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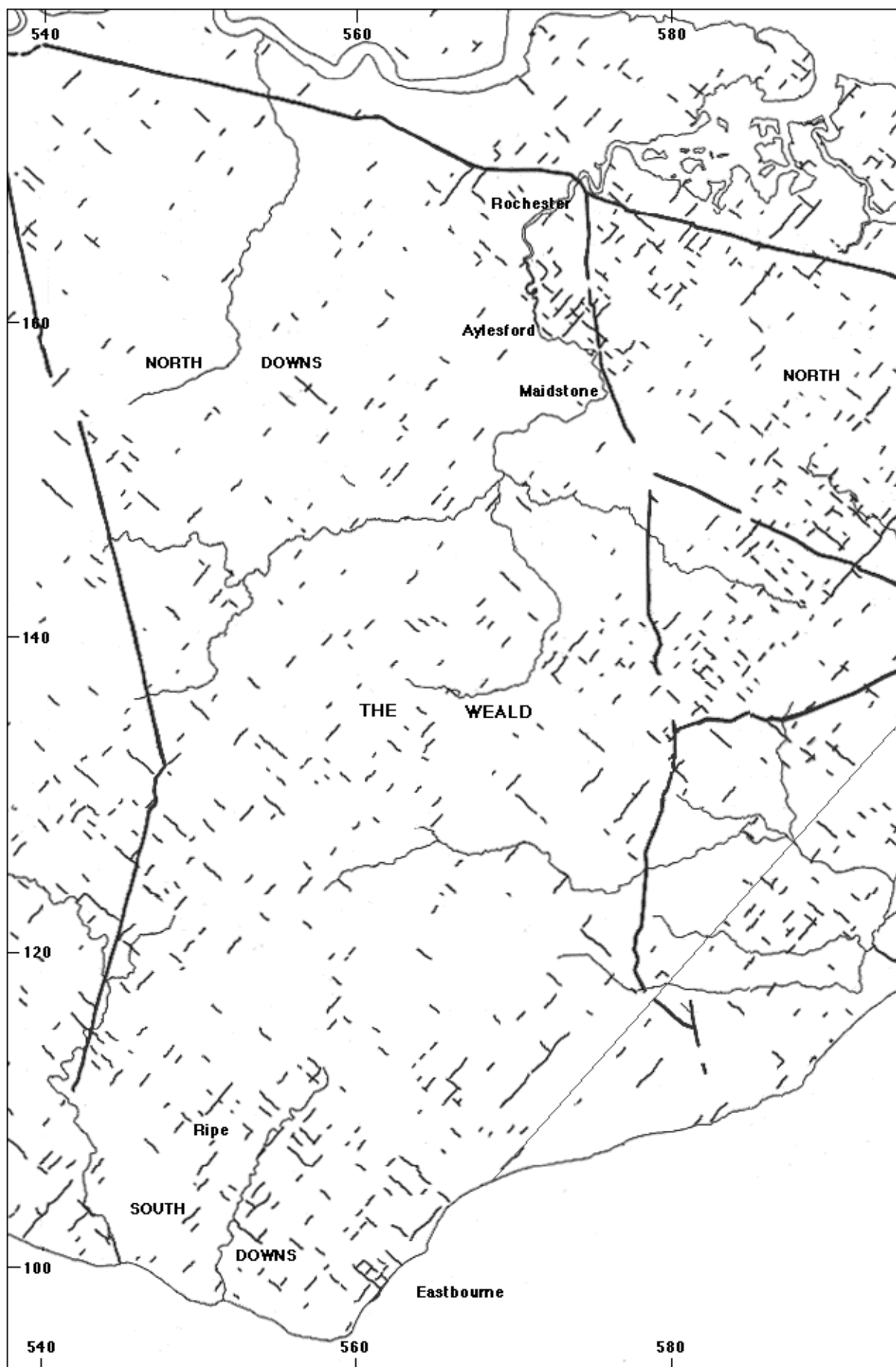
The "Kent A" cadastre

Tacitus describes the Claudian conquest in the *Agricola*. He tells us that the nearest parts of Britain were gradually "*redacta in formam prouinciae*". The "Kent A" cadastre seems to illustrate this statement. Like other cadastres, it must have been based on a *forma*. This map appears to have been used to plan Roman roads and introduce regular land divisions, some of which survive in parts of the modern-day landscape. The territory was literally "reduced to the form of a province".

