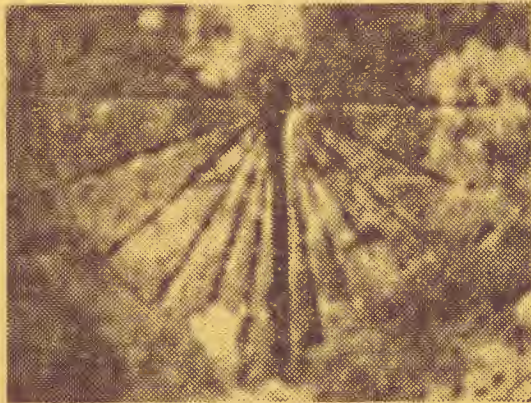


# ORIGIN AND USE *of* CHURCH SCRATCH-DIALS

By  
**T. W. COLE.**



*Scratch-Dial of late date on porch  
of Litlington Church, Sussex*

**Appendix giving list of over 1,300 Churches on which  
dials may be found.**

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# SCRATCH DIALS

ROUGH SKETCHES  
showing variety of types found  
in Worcestershire



HAMPTON LOVETT



STOULTON AND BROADWAS



SPETCHLEY



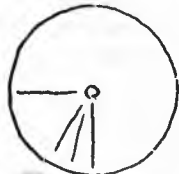
SEVERN STOKE



HOLT



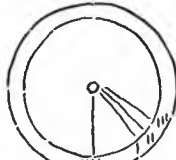
EASTHAM



NETHERTON



HINTON-ON-THE-GREEN



HIMBLETON



MARTLEY



BROADWAS



CLEEVE PRIOR



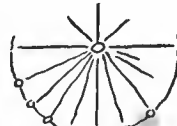
BISHAMPTON



WICHENFORD  
(UPSIDE DOWN)



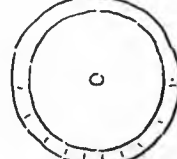
POWICK



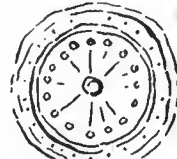
SHRAWLEY



SHRAWLEY



EARL'S CROOME



PIRTON  
(INSIDE CHURCH)



CHURCHILL  
(INSIDE CHURCH)



HAMPTON



SEDGEBERROW



BRANSFORD

# SCRATCH DIALS.

## THEIR ORIGIN AND USE.

A scratch dial is a form of sundial, used by medieval parsons to mark the time for services. These dials, about the size of one's hand, are scratched on the south wall of old country churches at about eye level. What they originally looked like we do not know. All that remains to-day is a central hole from which radiate a few lines cut in the stonework. A few typical dials are shown in Plate I.

As the conditions under which these dials were made and used have entirely disappeared, they are not self-explanatory.

The following brief notes embodying, of course, much that is already accepted, are offered merely as conjectures that seem to cover certain of the facts while being, at the same time, congruous with the ideas and practices of the middle ages.

### PAINTED SUNDIALS.

The mediaeval custom of limewashing the exterior of churches suggests the possibility that these scratch dials were originally painted dials, the incised lines that we see to-day being merely permanent memoranda, as it were, beneath super-imposed painted lines. However frequently the walls were re-limewashed, these dials could be easily re-instated by merely painting over the skeleton indentation, which would, of course, be easily traceable despite the new coating of whitewash.

This assumption that dials were painted either on walls already limewashed or on patches specially whitened, clears up more than one perplexity concerning scratch dials.

It would explain, for instance, the tiny pittings or little holes that are seen in some dials, arranged in a circle or semi-circle around the central hole (see Plate I, Martley, Broadwas, Powick and other dials). In these instances the position of the painted lines was denoted, not by scratching over each line so as to form its replica on the stonework underneath, but by gouging out a tiny hole at the end of each line.

Again, a dial such as the one illustrated in Plate I, Earls Croome, is certainly an enigma as it now survives, with its casual little scratches around a periphery. But it at once becomes explainable if we visualise it as whitened over, with black lines ruled from the central hole to each of these same little marks.

Analagous cases occur where to-day the pointer hole alone survives. Here the dial was painted as usual, but no one took the trouble to scratch the customary replica on the stonework underneath (perhaps too hard or too soft.)

The dial at Pirton (Plate I) is another instance where the assumption that dials were painted helps to a better understanding. Here there are two concentric dials, an inner and an outer. The inner and earlier dial is marked with but a few divisions. Subsequently, when a full complement of hour-lines was desired, the original dial was whitened over and a new set of lines painted. We can trace the position of the new set of lines (which were longer than those in the old inner dial) by the "end" marks still surviving (see outer and inner rings of marks, Pirton dial, Plate I).

Again, we can understand lines being sometimes of a rough and irregular character (as in a good many dials) if they were scratched merely for general guidance, the final ones being carefully painted on top.

#### MEDIAEVAL TIME-SYSTEM.

The adoption of the scratch dial as a time-keeper by the mediaeval church was particularly apt, as a vertical dial of this kind, equipped with a straight pointer wedged so as to point due south would register time on a principle parallel with that of the medieval time-system itself. This principle was that the first hour of the day should begin at sunrise and the twelfth hour end at sunset. This entailed a kind of sliding scale for the hours in the sense that as the year progressed from summer to winter each hour in the morning grew a little bit later and each hour in the afternoon a little bit earlier. The effect of this can best be realised by a concrete example. By converting medieval hours into clock hours we can see the sliding scale at work.

