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VILLAS IN EAST HAMPSHIRE AND WEST SUSSEX: A STUDY OF THEIR POTTERY ASSEMBLAGES AND SETTLEMENT PATTERN

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ABSTRACT

The Roman invasion of Britain in AD 43 had a significant impact on the social, economic and technical development of the countryside. This impact can be seen in the adoption of Roman architectural features in buildings and new culinary habits reflected in the pottery. The more successful and wealthy farmers embraced a greater conversion to these influences particularly during the 3rd and 4th centuries. This affluence can be linked with the fertile humic rendzinic soils and chalk downlands of the study area, with the nearby Roman road providing easy access to the major markets.

INTRODUCTION

The Romano-British rural landscape was an agricultural environment with the villa as a dominant feature in most of the southern and eastern parts of the province. An area in East Hampshire and West Sussex of approximately 500 square kilometres has been selected to study rural settlement patterns and the economy, as it contains a variety of geological landscapes and fourteen Romano-British villas and farmsteads.

The study area (Fig. 1) is dominated by the steep hills of the South Downs which are cut by deep dry valleys. These deep valleys and coombes were created by periglacial weathering of solifluxion and meltwaters during Pleistocene interglacial period. The plateau of the Downs is capped by a geological deposit of clay-with-flints giving a contrasting acidic soil to the well-drained alkaline chalk (Gallios 1965). The most dramatic geological feature is the narrow, steep, mostly northerly-facing scarp of the South Downs overlooking the Rother Valley. The landscape of the coastal plain is, by comparison, a relatively featureless area of brickearth and alluvial soils.

The focus of this study has been limited to villas within the rural landscape; other known sites such as temples and small settlements have not been considered. The term 'villa' has many definitions but can be applied to rural houses reflecting the Roman life style. In archaeological terms, villas had masonry footings, tessellated or mosaic floors, brick and tile construction, window glass, painted wall-plaster, hypocaust heating and baths (Rudling 1998). Not every villa had all these features but the use of pottery in the domestic environment was common to all throughout the period, and therefore can be used as a basis for their comparison, which is the primary aim of this paper.

Villas located on more fertile and productive land would have been able to produce surplus agricultural products that were sold in exchange for money at the local markets. The Roman town of Chichester was probably the market centre for the fourteen villas within the study area. The more successful villa owners would have the choice of how to spend their surplus income on luxury household goods. The hypothesis of this paper, therefore, is that the more affluent villa owners acquired a greater proportion of fine wares, which can be readily assessed by examining the surviving pottery assemblages.

In order to do this, a method of comparative assessment was used, whereby pottery assemblages were ranked in a sequence that is assumed to reflect the relative socio-economic

