

# LATE ANTIQUITY IN THE TERRITORY OF SAGALASSOS (PISIDIA, SW TURKEY)

BY

H. VANHAVERBEKE, F. MARTENS, M. WAEKENS & J.  
POBLOME

## ABSTRACT

Excavations at Sagalassos and non-intensive surveys of the city's territory have yielded a considerable amount of late antique evidence. While the first half of the period (c. A.D. 300 to A.D. 450/75) bears witness to a continued prosperity, both in the city and its hinterland, the latter part of the period (c. A.D. 450/75 to A.D. 640/50) saw some marked changes in the countryside: a reduction in the overall number of sites, an increased tendency toward nucleated settlement, a new emphasis on strategically located settlements, and the establishment of rural churches. This paper attempts to sketch the socio-economic and environmental background to these changes.

## RESEARCH IN THE TERRITORY OF ANCIENT SAGALASSOS

Sagalassos and its territory are located in the western Taurus, which embraces the mountain ranges to the northwest and northeast of Antalya.<sup>1</sup> The city is located approximately 7 km North of the modern-day *ilçe* of Ağlasun, in the Turkish province of Burdur, on an undulating platform on the southern flank of the Ağlasun Dağları. The remains of the ancient city extend over an area of c. 90 hectares. At its apex in Imperial times, the city's territory covered an area of c. 1800 km<sup>2</sup>. It stretched from Lake Burdur in the west, to the river Aksu in the east, and from the Akdağ in the North to the hills located to the South of the plains of Çeltikçi and Bağsaray in the South (Figure 1).<sup>2</sup>

In 1982, Stephen Mitchell (then Swansea College - U.K.) initiated the 'Pisidia Project' with the aim of (re-) mapping and describing the major cities of Pisidia. Five campaigns took place in Sagalassos, from 1985 to 1989. The last four of these were in collaboration with the present director of the excavations, Marc Waelkens (Catholic University of Leuven - Belgium). After a rescue excavation undertaken with the Burdur Museum in 1989 Sagalassos officially became a Belgian excavation project in 1990.<sup>3</sup>

Since 1993, surveys have been carried out in the territory of the city, at the request of the Turkish Ministry of Culture, in order to compile a new inventory of cultural heritage from all periods in the area. These surveys resulted in the discovery of more than 250 sites<sup>4</sup>, varying from isolated ceramic finds to large village sites, and in date from the Epipalaeolithic to the Ottoman period.<sup>5</sup>

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<sup>1</sup> Paulissen *et al.* (1993) 230; Vanhaverbeke & Waelkens (2003) in press.

<sup>2</sup> Waelkens *et al.* (1997a) 97-99; Waelkens *et al.* (2000a) 40, 175-76, 187-88, 211.

<sup>3</sup> In the meantime, five volumes have been published discussing the evidence from surveys, excavations and restauration activities: Waelkens (1993); Waelkens and Poblome (1993); Waelkens and Poblome (1995); Waelkens and Poblome (1997); Waelkens and Loots (2000). A sixth volume is in press (Waelkens and Poblome (2003)).

<sup>4</sup> We have used the term 'site' to include every piece of archaeological evidence of human activity, ranging from an isolated *grafitto* to the remains of a town.

<sup>5</sup> Waelkens (1995); Waelkens *et al.* (1997a); Waelkens *et al.* (2000a); Vanhaverbeke and Waelkens (2003).

## SURVEY METHODOLOGY

The surveys carried out between 1993 and 1996 in the territory of Sagalassos were of a non-intensive nature, and a systematic or full sampling strategy was not applied. The survey strategy consisted mainly of a visit to each village in the region in order to ask the local population about the presence of archaeological remains. In addition, previously known and published sites were revisited. Except for some lacunae, such as the Ağlasun valley<sup>6</sup> and the immediate surroundings of the city of Burdur, all of the modern villages in the city's ancient territory have been systematically covered.

It is obvious that this kind of non-intensive survey is accompanied by specific limitations. Apart from problems related to surface survey in general, such as the effects of post-depositional processes that are especially active in the area under consideration, with its mixed topography of hills and valleys<sup>7</sup>, there are also problems of accessibility, due to modern construction activities or dense vegetation. Other complicating factors are the sometimes poor state of preservation of archaeological material and difficulty in understanding the contemporaneity of sites discovered by surface survey: this results from the impossibility of creating a well-defined chronological framework from unstratified archaeological remains.

Thus it is difficult to obtain a full picture of the region's settlement pattern at any particular point in time. Moreover, the effects of cultural superposition favour the preservation and recognition of the last phase of occupation on a site, and obliterate much of its earlier remains. Finally, due to differences in visibility between the material remains of different cultural phases or the obtrusiveness of specific categories of artefacts, it must be stressed that non-intensive surveys are likely to miss many sites, especially small sites, sites at less accessible locations, or sites with less remarkable archaeological surface remains. This is problematic, in that such sites would have constituted a major part of the settlement pattern at any given time.

It must therefore be kept in mind that the reconstruction of past settlement patterns in the territory of Sagalassos is to a large extent based on evidence which favours larger sites with durable or highly visible material, located in areas that are still cultivated and/or accessible today. The broadness of the chronological framework, established through ceramic dating and architectural and epigraphic evidence, further limits the extent to which detailed reconstructions can be made.

## THE CHRONOLOGICAL FRAMEWORK

Late Antiquity is defined here on the basis of local ceramic phases. These were distinguished during the excavations at Sagalassos and in the collection of surface artefacts from its territory. It comprises both the Late Imperial period, incorporating ceramic phases 6 and 7, covering the period from *c.* A.D. 300 to A.D. 450/75, and the Early Byzantine period, consisting of ceramic phases 8 and 9, extending from *c.* A.D. 450/75 to A.D. 640/50. The

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<sup>6</sup> This region is currently the major focus of intensive fieldwalking surveys, initiated in 1999 (Vanhaverbeke *et al.* 2003).