The following is given in round figures merely for comparison :—

	<i>Hours in Medieval System.</i>				
	First	Third	Sixth	Ninth	Twelfth
Summer	5 o'clock	8	12	4	8
Autumn	7 o'clock	9	12	3	6
Winter	9 o'clock	10	12	2	4

#### CANONICAL HOURS.

This system of time-keeping, though it may seem rather hap-hazard to us to-day, worked quite well in those centuries when, owing to total lack of effective artificial illuminants,

the work of each day had so to be planned as to fall within the limits of sunrise and sunset. In England the system was more of a day-planning arrangement than a time system (in the strictly horological sense). This was, of course, a "latitude" result, as a twelve-hour sunrise to sunset system loses its rigidly chronometrical qualities and takes on the character of a day-planning system in proportion as it leaves the Equator and moves further and further north, this ambiguous nature being also shared by the registering instrument, the scratch dial. There was in fact nothing rigid about this system and churchmen seemed equally happy in bending the system to suit liturgical routine as doing the reverse. This time-system seems to have had, indeed, apart from church routine, but a very shadowy and uncertain factual existence, so far villages as were concerned.

A medieval ecclesiastical day, with its services and "offices" planned out is shown diagrammatically in Plate II, fig. 1. We shall see when we come to consider the working of a scratch dial that the shadow of the pointer, moving like a clock hand across the dial, describes each day just such a semicircle, traversing in due succession each line, beginning at sunrise at the left hand horizontal line and ending at sunset at the right-hand horizontal line.

As indicated by Plate II, fig. 1, the church laid particular stress on the third, sixth and ninth hours by attaching to each a special "office" (prayers and psalms) to be recited daily (a duty incumbent on the clergy). These "offices" took the name of the hours at which they were said, terce, sext, none, thus connecting them with certain events of the deepest religious significance, recorded as taking place at those particular hours of the day (S. Mark, ch. 15 v. 25, 33, 34; Acts, ch. 2, v. 15).

#### MARKING HOUR LINES ON DIALS.

The three hours (third, sixth and ninth) just mentioned were naturally the first concern of the village parson when he began the task of painting a dial for his own use. Consequently we usually find these three lines present on most dials (see Plate I). The third hour line became additionally important as being the accepted time for celebrating mass, particularly on Sundays and days of obligation. (On some dials this line is marked with a cross). On these days vespers would be said at the none line. Another useful line was the sixth hour (mid-day) as this provided a kind of limiting line, masses being properly placeable only to the left of it.

The chief services thus being provided for, the village parson added to the dial any other lines he deemed advisable.

For instance, on the Shrawley dial the line preceding terce may have been, say, for teaching children, and the lines between terce and sext for chantry masses. The afternoon lines may denote occasional services or duties, baptisms, confessions and so on. The medieval parson had multifarious duties as his relationship with his parishioners covered a very wide area, so some of these lines may stand for activities we may not readily think of. These dials become, in this way, a combination of diary and time-keeper.

The "personal" nature of such markings accounts for the variety of types (Plate I).

#### TIME-KEEPING QUALITIES OF DIALS.

As to how dials functioned in practice, we can see this easily by experiment. A straight pointer placed in the Holt dial (Plate I) would, in summertime cast a shadow on the terce line (for mass) at about 9 o'clock (by our time). As the days shortened the shadow would be gradually later in reaching this line. In autumn the shadow would fall there at 10 o'clock and in winter at about 11 o'clock. The corresponding times for the afternoon shadow on none would be 3 o'clock in summer, 2 o'clock in autumn, and about 1 o'clock in winter. (It would not matter about the pointer being exactly horizontal as any slight tilting downwards would merely make the shadow register nearer to the theoretical standard).

It will be seen that these hours, as the seasons progress, change their times on the sliding scale principle referred to on a previous page, when the medieval time system was being dealt with.

#### FARMING FOLK AND CHURCH SERVICES.

A glance at the alterations in time for mass and vespers, thus made automatically by the scratch dial will convince as to the appropriateness of this system for an agricultural and farming community. Farming folk must have plenty of time at the beginning and end of the day. A nine o'clock mass and a three o'clock vespers suited admirably in the long days of summer. But these times were out of the question in winter when the sun rises at 8 and sets at 4. Hence the imperative necessity for adjusting the time of services to such an hour as should give ample time for farming duties both in the early morning and the late afternoon, especially in the short winter days. Occasionally, too, this aspect of the matter may have had an interest for the parson personally, if he farmed his own glebe.

#### DAYLIGHT SAVING.

One aspect of the time-registering qualities of scratch dials may call for comment, namely that the "hours" on the

dial did not coincide with the hours of the theoretic medieval system. For instance, the shadow did not fall on the terce line of the dial at exactly mid-morning as it should theoretically, but somewhat later, say when the morning was sometimes two-thirds gone. But since the effect of the discrepancy generally tended towards the convenience of all concerned, this mis-naming of the hours was of as little practical concern as our own mis-numbering of the hours during "summer time." (Our present daylight saving arrangement harks back indeed in a way to the medieval method of adjusting the hours to suit the seasons, our clocks jumping an hour suddenly twice a year, the scratch dial fliching a few minutes per day, each dealing with the same problem.)

Such details were of little importance compared with the practical advantages of having for a time-keeper so simple an instrument as the scratch-dial, which anyone at any place could make for himself in a moment by merely driving a long nail into a board and placing it to face due south. So without any trouble time could be thus synchronised, relatively, throughout the whole country.

#### END OF MEDIEVAL TIME SYSTEM.

Finally comes the question: When did this primitive method of time-keeping go out of vogue in England?

The idea of a standard system of time with equal or equinoctial hours (as in our clock system) may have germinated in the mind of mathematicians or astronomers quite early in any age or in any country. The Arabian Abu'l Hassan for instance, is credited (Ency. Brit.) with introducing the conception early in the thirteenth century for astronomical calculations but while such conceptions remained in the abstract they would be wholly outside the world of the English village parson.