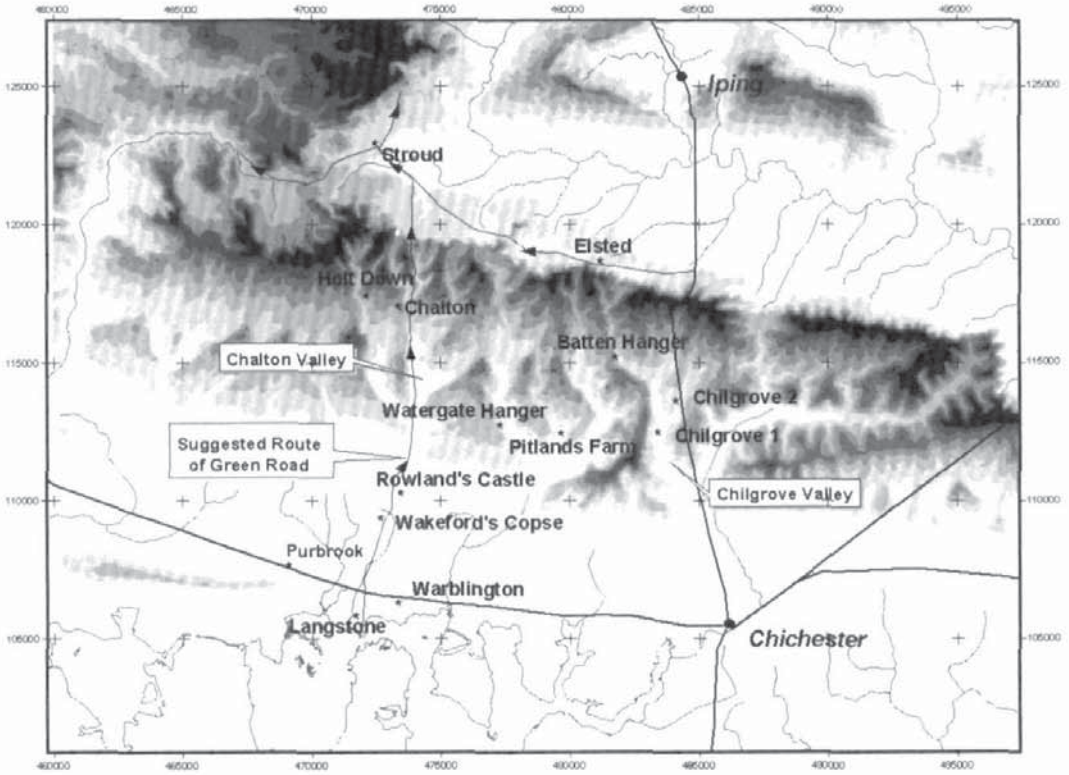

Fig. 1 Location of the villas in the study area. Base map © crown copyright/database right 2006. An Ordnance Survey/EDINA supplied service.

status of the villas. The ranking was based of the proportion of fine wares in each pottery assemblage. Fine wares have been taken to represent nonessential vessel types acquired as a matter of choice, and therefore reflecting socio-economic status. It has been assumed that villas represented a relatively homogeneous socio-economic stratum of Romano-British society and consequently that their pottery assemblages contained or at least aspired to a similar range of fine and kitchen wares.

THE VILLAS

The villas within the study area were identified from the Hampshire and Sussex Sites and Monuments Records (Fig. 1). Batten Hanger, Chilgrove 1 and 2 are in the Chilgrove Valley, whilst Pitlands Farm and Watergate Hanger are in the Ems Valley, but all are within the chalk downlands. The villas at Chalton, Holt Down, Rowland's Castle and Wakeford's Copse are in the Chalton Valley, whilst the villas at Langstone, Purbrook and Warblington are on the coastal plain. Elsted and Stroud are on the greensand bench on the northern side of the South Downs (Table 1).

Two of the villas have never been excavated and there was only brief information about them. Four villa sites have been totally destroyed. Six of the excavated villas had been documented by the excavators and one (Langstone) was published by Gilkes some thirty-four years after the original excavation (Gilkes 1998). The villa at Purbrook was reassessed by G. Soffe in 1973

Table 1 Villa location and excavation details

Villa	*Grid Reference*	*Excavation Date*	*Excavator*	*Reference*
Batten Hanger, Elsted	SU 8180 1534	1988-91	Magilton	Magilton 1991
Chalton	SU 7340 1730	1957 & 1964	Budden & Cunliffe	Cunliffe 1974; 1977
Chilgrove 1	SU 8414 1364	1964-66	Down	Down 1979
Chilgrove 2	SU 8414 1364	1966-74	Down	Down 1979
Elsted	SU 8130 1910	1975	Millet	Redknap & Millett 1980
Holt Down, Buriton	SU 7216 1768	1925-27	Hayling Island Field Club	Taylor & Collingwood 1927, 208
Langstone	SU 7190 0540	1923-25 & 1967	Adams & Rule	Gilkes 1998
Pitlands Farm, Up Marden	SU 7970 1240	1966-69 & 1992-93	Down & Magilton	Down 1979; Down & Magilton 1993
Purbrook	SU 6915 0726	1926	Smith	Soffe 1973
Rowland's Castle	SU 7348 1008	–	–	Goodburn 1976
Stroud, Petersfield	SU 7252 2357	1907	Moray-Williams	Moray-Williams 1909
Wakeford's Copse, Havant	SU 7270 0910	1968	Fox	Wilson 1969, 231; 1971, 283
Warblington	SU 7336 0568	–	–	Taylor & Collingwood 1924, 273
Watergate Hanger, West Marden	SU 7734 1269	1907-10, 1924 & 1984-88	Ely, Winbolt & Kenny	Frere 1985, 314, fig. 32; 1986, 424; Down 1988, 95-6

and his report is archived in Portsmouth City Museum (1969/230).

Architectural Features

The objective of this study was to produce a comparative assessment whereby pottery assemblages can be ranked in relation to the relative socio-economic status of the villas. As a preliminary, therefore, architectural features were used to give an independent evaluation of status. The results are shown in Table 2, obtained from the excavation and other reports.

The villas at Batten Hanger, Chilgrove 1, Watergate Hanger, Pitlands Farm and Chilgrove 2 have been graded as 'high status', based on the number of Romanised architectural features identified.