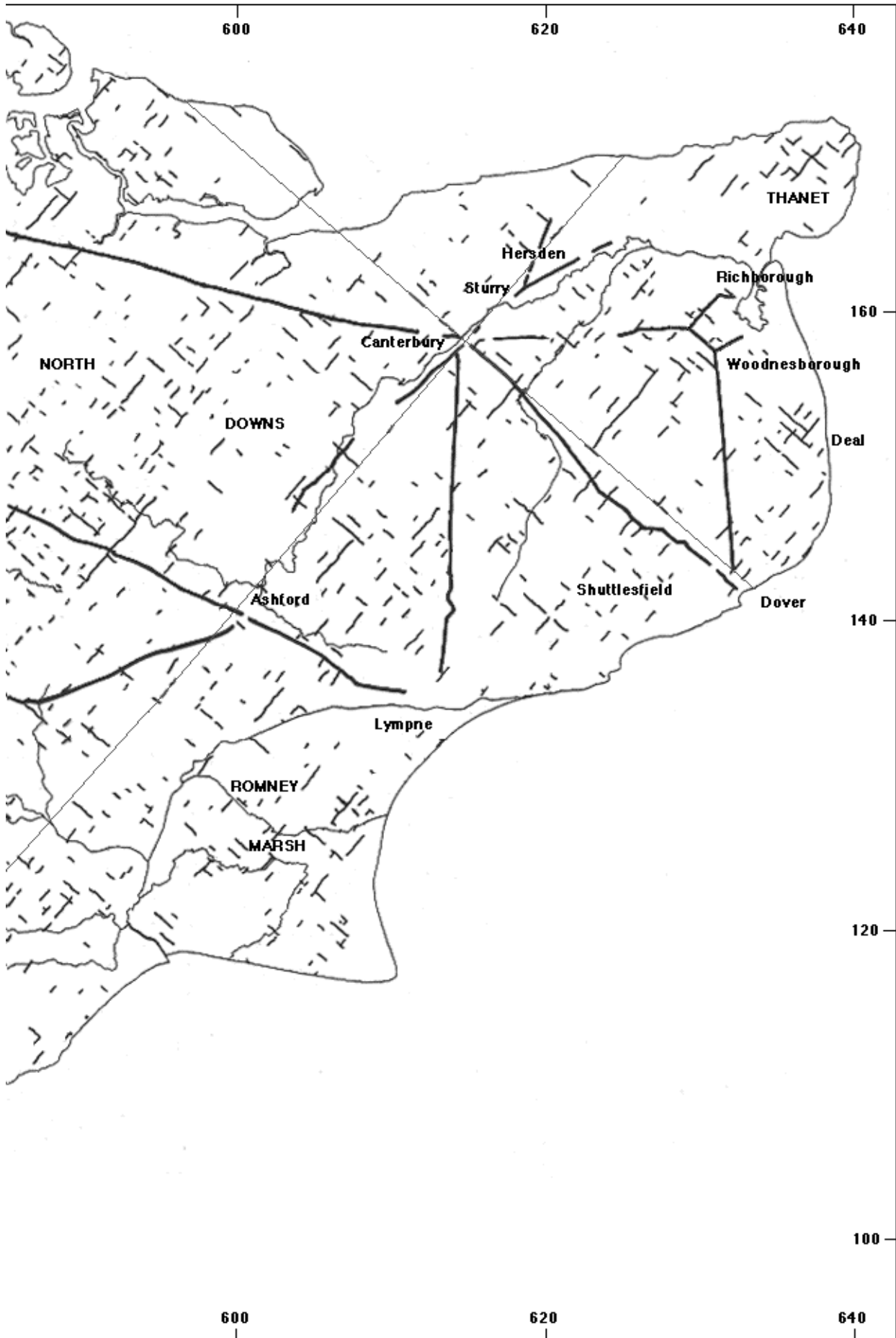
Opinions differ as to whether or not Kent was on Claudius' invasion route in 43 AD, but a road from at least one Kent port to Canterbury and London was probably among the earliest in Britain. The Richborough-Canterbury-Rochester road seems, from its design, to be roughly contemporary with the first phase of centuriation. This implies that the survey was started soon after the conquest.