#### COMING OF CLOCKS.

The displacement of the medieval system, so far as English villages were concerned, undoubtedly took place after the introduction of mechanical clocks. The first mechanical clock of which there is reliable knowledge was apparently the one set up in Milan in 1335, clocks spreading gradually north-westwards across Europe, the first clock in England being constructed about 1370. The first clocks such as that set up at Milan in 1335 struck up to 24, but the mechanical inconvenience of this system must have been so great that a change was soon made to the 2 x 12 system. This change appears to have taken place in England about 1377, so that the Salisbury and Wells clocks, constructed

just after this date and still in existence, strike on this modern system. (See "Watches" by G. H. Baillie, and "The Evolution of Clockwork" by J. Drummond Robertson.) The latter writer concludes that in North-West Europe striking clocks began to be set up in buildings under lay control from about the year 1370 onwards, that these clocks were fitted with a 12-hour dial, and that this arrangement brought with it the modern usage in civil life of reckoning time from midnight to mid-day, with the final abandonment of the rule of the monastic orders.

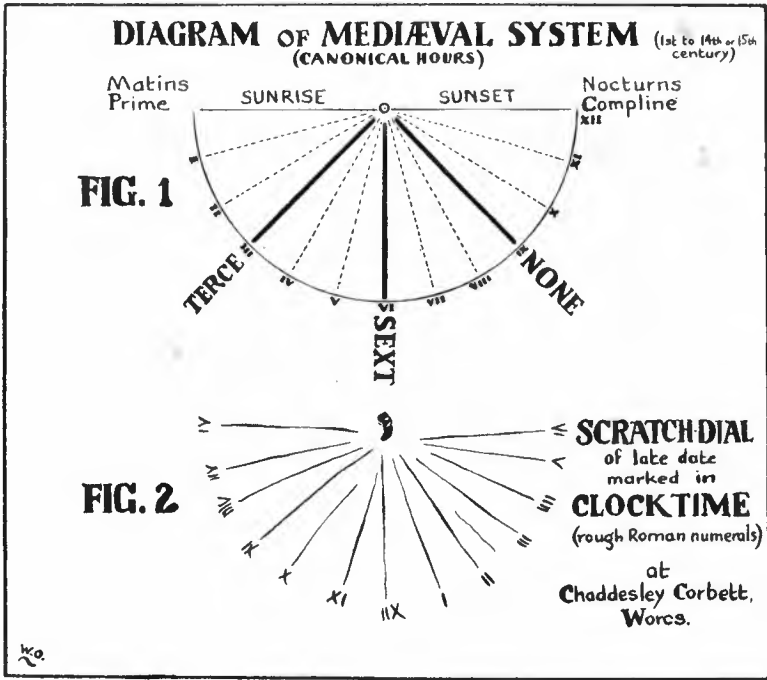
Contributory evidence as to the new clock system superseding the old method can be deduced from contemporary records. Dom Ethelbert Horne (to whose pioneer work everyone interested in scratch dials should feel deeply indebted) writes ("Sundials,") "one may refer to St. Albans where all chroniclers deal in canonical hours until 1394, and after that date in hours told by the newer method. But it was about this year that Abbot de la Mare caused the great clock to be made, or completed for his abbey."

#### TRANSITIONAL SCRATCH DIALS.

With the coming of clocks scratch dials were thus forced to capitulate as the system of time-keeping upon which their construction had been based had given place to an alien method. But all this was very gradual and scratch-dials registering time on the old system flourished for another century or so, in fact, the majority of dials that we see to-day were probably made in the 14th and 15th centuries.

In the meantime first in one place and then in another, the question arose whether these dials could be adapted so as to fit in with the new clock-system of time-keeping. Experiment (with the help of a clock presumably) showed that if the pointer of a scratch dial were bent downwards at an angle appropriate to the seasons, the dial could be made to register clock time "near enough," and that existing dials could thus be converted to clock time by adding any missing hour lines, so as to make up the full complement of twelve (these late additions are often distinguishable from the early, original lines as obvious interpolations). Or new complete dials were painted. Most, if not all, of such 12-line dials (see Plate I, Stoulton, Broadwas, Wichanford) may belong to this late transitional period and also the intercalated lines on such existing dials as the Saxon one at Bishopstone, Sussex. In certain cases we may be sure of a late date, namely when the hours are actually marked according to the clock system, viz., 6 a.m. to 6 p.m. (see Roman numerals on Chaddesley Corbett dial Plate II, fig. 2, and Himbleton, Plate I). A comparison between the medieval enumeration of the hours and the clock system of numbering is shown by figs. 1 and 2, Plate II.





COMING OF THE SCIAGRAPHER.

With the discovery that scratch dials could be adapted to the new order of things, the making of sun-dials attained a new importance. They passed out of the hands of the amateur into those of the skilled horologist. Gradually a new pattern was evolved to culminate in a big, elaborately-drawn sundial wherein all resemblance to its modest prototype was lost.

But long before this transformation was effected, the hand of a true sciagrapher is traceable on a late form of scratch dial. The scratch dial on the porch of Litlington, Sussex (see illustration on cover) exhibits a spacing of the lines that gives evidence of considerable knowledge and skill. This dial is devised so as to work with a gnomon adjusted at an angle to suit the latitude of the place. We can see by the deep groove over the noon line (see illustration) that the old fashioned pointer was discarded and a modern-shaped triangular gnomon was fitted (like the ones familiar to us on garden sundials.) Any dial showing a spacing of lines

similar to those on the Litlington dial may safely be attributed to the new era of "scientific" sundials.

