

FIG. 14. Diagram of stratigraphic-grid recording system (James Wright and Julia E. Pfaff)

3. Excavation was carried out in units designated as Stratigraphic Units (SU) and Square Meter Units (SMU) within trenches called Excavation Units (EU). The SU is like the "basket" or "lot" of many American School excavations, or a "locus" elsewhere.<sup>80</sup> It is defined as any discrete unit of excavation determined either arbitrarily or on the basis of observable stratigraphy. Constituent elements of most SU's are SMU's, which provide a means of spatial control in the horizontal dimension in much the same fashion as SU's, especially arbitrarily defined ones, do in the vertical dimension (Fig. 14). For example, often a pit or a floor may lose definition towards its edges; excavation and recording according to SMU's will preserve the evidence of this change.<sup>81</sup> A further example will clarify the utility of the SMU. In EU2 (Figs. 13 and 15) a building of LH IIB date was set directly over and into earlier occupation levels of late MH and (at least) LH IIB date. The compression of the stratigraphy was such that it was very difficult during excavation to isolate strata of different periods, particularly since the soils associated with artifacts of different date were essentially the same. Recording each SU according to units of 1 sq.m. successfully defined the location of

<sup>80</sup> W. G. Dever and H. D. Lance, *A Manual of Field Excavation*, New York 1978, pp. 75-80.

<sup>81</sup> E. C. Harris, *Principles of Archaeological Stratigraphy*, New York 1979; see pp. 40 and 111, discussion of "boundary contours".

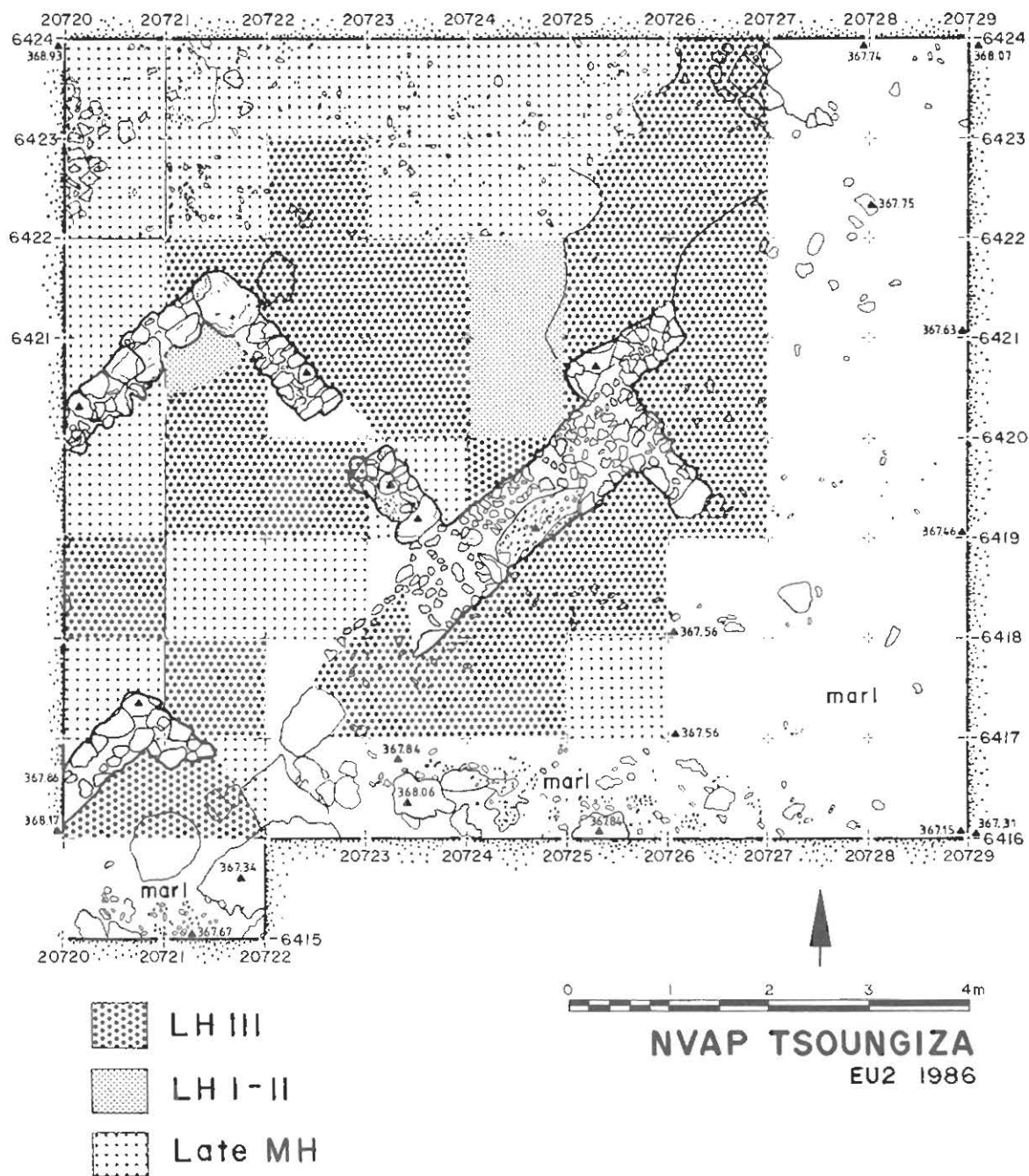


FIG. 15. Plot of distribution of ceramics in EU2 (James Wright and Julia E. Pfaff)

LH IIIB ceramics, especially near the walls, where they probably were introduced when the foundations of the building were laid. Of course this system has many other uses, particularly for mapping the distribution of artifacts over the site.

4. All soil not disturbed by plowing was dry sieved through screens with a 5- to 7-mm. mesh. The finds were recovered and recorded in the appropriate SMU for their SU. Exceptions to this procedure were ashy or burned deposits, pits, and pot contents which were designated for water sieving and flotation. In such areas the soil was removed by SMU within SU, measured in volumetrically marked metal buckets (per liter), and then passed through a geological sample splitter to produce a 50-percent or 25-percent sample. Each sample was then again measured for volume before water sieving and flotation. In many areas of excavation one SMU was designated as a column for continuous sampling through all the stratigraphic horizons excavated.<sup>82</sup>

### *Geomorphology*

Whereas today the hill of Tsoungiza appears to rise from its gently sloping southern and eastern sides to a knoll in the area of EU5, originally there were two knolls, one at the south and a higher one at the north. A deep ravine just north of the southern knoll separated them, while another ravine ran around the north side of the higher knoll (Fig. 13).<sup>83</sup> The evidence for the ravines was found in EU2, EU3, EU6, EU7, and EU8 at the south, and EU10 at the north. In each, soundings reached the marl bedrock of the hill and, where the sides of the ravine were exposed (EU3, EU7, and EU8), permitted a calculation of its slope. Two other soundings, in EU6 and EU10, plumbed its depths.

Deposits in the southern ravine appear to be dumped fills, roughly stratified with EH II material mixed with some Neolithic at the bottom, with thicker accumulations of EH III above, and on top late MH and LH I. Anne Demitrack and Tjeerd van Andel have suggested that most of these fills were introduced suddenly; no strata attributable to continuous deposition were detected. The artifacts atop the fill, which was ground level during late MH/early LH I, are large and unworn.<sup>84</sup> It seems that the inhabitants of the site used the ravine surface for dumping. The fill of the north ravine is quite similar, consisting in EU10

<sup>82</sup> G. L. Cowgill, "A Selection of Samplers: Comments on Archaeo-statistics," in *Sampling in Archaeology* (footnote 50 above), pp. 258-284; J. Hansen, "Palaeoethnobotany in Greece," in *Contributions to Aegean Archaeology* (footnote 8 above), pp. 171-181; *eadem*, "Agriculture in the Prehistoric Aegean: Data versus Speculation," *AJA* 92, 1988, pp. 39-52. The sample splitter employed was a Porta-Splitter, manufactured by the Gilson Corporation, Worthington, Ohio. Dr. Charles K. Williams, II generously lent us the water sieve of the Corinth Excavations; it is a modified Ashvan type (S. Diamant, "A Short History of Archaeological Sieving at Franchthi Cave, Greece," *JFA* 6, 1979, pp. 203-217). The development and implementation of this system was done in consultation with Professor Julie Hansen.

The standard sampling procedure for water sieving was as follows: for ashy or burned deposits, 50 percent of each SMU (unless very extensive, then 25 percent); for pits, 25 percent; for isolated patches of burnt or heavily organic strata and pot contents, 100 percent.

<sup>83</sup> Anne Demitrack has pointed out that these ravines are actually karstic formations frequently found in the Neogene marl of the region. When exposed they are easily eroded by natural processes.

<sup>84</sup> Rutter.

of a basal unit of EH II covered by a thick fill of EH III that may have been crowned by EH III structures, to judge from Harland's notes (p. 629 below). There follows a mixed fill deposited in late MH times overlain by a shallow LH I fill and a deep deposit of LH IIA occupation debris associated with architecture.

It is clear that the ravines were open during the Neolithic and Early Bronze ages. During the initial phases of the EBA the settlement was based directly on the marl bedrock, while considerable fill was introduced into the ravines during EH II and especially EH III. Still earlier, during the Neolithic, the settlement may have been based on topsoil rather than the marl, as remnant red topsoils of probable Neolithic date have been recognized in isolated pockets of the site today.<sup>85</sup> Such cover, however, would not have lasted long once the hilltop became inhabited.

With regard to the Neolithic period, one other geomorphological feature of the site is significant. When Blegen excavated in 1924 he described Neolithic remains located in a "cave", extending some 20 meters east to west, up to 6 meters wide, and varying in depth from 4.5 to 6 meters.<sup>86</sup> Salvage work in 1974, 1975, 1981, and 1982 disclosed similar Neolithic deposits in smaller cavities in the marl. These are located both on the southern end of the hill and along the slopes to the southeast (Fig. 13).<sup>87</sup> Investigation of them has disclosed no remains of habitation *in situ*, a situation not unlike that observed in pits at site 702.<sup>88</sup>

#### *General Character of Settlement Phases*

Prior to the inception of NVAP the location and date of different phases of settlement were generally known. Neolithic material was considered Early Neolithic in date, although traces of Middle Neolithic had also been recognized in the deep cavities in the marl at the southern slope of the site.<sup>89</sup> Early Helladic II and III architecture and finds were known from the crown of the hill.<sup>90</sup> Early Mycenaean architectural phases were recognized on the plateau at the north of the crown (Fig. 18), while LH IIIB architecture had been exposed in salvage work in 1979 on the mid-southern slope, and a uniform LH IIIB:1 assemblage of pottery was found mixed with Neolithic at the south (Fig. 13).<sup>91</sup> Missing components were LN, EH I, MH, and LH IIIA. Since 1981 excavations have expanded the range of inquiry at Tsoungiza by systematically exploring the entire site for all periods of occupation. The results have considerably refined our understanding of the phases and extent of occupation.

The earliest settlement on Tsoungiza was founded during the EN and continued into the MN period. Although no architectural remains have been found *in situ*, finds of daub

<sup>85</sup> Cherry *et al.*, 1988.

<sup>86</sup> Blegen, 1975, p. 255.

<sup>87</sup> Miller, 1976, p. 176, fig. 2, pl. 29:c; Miller, 1982.

<sup>88</sup> Cherry *et al.*, 1988.

<sup>89</sup> Blegen, 1931, p. 55; Blegen, 1975, p. 259, note 18, p. 277, note 40.

<sup>90</sup> Harland.

<sup>91</sup> Miller, 1975, pp. 151–152, pl. 34; Miller, 1976, p. 177, pl. 29:b. The salvage work (reported in Miller, 1980, pp. 203–205) was carried out by the Greek Archaeological Service, under the direction of Ms. Konstantina Kaza, who is presently preparing the material for publication.



with a cane impression demonstrate the existence of structures.<sup>92</sup> Ground-stone tools, animal and human bone remains, seeds, and pottery from the Neolithic levels also indicate the presence of settlement. These deposits from the pits in the marl slopes and the sporadic discovery of Neolithic finds elsewhere on the hill suggest a widely dispersed settlement, perhaps located along the southern and southeastern slopes of the ridge (Fig. 13). A few stratigraphic units of purely Neolithic or mixed N–EH from the crown of the hill may derive from habitation there.

Restudy of the Neolithic pottery has brought to our attention the presence of considerably more finds of MN date than Blegen recognized, with close parallels to Lerna II and the second phase of the MN at Franchthi.<sup>93</sup> Also, within the material published by Blegen are a few pieces of LN and FN to EH I, but it does not appear that a settlement existed during the LN period.<sup>94</sup>

Resettlement probably occurred during the transition from the Final Neolithic to the Early Bronze Age, apparently on the crown of the hill (Pl. 93:b). Scattered but plentiful FN/EH I and pure EH I ceramic deposits have been found in pits there.<sup>95</sup> A deep cistern cut into the marl in the northern part of EU5 (Fig. 16, E20696, N6462, Cistern 2) has abundant EH I pottery. Although a direct stratigraphic sequence linking the FN, EH I, and EH II levels has not been found, the EH I cistern lies beneath a series of strata and floors of middle EH II date in EU5.<sup>96</sup> Early EH II material is represented by the remains of a building excavated in 1982 in a field on the eastern slope of the hill.<sup>97</sup> A large floor deposit in a burnt room in the northern area of EU5 (Pl. 94:a) preserved much material of the

<sup>92</sup> The daub, from EU4, was recognized by Rebecca Mersereau, who is studying the building materials and construction techniques of the structures found on Tsoungiza. Cf. the MN daub recovered from site 702: Cherry *et al.*, 1988, p. 170.

<sup>93</sup> We thank Professor K. D. Vitelli of Indiana University for her expert identification of much of this material; Drs. William W. Phelps and Maria Pantelidou provided their expertise as well. Blegen was aware of the presence of MN at Tsoungiza: Blegen, 1931, p. 55, and Caskey's comments in Blegen, 1975, p. 259, note 18 and p. 277, note 40. This material is being readied for publication by Ms. Anne Kugler.

<sup>94</sup> From the excavations by Blegen: FN: a red-burnished body fragment with wedge-shaped incisions in a raised band (Blegen, 1975, p. 278, pl. 68, no. 4; Nemea Museum P 1376); FN/EH: two red-burnished fragments from an "oven" (Blegen, 1975, p. 278, pl. 68, no. 8 [called a "scoop"]; Nemea Museum P 1381; p. 275, pl. 64, no. 34, Nemea Museum P 1371).

<sup>95</sup> LN: 2115-2-5, from Cistern 2; 2013-2-1, a Gonia polychrome body sherd (Blegen, 1931, p. 55). From the same deposit (Pit 32, SU's 2011–2014) as this last piece are several EN and MN sherds.

EH I: Pit 17 (SU's 822, 826, 829, 830), Pit 18 (SU 100), Pit 31 (SU's 891–894), Pit 32, (SU's 2011–2014), Pit 48 (SU's 1960–1964, 1967–1969), Pit 51 (SU's 2024–2025), Pit 55 (SU's 1935, 1936, 1938–1941), Pit 65 (SU's 2029–2031), Cistern 2 (SU's 2100–2121). See D. J. Pullen, "An Early Bronze Age Village on Tsoungiza Hill, Ancient Nemea," in *L'habitat égéen préhistorique* (BCH-Suppl.), R. Treuill and P. Darque, ed., in press, and *idem*, "The Earlier Phases of the Early Bronze Age at Tsoungiza Hill, Ancient Nemea, Greece," *AJA* 92, 1988, p. 252 (abstract); for comparanda, see now A. Dousougli, "Makrovouni—Kefalari Magoula—Talioti. Bemerkungen zu den Stufen FH I und II in der Argolis," *PZ* 62, 1987, pp. 164–220.

The evidence of EBA settlement on the site is being studied by Pullen; he has supervised the excavations of EU5.

<sup>96</sup> Pullen, "Early Bronze Age Village" (footnote 95 above).