The villa at Langstone was never fully excavated, but appears to have been a corridor villa built around a courtyard. This villa would seem to fall into the category of a *villa maritima* because of its situation on the coast. Its owner may have managed the trade in local agricultural produce and the importation of products from elsewhere. The pottery from Poole Harbour (BB1) was thought to have used coastal trade routes, and it is pertinent to note that BB1

Table 2 Architectural features

Villa	*Masonry Walls*	*Painted Wall Plaster*	*Tessellated Floors*	*Mosaics*	*Hypocaust*	*Baths*
Batten Hanger	Y	Y	Y	Y	Y	Y
Chilgrove 1	Y	Y	Y	Y	Y	Y
Watergate Hanger	Y	Y	Y	Y(?)	Y	Y
Pitlands Farm	Y	Y	Y	?	Y	Y
Chilgrove 2	Y	Y	Y	–	Y	Y
Langstone	Y	Y	Y	–	Y	Y
Purbrook	Y	–	Y	–	–	Y(?)
Holt Down	Y	Y	Y	–	–	–
Rowland's Castle	Y	Y	Y	–	–	–
Stroud	Y	–	Y	–	–	Y
Chalton	Y	–	–	–	–	–
Wakeford's Copse	Y	–	Y	–	–	–
Elsted	Y	–	–	–	–	–
Warblington	–	–	–	–	–	–

accounts for over 7% of the recovered pottery at Langstone villa. The Romanised features of the villa would classify it as 'high status'.

The villa at Purbrook lies on the south-east facing brow of a valley at about 50 m OD overlooking Langstone Harbour with the Roman road from Chichester to Bitterne/Winchester only 100 m to the south. The close relationship to the Langstone villa suggests that it may have been supplying agricultural product for export but it was also situated on a major Roman road. This was a corridor villa which was not as large as the Chilgrove villas but it has several Romanised features and has been classified as 'medium status'.

The settlements at Chalton, Holt Down, Wakeford's Copse and Elsted were all of a 'low status' and should probably be called farmsteads as they have very few Romanised features. Chalton appears to have housed agricultural labourers or peasant farmers, as the buildings had little more than mortar floors. This was reflected in the limited amount of fine wares (4 %) present in the assemblage.

There is no evidence available about the villa at Warblington. The villa at Rowland's Castle is briefly referred to in the *Hundred of Bosmere* but has never been excavated (Bingley 1817). The relationship of this villa to the nearby pottery industry is an intriguing aspect which will probably never be understood as no archaeological traces remain.

In the report on the villa at Stroud (Moray-Williams 1909) the excavator describes the residential part of the villa as 'very poor with no flints and the walls laid directly on pugged clay', but does point out that the 'fifteen bathrooms are interesting and adds significantly to the importance of the site'. This is a contradiction as a bath house must have had masonry walling; presumably the walls 'with no flints' had been robbed.

Table 3 Soil sample results

Villa	*Soil pH range*	*Geology*	*Observations*
Pitlands Farm	8.27–8.46	Tarrant Chalk	Dry chalk valley
Chilgrove 2	8.17–8.35	Newhaven & Seaford Chalk	Dry chalk valley
Chilgrove 1	8.11–8.27	Newhaven & Seaford Chalk	Dry chalk valley
Batten Hanger	7.38–7.77	Lewes Chalk	Dry chalk valley with nearby stream
Watergate Hanger	7.31–7.73	Newhaven & Seaford Chalk	Dry chalk valley with clay capping
Stroud	7.44–7.60	Upper Greensand	Head deposits over river gravels
Chalton	6.62–7.24	Seaford Chalk	Clay-with-flints over chalk
Elsted	6.63–7.23	Upper Greensand	Sand and chalk with nearby spring
Warblington	6.71–7.00	Aeolian Brickearths	Coastal plain with spring/stream
Wakeford's Copse	6.09–6.14	Bognor Sand	Sandy clays above a stream
Langstone	5.44–6.81	Aeolian Brickearths	Coastal plain with a river terrace
Rowland's Castle	5.85–7.14	Reading Clay	Heavily disturbed clays
Holt Down	4.79–5.36	Lewes Chalk	Clay-with-flints over chalk
Purbrook	3.85–5.68	Wittering Sand & Clays	Sandy loam on promontory

Soil Fertility and Site Location

Soil samples were taken at each villa site to ascertain the surface geology, and the pH value established. At least three areas were selected and three or four holes of 30 cm diameter were dug to a depth of 30–40 cm, well into the B soil horizon. On the chalk downlands the parent rock was only 10–15 cm below the surface, obviating the need to dig deeper. Wherever possible, ploughed fields were excluded because of possible contamination by liming and fertilisation.

A total of forty-seven soil samples were taken from all fourteen locations and the range of pH values is shown below in Table 3 along with the geological strata as defined by the British Geological Survey maps (BGS Sheets 316 and 317/332). The villas have been ranked by pH value.