#### SCRATCH DIALS RELEGATED TO OBLIVION.

Scratch dials in their primitive form having come to the end of their usefulness, rain or re-limewashing removed from church walls every trace of their now discarded painted lines. Then came the Reformation and eventually the whitewashing of churches became a thing of the past leaving behind on the now bare walls nothing but the mere skeleton remains of those once flourishing dials.

Even tradition was lost at last and these meagre scratched lines on church walls entered on a period of oblivion, lasting perhaps for a couple of centuries or so. At length, the keen eyes of nineteenth-century antiquaries re-discovered them, though even then not always with a recognition of their purpose.

It is, perhaps, doubtful whether the perplexities associated with these scratch dials will ever be fully resolved. But to those who are interested in this subject, the existence of "problems" is no drawback, rather, an incentive. To such there is plenty of scope for initiative, first in searching for and recording further dials both in England and elsewhere, and secondly in collecting any new facts from medieval records or historical works that may throw further light on these matters.

The writer is much indebted to the Director and to Dr. F. A. B. Ward, of the Science Museum, South Kensington, for assistance with references to the early history of mechanical clocks and their influence on the change from canonical to equal hours.

Acknowledgment is made to Mr. E. A. B. Barnard, F.S.A., Editor of *Trans. Worcestershire Arch. Soc.* and to the Society for kind loan of block (Plate I.)

#### BIBLIOGRAPHY.

*Scratch Dials.* Dom Ethelbert Horne, 2/6 Simpkin Marshall.  
*Sundials.* Dr. A. R. Green, F.S.A. 10/6. S.P.C.K.

Also

*Anglo-Saxon Sundials* *Antiquaries Journal*, Oct., 1928

*Early Sundials* *S. Paul's Ecclesiological Soc.*, Dec., 1929

*Article on Scratch Dials*, by Rev. G. A. A. Wright, M.A.,  
*Essex Rev.*, Oct., 1927

*The Book of Sundials*, by Mrs. A. Gatty, enlarged and re-edited by H. K. F. Eden and Eleanor Lloyd. 1890. George Bell.

## APPENDIX.

### SCRATCH DIALS ON CHURCHES.

(Interim list, reprinted, with additions.)

**BEDFORDSHIRE.**—Astwick, Chellington, Dean, Farn dish, Houghton Conquest, Kempston, Meppershall, Renhold, Sharnbrook, Shelton, Stanbridge, Stevington, Swineshead, Toddington, Wilden, Wymington.

**BERKSHIRE.**—Aldworth, Appleton, Aston Tyrrold, Avington, Bessels Leigh, Blewbury, Bray, Buscot, Childrey, Cholsey, Cumnor, Eaton Hastings, Frilsham, Fyfield, Hagbourne East, Hinksey, Lambourn, Long Wittenham, Old Windsor, South Hinksey, Stanford-in-the-Vale, Tidmarsh, Uffington, Upton, West Hendred, Long Wittenham, Wooton, Yattendon.

**BUCKINGHAMSHIRE.**—Chesham, Ickford, Leckhamstead, North Marston, Stewkley, The Lee (Old Chapel), Stoke Pogis, Stokenchurch, Whitchurch, Worminghall.

**CAMBRIDGESHIRE.**—Abington Pigotts, Hauxton, Cambridge (S. Mary-the-less), Kingston, Madingley, Littleport.

**CHESHIRE.**—Audlem, Grappenhall, Tarvin, Mobberley.

**CORNWALL.**—Feock, Manaccan.

**CUMBERLAND.**—Caldbeck, Dearham, Isell, Kirkoswald, Newton Arlosh, Torpenhow.

**DERBYSHIRE.**—Bradbourne, Kedleston, Mackworth, North Wingfield, Pentrich, Repton, Spondon, Mugginton.

**DEVONSHIRE.**—Axmouth, Bampton, Bradninch, Branscombe, Calverleigh, Feniton, Kentisbeare, Littleham, Ottery S. Mary, Shute, Sidbury, Staverton, Stockland, Totnes, Whitchurch, Witheridge.

**DORSET.**—Buckhorn Weston, Chickerell, Chideock, Loders, Milton Abbey, Nether Compton, Puddlehinton, Portisham, Puddletown, Sandford Orcas, Sixpenny Handley, Symonds bury, Tarrant Rushton, Trent, Winfrith Newburgh, Winterbourne Steepleton, Yetminster. Also Bere Regis.

**DURHAM.**—Brancepeth, Chester-le-Street, Darlington, Escombe, Hart, Middleton S. Lawrence, Pittington, Staindrop.

**ESSEX.**—Althorne, Ashingdon, Boreham, Burnham, Buttsbury, Castle Hedingham, Chadwell, Chickney, Chipping Ongar, Easthorpe, Great Bardfield, Great Bentley, Great Braxted, Great Burstead, Great Easton, Great Horkesley, Great Leighs, High Easter, Lambourne, Lawford, Lindsell, Little Burstead, Little Thurrock, Maldon, Nettleswell, Orsett, Runwell, Rawreth, Sandon, South Benfleet, Southchurch, Southminster, Springfield, Stanford Rivers, Thorrington, Wendens Ambo, Wicken Bonhunt. Also Pebmarsh, Toppesfield, Birchanger, Nazeing.