<sup>97</sup> Miller, 1982; Pullen, *op. cit.*

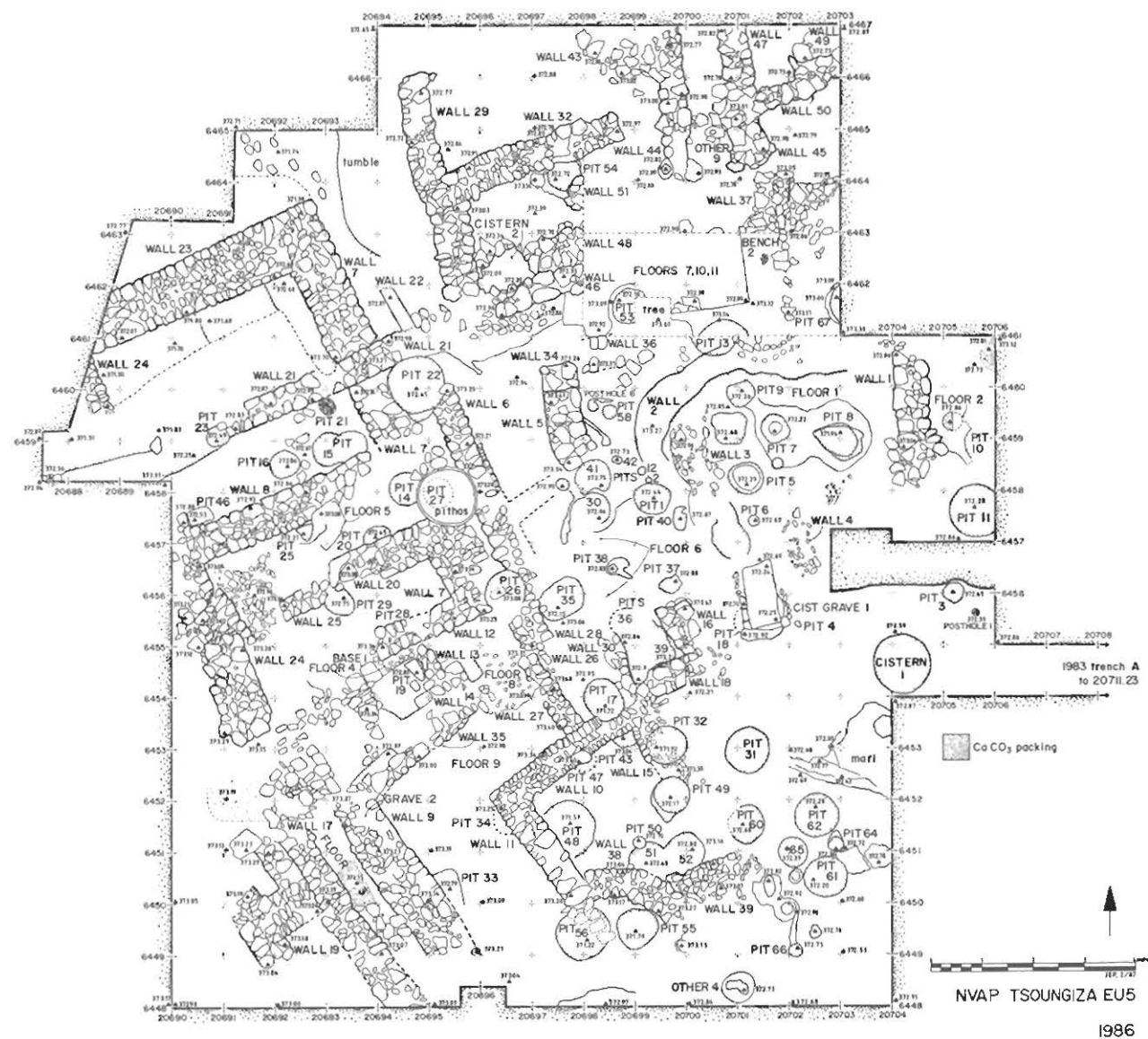


FIG. 16. Tsoungiza, actual-state plan, EU5 (Julia E. Pfaff)

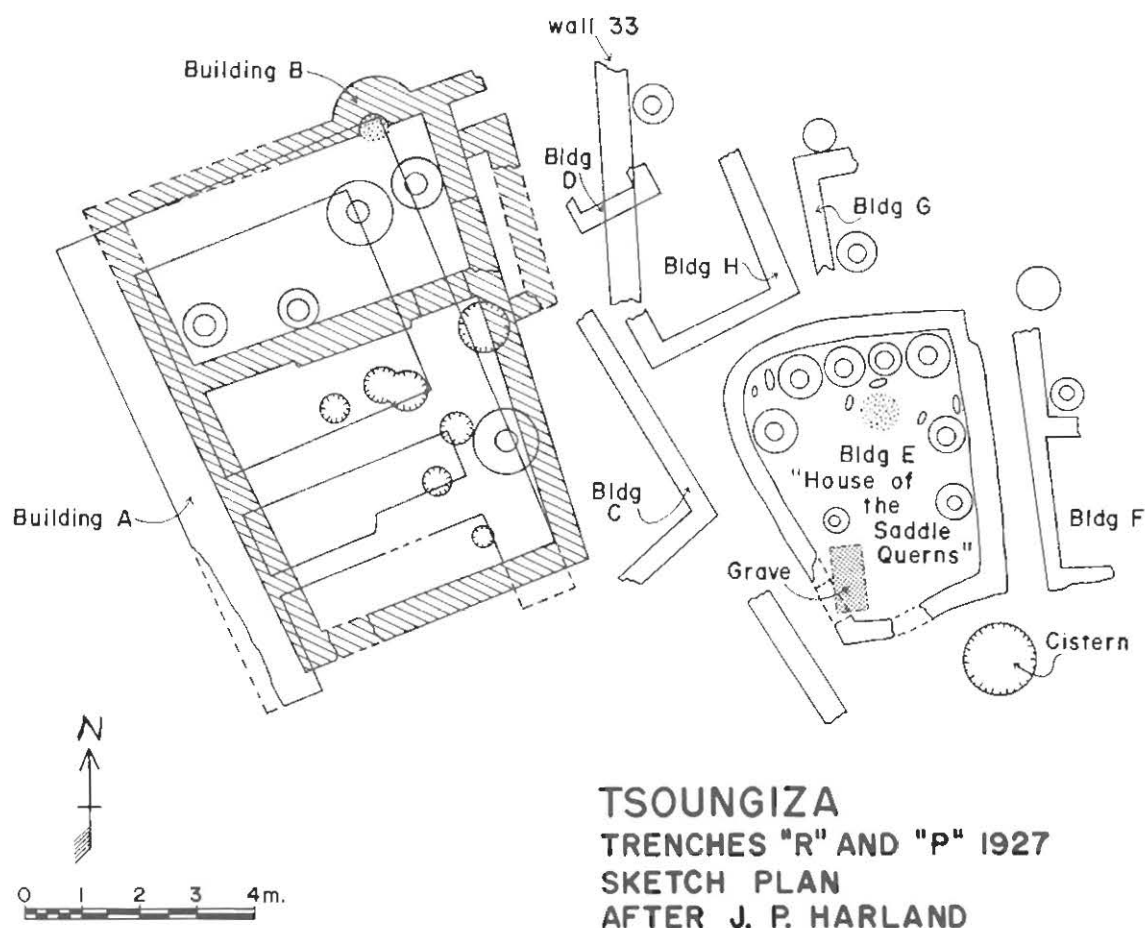


FIG. 17. Tsoungiza, sketch of EH structures, 1926-1927 (adapted by Julia E. Pfaff from a plan by J. P. Harland)

middle phases of EH II,<sup>98</sup> while other remains of this period are associated with architectural remains (Harland's Buildings A and B, Fig. 17) and in some pits (e.g. Pit 56, Pl. 94:b). The latest phases of EH II, i.e., Lerna III, phase D, have not been identified anywhere on the site.<sup>99</sup>

During this period the settlement seems to have developed in complexity so that by early EH II a number of structures were located on the crown of the hill and down the slopes. An EH I-II building located *ca.* 150 m. southeast of the top of the hill was built into a cutting in the marl bedrock of the hill (Fig. 13, Area "A").<sup>100</sup> On the crown, Building A, discovered by

<sup>98</sup> E.g., SU 757, material comparable to Lerna III, Phase C.

<sup>99</sup> We wish to thank Dr. Martha H. Wiencke for her comments on this material and its relation to that from Lerna.

<sup>100</sup> D. J. Pullen, "The Early Bronze Age Settlement on Tsoungiza Hill, Ancient Nemea," in *Early Helladic Architecture and Urbanization* (SIMA 76), R. Hägg and D. Konsola, edd., Göteborg 1986, pp. 73-78, fig. 64.

Harland (Figs. 16 and 17), is very substantial, with walls *ca.* 1 m. thick and deep foundations forming a terrace at the north. Numerous tiles found fallen down the slope to the east (in EU9) and also scattered over most of the slopes of the hill may have come from this building, which Pullen has identified as an architectural forerunner of the Lerna House of the Tiles type of building.<sup>101</sup> As such it would presumably reflect a process of increasing socio-economic centralization at the site. Signs of increased wealth and contact with exchange systems are illustrated by a number of imports or luxury items roughly assignable to this period: stone vessels (Pl. 94:c), a conical lead stamp seal (a unique find on the mainland: Pl. 94:e), bronze tools (Pl. 94:d), and numerous lead clamps.<sup>102</sup> After the abandonment of this building another, also of EH II date, was built partly over its foundations (Building B, Fig. 17). One EH burial, a unique rectangular cist grave discovered by Harland at the southwest of Building E, was cut into the marl and covered with slabs (in grid E20701, N6455, Fig. 16).<sup>103</sup> Elsewhere on the site few traces of contemporary structures have been found. Early Helladic II pottery from basal units in EU10 to the north is probably debris washed from the settlement on the top of the hill. To the east are only tiles and an occasional sherd, while along the southern slopes in EU2, EU7, and EU8 are traces of walls and pits cut into the marl.

The site was abandoned within EH II and reoccupied after EH III was well underway (Lerna IV, Phase 2).<sup>104</sup> This settlement was short-lived and did not continue into the Middle Helladic period. On top of the hill a completely preserved curvilinear structure (Harland's House E) was surrounded by other buildings only partially preserved (Harland's Buildings D, F, G, and H; Fig. 17). In front of building E was a cistern, which Harland, thinking it a well, excavated to a depth of 12.25 m. without reaching bottom.<sup>105</sup> Within building E were seven storage vessels, seven ground-stone tools, and numerous vessels and

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In 1981 and 1982 this area was salvaged by the University of California at Berkeley project under the direction of Professor Stephen G. Miller. R. Sutton began the work, which was then finished in a separate campaign by Pullen and Dr. Robert A. Bridges, who carefully tested the entire field and meticulously recorded the remains in the area.

<sup>101</sup> D. J. Pullen, "A 'House of Tiles' at Zygouries? The Function of Monumental Early Helladic Architecture," in Hägg and Konsola (footnote 100 above), pp. 79–84 and *idem*, "Early Bronze Age Village" (footnote 95 above); cf. J. Shaw, "The Early Helladic II Corridor House, Development and Form," *AJA* 91, 1987, pp. 59–79; of the tiles, the most numerous fragments were preserved in a LH IIIA:2 context in EU9, but others come from EH levels in EU7.

<sup>102</sup> Frying pans: J. Coleman, "'Frying Pans' of the Early Bronze Age," *AJA* 89, 1985, pp. 191–219, no. 114, p. 216. In addition to this example, others have been found; a complete listing is as follows: 814-2-6, 822-2-15, 2011-2-2, 2013-2-2, 2014-2-1. Stone vessels: steatite lid, 745-8-1 (Pl. 94:c); marble lid, 745-8-2. Bronze tools: dagger, 2016-5-1 (Pl. 94:d). Lead stamp: 890-5-1 (Pl. 94:e). Lead clamps: a total of 19 clamps have been found in various contexts extending from EH through LH; metallurgical analysis and study of context will determine which are of EBA manufacture.

<sup>103</sup> D. J. Pullen, "Mortuary Practices in Early Bronze Age Greece: Identifying Patterns of Prehistoric Behavior," *AJA* 90, 1986, p. 178 (abstract).

<sup>104</sup> For the tripartite division of Lerna IV see J. B. Rutter, "A Group of Distinctive Pattern-Decorated Early Helladic III Pottery from Lerna and Its Implications," *Hesperia* 51, 1982 (pp. 459–488), p. 461 and note 6.

<sup>105</sup> Our geologists have pointed out that the aquifer which would have supplied this well is more than 30 meters below the surface of the hilltop, making it inconceivable that this shaft or the one to the northwest could have been a well.



other finds scattered over the floor, the most notable of which is a terracotta mold for a chisel (Pl. 94:f). From the well came Fine Gray-burnished ware, fragments of patterned incised vessels, e.g. a pedestal-footed shallow cup (Pl. 94:g),<sup>106</sup> and sherds of patterned ware.

To the west of this group stood a large but poorly preserved building, C. Down the slope in the fill of the ravine to the north, Harland uncovered a rectangular building (Fig. 12, Trench "L"; Fig. 18, Building J). His notebook records sherds of "Minyan" and patterned ware from this building. Since the recent work has recognized no such MH pottery from the site, and as Jeremy Rutter has pointed out, the ceramics identified by Harland as Gray Minyan are actually Fine Gray-burnished ware, Building J should be dated to the EH III period.<sup>107</sup> East of EU5 were no traces of EH III remains, while on the southern side of the ravine in EU7 two pits and traces of two walls datable to the EH III period were found (Fig. 19, walls 26 and 29 in grids E20696/7, N6397/9; E20699, N6395; E20698, N6393).

Although the density of architectural arrangements atop the hill and the distribution of settlement remains over the site indicate an active settlement during the EH III period, and although the ceramic remains are typical of the production centers of the Argolid, the lack of rare and specialized imports suggests that the inhabitants were not so frequently in contact with outside areas as were those of the EH II phase settlement, and the absence of a central, dominant building such as existed in Building A of the EH II period supports this view.

Throughout the Middle Bronze Age the site was again abandoned until the late MH phase, contemporary with the earliest graves of Circle B at Mycenae,<sup>108</sup> when settlers reoccupied the hill. The major activity that can be associated with the initial phase of settlement is the infilling of the ravines, and finds of late MH date were strewn over the surface;<sup>109</sup> it is probable that a structure uncovered in the southwestern corner of EU7 was then erected (Fig. 19). To the northeast, in EU2, an extensive contemporary deposit of carbonized grape pips was associated with collapsed mud brick and burning, possibly evidence of wine production, since they were concentrated within a small area (as if gathered in a basket) and because about half are probably from domestic grapes.<sup>110</sup> Along the north side of EU2 (Fig. 21) surfaces of late MH date were discovered much disturbed by activity of the late LH IIIB period.

So far as we know from excavation, the early Mycenaean buildings were clustered on and perhaps above the flat terraces created by filling the southern and northern ravines. In both places settlement continued throughout the entire Mycenaean period. Other areas

<sup>106</sup> Rutter (footnote 104 above), nos. 12, 14, pp. 465, 474–475.

<sup>107</sup> J. B. Rutter, "Fine Gray-burnished Pottery of the Early Helladic III Period: The Ancestry of Gray Minyan," *Hesperia* 52, 1983 (pp. 327–355), p. 339.

<sup>108</sup> O. T. P. K. Dickinson, *The Origins of Mycenaean Civilisation* (SIMA 49), Göteborg 1977, pp. 40–46; S. Dietz, *Asine, II, Results of the Excavations East of the Acropolis, 1970–1974*, fasc. 2, *The Middle Helladic Cemetery and Early Mycenaean Deposits*, Stockholm 1980, pp. 141–144; and especially now G. Graziadio, "The Chronology of the Graves of Circle B at Mycenae: A New Approach," *AJA* 92, 1988, pp. 343–372 and Rutter.

<sup>109</sup> Rutter; see especially the discussion of EU6.

<sup>110</sup> J. Hansen, "Bronze Age Agriculture in the Nemea Valley," *AJA* 92, 1988, p. 253 (abstract).

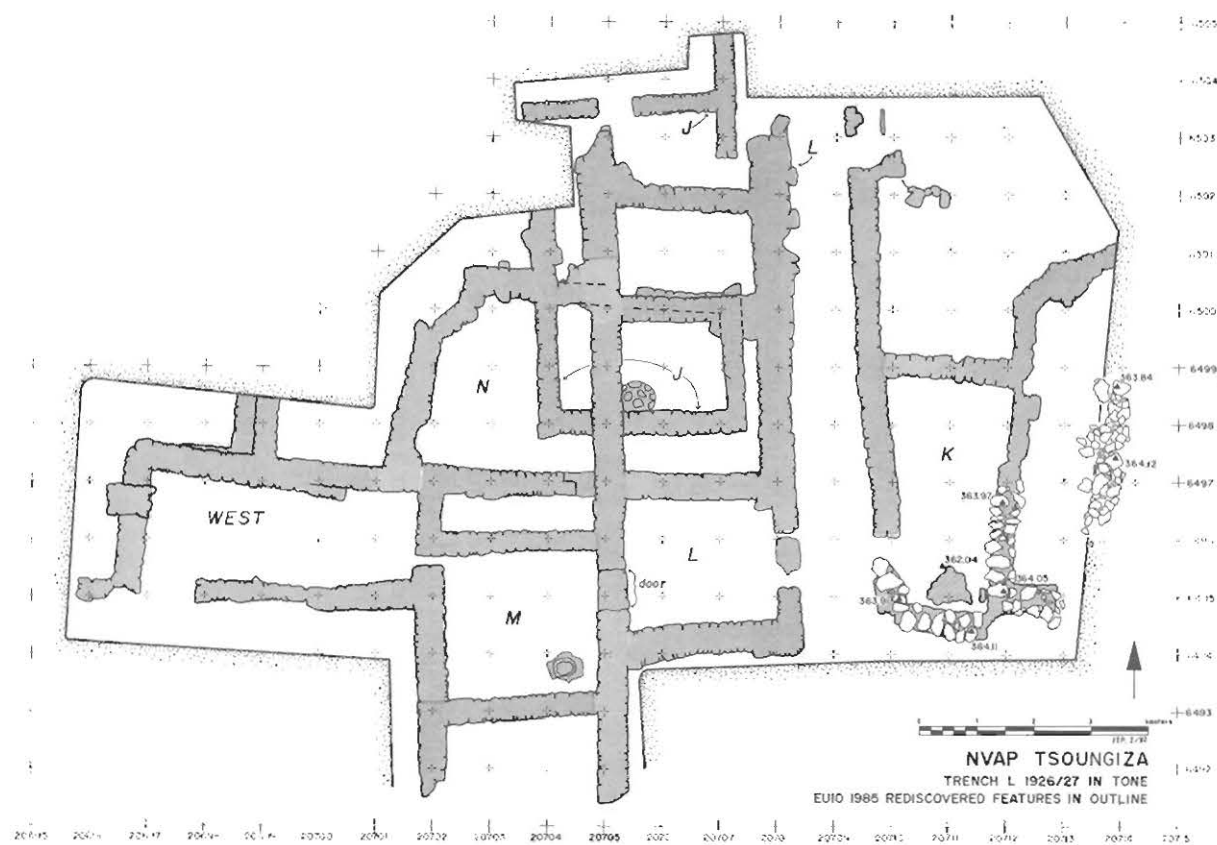


FIG. 18. Tsoungiza, Trench "L" (adapted by Julia E. Pfaff from a plan by Dorothy Cox)

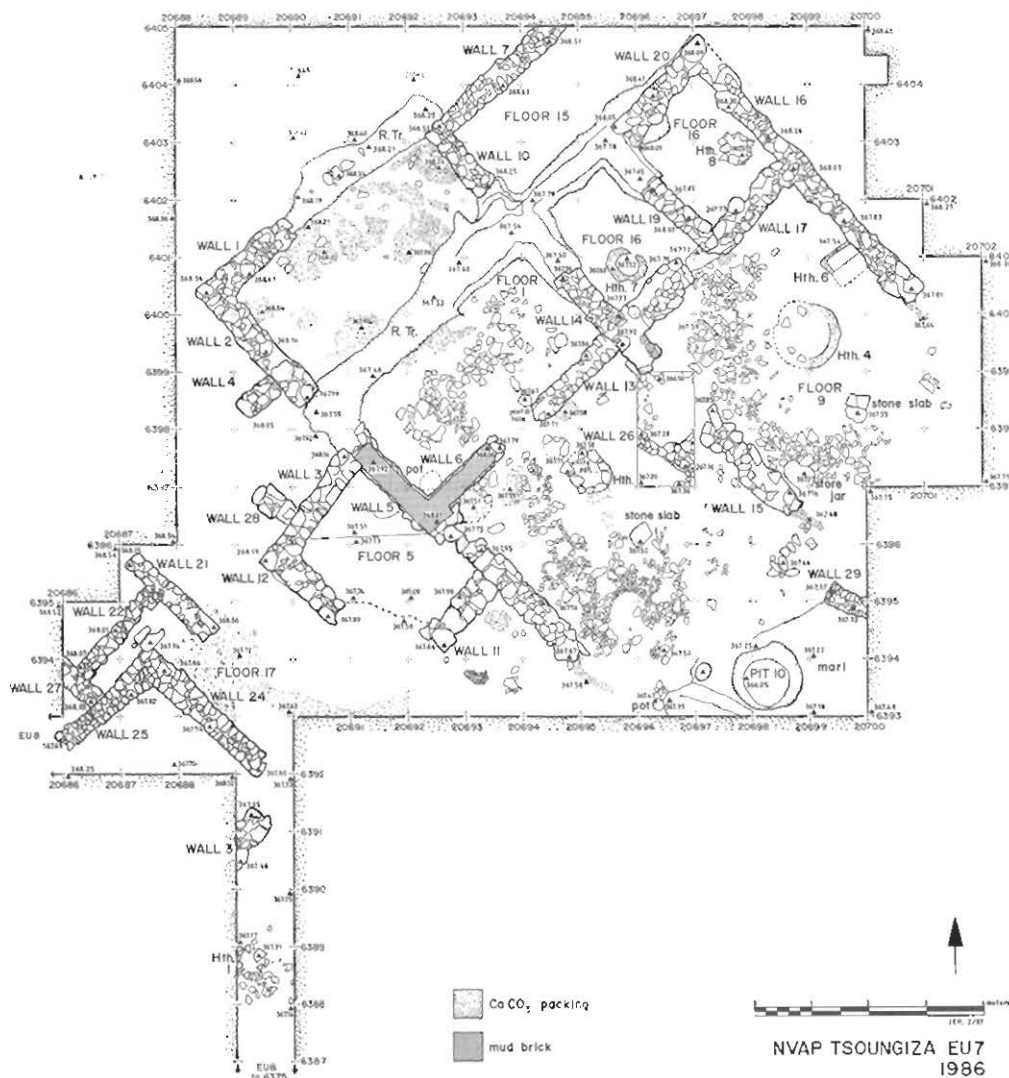


FIG. 19. Tsoungiza, actual-state plan, EU7 (Julia E. Pfaff)

probably occupied in early Mycenaean times were explored by Harland in his test trenches "O" and "X" (Fig. 12). In "O" were shallow disturbed deposits without evidence of architecture, in "X" some walls, beneath LH III buildings. We have not been able to locate either trench precisely, since both lay outside the area purchased for excavation; indications of surface remains and of depressions in the land surface, however, suggest their location.