<sup>7</sup> Coring in some of the intramontane basins in the territory of Sagalassos has clearly attested the presence of important erosion and colluviation phases during the last 2500 years. In some places the deposits covering classical remains are 2 m thick (cf. Vanhaverbeke and Waelkens (2003) *in press*). New core samples taken in the Potters' Quarter of Sagalassos revealed up to *c.* 6 m of post-occupational sediments, underscoring the extent of these processes.

latter date signifies the end of the major occupation of Sagalassos. After the middle of the 7th century A.D., possible evidence of habitation near the former city is encountered only on the promontory with the Temple of Antoninus Pius (see below, p. xxx). Other traces were found on the so-called Alexander's Hill, which guarded the southern entrance to the city (see below, p. xxx), and in the valley of Ağlasun, directly south of Sagalassos. Traces throughout the city's former territory are scarce.<sup>8</sup> Ceramic phase 9 (c. A.D. 550-640/50) has, as yet, only been recovered in excavations within the city and in a few sectors of the intensively surveyed areas *intra muros*. Neither the non-intensive surveys in the city's territory nor the systematic intensive surveys recently initiated in the city's suburban area have thus far yielded pottery belonging to that phase. That does not mean that occupation in the countryside ceased around the middle of the 6th century. Other wares seem to have been produced at this later stage within the territory of the city (see below, p. xxx).

### SAGALASSOS IN LATE ANTIQUITY

In general, the 4th and 5th centuries A.D. were a period of prosperity in Pisidia, as is attested by the greatly increased number of public dedications and some revival of building activity in the cities. The general prosperity of Sagalassos at this time may be explained by the fact that the city, which supplied Roman troops along the Syrian border already in the 3rd century A.D., may have profited from the continued presence of the Roman army in nearby Pamphylia.<sup>9</sup> At Sagalassos existing buildings were modified or repaired, including the baths and the library, which during the 4th century received its magnificent *emblema*. The western part of the Upper Agora received a new pavement, whereas the eastern part of the Antonine *nymphaeum* on the same square and the terrace building to the North of it, was also repaired after earthquake damage. During the same period, alterations to the Lower Agora took place, and a new fortification wall surrounding the city centre was erected around A.D. 400, protecting an area of 12.83 ha.

The early 5th century fortifications can most probably be linked to the temporary climate of insecurity caused by the revolt of the Ostrogothic mercenaries under Tribigild, who marched from Phrygia through Pisidia to Pamphylia in A.D. 399, and/or especially to the raids of the Isaurians during the years A.D. 404-406. It was as a result of this latter threat that a new military command was created in Asia Minor, the *comitivae* of Pamphylia, Pisidia and Lycaonia. Excavations at Sagalassos, to the East of the monumental city centre and outside the Late Imperial city wall (near the library), revealed traces of burning, possibly related to these events.<sup>10</sup>

During the 5th century the city's former *bouleuterion* had its front wall partially dismantled for the new fortifications. The *bouleuterion* was further transformed into an open *atrium* with baptistery and its courtyard was remodelled into a church, probably dedicated to St. Michael. Several churches were built elsewhere in the city during the 5th and 6th centuries A.D. These comprised the converted sanctuary of Apollo Klarios overlooking the Lower Agora, as well as the ecclesiastical centres established in the domestic quarters and in the urban periphery (the martyrium Basilica E1 in the former stadium, the monastery on top of Alexander's Hill and the sepulchral church in the southwest necropolis).<sup>11</sup>

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<sup>8</sup> Vanhaverbeke and Waelkens (2003) in press. This late material produced by the urban survey of F.Martens in the city, and that of H.Vanhaverbeke in the city's suburbs, and by a small scale excavation under the supervision of J.Poblome on the Alexander's Hill has not yet been published. All the pottery was dated by J.Poblome. For an overview of the ceramic phases, see Poblome (1999).

<sup>9</sup> Nollé (1993) 135-41; Waelkens (2002) 357.

<sup>10</sup> Waelkens (2000/2001) 76; Loots *et al.* (2000) 616-19; Waelkens and Talloen (in press).

<sup>11</sup> Talloen (forthcoming).

After a devastating earthquake during the early 6th century, most of the city was still repaired with a sense of monumentality. The Roman baths were extensively repaired, part of a Tiberian gateway affording access to the Lower Agora was re-erected, and most of the city's porticoes, public fountains and *nymphaea* were repaired or adapted. The city walls must have gone out of use by the early 6th century A.D., as debris from the earthquake was in some places piled up against the outside of the walls.<sup>12</sup> In the domestic area, palatial urban villas were still being erected or repaired. One of them, currently being excavated, had a minimum of 36 rooms, including a large reception hall, suggesting that the complex belonged to a member of the provincial aristocracy, known at this time as the *prôteuontes*.<sup>13</sup>

By the end of the 5th century A.D., the leading citizens of the cities were no longer the councillors (*decuriones*), but a body of citizens including the bishops and clergy, the principal landowners and some *decuriones*. Officials known as *vindices* were now responsible for the collection of the land taxes for and municipal finance of each city and supervised the activities of the other provincial and municipal magistrates.<sup>14</sup> These changes in the urban government seem to have led to important transformations in the urban infrastructure. Subdivision of and encroachment on the sites of formerly public buildings is a phenomenon that can be traced in many regions<sup>15</sup>, also at Sagalassos, for instance in the transformation of the *bouleuterion* and its courtyard in a church with *atrium*, mentioned earlier. This phenomenon was especially recurrent after the middle of the 6th century A.D. (see below, p. xxx SET IN PROOFS).

Evidence recovered through recent intensive surveys has shown that Sagalassos remained a densely occupied urban centre at least until the mid-6th century A.D.<sup>16</sup> The fortifications of the early 5th century A.D. clearly only surrounded part of the inhabited area, enclosing a total space of 12.83 ha. However, the surface material, as well as the excavation of the palatial villa mentioned above, indicate that the domestic quarters of the city may have been almost double that size. It was typical for Late Roman as well as Byzantine fortifications to encompass only a limited, defensible area.<sup>17</sup> In fact, it has already been suggested for many Greek towns that the enclosure of only part of the urban area in Late Antiquity should be considered an effect of the changing function of the fortification wall rather than as a sign of a diminished population or urban decline.<sup>18</sup> Gregory's investigations thus suggested that in the case of the major Greek cities, the late Roman walls were only meant to protect the civic centre and to provide a place of refuge to which the inhabitants could flee in case of danger.<sup>19</sup>

## LATE ANTIQUITY IN THE TERRITORY OF SAGALASSOS

Sagalassos and its territory are located within the so-called 'Isparta angle' of the Taurus range. This is a triangle-shaped area at the interface between a NE-SW extensional regime extending as far as the Aegean in the west, and a compressional regime towards the east, resulting in the uplift of the Anatolian plateau and making the region a tectonically active zone.<sup>20</sup> The territory of Sagalassos covered in Roman times an area of c. 1800 km<sup>2</sup> and comprised an alternation of plains and hills, mainly moulded in a limestone substrate. Higher peaks delimit the city's territory to the north (the A $\square$ lasun Da $\square$ lar<sup>2</sup>, max. 2271 m a.s.l.), while

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<sup>12</sup> Poblome (1995).