**GLOUCESTERSHIRE.**—Abson, Alderton, Aldsworth, Alves ton, Ampney Crucis, Ampney Down, Ampney S. Mary, Ampney S. Peter, Ashchurch, Ashton-under-Hill, Aston Somerville, Bagendon,

Barnsley, Barnwood, Barrington Little, Beckford, Berkeley, Bibury, Bishop's Cleeve, Bitton, Bledington, Bourton-on-Hill, Boxwell, Brimpsfield, Broadwell, Bulley, Cerney North, Cerney South, Charlton Kings, Childs Wickham, Chipping Campden, Churcham, Churchdown, Church Icomb, Coates, Coberley, Colesbourne, Coln Rogers, Coln S. Aldwyns, Coln S. Denis, Compton Abdale, Cowley, Daglingworth, Deerhurst, Didbrook, Duntisbourne Rous, Dymock, Eastleach Martin, Eastleach Turville, Ebrington, Elkstone, Fairford, Farmcote, Farmington, Guiting Power, Guiting Temple, Hampnett, Hardwicke, Haresfield, Harnhill, Hawkesbury, Hawling, Horton, Iron Acton, Lechlade, Leckhamton, Little Badminton, Littledean, Longborough, Maise more, Maisey Hampton, Marston Sicca, Mickleton, Moreton Valence, Naunton, Newington Bagpath, Northleach, North Nibley, Norton, Notgrove, Oddington, Oldbury-on-the-Hill, Oxenton, Preston, Pucklechurch, Quenington, Quinton, Range worthy, Rissington Little, Rissington Wyck, Rodmarton, Saintbury, Sevenhampton, Shipton Oliffe, Shipton Sollars, Siddington, Siston, Slaughter Upper, Standish, Stanley Pontlarge, Stanton, Stoke Giffard, Stoke Orchard, Stowell, Swell Lower, Swell Upper, Tirley, Tortworth, Turkdean, Tytherington, Westbury-on-Severn, Westerleigh, Wickwar, Willersey, Windrush, Winterbourne, Withington, Woolstone, Wormington, Wotton-under-Edge, Yan worth, Yate. Also Alstone, Hasfield, Hill, Hinton-on-the-Green, Shorn cote, Slimbridge, Stow-on-the-Wold, Todenham, Tormarton, Weston-on-Avon, Weston sub Edge.

**HAMPSHIRE.**—Amport, Ashe, Ashley, Ashmansworth, Baughurst, Bishop's Sutton, Bramley, Breamore, Brockenhurst, Burghclere, Catherington, Chalton, Cheriton, Chilcombe, Corhampton, Damerham South, Droxford, Ellingham, Faringdon, Farley Chamberlain, Fawley, Fordingbridge, Hambledon, Hayling North, Hayling South, Headbourne Worthy, Herriard, Houghton, Hurstbourne Priors, Hurstbourne Tarrant, Idsworth, Kimpton, King's Somborne, Laverstoke, Long Sutton, Martin, Meon East, Milford, Monk Sherborne, Newton Valence, Odiham, Penton Mewsey, Preston Candover, Quarley, Rockbourne, Romsey Abbey Rowner, S. Mary Bourne, Sherborne S. John, Soberton, Southampton (S. Michael), Southampton (Holy Cross), Sparsholt, Steventon, Stockbridge, Stoke Charity, Timsbury, Upham, Up Nateley, Upper Clatford, Waltham North, Warblington, Warnford, Winchester (S. Maurice), Winchester (S. Michael), Winchester (S. Bartholomew), Winchfield, Wonston, Yateley, Isle of Wight: Arreton, Binstead, Calborne, Shalfleet, Yaverland.

**HEREFORDSHIRE.**—Almeley, Aylton, Bodenham, Bramp ton Bryan, Bridge Sollers, Castle Frome, Clifford, Dinmore, Eastnor, Edvin Ralph, Garway, Holmer, Kilpeck, Kingsland, Kingstone, Laysters, Ledbury, Munsley, Orcop, Peterchurch, Pixley, Richard's Castle, S. Devereux, Sollers Hope, Stanford Bishop, Stretton Grandison, Sutton S. Michael, Sutton S. Nicholas, Upper Sapey, Weston Beggard, Weston-under-Penyard, Wigmore.

**HERTFORDSHIRE.**—Bengeo, Furneux Pelham, Great Wymondley, Long Marston, North Mimms, Redbourn, Ridge, Sandridge, Standon, Tewin.

**HUNTINGDONSHIRE.**—Barham, Buckworth, Bythorn, Elton, Fenstanton, Great Gidding, Grafton, Hail Weston, Hamerton, Hemingford Abbots, Keyston, Orton Waterville, Pidley-cum-Fenton, Southoe, Spaldwick, Stanground, Long Stow, Old Weston, Tilbrook, Yelling.

**KENT.**—Adisham, Ash, Bekesbourne, Bapchild, Barfreston, Bobbing, Borden, Brabourne, Challock, Chillenden, Chislet, Crundall, Denton, Eastry, Elmsted, Eythorne, Folkestone (North), Foot's Cray, Hackington, Herne, Hinxhill, Ickham, Lenham, Littlebourne, Lyminge, Mersham, Milton Regis, Monkton, New Romney, Nonington, Paddlesworth, Patrixbourne, Preston, Rolvenden, Ruckinge, Staple, Stodmarsh, Stourmouth, Swanscombe, Tilmanstone, Tonbridge, Upper Hardres, Waltham, Westbere, Willesborough, Wootton, Worth. Also Boxley, Crayford, Doddington, Dymchurch, Harty, Lynsted, Ringwould, Selling, Sheldwick, Warehorne, Woodchurch.