LH I remains are best preserved in EU7, where at the west a freestanding rectangular structure was first built (Pl. 93:c).<sup>111</sup> At least two annexes were built along its southwest

<sup>111</sup> We follow P. Darcque ("Pour l'abandon du terme 'megaron'," in Treuill and Darcque [footnote 96 above]) in eschewing the term "megaron" for describing Mycenaean buildings with rectangular plans.

side (Fig. 19) and also probably a rear room, the floor level of which was higher than the other interior rooms. The building has a remarkably formal plan, rectangular with a strong central axis. On this axis in the main room a stone slab supported a central post; a circular stone-built hearth lay behind it, and a central doorway led into the main back room. Along the southwestern side of the main room was a cobblestone paving with smaller hearths set into it. From a deposit in the northern corner of the main room came a cache of unpainted vessels (two cooking pots, two drinking vessels, two jugs, a large goblet, and a ladle; Pl. 95:a), and in the room behind was located another cooking pot.<sup>112</sup> In contrast, numerous fine painted ceramics were found in the annex.<sup>113</sup>

Early in LH I the structure was burned. Soon after, still within LH I, a new building of the same plan as the original was built to the northeast.<sup>114</sup> Its southwestern wall was built over the northeast wall of the burnt building (Fig. 19). Like its predecessor this new building has several phases, as indicated by several reorganizations of the interior room(s) and the addition of a back room. It was also outfitted similarly. On the axis of the building was a stone slab, probably a base for a post, and a large, clay-covered circular hearth. Present also is a stone paving along the west side of the main room. Originally a door led from the outer main room into an interior one; later the door was blocked up and the interior room was divided into two smaller ones.

The two buildings are remarkably similar in layout, organization and furnishings. Preliminary analysis of the artifactual and organic remains of the earlier one suggests a domestic, non-specialized function. Nothing from the later building indicates a different function, and its plan and construction over and adjacent to the remains of the earlier one permit the conclusion that it was an immediate replacement for it.

In his trench "L" north of the crown of the hill (Fig. 12), Harland uncovered a complex of structures of Early Mycenaean date, which he argued reflect two phases of habitation, the first of LH I (Buildings K and L, Fig. 18) and the second of LH II (K, L, M, N, and the West Building).<sup>115</sup> Although no associated finds are preserved, Harland's observations are generally confirmed by results of our excavation in the adjacent EU10, where a substantial LH IIA deposit was uncovered in conjunction with poorly preserved remains of a building

<sup>112</sup> Reported in J. C. Wright, "Excavations at Tsoungiza (Archaia Nemea) 1981," *Hesperia* 51, 1982, pp. 375-392 and J. B. Rutter, "A Ceramic Definition of Late Helladic I from Tsoungiza," *Hydra* 6, 1989, pp. 1-19.

<sup>113</sup> NVAP Inv. nos. 1104-2-1 (four-handled jar), 1155-2-1 (juglet or alabaston); 1155-2-2 (goblet); 1155-2-3 (miniature kantharos); 1165-2-1 (?miniature jar); 1173-2-1 (teacup); 1173-2-2 (alabastron); 1181-2-1 (krater); 1181-2-2 (dipper); all published in Rutter, *op. cit.*, cat. nos. 1-4, 6, 10-11, 13, 16.

<sup>114</sup> As reported in Wright ([footnote 112 above] p. 384), the excavation of 1981 discovered indications of a second, post-destruction phase in the area of the western building, including 1) a stone-built platform with a surface plastered with calcium carbonate (E20696.5-20697.5, N6397) and 2) a slab and associated goblet base at E20694, N6397. Subsequent excavations uncovered the subsidiary rooms of the original western building (Fig. 17), the new building to the east, and evidence of many robbed-out walls belonging to both structures. The material from the founding of the East building (1276-2-1, 1276-2-3, 1277-2-1, 1172-2-1) is all LH I. This building was abandoned by the LH IIA period, as certified by a pit of that date cut into its remains (cut through floor 6, Pit 6 with 1193-2-1, 1193-2-2, 1193-2-3).

<sup>115</sup> Harland. House K is Harland's "House of the Arrowhead Maker".



that lay 10 meters east of those of Harland's Trench L (Fig. 20, Pl. 95:b).<sup>116</sup> Here at the north there seems to have been a much denser complex of structures during LH II than in the preceding period, although it is worth emphasizing that the buildings uncovered by Harland (K, L, M, N, and the West Building) each have several phases of occupation and are not all structurally independent of one another (for example, M is a two-room extension of Building L).

In EU2 to the south, a substantial LH IIB floor deposit was recovered. The architecture containing this deposit is extremely poorly preserved; only the northwestern and southeastern walls (Fig. 21, walls 3 and 6) are certainly of that date. The floor deposit consists of plain and decorated vessels, including numerous examples of common shapes for drinking such as conical cups, teacups, and painted (including Ephyræan) and unpainted goblets (Pl. 95:c). There are also squat and piriform jars and a large askos (Pl. 95:d), but virtually no cooking vessels, all suggesting something other than a normal domestic deposit. A large inverted pithos neck was set in the probable western corner of the room, while scattered across the floor were a variety of objects including a large piece of chert, ground-stone tools, lead and bronze fragments, and faïence beads.<sup>117</sup> These Early Mycenaean remains

<sup>116</sup> Rutter has identified four phases overall between the earliest resettlement at the site and levels dating to LH IIB/IIIA 1; these are two probable phases of very late MH and one each of LH I and LH IIA. The major restorable vessels of LH IIA date from EU10 are 1759-2-2 (piriform jar with double axe), 1774-2-2 (stemmed cup with blotchy stipple), and 1776-2-1 (Vapheio cup with foliate band). In addition there are a number of unpainted vessels and decorated fragments: 1703-2-2, 1703-2-3, 1764-2-1, 1767-2-1, 1767-2-3, 1774-2-1, 1774-2-3, 1775-2-1, 1791-2-1.

<sup>117</sup> Only a small portion of the ceramic assemblage from this floor is illustrated in Plate 95:c, d; most of it comes from SU's 215, 223, 225, 304, 307, 308, and 318. A stippled teacup from this deposit (308-2-7) is stylistically

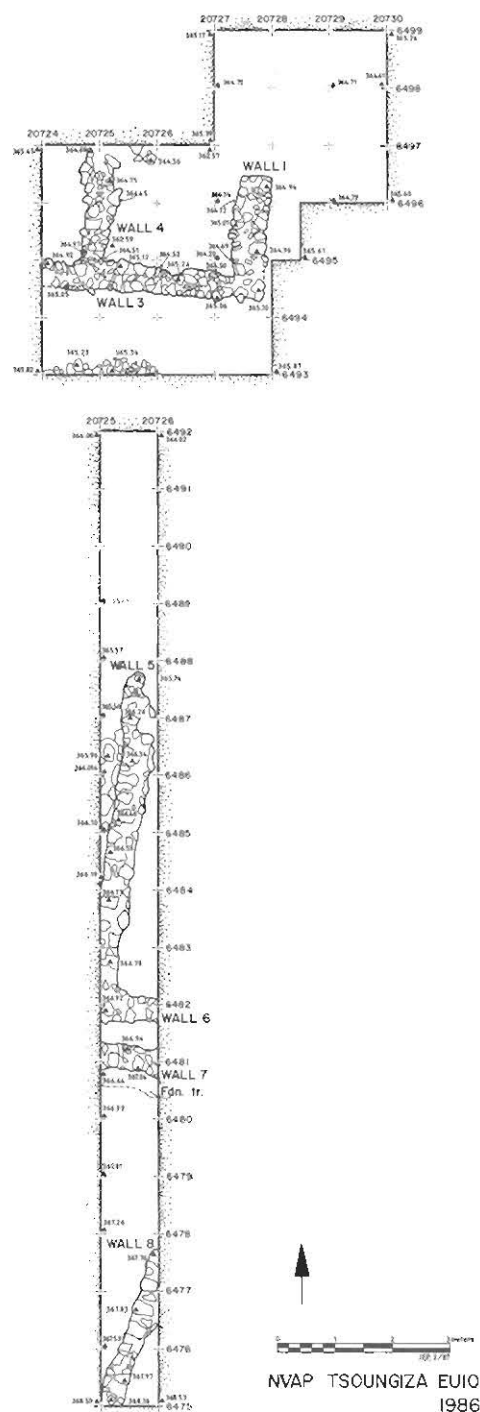


FIG. 20. Tsoungiza, actual-state plan, EU10, northern section (Julia E. Pfaff)

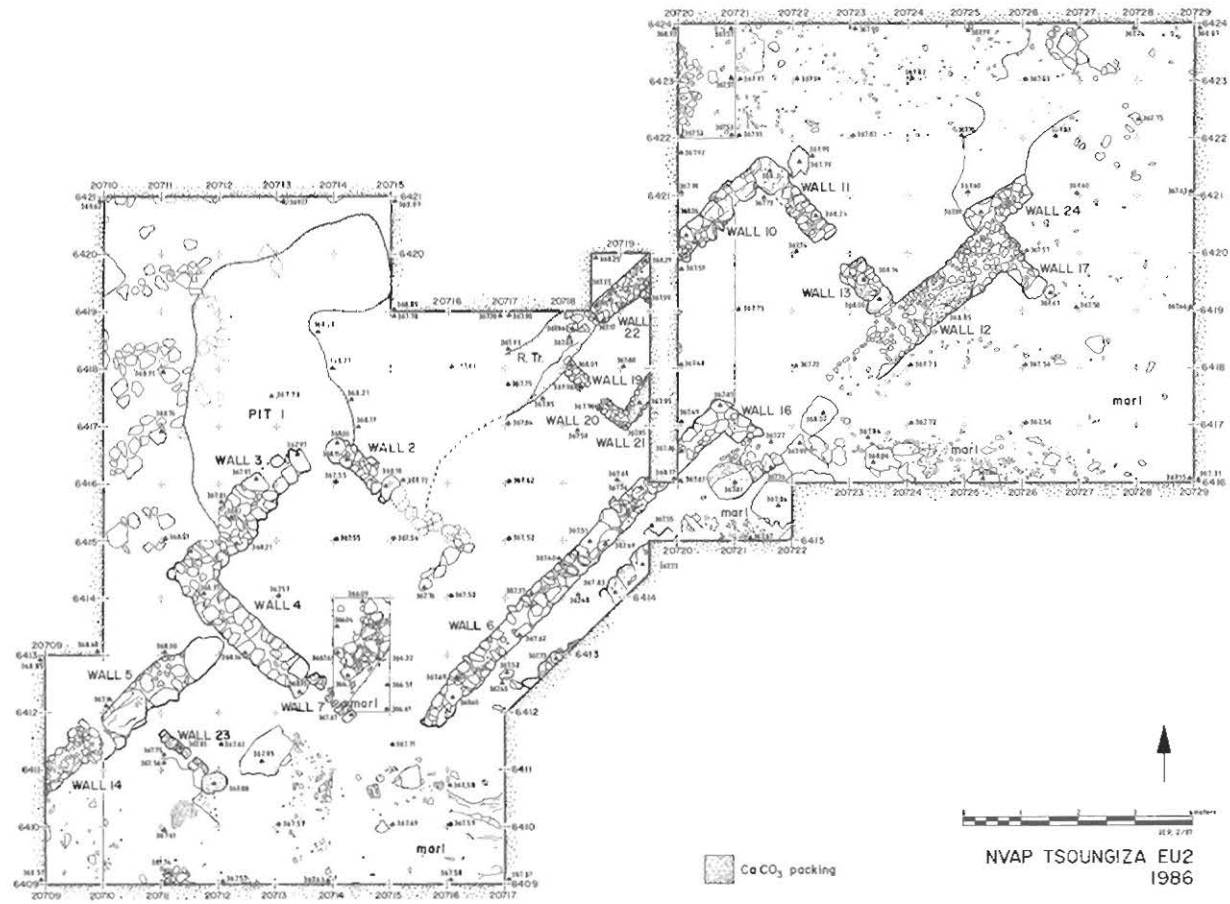


FIG. 21. Tsoungiza, actual-state plan, EU2 (Julia E. Pfaff)

may be part of the area of settlement to the southwest in EU7, a mere 20 meters distant. To the east, north, and west no traces of LH IIB settlement were discovered.<sup>118</sup>

At this stage of analysis it is difficult to evaluate the form of this Early Mycenaean community and how it changed over time. On the one hand, there is no trace of settlement of this period on the hilltop, and no structure stands out as dominant. Instead the site appears to have had at least two clusters of buildings, one at the northern and one at the southeastern side of the hilltop. All evidence presently at our disposal is consistent with a hypothetical reconstruction of LH II Tsoungiza as a small hamlet consisting of several families cooperating together on an egalitarian and subsistence basis.<sup>119</sup> On the other hand, the growth in the size of the structures in EU7 and Trench L, notably through the addition of rooms, suggests accommodation to increased needs for storage, population growth, or both. Preliminary analysis of the artifacts allows some descriptive observations. The ceramic assemblages from EU7 and EU2 are quite different, the former containing obvious material for cooking and storage, the latter apparently specialized for drinking. In EU10 to the north (and also in Harland's Trench L) the frequency of obsidian hollow points and chert tools contrasts sharply with their near absence in the southern trenches. By LH IIA the settlers on Tsoungiza had perhaps become dependent on the production centers of the Argolid, since the ceramics are indistinguishable from those at Mycenae that are supposed to be from mainstream production centers. Other indications of exchange are found in the chipped stone assemblage, where a ready-worked, creamy chert blade type appears at Tsoungiza.<sup>120</sup>

Although no closed deposit of LH IIIA:1 material has been found, the presence of vessels stylistically assignable to LH IIIA:1 in the otherwise entirely LH IIB floor deposit just discussed, the discovery of one intact LH IIIA:1 vessel from EU7 (NVAP inv. no. 1167-2-1) and the early character of a LH IIIA:2 deposit (discussed below) argue for the continuity of settlement at this time.

An important large deposit of pottery was recovered in EU9 from an apparently artificial cut made into the east side of the hill.<sup>121</sup> No architecture could be associated with this

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LH IIIA:1, but its presence among the otherwise LH IIB material suggests that such stylistic gauges may be less than precise. We thank Dr. Penelope Mountjoy for her opinion of this material, although the view maintained here is ours.

<sup>118</sup> To the east and north of EU2 the marl is found at 20 to 30 cm. below ground surface; we tested in both areas (east extension of EU2, EU11). Resistivity testing conducted by Carl Heron indicated that only bedrock would be found in this area.

<sup>119</sup> J. C. Wright, "An Early Mycenaean Hamlet on Tsoungiza at Ancient Nemea," in Treuill and Darcque (footnote 95 above).

<sup>120</sup> We thank R. Torrence for this interpretation of the blades; most were found by Harland and no longer have a precise context, although there is no doubt that they were found in the Early Mycenaean levels of Trench L.

