Traditional Islamic and South Asian Societies* was due on 19 June 1992; Volume Two, Book II, *Cartography in the Traditional Islamic and South-east Asian Societies* will be published in 1993.

Postal museum maps

The National Postal Museum have recently published 17 postcards, five of which feature extracts from maps by John Cary, (catalogue numbers NMP 91/9 to NMP 91/13 inclusive). They cost 20p each, and were originally prepared to coincide with an exhibition 'Maps and the Post Office'²⁶ which in turn coincided with the issue of the OS bicentenary stamps last September. Anyone interested in collecting the postcards should contact either The British Philatelic Bureau, 20 Brandon Street, Edinburgh, EH3 5TT, or The National Postal Museum, King Edward Building, King Edward Street, London, EC1 1AA, (tel 071-239-5420).²⁷

Informal C.C.S. meetings

With the enthusiastic blessing of the Committee, individual members such as Bill Batchelor, Tim Nicholson and Terry Wickett have either begun to hold, or plan to hold, informal meetings in their homes, where local members can chat, show maps, and generally exchange information in a congenial atmosphere. The aim is to involve those members who do not often come to 'official' CCS events, because the venue is inconvenient, or perhaps because the subject or speaker sounds too dauntingly specialised. Some meetings may be by invitation only, because of lack of space and the need to fill it with hitherto uninvolved members; others may be announced in *Sheetlines* and free for all, up to a maximum number. Societies flourish only if they draw the greatest possible number of their members into their activities. So, to all members who can host such a meeting, whether you are currently involved in CCS activities or not, why not give it a go?

²⁵ For which I am indebted to Tim Nicholson.

²⁶ Of which *Sheetlines* alas knew nothing until it was over!

²⁷ Information from *OS News*, July 1991, p.5.

Ordnance Survey digital developments

Acceleration of digitising of basic scales mapping and extension of Superplan

The full Superplan service (whereby a large scale map is plotted on demand, at any desired scale) was launched in November 1991 and has proved so successful that it is to be launched nationally late in 1992, with a network of fifteen national and twenty to thirty regional agents by October 1993. The digitising of 1:1250 and 1:2500 basic scales mapping is to be accelerated so that it will be complete by April 1995, and of the 1:10,000 by the end of that year.¹

Digital 1:50,000 'Landranger' information

Digital 1:50,000 *Landranger* information is about to be released, in phases. The official launch of the raster data project was on 30 June, and it appears that complete raster cover will be available in September 1992. It had been hoped to launch 1:50,000 vector data in October, but the launch is to be delayed whilst various enhancements to meet customer needs are incorporated; this will involve further development work, which is estimated to take ten months.² (We have no information on when the hard copy maps will be produced digitally.)

The raster cover has been prepared by Taywood Data Graphics (a wholly-owned subsidiary of the construction company Taylor Woodrow). The work has been undertaken expeditiously, as the contract was only let early this year. The input is from paper copies of the maps; paper being dimensionally unstable, this is compensated for 'by warping the raster image to four control points per map'.³ 'Raster data is created by scanning a map and converting the information to a series of dots or pixels which can then be displayed on a computer screen... The chosen resolution of 254 dpi (dots per inch) provides the optimum balance for a high quality product without excessive file sizes. The scanning is done in full colour... This produces a 24 bit colour file, providing the standard range of 16.7 million colours. Since the original map was only printed with four colours (cyan, magenta, yellow and black), there is considerable scope for reducing the range of colour values without degrading the displayed image... The colour quality achieved on screen is very high; many prospective users try and scratch the maps off the screen the first time they see it: they think the original has been cut out and pasted onto it!'⁴

Whatever its scale, digital information is supplied in 'tiles'. 1:625,000 data is supplied by 100 km National Grid squares, identified by the usual two letters, e.g. SX. 1:250,000 data is supplied by 50 x 50 km squares, designated by adding NW, NE, SW, or SE to the 100 km square. 1:10,000, 1:2500 and 1:1250 'tiles' are numbered as for the conventional paper maps, e.g. SX 99 SW, SX 9194, SX 9194SE respectively. 1:50,000 tiles are 20 x 20 km, and numbered by reference to the SW corner, so that those interested in SX99, e.g. would have to order SX88, which also includes and implies SX89, 98 and 99. OSCAR (Ordnance Survey Centre Alignment of Roads) tiles cover the same area as 1:10,000 tiles and are numbered likewise. Boundary-Line, the 1:10,000 dataset, is supplied in 25 x 25 km tiles, and a new numbering system has been adopted, whereby the figure-designations for 100 km squares (in which SX is 20, e.g.) are revived, and supplemented by two further numbers, the third number dividing the 100 km square into four bands from 1 in the west to 4 in the east, and the fourth from 1 in the south to 4 in the north. Thus the tile covering Exeter is 2044.⁵

Although the established alpha-numeric edition system continues to be used for conventional paper maps, a different system has been adopted for the full Superplan service: 'editions' (the

¹ *Annual Report 1991-2* (Southampton, Ordnance Survey, 1992), pp. 2, 9, 21.

² *OS Publication News*, January 1992.

³ *OS News*, August 1992, p.10.

⁴ *OS News*, July 1992, p.7

⁵ I am indebted to Tim Owen for supplying a copy of Ordnance Survey's 1992 digital map brochure, from which the details are taken. The curious will notice that the past or present residences of two OS historians appear in the brochure, though only one merits a supplementary oblique air photo.

word is still used) are now S1, S2, S3, etc; a new edition is produced 'after approximately 20 new houses or equivalent surveyed change on a map has been digitised'.⁶

Exit Routemaster, enter Travelmaster

The 1:250,000 *Routemaster* (Sixth) Series was introduced in 1978-9. In 1990 Ordnance Survey completed their 1:250,000 database and used it to produce the 1991 *Motoring Atlas*,⁷ and for the past year or so there have been active preparations for the issue of the data in ordinary sheet-map form. We understand that the new map is to be called the *Travelmaster Series*, and that it is to be innovatory in that the 1:625,000 *Great Britain Routeplanner* will be Sheet 1, and Sheets 2 to 9 will replace the existing *Routemaster*; thus the 'series' will be one of concept rather than of scale.⁸ The 1:250,000 sheets will continue to be 110 x 88 cm between the neat lines, covering 275 x 220 km on the ground at 1:250,000 scale. The sheetline proposals issued for consultative purposes last November show Sheets 7, 8 and 9 of the *Travelmaster* co-extensive with the *Routemaster*; *Travelmaster* Sheet 3 will cover all the islands from the Mull of Kintyre to the Shetlands and Sheets 2 and 4 will cover almost the whole of mainland Scotland, dividing at about 750 km north. Sheet 5 is to extend from St Bees Head to Skegness, and from about 350 to 570 km north, and Sheet 6 is to extend from Birmingham to Lowestoft and from about 140 to 360 km north; it will thereby hugely overlap Sheet 9, but presumably the idea is that it will cover the approaches to the Channel Tunnel. The style of the map will be similiar to that of the 1991 *Motoring Atlas*, but with contours at 200 ft intervals, digitally-generated hill-shading, and several minor design changes. The specimen prepared for consultative purposes suggests that roads will slightly more boldly drawn than they have been hitherto at this scale.⁹

The new Yorkshire Dales cover

The new One-inch *Yorkshire Dales* cover appears ordinary enough, but in fact 'it is of interest as the first OS cover to utilise a new facility of the scanning house Swift Graphics. The design work was produced by desk top publishing [in OS and] sent on a disk to Swift together with the transparency of the cover picture. The cover was scanned in the normal way, and then, using a link facility with their desk top publishing, merged with the cover design. The complete colour separations were output in reverse reading form ready to make the printing plates. The process gives a quality product with few registration problems and considerable savings on assembly and masking costs.'¹⁰

Maps retroconversion project

The British Library has signed a contract with Research Publications International who thereby gain exclusive rights to publication of the BL's map catalogues in machine-readable form. The inputting is being undertaken by Access Innovations of New Mexico and the result will be issued on CD-ROM in 1994. It will comprise the contents of the published catalogues for accessions to 1974, the three-volume published catalogue of manuscript maps (1844-61) and the already automated post-1974 Cartographic Materials file. It will be possible to search the CD-ROM for entries by period, theme, cartographer/publisher, country of publication, physical form, (globes, relief models, etc) and scale. The BL press release claims that it will be 'the first generally available catalogue of any of the world's major map libraries.'

⁶ OS *Publication News*, June 1992, p.11.

⁷ Reviewed in *Sheetlines* 29 (January 1991), pp 33-5.

⁸ Though the 'Touring Map and Guide' collection might be argued to be the same, the difference is that the *Travelmaster* will be a national core mapping series, rather than merely inessential commercial ephemera.

⁹ As the consultation exercise has been completed, it is requested that readers do *not* pester Ordnance Survey with their comments!!

¹⁰ Note by Geoff Johnson in *OS News*, May 1992, p.6. © Crown copyright.

Cartographic discoveries

The first printing of *Roman Britain* 1924

Roger Hellyer reports that he has now found a copy of the first printing of *Roman Britain* 1924. It lacks both a print code (predictably) but also the words 'Crown Copyright Reserved'. The Folkestone site is shown as a fort, an error which was corrected on the 1500/24 printing, which latter has hitherto been the earliest proven to exist. One of the great OS mysteries to perplex historians in recent years is thus solved, but it is still not clear whether this first issue went on public sale: the copy recently discovered belonged to A.L.F. Rivet, who may have been given it by O.G.S. Crawford.

New maps

Ordnance Survey

New publications between 1 March and 31 July 1992 included:

Conventional paper maps

1:18,103 (3.5 ins to 1 mile) street atlases: *Oxfordshire* (ISBN 0 319 003027); *Warwickshire* (ISBN 0 319 00239 X). (Both published in collaboration with George Philip).

1:25,000 *Pathfinder* (Second Series), revised sheets: 113 (NH 49/59), 418 (NS 86/96), 480 (NS 41/51), 600 (NZ 21/31), 673 (SE 44/54), 1181 (ST 26/36), 1210 (TQ 85/95), 1229 (TQ 64/74).

'Special Pathfinder Map First Publication', 1126 *Gower*.

1:50,000 *Landranger*, Second Series, revised sheets: 86, 87, 102, 103, 131, 141, 153, 155, 168, 170, 197, 198, 200 (all edition B).

1:63,360 Touring map & guide: *Yorkshire Dales*.

Since April 1988 a total of 58 of the 1:50,000 *Landranger* Second Series sheets have been published in fully revised editions: Sheets 64-6, 86-8, 93-4, 99-106, 108-110, 112, 115, 117-9, 127-9, 131, 139-42, 150-5, 162-6, 168-71, 175-7, 187-8, 195-6, 197-8, 200. Sheet 111 was republished in a revised edition in August 1983, apparently in conjunction with an experiment. It will be interesting to see which sheets will appear next; Sheets 107, 113, 120 and 167 surely cannot be long delayed, and indeed Sheet 113 was due to be revised in the winter of 1990-1.

Digital mapping

The Limited Superplan Service has been started for the districts covered by the Cwmbran, Johnstone, Gloucester Swindon, and Warminster OS local offices. The Superplan (Birmingham) service was withdrawn on 30 April; it has been replaced by Limited Superplan service for the city of Birmingham.

1:50,000 colour raster data is to be launched in September 1992.

The Godfrey Edition

Between 18 March and 12 August 1992 coverage was extended to the following towns: Arbroath, Bridgnorth, Broughty Ferry, Didsbury, Dunstable, Welshpool. The coverage of towns in Cumberland, Furness and Westmorland is now complete, and the coverage of the Black Country and of London is most impressive. The Edinburgh block is being extended to include Portobello. With the publication of Dorset 60.03 the highly recommendable Portland group is now complete, though as yet no Weymouth sheets have appeared.

Batley, Dewsbury, Lancaster, Ramsbottom and Stalybridge are announced as to be published shortly, and publication of the Buckinghamshire sheets will start this autumn.

The practice of including some one-inch reproductions as a supplement to 1:2500 reissues continues: Bedfordshire Sheet 11.12, *North Bedford* 1924, has New Series second edition (NS-2-O) Sheet 203 on the back, in the more familiar post-1896 style; Middlesex Sheet 7.14, *Palmers Green* 1912, has NS-2-O 256 on the back, in the less familiar early (1895-6) style, with 'sleepers' used for both single and multiple track railways, and no post office symbols. Hampshire 86.13, *Central Bournemouth* 1923, has a quarter-inch index to south-west Hampshire, the Isle of Wight and south-east Wiltshire on the back.

(Catalogue: SAE to 57-8 Spoor St, Dunston, Gateshead, NE11 9BD)

Trigonometrical miscellany

First build your pillar...

Readers of Tim Owen and Elaine Pilbeam's *Ordnance Survey, Map makers to Britain since 1791*, reviewed elsewhere in this issue, will find therein a description of the building of the trig. pillar on Cadair Idris in 1936. A contemporary account of the building of the pillar on Prescelly (SN 093312) has recently come to light.¹

Report on construction of triangulation pillar at Prescelly

B. White June 29th 1936

The above pillar was completed on June 29th 1936.

Tues. 23rd Arrived from Pendine at 11.45 a.m. After dinner I went and inspected trig. point, after an hour's work in removing stones, I found a peg in the centre of a heap of stones. I also interviewed a labourer, and interviewed a contractor re materials. I also inspected best tracks for haulage.

Weds. 24th. I could do nothing to day, materials did not arrive until late in the evening. We are going to attempt to get the materials and OS stores to the top tomorrow by lorry, a feat never done before.

Thurs. 25th. We started off at 9.15 a.m. with an old lorry for trig. point. After an exciting experience we arrived at trig. point at 3.15 p.m., we again descended the mountain, and brought up part of the materials, the OS stores were now at the trig. point. We again descended and brought up the remainder of materials to trig. point. We arrived back at the village at 10.15, tired but proud, seeing that this was the first time that a lorry had been on the top of Prescelly mountain.

I also started another labourer, seeing the water was a long way away.

Frid. 26th. We erected base, which was 3ft 6ins deep and 2ft 8ins square.

I erected bottom bolt and placed in iron box, covering with the usual 11" x 2" wooden frame. Filled up to level of mount and erected wooden box with OS point and placed four supporting irons.

Sat. 27th. I erected shutterings with flush bracket² also four sighting tubes and centre pipe also beacon pipe and filled to top, then erected spider³ and four brass loops.

Mon. 29th. Cut wire of flush bracket, removed four outer tubes, filled in sighting tubes and covered with cement, faced pillar, also around flush bracket and top of spider, removed centre pipe, burnt cement bags, also erected stones around base of pillar. Cleaned site and had OS stores removed to station by lorry.