**LANCASHIRE.**—

**LEICESTERSHIRE.**—Ab Kettelby, Appleby Magna, Ashby Parva, Barwell, Bottesford, Bradgate Park, Branston, Burrough-on-the-Hill, Burton Overy, Burton Lazars, Catthorpe, Cold Overton, Freeby, Goadby, Houghton, Horninghold, Illston-on-the-Hill, Ibstock, Kibworth, Leire, Lutterworth, Measham, Nether Broughton, Orton, Packington, Scalford, Sheepy Magna, Stoke Golding, Swinford, Swannington, Thornton, Twycross.

**LINCOLNSHIRE.**—Authorpe, Aylesby, Barnetby, Barnoldby le Beck, Barwell, Bigby, Bottesford, Briggsley, Brocklesby, Caistor, Covenham S. Mary, East Halton, Fulstow, Gedney, Goxhill, Grainsby, Grasby, Great Coates, Grimoldy, Hawerby, Holbeach, Irby, Kelstern, Kelsey North, Kingery, Laceby, Legbourne, Limber, Long Sutton, Ludborough, Manby, Marshchapel, North Coates, North Owersby, Redbourne, Rothwell, Scarthoe, Snitterby, South Cockington, Stainton le Vale, Stewton, Stow, Swallow, Tallington, Tydd S. Mary, Ulceby, Waltham, Weston, Winthorpe, Wrawby.

**LONDON.**—

**MIDDLESEX.**—Cowley, Harlington, Harefield, Harmondsworth, Kingsbury, Tottenham (All Hallows).

**NORFOLK.**—Acle, Ashwellthorpe, Baconsthorpe, Barningham Winter, Barton Turf, Beeston St. Lawrence, Beeston All Saints, Bunwell, Burlingham St. Andrew, Burlingham S. Peter, Calthorpe, Carlton Rode, Catfield, Clippesby, Corpusty, Edingthorpe, Fundenhall, Forncett, Framingham Earl, Gimmingham, Gresham, Happisburgh, Hempnall, Hickling, Holt, Horning, Kenninghall, Little Melton, Ludham, Matlask, Morning Thorpe, Mundsley, Plumstead, Potter Heigham, Great Moulton, Ranworth, West Runton, Sheringham, Saxthorpe, Stalham, Scottow, Skeyton, Stratton S. Michael, Stratton S. Mary, Suffeld, Sustead, Sutton, Swafeld, Swannington, Tacolnestoa, Tasburgh, Tharston, Trunch, S. Walsham, Worstead, Wickmere. Also Burgh S. Peter, Great Ormesby, Hales, Little Ormesby, Reedham, Rollesby, Runham, Thrigby, Wickhampton, Great Walsingham.

**NORTHAMPTON.**—Abthorpe, Aldwinckle, Arthingworth, Aston-le-Walls, Barnack, Blakesley, Brockhall, Castle Ashby, Charwelton, Cold Ashby, Collingtree, Corby, Cottingham, Earls Barton, Ecton, Everdon, Floore, Grafton, Harpole, Higham Ferrers, Islip, Kislingbury, Litchborough, Lowick, Morton Pinkney, Naseby, Norton, Northampton (S. Sepulchre), Pilton, Potterspury, Quinton, Thornby, Thorpe Achurch, Towcester, Upton, Wadenhoe, Wakerley, Werrington, West Haddon, Wicken, Winwick, Ufford, Wittering. Also Polebrooke, Thornhaugh, Hinton-in-the-Hedges, Croughton.

NORTHUMBERLAND.—Bywell S. Peter, Rothbury.

NOTTINGHAMSHIRE.—Averham, Car Colston, Caunton, Eakring, Hawksworth, Kirklington, Linby, Orston, Shelton, Syerston, Thoroton.

OXFORDSHIRE.—Ascott-under-Wychwood, Blackbourton, Bletchington, Bloxham, Broughton Poggs, Bucknell, Burford, Chalgrove, Chinnor, Clanfield, Clifton Hampden, Cogges, Drayton S. Leonard, Enstone, Forest Hill, Great Haseley, Handborough, Heythrop, Idbury, Iffley, Islip, Kencott, Kiddington, Leigh North, Leigh South, Little Faringdon, Marsh Baldon, Newington, North Stoke, Rycote, Souldern, Sandford S. Martin, South Aston, Stanton Harcourt, Stanton S. John, Thame, Westcote Barton, Westwell, Witney, Wootton, Yelford.

RUTLAND.—Ayston, Caldecote, Eggleton, Greetham, Manton, Belton.

SHROPSHIRE.—Burford, Baschurch, Clee S. Margaret, Grinshall, Kinlet, Longnor, Shifnal, Snittersden, Stanton Lacy, Wentnor.