<sup>121</sup> This deposit is being studied for publication by Mr. Patrick Thomas, who provided the description given here. The deposit contains relatively little patterned pottery, especially when compared to the LH IIIA:1 deposit from the Atreus Bothros at Mycenae (E. French, "Late Helladic IIIA2 Pottery from Mycenae," *BSA* 60, 1965, pp. 159-202), and the range of shapes is much more limited. In the lower strata, net and scale are the dominant patterns on closed shapes and curved-stem spiral and stipple on the open shapes. Patterned kylikes with the familiar linear stems are not common in these levels; stemmed bowls and goblets appear to be the most prevalent large, open, patterned shapes. In the upper strata, the familiar LH IIIA:2 kylix is present,

deposit, but it was found lying on a relatively flat surface cut into the bedrock, and in the lowest strata the sherds were of small size and freshly broken. The deposit, which was sealed by strata dating to the LH IIIB period, has yielded more than thirty complete or near-complete profiles, as well as large fragments from many other vessels. The date of the deposit is somewhat problematic and complicated by the possibility that it itself is stratified. A preliminary study of the pottery suggests that the deposit as a whole extends from the end of the LH IIIA:1 period into LH IIIA:2 (early), a poorly understood phase in the development of Mycenaean pottery. If the assigned date is correct, this deposit will help clarify one of the major gaps in the Mycenaean settlement sequence.<sup>122</sup>

The EU9 deposit includes much unpainted pottery, primarily fine wares, although cooking and coarse wares are also well represented. Kylikes are the most abundant shape, with the angular kylix more prevalent than the rounded variety. Shallow angular basins of varying size are also found, in addition to cups and handleless conical cups. Many fragments from jugs, amphoras, and hydrias are also present. Cooking and coarse wares have been noted in lesser quantities: these include tripods and pots, coarse basins, various kinds of coarse jars, and pithoi.

The most notable find from this deposit was a terracotta figure of which only the lower two-thirds was recovered (Pl. 95:e). It is related to the "Lady of Phylakopi" type, although the execution and decoration are cruder.<sup>123</sup> The presence of this figurine at a small site such as Tsoungiza is surprising, since all previously reported figures of this sort were found either in palatial contexts or large centers such as Phylakopi. The Tsoungiza figure is the earliest securely datable example of this variety, confirming the suggestion of Elizabeth French that this terracotta figure type began in LH IIIA.<sup>124</sup> Several other small figurines were recovered from this deposit, most notably two examples of the rare "Breadmaker" type (Pl. 95:f).<sup>125</sup>

The interpretation of this deposit is difficult. Were it not for the terracotta figure, probably no cultic significance would be supposed,<sup>126</sup> for there are no obvious cultic implements

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although not in great quantity. Small, patterned stirrup jars also become more common. Curiously, the two most common LH IIIA:2 patterns, the Mycenaean III Flower (Furumark Motif 18) and the Whorlshell (FM 23), are scarcely represented, the Flower appearing only on the shoulder of the stirrup jar, and the Whorlshell not at all. The lack of these patterns suggests that the deposit terminates before the LH IIIA:2 (late) period. Various systems of monochrome decoration, however, are the most common form of painted decoration. Monochrome kylikes and stemmed bowls, which are painted solidly inside and out, occur most frequently, but there are substantial numbers of kylikes and stemmed bowls which are painted solidly on the inside, with the outside left plain, or with only a thin band at the lip. The latter system of decoration may represent a continuation of the mono-in goblets characteristic of the LH IIB period. Much less frequent are stemmed bowls which are solidly painted on the outside and plain on the inside.

<sup>122</sup> French, *op. cit.*, pp. 193–197; French, p. 215.

<sup>123</sup> French.

<sup>124</sup> French, p. 215.

<sup>125</sup> C. W. Blegen, "A Mycenaean Breadmaker," *ASAtene*, n.s. 8–10, 1946–1948, pp. 13–16; E. French, "The Development of Mycenaean Terracotta Figurines," *BSA* 66, 1971 (pp. 101–187), p. 173.

<sup>126</sup> Dr. Paul Halstead has remarked, however, that his preliminary sort through the faunal material from the deposit suggests its special nature (personal communication); in general on the interpretation of figurines



or vessels, only pottery of ordinary domestic nature. If, as was suggested above, the deposit is stratified, a careful examination of the pottery from the level in which the figure was found may provide a better insight into the circumstances of its disposal. The figure itself is partially burned, as are a few of the relatively complete patterned and plain fine-ware vessels so far mended. Further study should indicate whether these vessels and the figure were deposited at the same time, perhaps as a result of the same event.

In EU2 (SU's 209 and 228), a large deposit of early LH IIIB:1 pottery was discovered in a rubbish pit west of a long building of the same date (Figs. 15 and 21, Pit 1).<sup>127</sup> The building has only been preliminarily studied, but it is clear that it was laid into the remains of the LH II building in the western part of EU2. It is oriented northeast to southwest and was at least 15 meters long, with a courtyard to the north. The pit possibly contained the domestic refuse of the household, since many animal bones and some ground-stone tool fragments were found as well. Although fragmentary and worn, the deposit is significant for its size (more than 20,000 sherds), its range of shapes and patterns, and its exceptional purity, with no later intrusions, and only very small quantities of earlier pottery. It seems, in fact, to contain a nearly complete record of the ceramic assemblage in use at Tsoungiza during this period. As with all our units, all the sherds have been saved, making it a particularly good source for comparative material for other deposits of this date. Stemmed and deep bowls are the most common decorated shapes, but kylikes, kraters, and other open shapes are well represented, while a relatively small number of closed shapes are present. Unpainted pottery, however, forms the bulk of the deposit, with fine cooking and coarse wares all abundantly represented. A detailed examination of the deposit suggests that all the material belongs to the early part of the LH IIIB:1 period, with some of the pottery exhibiting "holdover" LH IIIA:2 characteristics. Two other ceramic dumps have been excavated in the eastern third of EU8. LH III architectural remains are widely distributed over the site (Fig. 13: EU8, EU3, 1979 trenches, EU2, EU9, EU10, and EU5).

The LH IIIB settlement is much more extensive than anticipated at the outset of our investigations. Remains are widely distributed around the hillside and represent diverse activities. The early LH IIIA:2 deposit with its special objects may indicate that the site by that time already had become more important than preserved remains would indicate. In LH IIIB it appears still to have been the primary site of the valley. How then does it compare to its neighbor to the east at Zygouries, where the well-built and planned rooms of the "Potter's Shop" with remains of frescoes, stockpiled vessels, and possible industrial activity suggest a specialized center in close contact with a palace?<sup>128</sup> If Mycenae controlled areas to

see M. Voigt, *Hajji Firuz Tepe, Iran: The Neolithic Settlement*, Philadelphia 1983, pp. 186–202, especially her discussion of the functional interpretation of figurines by analysis of use wear and of their means of disposal.

<sup>127</sup> This deposit is being studied for publication by Patrick Thomas, who provided the description given here. Dabney is publishing the architecture and context of the LH III settlement.

<sup>128</sup> For the fresco remains see C. W. Blegen, *Zygouries. A Prehistoric Settlement in the Valley of Cleonai*, Cambridge, Mass. 1928, p. 37 and pl. III; for the possible use of the "Potter's Shop" as a perfumed-oil workshop see P. M. Thomas, "A Mycenaean Perfumed Oil Workshop at Zygouries?" *AJA* 92, 1988, p. 254

its north, as recently suggested in several discussions,<sup>129</sup> then it is conceivable that centers in the different regions of the Corinthia were used as administrative outposts of the palace, not unlike the situation in Neopalatial Crete.<sup>130</sup>

The latest stratified material on the hill is LH IIIB:2 date and comes from buildings excavated in 1979 and from EU3, EU7, and EU8.<sup>131</sup> The ceramic contents contain Rosette and Group B deep bowls.<sup>132</sup> EU9 contains a few sherds of LH IIIC medium band bowls, but not from architectural contexts. Thus it appears that the settlement was abandoned at the end of LH IIIB:2 but that some activity continued into LH IIIC. Thereafter the site was unoccupied, except for possible occasional use for farming, as the presence of rare sherds and tiles of periods concurrent with the use of the Sanctuary of Zeus attests.

### *Summary*

The excavations on Tsoungiza Hill have been extensive enough through the test trenches and major areas opened up to ascertain that this sketch of the distribution of architectural remains and deposits is probably an approximately correct picture of the phases of occupation. In part this conclusion is corroborated by the results of the survey (pp. 603–617 above), which show a corresponding pattern of occupation throughout the survey area. This is a local pattern of periodic habitation (during EN/early MN, FN through mid-EH II, part of EH III, late MH III–LH IIIB:2) punctuated by abandonment (during most of MN and LN, late EH II–early EH III, and most of MH) during which Tsoungiza seems always to have been a focus for settlement. In relation to the larger region of the northeastern Peloponnesos, Tsoungiza was frequently abandoned during times when other settlements flourished, perhaps another sign of the fragility of settlement in the valley.

### CONCLUSIONS

It should by now be clear that all facets of our investigation are closely related. Also evident is that each component of NVAP has much to contribute to the others, and that answers to virtually all questions of regional scope of the kind described in the introduction to this paper not only can profit from but even demand the acquisition and integration of information from all aspects of the project. For example, data from survey, however valuable and

(abstract); a recent study by I. M. Shear ("The Panagia Houses at Mycenae and the 'Potter's Shop' at Zygorics," in *Φιλία ἔπη εἰς Γεωργίου Ε. Μυλωνά* I, Athens 1986, pp. 85–98) has reinterpreted the plan of this building.

<sup>129</sup> Dickinson; E. Vermeule, "Baby Aigisthos and the Bronze Age," *PCPS* 213, 1987 (pp. 121–152), p. 133; Wright *et al.*, "Early Mycenaean Settlement."

<sup>130</sup> Dabney in M. K. Dabney and J. C. Wright, "Mortuary Customs, Palatial Society and State Formation in the Aegean Area: A Comparative Study," in *Celebrations of Death and Divinity in the Argolid* (*ActaAth* 4°, 40), R. Hägg and N. Marinatos, edd., Stockholm 1990, pp. 45–47; S. Hood, "The Minoan 'Country House' and Minoan Society," in *Minoan Society*, O. Krzyszkowska and L. Nixon, edd., Bristol 1983, pp. 129–135.

<sup>131</sup> Footnote 91 above; we thank Ms. Dina Kaza, who excavated this material for the Greek Archaeological Service, for permission to mention it here.

<sup>132</sup> E. S. Sherratt, "Regional Variation in the Pottery of Late Helladic IIIB," *BSA* 75, 1980 (pp. 175–202), pp. 178–180, 200–201.

essential, certainly should not be considered in isolation. In the past, extensively excavated sites, such as Tsoungiza and the Sanctuary of Zeus, have figured prominently in the reconstruction of hierarchies of settlement and have served as points of articulation between local and external economic, social, and ideological systems. Certainly survey amplifies the appreciation for the size, nature, and extent of occupation in such places, and utilization of information from both survey and excavation is critical for the reconstruction of comprehensive patterns of land use within areas encompassed by such sites. Frequently, as we hope to have demonstrated in the case of Phlius, survey and excavation can in concert enable us to outline a far more complete picture of activities at a site than would be possible with either technique alone. The sum of the results of survey and geological investigations also promises to be greater than its parts. As we have already observed, it is certainly not a new idea that geomorphological studies enable us to estimate the extent to which present land forms approximate those of the past, and thus to evaluate the degree to which distributional patterns of ancient artifacts may be the creations of non-cultural processes. The promise of reciprocal contributions by survey to Quaternary studies has, perhaps, been less appreciated or explored. For example, we fully expect sometimes to be able to suggest on archaeological grounds a *terminus ante quem* for the deposition of a soil horizon by examining the dates of the earliest artifacts found on its surface. It will be our emphasis on individual artifacts, rather than sites, that permits such analyses, since in many cases alluvial soils have never served as a focus for permanent settlement.

The final picture that we draw of the history of settlement in the area of the Nemea Valley will not (and should not) depend on data collected by surface survey and excavation alone. In our search for those general processes that have determined the distribution of population and have regulated the allocation of land to various human activities in the past we have recognized that the material culture of the past must be integrated with that of the present through ethnoarchaeological studies of the sort described above (pp. 594–603). Physical remains, oral traditions, and the analysis of written records offer an opportunity to study in well-documented (in some cases “living”) contexts the formation, disintegration, and transposition of towns and villages, as well as the material consequences of many different kinds of human behavior and agricultural practices. The ethnoarchaeologist may even, as we have already observed, adopt the very techniques of surface survey to collect artifacts from recently occupied sites. An obsession with the present would, of course, limit our investigations to those types of activities and processes that operate at present, but the rich archaeological record of the past that we have sketched allows us to gain access to a lengthy series of pre-modern case studies which, while less detailed than those described by ethnoarchaeological fieldwork, are more frequent in number and span the millennia since the first establishment of agricultural populations in southern Greece. Within this range of case studies lies the potential both for isolating “timeless” responses of man to his surroundings, those material correlates of economic or social behavior that are truly universal and independent of temporally specific systems, and for exploring the evolution of particular adaptations to local cultural and natural environments. Modern and pre-modern patterns of



settlement and land use must each be treated as independent case studies. We must not project the present into the past. Rather both must play complementary roles in the formation and testing of hypotheses about the relationship between human behavior and material culture.

In conclusion we turn to a discussion of what is the most striking phenomenon of human behavior recognized in the area of the Nemea Valley, a pattern particularly acute in the main valley of Ancient Nemea itself, namely the periodicity of settlement. Why were the valley and its adjacent areas at times apparently uninhabited (if not totally unexploited)? To what extent have natural and cultural factors determined settlement patterns? In this concluding section we review the evidence from two periods of the past during which, on the basis of our research, density of habitation in the Nemea area appears to have fluctuated markedly, namely the Bronze Age and the modern period. The similarity between patterns of occupation and abandonment at these times raises the possibility that it may be possible to generalize more broadly about factors that have in the past determined settlement densities and the distributions of settlements in the landscape. At the same time the striking difference in the nature of our understanding of Bronze Age and modern life illustrates the problems inherent in such generalization.

#### PATTERNS OF SETTLEMENT AND ABANDONMENT IN THE BRONZE AGE

The abandonment of the valley within the Middle Neolithic marks the beginning of the first of several cycles of depopulation in later prehistoric times. In many cases such phases seem to follow after periods of relatively intense land use and settlement, when there is ample evidence that local communities were integrated into regional exchange systems embracing areas well outside the limits of our study area. For example, during the Middle Neolithic the character of patterned urfiris ceramics at the sites investigated by the survey in the Tretos Pass points to ties with settlements elsewhere in southern Greece.<sup>133</sup>

As evidence from Tsoungiza clearly demonstrates, resettlement of the valley and adjacent areas began at the time of the transition between the Final Neolithic period and the Early Bronze Age, and several other smaller settlements persevered throughout much of the 3rd millennium B.C. At this time when there is considerable evidence for the existence of increasingly complex societies elsewhere in southern Greece,<sup>134</sup> imports discovered at Tsoungiza and survey sites (e.g. the lead stamp [Pl. 94:e] and pottery from as far away as the Saronic Gulf) suggest that communities in the valley were linked with regional exchange networks. The sequence of Early Bronze Age settlement at Tsoungiza permits us to reconstruct the events leading up to a MH phase of abandonment in even more detail.

<sup>133</sup> Tsoungiza, however, does not display notably common MN shapes and decorative schemes, although MN linear decorated and urfiris ceramics are represented. See also the split-leg type of figurine found at Site 702, published in Cherry *et al.*, 1988, and evidence of its wider distribution as presented by L. E. Talalay, "Rethinking the Function of Clay Figurine Legs from Neolithic Greece: An Argument by Analogy," *AJA* 91, 1987, pp. 161–169 and W. W. Phelps, "Prehistoric Figurines from Corinth," *Hesperia* 56, 1987 (pp. 233–253), pp. 235–238.

<sup>134</sup> Pullen (footnote 103 above); Roberts (footnote 61 above); Hägg and Konsola (footnote 100 above).



There, an apparent cessation of habitation in the later phases of EH II lasted until the early stages of EH III and seems to presage depopulation during the Middle Bronze Age. Only at Tsoungiza is there evidence for extensive EBA settlement after EH II, but it too was abandoned before the end of this period.

The Middle Bronze Age in southern Greece appears generally to have been a time of reduced numbers of settlements, characterized by a generally lower level of social complexity, although there is plentiful evidence for imported goods.<sup>135</sup> The pattern in the Nemea area is clear. Neither Tsoungiza nor any other location (including Zygouries to the east) appears to have been inhabited before the late MH period.<sup>136</sup> There is no evidence that the populations of EH settlements contracted into a smaller number of larger centers, a process that has been suggested to explain the reduced number of MH settlements elsewhere in Greece.<sup>137</sup>

It seems hardly a coincidence that repopulation of the valley at the end of the Middle Bronze Age corresponds so closely with the re-emergence of regional social complexity in the northeastern Peloponnesos. Tsoungiza is again the major settlement in the area and may have been the first to be reoccupied. Still in Early Mycenaean times, small establishments were founded at several other locations dispersed throughout the study area.<sup>138</sup>

Occupation in the valley appears to have been continuous throughout the Late Bronze Age. Tsoungiza remained the largest settlement, while a few smaller communities were dispersed around it. Remarkably, the destructions at Mycenae at the end of LH IIIB also mark a significant moment in the history of settlement at Nemea. The fact that occupation did not continue on any scale into LH IIIC either at Tsoungiza or elsewhere underscores the magnitude of the change that accompanied the deterioration of the Mycenaean palace-centered economy (p. 638 above).<sup>139</sup> Indeed, the entire history of Mycenaean occupation in the area appears closely bound to the development and collapse of the larger centers of the northeastern Peloponnesos.

In this regard, it is worth emphasizing that Dickinson and others have, in fact, suggested that the Corinthia (and with it the area of Nemea) lay under Mycenae's control

<sup>135</sup> Dickinson (footnote 108 above); J. B. Rutter and C. Zerner, "Early Hellado-Minoan Contacts," in *The Minoan Thalassocracy, Myth and Reality* (Skriptor Utgivna av Svenska Institutet i Athen 32), R. Hägg and N. Marinatos, edd., Stockholm 1984, pp. 75–83; C. Zerner, "Middle Helladic and Late Helladic Pottery from Lerna," *Hydra* 2, 1986, pp. 58–73; *eadem*, "Middle Helladic and Late Helladic Pottery from Lerna: Part II, Shapes," *Hydra* 4, 1988, pp. 1–10; R. Howell, "The Origins of the Middle Helladic Culture," in *Bronze Age Migrations in the Aegean*, R. Crossland and A. Birchall, edd., Park Ridge, N.J. 1974, pp. 73–106; G. Nordquist, *A Middle Helladic Village. Asine in the Argolid* (Boreas 16), Uppsala 1987.

<sup>136</sup> See Rutter.

<sup>137</sup> Wright *et al.*, "Early Mycenaean Settlement."

<sup>138</sup> Wright *et al.*, "Early Mycenaean Settlement."

