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“Re-inventing the romer”

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## *Re-inventing the romer*

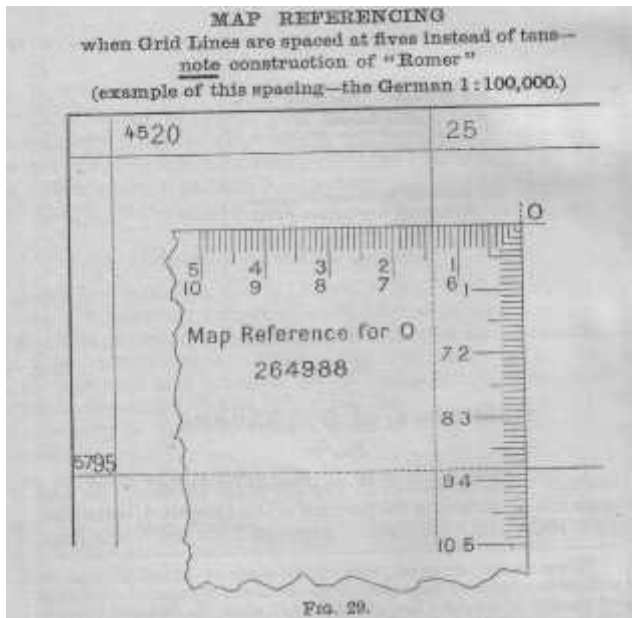
*Thomas O'Loughlin*

### *A military need*

Fifteen years ago RT Porter gave us an account of some simple pieces of card developed in 1915-16 to assist in giving more precise references on the new squared maps being issued on the Western Front.<sup>1</sup> These pieces of card – then simply described as a ‘Reference Cards’ – and their use are described in detail in an army pamphlet of December 1916 which stated:

“To facilitate the use of coordinates on the maps, special cards have been prepared and issued. ... the cards [are] for the 1:20,000 and 1:10,000, and for the 1:100,000 scales.”<sup>2</sup>

The pamphlet illustrates two such cards: one which can be used for the two larger scales, and another for 1:100K scale. I have never seen one of these cards, but from the images and description it is clear that two separate cards were being issued.



*Figure 1: From 1929 Manual, p. 56*

The next appearance of the cards, as pointed out by RT Porter, was in the 1929 War Office *Manual of Map Reading, Photo Reading, and Field Sketching* where the cards are now called Romers – though this is placed in inverted commas as if the name is a new technical and unfamiliar term: so the heading reads: “*Romers*” or *Reference Cards*.<sup>3</sup> Now in addition to the diagram of a standard British Romer<sup>4</sup> there was a diagram of a metric Romer (numbered in cm, lines 1 mm apart) for use on the metric grids of continental maps, and there is guidance on various gridlines found on Belgian, French, Swiss, and German maps. The second Romer

diagram with two sets of numbers (0-5 and 6-10) on each edge; the second set (6-10) for use with grid lines spaced 5km apart (see figure 1).<sup>5</sup>

<sup>1</sup> RT Porter, ‘Romer and his Romer,’ *Sheetlines* 63, 39-42; and ‘Romer and his Romer: an addendum,’ *Sheetlines* 64, 30-31.

<sup>2</sup> *Maps and Artillery Boards*, p. 15; the 1917 US Army reprint of this pamphlet is available as a pdf on the Defence Surveyors’ Association site: <http://www.defencesurveyors.org.uk/Historical/WWI/WWI.htm>

<sup>3</sup> London 1929; this edition was ‘Reprinted with Amendments’ in 1939.

<sup>4</sup> Reproduced in *Sheetlines* 63, 41.

<sup>5</sup> I am indebted to the anonymous reader for pointing this out to me.