In Africa a much larger area than Kent was surveyed in less than five years, but here the process was probably less rapid. Some sections of Roman roads which are thought to have been late developments do not seem to have links with the hypothetical *forma*. This evidence, and the uneven level of possible modern-day traces of physical centuriation, makes it appear that the transformation of the landscape was gradual and possibly never completed everywhere in physical form.

The landscapes of Kent are based on a varied underlying geology, and are extremely diverse. In the north is the fertile area of Foothills, containing most of Kent's major settlements. Further south there are the North Downs, naturally less fertile and cold, with much woodland. Both Foothills and Downland are based on chalk. The Downs end in an abrupt scarp overlooking Holmsdale, a narrow band of well-watered fertile arable soils. These very soon gives way to the Chartland, terrain based on sandstone and limestone which is normally infertile. The rest of Kent, towards the Sussex border, lies in the Weald, a woodland in Saxon times which stretches on into Sussex. On its southern edge the landscape mirrors that in Kent, ending in the chalk South Downs west of Eastbourne. There are also separated areas of Marshland: principally in north Kent, Romney Marsh, and the Pevensey Levels in east Sussex.



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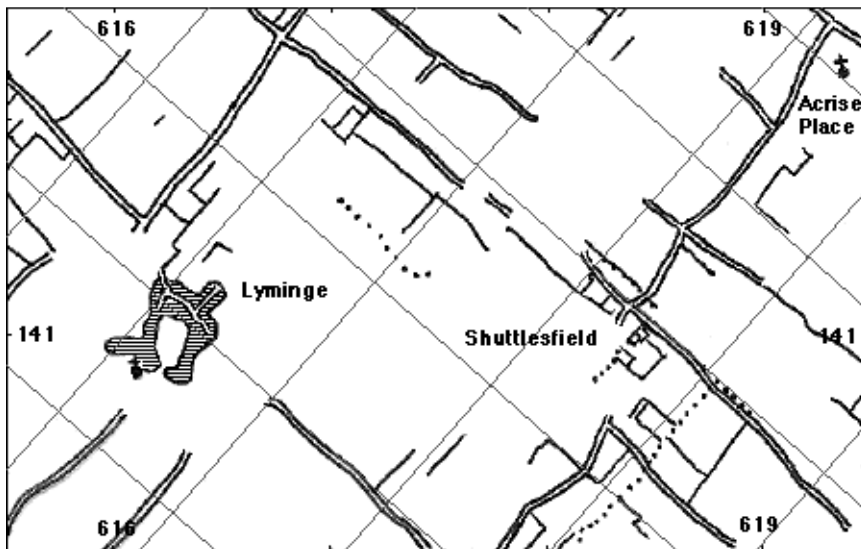


North of Dover the cadastre appears in the pattern of roads, tracks and paths. The axes in one direction follow the direction of dip of the North Downs and Uplands. They accord with the natural landscape, but this cannot be said of the equally prominent cross axes, whose arbitrariness suggests the presence of a cadastre. A centuriation along these lines would share its orientation with two Roman road segments leaving Canterbury at right angles. These roads and the main segment of the Richborough-Dover road have a remarkable geometry. The latter road is at 45° to the other two and one can position the centuriation so that opposite corners of the square centuries of 710m lie on it, while, at the same time, axes of the centuriation lie on the other two road segments. Constrained in this way, the centuriation has an orientation of N 41.411° E and an intersection at 615.140 158.230 (TR 1514 5823), a point which lies on the road to Sturry just outside the North Gate of the city.

