The Rough Cilicia Ceramics Chronotype Database and Study Collection

The ceramic data presented in the archive represents the results of efforts by a number of specialists. Pottery collected in 1996-1997, was processed at the project's "ceramics laboratory" by Richard Rothaus, who created the project's Chronotype database system.[1] The heart of the Chronotype system is a flexible hierarchy and a system of classification designed to address the realities of field survey by focusing on readily identifiable characteristics of ceramics. Essentially, the ceramicist identifies a piece going as far down the hierarchy as possible. Each unique "stopping point" on the hierarchy is a Chronotype. When a piece is not recognized in the hierarchy a new Chronotype is created.[2] While compiling the project's Chronotype database in 1997, Rothaus simultaneously used the system to create a survey pottery Study Collection that the team has relied on to identify field pottery in later years. This collection attempts to maintain at least one example of every ceramic Chronotype the pedestrian team is likely to encounter in the field. While not perfect, the Study Collection now consists of more than 330 identifiable specimens representing a broad array of the ceramics that survive in the region.

The Chronotype system allows projects not only to process field finds quickly and efficiently, but it also allows for enhancements of identifications to cascade back through the previous years of work without having to re-read past collections of pottery.[3] The advantage of the Chronotype system is that nothing remains unidentified for long. As soon as the ceramicist begins to observe a recurring form in accumulating field collections, he can add it to the system. In more traditional ceramic reading techniques, a ceramic remains simple "coarse ware" or "fine ware" until it is eventually matched with an excavated, published example.[4] By using a flexible hierarchy that labels unique forms (even when not yet identifiable), Rothaus was able not only to recognize and develop a typology based on form and local fabric, but he was also able to update previous ceramic analysis to reflect the new typology.

Rothaus' Chronotype system has thus guided the ceramic work of the pedestrian team since 1997. This foundation was refined by Kathleen Slane during her visit to the survey later that season. Slane made some modifications to Rothaus' chronotypes but otherwise declared them to be consistent and correct. Attending the survey in 2000, E. Lyding Will identified several amphora fragments and greatly enhanced our understanding of locally produced forms and fabrics. John Lund visited the

1The Chronotype system used was designed and used first by the Sydney Cyprus Survey Project: Given et al. 1999, pp. 24–25; Meyer 2003; Meyer and Gregory 2003. It has since been used by the Rough Cilicia Survey, *The Sydney Cyprus Survey Project (SCSP), The Australian Paliochora-Kythera Archaeological Survey (APKAS), The Eastern Korinthia Archaeological Survey (EKAS), the Troodos Archaeological and Environmental Survey Project (TAESP), and the Pyla-Koutsopetria Archaeological Project (PKAP).*

2A typical identification example would proceed: this is Coarseware, this is the West Cilcia Fabric, this is a West Cilcia Fabric Stewpot, this is a West Cilcia Fabric Everted Rim Stewpot. The system does not require the origin, date or function of a vessel to be known; the system only requires similar pieces to be called by the same name.

3Something that is impossible in non-collection surveys in any event.

4To illustrate: in 1996 Rothaus quickly observed a series of frequently recurring coarseware stewpots in the collections. He initially labeled these as Stewpot A, Stewpot B, and so on. In truth, at least half the 1996 Study Collection was assigned temporary names in this manner. By 2005, Rothaus successfully refined these identifications to include specific items such as the "West Cilcia Fabric Small Stewpot" and "West Cilcia Fabric Everted Rim Stewpot." The Chronotype system thus enabled Rothaus to progress from his initial observations in 1996 to an eventual identification of more than 130 distinct forms of local coarse ware.

project that same season and brought to our attention some misidentified CRS forms as well as the presence of Sagalassos fine wares in our Study Collection. In 2001 Tamar Hodos analyzed our Geometric Era imitation Cypriot painted wares. The visits of these experts collectively strengthened the value of the Chronotype system. Rather than having to read through endless context bags, these experts were able to examine the Study Collection and in rapid order substantially increase our knowledge. Rothaus meanwhile rejoined the survey in 2000 and 2005 and together with Rauh has continued to refine and to expand the ceramics database and the Study Collection, taking new insights into account and distilling our ceramic data for eventual publication. Rothaus has also delineated typologies and fabric categories of locally produced coarse wares and common wares that have been preliminarily associated with kiln sites investigated during the survey. The resulting Rough Cilicia Ceramic Chronotype Database is arguably the most discrete coarse ware typology developed entirely from a surface survey collection.