Expenses

The Triangular Pillar at Prescelly June 29th 1936

Constructors Allowances 3 at 10/- 4 at 9/-	£	8	0
Constructors Pay 6 at 7/6 plus 1/8 insurance	2	3	4
Labourer 30 hours at 1/- plus 1/8 insurance	1	8	4
Labourer 30 hours at 1/- plus 1/8 insurance	1	8	4
Chippings			
Sand		11	3
Cement		5	0
Haulage of Materials from Newport/Pem to Rose Bush	1	4	6
Haulage of OS Stores from Rose Bush Station to trig. point	1	10	0
Haulage of Materials from Rose Bush to trig. point (two journeys)	1	5	0
Haulage of OS Stores from trig. point	4	0	0
	1	5	0
Total		18	6 9

¹ Reprinted from *OS News*, January 1992, p.8. © Crown copyright, 1992.

² [The metal object set in the side of the pillar, to provide a bench mark for levelling.]

³ [This is the metal 'platform' with 'legs' set into the top of the pillar, to provide a resting place for the instruments when the pillar is used for observations.]

Trig. pillars were introduced in 1935; before that trig. stations were marked by stones sunk below the level of the ground. (Such a stone, dated 1792, was exhibited in the exhibition at the Tower of London in 1991.) At first descriptions of these stations were published, as part of the published trigonometrical work:

Precelly Top. This is a high and very well known mountain, north from Haverfordwest fourteen miles. The mountain is conical, and has a barrow on top of it. On the south side of the flat head of the barrow is the station.⁴

Trig. pillars, true and false

A good deal has been made recently of many OS trig. pillars becoming redundant, but one hears rather less of trig. pillars erected by private individuals, and certainly very little of them *moving about*. In 1985 Dick Whall, a sculptor from Leamington Spa, painted a watercolour of the pillar at Gallows Hill⁵ or Heathcote Farm⁶ (SP 299637), just outside Warwick. It prompted the following in an exhibition catalogue:

An OS pillar was encountered while employed in neolithic fieldwork in 1978 and its geodetic significance was noted, especially in relation to the hermeneutics surrounding prehistory megaliths. Within the cultural sedimentary process, the triangulation pillar serves as an example of a contemporary deposit, a comparatively recent residuary.

(The pillar was built in 1948 by a Mr Dunne for £9:2:0.) A few years later Mr Whall decided to make a fibreglass and resin replica of the pillar, which, when not being exhibited elsewhere, stood outside the Mead Gallery at the University of Warwick. Some members of the Dark Peak Fell Runners Club, Derbyshire, who use OS trig. pillars as control points and landmarks on runs, borrowed the pillar and photographed it on several previously pillarless summits, and also several already thus provided.⁷

R.R.O.

Strange reversal affecting a trig. pillar

Michael Holroyd draws attention to a curious effect on 1:50,000 Second Series Sheet 175, edition B (1988). At SU 730923 the height of the trig. pillar has been reversed. Heights, like other writing, are produced by photo-typesetting on self-adhesive film, and stuck down onto a sheet of plastic. Can anyone explain how this peculiarity arose?

Trig. pillars as seen by early users

The views of commanding heights referred to in the report elsewhere in this issue of the visit to the Royal Engineers Museum provided striking evidence of those situations which were necessarily adopted as primary triangulation stations all over the world, right up to the advent of Global Position System. But it must never be forgotten that in that context they were not being visited by fell-walkers or climbers, but by observing parties taking with them delicate (and in earlier days very heavy) instruments and enough stores to both shelter and sustain them for sometimes quite lengthy periods of observation; already in exposed locations, the observations were often made to lights in the depth of night. Whilst Col Napier and Mrs Hodson described such operations in the 19th century, contributions to the *Empire Survey Review* in 1937⁸ show that things had not changed very much by well into the 20th. (See next two pages.)

Brian Adams

⁴ William Mudge and Isaac Dalby, *An Account of the Operations carried on for accomplishing a Trigonometrical Survey of England and Wales*, (London, Faden, 3 volumes, 1799, 1801, 1811), vol. III (with Thomas Colby), p.75.

⁵ Dramatic.

⁶ More fitted to the public service.

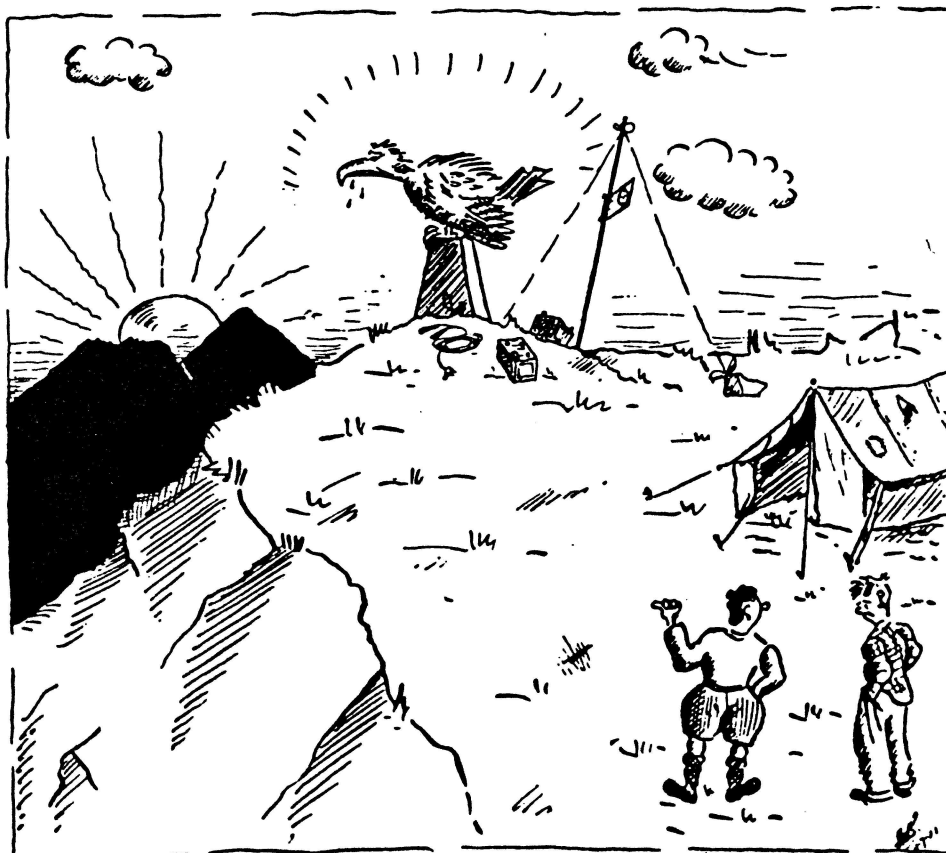
⁷ *OS News*, about March-April 1992.

⁸ *Empire Survey Review*, Vol 4, no. 26, October 1937, pp.247-8.

JOTTINGS

LIGHTKEEPING ON THE PRIMARY TRIANGULATION
OF SCOTLAND

As viewed by Sapper S. M. Bartlett, R.E.



"GO ON, ALBERT, IF YOU ASK HIM NICELY IT'LL BE ALL RIGHT."



"WE HAVEN'T EATEN FOR THREE DAYS, PAL—WE'VE GOT TO
TAKE A CHANCE."



"RECKON WE MISS'T' PATH SOMEWHERE, JOE."

Additions and corrections

To Richard Oliver's article 'British-produced 1:63,360 mapping in Ireland, 1922-1985', Sheetlines 13 (August 1985), pp.11-18:

(1) Since this article was published the following 'new' states of the One-inch maps have been reported:

One-inch Popular Edition:

Sheet 2: 1543.Ch: also printed in Outline.

Sheet 4: add 2045 Cr; details otherwise as preceding printings.

Sheet 7: add 3325; details otherwise as for 3044.Ch.

add 2800/4/59 (colour) and 500/4/59 (outline): details otherwise as for 8000/53 and 400/53.

Sheet 10: add 3391.

Mourne Mountains: folded copies of the 1935 printings had town plans inside the cover.

One-inch Third Series:

Sheet 3: add reprint 1965, with M.V. 1950.

Sheet 7: add reprint 1970, with M.V. 1965.

Sheet 9: add reprint 1966, with M.V. 1950.

(2) The following are the print-codes for the Land Utilisation Survey of Northern Ireland version of the One-inch Popular Edition: 1, 1025/48; 2, 1025/48; 3, 1025/48; 4, 1025/47; 5, 1025/51; 6, 1025/49; 7, 1025/47; 8, 1025/50; 9, 1025/49; 10, 1025/48; 11, 1025/51.

(3) The following summarises the printings of the 1:50,000 of Northern Ireland; where two dates are quoted, there have been two dated printings: 4, 1980; 5, 1979; 7, 1982; 8, 1980; 9, 1978, 1989; 12, 1985; 13, 1984; 14, 1981, 1989; 15, 1980, 1988; 17, 1981; 18, 1984; 19, 1980; 10, 1983, 1989; 21, 1982, 1989; 26, 1984; 27, 1982; 28, 1982; 29, 1983. (A sheet line diagram is given in *Sheetlines* 30, p.9.)

To Richard Oliver's article 'The Ordnance Survey 1:2500 National Grid plans', Sheetlines 29 (January 1991), pp.17-21:

Through an oversight, the resurvey/overhaul dates for two counties were omitted from the list. They are: Ayrshire, 1958-74/76-82, and Berwickshire, 1967-7/68-72/73-82.

To Richard Oliver's article, 'The Battle of the Scales...', Sheetlines 31 (September 1991), pp.59-64:

Removal of various 'bugs' from the Tithe Survey Index database at Exeter necessitates some revision of the statistics for tithe districts and for first and second class maps. The number of 'true' tithable districts is 11,785, of which 1458 (4,000,111 acres) were covered by first class maps and 10,327 (23,165,596 acres) by second class maps; another 3044 'tithe districts' had all their tithe commuted before 1836, and thus did not come within the scope of the Tithe Commutation Act. First class maps thus covered 12.37 per cent (just under one eighth) of tithe districts by number, but 14.72 per cent (rather over one-seventh) of the tithable extent of England and Wales; assuming the acreage of England and Wales to be 36,183,187 acres,¹ about 75.08 per cent is covered by tithe surveys, and about 9.05 per cent by first-class tithe maps.² The Ordnance Survey official figures for the area of England and Wales, excluding water, were 37,139,153 acres in 1914, and 37,132,688 in 1936;³ the difference from the 36,183,187 obtained by summing the totals obtained in the course of the six-inch/1:2500 survey of 1841-88 is probably due to the 1914 and 1936 figures including foreshore, which the 1841-88 figure being used by the Tithe Survey Index project does not.⁴

To Guy Messenger's lists of 'pre-war' Bender-fold sheets, in Sheetlines 32, p.57:

One-inch Popular Edition of England and Wales: 22, 3039; 28, 3039; 30, 3038; 47, 2538; 80, 20/38.

¹ This figure has been obtained from the indexes to the first edition six-inch maps. It counts land, water and saltmarsh, but excludes foreshore and tidal water, which two last would add about 1,000,000 acres to the total.

² These figures have not been published before, and, pending publication of the results in volume form by Cambridge University Press, any published citation of them should make acknowledgement to the University of Exeter Tithe Survey Index project. As the acreages obtained by summing the tithe surveys and those obtained by summing those given on the OS county indexes are probably at variance with each, not too much should be read into the decimals!

³ Document 55A in Public Record Office OS 1/330.

⁴ The acreage covered by tithe *maps* (in PRO IR 30) is somewhat greater than that which has been quoted above, which is based on the acreages given in the tithe *apportionments* (PRO IR 29). The maps frequently included small extents of tithe free land, and sometimes some foreshore or other unproductive land. It should also be noted that some mapping to 'first class' standards was prepared from about 1836 onwards for parochial assessment purposes, and from 1845 onwards in connexion with enclosure under the 1845 General Enclosure Act. Copies of the latter maps are in PRO MAF 1, and in local record offices; copies of some of the parochial assessment maps *may* be in local record offices, and a few doubled as tithe maps. A project to investigate the coverage of England and Wales by enclosure, parochial assessment and other pre-OS 'public mapping', apart from the tithe surveys, is due to begin at the University of Exeter in January 1993, under the direction of Professor Roger J.P. Kain.

To Tim Nicholson's article 'One-inch military "Specials" 1923-1940', in *Sheetlines* 33, pp 21-34:

p.26: Add: *Yorkshire Manoeuvre Area*: Sheet 22, 24800/39; Sheet 27, 24800/39

p.30, *Aldershot Command*: Add 600/35: other details as for 1935 map.

Add publication date 1940, other details as for 1939 map, with additional printing WO 75000/40/R.

p.30, 1939 *Blandford*: add to reprint history: 5000/37

pp.30-1: add 1931 *Catterick*: W.O. 12.25, reprint 1000/28, 1000/29, 3000/30, 3000/31. Land 'to be acquired' is shown in red; this corresponds with the military land boundary shown on a 1940 printing - so presumably it was duly acquired!

p.33: add 1934 *Salisbury Plain*, MV 1/31; overprint: WD land boundary, out of bounds areas, cultivated land, rifle ranges, RAF bombing and danger areas, aerodromes in red; Imprint: OS 1920; Minor corrections 1926; GSGS 3907: WO 1931; Reprints: 1500/25, 5000/25, 5000/27, 1650/29, 5200/29, 8500/31, 17000/33, 5500/33, 11000/34; WD information revised to April 1934 (in red); Sheet 122, parts of Sheets 111, 112, 121; sheet lines as for standard *Salisbury Plain District Map*.

Other known pre-1940 specials include:

'Map Reading October 1936', CR 4391, 38,500/36, MV Jan. 1929, covering an area north-west of Dover

'East Kent', part of Sheet 117, OS 1930, WO 750/30 2750/30 5000/33 200/34 which covers an area around Folkestone, in Major A.A. Wilson, *The Map Reading Instructor*, London, Sifton Praed and Co., 2nd edition 1934.

The development of the British System Grid is discussed in the War Office *Manual of Map Reading and Field Sketching*, (London, HMSO, 1921).