SOMERSET.—Alford, Aler, Ashill, Ashington, Babcary, Balstonborough, Barrington, Barton S. David, Barwick, Beckington, Biddisham, Blackford, Brent East, Brewham South, Broadway, Brympton, Buckland Dinham, Butleigh, Cadbury North, Cadbury South, Camel West, Charlinch, Charlton Horethorne, Charlton Musgrove, Cheddar, Chesterblade, Chew Magna, Chilthorne Domer, Chinnock East, Chinnock Middle, Claverton, Compton Bishop, Compton Dando, Compton Martin, Compton Pauncefoot, Congresbury, Corston, Cranmore West, Creech S. Michael, Crewkerne, Croscombe, Curry North, Curry Rivel, Dinder, Dinington, Douling, Dunkerton, Durleigh, Englishcombe, Evercreech, Farleigh Hungerford, Fivehead, Flax Bourton, Goathurst, Great Elm, Halse, High Ham, Hinton Charterhouse, Hinton S. George, Holton, Huish Episcopi, Hutton, Keinton, Mandeville, Keynsham, Kilmersdon, Kilve, Kingsbury Episcopi, Kingsdon, Kingstone, Lamyatt, Langport, Langridge, Limington, Litton, Lovington, Lullington, Lydeard S. Lawrence, Lympsham, Marston Magna, Martock, Milton Clevedon, Monksilver, Moorlynch, Montacute, Mudford, Nempnett Thrubwell, Newton S. Loe, Norton S. Philip, Oake, Odcombe, Pawlett, Pendomer, Pennard East, Pilton, Podymore Milton, Portbury, Portishead, Puckington, Puriton, Puxton, Quantoxhead East, Queen Camel, Radstock, Rampton, Road, Rodney Stoke, Seavington S. Mary, Seavington S. Michael, Shapwick, Somerton, Stanton Prior, Staplegrove, Stawell, Stocklinch Ottersay, Stoke North, Stoke S. Gregory, Stoke-sub-Hamdon, Stowey, Stratton-on-the-Fosse, Sutton Bingham, Swainswick, Tellisford, Tickenham, Tintinhull, Ubley, Uphill, Upton Noble, Walton-in-Gordano, Wanstrow, Wayford, Weare, Wellow, Westbury, Weston Bamfylde, Weston-in-Gordano, Whatley, Whitchurch, Whitelackington, Wick S. Lawrence, Winsham, Wookey, Woolverton, Wootton North, Wraxall, Wrington, Yatton.

STAFFORDSHIRE.—Alrewas, Bradley, Church Eaton, Checkley, Clifton Campville, Croxall, Gnosall, Handsworth, High Offley, King's Bromley, Longdon, Norbury, Patteringham, Ronton, Swynnerton, Whitmore.

**SUFFOLK.**—Aspall, Barnby, Beccles, Bildeston, Blakenham Great, Blundeston, Blythburgh, Boxford, Brandeston, Burgh, Burgh Castle, Bungay (Holy Trinity), Buxhall, Cavendish, Coney Weston, Cretingham, Debenham, Dennington, Earl Stonham, Easton, S. Elmham S. Peter, Eye, Eyke, Finningham, Framsdon, Fritton, Frostenden, Gisleham, Grundisburgh, Gisingham, Halesworth, Helmingham, Heveningham, Holbrook, Hoo, Horham, Huntingfield, Iken, Ilketshall S. Andrew, Ipswich S. Nicholas, Kedington, Kelsale, Kenton, Langham, Layham, Linstead Parva, Little Blakenham, Little Livermere, Lound, Lowestoft (S. Margaret), Mellis, Metfield, Mettingham, Monk Soham, Moulton S. Mary, Mutford, Nedging, Onehouse, Orford, Otley, Pakefield, Parham, Rendlesham, Redisham Great, Rickingham Superior, Rickingham Inferior, Rushmere, Saxtead, Shimpling, Snape, South Cove, South Elmham S. Margaret), Stansfield, Sternfield, Stonham Aspall, Stoven, Thornham Parva, Thorpe, Thrandeston, Thwaite, Tunstall, Ubbeston, Ufford, Walpole, Wangford, Westhall, Westhorpe, Wetheringsett, Wickham Skeith, Wissett, Wetherden, Witnesham, Woolpit, Worlingham, Yaxley. Also Barton Mills, Belton, Gunton, Hopton.

**SURREY.**—Chaldon, Chobham, Clandon West, Coulsdon, Lingfield, Little Bookham, Mickleham, Ockham, Shere, Stoke d'Abernon, Wanborough.

**SUSSEX.**—Alciston, Aldingbourne, Alfriston, Appledram, Arlington, Barnham, Binstead, Bishopstone, Bolney, Bosham, Botolphs, Boxgrove, Broadwater, Clymping, Coombs, Denton, Edburton, Felpham, Ferring, Findon, Firl, Ford, Hailsham, Horsham, Hurstmonceux, Isfield, Kingston Buoi, Lancing, Lindfield, Litlington, Lurgashall, Mayfield, North Stoke, Northiam, Oving, Pagham, Peasemars, Playden, Poling, Ripe, Rustington, Salehurst, Selsey, Sidlesham, Shoreham Old, Shoreham New, Sompting, South Stoke, Southwick, Sutton, Ticehurst, Thorney Island, Tortington, Walberton, West Chiltington, West Dean, West Grinstead, West Hoathley, Westham, West Tarring, Wiggonholt, Willingdon, Wivelsfield, Yapton, Steyning.

**WARWICKSHIRE.**—Anley, Astley, Austrey, Barchester, Barford, Berkswell, Bearley, Bishop's Tachbrook, Bourton-on-Dunsmore, Brailes, Butlers Marston, Burton Dassett, Burton Hastings, Chadshunt, Chesterton, Farnborough, Fillongley, Frankton, Grandborough, Halford, Haselor, Hampton-in-Arden, Hillmorton, Idlicote, Ilmington, Ladbroke, Lapworth, Long Compton, Maxstoke, Monks Kirby, Moreton Morrell, Norton Lindsey, Nuneaton, Orton-on-the-Hill, Oxhill, Pillerton Hersey, Preston Bagot, Quinton, Rowington, Ryton-on-Dunsmore, Salford Priors, Shotteswell, Shustoke, Snitterfield, Stratford-on-Avon, Temple Balsall, Whichford, Willey, Wootton Wawen, Withybrook, Wixford. Also Marston Sicca, Napton-on-the-Hill, Priors Marston, Ratley, Willoughby, Wolfhamcote.