<sup>13</sup> Waelkens (2000/2001) 79.

<sup>14</sup> Jones (1964) 230-37; Jones (1979) 208-209; Liebeschuetz (1992) 27; Liebeschuetz (2001) 104-120; Haldon (2002) 20.

<sup>15</sup> Cameron (1993b) 160; Saradi-Medelovici (1988) 385; Foss (1979) 36.

<sup>16</sup> Martens *et al.* (2003) in press.

<sup>17</sup> Bouras (1981) 639; Provost (2001) 123; Liebeschuetz (2001) 32-39, 292.

<sup>18</sup> Gregory (1982) 50.

<sup>19</sup> Gregory (1979) 278; Gregory (1982) 50.

<sup>20</sup> Dilek and Rowland (1993); Glover and Robertson (1998); Degryse (2001) 17-21.

the Beşparmak mountain range rises in the central area of the region, up to 1450 m a.s.l. Today the region of Sagalassos experiences a cold and subhumid Mediterranean climate, characterized by a combination of wet winters and dry summers. The dry season is restricted to three months (July, August, September). The territory of the ancient city experiences frost for seven months (October until April), while December, January and February can be considered as 'cold months' with mean daily temperatures below 0°C (temperatures of -2 or -2.4°C) and minimum temperatures well below -10°C. However, palynological analyses suggest that the woodland and forest cover was much denser in Antiquity than it is today, and may have had a tempering effect on winter temperatures, allowing for the cultivation of olives at higher altitudes.<sup>21</sup>

In antiquity, Pisidia as a whole,<sup>22</sup> and Sagalassos in particular,<sup>23</sup> were famous for the fertility of their soils. In the Pisidian Lake District, to which Sagalassos belongs, more than 70% of the valley bottoms could be used for agriculture.<sup>24</sup> Moreover, because of its good balance between fertile valleys (*ova's*) and summer pastures (*yayla's*), northern Pisidia was also an ideal district for animal breeding.<sup>25</sup> Currently, a dissertation is being finished on ancient land use in the territory of Sagalassos. Preliminary results suggest the importance of research on paleosols. These can significantly differ from present day soils, which can clearly affect the calculations of ancient yields and productivity.<sup>26</sup>

Based on evidence gathered through non-intensive surveying begun in 1993, the Late Imperial period (c. 300-450/75 A.D.) witnessed the highest overall number of sites ever in the territory of Sagalassos, attesting to a vigorous rural life. The high number of sites for this period may partially be explained as an effect of cultural superposition (see above, p. xx), since the Late Imperial period witnessed the last occupation of many sites in the area. The same period also saw a renewal of the establishment or reoccupation of less accessible sites on hill or mountain tops (Graph 2, Figures 2 and 3). The environs of these sites may have provided good opportunities for the breeding of sheep and goats, the importance of which seems to have increased from the first half of the 5th century onwards, as faunal remains retrieved from the excavations at Sagalassos suggest.<sup>27</sup> The fact that the centre of Sagalassos was surrounded by a fortification wall, together with the identification of evidence of burning in the city (see above p. xxx), seems to support the presence of a perceived threat; this was most probably that of Isaurian raids. However, most of the less accessible sites were not fortified and habitation in the plains and on the lower slopes remained important throughout the Late Imperial period. Varied, intensive cultivation still took place in some of the basins in the territory of Sagalassos, as is indicated by palynological research.<sup>28</sup> Thus it seems that while external stresses were present, they did not determine the settlement pattern at large.

A more important determinant on the settlement pattern was still the regional centre, Sagalassos, with a large number of people not involved in food production. The city had to be supported by a steady flow of products - food, raw materials and taxes - from its territory. This was provided by a network of villages and farms (Fig. 4), located at regular intervals in the landscape, functioning as local centres for the collection and primary processing of produce, as is attested by the numerous press weights used in the processing of olives.<sup>29</sup> These

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<sup>21</sup> Paulissen *et al.* (1993) 231-33; Waelkens and The Sagalassos Team (2000) 266; Vanhaverbeke and Waelkens (2003) in press; Vermoere (2003) in press.

<sup>22</sup> Nollé and Schindler (1991) 27-28.

<sup>23</sup> Livy 38.16.9.

<sup>24</sup> Brandt (1992) 10.

<sup>25</sup> Hütteroth (1982) 157-58; Brandt (1992) 131; Waelkens and The Sagalassos Team (2000) 266-67.

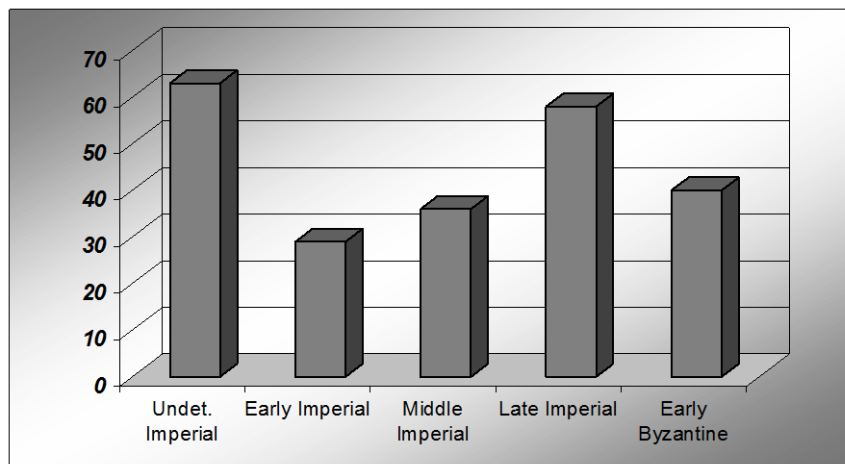
<sup>26</sup> Donners *et al.* (2000).

<sup>27</sup> De Cupere (2001) 140-41, fig. 99; Waelkens and The Sagalassos Team (1997) 244; Waelkens *et al.* (1999) 705; Vanhaverbeke and Waelkens (2003) in press.

<sup>28</sup> Vermoere (2003) in press; Vanhaverbeke and Waelkens (2003) in press.