The downland locations of Batten Hanger, Chilgrove 1, Chilgrove 2, Pitlands Farm and Watergate Hanger were all on calcareous soils with a pH value over 7.50 and had the shallowest soil profiles with the least variation in pH values. The steep sides of the valleys of all five locations had a thin A/C soil horizon and non-humic brown and grey rendzinas. These free draining soils would have supported grasslands ideally suited for the grazing of sheep, goats and cattle during the Roman period (Tansley 1968). The soils in the valley floors contained relatively large quantities of organic matter incorporated into the mineral horizon and were humic rendzinas (Smith 1980). The deep, moist, fertile alluvial soils on the valley floors would have been ideal for the cultivation of cereals in the Roman period and may have resembled the modern landscape.

The villas at Langstone, Rowland's Castle and Purbrook all had evidence of major disturbances and the soil samples taken from these sites produced the greatest variation in pH values. Chalton, Holt Down, Rowland's Castle, and Wakeford's Copse are all in the Chalton Valley and their soils have been influenced by the clays overlaying the chalk bedrock. Chalton and Holt Down are on sites where the chalk is overlaid by clay-with-flints. Whilst the chalk is calcareous and porous, the soils derive their characteristics from the clay deposits, which are acidic and poorly drained (Courtney & Trudgill 1984). These conditions create a gleyed impermeable clay loam which would have been difficult to cultivate in Roman Britain. It was not until the introduction of field drains and the plough technology of the late 18th century that these soils would have been cultivated (Wade Martins 2004). The landscape would have been wooded with grass pastures on the steep dry valley sides. The villa/farmsteads at Chalton and Holt Down would have supported pastoral agriculture with pigs, sheep and goats rather than arable.

Rowland's Castle is on a deep bed of Tertiary Reading clay which is part of the Lambeth group deposited during the Palaeogene period (Hopson 2000). There was a pottery production site at Rowland's Castle which operated from the late 1st century to at least the early 4th century (Dicks, *forthcoming*). The nearby villa was undoubtedly associated with the pottery and the site would have been more industrial than agricultural. This suggests that rural villas were not always exclusively agricultural, and Rowland's Castle was probably a rural pottery workshop.

The villa at Elsted was on a small knoll on the upper greensand bench below the beech-covered chalk escarpment of the South Downs. The chalks from the downlands and the greensands have combined to create the conditions where both acid and alkaline soils exist together as illustrated by the pH values of the samples.

The villa at Stroud was situated on the gravels and the alluvial deposits on a terrace by a tributary of the river Rother. This mixture has created a slightly alkaline soil. The position at the western end of the Weald with a valley leading to the Meon Valley and the Hampshire Basin was probably more important than the agricultural properties of the soils. This villa had a large bath house and the adjacent river would have been used as a source for the supply of water and possible transportation.

POTTERY ANALYSIS

The quality of the excavation reports varied considerably in detail and content. Only the recent report on Langstone had sufficient details to extract meaningful pottery information. To ensure consistency of measurements and classifications, the archived pottery from all the excavations was examined to establish detailed quantifiable and meaningful socio-economic data. The pottery was obtained from the museum archives shown in Table 4.

The method of recording was to divide the pottery into ware groups based on a common fabric characteristic. Fabrics were identified by using a x10 magnifying glass or a x20 microscope. Every pottery sherd was recorded by type, form and fabric. Body and base sherds were counted and weighed. The Estimated Vessel Equivalent (Eve) of each rim sherd was calculated using a rim chart as recommended by Orton (1975). Samian and other dated wares were used to establish the date ranges for the pottery assemblage and the occupation periods of the villas and a matrix was constructed comprising the absolute and percentage amounts of each pottery type to ascertain the patterns and relationships of the socio-economic status of the occupants.

A total of 44,524 pottery sherds, weighing 659 kg, was recorded from the twelve excavated villa sites. The Estimated Vessel Equivalents (Eve's) and the comparative percentages of fine wares and kitchen wares by Eve's are shown in Table 5.

The nominal amount of material that has survived from the villa at Stroud has been included for completeness, but was excluded from further analysis as forty sherds did not represent a viable sample size. Chalton, Holt

Table 4 Sources of Archived Pottery

Villa	*Museum*	*Museum Accession No*	*Site Codes*
Batten Hanger	CDM	A20164	ES 88-91
Chalton	PCM	1957/205	205/57
Chilgrove 1	CDM	A20023	C/64-6/1
Chilgrove 2	CDM	A20022	C2/65-70
Elsted	CDM	A20007	EL75
Holt Down	PCM	1964/29	1964/29
Langstone	PCM	1967/34	1967/34
Pitlands Farm	CDM	A20017-19	UP/P/65-69
Purbrook	PCM	1969/230	PU 25
Stroud	WM	Arch 47.00	47.01-5
Wakeford's Copse	PCM	1968/194 and 1970/377	WC 68 and WC 70
Watergate Hanger	CDM	A20036	WH84 - WH86

Key: CDM = Chichester District Museum; PCM = Portsmouth City Museum; WM = Winchester Museums