The official training manual supposes that Romers will be available and ‘must be used’ if ‘particular accuracy is required,’ but just in case it advised that:

“they can be made on a piece of paper ... as follows: Take one corner ... and number it nought. Set off along both edges the distance between the grid lines. Subdivide this distance into tenths and number them from 0-10 outwards from the corner or zero point.”<sup>6</sup>

Moreover, both the idea of a card for establishing grid references and the name ‘Romer’ seem now to have become widespread. An anonymous introduction to the Romer can be found in *The Complete Guide to Military Map Reading*.<sup>7</sup> This states that for accuracy ‘a Romer should be used’ and it gives a diagram of a Romer and describes its use with a 1:25,000 map. It also adds this curious detail: ‘if the student does not possess one on his Service protractor, it is easy to make one’ from paper or card. Was a Romer ever added to the Service protractor? I have never seen one with a Romer; and, significantly, the book’s own detailed image of the protractor (pl. E, facing p. 74) does not include one.

In 1940 W Allason wrote a small textbook *Military Mapping and Reports* which is emphatic on its use.<sup>8</sup> In describing giving references from a map with a co-ordinate system based on the sheet, he declares that ‘The Romer method enables [a] position to be absolutely pinpointed.’ But the actual account of the system leaves something to be desired:

“*Romer*

To obtain the exact position of any point in a grid square a Romer is used. This is the size of the square, the top and right edges have 10 divisions. Plate 7, Fig 1 shows a km. Romer being uses on a km. grid at one inch to the mile. The point P is 3 tenths eastward, 4 tenths northward.”<sup>9</sup>

To those who know what they are doing in using a grid this guidance is unnecessary, while to those that are unfamiliar with the notion of a grid, much less a Romer, this information is useless. Indeed, more confusion awaits the unwary because Allason supplied an image of a Romer with the advice that it can be ‘cut out, pasted on Buckram and varnished.’ The only difficulty is that this Romer is 5¾” square, each ‘tenth’ is intended to be c. 9/16” long (they actually vary by up to an 1/8”), and it was intended for use with an eight-inches to the mile (1:7920) map. Brigadier Allason was keen to give a practical flavour to his book – it is for junior officers engaged in mobile warfare – but one wonders did any soldier ever see such a large-scale map on active service? One suspects that Allason has heard of Romers but was not actually familiar with them.

<sup>6</sup> p. 53; a pity the draughtsman of the diagram on p. 54 did not follow this advice!

<sup>7</sup> I have war-time reprinting of the tenth edition, Aldershot 1938; pp. 15-7.

<sup>8</sup> London 1940; I used the fifth edition from 1943.

<sup>9</sup> Pp. 11-13; the actual figure is on a different page, and a very small, and unclear drawing: only someone who already knows what it is supposed to show could understand it.

## The "Romer"— A simple gauging square

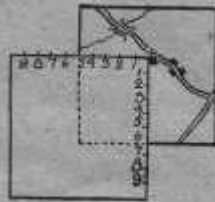


Diagram 6

A SIMPLE device to find the position of a point in a square of the "One Inch" is to cut out a piece of thin card the same size (2" by 2"), and divide each side into 10 and number them, but adverse ways as in Diagram 6. Then, by putting the corner where the "1's" meet on the desired spot, and keeping the edges parallel with those of the map square, the figures where the edges of the two squares cut will give the readings. The gauging square is called a "Romer." So the reading of the church in Diagram 6 is 51.65. The end joint of the little finger is a good measure for a mile, being usually an inch long on normal persons.