The extent of the cadastre may be indicated by features which could be degraded survivals of its axes. The modern topographic maps at 1:50,000 give consistent and rapid coverage of a large area. The possible traces, see general map, suggests that the system is not limited to east Kent. Traces are sparse in the Weald, as would be expected, but they are prominent in Romney Marsh, at Eastbourne and in the Rochester/ Maidstone area. Towards London the features decrease to a level which may be solely due to chance.

The archaeological evidence for the cadastre lies chiefly in the arrangement of the Roman roads. This includes a short segment of road excavated at Hersden and announced in 1999 - after the formulation of the centuriation hypothesis. It is within 15m of a theoretical axis, partly parallel to and at 11 centuries from the road leaving Canterbury for Dover. Three other Roman road segments also have this orientation and all lie on axes of the cadastre. Roman field boundaries have also left archaeological evidence. Some have orientations close to that of the cadastre, as shown by excavation at Deal, but these may be influenced by local topography.

Aerial photography in the area north of Dover shows old boundaries which, like the modern boundaries, have orientations similar to that of the cadastre. There are about five features which look similar to the traces of short segments of Roman roads and which have the orientation of the centuriation. Two of them correspond to theoretical axes, parallel to and at 23 and 25 centuries from the road leaving Canterbury for Sturry. This very fragmentary evidence of *limites* is similar to that seen in a well-researched cadastre, such as Béziers B