Table 5 Summary of pottery

Villa	*Sherds*	*Rims*	*Weight (g)*	*Eve's*	*% fine wares*	*% kitchen wares*
Batten Hanger	9,294	1,420	152,359	142.12	9.04	90.96
Chalton	652	370	15,360	22.48	4.05	95.95
Chilgrove 1	1,840	915	52,713	91.70	17.40	82.60
Chilgrove 2	3,723	1,415	99,009	144.89	15.38	84.62
Elsted	9,195	426	52,094	22.76	3.78	96.22
Holt Down	409	213	9,680	16.44	6.20	93.80
Langstone	4,387	822	66,624	73.35	9.71	90.29
Pitlands Farm	882	241	12,280	16.10	16.09	83.91
Purbrook	705	217	21,060	26.48	11.34	88.66
Stroud	40	7	324	1.95	24.10	75.90
Wakeford's Copse	5,493	1,007	92,682	82.52	3.02	96.98
Watergate Hanger	6,768	1,074	85,092	85.65	10.02	89.61
Total	43,388	8,127	659,277	726.44		

Table 6 Analysis of pottery quality

Villa	*Sherd Count*	*Weight (g)*	*Eve's*	*Brokenness*	*Mean Weight*
Chilgrove 1	1,840	52,713	91.70	20.07	28.65
Holt Down	409	9,680	16.44	23.45	24.88
Chilgrove 2	3,723	99,009	144.89	25.70	26.59
Purbrook	705	21,060	26.48	26.62	29.87
Chalton	652	15,360	22.48	29.00	23.56
Pitlands Farm	882	12,280	16.10	54.78	13.92
Langstone	4,387	66,624	73.35	59.81	15.19
Batten Hanger	9,294	152,359	142.12	65.40	16.39
Wakeford's Copse	5,493	92,682	82.52	66.57	16.87
Watergate Hanger	6,768	85,092	85.65	79.02	12.57
Elsted	9,195	52,094	22.76	404.00	5.67
Total/Average	43,348	658,953	724.49	60.99	15.12

Down and Purbrook were excavated between fifty and eighty years ago without the benefit of modern archaeological techniques, which could explain the relatively small amount of pottery that has been retained and archived. Pitlands Farm was a partial excavation as most of the villa was under the existing farm house and buildings. However, these assemblages were large enough to produce statistical information and the results have been included in the analysis.

Data Quality and Survival

The pottery assemblages had been excavated under different archaeological regimes and time-scales from 1907 until 1993. To gauge the quality of the data, a comparison of the 'brokenness' was calculated, by dividing the sherd count by the Eve value. The results are shown in Table 6 along with the mean sherd weight, obtained by dividing the weight by the sherd count. One of the main reasons for high fragmentation of pottery is that a site has been disturbed over many centuries, resulting in a disruption of the integrity of the original deposits.

The large quantity of material from Elsted and the very high level of brokenness (on average, each vessel has been broken into 404 pieces) suggested that the site has been extremely disturbed. This disturbance has been caused by ploughing over many centuries, probably from Saxon times (Redknap & Millett 1980). The average sherd weight of less than 6 grams and the amount of abrasion to the pottery restricted accurate categorisation. Holt Down had a low brokenness of less than 24 sherds per vessel, but as the material was excavated nearly eighty years ago, some of the smaller pottery material may have been lost or never archived.

The pottery material from Chilgrove 1 was uncharacteristic in that there are more bases than body sherds suggesting that the excavator has been selective in his pottery archiving policy. The methodology of using rim sherds to quantify the pottery was unaffected but had sherd weights or count been used to quantify the assemblage this would have produced biased results. The other villa pottery assemblages have a 'brokenness' of between 20 and 79 which is comparatively low.

Table 7 Percentages of fine-ware types by villa

Villa	*% fine ware*	*Samian c. 75–200*	*Imported c. 75–250*	*New Forest c. 250–400*	*Oxford c. 200–400*	*Mortaria c. 200–400*
Chilgrove 1	17.40	6.37 %	1.35 %	4.93 %	0.96 %	3.79 %
Pitlands Farm	16.09	6.46 %	0.43 %	6.83 %	0.37 %	1.99 %
Chilgrove 2	15.38	3.62 %	2.04 %	5.16 %	2.64 %	1.86 %
Purbrook	11.34	8.52 %	–	0.39 %	–	2.43 %
Watergate	10.02	4.38 %	1.07 %	2.49 %	0.23 %	1.60 %
Langstone	9.71	–	3.65 %	3.46 %	0.23 %	1.10 %
Batten Hanger	9.04	1.73 %	0.09 %	4.19 %	1.45 %	1.25 %
Holt Down	6.20	1.03 %	–	4.14 %	–	1.03 %
Chalton	4.05	1.16 %	–	2.89 %	–	–
Elsted	3.78	1.80 %	0.57 %	1.41 %	–	–
Wakeford's	3.02	1.96 %	–	–	–	1.06 %

Pottery Suppliers

It is hypothesised that the percentage of fine wares represents a measurement of the conversion and access to Romanised life styles, and the variety of vessel forms represents the affluence of the villa owner. The acceptance of Roman cultural and culinary habits by individual villa owners can be measured by the quantity and variety of fine wares found on each site. The percentage of fine wares of both continental suppliers and local British manufacturers is shown in Table 7.