All of these contributions have improved our understanding of the ceramic materials that exist in the survey area. At the same time it is evident that the project's ceramic research remains unfinished: several fine ware forms remain unidentified in the stored pottery collections, and the use chronology of most locally produced forms remains highly uncertain. Apart from Rothaus' refinement of the Study Collection and his organization of locally produced materials, the one consistent influence in this research has been Rauh's oversight of the collection process itself. Since 1996 Rauh has borne responsibility for the collection and processing of field pottery at nearly every site and/or survey transect investigated by the pedestrian team. Since specialists who attend the survey can identify only what Rauh and his field colleagues decide to "bag and tag" and to bring to the laboratory, for better or worse, the totals exhibited in Table One are the product of field analyses and selection processes formulated by the pedestrian team itself.

The Evolving Pedestrian Procedures Of The Rough Cilicia Archaeological Survey, 1996-2011

The process of determining what ceramics should be brought to the laboratory has undergone tremendous modification during the course of the field survey. In 1996 and 1997 the collection procedure was devised by the project’s first field director, Richard Blanton. Since 1998 it has been heavily influenced by the evolving objectives and methodologies of the project's latest field director, LuAnn Wandsnider. Collection areas have yielded to transect units; grab collections to systematic sherd flagging; "bag and tag' to the in-situ abandonment of processed pottery in the field.

In an effort to answer this question, a description of the evolving ceramic field processing procedures from the project's inception in 1996 until the last pedestrian field survey in 2011 seems mandatory.

PHASE ONE (1996-1997). Triaged Grab Collections In Urban Collection Areas.

Under the field direction of Richard Blanton the pedestrian team in 1996-1997 assumed the daunting task of obtaining ceramic collections at six large urban coastal sites, Laertes, Iotape, Selinus, Kestros, Nephelion, and Antiochia ad Cragum.[5] The process entailed the collection and triaging of large quantities of ceramic fragments by relatively uninformed survey participants under the direction of Rauh. Once site limits were determined, pottery collection at all urban and large rural sites occurred within designated “collection areas” of approximately 100m square, paced off

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5Rauh essentially inspected every collection area of every urban site except those conducted by Mette Korsholm at Iotape and Laertes in 1996.

and recorded by Blanton on 1:5000 topographical maps.[6] Generally one or two participants collected sherds in each collection area. Large urban sites such as Selinus and Antioch required as many as 16 collection areas to complete. In 1996 participants attempted to collect all significant sherds located within a defined area, including anything painted, decorated, profiled, molded, or textured, as well as anything with a preserved fragment rim, handle, or base, and/or anything that seemed at all interesting or unique. All collected pottery was 'bagged and tagged" according to site and collection area for processing on the grounds of the Alanya Museum. Purdue graduate, Angela Bowen, cleaned, coded, and organized all collected bags of pottery for later analysis by specialists.

Originally, Blanton and Rauh envisioned storage of these collections at the Alanya Museum. However, due to heightened restrictions on the storage of survey pottery at museum depots, they were informed at the outset of the 1997 season that the Alanya Museum could no longer store the field pottery. The team was encouraged to complete its ceramic work during the season and to return the sherds to their respective “locations” in the field. Although this difficulty was eventually resolved to everyone's satisfaction, it did affect the team's collection strategy during the 1997 season.[7] To accommodate the urgency of the situation, Rauh modified sherd collecting procedures by having all sherds collected within a given site collection area assembled in one place. He then "triaged" the collections to reduce them to smaller, “representative samples” through the elimination of redundant and/or nondiagnostic sherds.[8] Once triaged, the pottery was then "bagged and tagged' and taken to the "laboratory' in Gazipasha, where every sherd was cleaned and coded.[9] This approach, with a research objective initially focusing on presence/absence of specific forms across diachronic periods, combined with the emerging Chronotype system and Study Collection, proved remarkably effective. Rothaus attended the survey in August and Slane in September. Rothaus performed the preliminary work of processing the sherd collections and entering the coded sherds one by one into the database. He also designated sherds as either 'contextual" and therefore worthy of conservation or 'unreadable' and therefore ready to be discarded. During her visit Slane reviewed Rothaus' work and made adjustments to many of his identifications. She also added

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6Blanton also took a GPS reading of each Collection Area. The actual collecting was done by Rauh and participants.

7Ultimately, museum authorities agreed to conserve the project's ceramic Study Collection (which has remained at the museum ever since) and to permit storage of the context pottery at a location approved by the project's service representative. This agreement was achieved after Blanton left the survey project; hence, the misinformation he furnishes in his survey publication (Blanton 2000: 1, 78). The alternate storage solution, meanwhile, has borne its own difficulties, most notably, that the context bags stored at an undisclosed, unsecured location have been repeatedly vandalized by local inhabitants. The most flagrant instance occurred during the winter of 2004-2005 when several contexts bags were irretrievably lost. Rauh and Paige Rothaus were nonetheless able to reassemble most of the context collections, and the Alanya Museum officials agreed to store the context pottery where it has remained ever since. Since 2013 Rauh and his teammates have been reprocessing the surviving ceramics collections at the museum. It needs to be emphasized that the sherds contained in the Study Collection have been stored at the museum throughout the history of the survey, along with all recognizably significant ceramics and small finds.