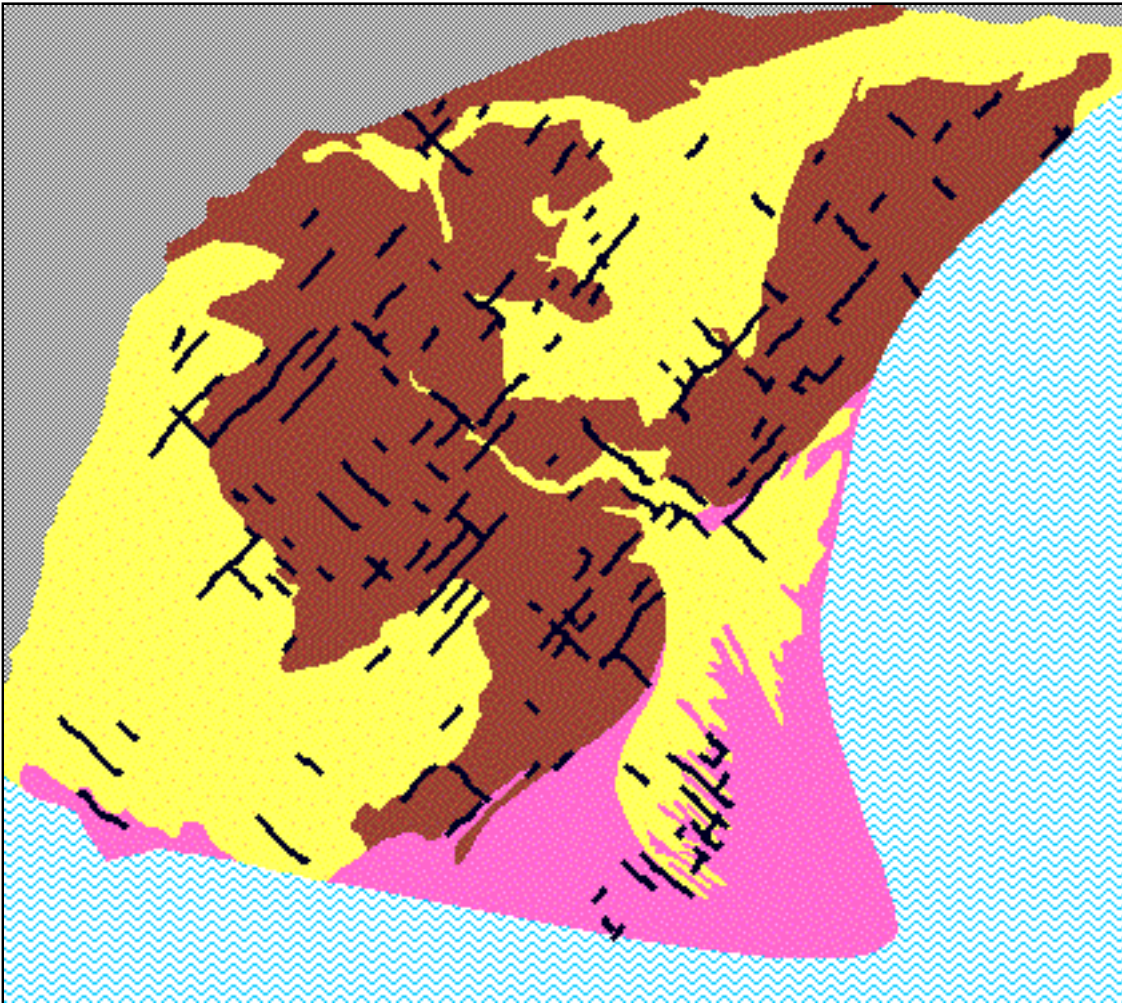
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Existing parcel boundaries have not yet been studied systematically over all the whole area of Kent A, but several examples of conformity to the cadastre can be seen. A particular example is at Shuttlesfield (boundary field), which Alan Everitt gave as an good example of continuity of settlement from at least the ninth century. This hamlet is the edge of the parish of Lyminge, whose parish church was an old minster built on the site of a Roman temple. Everitt argues for partial continuity from the Roman period. If the existence of

the cadastre is accepted, this seems evident also in parts of the boundary (the dotted line).

A study of boundaries in Romney marsh shows how the different soil types could have affected the preservation of the cadastral traces. The marsh is composed of three main groups of soils

- old marsh soils (light brown) which are decalcified because they have been dry land at most times since the Roman period
- new marsh soils (yellow) which are derived from more recent sediments deposited in the middle ages
- soils on sand and gravel (pink) whose age is uncertain