<sup>139</sup> As recently remarked by several scholars (Sherratt [footnote 132 above] p. 203; J. C. Wright, "Changes in Form and Function of the Palace at Pylos," in *Pylos Comes Alive, Industry and Administration in a Mycenaean Palace*, C. W. Shelmerdine and T. G. Palaima, edd., New York 1984 [pp. 19–29], p. 29), the end of the Mycenaean palatial system was probably more a long-term process than a collapse. At Tsoungiza the site appears to have declined between LH IIIB:1 and LH IIIB:2, notwithstanding the few pieces of LH IIIC discovered, and this process probably corresponds to the changing economic and political fortunes of the central areas. We thank Rutter for bringing the evidence of this phenomenon at Tsoungiza to our attention.

during the Late Bronze Age.<sup>140</sup> External domination would thus explain the absence to the north of Mycenae of any center comparable to it in wealth or power. Indeed, such a reconstruction seems at least plausible. The existence of a road system leading north from Mycenae together with the lack of attention to defenses of all the sites in the Corinthia may point to external control.<sup>141</sup> Moreover, Emily Vermeule has appropriately remarked on the close correspondence between the situation described in the *Iliad* and that implied by the legendary links between the elite families of Mycenae and Sikyon: "Mycenae held the valleys northward to Corinth, Sikyon, the Gulf of Corinth, and along its southern Shore toward old Achaia. . . ." <sup>142</sup>

#### PATTERNS OF SETTLEMENT AND ABANDONMENT IN THE MODERN PERIOD AT NEMEA

Modern patterns of settlement and land use in the Nemea area exhibit discontinuities no less striking than those of the prehistoric periods. Few finds from the survey can be dated to the periods of Turkish occupation of the northeast Peloponnesos. While this circumstance might partly reflect our currently impoverished knowledge of ceramics produced and used at this time, documentary and ethnohistorical accounts as well as a lack of recognizable imports from outside the area also suggest that habitation was restricted. The growth of substantial population centers in the valley began, in fact, only with Greek Independence.

Traditionally the two major transportation routes in this part of southern Greece have both skirted the main Nemea valley, although settlements there would have had easy access to them. To the west, communications between the western Corinthia (including the territories of the Classical *poleis* of Sikyon, Phlius, and Stymphalos) and the Argive Plain followed a route through the Xeropotamos Valley over Xenophon's Kelossa Pass; direct routes between Corinth and Argos, on the other hand, ran through the Longopotamos Valley and the Tretos Pass. The formation of the modern state of Greece and of a national Greek economy has had profound consequences for the structure of regional transportation systems. With the construction of the Peloponnesian railroad, *ca.* 1890, the Kelossa Pass ceased to serve as a major route to Argos, and travel between the Phliasian Plain and Argos was redirected along an east-west corridor through the valley of Ancient Nemea. Access to the markets of Athens and Corinth led to local intensification of agriculture and a remarkable increase in population within the valley.

Ethnohistorical sources show that highland areas of the western Corinthia have played an important role in the repopulation of the Nemea Valley in the years since Greek Independence and that, at least since the period of Turkish domination, the valley has been exploited by pastoralists permanently based far to the west. Holdings of the monastery of Agios Georgios in the plain of Pheneos (Fig. 2), for example, included the Xerokampos Valley and were leased to upland-based shepherds for winter pasturage. It would be foolish,

<sup>140</sup> Dickinson; cf. Thomas' argument (footnote 128 above) that the "Potter's Shop" at Zygouries was a perfume workshop. Would it have been an external production center for the palace at Mycenae?

<sup>141</sup> H. Steffen, ed., *Karten von Mykenai*, Berlin 1884; G. Mylonas, *Mycenae and the Mycenaean Age*, Princeton 1966; J. C. Wright, *Mycenaean Masonry and Elements of Construction* (diss. Bryn Mawr College 1978).

<sup>142</sup> Vermeule (footnote 129 above).

however, to argue that such close relations between the Nemea area and the uplands necessarily existed before the Turkish and modern periods, for it seems clear that the very existence of large-scale pastoralism and of long-distance transhumance (i.e., practices of the sort that have bound the two areas in recent centuries) are dependent on a developed market economy that permits such agricultural specialization. In antiquity herding was most likely conducted on a much reduced scale, and flocks moved over much smaller distances.<sup>143</sup>

The archaeological examination of pastoralist camps should, however, allow us to recognize patterns of material culture associated with such activities and to build more general models useful for testing hypotheses about the nature of land use in the past, especially at those times when the study area itself does not appear to have been the focus of permanent settlement. The process by which the valley was repopulated at the end of the 19th century, as well as the motivations for resettlement, also provide food for thought. Upland shepherds, already exploiting the valley as a source of seasonal pasturage, settled here permanently to take advantage of the proximity of the location to regional markets at Argos and Corinth. The establishment of local production and processing networks, such as that which linked the agricultural communities of Linoi and Heraklion to the mill at Chani Anesti provided for export of surplus from the valley to major areas of early modern Greece.

#### SUMMARY

The fortunes of the Nemea Valley seem at most times in the past to reflect the complexity of the political economy of the northeast Peloponnesos. Both in the Bronze Age and in the past few centuries, extensive settlement has been the rule only at times when developed regional political economies have embraced this region. The motivations for settlement in modern times are clear. Opportunities for the formation of capital have encouraged intensification of agricultural production beyond subsistence levels. To accept that similar causes were responsible for the similar patterns of settlement and abandonment we have recognized in prehistoric times, however, would be methodologically unsound; for, in so doing, we would fall victims to the fallacy of equifinality, to the assumption that equivalent responses in material culture can be produced by only a single set of social circumstances. Ethnographically documented explanations for the modern period cannot be uncritically projected into the past to provide ready-made explanations for archaeologically documented patterns in periods during which very different regional political and economic organizations may have obtained.

But what, then, was the stimulus for settlement in the Nemea valley during the Bronze Age, when the very existence of any market economy is in doubt? Changes in technology and agricultural economy from the Late Neolithic to the Early Bronze Age may have facilitated a more successful exploitation of the land than previously.<sup>144</sup> During the Late Helladic period

<sup>143</sup> J. F. Cherry, "Pastoralism and the Role of Animals in the Pre- and Protohistoric Economies of the Aegean," in *Pastoral Economies in Classical Antiquity* (Cambridge Philosophical Society, Suppl. Vol. 14), C. R. Whittaker, ed., Cambridge 1988, pp. 6-34.

<sup>144</sup> P. Halstead, "Traditional and Ancient Rural Economy in Mediterranean Europe: Plus ça change?" *JHS* 107, 1987, pp. 77-87.

the deliberate desire of external areas to create a surplus of produce by encouraging agricultural production in the valley might partly explain the stability of Mycenaean settlement. The initial settlement during the late Middle Helladic period, however, certainly appears to have been promoted by other, more general, circumstances, perhaps connected with the overall increase in economic activity in the Aegean at this time. These hypotheses define important research objectives that focus on the important question of whether in pre-modern times there was production beyond subsistence within the study area.

Whether or not Nemea was directly controlled by external centers during the Bronze Age, the fact that times of considerable settlement in the area coincided with periods of complex social, economic, and political systems in the Argolid and the Corinthia shows that the fortunes of settlement have been dependent on circumstances external to the valley. Social concerns may have played a major role. For example, small settlements like Tsoungiza probably depended upon exchange of marriage partners to sustain their populations. The very survival of the community may have depended upon membership in regional social systems. This may explain how settlement in the area could have been viable at times in the past, in particular during the Middle Neolithic, when it would be difficult to argue that opportunities for profit making in regional market economies were a motivation for expanded settlement or more intense land use.

It is already clear, however, that the specific environment of the Nemea area is likely to have itself played an important role in determining the past population trends and settlement patterns. Our own studies confirm the results of other geomorphological investigations in the northeast Peloponnesos, which indicate that for the most part the Holocene landscape has been remarkably stable;<sup>145</sup> there is little evidence that the valley has been subject to catastrophic environmental changes that would have inhibited settlement. The natural landscape appears to have been significantly altered only within the later Neolithic or Early Bronze Age by extensive erosion, perhaps, at least in part, precipitated by cultural activities such as deforestation and overgrazing.

Nonetheless, there remain micro-environmental factors that may partly account for the radical changes in land use that have followed on the collapse of complex regional systems. We know that in early modern times it has been and continues to be necessary to drain the main valley of Nemea by clearing natural drainage channels; previously much of the land had become swampy (and possibly malarial). Likewise, it is clear from geomorphological investigations that similar conditions were present at times in antiquity.<sup>146</sup> It is likely that after a period of abandonment the re-establishment of a successful agricultural system on the valley floor required considerable investment in manpower to recreate suitable drainage for agriculture in the valley; such seems to have been the case during the Early Christian

<sup>145</sup> T. H. Van Andel, C. N. Runnels, and K. O. Pope, "Five Thousand Years of Land Use and Abuse in the Southern Argolid, Greece," *Hesperia* 55, 1986, pp. 103-128; Van Andel and Runnels (footnote 13 above); E. Finke, *Landscape Evolution of the Argive Plain, Greece: Paleoecology, Holocene Depositional History, and Coastline Change* (diss. Stanford University 1988).

<sup>146</sup> Swamps are noted on the present geological maps of the area, and we have inspected and cored them in the Kleonai, Nemea, and Phliasian valleys, and in the basin of Stymphalos. The questions posed here regarding the viability of settlement are equally applicable for these areas, all of which, including the higher plain of Pheneos, supported Classical-period *poleis*.



and Byzantine periods, to judge from evidence from the Sanctuary.<sup>147</sup> These were periods of relatively high population throughout the valley; during periods of smaller and dispersed population, settlers probably could not muster the strength necessary for such an activity, and their settlements may have endured only briefly.

Continuing geomorphological investigations in tandem with ethnohistorical research promise to document these natural phenomena more fully. Such environmental limitations, if they played a significant role in the past, provide only partial answers to the question of why the valley never became a major center of population during either the Bronze Age or historical times. Clearly size and, perhaps more important, location, were other factors in this equation, for in all periods for which we have reasonably sufficient information, the neighboring Kleonai and Phlius valleys always outstripped the Nemea Valley in agricultural development and in the emergence of centers of power. Perhaps only after the prior establishment of centers outside the area of the valley of Ancient Nemea have adequate human resources been available to make permanent occupation in the valley possible and attractive. If so, it is perhaps easier to understand why settlements at Nemea have never truly broken the yoke of dependence that has bound them to their neighbors for the past four millennia. The valley's fortunes have, it seems, always reflected those of larger systems around it; its development can only be understood in context of the larger worlds of which it has been a part.

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<sup>147</sup> Miller, 1975, p. 155, pl. 37:f.



## APPENDIX: CERAMICS OF THE HISTORIC PERIOD

(PLATES 96 and 97)

The relative isolation of the area surveyed, as documented by its ceramic remains, has already been mentioned (p. 610 above). This Appendix presents a brief overview of the pottery evidence that supports those statements and coincidentally illustrates the value of surface collections for the study of wider economic issues.<sup>148</sup> The loss of the precision provided by stratigraphic control and poor preservation cannot be underestimated; it is, however, at least partially offset by the considerable gain in geographic coverage which allows the researcher, viewing the ceramics of an entire region as an entity and freed from the natural distortion caused by the particulars of individual sites, to speak with some authority about local fabrics and over-all patterns of import into an area.

For chronological and fabric classification we have fortunately been able to draw on the published results of extensive excavations at ancient Corinth and Argos, the two major centers between which the study area lies, as well as the largely unpublished finds from the excavations at the Sanctuary of Zeus at Nemea kindly made available to us by Professor Stephen G. Miller. In attempting to differentiate strictly local products, namely those produced in the area surveyed or at near-by local centers like Kleonai, from material originating near by, in the Corinthia and the Argolid, we have encountered several difficulties. Strong stylistic influence exerted by these two dominant centers sometimes resulted in a *koine* of style and technique throughout the northeastern Peloponnesos, a circumstance that makes it extremely hard to distinguish local manufactures. The situation is further complicated by our imperfect knowledge of the products of Argos itself, of other Argive sites, and especially of the local centers at Phlius and Kleonai, both as yet barely explored. Furthermore, the geological similarity between Nemea and the territories of its neighbors prevents differentiation of fabrics.<sup>149</sup> Initial study suggests that some fabrics thought prior to the start of the project to be Corinthian or Argive may also have been manufactured in the study region, while in some periods distinct local styles and fabrics can be recognized. The two new kilns that we have identified (p. 609–610 above) prove local production during some periods.

<sup>148</sup> See footnote 56 above for acknowledgment of the help provided by many scholars without whom this report would not be possible. I am especially indebted to Professor Kathleen Slane, who regularly consulted on pottery of the Roman and other periods during the 1984–1987 seasons, and to Thomas Strasser and Effie Athanassopoulou for assistance in the Nemea Museum. This report is based largely on work conducted at Nemea in the summers of 1984–1986. I am grateful to Professors G. Roger Edwards and Slane for their comments on earlier versions of this text.

The prefix "S" distinguishes catalogue numbers of the Survey from those from the excavation on Tsoungiza Hill. Numbers starting with three or fewer digits are from sites (e.g., S 505-2-4 is from Site 505); those with four-digit prefixes starting with 9 were collected from tracts (e.g., S 9556-2-75 is from Area V, Sector 56).

<sup>149</sup> Cf. Biers, 1971, pp. 401–402 on the difficulties of distinguishing the fabric of Phlius from those of Corinth and Argive sites. He and other scholars seem to apply the term "Argive" loosely to products from various centers in the Argive plain.

The earliest find after the Bronze Age is the conical base of a Protogeometric skyphos or cup of a type common in the Argolid (Fig. 22:a).<sup>150</sup> Not much later are two vessels apparently from a grave at Phlius: an almost complete painted aryballos of the Early or Middle Geometric period (Fig. 22:c, Pl. 96:a, right),<sup>151</sup> similar to examples from the Corinthia, and an unpainted handmade "Argive Monochrome" version of the same shape (Fig. 22:b, Pl. 96:a, left).<sup>152</sup> From the ash altar of Zeus Apesantios on Mt. Phoukas were collected several thousand small fragments, many in a Geometric style of Corinthian character (Fig. 22:d, e).<sup>153</sup>

In the Archaic and subsequent periods the finds are more widely dispersed and show a greater range. The new votive deposit from Phlius (p. 613 above) strengthens the case for local production of pottery and figurines there during the Archaic and Classical periods. Unlike the deposit excavated at Phlius in 1925, in which the majority of the figurine types are male, in the new one all 30 fragments that are well-enough preserved for identification seem to come from seated or standing female types.<sup>154</sup> Eleven are handmade, either bird-faced heads or lower portions of seated females, and can be dated to the seventh and sixth centuries B.C. (Pl. 96:b).<sup>155</sup> The remainder, moldmade and mostly flat backed, come from standing female types of the 6th and 5th centuries B.C.<sup>156</sup> Of the later examples, one (S 9413-2-142, Pl. 96:c)<sup>157</sup> belongs to a Corinthian mold type which does not occur in contexts dated before the second half of the 5th century B.C., while a head with polos

<sup>150</sup> S 9372-2-8. Painted inside only. Cf. B. Wells, *Asine*, II, iv, *The Protogeometric Period: Catalogue of Pottery and Other Artifacts, Part 3: Results of the Excavations East of the Acropolis 1970-1974*, Stockholm 1983, pp. 188, 201-202, 208.

<sup>151</sup> S 9413-2-468; the fabric is pale with paint that adheres well; cf. J. N. Coldstream, *Greek Geometric Pottery: A Survey of Ten Local Styles and Their Chronology*, London 1968, pp. 93-95, pl. 17:b, c; the sequence postulated by P. Lawrence ("Five Grave Groups from the Corinthia," *Hesperia* 33, 1964 [pp. 89-107], pp. 90-91, note 5) may not take account of local variation, especially as the type occurs also in the Argolid.

<sup>152</sup> S 9413-2-476; cf. S. S. Weinberg, *Corinth*, VII, i, *The Geometric and Orientalizing Pottery*, Cambridge, Mass. 1943, nos. 16-18, p. 7, 51, p. 15, 66, p. 18, pls. 2, 9, 10; Lawrence (footnote 151 above), M3, pp. 90-91, pl. 17; N. Kourou, "A propos de quelques ateliers de céramique fine, non tournée du type 'Argien Monochrome'," *BCH* 111, 1987 (pp. 31-51), p. 35.

<sup>153</sup> Fig. 22:d: S 306-2-29, from the wall of a closed shape; Fig. 22:e: S 306-2-23; jar neck, probably Middle Geometric.

<sup>154</sup> For the 1925 deposit, see Biers, 1971. In the new deposit another 31 fragments probably from figurines of the same types include probable chair legs, laps of seated figures, struts, and pieces too worn for certain identification.

<sup>155</sup> S 9413-2-287, S 9413-2-305, S 9413-2-280, S 9413-2-309, S 9413-2-301. Cf. Biers, 1971, nos. 76-82, pp. 418-419. M. Guggisberg ("Terrakotten von Argos. Ein Fundkomplex aus dem Theater," *BCH* 112, 1988 [pp. 167-234], pp. 170-173) now argues that the production of such figures at Argos begins no earlier than the 6th century B.C.

<sup>156</sup> At least one hollow-backed example has been identified, S 9413-2-288 (not illustrated). Given the longevity and conservatism of coroplastic types, the possibility that some were made somewhat later cannot be excluded.

<sup>157</sup> Cf. A. N. Stillwell, *Corinth*, XV, ii, *The Pottery Quarter: The Terracottas*, Princeton 1952, Class X, nos. 8, 9, 10, p. 90, pl. 14, Spes type IIA.



FIG. 22. Survey, ceramics, Geometric: a, S 9372-2-8; b, S 9413-2-476; c, S 9413-2-468; d, S 306-2-29; e, S 306-2-23. Archaic-Classical deposit from Phlius: f, S 9413-2-197; g, S 9413-2-219; h, S 9413-2-224; i, S 9413-2-202; j, S 9413-2-227; k, S 9413-2-270; l, S 9413-2-211; m, S 9413-2-212

(S 9413-2-307, Pl. 96:c)<sup>158</sup> is related to Corinthian types generally found in Classical contexts. Struts applied to the backs of several Archaic molded figurines (Pl. 96:d)<sup>159</sup> represent a local, quite possibly Phliasian, innovation.