The villa at Langstone is the only site not to have any samian pottery, but the report by Gilkes states 'samian pottery was absent, although it is known that some was found at the time of excavation' (Gilkes 1998, 58). The high level of fine wares from Gaul amongst the assemblage suggests that samian would have been present but now lost.

Nine of the eleven villas had examples of mortaria, which were vessel forms particularly associated with Roman culinary habits. The major Romano-British producers supplying mortaria to southern Britain were the New Forest and Oxford industries. By the middle of the 3rd century AD local British fine wares were replacing imported samian and other fine wares. This is reflected in the pattern of fine wares at the Batten Hanger villa. The variety of different samian vessel types and mortaria are shown in Table 8. The variety is hypothesised as an indicator of the purchasing power of the villa owners and a measure of both their wealth and familiarity with Roman customs.

The villas can be divided into two groups. The first six villas have significantly more vessel forms than the last four villas. Purbrook was borderline having only two mortaria and seven samian types. The lack of any samian pottery, and the limited number of mortaria vessel forms at Langstone, was a reflection of the quality of the data and the results were ignored at this stage.

On the assumption that the 'higher-status' villas will have a greater proportion of fine wares than the lower status sites, then the villa owners on the chalk downs were of a significantly superior socio-economic status than the villa owners on the heavier clays. The differ-

Table 8 Vessel form analysis

Villa	*Samian Forms*	*Date Range*	*Mortaria Types*	*Date Range*
Chilgrove 2	8	*c.* 70–250	12	*c.* 200–375
Batten Hanger	10	*c.* 100–250	9	*c.* 240–400
Chilgrove 1	8	*c.* 120–250	9	*c.* 240–400
Watergate Hanger	10	*c.* 120–200	6	*c.* 270–400
Pitlands Farm	9	*c.* 120–250	5	*c.* 240–375
Purbrook	7	*c.* 70–200	2	*c.* 325–375
Elsted	4	*c.* 120–200	–	–
Langstone	–	–	3	*c.* 320–380
Holt Down	2	*c.* 90–150	1	*c.* 280–350
Chalton	3	*c.* 120–180	–	–
Wakeford's Copse	3	*c.* 150–200	–	–

Table 9 Pottery percentages

Villa	*% Rowland's Castle*	*% Alice Holt*	*% BB1*	*% New Forest*	*% Oxford*
Wakeford's Copse	72.47	–	2.94	–	–
Watergate Hanger	58.18	21.93	12.36	2.49	0.23
Langstone	81.31	0.57	7.25	3.46	0.23
Purbrook	68.30	7.57	7.30	0.34	–
Pitlands Farm	50.19	20.73	9.38	6.84	–
Chalton	61.20	–	1.42	2.89	–
Holt Down	56.74	6.49	5.38	4.14	–
Batten Hanger	33.50	34.75	6.23	4.19	1.45
Chilgrove 1	41.19	43.17	4.28	4.14	0.96
Chilgrove 2	46.68	41.26	3.87	5.16	2.64
Elsted	60.27	32.79	0.95	1.41	–

ence between the two areas indicates that the villa owners in the lighter chalks had a greater ability to afford more nonessential vessel types by choice, such as purple colour-coated indented beakers and painted bowls.

Local pottery supply

There were several local British kilns supplying pottery to the villas in the study area. Rowland's Castle, Alice Holt and Poole Harbour (BB1)