To Richard Oliver's Guide to the One-inch Seventh Series:

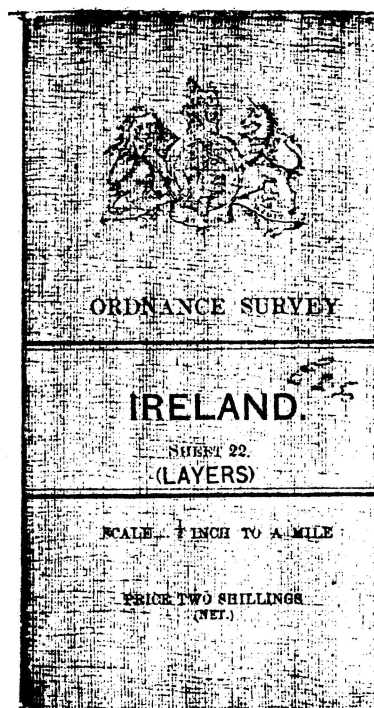
p.46, *Lorn and Lochaber Tourist Map*: the colour/price codes in column 8 should be corrected as follows: edition A, 10tf; edition A/, 10tg.

p.47, *New Forest Tourist Map*, edition A: there are two versions of this: the earlier shows the New Forest boundary by a broken line, the later shows it by a solid line.

(Thanks are due to Brian Adams, David Archer, Tim Bleasdale, John Cruickshank, Roger Hellyer, A.A. Lee, Guy Messenger, Tim Nicholson and Rob Wheeler for drawing attention to these.)

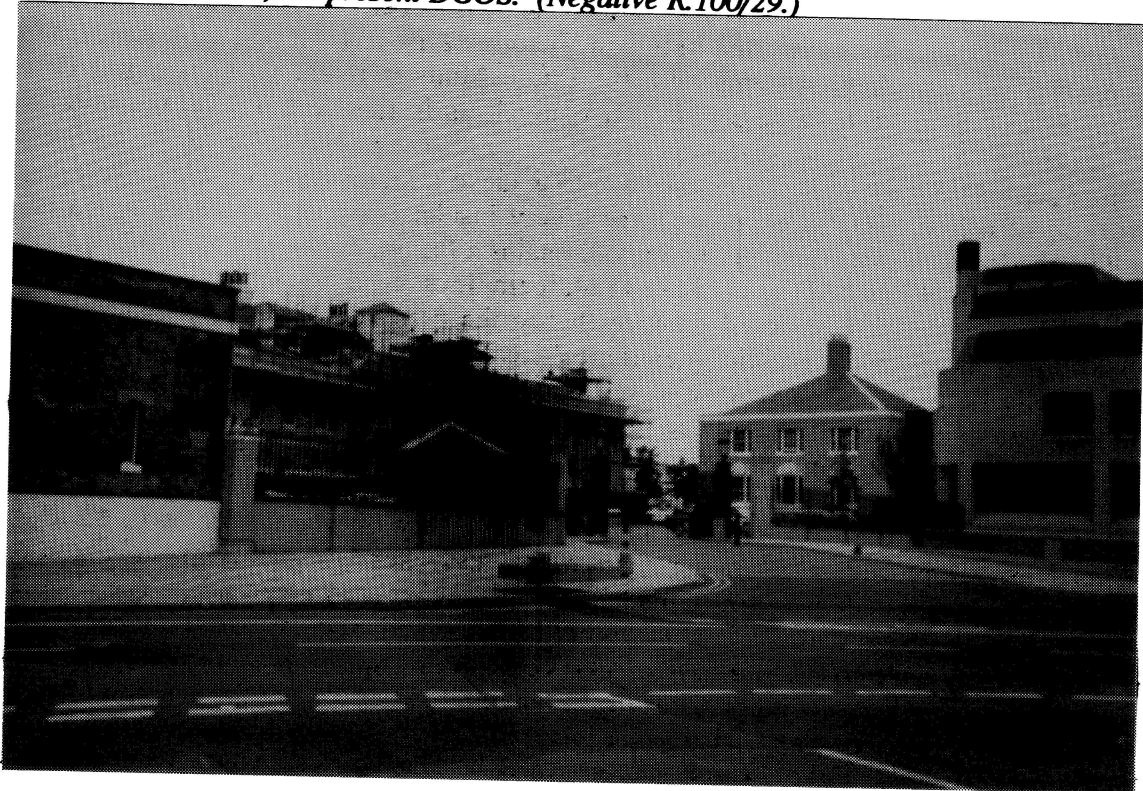
Irish map covers of around 1918

In *Sheetlines* 16, p.15, mention was made of the use by OS of old maps as stiffeners for covers. This practice seems to have been given up around 1912-13, coinciding with the introduction of the 'narrow' royal arms, and the omission of letterpress from the inside back covers. From 1905 onwards almost all Irish OS colour-printed maps were printed, and presumably cased, at Southampton, but around 1918 production in Dublin seems to have been resumed. The result was a distinctive cover design, featuring a version of the royal arms which is not known to have been used on any map of Great Britain, printed on the back of superseded map stocks, and stuck down directly onto the back of the map. One version of these covers had a 'cloth texture' in brown added as a ground. Your editor recently acquired Ireland Half-inch layered Sheets 21 and 22 with these covers. From about 1919 onwards standard Ellis Martin covers were introduced to small-scale Irish maps, but it is not known whether production of covers was switched back to Southampton, or continued in Dublin.





At the launch of Ordnance Survey, Map Makers to Britain since 1791, at the Director-General's House, Southampton, on 23 June 1992: left to right are Major-General Brian Irwin, (Director-General 1969-77), Peter Mc Master (DG 1985-91) Elaine Owen (nee Pilbeam) and Tim Owen, the authors, Mrs Eve Dowson, (great-grand-daughter of Col Robert Kearsley Dawson, and widow of Major-General A.H. Dowson, DG 1961-5), Walter P. Smith (DG 1977-85) and Professor David Rhind, the present DGOS. (Negative R.100/29.)



Where quite a lot of it happened: the former Ordnance Survey Offices at London Road, Southampton, on 23 June 1992 - or what remains of them! (Negative R.100/23.)

REVIEWS

Tim Owen and Elaine Pilbeam, *Ordnance Survey, Map Makers to Britain since 1791*, Southampton, Ordnance Survey, and Norwich, HMSO, 1992. ISBN 0 31 900249 7 (Ordnance Survey), 0 11 701507 5 (HMSO). pp (10), 1-196, 200 illustrations, 29 cm, hardback, £14.95.

Official histories of public institutions or commercial companies, usually celebrating an anniversary, constitute a well-established genre. Recent examples included in-depth studies of subjects as disparate as Thomas Cook (1991) and the Antofagasta (Chili) and Bolivia Railway Co (1990). British map-lovers have seen Leslie Gardiner's *Bartholemew 150 years* (1976) with its emphasis on high-quality illustrations and personal reminiscences and Seymour (*et al*)'s semi-official *A History of the Ordnance Survey* (1980) in which authorities were meticulously documented but illustrations seemed to have been tacked on as an afterthought. Owen and Pilbeam's format, which could be described as 'modified coffee table', is much closer to Gardiner's, but their content, despite a lack of source references, deserves to stand alongside Seymour, offering indeed a more rounded view of the twentieth century survey as a living organism. The first 80 pages take the reader through the prehistory and foundation of the Trigonometrical Survey, the 'reigns' of Mudge, Colby and James, the Irish Survey, the 'Battle of the Scales' and so on to the end of the Victorian era. The main narrative flows smoothly on, treating present century in more detail, doubtless because more personal reminiscences were available and perhaps because its events were to be seen as of greater interest to present-day users of OS maps. A large number of relevant illustrations are interspersed through the text. The high quality of reproduction, particularly that of linework and colour of map extracts, is to be commended and the book's designer, Alison Beaumont, has done a splendid job overall.

Interspersed through the main text are a series of panels in which special topics are discussed in more detail, such as the Londonderry memoir, photozincography, Ellis Martin and the Bloggoscope. These digressions from the main stream make this a fine book for browsers. There is a strong emphasis on people, and not just on Directors General. In organisational histories they (or their equivalents) are apt to be shown as personifying their periods of office. Undoubtedly there was a lot of truth in this in Victorian times. (If it had been Colby, not De la Beche, who was on chatting terms with the Prime Minister might Ordnance and Geological Surveys have remained in harness like their equivalents in the USA?) By the middle of the present century it seemed that OS had developed such a strong corporate personality that no DG (or other senior military officer?) could hope to achieve a major change in direction during his short term of office. Outsiders saw OS as a very insular body and although much has since changed, readers may note that the Survey still retains a Prime Meridian some 19 feet to the west of that adopted by the rest of the world in 1884, it employs an edition designation system at odds with widely accepted international practice (hence the presence of two designations on every 1:50,000 map sheet), while its idiosyncratic technical phraseology (e.g. 'air-plotting machines') is not wholly defunct. One very welcome feature (absent from Seymour) is a chronological table of events and appointments from 1726 to 1991, supplemented by three useful diagrams showing the starting dates and periods of publication of the main map series.

Inevitably there are points for criticism, for example slips which should have been corrected at proof stage such as 'Stafford' rather than Strafford (survey of western Ireland), Charles Close described as 'Chief Inspector' rather than Chief Instructor (in surveying at Chatham) and corrections to a field document being made in 'greek' rather than green ink. The contract with Ordnance Survey of Northern Ireland whereby the latter undertook the scribing of *British* large scale maps surely ran into the late 1970s. (This contract seems to have received little publicity at the time, possibly because it could have been interpreted as a device for evading Civil Service manpower ceilings.) There are also some loose factual statements. For example in 1877, as opposed to post-1882, Egypt was not 'controlled by the British', while to the best of this reviewer's knowledge the Janes Report of 1970 (as opposed to a summary of its recommendations) has never been published. (If impressions received when he saw it many years ago are fair, the reading public has suffered no great loss.)

Technically-minded readers may be unhappy with the suggestions that plane-tableing is a crude method of survey, that the Transverse Mercator projection is a 'modification' of Cassini's or that stereocomparators compared *and adjusted* the observed points, but such gross simplifications were probably inevitable in context. Those primarily interested in the maps rather than the people and organisation behind them will welcome the large number of illustrations, though they may wonder why the reproduction of the first map to display the name Ordnance Survey (*Old Series* Sheet 10, Isle of Wight, 1810) had to be from a late printing with railways. However they will find that the narrative is inclined to simplify developments and could sometimes mislead the uninitiated. For example it is implied that all Scottish small scale mapping remained on Bonne's Projection until Transverse Mercator was introduced during the 1930s. In fact all the new map series introduced during the 1920s, the Scottish Popular One-inch (a significant innovation which receives no specific mention), the layered Quarter-inch and the new Ten-mile were placed upon Cassini. The 1:1,000,000 map of the United Kingdom published in 1905 was *not* part of the International series, though OS did print the very first sheet of the latter, SH-34 *Kenhardt* (covering part of South Africa). The references to the origins of the 'New Popular' One-inch map and its relationship to the wartime military series (GSGS 3907) read as if this was a lot closer than it was in reality.

It must be recognised however that this is a book about the development of an organisation, the people who worked for it and even those who criticised it from the sidelines. Technology is discussed in relation to its impact on the working life of the staff, map content in relation to the reactions of the public. Among the critics the authors find space for Henry Crook but regrettably not Lt-Col 'Pat' Carmody, the principal independent witness heard by the Select Committee on Estimates in 1962-3. At the time it looked as if those in authority had held their ground with only minor concessions, while Carmody was felt by some to have bitten the hand that had so recently fed him. Looking back today it is evident that this investigation was the real turning point. It has been said that if Francis Drake had been recalled from the dead to take Nelson's place on the quarter-deck of HMS *Victory* he would have faced no insuperable difficulty in handling that ship. Similarly had Thomas Colby to stand in while General Dowson took his annual leave in 1962 he would have found himself on familiar ground. Recalled today he would be utterly flummoxed. What Carmody urged, and much else, has come to pass. It is a particular strength of this book that its authors have reviewed the period of change fully, including those traumatic days before, during and following the Serpell enquiry when it appeared that at any time the Survey might be reduced to impotence, and ultimate dissolution, to satisfy a minister's whim. Although the authors have not aspired to write an academic study, future historians will be unable to ignore their work if only for the way in which they have brought together the evidence of so many people who have worked for the Survey, while those who attended the 1991 AGM of the Charles Close Society know that, like the proverbial iceberg, what is visible in print is only a small part of the corpus of material they uncovered. While those familiar with OS will inevitably disagree with some statements and interpretations, this book fully justifies the choice of two insiders as authors who have so effectively put over the flavour and spirit of their organisation as well as providing us with a hard factual skeleton.

One final recommendation: books of this quality usually retail nowadays at twice its price; buy now while stocks last!

C.I.M. O'Brien

Charles W. Phillips, *My Life in Archaeology*, Gloucester, Alan Sutton, 1987. Pp.xiii, 175; illus. Price £14.95 hdbk. ISBN 0-86299-362-8.

I can do no better here than to begin with the final sentence in Professor Glyn Daniels's address given at the funeral of Charles Phillips on 2 October 1985: 'Future historians of British archaeology looking back at what was achieved in the twentieth century and remembering, as we do today, Charles Phillips, might well say in the words of Genesis iv "There were giants in the earth in those days".'

Phillips was indeed a giant, both intellectually and physically. I first met him in 1976, when he was already 75 years of age. We were both contributing authors to the Seymour history of the Ordnance Survey, and our domestic juxtaposition in Surbiton led him to call on me to discuss the problems inherent in compiling a history by 'committee'. On opening the door to him, my immediate impression was that he could not possibly fit into what had suddenly become an impossibly small opening. Tall and broad (well-illustrated in the photograph facing page 97), he made me and my flat seem Lilliputian in contrast.

Small talk appeared to be a completely alien form of conversation to Charles Phillips: he always came straight to the point without prevaricating. This straightforward attitude comes across on every page of this absorbing autobiography, where his considered opinions of colleagues and acquaintances are honestly given, be they laudatory or condemnatory, and the accounts of his considerable achievements are rendered in the most matter of fact way. The size of the projects which he took on and achieved were worthy of a giant: his was the idea, and his the execution, for example, of the wartime GSGS gazettiers for much of Europe.

The book comprises sixteen chapters in which is chronicled the development of personal and national interests in archaeology - the two were sometimes the same thing. Well-schooled as a field observer and correspondent in Lincolnshire for O.G.S. Crawford's revision of the antiquities on OS large-scale maps, Phillips went on to play a formative role in the transformation of the Prehistoric Society of East Anglia into the national Prehistory Society, of which he was for eleven years Honorary Secretary. It is extraordinary, these days, to remember that he was still essentially an amateur archaeologist when he conducted the excavation of the renowned Sutton Hoo ship burial in 1939. Phillips's narration of this event, the most exciting and spectacular excavation ever carried out in this country, and which caused the eminent Professor Chadwick of Cambridge to call him a 'great man', is characteristically understated.

