

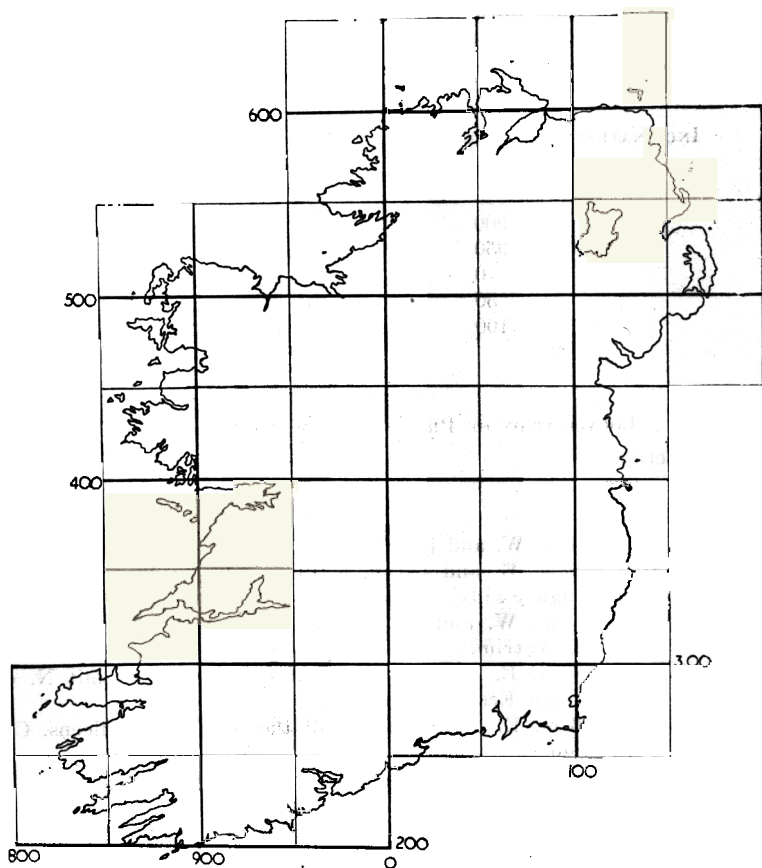
**THE DISTRIBUTION MAPS SCHEME:
A PROVISIONAL EXTENSION TO IRELAND OF THE BRITISH
NATIONAL GRID**

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The decision to use the 10-km. squares of the National Grid as the basis of the Society's Atlas of the distribution of British plants necessitated the extension of the grid to cover the whole of Ireland. This presented a problem which was at once difficult and incapable of an elegant solution.

The zero vertical of the grid nearly bisects Ireland, running from Youghal to the Bloody Foreland, so that the eastern half is covered by the existing grid; but only small-scale maps are available to show this. Furthermore, a serious difficulty arises from the fact that, whereas the grid was chosen to suit the projection on which the Ordnance maps of Britain are drawn (transverse Mercator, with origin at 2° W., 49° N.), the Ordnance maps of Ireland are drawn on Bonne's projection, centred on the meridian of 8° W. It follows from this that the grid will appear on the Irish maps in a form that is neither rectangular nor rectilinear, and that it will be set skew both to the graticule (meridians and parallels) and to the margins of the sheets. In fact, the verticals appear as virtually straight lines running from west of north to east of south; while the horizontals appear as curved lines, dipping south of west at an angle which increases sensibly towards the west. In the eastern half of the country their deviation from a straight line is barely perceptible, but in the extreme west it becomes very marked.

To plot this grid accurately would require some fairly intricate spherical trigonometry and a very long and tedious series of calculations. Since the time for the latter was not available, I wasted no vain regrets on my lack of the former, and proceeded by a method which used approximation and extrapolation freely to an interim solution which is (if one remembers the scale on which the maps are ultimately to be printed) sufficiently accurate for the present purpose. The grid has been drawn on a series of $\frac{1}{2}$ " maps which are kept in the School of Botany, Trinity College, Dublin; duplicate sets are in the Departments of Botany at Cambridge and (northern sheets only) Belfast. It nevertheless seems worth while to put on permanent record the position of the principal fixed points in this grid which is being used for the atlas, so that any record which gives rise to queries in the future can be searched for if necessary, and so that those who have not access to the gridded maps can, by interpolation between these points, reconstruct the grid with sufficient accuracy for most purposes.