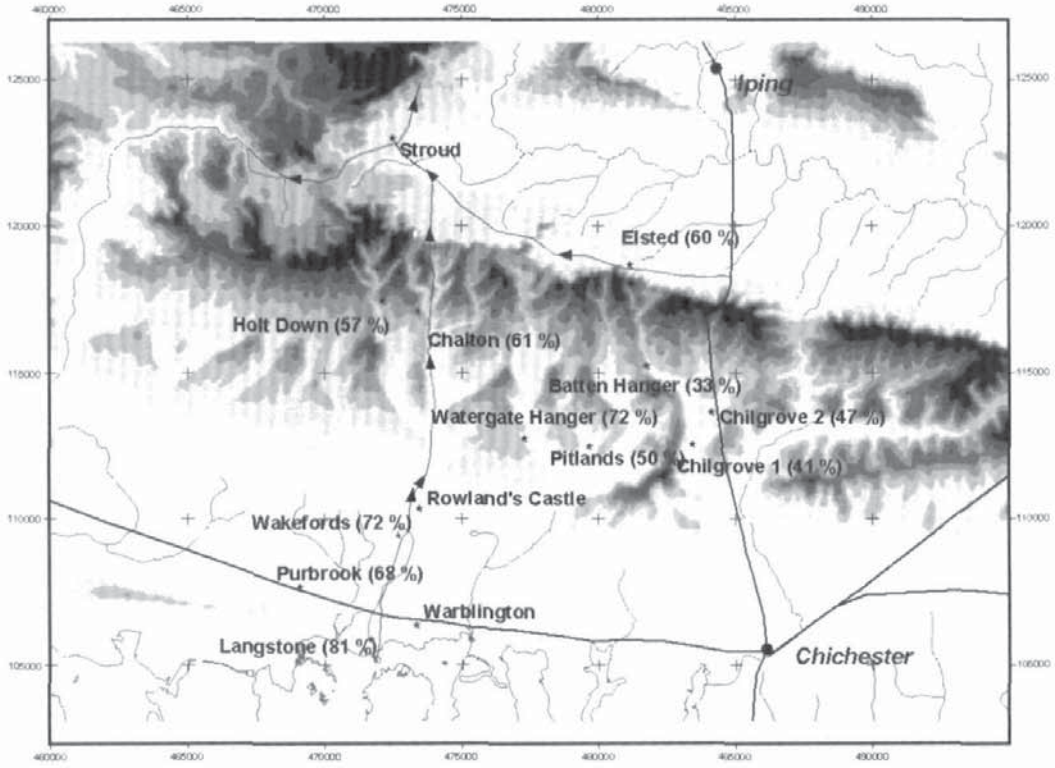

Fig. 2 The distribution of Rowland's Castle pottery by villa. Base map © crown copyright/database right 2006. An Ordnance Survey/EDINA supplied service.

produced a variety of kitchen wares. The New Forest kilns produced both table and kitchen wares. The difficulty in transporting these products from the point of manufacture was a major factor influencing distribution patterns. Table 9 shows the percentage of pottery of the major ware suppliers by villa.

The distribution of Rowland's Castle pottery across the villa sites is shown in Fig. 2. It would be reasonable to expect that less Rowland's Castle pottery would be found further away from the kilns. There are clearly other factors that must be considered, however, as Elsted still has over 60 % of Rowland's Castle products in its pottery assemblage whilst Pitlands, which is under 7 km distant, has only just over 50 %.

The kilns at Rowland's Castle were in production from the middle of the 1st until the early 4th century and the settlements at Chalton, Elsted, Holt Down, Langstone, Purbrook and Wakeford's Copse all were in decline by the end of the 3rd century (Table 8). These were the sites (together with Watergate Hanger) that had the highest percentage of Rowland's Castle pottery. The villas at Chilgrove 1 and 2, Pitlands and Batten Hanger all continued to be occupied until at least the late 4th century and had less Rowland's Castle pottery and more Alice Holt products. The distribution patterns may have more to do with length of occupation and availability than just communication routes. The distribution of pottery from Alice Holt (Fig. 3) demonstrates the influence of the marketing centre with the higher percentage of vessels radiating out from Chichester. The