Phillips did not become Archaeology Officer of the Ordnance Survey until after the war, when he was 46. But his interest in Ordnance Survey maps, from the point of view of the antiquities shown on them, had begun when he lived in the Plymouth area when he was about 17. Now, almost thirty years later, he took up the mantle of Crawford, and initiated the Archaeological Record, the card index for which was seen by those of this Society who visited the RCHM at Southampton in 1985. He also achieved the extension of the old cut-off date for antiquities from 1688 to 1850, so that features relating to the industrial revolution could be recorded.

Charles Phillips spent all his adult life in the exploration of man's past in this country and in its cartographic representation. The reader will find no long-winded accounts of the technicalities of archaeology or cartography; this is a straightforward story of one person and the people he met while pursuing a life-long interest in the subject which engrossed him most. I recommend it to all.

Yolande Hodson

County Street Atlas: North Hampshire, Southampton, Ordnance Survey, and London, George Philip, 1991, pp viii, 228, 27 x 20 cm, ISBN 0 319 00241 1 (Ordnance Survey), 0 540 05610 3 (George Philip), hardback, £ 10:99.

There are now fourteen of these OS/Philip's *County Street Atlases*. Six counties are covered by one atlas each (Berkshire, Buckinghamshire, Hertfordshire, Oxfordshire, Surrey, Warwickshire), and four by two each, (Essex, Hampshire, Kent, Sussex). Buckinghamshire, Kent and Sussex have reached a second edition. *Surrey* is for some reason missing from the 1992 OS Catalogue.¹

I bought the *North Hampshire* atlas, which covers my home, partly out of curiosity but mainly for use, and I have no regrets but plenty of criticisms. These comments are those of a user: I am

¹ [Surrey is not listed in the 1992 OS Catalogue as it was published by Philip in about 1978, before they began their co-publishing with OS. Ed., *Sheetlines*.]

not a connoisseur of street-maps. Nor do I know the history of these atlases, how the OS and George Philip should share the praise or blame, or how closely the North Hampshire atlas resembles the others.

The maps are uncoloured and at the curious scale of 3.5 inches to 1 mile. They cover not just the towns and villages but the countryside in between. Each of the 208 map pages covers an area 3 km x 4 km (with 1 km grid lines), which at £10.99 works out at 0.44p per square km. For comparison the cost per square km for a 1:50,000 *Landranger* is 0.25p, for a 1:25,000 *Pathfinder* 1.72p, and a staggering £1.20 for a 1:10,000 (now £30), which doesn't have as many street-names. On the whole the atlas represents reasonable value for money, but I wouldn't have paid much more for it, and if the price were about half as much I should probably buy some for neighbouring counties.

The main purpose of a street atlas is presumably to help users to find a particular street on the map and on the ground. I find this atlas performs these functions admirably. As far as I can tell all streets and roads are shown and all their names are clearly marked. Where the streets are too small for the names to be written in they are numbered and the corresponding names given nearby. Buildings are shown in grey with the same degree of generalisation as on the *Landranger*, from which most of the detail seems to be derived.² The street network is topographically correct, and not just topologically (if you're lucky) as on many street-maps. A useful feature is that some streets have a bar across them, indicating a 'gate or obstruction to traffic'; these seem to be surprisingly frequent. One-way streets are not shown, however.³ No house-numbers are given, as is sometimes done for long streets, and it is not always clear where a street changes its name.

There is a street-name index to the whole atlas, giving about 8900 names in one sequence, with reference to page and 1-km grid square. Incidentally, for a street-atlas there are very few actual streets. In a sample of 200 names I found only one street, with 51 roads, 47 closes, 17 lanes, and smaller numbers of avenues, drives, gardens, ways and other more esoteric designations.

On the front endpapers, where one might expect to find a sheet lines diagram, there is a reproduction of the uncoloured 1:250,000 map of the area, labelled 'North Hampshire Routeplanner'. The sheet lines are several pages further on, imposed on an identical map and labelled 'Key to Map Pages'. This seems perverse. The sheet lines diagram must be the most frequently used bit of the atlas and should be right at the front, where it will probably also serve as a 'routeplanner'.

The scale of 3.5 inches to 1 mile was probably chosen on the grounds that most users still prefer to have a scale given in this form, although whether they will easily visualise 3.5 inches is open to question.⁴ For the up-to-date map-user the scale is given as 1:18,103 (a slight rounding-off error here, I think). There is also a scale-bar, but measuring this gives about 3.38 inches to 1 mile instead of 3.50 inches, over 3 per cent short. This is pretty disgraceful.⁵ (The maps are in fact at 3.5 inches to 1 mile.) There is also a map of administrative areas with a scale bar which seems a few per cent too long. The scale-bar on the 'Routeplanner' is correct, and the scale is correctly given as 4 cm to 10 km, but it would have been helpful to add 'or about 1 inch to 1 mile.'

² [It is; this technique was first used for the *ABC London street atlas* in 1984, (see *Sheetlines* 10, p.17), but the latest street atlases are derived from *digital* 1:50,000 information, rather than by photo-enlarging the analogue material as was formerly done. Ed., *Sheetlines*.]

³ [I raised this matter informally with OS a couple of years ago, suggesting that a 1:50,000 of London showing the one-way systems would be extremely useful; the reply was that in practice it can be very difficult to obtain the information from those responsible, and that one-way systems are liable to change overnight, with practically no warning. Ed., *Sheetlines*.]

⁴ [One possible reason is that 1:18,103 is a better fit on the given size of paper than 1:20,000 or 1:17,500. Ed., *Sheetlines*.]

⁵ [This is far outside the error to be expected from either paper distortion (about 1 per cent) or from any shortcomings in the graduation of the ruler (about 0.5 per cent). Ed., *Sheetlines*.]

In trying to summarise what information the maps show it is useful to think of them as sections of uncoloured *Landrangers*, enlarged by a factor of nearly 3, with some information removed and some added. In built-up areas the most noticeable differences are the inclusion of police stations (marked with a diamond symbol) and car-parks (marked with a 'P', which on the *Landranger* means Post Office; here Post Offices have a hollow-square symbol). There is also a special symbol for hospitals with casualty facilities.

Some of the rural areas look rather empty because of the absence of contours and spot-heights. However, most of the topographical features of the *Landranger* are shown, including woods (undifferentiated), lakes and streams (not always easy to recognise in grey), and pylon lines (not shown in the legend). Many more names of woods, hills, farms, etc., are given than on the *Landranger*, corresponding largely to those on the *Pathfinder*, but the atlas goes further than the *Pathfinder* in naming the pubs - a most welcome addition. Atlas users are evidently thought to be good at guessing abbreviations: PH, CH and PC are unexplained. Information given on the *Landranger* but omitted here includes the blue tourist symbols (picnic sites, etc - although most of the car-parks are shown), youth hostels, telephones, milestones, and the distinction between fenced and unfenced roads. Some of these omissions are surprising when the atlas is described as 'essential for business and leisure use'.

I personally welcome the decision to show rights of way, but I regard the way this has been done as the biggest failure of the atlas. The legend shows symbols for a footpath and a bridleway, but adds immediately that they provide no evidence of a right of way. This is the disclaimer normally used for tracks which have been merely observed on the ground, but here the information is taken from the county councils' definitive maps, as on the *Landranger* and *Pathfinder*, and the disclaimer is simply untrue. The notation used is easily confused with other pecked lines used for 'Course of Roman road' or the features described as 'Path' on the *Landranger*. The biggest problem for the user, however, is that where a footpath or bridleway coincides with a road or track shown by double lines, as frequently happens, the right of way symbol is not shown. Sometimes one can make a reasonable guess at where the right of way continues, but often there are a number of possible tracks, most of which are probably private. There seems no reason why the footpath or bridleway symbol should not have been shown running down the middle of the track, as on the *Landranger* and *Pathfinder*. Another problem arises with the two further categories of rights of way shown on the *Landranger* and *Pathfinder*. Byways open to all traffic are shown here as bridleways, but roads used as public paths are shown as footpaths. Since both these categories carry bridleway rights, in the absence of special symbols they should both have been shown as bridleways. The decision to show roads used as public paths as footpaths can only be the result of ignorance.

As a check on accuracy I have examined my own parish of Eversley, mainly on pages 32 and 33. I found the following errors:

1. 'Sir Richard's Ride' on page 33 continuing as 'Sir Richard's Drive' on page 32.
2. Chequers Lane shown as B3016 which it no longer is, (this change was shown on a 1:50,000 map in 1984).
3. A footpath displaced to the north of the track it should follow; two diverted paths shown on both their old and new routes; a section of footpath omitted. (All these errors occur on *Landranger* 175, edition B (1988), but not on *Landranger* 186, edition B (1988), which overlaps it.)
4. The boundary of a wood incorrectly shown as a footpath.
5. Two Post Offices shown in Eversley (one closed some years ago); none shown in neighbouring Yateley (there are three). (A note on the cover says the atlas shows 'Head Post Offices'; in fact it also shows many small ones.)

To summarise, the atlas performs its main functions well, but is marred by some unfortunate decisions and many minor errors. Do the errors really matter? Obviously complete accuracy is impossible and perhaps in today's commercial environment the cost of checking for errors is worth while only if it increases sales: accuracy can no longer be considered necessary for its own sake. Perhaps the best comment is given in *A description of Ordnance Survey medium scale maps* (1949) on the War Office 1:25,000 map (GSGS 3906), namely that 'although it served the

purpose admirably for an emergency, it cannot be classed among the series of maps upon which the reputation of Great Britain as the best-mapped country in the world is based'. The difference is that here there was no emergency.

Michael Holroyd

Kent maps and plans in the libraries of Kent and the adjoining London Boroughs. A finding list compiled by Wyn Bergess. London: Library Association, London and Home Counties Branch, 1992. pp. i-viii, 1-386. ISBN 0 902119 34 6, £30:00, (hardback).

Any reader hoping for an historical introduction to the maps of the pre-1964 county will be disappointed. This book is a catalogue of maps held in public libraries and by some other Kentish institutions potentially accessible to the bona fide researcher. (Addresses and telephone numbers are given, but not opening hours.) Entries indicate which library(ies) hold any particular item and this extends to showing the location of successive issues of the same map. Maps are listed by geographical area (e.g. county, section of county, town or parish) and/or by subject (e.g. 'Hydrogeology', 'Military Sites', etc.)

Unfortunately, what is potentially an invaluable research aid is marred by weaknesses which may cause a lot of user-frustration (and even wasted journeys). Data have evidently been taken from library catalogue entries which were frequently ambiguous or incomplete and sometimes clearly in error. (It is difficult to see how Ordnance Survey could have produced a target map for the German 'Luftwaffe' in 1943!) It is often hard to tell whether a map is printed or in manuscript or whether information described is original or a subsequent addition. In the absence of sheet index diagrams series-map entries are particularly hard to interpret. There are consolidated lists of Geological and Land Utilisation Survey holdings, but from this catalogue it appears that Kent is very poorly served as far as Ordnance Survey material is concerned, though the county can boast complete cover of the post-war six-inch air photo mosaics. No library seems to possess an original of the so-called 'first' OS one-inch map, the Mudge/Faden map of Kent, while Margary Vol. I, in which it is reproduced, is indexed under 'Honourable Board of Ordnance' and listed under maps of Essex. Subsequent one-inch series are ignored except where used as a base for specialist information. Producers and publishers are comprehensively indexed (though some attributions are dubious), but while the indexing of placenames is adequate that of subjects is rudimentary.

To sum up, this book contains a great deal of information at present indifferently organised. That this is so reflects the unsatisfactory way in which maps have been treated in many public libraries rather than any lack of zeal on the part of its compiler.

C.I.M.O'Brien

Cartographic Journal, vol.29, no.1, (June 1992), contains several articles which have a bearing on OS matters.

R.C. Boud, 'David Milne Home (1805-1890), advocate, agriculturalist and amateur geologist' (pp.3-11) describes Milne's work as a maker of geological maps of three counties or districts and as a leading figure in the Highland and Agricultural Society's agitation for the prosecution of the Ordnance Survey of Scotland; he was chairman of the Society's Topographic Survey Committee and its Geological Survey Committee. (In the course of his professional career, Milne assisted as defence counsel in the Burke and Hare murders case.) Roy Boud gained his PhD for his work on the development of Scottish geological mapping, and this is a most useful addition to his earlier work.

W.A. Robertson and G.D. Aitken, 'Funding national mapping', (pp 16-19) describes the experience of the New Zealand Department of Survey and Land Information. As part of a restructuring of New Zealand public finance, in 1986 the Department had its cost recovery target raised from 7 per cent to 30 per cent, moving to 50 per cent. Map prices have had to be increased by between 100 and 600 per cent; there was predictable strong opposition from users, and the actual volume of sales has dropped, though the revenue has increased substantially. This

provides an interesting comparison with OS experience, where the increase in cost recovery has proceeded at a much slower rate.

T. Robinson, 'On the cultivation of the compass rose' (pp.42-3), is a somewhat unorthodox article for a British cartographic journal. Tom Robinson is well known for his 'Folding Landscapes' maps, notably of the Aran Islands and of Connemara, and here he writes - at least, I *think* he writes - something of his philosophy and understanding. Selective quotation would do great violence to the whole, but the following sentence will tell readers whether they wish to explore further: 'The most rudimentary element of geometry, the relationship of topographical inclusion, is the kernel of all the complexities of social and ecological belonging.'

N. Angier, 'Teaching contour reading to lower secondary aged children using relief models' (pp.48-50), records an experiment which showed that children understood contours better after teaching with relief models than by abstract teaching from a text-book. (One hopes the children will go on to use contoured maps in later life.) What might seem a platitude is unfortunately necessary in a world where large numbers of people seem to think that the world should be run as they think it was run before they were born.

The latest issue of the *Geographical Journal* (vol 158, part 2, July 1992, p.241), includes a review by C.I.M.O'Brien of Monique Pelletier, *La carte de Cassini: L'extraordinaire aventure de la carte de France*, (Paris, Presses de l'Ecole nationale des Ponts et Chaussées, 1990, 264 pp, ISBN 2 85978 143 9, 345 francs). The book appears to be well worth seeking out by those whose horizons are not limited by *La Manche*, and to embody in one volume the substance of what, for the British equivalent, is spread across the introductory essays in the eight volumes of *Old Series* facsimiles published by Harry Margary; it is to be hoped that the design of uniting those eight essays into one will be accomplished sooner rather than later. Meanwhile, here is the French equivalent, and the review obligingly states that 1:86,400 is one ligne to 100 toises, something the editor of *Sheetlines* has long wished to learn!

Railway Posters 1928-47, by Beverley Cole and Richard Durack, published by Laurence King at £14.95, (ISBN 1 85669 014 8), includes an article by John Paddy Browne, well-known to readers of *Sheetlines* as the author of *Map Cover Art*. We have not yet seen a copy, but no doubt some readers will wish to investigate.