Pottery from this deposit includes fine, painted, and votive pieces, along with a few utilitarian shapes and fabrics. In contrast to the 1925 deposit, not only miniatures but also full-size shapes are well represented. While Corinthian imports occur, much of the pottery seems local and finds close parallels in the 1925 deposit, at the Agamemnoneion at Mycenae, and in the Sanctuary of Zeus at Nemea. Many of the Archaic shapes represented are connected with the drinking and serving of wine, including kraters (Fig. 22:f),<sup>160</sup> kantharoi (Fig. 22:g, h),<sup>161</sup> kalathoi (Fig. 22:i),<sup>162</sup> and oinochoai (Fig. 22:j).<sup>163</sup> Other fragments (Fig. 22:k, l)<sup>164</sup> probably come from Classical versions of the cup and krater forms. While the paint used on many pieces is fugitive, many others were probably left plain; examples like the unpainted, semicoarse base of a closed(?) form (Fig. 22:m)<sup>165</sup> probably represent survivals of the Argive Monochrome tradition and are not easily dated.

Archaic and Classical painted and black-glazed pottery was certainly imported into the region from Corinth and Attica, although small fragments are not always easily distinguished from local and Argive wares. Of the many examples a few warrant special comment in this context. Classical black-glazed fragments seem to belong to a Classical Attic mug that was discolored by burning (Fig. 23:a);<sup>166</sup> however, a virtually complete plate from the

<sup>158</sup> Cf. *ibid.*, Class VIII, 54, p. 78, pl. 14; Class X, nos. 1, 2, pp. 88–89, pl. 15, nos. 24, 27, 28, 30, 32, 33, pp. 92–94, pls. 15, 16; Class XI, no. 1, p. 76, pl. 17, and the protomes Class XII, e.g. no. 12, pp. 100–101, pl. 19; on their dating, p. 85.

<sup>159</sup> S 9413-2-300, S 9413-2-310, S 9413-2-295, S 9413-2-187, S 9413-2-319, S 9413-2-293, S 9413-2-290. Such struts are applied to moldmade figurines of several types from the 1925 deposit and to standing female figurines from the Argive Heraion; Biers, 1971, pp. 419–420 and nos. 86–91, 99, pp. 420–422; C. Waldstein and G. H. Chase, "The Terraeotta Figurines," in *The Argive Heraeum*, II, C. Waldstein, ed., Boston 1905 (pp. 3–44), p. 32, nos. 135 (fig. 56) and 136 (3 examples, none illustrated). The examples from the Heraion may be Phliasian imports. A uniform soft, pale gray fabric which resembles Corinthian is used for all figurines in the new deposit except S 9413-2-143 (not illustrated), which is of a hard, red fabric.

<sup>160</sup> S 9413-2-197, interior and exterior covered with brown-to-black paint, with crazing. The kraters seem like those from the Agamemnoneion at Mycenae and the miniatures in the 1925 Phlius deposit: Cook, pp. 41–43, and Biers, 1971, nos. 13 and 14, p. 405, pl. 86.

<sup>161</sup> Fig. 22:g: S 9413-2-219, perhaps originally painted; cf. the elaborated handles in the 1925 deposit, Biers, 1971, no. 46, A–D, p. 414, pl. 89. Fig. 22:h: S 9413-2-224, painted brown in and out; cf. Biers, 1971, nos. 20 and 21, p. 407, pl. 86; S. G. Miller, "Excavations at Nemea, 1980," *Hesperia* 50, 1981 (pp. 45–67), pp. 64–65, pl. 24:f; and Cook, nos. 4–14, pp. 42–44.

<sup>162</sup> S 9413-2-202; cf. Cook, no. B27, pp. 46–47, fig. 21, nos. B26 and B28, pl. 19 and Miller, *op. cit.*, pp. 64–65, pl. 24:d.

<sup>163</sup> S 9413-2-227, perhaps an oinochoe or an open form; red paint outside; interior possibly with white slip, or unglazed. Cf. the angular forms of the cup and bowl from the Agamemnoneion: Cook, nos. B19 and B22, p. 47, fig. 20 and the miniature cups from Phlius: Biers, 1971, no. 29, p. 408, pl. 87.

<sup>164</sup> Fig. 22:k: S 9413-2-270, rim of a small krater or kantharos; thin, crazed brown paint inside and out. Fig. 22:l: S 9413-2-211, base of a small open shape; thin glaze inside and out.

<sup>165</sup> S 9413-2-212.

<sup>166</sup> S 505-2-4, two non-joining mug fragments with stamped and impressed decoration; soft fabric, mottled reddish yellow and gray; second half of the 5th century B.C. The forms and decoration find close parallels with Attic pieces: B. A. Sparkes and L. Talcott, *The Athenian Agora*, XI, *Black and Plain Pottery of the 6th, 5th, and 4th Centuries B.C.*, Princeton 1970, nos. 202 and 203, pp. 72–74, fig. 3, and no. 207, fig. 3, pl. 47.

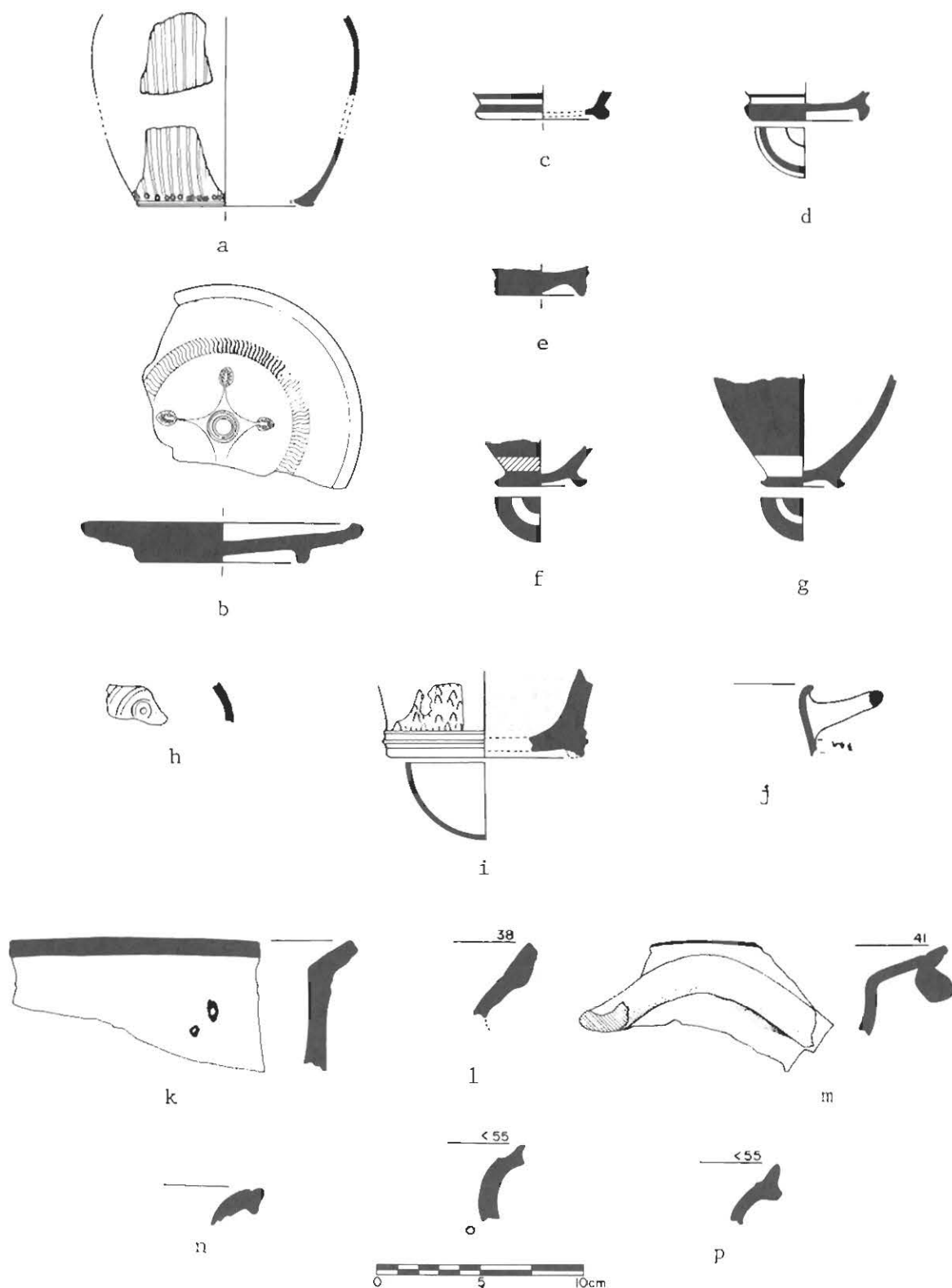


FIG. 23. Survey, ceramics, Classical Attic imports or imitations: a, S 505-2-4; b, S 9413-2-467. Archaic-Classical Argive imports: c, S 703-2-40; d, S 204-2-592; e, S 9111-2-52; f, S 9413-2-364; g, S 9413-2-365. Classical-Roman Argive imports: h, S 800-2-10; i, S 9111-2-45; j, S 101-2-37; k, S 501-2-10; l, S 701-2-31; m, S 501-2-60; n, S 512-2-587; o, S 9413-2-624; p, S 9443-2-584



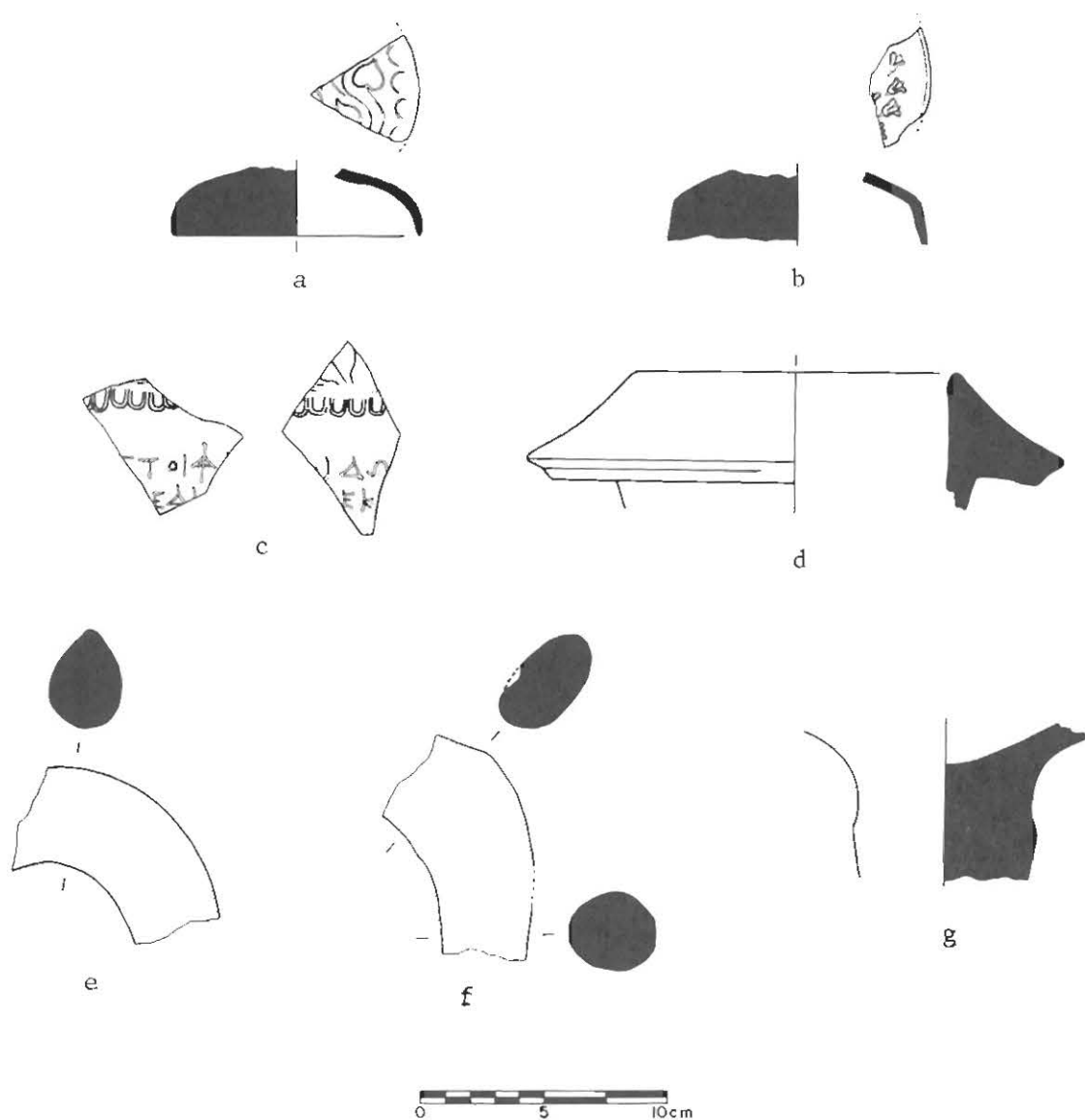


FIG. 24. Survey, ceramics, blister ware: a, S 9388-2-88; b, S 204-2-448; c, S 904-2-1, S 904-2-2. Amphoras: d, S 2-2-50; e, S 304-2-102; f, S 9111-2-13; g, S 101-2-41

disturbed cemetery at Phlius (Fig. 23:b),<sup>167</sup> close to Attic prototypes in form and decoration but executed in a uniform soft gray fabric similar to the mug, may indicate that local Classical workshops were making very close imitations of Attic ware. Far more common are black-glazed fragments of pale brown local and Argive fabrics like the bases of cups, bowls,

<sup>167</sup> S 9413-2-467, from Phlius, plate with impressed palmettes and rouletting, soft gray fabric; 4th century B.C.; cf. Sparkes and Talcott, *op. cit.*, p. 147, fig. 10, pls. 36, 59.

and plates (Fig. 23:c-g)<sup>168</sup> datable to the 6th and 5th centuries B.C. Two hard-fired skyphoi covered with lustrous black glaze, one decorated with impressed ovules (Fig. 23:i),<sup>169</sup> the other with incised or impressed decoration (Fig. 23:j),<sup>170</sup> are likely to be products of Argos during the 4th century B.C. A Hellenistic moldmade bowl decorated with a Macedonian shield pattern can be added to the small group of this type made in Argos (Fig. 23:h).<sup>171</sup> Argive krater rims (Fig. 23:k-m)<sup>172</sup> of the later Classical and Hellenistic periods seem related to a form that appears in both fine and utilitarian wares in the later Hellenistic and Early Roman eras (Fig. 23:n-p).<sup>173</sup>

Although blister ware, a distinctive Classical hard-fired fabric, has been regarded as a Corinthian product, our discoveries may support the view of G. R. Edwards that it was also made elsewhere.<sup>174</sup> They include squat aryballoi, some with ribbed decoration as at Corinth<sup>175</sup> but also an example with incised ivy leaves bordered by arcs (Fig. 24:a).<sup>176</sup> A shoulder fragment, perhaps from an askos, is stamped with lilies (Fig. 24:b, Pl. 97:a).<sup>177</sup> Finally, two non-joining blond blister-ware fragments from the vertical wall of a large closed shape preserve parts of a two-line inscription incised before firing, bordered above by impressed ovules and incised ivy leaves (Fig. 24:c, Pl. 97:b).

a.     ].TO|Φ|  
          |ΕΔ|  
b.     ]|Ο|ΔΩ|  
          |.ΕΚ|

Although the text is too incomplete for restoration, the letter forms suggest a date between the second half of the 4th century and first half of the 3rd century B.C.<sup>178</sup>

<sup>168</sup> Fig. 23:c: S 703-2-40. Fig. 23:d: S 204-2-592. Fig. 23:e: S 9111-2-52. From Phlius: Fig. 23:f: S 9413-2-364 and Fig. 23:g: S 9413-2-365.

<sup>169</sup> S 9111-2-45; distinctive small rings of glaze on the interior, apparently left by the bursting of bubbles in the black-glaze slip, are paralleled on skyphoi from the Agamemnoneion: Cook, no. G7, pp. 59-60.

<sup>170</sup> S 101-2-37, with exaggerated horseshoe handles and incised or impressed decoration under black glaze; cf. Cook, pp. 59-60.

<sup>171</sup> S 800-2-10. Cf. G. Siebert, *Recherches sur les ateliers de bols à relief du Péloponnèse à l'époque hellénistique*, Rome 1978, DI.124 and DI.125, p. 39, pl. 20 and M. 99, p. 58, pl. 30; C. M. Edwards, "Corinthian Moldmade Bowls: The 1926 Reservoir," *Hesperia* 55, 1986 (pp. 389-419), pp. 393-395.

<sup>172</sup> I am indebted to Kathleen Slane for identifying this shape. Fig. 23:k: S 501-2-10, black glaze inside, on rim, and spilled on exterior, late Classical or Hellenistic. Fig. 23:l: S 701-2-31, thin black glaze inside, Hellenistic. Fig. 23:m: S 501-2-60, brown slip on exterior, Hellenistic(?).

<sup>173</sup> Fig. 23:n: S 512-2-587, thin red glaze; cf. Edwards, no. 705, p. 134, pl. 33; K. S. Wright, "A Tiberian Pottery Deposit from Corinth," *Hesperia* 49, 1980 (pp. 135-177), no. 104, pp. 156, 160; K. W. Slane, "Two Deposits from the Early Roman Cellar Building, Corinth," *Hesperia* 55, 1986 (pp. 271-318), no. 15, pp. 280-281. From Phlius, semi-coarse: Fig. 23:o: S 9413-2-624; Fig. 23:p: S 9413-2-584.

<sup>174</sup> Edwards, pp. 144-150 on blister ware, and p. 144, note 3 on the non-Corinthian examples from Nemea. For recent discoveries at Nemea see Miller, 1979 (footnote 51 above), pp. 80 and 92, pls. 23:a, 33:d; Miller, 1980, p. 196, pl. 46:f; Miller, 1982, p. 33, pl. 14:e. Preliminary reports indicate that large amounts of blister ware were discovered in the Aphrodiseion at Argos: G. Daux, "Chronique des fouilles et découvertes archéologiques en Grèce en 1967," *BCH* 92, 1968 (pp. 711-1136), pp. 1027-1028, 1030, fig. 12. I suspect that the origin of blister ware lies in the Argolido-Corinthian Argive Monochrome tradition with which it shares both the handmade technique and a marked preference for the aryballos shape.