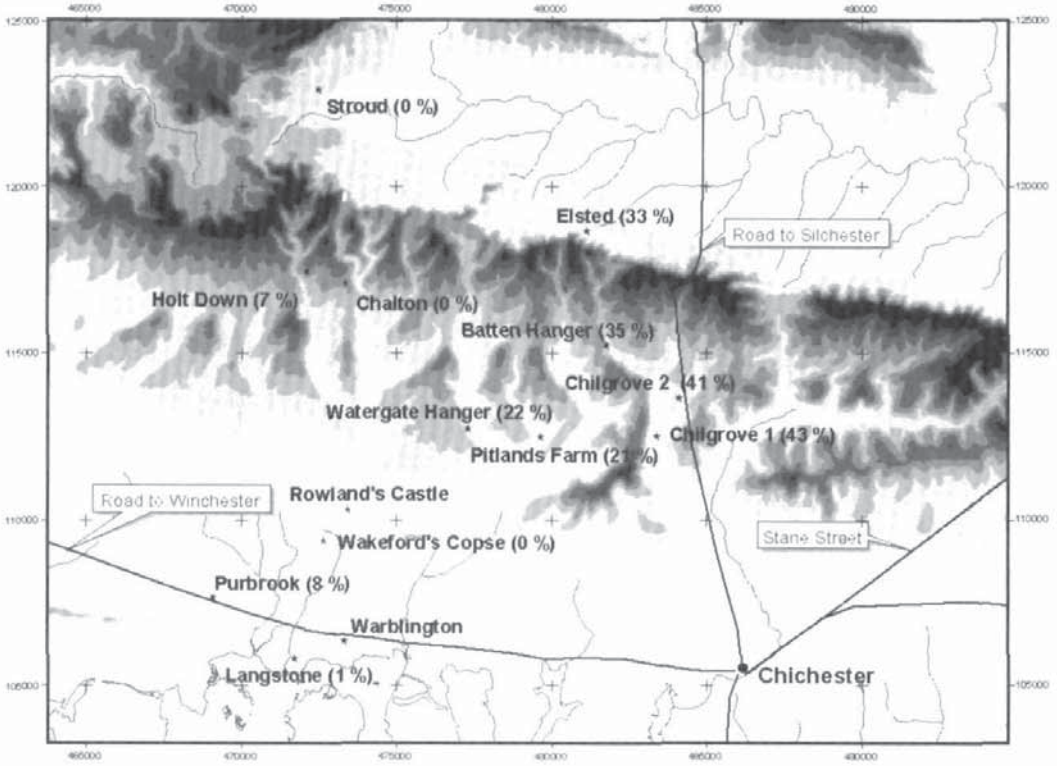

Fig. 3 The distribution of Alice Holt pottery by villa. Base map © crown copyright/database right 2006. An Ordnance Survey/EDINA supplied service.

manufacturing site at Farnham was 36 km to the north, demonstrating the importance of roads as a means of distribution.

There was no clear pattern to the distribution of BB1 and New Forest ware, which were probably shipped from their manufacturing locations along the south coast to marketing centres such as Chichester. It is intriguing to speculate that the Langstone villa may have contributed to this distribution as there was a relatively higher proportion of BB1 in the surrounding villas. The distribution patterns would also seem to be a function of affordability rather than just availability. This was reflected in the fact that the high status villas have a greater percentage of New Forest fine wares.

Evaluation of Method

Any study relies on the quality of the original data, and the majority of the pottery used in this study was from excavations which took place many years ago. Archaeological methods and standards have changed considerably over the years and new standards of pottery archiving have now been initiated. Samian has been used as a dating tool for archaeological sites and separated from the pottery assemblage for specialists to study. It was not always returned to the main collection. Curators have also been attracted to samian, which is on exhibition in most museums, thus reducing the available archived samian in storage.

It would have been extremely useful to have

been able to validate the pottery dating with coin evidence. This was not possible because there were no records of any coin evidence from seven of the excavated sites. Two sites, Pitlands and Watergate Hanger, produced five and eight coins respectively. The coins from Batten Hanger are currently unavailable, so only Chilgrove 1 and Chilgrove 2 had documented coin evidence, with 125 and 104 coins each (Down 1979).

The soils were classified using a simple method of sampling and establishing the pH values. More accurate data could be collected by digging soils pits and by further detailed laboratory analysis to establish the soil mineralogy and chemical composition. This would be an expensive and time consuming activity which would not necessarily establish the soil profile as it existed during the Roman period. On some sites these ancient soil profiles have been destroyed, such as those at Rowland's Castle, and others have been covered by many years of alluvial deposits.

DISCUSSION

The countryside benefited during the Roman period from a stable government and historically a relatively high level of peace, which allowed the agricultural economy to grow and flourish. However, those villas in the study area located on soils that were not easily cultivated by Romano-British agricultural technology were less productive and less commercially viable. They had limited conversion to the Roman life style, were poorer in their construction and in the quality of their pottery. They had reduced access to the major markets and were served by greenways, the routes of which have never been accurately established. Of interest in this scenario of relative under-development is the rural pottery industry at Rowland's Castle with a villa located next to the kilns. The establishment of Romano-British industries, such as pottery production, was encouraged by the commercial factors introduced by the Roman monetary economy.

These villas in the western part of the study area contrast with the more easterly villas on the chalk downlands which had easy access to the well maintained road between the *civitates* of Chichester and Silchester. The building of this road opened up the Chilgrove Valley, in a way that allowed people, goods, and ideas to circulate with ease. The villas had many Roman features and a larger proportion of high quality imported and indigenous fine ware pottery. Villa owners in the chalk downlands were evidently more capable of affording these luxuries, together with painted walls, tessellated floors, mosaics, and bath houses in their farm houses, suggesting that the area was agriculturally more productive.

This study has demonstrated that there is a relationship between the socio-economic status of a villa and the percentage of fine wares in the associated pottery assemblage. The data has been used to establish an approximate baseline for the representation of fine wares for the villa/farmsteads in the study area. Villas that were perceived as high status had a pottery assemblage that contained nine percent or more fine wares. This compares with less than five percent of fine wares at low status villas.

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