R.R.O.

Stuart Malin and Carole Stott, *The Greenwich Meridian*, Southampton, Ordnance Survey, second edition 1989, pp.56, illus., A5, pbk, ISBN 0 319 00191 1, £2.40.

This was first issued in 1984, but somehow it didn't get reviewed in *Sheetlines* then. It's still in the price-list and still in print, and is good value for money. First it describes the route of the meridian across England, illustrated by OS 1:250,000 mapping, and then across France and Africa down to Antarctica. The Greenwich Meridian must be much less interesting after it leaves England as it only occupies a tenth of the space and a lot of that is a picture of three cows. Then it explains about latitude and longitude and how to find them, and about 'time and its measurement' and the founding of the Greenwich Observatory in 1675, to help solve the problem of finding longitude. Then there's a chapter on 'maps and charts' which explains how the Ordnance Survey Greenwich Meridian is about nineteen feet west of everyone else's, and another on the Washington Conference of 1884 which agreed to adopt Greenwich as the Prime Meridian, and in effect as the basis for time zones. The last chapter is 'tools of the trade' and describes Airy's transit circle, the sextant, the marine chronometer, the *Nautical Almanac* and modern methods of determining time and of navigation. There are large numbers of pictures, mostly in colour. It's worth snapping up before it goes out of print, particularly as it's so cheap.

'Viator'

As they are and as they perhaps might be: some recent maps for the ordinary public

1:25,000 *Pathfinder* 1126, *Gower*, edition A, Southampton, Ordnance Survey, 1992, ISBN 0 319 21375 7, £3:45.¹

1:50,000 *Rambler Series*, Sheet 16, *Benbulbin*, Preliminary Edition, Dublin, Ordnance Survey, 1992, ISBN 0 904996 03 4. [Price in Great Britain, £3:75.]

Macgillycuddy's Reeks: A hillwalker's Guide: 12 walks described by John Murray with a 1:25,000 O.S. Map. Enniskerry: Dermot Bouchier-Hayes Commemoration Trust, 1990. [Map is printed by Ordnance Survey of Ireland, Dublin, and is dated 1991.] ISBN 0 904996 42 5. [Price in Great Britain, £5:30.]

Des Hannigan, *Aerofilms Guide: The South Devon Coast Path*, Shepperton, Ian Allan Publishing, 1992, 28.3 cm, pbk., ISBN 0 7110 2041 8, £8:99.

1:63,360 (one-inch) *Yorkshire Dales* (Touring map & guide 6), edition A, Southampton, Ordnance Survey, 1992, ISBN 0 319 25018 0, £4:15.

Although the Ordnance Surveys of both Great Britain and of both parts of Ireland are mostly concerned with the production of maps, plans and spatial information for business and 'professional' users, their 'profits', at present anyway, come from leisure sales. This being the Age of Market Forces, presumably the cartographic style of present offerings is as much influenced by commercial as by aesthetic or utilitarian considerations; thus the maps reflect Public Taste, a fearsome, wrathful deity whose commandments only the wicked and foolhardy, not walking in the strait of Full Cost Recovery, transgress. That said, Public Taste today is somewhat like Communism in the nineteen fifties; very few people have had personal experience of it, but those whose concern it is take no chances. Reds under the bed have been replaced by Fifth Reliefs and ten-colour Sevenths.²

Public Taste is something with which until recently the British 1:25,000 family has never quite hit it off. I hope in a future issue of *Sheetlines* to chronicle the ups and downs of these maps, but it is common knowledge that there have been several occasions during the past forty years when the future of the 1:25,000 was in doubt, most recently in 1981-2. In November 1989 the 1:25,000 Second Series, the *Pathfinders*, was completed, the future of the scale seemed to be assured, and history in this particular instance seemed to come, if not to an end, at least to a pause. A pause only: on 16 April 1992 there appeared Sheet 1126, which, according to how its luck turns out, will be a number in future associated with either 856 (the 20 x 15 km experimental sheet of 1960, the first and last of its kind to reach the public)³ or 40/09 (the first 10 x 10 km standard 1:25,000 Provisional sheet, published in 1945).⁴

It is to be hoped that it will be associated, in success if not in size, with Sheet 40/09. Probably the most damning indictment against the OS's handling of the 1:25,000 has been its refusal at times in the past to face the fact that the size of sheet has been too small, and has caused serious sales resistance. The reasons for this refusal must wait for another time, but the fact of it is irrefutable. I believe that the 20 x 15 km format, which would have given a map face similar in area to the contemporary one-inch and quarter-inch maps, was rejected because the sheet numbering could not be related to the National Grid - at a time when the extraordinary demand for the One-inch Seventh Series, despite its sheet numbering not being related to the grid, was driving the OS to enlist the services, not merely of other government mapping agencies, but even

¹ Ordnance Survey will probably increase its prices on 1 November 1992, and this should be borne in mind particularly when ordering the maps.

² This is a mixed metaphor, of course. It is generally nearly impossible to get even a stuffed toy under most modern beds without squashing, whereas the otherwise waste few inches between the bottom of the coil springs and the top of the fitted carpet can be profitably employed for the storage of flat maps.

³ Two or three others (sources vary) were taken to proof stage; one wonders whether specimens survive. The *Isles of Scilly* special sheet of 1964 was 20 x 15 km, but I do not know whether that was a perpetration of earlier ideas or devised afresh.

⁴ All sheet sizes in this review are given with west-east followed by south-north dimensions.

of at least one commercial firm.⁵ The 'solution', adopted in 1962, was a 20 x 10 km format for the nascent Second Series, which was certainly larger than the 10 x 10 km of the Provisional Edition, and which permitted a grid-related numbering system.⁶ About twenty years later it became apparent that whatever its merits for reference purposes, the National Grid was a dead duck as far as popular sheet numbering was concerned, and around 1986-7 a consecutive numbering system was introduced, from 1 to 1373.⁷ As the Second Series was completed in 1989 in 20 x 10 km form that might be thought to be the end of the matter, but back in 1972 the Outdoor Leisure Maps (OLMs) had started to appear. The OLMs offered a much greater sheet size - about 20 x 25 km, giving a map face about 80 x 100 cm - for a much smaller increase in cost, and indeed some Second Series sheets *sensu strictu* have never been published, as they fall wholly within areas covered by OLMs. At the same time, the one-inch map was replaced by the 1:50,000, in sheets covering an area 40 x 40 km, and with a map face 80 x 80 cm. 80 x 80 cm - twice the size of a standard 1:25,000 Second Series sheet - was probably too big for the printing presses then in use when the OS was toying with the 20 x 15 km size for the 1:25,000 in the late 1950s, but by 1980 or so anything smaller looked, well, *small*, and though the price per sheet of the 1:25,000 Second Series has always been somewhat less than that of the 1:50,000, the price per square metre of map face has always been very much greater. Although survey and drawing costs are proportionate to the acreage covered by the map, the increase in printing costs incurred by a larger sheet size is not, and from a production point of view larger sheets are an attractive proposition.

In fairness, it must be admitted that one disadvantage that the Second Series laboured under was that it was at the end of the sequence of large-scales production; each sheet had to wait until the eight component 1:10,560 or 1:10,000 Regular sheets were complete, and if a 20 x 20 km format had been adopted it would have been necessary to wait for the completion of sixteen Regular 1:10,560 or 1:10,000, which would have increased even more the delay between field completion and 1:25,000 publication. But the large scale resurvey or overhaul was completed in the early 1980s, and such constraints no longer apply. 1126 *Gower* is proof of that. According to OS publicity, 'If this trial map proves to be successful it is Ordnance Survey's intention that other popular areas will be introduced which could mean the start of a "new series".'⁸

Of the four maps reviewed here, 1126 is the least innovative cartographically, but possibly not the least pleasing aesthetically. Its makers describe it as this 'exciting publication',⁹ but the claim that the tourist information is new needs qualifying; it may be new to the *Pathfinders* but it has been a feature of the OLMs from the start. I know that I am not alone in considering the 1:25,000 Second Series the most successful, in terms of looks, of the current range of small-scale maps, but I have to say that the competition is not stiff, and that it is more success in principle than in practice. Put bluntly, the Second Series, as printed today, suffers from anaemic orange, and makes a poor contrast with the practice in the early 1970s.¹⁰ The worst sufferers are the contours, which are often illegible where they underlie other detail, particularly in built-up areas. I take it that the cost of surveying, drawing and printing the contours has been allowed for in the *prix complet*, in which case we are paying for something we are not getting. It is possible that one reason for the anaemic oranges currently favoured - the shade varies from sheet to sheet,¹¹

⁵ More specifically, Causton's, for the printing of Sheet 130, edition A//, in September 1960. It might have been A//*, but there was no time to incorporate the road revision, as the stock was urgently needed. (See note of 29 August 1960 in file 'New Half-inch map' in documents deposited with the Charles Close Society.)

⁶ And, a cynic might add, could therefore continue to deter sales.

⁷ It had been announced to the Consultative Committees in the autumn of 1983. Why the delay?

⁸ *OS News*, May 1992, p.11.

⁹ Some people must lead boring lives.

¹⁰ Compare, for example, the A (1973) and B (1988) editions of TQ 26/36 (*Pathfinder* 1191) or the A (1974) and A//* (1989) editions of TQ 45/55 (*Pathfinder* 1208).

¹¹ A very bad example is the original (1983) printing of TQ 40/50, edition A, which reflects most poorly on all parties concerned.

1126 being pretty average by current standards - is that a darker orange would adversely affect the stipple used for some road infill, but this problem ought not to be insoluble. An idea of what the 1:25,000 Second Series *ought* to look like is afforded by the extract from Sheet 1362 (SX 54/64) on the cover of the 1989 OS annual report, which was presumably obtained by ordinary photography; Sheet 1362 as bought over the counter is a pallid contrast.¹² For all this, I hope that 1126 will lead to the development of a national 1:25,000 'large sheet series'.

The legibility of the contours is the one thing for which no-one is likely to criticise most of the Ordnance Survey of Ireland (OSI)'s recent digital 1:50,000 and 1:25,000 publications.¹³ That said, it must be admitted that these maps have had a much more favourable response from the present editor of *Sheetlines* and his predecessor¹⁴ than they appear to have had from some other Charles Close Society members, reaction varying from lukewarm to actively hostile; it does seem that these maps appeal more to those who have been concerned with or have an understanding of map production, and therefore are aware of the problems involved, than they do to a wider public. In short, a connoisseur's map. (Incidentally, I wonder whether the maps might not get a better reception were the rate of publication to be quickened.) The recent publication of Sheet 16 *Benbulbin* brings the grand total of OSI 1:50,000 sheets to four; three of them (Sheets 16, 54 and 56) are designated 'Preliminary Edition', a stage which Sheet 78 has now passed. Sheet 16 is much closer in appearance to Sheet 78 than it is to Sheets 54 and 56; notable differences are the retention of the splendid, chaste relief-model cover design of the other preliminary editions, (instead of the uninteresting picture-postcard of Sheet 78), the omission of the multi-lingual tourist information from the back, (which this reviewer can well do without, though he is probably in a minority), the omission of nature reserves, overbridge clearances and railway mileposts, and the showing of townland names in distinctive upper-case lettering.¹⁵

The overlap of this sheet with Sheets 17 and 26, published by the Ordnance Survey of Northern Ireland (OSNI) some years ago, enables a direct comparison to be made between the styles of mapping at 1:50,000 as practised in Belfast and Dublin. Although the OSNI offering is more obviously what map users have been accustomed to, it does not have things all its own way. In particular, I have never cared for the layer-tinting and regard the 'contours only' 'non-relief' style of the OSI map as aesthetically superior. One clear advantage that the OSNI style does have, though, is that it cases the roads. In fact, the most distinctive aspect of the OSI offerings has been the uncased roads, and therefore one is surprised to see that the roads on the Northern Ireland portion of Sheet 16 are cased. It might have been supposed that there was something in OSI's digitising system which placed difficulties in the way of casing roads; but Sheet 16 suggests otherwise. It is really most odd; the small portion of Northern Ireland in, computerised lettering apart, a conventional 'non-relief' style subverts the style of the other 97 per cent of the map. It suggests that there *is* an alternative to the screened grey depiction of tracks and footpaths; and it is an alternative which I hope will be heartily embraced at Phoenix Park.

¹² An even better example of how the 1:25,000 *might* look is exemplified by the extract from Sheet 1175 (TQ 27/37) on page 8 of *The Greenwich Meridian*, reviewed elsewhere in this issue of *Sheetlines*.

¹³ The version of 1:50,000 sheet 54 with the satellite imagery on the back is an unfortunate exception.

¹⁴ See *Sheetlines* 27, pp. 19-20; 28, pp 10, 14; 30, p. 23; 31, p.37; 32, pp. 52-3.

¹⁵ Other design differences *via-a-vis* the 'New Edition' of Sheet 78 include: yellow infill for built-up areas; 'shingle, mud or sand' are now shown by screened black over screened blue, instead of just screened black; there is now a symbol for police stations; the cathedral symbol is smaller; the symbols for international boundary and Dept of Defence lands boundary have been changed; the church symbol is now in red rather than black; an 'other antiquity' sign has been introduced; the signs for stone cross and round tower are omitted. In addition, navigation aids are shown in unusual detail: see G 6139, G 6242, e.g. (I owe most of these points to John Taylor.) It is possible that some of these differences will disappear when the 'new edition' of Sheet 16 is published. It is interesting that printing them in red implies that churches are to be regarded as antiquities rather than as cultural features. One eccentricity, as it seems to this observer, is that *raths* are described as 'forts'; surely a *rath* is a very distinctive, peculiarly Irish, earthwork!

Perhaps I have been hopelessly perverted by the example of past practice, but uncased roads do not strike me as suitable for mapping at so large a scale as 1:50,000 (never mind 1:25,000) for a mature landscape such as that of Ireland, though they might work well at the 1:100,000 scale.¹⁶ Incidentally, one thing which is shown on both the Irish 1:50,000s is 'Boating activities' (OSI) or 'Yacht club' (OSNI); the omission of this information from the British 1:50,000 is curious, and gives an incomplete, if not actually misleading, impression of such estuaries as the Exe, the Tawe and the Torridge, and, by implication, of such as the Humber, the Mersey and the Tyne.