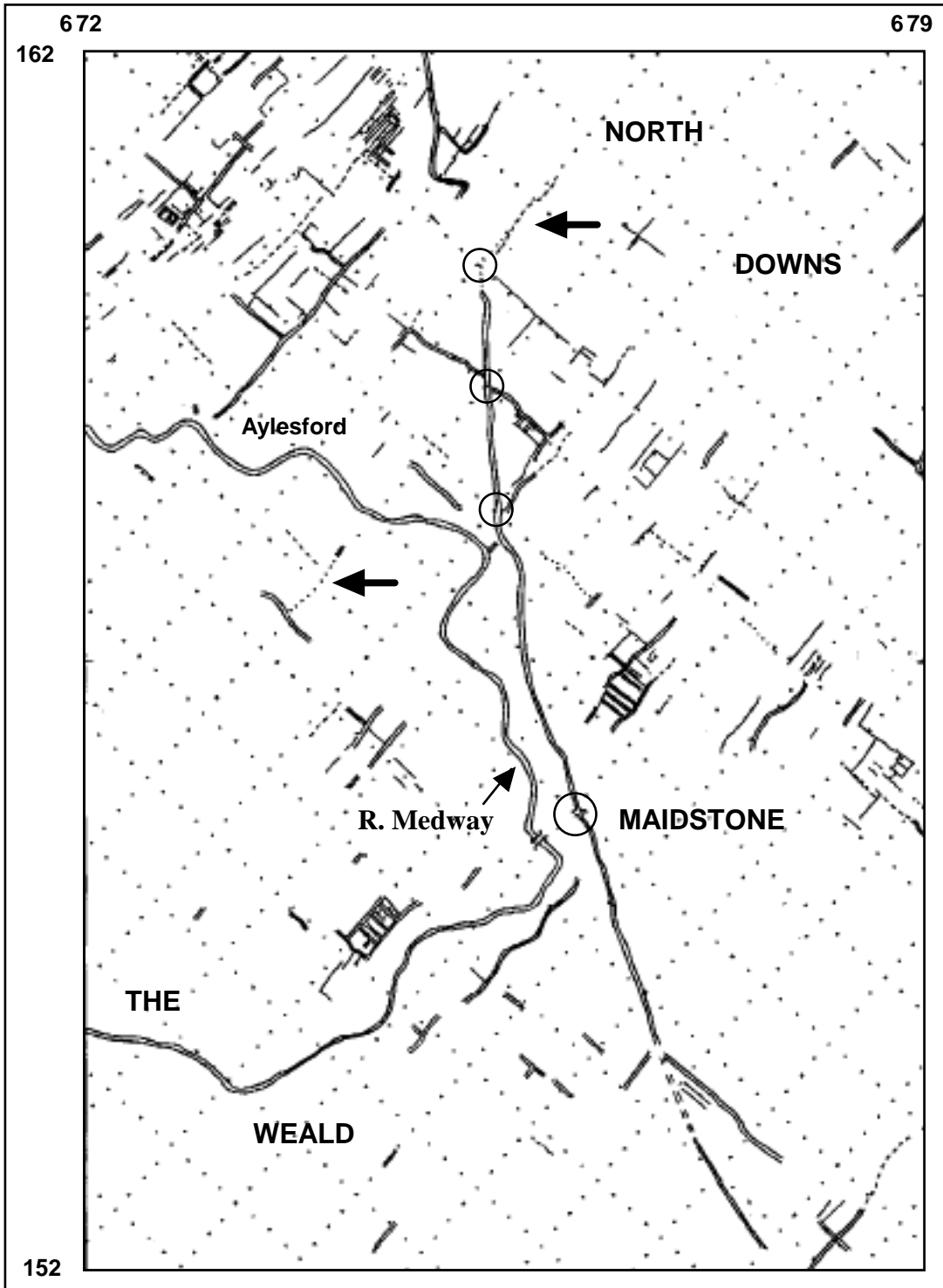


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This map shows the possible traces of *limites* at intervals of 355m (ten *actus*). These features are roads, tracks, paths and ditches in today's landscape. One of them corresponds to a narrow band of new marsh soils running north west to south east through the old marsh soils. This is 45 centuries from the Canterbury road leaving Dover, one of the theoretical major axes. The position of this feature, in theory on a *quintarius*, supports to the idea that it represents the remains of an artificial watercourse. Such a Roman canalised river has been found elsewhere in Britain, in the cadastre A of Lincoln, parallel to and at 90 centuries from one of that system's probable major axes.

The possible cadastral traces in the marsh appear to be much less evident in new marsh soils than elsewhere. This perception has been tested numerically, using a GIS system. The area can be divided into bands at the same distance from the edge of the new marsh and the density of traces at a given distance from the edge can then be plotted. This shows that density of possible cadastral traces is low in areas inundated since Roman times and high in areas flooded little (if at all). This difference is not due to a difference in the density of all boundaries; the field pattern is equally dense in the two areas. It seems to be due to a higher degree of organisation of the Old Marsh, which coincides with the theoretical organisation of Kent 'A'. It is also clear that the density of possible cadastral traces is highest on the boundary between the New Marsh and older soils. This could have been anticipated. The construction of sea defences along the edges of land holdings would tend to fix old patterns of land management in the defences themselves.