<sup>175</sup> Edwards, pp. 146-148, pls. 35-36, 64.

<sup>176</sup> S 9388-2-88.

<sup>177</sup> S 204-2-448; for the shape cf. Edwards, pp. 146-148, pl. 64.

<sup>178</sup> S 904-2-1 and S 904-2-2. Note the non-cursive omega, small floating omicron, and phi with triangular

As mentioned above (p. 610), fragments of trade amphoras are relatively rare in comparison with other surveys. In the pre-Roman period, jars of Corinthian Type A appear to be the most common type (Fig. 24:d-g).<sup>179</sup> Much of the other coarse ware used from the Mycenaean to the early Hellenistic period (and later) appears to contain the same mudstone temper characteristic of Corinthian Type A amphoras and other Corinthian coarse wares,<sup>180</sup> although there is considerable range in the color of the paste. While some finished products were surely imported from Corinth, a good proportion may have been produced locally. Typical are an Archaic louterion base with a stamped band of rosettes alternating with leaves and tongues (Fig. 25:a, Pl. 97:c);<sup>181</sup> a Classical rim with dipinto  $\xi O \xi$ : (Fig. 25:b);<sup>182</sup> a Classical louterion rim (Fig. 25:c);<sup>183</sup> a virtually complete wide-mouth pithos rim with tongues impressed on the body (Fig. 25:g);<sup>184</sup> and pithoi decorated with applied straight and wavy bands, often in clay of contrasting color and sometimes with slip of contrasting color (Fig. 25:d, f).<sup>185</sup> A distinctive group of the latter that is hard fired and alternates between shades of orange red and blue black, often in as many as five layers in the core (Fig. 25:e),<sup>186</sup> should probably be connected to blister ware and the fabric of Classical

body. Cf. clay labels from the Sanctuary of Demeter at Corinth, incised before firing, tentatively dated by Stroud to the second half of the 4th and first half of the 3rd century B.C. (R. S. Stroud, "The Sanctuary of Demeter and Kore on Acrocorinth," *Hesperia* 37, 1968 [pp. 299-330], p. 328, pl. 98:h-k; A. H. S. Megaw, "Archaeology in Greece, 1964-65," *AR* 1964-1965 [pp. 3-31], p. 9, fig. 7) and the papyrus of Timotheos, *Persai*, where the distinctive triangular phi occurs, dated to the second half of the 4th century B.C. (E. M. Thompson, *An Introduction to Greek and Latin Palaeography*, Oxford 1912, pp. 105-109, chart pp. 144-145). Other inscriptions incised before firing on Corinthian drinking cups of the later 4th and 3rd centuries B.C. (Edwards, pp. 64-66, pls. 41, 42) use more cursive forms.

<sup>179</sup> Fig. 24:d: S 2-2-50, rim, 4th century B.C.; cf. C. Koehler, "Evidence around the Mediterranean for Corinthian Export of Wine and Oil," in *Beneath the Waters of Time: Proceedings of the Ninth Conference on Underwater Archaeology*, J. B. Arnold, III, ed., Austin 1978 (pp. 231-239), p. 232, fig. 1:e and p. 236. Fig. 24:e: S 304-2-102, handle, mid-5th to 4th century B.C.; cf. *ibid.*, p. 232, fig. 1:e; C. Koehler, "Corinthian Developments in the Study of Trade in the Fifth Century," *Hesperia* 50, 1981 (pp. 449-458), pp. 454-455, fig. 1:d. Fig. 24:f: S 9111-2-13, handle, 6th or early 5th century B.C.; cf. Koehler, 1978, p. 232, fig. 1:b and p. 236, and Koehler, 1981, pl. 98:d, e. Fig. 24:g: S 101-2-41, base, 5th to early 4th century B.C.; cf. Koehler, 1978, p. 454, pl. 98:g, h and P. B. Vandiver and C. G. Koehler, "Structure, Processing, Properties, and Style of Corinthian Transport Amphoras," in *Technology and Style: Ceramics and Civilization II*, The American Ceramic Society, Columbus, Ohio 1986 (pp. 173-215), p. 186, fig. 13.

<sup>180</sup> I. K. Whitbread ("The Characterisation of Argillaceous Inclusions in Ceramic Thin Sections," *Archaeometry* 28, 1986, pp. 79-88) argues that the temper in Corinthian products is mudstone. Examples from our survey have not yet been examined by a petrologist. Similar temper appears more finely ground in high-fired amphoras of the Byzantine and Frankish periods.

<sup>181</sup> S 400-2-10; cf. M. Iozzo, "Corinthian Basins on High Stands," *Hesperia* 56, 1987 (pp. 355-416), p. 393, fig. 4, pls. 74-77.

<sup>182</sup> S 204-2-441, pink-buff fabric.

<sup>183</sup> S 4-2-141; the pendent edge is painted with bands (from the top: black, reserve, red, reserve, black, reserve, red) that show little articulation with the molded forms. Cf. Iozzo (footnote 181 above), pp. 375 and 381, figs. 2 and 3.

<sup>184</sup> S 204-2-172; hard pink fabric.

<sup>185</sup> Fig. 25:d: S 401-2-20, pink paste with gray core, possibly white slipped. Fig. 25:f: S 9398-2-32, light-red paste with applied wave of refined white clay.

<sup>186</sup> S 101-2-21, applied bands of red clay, white slip covering the body and the applied bands.

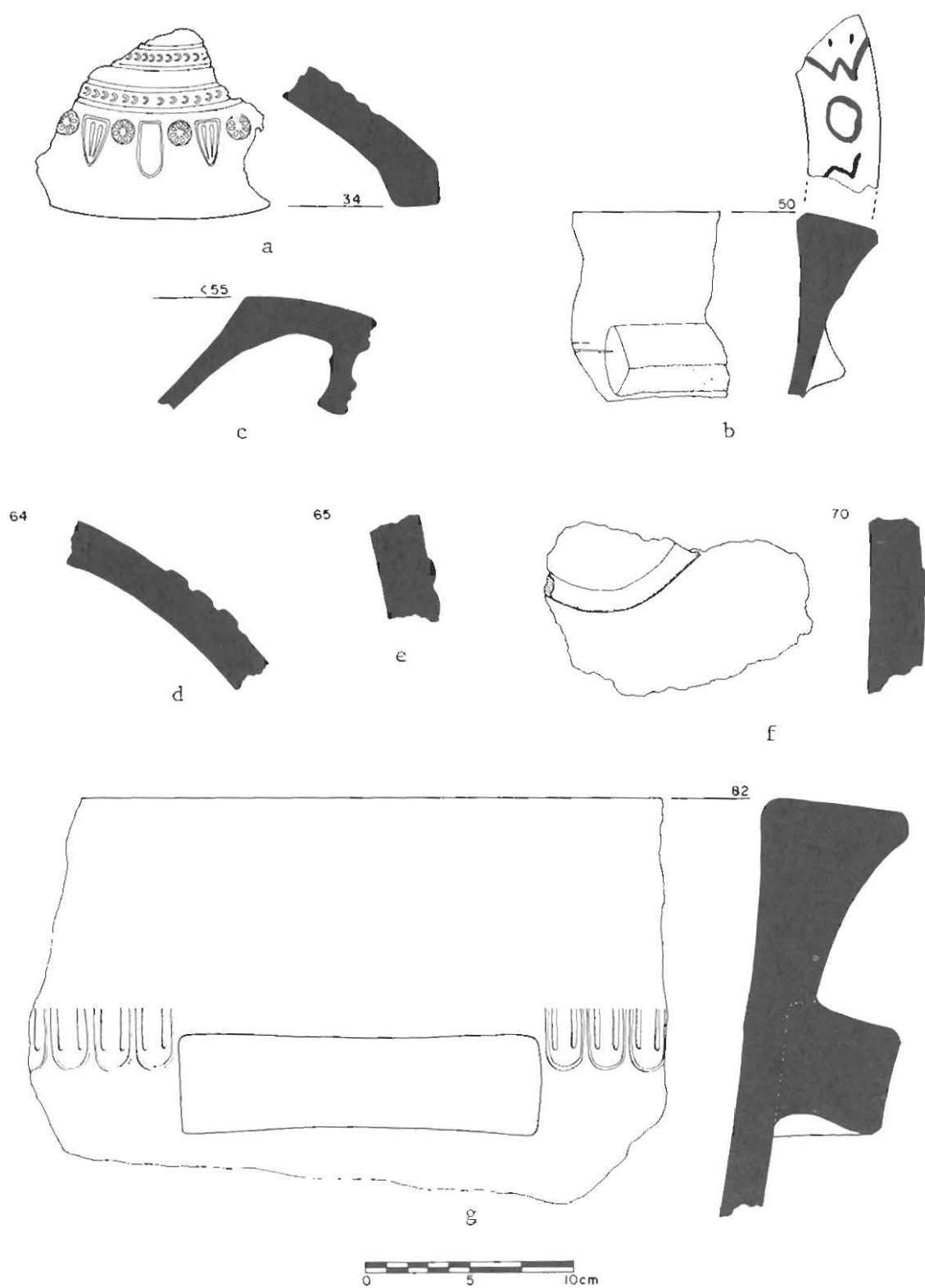


FIG. 25. Survey, ceramics, local wares: a, S 400-2-10; b, S 204-2-441; c, S 4-2-141; d, S 401-2-20; e, S 401-2-20; f, S 9398-2-32; g, S 204-2-172

Corinthian Type A amphoras; these three impermeable wares may have been developed specially for a local product, perhaps oil.<sup>187</sup>

Roman fine wares are notably rare. Our finds include such overseas imports as Italian sigillata (Fig. 26:a, b)<sup>188</sup> and African Red Slip wares (Fig. 26:c),<sup>189</sup> as well as more local products (Fig. 26:d).<sup>190</sup> Roman and Late Roman coarse wares include dolia (Fig. 26:g),<sup>191</sup> bowls (Fig. 26:h-j),<sup>192</sup> cooking pots (Fig. 26:e, f),<sup>193</sup> and a few identifiable transport amphoras. Part of an arch support for the vaulted firing chamber of a kiln from Site 512 (Pl. 97:d) is similar to those in the Roman kiln at Kokkinovrysi west of Corinth and in several such kilns in the province of Elis.<sup>194</sup> An abundance of Roman sherds and characteristic finger-marked tile at the site confirms the date of the kiln, although it is not clear whether it was used to fire pottery or tile.

Diagnostic Byzantine and Frankish glazed wares include Green and Brown Painted (Pl. 96:e),<sup>195</sup> Slip Painted (Fig. 27:a, Pl. 96:e),<sup>196</sup> Measles Ware, Metallic Ware, and those employing sgraffito and techniques of incision (Fig. 27:b, Pls. 96:f, g and 97:e).<sup>197</sup> A kiln used to fire Middle Byzantine or Frankish glazed pottery was recognized at Site 510 from fragments of hard-baked, coarse, yoke-shaped kiln separators (Fig. 27:c-e)<sup>198</sup> of a kind used in Byzantine pottery kilns of the 11th century at Corinth<sup>199</sup> and fragmentary conical "legs"

<sup>187</sup> Edwards, pp. 144-145; Koehler, 1978 (footnote 179 above), p. 231; Vandiver and Koehler (footnote 179 above), esp. pp. 204-214. I have benefited from discussion of these wares with Professors Carolyn Koehler and Kathleen W. Slane.

<sup>188</sup> Fig. 26:a: S 9413-2-214, from Phlius, Italian sigillata cup (Haltern 12) with mask appliqué. Fig. 26:b: S 7-2-118, Italian sigillata cup rim with applied S-spiral; cf. Slane, 1986 (footnote 173 above), no. 50, p. 285.

<sup>189</sup> S 9413-2-492, from Phlius; cf. J. W. Hayes, *Late Roman Pottery*, London 1972, pp. 112-118, ARS Form 67 or 68.

<sup>190</sup> S 7-2-213, Argive plate rim, late Hellenistic to Early Roman; cf. M. Sève, "Un puits argien du haut-empire," *Études argiennes* (BCH-Suppl. VI), Paris 1980 (pp. 295-321), no. 6, pp. 305-306, fig. 14.

<sup>191</sup> S 7-2-211.

<sup>192</sup> Fig. 26:h: S 9389-2-16, Late Roman folded-rim bowl. Fig. 26:i: S 7-2-123 and Fig. 26:j: S 504-2-127, both of the 5th century after Christ.

<sup>193</sup> Fig. 26:e: S 7-2-212, Early Roman; cf. Wright, 1980 (footnote 173 above), no. 72, p. 153, fig. 4. Fig. 26:f: S 400-2-33, Late Roman; cf. P. Aupert, "Objets de la vie quotidienne à Argos en 585 ap. J.-C.," *Études argiennes* (footnote 190 above), pp. 395-457, nos. 269-285b, p. 433, fig. 43.

<sup>194</sup> S 512-2-75, identified by K. Slane. The kiln at Kokkinovrysi was excavated in 1964 by G. Weinberg; see the brief accounts in G. Daux ("Chronique des fouilles et découvertes archéologiques en Grèce en 1964," *BCH* 89, 1965 [pp. 683-1007], pp. 689-690) and Megaw ([footnote 178 above] pp. 8-9). For kilns in Elis see H. Schleif and R. Eilmann, "Die Palaestra," in E. Kunze and H. Schleif, *IV. Bericht über die Ausgrabungen in Olympia*, Berlin 1944 (pp. 8-31), pp. 23-26; J. P. Michaud, "Chronique des fouilles en 1970," *BCH* 95, 1971 (pp. 803-1067), pp. 905, 909, figs. 225, 226; and T. K. Karagiorga, «Κεραμεικὸς κλίβανος ἐν "Ηλίδι», *AAA* 4, 1971, pp. 27-32.

<sup>195</sup> S 9388-2-37 (green paint); S 9388-2-46 (green glaze); S 9388-2-47 (green and brown glaze).

<sup>196</sup> S 9388-2-51, cup with button base, dotted-style slip painted, green glaze inside and out; cf. C. H. Morgan II, *Corinth, XI, The Byzantine Pottery*, Cambridge, Mass. 1942, no. 725, p. 244.

<sup>197</sup> Pl. 96:f: S 7-2-29; incised sgraffito in the medallion style; cf. *ibid.*, p. 149, fig. 125, probably by the same hand. Pl. 96:g: S 9142-2-182, yellow glaze; S 9142-2-177, strainer, green glaze over white slip; S 9142-2-165, incised sgraffito, green glaze; S 9142-2-179, brown stripes over white slip; S 9142-2-172, sgraffito, green glaze; S 9142-2-175 (Fig. 27:b), incised sgraffito, green glaze. Pl. 97:e: S 7-2-31; incised fish, white slip, yellow-green glaze.

<sup>198</sup> Fig. 27:c: S 510-2-77. Fig. 27:d: S 510-2-79. Fig. 27:e: S 510-2-15.

<sup>199</sup> Morgan (footnote 196 above), pp. 21-22, fig. 17:j-1.



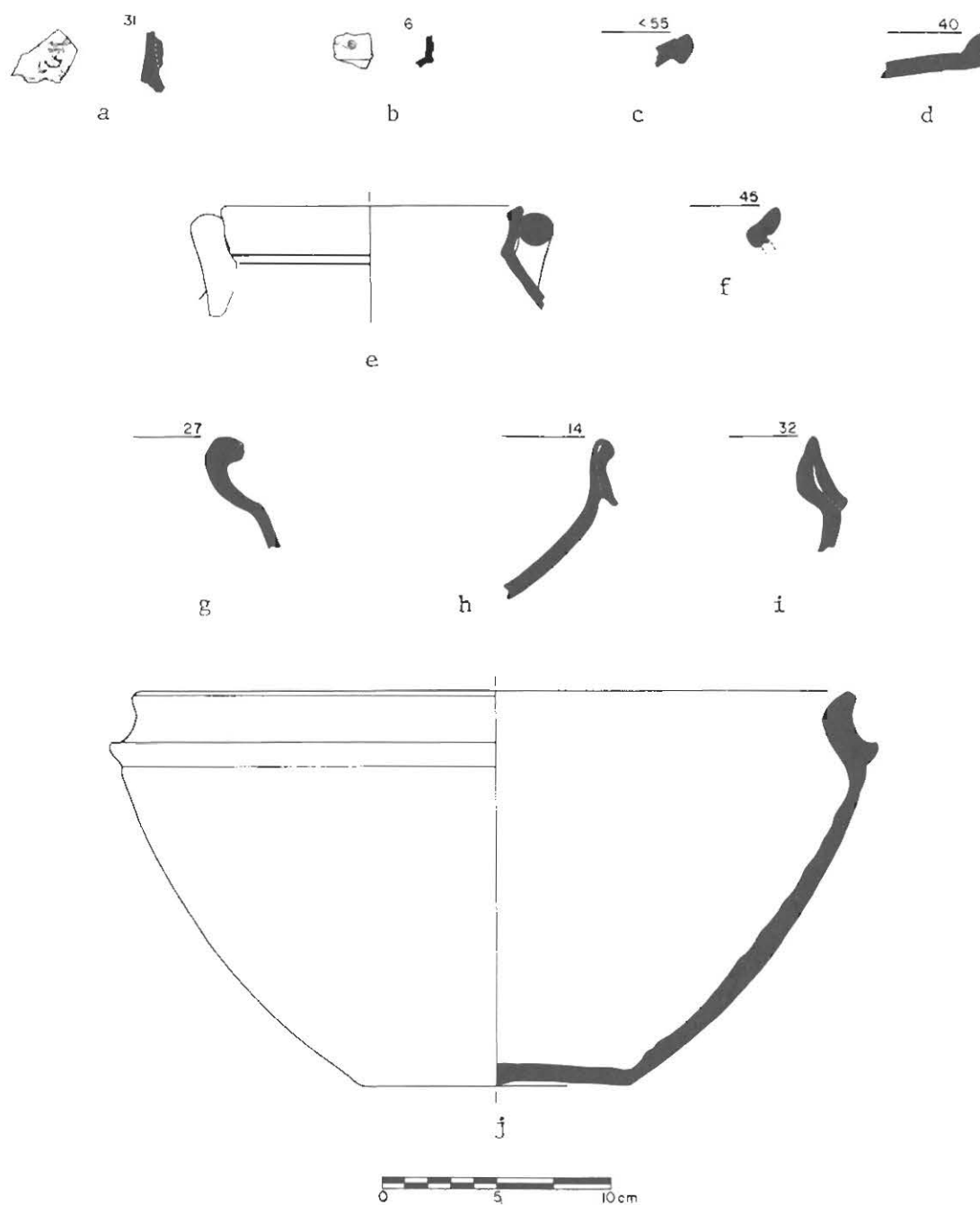


FIG. 26. Survey, ceramics, Roman fine wares: a, S 9413-2-214; b, S 7-2-118; c, S 9413-2-492; d, S 7-2-213. Roman coarse wares: e, S 7-2-212; f, S 400-2-33; g, S 7-2-211; h, S 9389-2-16; i, S 7-2-123; j, S 504-2-127