The OSI 1:50,000 is the product of a database which has also generated two 1:25,000 maps and which in due course is to generate a 1:100,000 successor to the half-inch. Superficially, the 1:25,000 *Macgillycuddy's Reeks* is similar to *Killarney National Park*, which I commented on unfavourably in *Sheetlines* 33, in that it is fundamentally a straightforward enlargement of the digital 1:50,000, but in fact a number of additional names have been added, and the more intricate nature of the relief makes the larger scale more justifiable. It is altogether a better buy, as it covers an area 20 x 15 km on the ground (and thereby conforms to a policy adopted by OSI in the mid-1960s of a standard map face area of 80 x 60 cm for all scales), and is accompanied by a book of walks. Following the walks on the map makes for excellent armchair entertainment; it is also an object lesson in the contrast of show and substance in map design. You *do not notice* the lettering, or the colours, or that the roads are uncased; dreams of serifs and hachures melt away.

However, in a way the book is the map's undoing; although it is generally easy to follow the walks on the map (at one or two points the book appears to be in error), the text does make occasional references to walls, fences and posts, which one would expect to find on a British 1:25,000 but which find no place on its Irish counterpart. True, there *are* some mysterious straight lines which *could* be the 'prominent walls' which appear on the 1:50,000 of Northern Ireland, but, whatever they are, the legend does not enlighten us. Whilst aware of the considerable constraints under which OSI operates, and that though the mapping is from air photographs the plotting of field boundaries nationally is not financially feasible, nonetheless the omission of fences and walls, at any rate in the upland parts of this map, appears to me an opportunity missed.¹⁷ One of the advantages of tourist and special sheets such as this and the *Yorkshire Dales* sheet reviewed below is that it is possible to vary the specification to suit the terrain, without worrying about the effect on other maps. However, for all that, *Macgillycuddy's Reeks* can be recommended, which *Killarney National Park* cannot.

Fences and hedges sprout and blossom in *The South Devon Coast Path* as they never have done on any Ordnance Survey map; indeed as they have not done since the days of estate surveys. These *Aerofilm Guides* are an innovation, in that they are a collection of vertical colour photographs at 1:10,000 scale, supplemented by some obliques, annotated with indications of long distance footpaths, railway stations and other *information touristique*.¹⁸ Although the first

¹⁶ Uncased roads have been favoured in the past partly because in *analogue* map production they can be drawn more quickly. They are also desirable at smaller scales where detail tends to be more crowded; the OS used them on the early Half-inch small sheet series and Quarter-inch Second Edition for the lowest class of road, and the reversion to casing later was not necessarily an improvement in legibility. The main argument against them, where casing is not necessary to show whether or not roads are fenced, is that uncased roads 'look cheap', and though that might be thought a superficial argument the choice of colour schemes on modern maps seems to be dictated as much by a desire to produce a map which 'looks attractive' on casual inspection as to produce one on which complicated detail is legible.

¹⁷ In 1955 Ordnance Survey of Great Britain (OSGB) reckoned that eliminating field boundaries would save 20 per cent of the time needed to draw the 1:25,000: see Public Record Office (Kew) OS 36/7, minute 36. As digitisation would presumably allow many 'double-line' features such as roads and rivers to be drawn as a single 'centre-line' rather than twice, field boundaries would take rather more than 20 per cent of drawing-time for a digital 1:25,000 - particularly in Ireland, where fields are generally much smaller than in Britain.

¹⁸ It is probably not generally known that in the late 1970s the OS prepared an experimental 1:10,000 ortho-photo map of Poole Harbour, (Sheet SZ 08 NW). Although presumably not aimed at the

photograph was taken from an aeroplane in 1909,¹⁹ Aerofilms have been in the business since 1919, and satellite images have been generally available for the past twenty years, as yet 'remote sensing' has failed to displace the conventional paper map in the affections of the general public, and at the risk of making a fool of myself some years hence I venture to assert that it will not. For one thing, as becomes apparent from a study of the present volume, the conventional map can make subtle exaggerations which aid rather than impede recognition of ground features: fine detail on an air photo can easily turn to mush, even at so large a scale as this and with the advantage of colour.²⁰ For another, the form of the ground can readily be shown by contours (assuming they are properly printed); although the obliques do help to a certain extent, the photos grossly understate the rise and fall of the Devon cliff-tops. Again, though hedges appear, presumably aiding the walker, so do arable and pasture fields, and a cultivation one year can easily be changed the next. It is indubitably useful to have caravan sites shown filled with caravans and harbours with yachts, and indeed there are some striking images in this volume, but the whole does not add up to the sum of its parts. I must admit that I dislike the *table d'hôte* nature of guides such as this, and indeed of the whole concept of long distance footpaths, national parks, and the like, but even allowing for my prejudice the lack of cover of other than the immediate environs of the Coast Path is a serious handicap. Suppose one wishes to deviate and walk up to Exeter? Ah, then you must buy another map, (some would say a *proper* map), unless you are clever enough to know which side of the River Exe you can walk along. Although the text is fundamentally sound, it is sometimes over-cautious (e.g. it is possible to cross the mouth of the Otter at Budleigh Salterton on foot, at low tide), and sometimes not cautious enough, (for example, bearing in mind that around the mouth of the Exe those following the Coast Path are obliged to pass along busy roads without sidewalks, there is no mention of the rule - largely disregarded by visitors to Devon - that one walks on the side of the road *facing* oncoming traffic). I have not weighed the volume, but it seems to be roughly equal to three 1:50,000 *Landrangers* or six 1:25,000 *Pathfinders*. It is narrow enough to fit into a pocket, but at over 28 cm it strikes me as excessively tall, and it will protrude from all but frock-coat bottle-pockets. In short, there does not appear to be much here for Ordnance Survey to worry about, or walkers to get excited about; but should this version of 'mapping' catch on, its air-photo archive ought to put OS in a good position to compete. However, OS might not have things all its own way; another commercial firm, Geonex UK Ltd, has announced its intention of undertaking 'a five year rotating programme to secure consistent colour airphoto coverage of all UK at a scale of 1:25,000, supported by various government agencies and designed to provide a comprehensive national environmental airphoto data archive.'²¹

Although I have no desire to be obstructive or reactionary, I cannot help feeling that this book has missed its target. It would have been much more satisfying had Aerofilms forgotten all

popular market, the result was hardly an aesthetic or communicative success. The volume under review is so much of an improvement that there would be little point in a more detailed comparison even were the experimental sheet more generally accessible.

¹⁹ Photographs or daguerreotypes were taken from balloons at least as early as 1862, and (cheating perhaps) permission was granted for photography from the scaffold erected on St Paul's Cathedral for OS trig. work in 1848. All these early 'air photos' were obliques; it would be interesting to know the date of the first vertical air photo, (presumably no later than the summer of 1914).

²⁰ This is partly because of the degradation inherent in reproduction by the half-tone process. If some way could be found of reproducing 'real photographs' direct from the negatives with the requisite speed, then the prospects for the popularity of air-photo mapping would be much brighter.

²¹ See British Cartographic Society newsletter 92/3, p.7. 'The high resolution and image quality of the photography will be such as to permit reproduction from the original 9" x 9" negatives at scales up to 1:2500 and even larger with acceptable definition.' (*Ibid*, p.8) One suspects the definition more likely to prove acceptable to professional users than to the lay public, even setting aside the matter of relief depiction.

about the coast path and instead produced a volume of vertical air photos of towns and villages. A single instance of the entertainment possibilities is offered by the curious circular feature towards the top of page 48; I have come to the conclusion that it is the 'big top' of a circus. One parting shot: this book suffers from Gutter Disease. Not enough allowance has been made for the gutters, and opening after opening is defaced in this way. This seems to be a phase which all publishers pass through,²² but one is surprised at a firm such as Ian Allan, who have been publishing double-page spreads of railway scenes for nearly half a century, falling into this trap.

Yorkshire Dales is in many ways the most remarkable of the five maps reviewed here. For one thing, it has had a very long gestation. There was a proposal for this map, to cover the National Park, in the late 1960s; presumably it would have resembled the *Dartmoor* and *Exmoor* maps of 1967 rather than *Peak District* (1963) or *North York Moors* (1966).²³ The concept of publishing Tourist Maps of the National Parks²⁴ then went out of favour, to be replaced by that of the 1:25,000 OLMs. It is to be suspected that the present revival is owing less to OS than to the Yorkshire Dales National Park Committee, whose 'ram's head' logo appears on the cover, and in consultation with whom the map and guide were confected.²⁵ Being the Age of Market Forces, no doubt cost-benefit calculations were made, and OS decided that it was worth producing a sheet which in territory so nearly competes with 1:50,000 Sheet 98. Anyway, here it is, yet another one-inch map, just in time for the 1:50,000's twenty-first birthday.²⁶

The map covers a maximum extent of 55 km west-east (362 km east - 417 km east) and 63 km south-north (451 km north - 514 km north), and is thus one of the largest of all one-inch sheets, past or present, though the map area is reduced somewhat by taking some of it for the title and legend.²⁷ It extends slightly beyond the National Park boundaries to include Bowes on the north

²² It was a conspicuous fault of the early (1982-4) OS atlases.

²³ The project is referred to in some papers relating to the One-Inch Seventh Series revision programme of which the Charles Close Society has custody. It is possible that it was dropped because the sheet would have been nearly co-extensive with the ordinary Sheet 90, and have affected its sales adversely. In fact Sheet 90 was the best seller of all the Sevenths.

²⁴ This appears to have been a definite policy in the early to middle 1960s, and it is the reason why Half-inch Second Series Sheet 28 was enlarged and reprinted in 1966 as the *Snowdonia* special sheet; the Snowdonia National Park was too large to fit on to a one-inch sheet. Had a one-inch sheet been published Half-inch Sheet 28 would have gone to its rest in 1966 instead of 1990. The obsession with fitting the maps to National Park boundaries explains why, for instance, *North York Moors* omits a lot of Scarborough and all of Saltburn.

²⁵ I have heard it said that there is a current of opinion within OS which favours the ultimate discontinuance of the tourist maps; presumably the thinking is (a) they detract from the sales of the regular 1:50,000 maps and (b) they involve a good deal of production effort which could be better employed elsewhere. I must admit to sympathy with this view, and only buy the tourist maps as specimens for my library rather than for use in the field. Still, the present situation is a great improvement on that between the wars, when there were at one time *fifty seven* one-inch 'specials'. It is worth noting that *Ben Nevis and Glen Coe* and *Loch Lomond and the Trossachs* were abandoned two or three years ago when the Seventh Series-derived reproduction materials wore out, that *New Forest* was abandoned about the same time, only about four or five years after the reprint had been renewed using 1:50,000 Second Series material, and that *Exmoor*, the last vestige of the Seventh Series to find topographical employment, is reported sickly.

²⁶ The 1:50,000 was officially authorised in November 1971, by which time (shades of the New Popular in 1938) a good deal of planning and experimental work had been done, including the drawing of an experimental section around Luton, Beds in *de facto* Second Series style. (A copy of this interesting experiment is amongst the papers deposited with the Charles Close Society.)

²⁷ The largest one-inch sheet of all was *Greater London* (1967) which covered on the ground 64 km W-E by 55 km S-N. The post-1945 standards for 'large sheets' were originally either 62 x 44 km (e.g. *North York Moors*) or 49 x 58 km (e.g. *Lake District*); by the early 1960s maximum dimensions of 64 km by 49 km were permissible, provided that the legend and title were tucked in somewhere. In view of the wavering between 'small sheet series' and 'large sheet series' concepts in the development of the British and Irish one-inch and 1:50,000 maps, it is perhaps worth pointing out that all the remaining one-inch sheets are by pre-1939 standards distinctly 'large'.

and Richmond on the east. It is a reduction of 1:50,000 Second Series material, and in addition to the usual 1:50,000 information it includes a diamond symbol for 'National Trail or Recreational Path' which is employed on some other recent One-inch Tourist Maps, and a reduced version of the National Park's ram's head logo for 'National Park Centre or Local Information Point'. Building infill is screened black. The usual metric contours at 10 metre intervals are supplemented by layers at 200 metre intervals (green and three shades of brown)²⁸ and hill-shading. As has been the practice since the first true OS tourist map, *Cairngorms* (1964),²⁹ the tourist information is in red and the grid lines are in black. The National Park boundary is a green line with horizontal rulings extending 5 mm *inside* the Park. The space between the neat line and the map frame is lilac.

The map title is supplemented by a colour photograph of an anonymous village (with washing), and fifteen more colour photos decorate the 'Guide' on the reverse, as do three photographic extracts (which manage to be both anaemic and lurid at once) from OLMs, illustrating 'circular walks'.³⁰ The 'Guide' lists and briefly describes towns and larger villages, caves and potholes, museums and 'other places of interest', which include castles, local mines and an aquarium.³¹ There are also sections on geology, wildlife, farming and 'James Herriot Country'.³² Locations are given by alpha-numeric references rather than by National Grid references.

It is the handling, or rather mishandling, of the grid which this writer finds the most serious blemish on a most interesting though ultimately imperfect map. Granted that, nearly fifty years after the debut of the National Grid on mass-market OS maps, most people apparently still don't know how to give a six-figure grid reference,³³ an alpha-numeric system (with the letters and figures in black, about three times the size of the grid figures, which are in grey) is explicable if lamentable, but one questions whether it need have been put into execution in quite the way that it has. The grid lines have been thickened every 5 km, and whilst this has been done in an orderly way for the northings (455, 460, 465, etc) it has been done in a confusing manner for the eastings: 367, 372, 377, etc. Although it is possible to give a six figure grid reference, there is no means on the map of supplying the 100 km square designation, although the full co-ordinates are given for the sheet corners! (Whoever uses *those*?)³⁴ The difficulty would be obviated were the

²⁸ The map is in fact printed in black plus the three process colours (magenta, cyan and yellow), and thus references to other colours are in fact to synthetic colours. But the printing has been so well done that this point only merits a footnote.

²⁹ That is, a map carrying special tourist information. Previous OS 'tourist maps' were simply garnished versions of regular mapping, and though they covered 'tourist areas' contained no special tourist content.

³⁰ Just to be awkward: why not *polygonal* walks?

³¹ A fish out of water? (This is limestone country.)

³² !!!!!

³³ The reasons for this ought to be investigated. The National Grid is one of our most underused national assets; it ought to be as automatic to put a National Grid reference on a letter-head as it is to put telephone or fax numbers, and similarly the information should be mandatory for accommodation guides and the like. (The Youth Hostels Association is an unusual exception.) I suspect part of the problem is the obsession with Passing Exams; the education system appears incapable of distinguishing between what is necessary to satisfy parental neuroses and what is actually of practical use once one has passed through the school gates. Map-reading and more particularly giving and finding grid-references is one of the few geographical skills which fall into this select latter category. A further difficulty is probably that, as with the teaching of map projections, there has been a tendency to try to teach *too much*, with the result that a lot of unnecessary theory obscures the practicalities, thereby putting most people off.