This map tries to show how Margary's scheme corresponds to the axes of our cadastre (black dots) and features which may correspond to it. Margary's orientation is slightly different, but in the northeastern part of the area he identifies the same axes, together with the 10 *actus* subdivisions. The blue arrows indicate Ripe lane, a major division in both models, which extends beyond the area treated by Margary. The blue square identifies a century of Kent 'A' which appears particularly well conserved. Internal divisions of 5 and 10 *actus* can be seen in one direction. In the other direction there are boundaries at 800 feet - division of the century by thirds.



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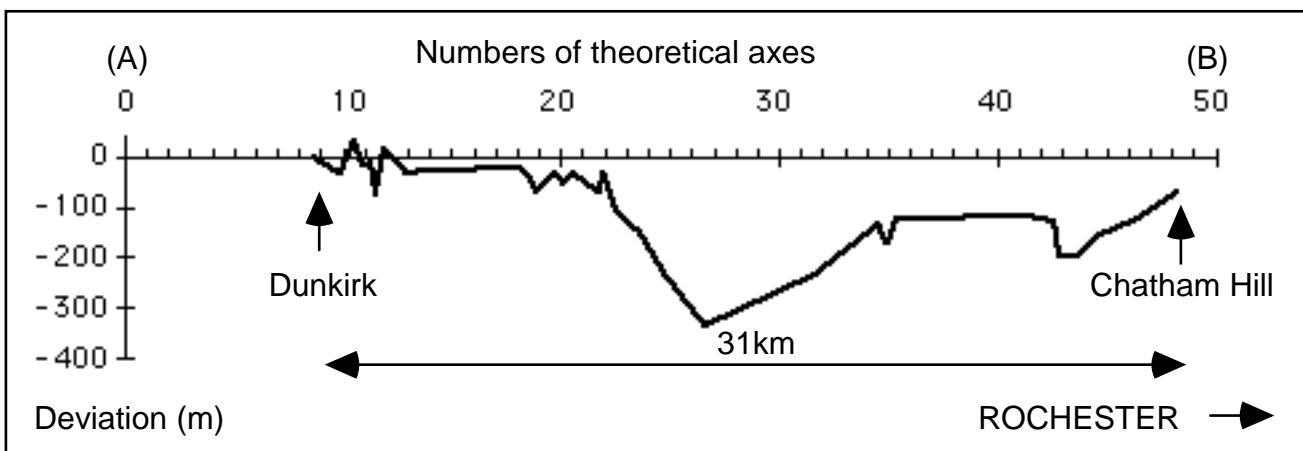
Investigation of the Aylesford and Maidstone area, also from the 1:25,000 maps, shows similar features. Aylesford is recognised as an early Jutish estate, and as one of the areas in Kent where

continuity of land use from the Roman period is most likely. In Everitt's words, both it and Maidstone are seminal settlements, "places where the arguments for continuity of occupation seem particularly cogent". Parts of the modern boundary between Rochester-on-Medway and Maidstone districts (arrowed) conform to the cadastre. These features are parts of the boundaries of parishes which, in this area, could easily reflect the limits of land holding and administration in the immediate post-Roman period.

The oblique feature through Maidstone is the trace of the Roman road originating further north at Rochester. The kink in its line northeast of Aylesford appears to be original - a deliberate deviation to ease the descent of the scarp of the North Downs. Elsewhere the line of the road seems to have become slightly deformed. Nevertheless it is clear that east of Aylesford the road has a 1:1 relationship with the cadastre, whose axes are particularly well marked at this point (the points at which the road goes through the corners of theoretical centuries are circled). This road segment is thus parallel to the Woodnesborough-Dover road segment. Furthermore, the initial segment of the Rochester-Maidstone road also has the same orientation. Two segments of this road, north and south of the North Downs scarp, have a configuration in bayonet-like form. Such a pattern is typical of planning based on the *forma* of a centuriated cadastre. This road continues through Maidstone, whose modern central crossroads (circled) lies close to a cadastral intersection. Despite the deformation it appears probable that this is another planned segment, at 1:2.