<sup>29</sup> Vanhaverbeke and Waelkens (2003) in press.

villages are identified foremost by their extent (over 10.000 m<sup>2</sup>)<sup>30</sup> and, secondly, by their assemblages, which include pottery (both coarse and table wares), architectural remains (in ashlar or fieldstones) and in some cases olive press weights, sarcophagi or funeral altars. Their economic basis was agricultural in nature, as is attested by their location close to prime arable land, the occurrence of press weights, and the evidence provided by palynology. In fact, the Imperial period saw the intensification of the exploitation of the countryside. The cultivation of olives, cereals and vines were at their peak in Imperial times, while the presence of walnut, manna-ash and chestnut is also attested palynologically.<sup>31</sup>



Graph 1. The overall number of sites during the Early, Middle and Late Imperial and the Early Byzantine period

There is surprisingly little evidence for elite involvement or even habitation in the city's territory during the Late Imperial/Early Byzantine period. Several monumental tombs have been identified for the Early and Middle Imperial period (c. 25 BC - A.D. 300); these were most probably located in the vicinity of the elite's estates.<sup>32</sup> But, after the 4th century A.D., no such evidence exists. This may be a result of a change in burial customs, or a real retreat of the elite. There is [possible?] evidence for the continued existence of the seats of estates in Late Imperial and Early Byzantine times. However, it is very difficult to ascertain the contemporaneity of Late Imperial-Early Byzantine pottery found on sites with indicators of wealthy patrons - such as presses, marble revetments and window glass, which constitute the grounds for the identification of an estate centre -whether or not the owners resided on their estates. The ceramics recovered may be evidence of the continued use of these estate centres or of later unrelated occupation. Future survey work may possibly shed more light on this issue.

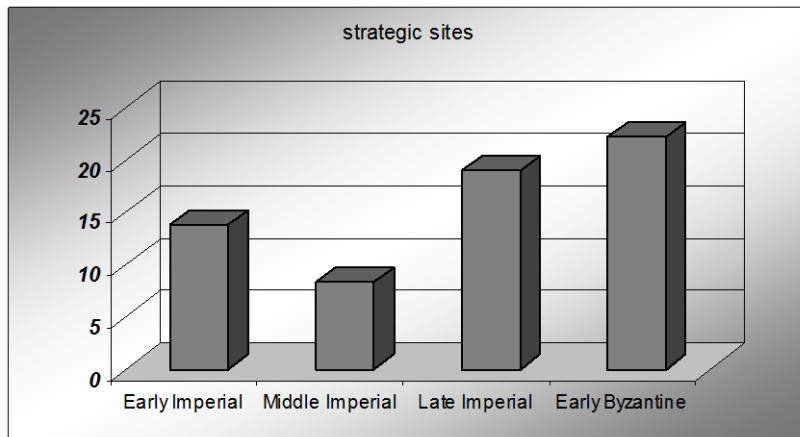
The Early Byzantine period (corresponding in this study with the years 450/75-640/50 A.D.) witnessed a marked decrease in the overall number of sites (Graph 1) and a further increase in the importance of strategically located habitation on hill or mountain tops in less accessible areas (Graph 2, Figure 5). Graph 3 represents the percentages of village and farm sites among the total numbers of sites identified for each phase of the Imperial and the Early Byzantine period. Farms have been defined primarily on the basis of their small size (avg. 2.500 m<sup>2</sup>), their location close to/in arable land, and their artefact inventory (for instance

<sup>30</sup> The 10.000 m<sup>2</sup> boundary is also the criterion applied by the Southern Argolid Survey members to qualify a site as large (Jameson *et al.* (1994) 417), by the Boeotia Survey (Snodgrass (1990) 132) and by Osborne when terming a site a (small) village (Osborne (1987) 58).

<sup>31</sup> Vermoere (2003) in press; Vanhaverbeke and Waelkens (2003) in press.

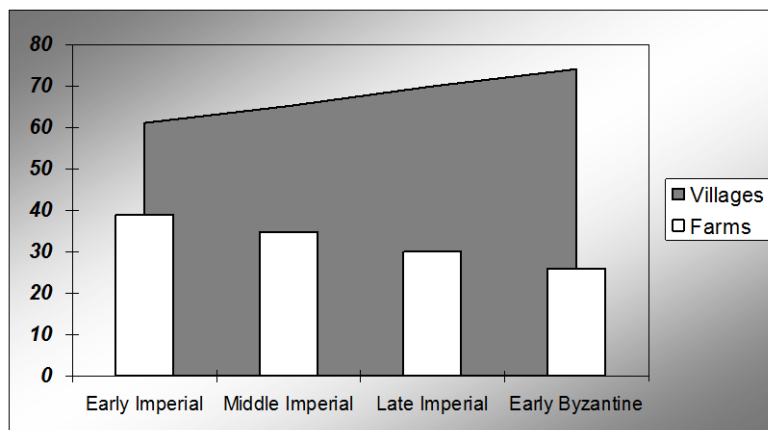
<sup>32</sup> Vanhaverbeke and Waelkens (2003) in press.

press weights). As can be seen from Graph 3, the number of village sites increases throughout the period, while the number of farms simultaneously declines. While there was, indeed, an increasing tendency toward nucleated settlements, this tendency was not limited to the Early Byzantine period.



	Early Imperial	Middle Imperial	Late Imperial	Early Byzantine
Number of strategic sites	4	3	11	8
Total number of sites	29	36	58	40

Graph 2. The percentage of strategically located sites, both villages and small sites (**including possible fortified centres**), in Imperial and Early Byzantine times



	Early Imperial	Middle Imperial	Late Imperial	Early Byzantine
Number of villages	11	15	28	20
Number of farms	7	8	12	7

Graph 3. The percentages of village vs farm sites during the Early, Middle and Late Imperial and the Early Byzantine periods

The Christianization of the countryside is attested by the presence of churches at or in close proximity to some village sites. Of the twenty identified villages occupied in Early Byzantine times, four were provided with an identifiable church, while other churches were located near a further six villages. While some of the architectural remains belonging to these churches could be dated to the middle of the 6th century A.D., the majority of them could not be dated accurately. In general, architecturally recognisable churches appeared in the urban centres of Anatolia from the last quarter of the 4th and the beginning of the 5th centuries A.D.<sup>33</sup> At Sagalassos, the earliest of its six churches, in the courtyard of the former *bouleuterion*, dates from the 5th century A.D. Possibly the earliest rural churches are somewhat later in date and can be attributed to the 5th-6th centuries A.D.<sup>34</sup> The fact that over half of the village sites dated to this period contained no identifiable churches might be interpreted as evidence for a limited Christianization of the countryside, at least if this is determined on the basis of the presence/absence of churches. Alternatively, it might also be the result of unfavourable conditions for the preservation or identification of their remains.