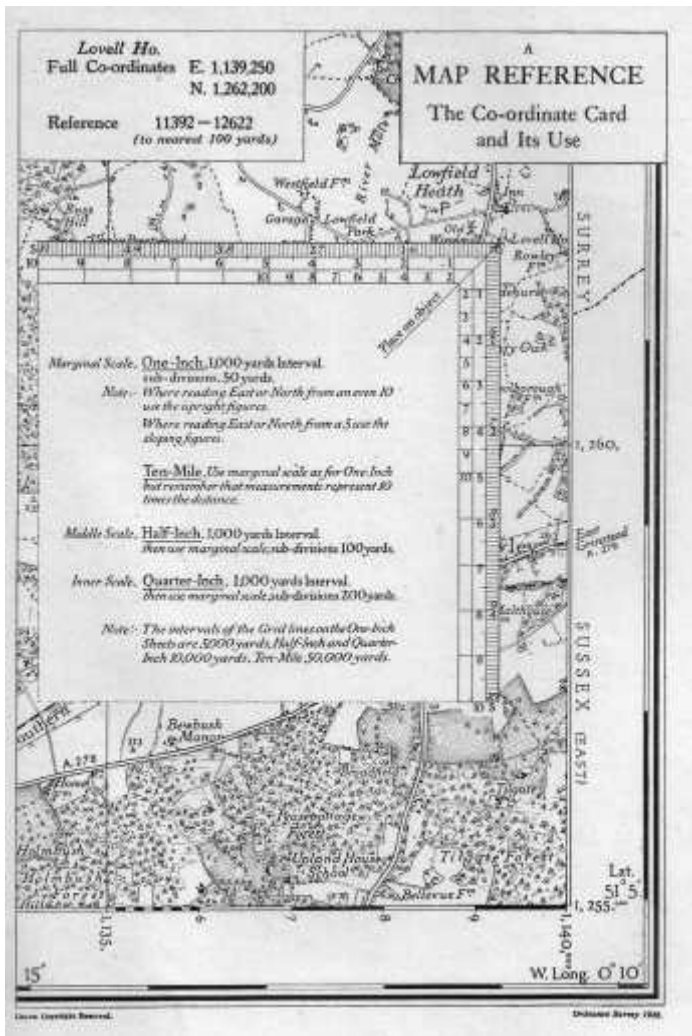
Besides the mile scale being on the bottom margin of these Ordnance Maps there is also the kilometre scale, besides a fount of other information.

By contrast, the anonymous author of the 6d pamphlet *Map Reading, Field Training, Scouting, Observation & Camouflage* (all in 48 pages)<sup>10</sup> has both a clear introduction to the notion of a grid, and then the section shown in *figure 2* (left).

All this does not mean that the name 'Romer' was universally in use by 1930s. The great promoter of the Grid,<sup>11</sup> HSL Winterbottom, does not use the term in his *A Key to Maps*.<sup>12</sup> He is clear that for a 'more accurate' reference 'a card measurer must be used.' He assumes that the map-user will make this out of 'an old envelop' or cardboard, adding that 'during the War many of us used pieces of zinc, which, however, had the drawback of oversharp corners' – and there is no hint that any special cards were issued. He then says that: 'it is far easier to illustrate a card that to describe it' and offers the reader an image of 'The Co-ordinate Card' calibrated for the 1", ½", ¼", and 10-mile maps. Unfortunately, the picture is not that clear: it tried to show too much, and does not locate the card on a grid line so as to read the northing (see *figure 3, left, plate 6* from *Winterbottom's A Key to Maps*).

### Post-war Romers

The Romer does not appear to make its way into civilian textbooks on map reading. Virtually all have a long section explaining the logic of the National Grid and how to use it – but assume that giving co-ordinates within a grid square is a matter of estimation by eye. One notable exception – and I am sure there are others



<sup>10</sup> It is by 'The Scout' (A.S.M) – I have not been able to trace who A.S.M. was - and subtitled *Success in Home Defence* (published by The Guardian Press, Walthamstow) and it was priced 6d. The author envisages a time after a German invasion when a resistance movement would be engaged in guerrilla warfare.

<sup>11</sup> See H.S.L. Winterbottom, 'The National Grid', *Geographical Journal* 63 (1924) 491-6.

<sup>12</sup> London, 1936 and many reprints; the relevant pages are 129-30 and pl. VI facing p. 130.