**WESTMORELAND.**—Beetham, Bolton, Cliburn, Milburn, Shap Abbey.

**WILTSHIRE.**—All Cannings, Alvediston, Anstey, Ashton Keynes, Baverstock, Baydon, Berwick S. James, Berwick S. Leonard, Biddlestone, Bishops Canning, Bishopstone (near Salisbury), Bishopstone (near Swindon), Boscombe, Boyton, Bremhill, Brinkworth, Bromham, Broughton Gifford, Bulford, Burcombe, Calstone, Castle Eaton, Charlton, Cherhill, Chilton Foliat, Chisledon, Chit-

terne S. Mary, Christian Malford, Clyffe Pypard, Collingbourne Kingston, Coombe Bissett, Corshan, Dauntsey, West Dean, Devizes S. John, Devizes S. Mary, Dilton, Dinton, Donhead S. Mary, Downton, Draycot Cerne, Durnford, Durrington, Edington,, Enford, Etchilhampton, Fifield Bavant, Figheldean, Fisherton Delamere, Fonthill Bishop, Fovant, Froxfield, Great Bedwyn, Hankerton, Hannington, West Harnham, Heddington, Heytesbury, Highworth, Hilmarton, Hullavington, Inglesham, Keevil, Langley Burrell, Liddington, Little Langford, Luckington, Lydiard Millicent, Lydiard Tregoze, Maiden Bradley, Manningford Bruce, Marden, Marlborough, Melksham, Mere, Mildenhall, Milston, Milton Lilbourne, Minety, Nettleton, South Newton, Oaksey, Odstock, Ogbourne St. Andrew, Ogbourne St. George, Orcheston St. Mary, Pewsey, Pitton, Potterne, Preshute, Purton, Ramsbury, Rodbourne, Rushall, Salisbury St. Martin, Salisbury S. Thomas, Stockton, Shalbourne, Sherrington, Sherston Magna, Little Somerford, Stanton St. Bernard, Stanton St. Quintin, Stapleford, Stratford Tony, Stratton St. Margaret, Sutton Benger, Sutton Veny, Teffont Evias, Teffont Magna, Tidcombe, North Tidworth, Tisbury, Tockenham, Tollard Royal, Tytherton, Upavon, Urchfont, Wanborough, Westbury, Whaddon, Wilcot, Wilsford, Winkfield, Winterbourne Bassett, Winterbourne Dauntsey, Winterbourne Stoke, Wootton Bassett, Wootton Rivers, Wroughton, Wylle, Yatesbury, Yatton Keynell. Also Huish, Chitterne.

**WORCESTERSHIRE.**—Areley Kings, Bayton, Bishampton, Bransford, Bellbroughton, Bredon, Bredon's Norton, Bretforton, Bricklehampton, Broadwas, Broadway, Bromsgrove, Churchill, Cleeve Prior, Crophorne, Chaddesley Corbett, Earls Croome, Eastham, Eckington, Fladbury, Hadzor, Hampton, Hampton Lovett, Himbleton, Holt, Honeybourne, Huddington, Inkberrow, Littleton (Middle), Littleton (South), Martley, Netherton, Overbury, Pirton, Powick, Queenhill, Ribbesford, Ripple, Salwarpe, Sapey, Sedgeberrow, Severn Stoke, Shelsley Walsh, Shrawley, Spetchley, Stoke Bliss, Stoke Prior, Stoulton, Teddington, Tredington, Upton Warren, Warndon, Washbourne, Wichford, Wick, Worcester (St. John's).

**YORKSHIRE.**—Aldbrough, Armthorpe, Brompton, Burnby, Burton Agnes, Carnaby, Elmley Moor, Filey, Garton-on-the-Wolds, Great Driffeld, Great Edstone, Hutton Cranswick, Keyingham, Kirkburn, Kirkby Moorside, Kirby under Dale, Kirkdale, Leake, Lockton, Londesborough, Marton cum Grafton, Old Byland, Paull, Sinnington, Swillington, Thorpe Bassett, Weaverthorpe, Wharman-le-Street, York (Minster).

**SCOTLAND.**—South Queensferry (Carmelite Friary Church), West Lothian, S. Michael's, Linlithgow, Oldhamstocks, East Lothian.

**WALES.**—Clynnog (on stone slab), Ewenny, Laugharne, Rhossili.

**IRELAND.**—Glendalough, Strangford Lough.

**CHANNEL ISLANDS.**—Major S. Carey Curtis, F.R.I.B.A., has examined all churches in Guernsey and Jersey but no scratch-dials have been found.

**NORMANDY.**—Fontaine Henry, Manvieux, Marigny, Subles, Treves.



## SUPPLEMENTARY NOTE.

### Scratch Dials elsewhere than on churches.

ON CROSSES.—Bewcastle, Oronsay.

ON CHURCHYARD CROSS.—South Damerham, Hants.

ON HOUSES OR BARNs.—Purshall House, Worcestershire,  
Old Tithe Barn, Coxwell, Berks. (six on inside supports).

Barn near Andoversford (dial in door-jamb).

On tympanum built into house, Cherrington (Glos.).

On remains of commandery chapel, St. John's Jerusalem,  
Sutton-at-Hone (Kent).

On barn near Kenilworth Abbey.

On almonry, Standish (Glos.).

On chantry (grammar school), Higham Ferrers (Northants).

ON CASTLE.—Peel Castle, Isle of Man.

PORTABLE DIAL.—Owned by Mr. Thos. G. Barnett, F.S.A.

IN MUSEUMS.—Carmarthen Museum (from parish church).

Chesters Museum, Northumberland (dial presumably Roman,  
found at House steads on Roman Wall).

Douglas Museum, Isle of Man (cast of Irish dial and also dial  
from Isle of Man).

*Memo.—Names of compilers of county lists, etc., were given in  
prefatory note to "Interim list." Details of certain compilations  
are to be found in the Transactions of the Archaeological Societies  
of the respective counties or similar records.*