Economic change can be perceived in the countryside during this period. In the city of Sagalassos there are some indications of a possible reduction in international trade from this period. The cessation of the import of fish from Egypt to Sagalassos in the 6th century A.D. (see above, p. xxx) may be significant. The export of Sagalassos red slip ware, the tableware locally produced since the Late Hellenistic period, also seems only to have continued only until the 6th century A.D. (see above, p. xxx). In the territory of Sagalassos, however, there is some evidence to suggest that rural sites became increasingly involved in productive activities previously confined to the city. The operation of important kilns at local centres is an important feature of this time.<sup>35</sup> In fact, one of these kilns, near Bağsaray, c. 20 km south-west of Sagalassos, seems to have become an important producer of coarse wares in later Early Byzantine times, in this case from the second half of the 6th century A.D. onwards. The kiln possibly produced the rural counterpart of the pottery of phase 9 attested at Sagalassos, although it may have begun its production already towards the end of phase 8 (earlier part of the 6th century). At Tekeli Tepe, in the hills to the north of the Çanaklı valley, c. 8 km south-east of Sagalassos, an important 7th century A.D. metal working site has been identified, where ore was extracted and processed into workable iron.<sup>36</sup> Metallurgical activities were thus not or no longer restricted to the city itself.

## POSSIBLE EXPLANATIONS FOR SETTLEMENT CHANGE

For the Early Byzantine period survey work has clearly recorded a decreasing number of sites. However the interpretation of this decline is not straightforward. The dating of the sites in our surveys has primarily been based on the chronological evidence provided by these tablewares; thus, it is conceivable that actually more sites were occupied in Early Byzantine times, but that their ceramic record, which consists for the most part of coarse pottery, does not provide tight chronological information. The apparent decrease in the number of sites from the Late Imperial to the Early Byzantine period may in this case to some extent be due to change in the composition of the ceramic assemblage, and may therefore not be an accurate reflection of actual settlement patterns. These are problems that will take a great deal of detailed work to resolve. However, given the many challenges to rural settlement at this time, from Isaurian raids to the plague, it remains possible that a genuine contraction of rural settlement did occur.

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<sup>33</sup> Mitchell (1993) 67; Grant (1998) 80.

<sup>34</sup> Talloen (forthcoming).

<sup>35</sup> Poblome *et al.* (2000); Vanhaverbeke and Waelkens (2003) in press.

<sup>36</sup> Degryse *et al.* (in press a); Degryse *et al.* (in press b).



Currently the most obvious alternative to settlement decline is suggested by the increasing number of large sites in the Early Byzantine period. This seems to represent a trend toward greater settlement nucleation, replacing the dispersed settlement pattern characteristic of the Imperial period. In this case one would expect an increase in the number of large sites to be at the expense of the number of smaller settlements. In this section of the paper explanations to account for both kinds of settlement changes, overall decline and increasing nucleation, are investigated, in relation to local evidence from Pisidia and Sagalassos.

### **Decline in the number of sites**

#### **Earthquakes**

A important factor that is believed to have strongly influenced settlement history in the territory of Sagalassos is the occurrence of *earthquakes*. The region around Sagalassos forms part of the so-called Isparta Angle, a tectonically active zone.<sup>37</sup> Just north of the city, the basal thrust fault of the Ađlasun Dađları is displaced by a second fault, running approximately east-west. The presence of these two faults represents high tectonic stress in the region. Indeed, the collapse and subsequent rebuilding of many buildings at Sagalassos clearly shows that the city underwent several major earthquakes. The most recent of these earthquakes occurred around the middle of the 7th century A.D. This is perhaps the earthquake listed by Guidoboni as occurring between A.D. 641 and 668.<sup>38</sup> The date of this earthquake has been archaeologically deduced from coins and pottery found beneath collapsed monuments.

The epicentre of this earthquake is not specified in the Byzantine sources; however, information about the local stress field associated with this earthquake can be deduced from a directional analysis of the fractures in the library's mosaic floor, the soil under the pavement of the Upper Agora, and the theatre steps. This stress field can be related to tectonic activity near the tear fault running east-west, located just north of the city. The earthquake was of such a magnitude that, apart from destroying many of the city's buildings, it probably also disrupted the city's water supply<sup>39</sup> It can thus be considered an indirect cause of the abandonment of Sagalassos. This earthquake may even be linked with the disappearance of the palaeoriver, discussed above.<sup>40</sup>

One can easily imagine how these adverse events could have threatened the viability of dispersed (familial) agricultural enterprising. Life in a nucleated settlement with its more dispersed economic risks, may have become a more secure and attractive option.

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<sup>37</sup> Dilek and Rowland (1993); Vanhaverbeke and Waelkens (2003) in press; Sintubin *et al.* (in press).

<sup>38</sup> Guidoboni (1994) 238.

<sup>39</sup> Waelkens (1995) 49; Waelkens *et al.* (1997a) 54; Waelkens *et al.* (1997b) 199; Waelkens *et al.* (2000b).

<sup>40</sup> Similox-Tohon *et al.* (2002) 78-79; Sintubin *et al.* (2002) 80-81; Sintubin *et al.* (in press); Vanhaverbeke and Waelkens (2003) in press.

## Aridity

There is some evidence for an increase in aridity during late antiquity, reaching a world-wide maximum around 1.300 BP (c. 700 cal A.D.).<sup>41</sup> Continuous tree-ring chronologies show exceptionally low tree-ring growth in widely separate regions of the world between A.D. 530 and 550, and perhaps even as late as A.D. 560.<sup>42</sup> Whether this affected Sagalassos is unknown. However, in A.D. 452, drought is known to have led to famine in Phrygia, Galatia, Cappadocia and Cilicia, while western and central Asia Minor suffered from poor harvests and famine during the 5th and 6th centuries A.D.<sup>43</sup> In the territory of Sagalassos, possible evidence to support this scenario may be provided by the drying up of a palaeoriver which once flowed through the Ağlasun valley, south of the city. The base of one of the travertine sections deposited by this palaeoriver was U/Th dated to  $9.000 \pm 160$  BP. In Late Antiquity the travertine face next to this section was used for a rock-cut tomb, indicating that by this time the water flow must have diminished considerably, at least locally, in order for the tomb to have been carved in the travertine deposits.

The climatic change during the Late Holocene towards increased aridity may have led to the disappearance of the fluvial system in which the travertine was formed. A more arid climate is characterised by higher temperatures and less precipitation. As a result, less carbonate can be dissolved from the limestone, and the turbulence in streams will be smaller, causing a reduced degassing of the waters and a smaller precipitation of travertine.<sup>44</sup> Admittedly, this change in the volume of water may have been the result of several factors. Roman farmers may have diverted so much water for irrigation that, over time, the system could no longer maintain itself. Alternatively, seismic activity, common in the region, may have cut off the aquifers feeding the palaeoriver, and karst action may have created caverns that allowed the water to disappear underground.