– is the *Ordnance Survey Teacher Resource File: Port Talbot*.<sup>13</sup> This shows two Romers – named as such – for classroom exercises with 1:1250 and 1:2500 maps. Intended to give accuracy of one metre, there is no mention of their use with grid references on the more common small-scale maps. Moreover, they assume one places the pointer of the Romer in the bottom left corner of the grid square and then counts to the XY intersection rather than ‘reading off’ the two numbers by placing the pointer at the chosen location.

But the Romer has not been forgotten. Sometime in the 1950s the car rally partners Eric Gardner and John Cridford produced *The Garford Romer* – which is still on sale on Amazon. A 3 inch square of white plastic which, though primarily intended for use with 1 inch maps, also has a second Romer for 1:25,000 maps. In a similar vein is 2017 *Protractor Romer* produced by Military Pocket Books Ltd. This transparent plastic sheet is larger than the Garford (5 5/8” x 4”) and has three Romers: 1:25,000; 1:50,000; and 1:190,080 – and because it has squares rather than just numbered scales it can be used to count-up area on a map. But it is not very useful in that the scales run from 1 to 10 (rather than 0 to 9) and instead of both scales starting in one corner (ideally the top right given that we work eastwards and northwards in the National Grid) these scales run from left to right and bottom to top. So, in effect, the scales add nothing to what one would have with a plain grid of squares – one still has to count rather than read off. Meanwhile, the presence of the scales could cause confusion as to which grid lines one should count from.

But the Romer now has a new fame: it has an entry – whoever wrote it really knows their stuff – on Wikipedia.<sup>14</sup> This entry has not only a good description of its origins and use but has an excellent illustration of one being used. It also has a link to another site, now archived, called ‘Merlin’s Pyramid: Making a Romer’ with more information and two Romers (1:25k and 1:50k) to print out on an A4 page and use.

### ***Romers abroad***

While the name Romer appears to be confined to the Anglophone world, the idea is not. The basic idea has been incorporated onto the base of many compasses. But more interestingly Romers are printed on the plastic sleeves of many topographical maps on the continent. On the Italian 1:25,000 ‘Tabacco’ maps (all for the NE Alpine region of Italy) the sleeve not only keeps the map clean but allows one to use the grid with accuracy. This is a very handy Romer in that it can be used even when the map is not on a firm level surface: it bends with the map. It is not as convenient as the classic Romer in that the scales originate at the bottom right corner rather than the top right corner – but the instruction diagram is clear as to its use. The presence of this Romer (now called ‘A Coordinate Scale’ - and with names in Italian, German, and French) may be explained by the concern of these maps with Alpine hiking and rescue – being able to give an

<sup>13</sup> No publishing details given, but presumably Southampton and c.1993; the Romers are on p.39.

<sup>14</sup> <https://en.wikipedia.org/wiki/Romer> (accessed 23 December 2017).

exact location from the map could be a very serious matter – and also due to the fact that while the Italian Grid is based on the UTM projection, it is not printed on the map parallel to the edges – so one cannot use the scale along a map's borders for accuracy in the centre of the map (*see figure 4*).



Figure 4: Sleeve from a 'Tabacco' 1:25,000 topographical map  
 Figure 5: Sleeve from Baden-Württemberg state topographical map

On the Italian map the Romer is named in German *Koordinatenmesser* ('coordinate measurer') but when the Germans place a Romer on a plastic map sleeve they name it a *GPS-Kartometer* ('map measurer'). These can be found on the topographical maps produced by several German states. The sleeve illustrated comes from Baden-Württemberg and has Romers for three map scales. While it has the advantage of being also useful for measuring area, as a way of finding a grid reference it has a couple of faults. First, one has to count outward to the precise location rather than 'read off' the reference; and, secondly, there are no instructions on its use (*see figure 5*).

However, I criticise either of these Romers with hesitation. What useful bits of plastic these are! Not only do they protect one's map, keeping away damp and dirt, but provide a Romer that is always at hand when one wants it: when reading the map.