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In this connection, however, attention must be drawn to a totally unexpected obstacle which I encountered in transferring the grid to the Ordnance maps: the fact that a considerable number of the Irish sheets deviate perceptibly from their ostensible scale of $\frac{1}{2}$ " to a mile. Altogether ten sheets out of the twenty-five on which the grid was actually drawn show discrepancies of scale exceeding 0.2%. The most serious error is in sheet 9, where the scale in the north-south direction seems to be 1.8% below its nominal value; the most bizarre discrepancy is in sheets 4 and 8, where the north-south scale is 0.5% too large and the east-west scale 0.25% too small. How this state of affairs arose I cannot imagine, but it is a trap against which I would warn anybody who is attempting to reproduce a part of the grid.

The two tables here appended should suffice for fixing the grid within the limits of those errors which are inherent in the method by which it was plotted.

TABLE 1.
INCLINATION OF VERTICALS WITH RESPECT TO THE MERIDIANS

Grid line	Inclination
850	7° 10'
900	6° 40'
950	6°
0	5° 20'
50	4° 40'
100	4° 10'

TABLE 2.
LOCALISATION OF PRINCIPAL GRID INTERSECTION

Intersection (vertical is given first)	Locality
0/600	1.4 m. W. and 1.0 m. S. of the Bloody Foreland.
50/600	0.9 m. E. and 1.0 m. S. of the fort on Dunree Head, Lough Swilly.
100/600	3.1 m. W. and 0.4 m. N. of Ramore Head, Portrush, Co. Antrim.
900/500	0.4 m. E. and 0.3 m. N. of the 890 ft. summit N. of Bangor Erris, Co. Mayo.
950/500	1.6 m. E. and 0.3 m. S. of the bridge at Culleens, Co. Sligo.
0/500	1.9 m. E. and 0.1 m. N. of Lisgorman station, Co. Leitrim.
50/500	0.8 m. W. and 0.6 m. N. of the N.W. corner of L. Lea, near Lisnaskea, Co. Fermanagh.
100/500	0.1 m. E. and 0.9 m. N. of the church at Lisnadill, near Armagh.
150/500	1.0 m. E. and 0.3 m. S. of Edendarriff Mt. (553 ft.), S. of Ballynahinch, Co. Down.
900/400	0.7 m. W. and 0.4 m. S. of the Cashla River bridge, S.E. of Costelloe, Co. Galway.
950/400	1.9 m. W. and 0.9 m. N. of Athery station, Co. Galway.
0/400	2.2 m. W. and 1.8 m. N. of the school at Clonmacnoise, Offaly.
50/400	0.6 m. E. and 2.0 m. S. of Rochfortbridge.
100/400	1.1 m. W. and 2.8 m. N. of Leixlip station, Co. Kildare.
850/300	2.1 m. W. and 0.3 m. N. of Gurry Island (N. of Castle-gregory, Co. Kerry).
900/300	0.1 m. E. and 2.3 m. S. of the church at Duagh, Co. Kerry.

Intersection (vertical is given first)	Locality
950/300	0.5 m. E. and 0.2 m. S. of Bruree station, Co. Limerick.
0/300	1.1 m. W. and 1.3 m. N. of Newinn, Co. Tipperary.
50/300	1.2 m. W. and 2.4 m. S. of Thomastown, Co. Kilkenny.
100/300	0.3 m. E. and 1.8 m. N. of Grania's cross-roads, E. of Enniscorthy, Co. Wexford.
850/200	5.9 m. W. and 2.1 m. S. of the 765 ft. summit above Mizen Head.
900/200	0.4 m. W. and 0.2 m. N. of Scullane Point, near Toe Head, Co. Cork.
950/200	1.6 m. E. and 5.3 m. S. of the Old Head of Kinsale.