Arid conditions translate to less available water for irrigation, on which many fruits and vegetables in the immediate environment of Sagalassos depended. For regions where water was already scarce, as is the case for some of the plains in the territory of the city, this climatic change could have had quite severe impacts, and may have caused people to leave their farms due to declining agricultural returns, and to seek protection in the villages, where communal storage and provisions may have buffered inhabitants from the effects of economic difficulties. However, there is thus far no trace of any increasing aridity in the palynological data available for the territory of Sagalassos during the Early Byzantine period.<sup>45</sup>

## Plague

The empire suffered a major blow through the outbreak of bubonic plague in A.D. 542, which reached Constantinople in the following year and spread over the whole of Asia Minor. Subsequently, the plague recurred at intervals in various districts. While there is no direct evidence relating to the occurrence of the plague in Pisidia, it has been assumed that most probably the region did not escape its effects, which may have included a serious decline in both the urban and the rural population.<sup>46</sup> Fewer people might well have led to fewer settlements, reflected in the decrease in the overall number of sites in Early Byzantine times. However, Whittow has drawn attention to the positive effects of the Black Death in A.D.

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<sup>41</sup> Alayne-Street and Grove (1976); Hoddell *et al.* (1995); Banner *et al.* (1996); Fontes *et al.* (1996); Paepe *et al.* (1996); Bryson and Bryson (1999).

<sup>42</sup> Liebeschuetz (2001) 409; Baillie (1995) 91-107.

<sup>43</sup> Belke and Mersich (1990) 67; Waelkens (1993) 49.

<sup>44</sup> Schroyen *et al.* (2000); Waelkens *et al.* (1999) 700-701; Vanhaverbeke and Waelkens (2003) in press; Sintubin *et al.*, in press.

<sup>45</sup> Vermoere (2003) in press.

<sup>46</sup> Waelkens and The Sagalassos Team (2000) 270-71; Waelkens (2000/2001) 79.

1348 in England. As a consequence of the ensuing significant population decline, the presence of fewer people offered greater opportunities: the demand for labour fuelled higher wages and more land was available, resulting in a higher average rural living standard.<sup>47</sup> Thus, it is possible that the effects of plague may have been more serious demographically than economically, although this hypothesis cannot yet be verified for the territory of Sagalassos. It might however allow us to reconcile field survey evidence with the description of the Pisidian countryside in the Justinian *Novellae* as being dotted with very large, populous villages (*Nov.* 24.1) may be interpreted as confirming rural prosperity in the province.

### **Economic decline**

One possible cause of overall settlement decline might be found in a disruption to the economic system of which Sagalassos and its villages were a part. It is now accepted that classical cities were far more complex than the ‘consumer’ and ‘producer’ cities advanced by an earlier generation of scholars. Both the villages and the city were connected in an interdependent network of trading relations, with production far above the level of subsistence; they also traded significant amounts of their produce in regional and trans-regional markets. Any disruption to these relationships is likely to have strongly effected all types of settlement, perhaps setting off a downward spiral.

In the city of Sagalassos there are some indications of a possible reduction in international trade from the Early Byzantine period. The possible cessation of the import of fish from Egypt to Sagalassos in the 6<sup>th</sup> c. A.D. (see above) may be significant. The export of Sagalassos Red Slip Ware, the tableware locally produced since the Late Hellenistic period, also seems only to have continued until the 6<sup>th</sup> c. A.D. (see below). This could have been the result of disruption in international and local trade routes caused by unrest in the Taurus district, caused by the Isaurian raids from the 5th century A.D. onwards. The city’s status as a regional centre was largely based on its connections in trade networks exchanging local and artisanal agricultural products. As the city gradually lost this status, there may have been parallel dissolution of the dense network of rural settlements in its territory, which had been strongly oriented toward production and manufacture for the centre, Sagalassos.<sup>48</sup>

## **Settlement Nucleation**

### **Economic restructuring**

An alternative view of economic change is more positive. Faced with regional instability, people may have successfully adapted themselves once again to a more self-sufficient economy centred on the villages.<sup>49</sup> The move of some productive activities to the countryside may be interpreted as being connected with this. A comparable evolution towards economic independence in the villages has been suggested during the 4th to 6th centuries in Greece; here there is evidence of increased industrial activity in the countryside, which may have ensured self-sufficiency of the villages, has been documented.<sup>50</sup> Indeed, recently, Whittow suggested that decline was a purely urban phenomenon and that the rural economy remained prosperous.<sup>51</sup> The description in the Justinian *Novellae* of the Pisidian countryside as dotted with very large, populous villages (*Novellae* XXIV.1) may be interpreted as confirming this rural prosperity. In this scenario, Early Byzantine decrease in the total number

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<sup>47</sup> Whittow (2001) 150.

<sup>48</sup> Waelkens and The Sagalassos Team (1997) 244; Vanhaverbeke and Waelkens (2003) in press.

<sup>49</sup> Vanhaverbeke & Waelkens (2003) in press.

<sup>50</sup> Alcock (1993) 102-105.

<sup>51</sup> As for instance was the case in Lycia, cf. Whittow (2001) 151-152.

of rural sites may not reflect overall settlement contraction but a restructuring of the countryside, most probably around fewer larger villages: increasingly nucleated settlement.

### **Insecurity**

A major cause for changes in late antique and early Byzantine settlement patterns has traditionally been seen in the increasing pressure placed on the empire by the raiding and settlement of militarised ethnic groups. In the case of Sagalassos, the Isaurian raids clearly affected Pisidia (see above, p. xxx). The resurgence of brigandage in the Pisidian countryside was an aggravating factor: Justinian issued an edict in A.D. 548 which put Pisidia and Lycaonia under the control of a *dux* in order to suppress the brigands of Pisidia<sup>52</sup>, who, he says, lived in very large, populous villages and rebelled against taxation (*Nov.* 24.1).<sup>53</sup> Early Arab raids will have also adversely affected the region. In A.D. 644 and 646, the Arabs reached Amorion. During the following years, these raids reached Pisidia. In A.D. 647 or 648, the Arabs besieged the city of Antakiya, possibly Pisidian Antioch<sup>54</sup> and Arab raids reached the city again in A.D. 665 and 667.<sup>55</sup> The military insecurity which ensued will have resulted in an increasingly unstable and precarious situation.<sup>56</sup> This provides a possible explanation not only for a tendency toward nucleation, but also for the occupation of less accessible locations for habitation from the Late Imperial period onward, as well as for the erection of a fortification wall in the city itself, at the beginning of the 5th century A.D.<sup>57</sup> It also provides an explanation for the move towards keeping goats and sheep seen at Sagalassos and perhaps implied by the choice of some of the less accessible upland sites. In insecure circumstances, the keeping of these animals is preferable to raising cattle, since the financial risks that accompany the loss of part of the herd (through disease, theft or accident) is smaller. Additionally, these animals can more easily survive the winter; cattle require more attention and investment.<sup>58</sup>