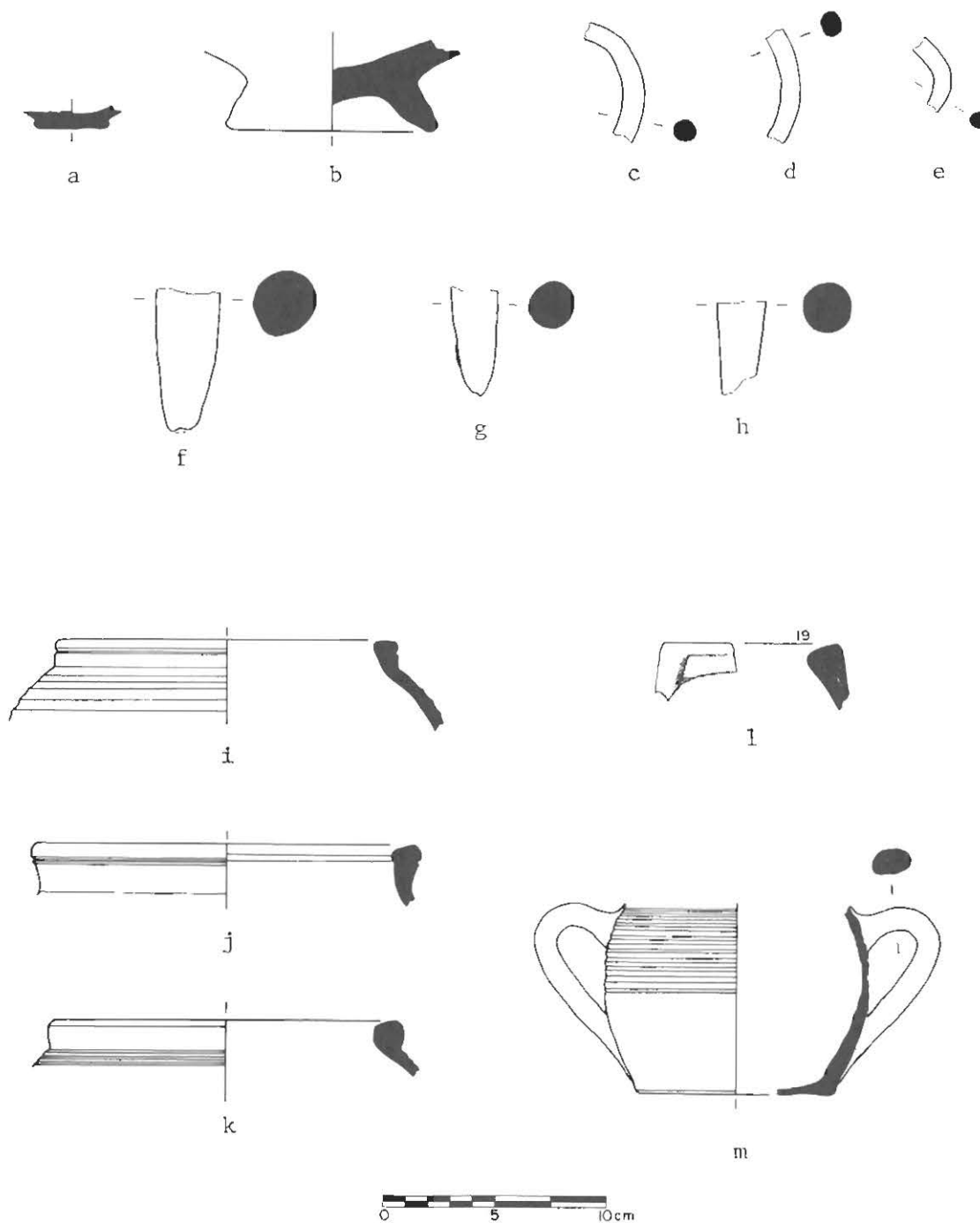


FIG. 27. Survey, ceramics, Byzantine and Frankish: a, S 9388-2-51; b, S 9142-2-175; c, S 510-2-77; d, S 510-2-79; e, S 510-2-15; f, S 510-2-43; g, S 510-2-108; h, S 9388-2-28; i, S 502-2-76; j, S 9339-2-17; k, S 203-2-103; l, S 7-2-308; m, S 9110-2-3

of the same fabric to which small patches of glaze occasionally adhere (Fig. 27:f–h, Pl. 96:e, bottom);<sup>200</sup> the latter must be kiln supports, and similar pieces were recently excavated in Mediaeval kiln debris at Corinth.<sup>201</sup> Glazed sherds (Pl. 96:e, top) which might have been made in the kiln include slip-painted fragments in the dotted and linear styles, Green and Brown Painted, and fine and wide sgraffito styles, all with close parallels at Corinth.<sup>202</sup> Byzantine and Frankish matt-painted wares are found, including monochromatic (Pl. 97:f)<sup>203</sup> and polychromatic (Pl. 96:h)<sup>204</sup> varieties, the latter employing red and white as well as the more common black paint on a smooth red ground. Middle Byzantine cooking pots are among the most abundant and diagnostic finds (Fig. 27:i–m; Pl. 96:e, top).<sup>205</sup>

In summary, preliminary analysis of ceramic finds indicates that during the historic period the region around Nemea depended primarily on Corinth, Argos, and other near-by or strictly local centers for most of its ceramic materials. Imports are strikingly rare in all periods, a pattern that seems to hold equally for fine wares, coarse wares, and transport amphoras. The survey has produced important evidence of local production throughout this long period. That Phlius produced its own pottery and figurines during the Archaic and Classical periods is indicated by the distinctive fabric and style of materials from the new votive deposit there; kiln debris of the Roman and Mediaeval periods provides indisputable evidence for local production at several sites in the region during later times. Local affinities are observed in the region's fondness for blister ware during the Classical and Hellenistic periods, whether or not that distinctive ware was manufactured there or brought in from Corinth and Argos or other near-by centers.

At this time it is not possible to differentiate between rural and urban use of pottery within the area except to observe greater diversity at Phlius and other large centers. When viewed as a region, however, our discoveries stand out, especially when compared with results of similar surveys in other parts of Greece, notably on the island of Keos and in the Southern Argolid. While distance from the sea and the difficulty of overland transport might help explain why the inland region received relatively fewer imports during historic times than these island or coastal areas, no doubt other factors played a role in the apparent isolation of the Nemea region.<sup>206</sup> This geographical factor may be illustrated by contrasting

<sup>200</sup> Pl. 96:e, bottom: S 9388-2-28, S 9388-2-78, S 9388-2-72, S 9388-2-74. Fig. 27:f: S 510-2-43. Fig. 27:g: S 510-2-108 (glaze adhering to the side). Fig. 27:h: S 9388-2-28.

<sup>201</sup> Excavated in 1986; I am grateful to Dr. C. K. Williams, II for bringing this material to my attention and allowing me to examine it briefly during its initial processing.

<sup>202</sup> Pl. 96:e, top: S 9388-2-37; S 9388-2-46; S 9388-2-47; S 9388-2-51; S 9388-2-76; cf. Morgan (footnote 196 above), pp. 95–103.

<sup>203</sup> S 9134-2-1; cf. T. S. MacKay, "More Byzantine and Frankish Pottery from Corinth," *Hesperia* 36, 1967 (pp. 249–320), pp. 279–288; M. Piérart and J.-P. Thalmann, "Céramique romaine et médiévale," *Études argiennes* (footnote 190 above), nos. B37 and B41, p. 480; nos. D9, D10, and D11, p. 482.

<sup>204</sup> S 9556-2-75 and S 9556-2-76; cf. MacKay (footnote 203 above), nos. 64, 70–72, p. 280.

<sup>205</sup> Fig. 27:i: S 502-2-76, rim. Fig. 27:j: S 9339-2-17, rim. Fig. 27:k: S 203-2-103, rim. Fig. 27:l: S 7-2-308, rim with attached lugs. Fig. 27:m: S 9110-2-3, lacking rim. Pl. 96:e, top: S 9388-2-60. For the group cf. MacKay, *op. cit.*, pp. 288–300.

<sup>206</sup> Sutton in Cherry *et al.*, *Archaeological Landscape*; Sutton in Munn, Pullen, and Runnels (footnote 63 above).

the dearth of transport amphoras other than Corinthian in the Nemea region during the first millennium B.C. with their relative abundance on Keos. The survey of northwestern Keos yielded a large number and variety of amphoras during this period, but the islanders, living in an area of restricted natural resources, were highly dependent upon imports for their survival. The richer and more diverse natural resources of the Nemea region may have provided a base of self-sufficiency that did not require heavy dependency on external areas. This of course is an issue that has been of general interest to the project as a whole and cannot be answered merely by study of the ceramic finds from the survey. That such questions, however, among others, can be defined and explored in this preliminary study well illustrates the utility of systematically gathering and studying surface collections.

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a. View of the Nemea Valley from the northeast, taken from Mt. Phoukas



b. Tsoungiza, view of EU5 from south



c. Tsoungiza, view of EU7 from south



a. EU5, "burnt room" at north, bowls from floor. Top: 757-2-4, 757-2-6, 757-2-7, 757-2-5.  
Bottom: 757-2-9, 757-2-10, 757-2-2, 757-2-8



T'soungiza

b. EU5, Pit 56, vessels. Top: 1948-2-4, 1948-2-1. Bottom: 1948-2-3, 1948-2-2, 1948-2-5



c. EU5, lid of steatite vessel 745-8-1



f. EU5 (Trench R-IV, near Pithos No. 5, 1927), terracotta mold (photo Harland archives)



d. EU5, bronze dagger 2016-5-1



e. EU5, lead stamp 890-5-1



g. EU5 (Trench P, the "well", 1927), incised pedestal-footed shallow cup (photo Harland archives)



a. EU1 = EU7, floor deposit from front room of southwestern building.  
Top: P 716, P 724, P 740, P 722. Bottom: P 741, P 723, P 708, P 685



Tsougiza

b. EU10, LH IIA deposit. Top: 1767-2-3, 1759-2-2. Bottom: 1774-2-2, 1776-2-1, 1767-2-1

c. EU9, fragment of figure 1581-2-1

f. EU9, "breadmaker" figurine 1559-2-1



c. EU2, floor deposit. Top: 308-2-9, 309-2-3, 308-2-10. Bottom: 308-2-7, 308-2-12, 308-2-3



d. EU2, floor deposit: askos 223-2-2



a. S 9413-2-476, S 9413-2-468



b. S 9413-2-287, S 9413-2-305, S 9413-2-280, S 9413-2-309, S 9413-2-301



c. Top: S 9413-2-307, S 9413-2-288.  
Bottom: S 9413-2-292, S 9413-2-306, S 9413-2-284, S 9413-2-313, S 9413-2-142



d. Top: S 9413-2-300, S 9413-2-310, S 9413-2-295, S 9413-2-187.  
Bottom: S 9413-2-319, S 9413-2-293, S 9413-2-290



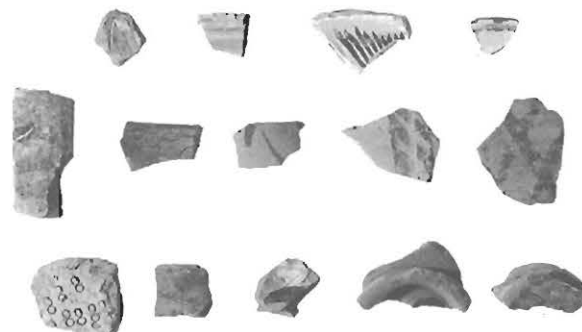
e. Top: S 9388-2-37, S 9388-2-46, S 9388-2-47, S 9388-2-51, S 9388-2-76, S 9388-2-60. Bottom: S 9388-2-28, S 9388-2-78, S 9388-2-72, S 9388-2-74, S 9388-2-6



g. Top: S 9142-2-182, S 9142-2-177, S 9142-2-165, S 9142-2-175.  
Bottom: S 9142-2-179, S 9142-2-172



f. S 7-2-29



h. Top: S 9556-2-19, S 9556-2-28, S 9556-2-47, S 9556-2-20. Middle: S 9556-2-23, S 9556-2-50, S 9556-2-73, S 9556-2-75, S 9556-2-76.  
Bottom: S 9556-2-65, S 9556-2-29, S 9556-2-17, S 9556-2-23, S 9556-2-26



a. S 204-2-448



b. Left: S 904-2-1. Right: S 904-2-2



c. S 400-2-10



d. S 512-2-75



e. S 7-2-31



f. S 9134-2-1



## THE ATHENIAN AGORA

VOLUME XXIV

LATE ANTIQUITY: A.D. 267-700

By ALISON FRANTZ

with contributions by Homer A. Thompson and John Travlos

The Athenian Agora has long been recognized as a crucial site for the archaeology of Athens from the earliest habitation to the devastating Herulian destruction of A.D. 267. No systematic study of the subsequent centuries has appeared since Gregorovius' of 1889, when archaeological evidence was virtually unstudied. This book, the most recent in the *Agora* series, collects for the first time the archaeological and historical evidence for the area of the Agora in Late Antiquity, a period which spans the last flourishing of the great philosophical schools, the defeat of classical paganism by Christianity, and the collapse of the late Roman Empire.

The half-century of excavation in the Athenian Agora by the American School of Classical Studies has yielded the only substantial body of evidence for the Late Antique city. By that time, the Agora had lost most of its significance as a civic center and can be understood only as part of Athens as a whole. Therefore, although the primary focus of this volume is the material uncovered by the Agora excavations, the study also takes into account past and current discoveries elsewhere in the city. Alison Frantz discusses fortifications, streets, houses, temples, baths, shops, industrial establishments, and systems for water and sanitation, together with their associated finds, correlating archaeological, epigraphical, and literary evidence to present as comprehensive an account as available information now permits of the history and topography of the city in the years before A.D. 700. The course of Athenian construction and destruction is traced from the mid-3rd century through the Herulian invasion, the period of recovery in the 3rd and 4th centuries ending with the invasion of the Visigoth, Alaric, in A.D. 396, the 5th century, which saw the closing of the schools of philosophy by Justinian and the first Christian churches, and the gradual decline of the city until the Slavic invasion of the 580's, when Athens began an accelerated slide into oblivion. Special attention is paid to questions surrounding the history of the philosophical and rhetorical schools, the establishment of Christianity, and the removal of works of art from Athens to Constantinople.

A separate chapter by Homer A. Thompson offers the first detailed treatment of the Palace of the Giants and suggests a new interpretation of its purpose. The appendix by John Travlos provides a meticulous description of the Post-Herulian Wall, its course, and its construction.

The book is fully illustrated with plans, drawings, and photographs and contains an index of literary and epigraphical sources in addition to a general index.

Published February 1989. xxii + 156 pp., 76 pls., frontispiece. Quarto. Cloth. \$65.00.

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## HESPERIA

Volume 59, Number 1

January-March, 1990

### PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE ON ARCHAIC GREEK ARCHITECTURAL TERRACOTTAS

Edited by NANCY A. WINTER

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## CORINTH

VOLUME XVIII, PART I

THE GREEK POTTERY

By ELIZABETH G. PEMBERTON

The final publication of the results of the American School excavations from 1961 through 1973 in the Sanctuary of Demeter and Kore on Acrocorinth begins with the presentation of the pottery of the Greek period. In this volume, Elizabeth G. Pemberton publishes the pottery used in the Sanctuary from the Protocorinthian period through 146 B.C.

A glossary of descriptive terminology is followed by twenty-eight shape studies. These studies not only trace the formal development of the types of vessels which are present but also consider the significance of patterns in the occurrence of Corinthian and imported wares and in the popularity of specific shapes with respect to the history and development of the Sanctuary and the activities carried on there. Over six hundred pieces, both whole vessels and fragments, have been selected for inclusion in two catalogues. Catalogue I presents eleven context groups consisting of material from votive pits, deposits of votive discards, and building fills which spans the Greek history of the Sanctuary. These groups reflect the architectural development of the complex and the types of votive and domestic pottery used in all periods, and at the same time they shed light on the cult activities at the Sanctuary. Catalogue II includes nearly five hundred pieces arranged by fabric and decoration. Fine and coarse wares in a wide range of Corinthian and imported fabrics are discussed. Examples of post-Classical phialai are the subject of a contribution by Kathleen W. Slane.

The pottery is fully illustrated with photographs and drawings of profiles and decoration. A concordance and lot list are included, as well as a bibliography for Corinthian findspots outside the Sanctuary and an index of findspots and proveniences. Indexes of decorative schemes, dipinti and graffiti, and painters supplement the general index.

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## HESPERIA SUPPLEMENT XXIII

HELLENISTIC RELIEF MOLDS FROM THE ATHENIAN AGORA

By CLAIREÈVE GRANDJOUAN

completed by EILEEN MARKSON and SUSAN I. ROTROFF

This volume treats an unusual group of terracotta molds found in the Athenian Agora. Similar molds are known from other sites in the Greek world, but the group in the Agora, consisting of over one hundred fragments, is by far the largest. The molds were used to produce small, rectangular relief plaques, but it is not known in what material or for what purpose they were made, since no finished plaque has ever been found. Grandjouan's study fixes the date of the Agora molds in the 4th and 3rd centuries B.C. and establishes their context in the world of Hellenistic decorative arts, drawing attention to the especially close connection of their iconographic repertory with the Atticizing luxury arts of the Black Sea region. The catalogue presents 110 pieces arranged by iconographic type. Photographs illustrate the fragments, frequently both mold and cast, and sketches by the author suggest reconstructions for several extremely fragmentary types. An appendix presents the evidence for an ancient kind of cake, commonly called the *plakounia*, which is known from literary sources and which appears in banquet reliefs and in other cultic contexts.

Published January, 1990. xiii + 73 pp., 2 figs. in text, 26 pls. Quarto. Paper. \$25.00.