³⁴ Not even the grid-besotted writer of this review! There is a precedent of a sort for the eccentricity; the Seventh Edition pilot sheet (142, *Hereford*, 1949), though it has a grid-explanation box and full *kilometre* references at the sheet corners, merely observes cryptically 'Similar references occur at intervals of 100 kilometres'! At least in those days the 100 km squares were still identified by numbers.

thickened lines for the eastings to go 365, 370, 375, etc, and were the 100 km square designations to be printed at the sheet corners, where there is plenty of room for them. That way everyone would be satisfied.³⁵ It would also be useful were some grid figures to be printed on the map face. To print them every km along 10 km lines as on the 1:50,000 would spoil the look of the map, but they could easily be printed every 5 or 10 km, where they would be no more intrusive than much of the tourist information.³⁶

There is no grid-explanation box, but nor is there on the 1:25,000 Second Series, so it would perhaps be unreasonable to draw attention to its absence. A more solid ground of complaint is the diagram showing the relationship of this sheet to the regular 1:50,000 series. *Yorkshire Dales* is shown as a rectangle including the whole of 1:50,000 Sheet 98, whereas in truth the south-west part of that sheet is cut into by the legend on *Yorkshire Dales*. The revision date in the legend is given as '1983-90', but it is not clear what the latter terminal date refers to; the only 1:50,000 component to have been revised so recently is Sheet 103, and comparison of the environs of Skipton suggests that *Yorkshire Dales* is in a less forward state of revision.³⁷ '1983-8' would probably be more accurate.

I very much prefer the red for tourist information to the blue which has long been customary on the 1:25,000, 1:50,000 and 1:250,000, particularly when it is used for highlighting names; the diagonal hatching for 'selected places of tourist interest' on the 1:50,000 is downright crude.³⁸ The problem has been exacerbated in the past couple of years by several groups of country lanes being designated 'cycle routes', and most of these have been named and highlighted on the 1:50,000, adding to the intrusive blue.³⁹ Here it is much more subtle (compare the five highlightings of the Pennine Way in square SD95 with those on the corresponding part of 1:50,000 Sheet 103, edition B), though it must be admitted that the extensive use of reds and browns helps to tone down the highlighting in a way that would not be possible by a straight substitution of red for blue on the 1:50,000. (Finely-screened magenta might answer: the water tint on *Yorkshire Dales* shows just how good screening has become of late years.) However, the solid red for the other tourist symbols is often much less satisfactory. The 'viewpoint' symbol dominates some hilltops,⁴⁰ and the 'ram's head' logo⁴¹ for information points is shown against a white ground, allowing nothing to appear beneath. Brigadier Winterbotham once observed that the *Killarney* map of 1913 owed more to the finger of God than to the hand of man; in this secular age it would appear that the head, or horns, of a National Park Information Centre is mightier than toeing the line of contours. Iconographic observers will relish this (I feel sure it would have made a strong appeal to J.B. Harley), but those who have a stronger concern for the

³⁵ The writer makes extensive use of the National Grid for referencing his photograph collection, and it is important to make a full record *when the photograph is taken*.

³⁶ As on early sheets of GSGS 3907 and 3908, which had grid figures every 5 km. This was evidently quickly considered unsatisfactory, as the change to the later system, as continues in use today, seems to have been made before publication of these series was completed in 1932 and 1933 respectively. But it was evidently not wholly unsatisfactory, as sheets were still being printed with the figures every 5 km as late as 1940. Grid figures every 10 km have been used on the one-inch of New Zealand, which is hill-shaded. (This is an admirable map, and every collection ought to contain a specimen.)

³⁷ For example, on *Yorkshire Dales* no earthworks are shown on the Skipton by-pass (A59) east of SD 975524, the Motel at SD 972523 is wholly omitted, and the housing estate around SD 980520 is in a less forward state of development. On the other hand only *Yorkshire Dales* identifies the building at SD 978512 as a Sports Centre. (One wonders, in view of the above, whether it has now ceased to be one!) It would be a good idea if someone could sort out whether the road from SD 992490 to SE 003525 is the A6031 (*Yorkshire Dales*) or A6131 (Sheet 103).

³⁸ It is possible that magenta or red has been used on the tourist maps for reasons of legibility or ease of reproduction, rather than for aesthetic reasons.

³⁹ See, for example, the B editions of Sheets 102, 103, 108 and 117.

⁴⁰ Particularly bad examples are Ingleborough, SD 741746, and Great Shunner Fell, SD 848973.

⁴¹ The reduction of this is not very successful; your reviewer was put in the mind of those transatlantic televisionic turtles. The problem seems to arise from the omission of the eyeballs.

shape of the land (after all, 'dales' *do* imply contours) may be less amused. Both physical and cultural students will be irritated by the over-prominent National Park boundary; given that the vignetted yellow of the 1:50,000 is impracticable here, surely a rather narrower green line, perhaps vignetted, would answer equally well. The National Park boundary runs through a number of settlements, and where it does so the map is hard to read.⁴²

Much easier to read, away from the park boundary and the tourist information, is the shape of the land. The south-east part of *Yorkshire Dales* overlaps with the north-west part of the two *Ilkley* tourist maps (1914 and 1935), and the cynical might regard a comparison of the new map with the other two as a hit below the belt. In fact, the newcomer holds its own, particularly as an essay in colour, and I find it one of the most 'eyeable' maps to have come out of Southampton for many years. It is not the equal of the original *North York Moors* of 1958, which is possibly the apogee of post-1945 OS map design, but it stands comparison with almost everything else. The layer-tinting is admirable, and those who feel, from experience of such as the OSNI 1:50,000, that modern layering designed for four-colour printing leaves something to be desired need have no qualms.⁴³ Having 10 metre (33 feet) interval surveyed contours throughout is a great improvement on the mixture of surveyed and interpolated 50 foot (15.24 metre) interval contours of the later one-inch maps. However, I find the mixture of an imperial scale and metric height values irritating, (why cannot these modern 'one-inch' maps be at 1:62,500 rather than 1:63,360?), and though that may be dismissed as a trifle, what cannot be so readily dismissed is the handling of the hill-shading. I understand that this has been generated from the digitised 1:50,000 contours, and seen from a little distance - say at not quite arm's length - it looks quite impressive. Seen close to it sometimes looks eccentric,⁴⁴ more like cloud-shadow than the shadow of steep slopes. I suspect that it has emerged from the hands of a mathematician who devised an intellectually convincing algorithm, rather than someone who realises that landform shapes do not always follow neat mathematical forms. To develop Winterbotham's remark, this map can be used to demonstrate the proposition that God is unknowable, as the shape of the landscape former by His finger cannot be reduced to mathematical logic. There must always be intervention. 'The letter killeth; the spirit giveth life.' Potentially the greatest physical drama on this map is in the tract of country between Wild Boar Fell (SD 758988) to Abbotside Common (SD 9093), but here it passes almost by default, like, indeed, a diplomatically worded Civil Service memorandum. However, some of the curious 'step' effects which were a characteristic of some one-inch *Old Series* hachures and which have something of the effect of a long pause for breath in the middle of a sentence, are here avoided.⁴⁵ It is to be hoped that these defects can be overcome; about ten years ago OS produced as an experiment a hill-shaded version of 1:50,000 Sheet 90, and the effect was attractive, and might be still more so were it to be combined with a ground tint.⁴⁶

⁴² Particularly bad examples are at Ingleton (SD 6973) and Marske (NZ 1000).

⁴³ The worst example of modern layering which I know of is an experimental printing of 1:50,000 Sheet 42 of *circa* 1981, possibly chosen because it embraces the full range of altitudes; few people outside OS can have seen this abomination, and no-one else is missing much. A successful example of 'process' layering from this period is the *North York Moors* map, edition C (1982).

⁴⁴ I gather that it looked still more eccentric on the first proof, particularly the shading in some of the lakes!

⁴⁵ For examples see e.g. around Langstrothdale Chase, SD 9080 (*Old Series* 97 SE, *New Series* 50, Third Edition (Large Sheet Series) 20). The writer rather 'went off' hachuring after investigating Ordnance Survey practice in the East Riding and on the North York Moors in 1986.

⁴⁶ That is, somewhat after the manner of the experimental one-inch Sheet 120 of 1916: see *Sheetlines* 32, p.6. Although some form of digital hachuring (as opposed to hill-shading) might work more satisfactorily, a drawback to mechanical hachuring from contours is that it loses the one great advantage of hachures, viz. that they can show small features which the contours miss. For that reason any proposal to reintroduce hachures into OS practice would be unacceptable unless it was accompanied by field-checking. For mid-nineteenth century OS experience of mechanically-drawn hachures see Harry Margary, *The Old Series Ordnance Survey*, Vol VIII (Lympne, Harry Margary, 1991), pp.viii-xvi, esp. p.xi.

Some of what superficially appears to be hill-shading, for example east of Leyburn (SE 1389) is not hill-shading at all; it is 'show-through' from photographs accompanying the 'guide' on the reverse. These technical considerations apart, I am rather dubious about the value of these 'guides'; I feel that I am paying for something which I don't want. Possibly it gives the purchaser a feeling of 'value for money', and certainly there is an element of keeping up with the competition about it; since their modest beginnings about twenty-five years ago⁴⁷ these gratuitous 'guides' have exploded into the sort of thing we see here, occupying the whole of the back of the map, illustrated in colour, and, as they don't get out for nowt, costing something to produce; something more, I venture to suggest, than the 20p difference between the price of this map and an ordinary 1:50,000. It might be objected that there is no great difference between these 'guides' and the matter on the backs of Alan Godfrey's facsimiles, which I have been praising to the skies; on the contrary, it is the difference between something which has been added as afterthought and an organic part of the original scheme. I must admit that I would be less inclined to complain in the present instance were the show-through not so obtrusive; having refused to buy the 1:50,000 *Norfolk Broads* (1984) because of the pictures strewn about it,⁴⁸ I suppose I should be grateful that all but one are on the back of the map. The one accompanying the title is an aesthetic mistake, as it does not harmonise at all well with the layer-colours. Sir Charles Close, in discussing 'the ideal topographical map',⁴⁹ suggested that it might be accompanied by photographs, but I'm not quite sure whether this sort of thing is what he had in mind.

Do any of these maps reviewed here point in that direction? I suspect that 'the ideal topographical map' is highly subjective, and that to gather fifty articulate and intelligent critics together would leave an OS observer feeling that present practice can safely continue, as no clear guidelines for change would emerge. My own preference is for something resembling a combination of Withycombe lettering with much of the rest of Seventh Edition Sheet 142 of 1949, with the addition of rights of way and certain other later innovations. But that is not practical politics. Of the five maps reviewed here, the *Aerofilms Guide* is the one I could most easily do without. The 1:25,000 *Gower* sheet is the one I feel least needs modification: if only the contours were better printed the 1:25,000 could safely continue as it is. The two Irish maps are interesting as a contrast, and it is a pleasure to handle modern maps on which the contours are so clearly printed,⁵⁰ but they remain an commentary from a passer-by rather than a signpost.⁵¹ There remains *Yorkshire Dales*. In some ways, particularly the scale, it is an eccentricity, an aberration, an irrelevance.⁵² However, it can also be seen as a possible way forward; digitising work on the 1:50,000 is now well in hand, and whilst I am not aware that any more of it has reached the mass public outside of *Yorkshire Dales*, it is simply a matter of time. It would be possible to produce, at relatively little expense, a quite different 1:50,000 from what

⁴⁷ Early examples, of the mid to late 1960s, are to be found inside the cross-Bender Bartholemew half-inch covers; at this period the Ordnance Survey confined itself to gazettiers (see e.g. the 1967 *Dartmoor* and *Exmoor*). It would be worth investigating who first had the idea.

⁴⁸ Why ever was this ghastly map produced? Its one apparently innovative feature, the showing of navigable water and some navigation markers, is nullified by a failure to define for *what* such water is navigable. Supertankers? Canoes? Punts? One would have thought some discreet additions to Sheet 134 would have answered equally well, if not better. The strewing of the pictures looks like a desperate attempt not to lose too many sales of Sheet 134.

⁴⁹ Major C.F. Close, 'The ideal topographical map', *Geographical Journal*, XXV (1905), 633-47.

⁵⁰ Contours are also commendably clear on the 1:40,000 maps produced by Harvey Map Services Limited, of certain upland areas.

⁵¹ This comment is intended to apply to Western European mapping generally, rather than to the particular circumstances of Britain and Ireland.

⁵² It can also be seen as yet another example of the One-inch Eighth Series phenomenon. Apart from the *Cotswold*, *Dartmoor*, *Lake District*, *New Forest*, *North York Moors*, *Peak District* and now *Yorkshire Dales* tourist maps, 1:50,000 Second Series material has turned up (in Seventh Series sheet lines, to boot), on at least two reprinted Agricultural Land Classification sheets, 170 (1983) and 171 (1982).

we have been accustomed to, a 'relief edition' with the full panoply of layers and hill-shading. But I suspect that a 'relief edition' is no more likely politics now than it has been at any time since the Fifth (Relief) Edition was abandoned ignominiously in 1937. Nor am I sure that it is functionally necessary, as opposed to aesthetically desirable.