### **SAGALASSOS AT THE END OF ANTIQUITY**

Various strands of evidence suggest that the city of Sagalassos gradually fell back on itself and its immediate environment for its subsistence after the middle of the 6th century A.D. Pollen analysis of an early 7th century A.D. core sampled in the city's baths attests the cultivation of walnut and possibly also cereals in the immediate vicinity of the city. Intensified agricultural exploitation of the city's suburban area is further evidenced by the fact that a public lavatory in the city's baths, built after the early 6th century A.D. earthquake, was transformed during the 7th century A.D. into a huge collector of human waste. This served as an excellent fertiliser after it was mixed with lime. Manuring is one strategy of increasing agricultural yields and can reasonably be linked with an increased pressure to produce food. In the case of Early Byzantine Sagalassos, recourse may have been made to manuring as the result of a growing necessity to cultivate areas in the direct vicinity of the city.<sup>59</sup>

Further indications of an increasing 'ruralisation' of the city comes from the private quarters of the palatial mansion in the city's Domestic Area; here, during the 7th century A.D., of one of the previously richly decorated rooms in as a stable. This function could be identified

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<sup>52</sup> This arrangement was found to be oppressive and, as the result of a petition, it was discontinued five years later (Jones (1964) 281-82; Belke and Mersich (1990) 81; Liebeschuetz (1992) 29, 33.

<sup>53</sup> Waelkens and The Sagalassos Team (2000) 270.

<sup>54</sup> Belke and Mersich (1990) 86.

<sup>55</sup> Jones (1964) 303-17; Jones (1966) 119-20; Levick (1967) 176-77; Belke and Mersich (1990) 86-87.

<sup>56</sup> Cameron (1993b) 159; Haldon (1985) 91-92.

<sup>57</sup> Vanhaverbeke and Waelkens (2003) in press.

<sup>58</sup> De Cupere (2001) 141.

<sup>59</sup> Waelkens (2000/2001) 79; Vanhaverbeke and Waelkens (2003) in press; Waelkens and Talloen (in press).

through the flotation of sediments for macroremains.<sup>60</sup> A final piece of evidence comes from the monumental approach to the Lower Agora; this is dated to the Trajanic period and was composed of a curbed terrace wall decorated with exquisite busts of six main gods of the local pantheon on either side of a street fountain. The area was occupied by a butcher's shop by the 7th century A.D. The shop used the street fountain as a dump for discarded cattle bones.<sup>61</sup>

This evidence points towards the increasingly widespread phenomenon of 'encroachment' upon former public spaces at Sagalassos during the 6th century A.D. It is also documented by the contemporary transformation of the West portico along the Lower Agora into a series of shops and *tabernae*.<sup>62</sup> This phenomenon was already apparent at least from the earthquake of the early 6th century A.D., as is shown by incorporation of part of a street into the palatial mansion in the early 6th century A.D., together with evidence from test soundings along other streets. After the plague of A.D. 541-42 Encroachment certainly increased which may have resulted in a collapse of the old civic life.<sup>63</sup> Encroachment seems to have reached an apex in many other cities at the same time.<sup>64</sup> It is further striking that all of the churches of Sagalassos seem to date to the 5th and 6th centuries A.D., while none have so far been attributed to the 7th century.<sup>65</sup> Moreover, the export of Sagalassos red slip ware, the table ware locally produced since the Late Hellenistic period, also seems to have continued only until the 6th century A.D.;<sup>66</sup> in contrast, an Anatolian tableware was imported from the second half of the 6th century, attesting the end of the centuries-old monopoly enjoyed by the potters of Sagalassos in their town and territory.<sup>67</sup> The import of fish from Egypt to Sagalassos equally ceased in the 6th century A.D.<sup>68</sup>

These multiple lines of evidence seem to point to a radical change in the nature of the city. Pending further excavations in the monumental centre, as well as intensive surveys in the city proper and its suburbs, a provisional picture has emerged of a city which continued to be a major centre of population until the earlier 6th century A.D.<sup>69</sup> After the middle of the 6th century A.D., important changes can be noticed at Sagalassos, which at that time seems to have primarily functioned as a refuge centre for the population dwelling in its environs. There are signs of increased pressure on the suburban area to produce food; the zone may have changed from a primarily residential area to a cultivated landscape. There is also evidence for activities related to food production in the city centre itself. As far as the early 7th century is concerned, a combination of a coarse grained survey strategy in the domestic area outside of the late walls, erosion processes, and the dominance of phase 8 in survey "assemblages" likely has distorted the representation of the final phase of the occupation at Sagalassos in the chronological picture obtained from the urban surveys. Therefore definitive conclusions can not be drawn on the basis of the current surface collection concerning the extent of the 7th century A.D. occupation at Sagalassos.

What happened after the mid-7th century A.D. at Sagalassos is not yet clear. Thirteen years of excavations and four years of intensive urban surveys have thus far produced no evidence of occupation in the city centre after the mid-7th century A.D. Traces of later occupation are scant. In general, in Asia Minor and the Balkans, the classical city gradually ceased to be the dominant unit of social or communal organisation, while there was a

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<sup>60</sup> T. Van Thuyne, pers. communication.

<sup>61</sup> W. Van Neer, pers. communication.

<sup>62</sup> Waelkens *et al.* (2000c).

<sup>63</sup> Waelkens *et al.* (2000c); Waelkens *et al.* (2003) in press.

<sup>64</sup> Kennedy (1985); Cameron (1993a); Saradi-Mendelovici (1988).

<sup>65</sup> Talloen (forthcoming).

<sup>66</sup> Poblome and Waelkens (in press).

<sup>67</sup> Poblome *et al.* (2001).

<sup>68</sup> Van Neer *et al.* (1997); De Cupere (2001) 170-71.