Possible examples of road planning using the *forma*, as illustrated at Maidstone, can be seen widely. At Rochester the segment west of the bridge is at 2:3; the bridge itself lies on an axis of the cadastre 26 centuries southwest of the Dover road at Canterbury; Rochester High Street, overlying the axis of the Roman town, is at 1:3. These relationships are clear, particularly because the road alignments pass through the intersections of grid. The absence of such clear relationships nearer to London may be an indication that the centuriation survey did not extend much further than Rochester - a suggestion which is supported by the apparent decrease in landscape features corresponding to the cadastre.

A close examination of the Canterbury-Rochester road could suggest how the Roman surveyors laid it out. From Canterbury, after an initial stretch which may not be related to the centuriation, the road turns at Dunkirk, at 7 km, onto an alignment pointing towards Rochester, 34 km away. On the 1:50,000 map this is at 1:2 to the centuriation, through intersections. Margary's view was that from Dunkirk "the main alignment for 19 miles [31 km] to Chatham Hill is then closely followed". However, this statement is only approximately true. After 10.5 km the road clearly deviates from the line at 1:2 to the centuriation. It no longer appears to pass through the corners of the squares. This is illustrated by digitising the individual segments of the road, as it now appears, and displaying its distance from the 1:2 line.



The horizontal straight line A-B represents the line at 1:2. Its origin (A) is at the cadastral intersection one century southwest of the *forum* in Canterbury. Its end (B) is at the point 50 centuries northwest

and 25 centuries southwest of this point. This point lies on the axis which crosses Rochester bridge. The thick line represents the road. It runs within 20m of the 1:2 line up to axis 22. It then deviates, but displays two interesting features. Firstly, the segment from axis 35 to axis 42 is also at 1:2, but displaced by about 150m from the original alignment. Secondly, the final segment points towards point B. Both these features are consistent with a general plan, using the *forma*, to construct a 1:2 road from Canterbury to a point where an axis could be used to define a crossing of the Medway at Rochester. This plan would then have been modified slightly during construction, but always in the knowledge of the end objective.

In general, the design of this cadastre may be an interesting example of the art of the *ensor*. The orientation is approximately 45° to true (geographic) north at Canterbury, differing by only 1.2°. This could be the 1:1 relationship diagrammed in the written works of the *agrimensores*, perhaps as a manifestation of celestial harmony. The cadastre also conforms to the orientation of a major part of the natural landscape. Furthermore, the last segment of the Richborough-Canterbury road passes through the corners of the grid at 1:1, but the road is probably very early. Thus it is possible that the centuriation was based on this section of this pre-existing road. This relationship and the choice of a point in the *forum* for the probable origin of the system could show a desire to accommodate it to the existing cultural landscape. This harmony in three forms - celestial, natural and cultural - could have been art for art's sake, but it would also have given stability to the cadastre, which, if it existed, was a tool allowing the *ensores* to remodel this part of Britain in *formam prouinciae*.

John Peterson

12 June 2000

References

- Everitt, A. 1986. *Continuity and colonization: the evolution of Kentish settlement*. Leicester University Press, Leicester.
- Margary, I. D. 1973. *Roman Roads in Britain (Revised Edition)*. John Baker, London.
- Peterson, J. W. M., and Rayward-Smith, V. J. 1995. A GIS study of potential traces of a Roman cadastre and soil types in Romney Marsh. In *Computer Applications and Quantitative Methods in Archaeology 1993*. BAR International Series 598. edited by Lockyear, K. and Wilcock, J. pp. 155-160. Tempus Reperatum, Oxford.