And so there remains the 1:50,000 Second Series. It is not necessarily what this writer would produce were he to have a free hand in the matter, but it is a fundamentally good map, which could do with a few minor improvements. First, the printing of the contours needs to be studied, to ensure that they are always legible. Recent issues have been generally satisfactory,⁵³ but it has not always been so in the past. Second, the differentiation between single and multiple track railways should be reintroduced. This was dropped from the 1:50,000 Second Series for technical reasons, in that it was difficult to produce the chequer symbol for single track railways by scribing.⁵⁴ This one can accept, but the distinction can be made by solid lines of different gauges, as on 1:253,440 aviation maps in the 1930s and 1940s, and as (for hierarchy of routes rather than number of tracks) on the 1:1,000,000 *Great Britain Wall Map* of 1988. There might be some commercial advantage for OS in this, as a good deal of reduction from multiple to single track has taken place in the last decade, evidence of which, for the ordinary map-buyer, is largely confined to those 1:25,000 Second Series sheets which have been revised.⁵⁵ Reintroducing the distinction on the 1:50,000 would enlarge the market⁵⁶ and encourage the railway enthusiasts, whose complaints hitherto have passed unheeded.⁵⁷ A third improvement would be the substitution of magenta for blue for tourist information, (if it can be done on the tourist maps it is hard to see why it cannot be done here) with any highlighting being in fine screened magenta. A fourth improvement, not perhaps practicable with analogue production, but which certainly ought to be with digital, is the introduction of a standard 1 km overlap on all 1:50,000 sheets. To map producers these may indeed be 'bleeding chunks'⁵⁸ but they are of great assistance where complicated detail, for example road junctions or settlements, is cut by sheet edges. Two further improvements would be to the legend. First, the description of minor roads needs attention. At present we have 'Road generally less than 4 m wide', infilled in yellow, and 'Other road, drive or track', without infill. What is the difference? In practice, the 'yellow' roads are tarred, but so, on sheets revised before about 1988, are some of the unfilled roads. Since 1990 newly-revised 1:50,000 sheets have appeared in which dead-end tarred roads have been infilled yellow, which is an immense boon to solitary motorists or cyclists, navigating by counting road junctions; on those sheets it would be a good idea if the practice followed until about 1979 were to be revived, and the infilled roads described as 'under 4m, tarred' and the others as 'untarred rural roads, minor roads in settlements, drives and tracks'. There is admittedly something of a problem here, in that sheets revised before about 1988 retain unfilled dead-end tarred roads, and would need to retain the present legend. It might be objected that there is one standard legend for all 204 sheets, but as this standard legend has to be adapted anyway to include sheet names and numbers and revision dates, there is no sensible reason why it should not be adapted similarly according

⁵³ See the recently published 'B' editions of Sheets 86, 87, 103, 131, 141, 155, 170 and 196; the synthetic brown on Sheet 196 is a little too light to be clearly legible in built-up areas. The same fault applies to the B edition of Sheet 88; the contours in Newcastle on the much-reviled *Hadrian's Wall* map (1989) were a revelation. However, were screened black for buildings to be reverted to (as on the Seventh Series) the legibility of the contours would be much improved.

⁵⁴ It might have helped had OS been more active in explaining this to the general public in the 1970s.

⁵⁵ For example, Sheets 708 (TA 21/31) and 720 (TA 20/30).

⁵⁶ Professor Rhind kindly note!!

⁵⁷ I write from long experience!! The removal of the distinction between single and multiple tracks was complained of in a letter to one of the railway magazines within a month or two of the introduction of the 1:50,000 scale in 1974, but I do not have the exact reference and cannot remember whether the rest of the letter contained criticisms - e.g. about the scale-change - which would have diluted the force of this particular complaint.

⁵⁸ One hopes the reference is to Wagner rather than to Shaw.

to how dead-end tarred roads are treated. The pre-1979 usage was misleading, and the current one is a nonsense. A second improvement would be to use the white space above 'Derivation of Contours' to define what 'selected change' on reprints may be. 'Selected' is one of those prim, revolting words which sticks in your reviewer's throat like a fishbone⁵⁹ and should be expunged from the language, but if it *has* to be used, why can it not be explained?⁶⁰ A final improvement would be to the spines of *Landrangers* and *Pathfinders* covers: since 1985 the sheet number and sheet name details have been on white, reversed-out; this information is not at all easy to read, particularly for those of us with large numbers of these maps, stored spine outwards.⁶¹

There is of course one further improvement to be made in the pursuit of 'the ideal topographical map', and that is the reintroduction by Ordnance Survey of a scale intermediate between the 1:50,000 and the 1:250,000;⁶² a 1:100,000 would conform to international practice, but a 1:125,000 would enable a reduction in the number of sheets needed⁶³ without any loss of the detail desirable at this scale.⁶⁴ As things stand at the moment, there is no mapping in sheet form suitable for cycle touring, that is to say one which combines portability with sufficient detail, notably as to relief. The Bartholomew 1:100,000 derivative of its half-inch was abandoned as a national series about five years ago, and now survives only as a series of 'honeypot' tourist maps, using reproduction materials overdue for retirement.⁶⁵ In the mid 1970s George Philip produced a 1:100,000 map of England and Wales in 36 sheets, derived from the late states of the OS One-inch Seventh Series. It was beautifully drawn, but suffered from two defects: one was subjective, the colour-scheme, and one objective, in that it was not contoured. Had it been contoured, even at 30 metre intervals, the Bartholomew map, which replaced the 100 foot (30.48 metre) interval contours of its half-inch parent with 50 metre contours,⁶⁶ would have been 'done for'. The Philip map does not seem to have been a complete commercial success in sheet form, as by the mid-1980s it had been withdrawn, being republished first as a series of floppy 'Navigator' atlases, and more recently as three weighty volumes which push the 'floppy atlas' concept to its limits. These volumes are unwieldy in a car, and impossible for cyclists, who have been more and more ill-served since the OS Half-inch Second Series was abandoned in 1961.⁶⁷ That abandonment was because there was great pressure on OS drawing staff, and

⁵⁹ 'traditional' is even worse.

⁶⁰ Some readers will be saying at this point: 'what about parish boundaries?' Until a few years ago I was in favour of their restoration to the 1:50,000, on the grounds of their utility for historical work, but I have now changed my mind, and feel that it would be much better to solve the parish boundary problem by reprinting turn-of-the-century one-inch maps, showing them before they had been extensively rationalised. Of course, this does not address the problem raised by Guy Messenger in *Sheetlines* 29, p.31, of providing parish boundaries on a gridded map at a convenient scale for such purposes as botanical recording.

⁶¹ The official explanation was that with black lettering and white spines it was difficult to get the fold in the cover to coincide with the edge of the white area of the spine. Setting aside the small detail that for about forty years this operation had been managed with conspicuous success, why could not the front cover designs have been modified to take account of this difficulty?

⁶² I apologise to readers for harping on about this, but I am [pygmalion] frustrated.

⁶³ From about 40 for a 1:100,000 to about 29-30 for a 1:125,000, assuming that sheets 110 x 88 cm (as for the 1:250,000 *Routemaster*) were used. (I have not worked out a layout for 80 x 80 cm sheets for these scales.)

⁶⁴ Except that, assuming contours were taken from the 1:50,000 database, a 20 metre interval would be possible on a 1:100,000, but a 30 metre interval would be necessary on a 1:125,000.

⁶⁵ As a matter of justice to Bartholomew's, the Ordnance Survey, and the map-buying public, the history of the Bartholomew half-inch demands to be written up. Nothing better illustrates the impossibility of leaving a map series to private enterprise in a country subject to the rampages of H.M. Treasury.

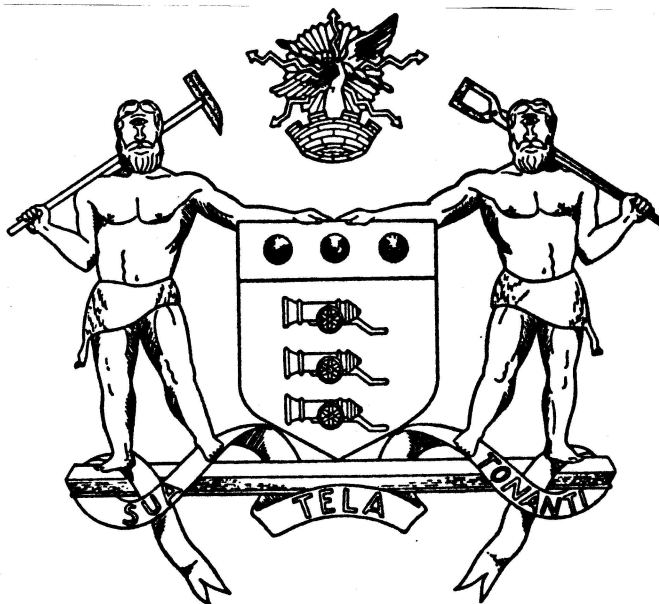
⁶⁶ Which at that date (*circa* 1971-5) must all have been interpolated. In any case, 50 metre (165 feet) interval contours are of little more use than the 200 feet (61 metre) contours on the OS 1:250,000, and thus much of the justification for the Bartholomew map is nullified. Was it a misjudgement, a misguided economy, or what?

⁶⁷ It is of course unfortunate that no provision for a 1:100,000 map was made when the OS 'core mapping' programme was drawn up as a result of the deliberations of the OS Review ('Serpell') Committee in

more recently OS has been able to argue, reasonably, that in effect there is little demand voiced for such a map,⁶⁸ there are commercial alternatives,⁶⁹ and therefore there is no justification for its production in an atmosphere of Full Cost Recovery, particularly as it would have to be redrawn from scratch.⁷⁰ This argument was good until a few years, even a few months, ago, but it has now lost its force. First, the map could be produced from the 1:50,000 database. If it is possible to use enlargements from it to produce the 1:18,103 street atlases⁷¹ then it ought to be possible to use reductions to produce a 1:100,000 - as is policy in that sometimes derided country, Ireland.⁷²

Future developments are awaited with interest.

Richard Oliver



1978-9, but at the time that 'Serpell' was sitting the Bartholemew and Philips maps were both still available in sheet form, and, as remarked in the following note, the public appear to be better at complaining about an existing product than at demanding a new one.

⁶⁸ There is an element of truth in this, but in my experience ordinary map-users are more inclined to grumble about existing products than suggest new ones. One could no doubt go through the entire archive of correspondence in Information Branch at Ordnance Survey over the past twenty years and 'prove' from the scarcity of mentions that there is no demand for an OS 1:100,000 or half-inch map. But one could also go round youth hostels, asking questions of map-users, and prove exactly the opposite. And would those same correspondence files 'prove' a demand for road atlases, street atlases, 'Landranger guides', 'Pathfinder Guides', *Hadrian's Wall* and the rest? Over to you, Professor Rhind.

⁶⁹ In scale, yes; in effectiveness for cycling, certainly not.

⁷⁰ A tautology for scribing.

⁷¹ I am not certain how many of these have been produced from the digital database as opposed to enlargement of analogue material, but the two most recent (*Oxfordshire* and *Warwickshire*) certainly are.

⁷² One possible solution would be a variation in the Superplan service, whereby plots at, say, 1:100,000 could be produced from the 1:50,000 database, without generalisation, which would solve the problem in practical terms. I suspect however that demand might prove too great for the plotting capacity. In a recent interview in the *New Scientist* (29 August 1991, pp 40-43) Professor Rhind 'envisages rambles of the future determining their exact location from hand-held computers.' This might possibly solve the difficulty, but at the moment the idea seems futuristic, and any fully-computerised system would have to provide a means of allowing inspection of a large tract of country at a large scale - a facility we take for granted with paper maps - to be at all satisfactory.

(Continued from inside front cover)

CHARLES CLOSE SOCIETY

Publications list, as at 1 October 1992

All publications are obtainable from the Society's Hon Publications Manager, Mr D. Watt, Flat 9, 33 Cotswold Way, Langley Avenue, Worcester Park, Surrey, KT4 8LN. All prices include postage and packing.

For publication mid-November: The 'Ten-Mile' maps of the Ordnance Surveys, by Roger Hellyer. A4, 224 pages, paperback. Only £14.95 to CCS members for orders received before 1 December 1992. The carto-bibliography 'they said couldn't be done.' It has been!!

The Sheet Histories of the Ordnance Survey One-Inch Old Series Maps of Devon and Cornwall, by Guy Messenger, 44 pp, pbk, £ 4:20

The Sheet Histories of the Ordnance Survey One-Inch Old Series Maps of Essex and Kent, by Guy Messenger: 52 pp, pbk, £ 4:50

'An Inch to to the Mile': The Ordnance Survey One-Inch Map 1805 - 1974, edited by Yolande Hodson. 64 pp, pbk, £ 2:50. (This was prepared as an exhibition catalogue, but is the only summary account of the one-inch map at present in print.)

The Ordnance Survey one-inch map of England and Wales, Third Edition (Large Sheet Series): a Map Study Monograph, by Guy Messenger. 252 pp, paper covers, £ 9:95.

A Guide to the Ordnance Survey One-Inch Map of Scotland, Third Edition in Colour, by Guy Messenger. 36 pp, pbk, £3:30.

A Guide to the Ordnance Survey one-inch Fifth Edition, by Richard Oliver, 36 pp, pbk, £ 2:25.
Only a few copies left!

Ordnance Survey 1-inch New Popular Edition drawing 131/5, (1939-40); paper flat, £8:50. (This is a photographic copy of an unpublished drawing at 1:31,680 scale, covering some 180 sq km around Reddich and Alchester.)

A Guide to the Ordnance Survey Seventh Series, by Richard Oliver, 48 pp, pbk, £ 4:20.

An Introduction to the Ordnance Survey One-inch Seventh Series Map, by Richard Oliver. 32 pp, pbk, £ 5:00. (This is a version of the 'Guide' listed above, prepared to accompany the limited edition issue of final printings of the Seventh Series in 1991. The text differs in some respects.)

Ordnance Survey 1-inch Seventh Series sheet 137, edition B, reprinted 1991: paper flat, £ 5:00. (This was the last standard one-inch sheet to be printed.)

A Preliminary List of the Ordnance Survey One-inch District and Tourist Maps in the British Library, by Karen Severud Cook and Robert P. McIntosh, 64 pp, paperback, £3:00

Sheetlines: issues 1 to 27 have been reprinted in seven collections, each collection £5:50 or £35:00 for the set of seven, as follows: 1-6; 7-10; 11-14; 15-18; 19-21; 22-24; 25-27.

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Wanted: the following books: J.H. Andrews, *History in the Ordnance Map* (1974). Quite good price paid for copy in reasonable condition. Also: J.A. Steers, *The Coastline of England and Wales* (1946); L. Dudley Stamp, *The Land of Briain*, (1948, 1962). Please contact Richard Oliver, (address as editor of *Sheetlines*).

(Similar 'small ads' accepted, without charge: please contact the Editor of *Sheetlines*.)

*The proposed reprints from the **Geographical Journal***

In the early days of the Society a project was started to reprint articles of OS interest published in the *Geographical Journal* between 1893 and 1934. For a variety of reasons, the progress of the work was slow, and in March the Committee reluctantly decided that all further work on it would be suspended. This decision was taken because it was thought unlikely that the estimated cost of £1500 or so would be recouped soon enough to justify the expenditure of capital. All the work completed to date has been put into store, and no doubt if the Committee had a suitable financial guarantee, or there is concrete evidence of a wide demand, work could be restarted.

The 'Methods and processes' reprint project

At the AGM on 16 May it was announced that it was hoped that there would be published this autumn a collection of articles on OS methods and processes, about 64 pages in length. Unfortunately, problems have arisen with the necessary paste-up work, and the project has had to be suspended until they can be resolved. If anyone is willing to help with the pasting-up, could they please contact the Editor of *Sheetlines*?

NOTICE

The editor and contributors to *Sheetlines* are individually responsible for the opinions which they express therein: the Charles Close Society as a body does not necessarily agree with all or any such opinions.

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Contributions

to *Sheetlines*, long or short, profound or (fairly) trivial are welcome:

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