<sup>69</sup> Evidence for smaller Pisidian cities, such as Cremna, Ariassus and Sia, equally attests to continuous occupation and modifications until the middle of the 6th century A.D. (Liebeschuetz (2001) 42).

continuity of settlement at the level of villages, with fortified refuge sites.<sup>70</sup> For several towns of Asia Minor in the 7th century there is evidence that these settlements each became a “city on a hill” with a defendable nucleus, while life may have continued as before, or on a reduced scale around these fortified areas.<sup>71</sup>

In fact, it is a typical feature of the period between the 6th and the middle of the 8th century A.D. that former classical cities saw the construction of fortified citadels or *kastra*.<sup>72</sup> At Sagalassos, the fortified promontory of the Antoninus Pius sanctuary, may correspond with a local fortified *kastron* of Middle Byzantine times. Here an Early Medieval sherd (7th to 10th century A.D.) and late, although currently not datable, structures erected in *spolia* have been discovered during an intensive survey in 2002. The *spolia* structures covered a surface of c. 1000 m<sup>2</sup>. The location is highly suitable for a refuge place, as it has a strategically defendable position and it is enclosed by a separate fortification wall. This hypothesis must be investigated in the field through further intensive surveys and test soundings.

There seems to have been some continuity of church authority in the area, as suggested by the presence of a possible “fortified monastery” dating from the later 6th or the 7th century A.D. onward, which was occupied until the 12th to 13th century A.D., on Alexander’s hill, and the fact that bishops of Sagalassos continued to be mentioned in the *Notitiae Episcopatum* until the 12th century A.D.<sup>73</sup> Intensive surveys in the suburbs have also produced evidence for the presence of rich Middle Byzantine church architecture at the modern village of Ağlasun, which seems to have gradually replaced Sagalassos as the major settlement in the area.

#### THE TERRITORY OF SAGALASSOS AT THE END OF ANTIQUITY

It is not clear whether the second half of the 6th century A.D. marked the same significant break from earlier traditions in the countryside as was the case in the city of Sagalassos. On the basis of the survey data, it is not yet possible to distinguish clearly the earlier part of the Early Byzantine period (before the middle of the 6th century A.D.) from the later half, except where well-dated local wares are available, such as is the case with the coarse pottery produced at Bağsaray (see above, p. xxx). This ware, however, had a limited distribution, which is to be expected in the case of local production. One cannot deduce from this evidence that the number of rural sites was significantly reduced in comparison to the late 5th and early 6th centuries A.D. Further surveys, aimed specifically at the recognition and definition of later local wares, may yield more reliable evidence on which to base a discussion of rural settlement patterns after the middle of the 6th century.

For the countryside around Sagalassos evidence for the Middle Byzantine period is as yet very scarce, apart from some churches (which have been located on the basis of their architectural remains), some imported pottery and some locally produced coarse wares.<sup>74</sup> Though villages seem to have prospered to a certain degree after the middle of the 6th century A.D., after the 7th century A.D. site numbers drastically dropped in the city’s territory. Significantly, the palynological record clearly shows that long term investments in agriculture, such as olive yards, came to an end after the middle of the 7th century. Less intensive forms of agriculture, particularly cereal cultivation, seem to have continued as a major investment in some areas, alongside a growing reliance upon pastoralism. The emphasis on the latter (see above, p. xxx) resulted in a gradual depletion of the still rich

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<sup>70</sup> Mitchell (2000) 145-47.

<sup>71</sup> Foss (1990a) 735-47; Foss (1990b) 485-86; Brands and Rutgers (1999) 862-63.

<sup>72</sup> Bouras (1981) 615; Russell (1986) 138; Brandes (1989); Cameron (1993b) 159.

<sup>73</sup> Belke and Mersich (1990) 368-69; Mitchell (2000) 150.

<sup>74</sup> Vanhaverbeke and Waelkens (2003) in press.

vegetation belt of the Late Imperial period. Goats may have quickly eliminated deciduous oaks, the leaves of which they prefer for browsing. Terraces on the valley slopes may have fallen out of maintenance. All of this led to a degradation of the soil through erosion, which removed the deeper soils.<sup>75</sup>

It is difficult not to attribute the changes seen in the countryside, particularly those in the pollen record of around the middle of the 7th c., to the devastating earthquake and Arab raids which occurred around this time. The palynological evidence makes it possible to state that the drop in the number of rural sites during the 7<sup>th</sup> c. probably does not relate merely to a change in the nature of the ceramic record, but that it could relate to real settlement contraction.

## CONCLUSION

Comparing the archaeological evidence from the Late Imperial to the Early Byzantine periods in the territory of Sagalassos, five clear changes can be observed: a decrease in the overall number of sites, an increased tendency toward nucleated settlement, a new emphasis on strategically located settlements, the transfer of some economic activity from the city to the countryside and the establishment of rural churches. Explaining these changes is difficult, but some of them may be the outcome of different long-term and short-term processes at work in the period covering the 4th to mid-7th centuries A.D., some of which are causally related. A decline in the overall number of settlements, may have been caused by depopulation as a result of plague, earthquake and aridity, but was in part at least the result of nucleation, which coincided with an increased emphasis on less accessible settlement locations. This seems best related to the insecurity created by raids by Isaurians and others in Anatolia. It appears that at least some material needs came to be met largely through local, self-sufficient economies in which pastoralism played an increasingly large role. The transfer of some productive activities from the city to the countryside may be related to the disruption of trade networks associated with this instability. It is clear that during the second half of the Early Byzantine period (later 6th-early 7th century) Sagalassos had lost much of its former importance.

Other stresses were imposed in rapid succession near the middle of the 7th century A.D.: drought, a devastating earthquake and the Arab invasions. The settlement system collapsed and Sagalassos was largely abandoned or reduced to a village settlement.

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<sup>75</sup> Vermoere (2003) in press; Donners *et al.* (2000); Vanhaverbeke and Waelkens (2003) in press.

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Fig. 1. The location of Sagalassos and its territory (black line) in the wider Anatolian context (© E. Mahy & P. Talloen)

Fig. 2. Sight on the strategically located village site of Çatak Pınar in the southern part of the territory of Sagalassos (©Vanhaverbeke & Waelkens (2003) Fig. 100)

Fig. 3. Sight on the strategically located village site of Monastır in the southwestern part of the territory of Sagalassos (© Waelkens *et al.* (2000a) 106, Fig. 126)

Fig. 4. Late Imperial site categories in the territory of Sagalassos (indicated by white line) (© The Sagalassos Team)

Fig. 5. Early Byzantine site categories in the territory of Sagalassos (indicated by white line) (© The Sagalassos Team)