8Diagnosic sherds were classified as those possessing recognizable forms, such as rims, handles, feet, bases, and/or recognizable surface treatment (slip, paint, incision, molding, relief, rope impressions, etc.). Diagnostic sherds also included all those exhibiting non-local fabrics. Rothaus eventually encouraged Rauh to collect samples of locally produced body sherds exhibiting minimal surface treatment, such as "smooth walled' or "wheel ridged," to insure their potential use with chronological contexts. In addition to triaging, Rauh made an effort to review the collection work of team participants by walking every collection area personally to ensure the collection of all significant sherds.

9In addition, discarded sherds were generally photographed as a group to preserve some form of record.

several ceramic forms to Rothaus' Study Collection. Between the two of them, Rothaus and Slane processed and identified some 3500 sherds. A significant percentage of the pottery, perhaps 40%, was deemed unreadable and returned to the original sites by Rauh at the end of the season. The vast majority of sherds remain bagged according to site and collection area and stored as "context pottery." As noted above, the work of these scholars proved formative to the ceramic research of the survey project. The resulting database and Study Collection have formed the backbone of the project's survey data ever since. Although reduced from a quantifiable perspective, the ceramic data of the 1996-1997 seasons presented a highly accurate chronological analysis of the pottery recovered in specifically delineated areas at six urban sites. The identity of the sherds was verified by two ceramic specialists; as such the ceramic data for the 1996-1997 seasons remains the most reliable of the survey's aggregate totals, and the field collection technique proved highly effective.

One further observation requires mention regarding the rural field collections of 1996-1997. During the 1996 season Blanton conducted a coarse interval survey of the coastal and immediate hinterland areas between Selinus and Iotape, identifying 14 non-urban "sites." Collections at these sites were conducted in a "grab" format similar to those employed at the large urban sites. During the second half of the 1997 field season, the impetus to complete the pottery work forced Blanton and Rauh to reduce the size of the pedestrian team. Generally working with a skeleton team of 3-4 people, Blanton investigated rural areas of terrain between Selinus and Antiochia ad Cragum by walking the crests of the intervening coastal ridge. During the course of this pedestrian survey Blanton identified 20 additional rural sites. Given the short-handedness of staff, the time limitations, and the vast extent of investigated terrain, these ceramic collections tended to reflect preliminary samples intended merely to confirm the existence of rural sites. During subsequent seasons the survey team has managed to revisit all but one of these rural sites to conduct more exhaustive "recollections."

PHASE TWO (1998), systematic close interval survey with transect-level georeferencing and high storage tendency

The replacement of Blanton by LuAnn Wandsnider as project field director in 1998 brought dramatic changes to ceramic processing procedures at the pedestrian survey. During the 1998 season Wandsnider directed an intensive systematic survey along 20km of transects in the central portion of the Rough Cilicia study area (the Coastal Ridge), surveying 21 transects, representing 395 land parcels or survey units. Each survey unit was characterized and inventoried with respect to ceramic sherd density and type. In addition, ten small sites were located as were several features, including large areas with terracing. Like Blanton before her, Wandsnider employed 1:5000 topographical maps and GPS tracking devices to record her transects; otherwise, Wandsnider brought rigorous systematic procedures to the pedestrian survey.[10] Wandsnider designed survey units to sample areas differentially located with respect to previously identified sites as well as potentially different landscape elements (i.e., valley areas, hilltops, coastal slopes, inland slopes, potentially defensible hilltops). Establishing east-west trending survey transects, she employed a team of four to five walkers to inspect survey units (ca. 100m in area) with potentially high surface visibility (such as fields), using a transect interval that ranged from 10-15m.[11] Surveyors were responsible for walking a linear traverse and inspecting an area approximately 1.5m wide. For each transect unit Wandsnider recorded on survey forms ceramic sherd totals and the total length of the

10With respect to ceramic materials Wandsnider's objectives included the following: to collecting information on ceramic densities from landscape elements that were differentially located with respect to sites that vary by age, structural complexity, and/or location; to collect information on ceramic sherd attributes sensitive to deposition history; and to collect information about the differential distribution of ceramics of differing function.

11Within each unit subunits with different surface visibilities were identified, characterized, and separately surveyed. Attributes of the subunits such as information about landform, soil or sediments, surface visibility, vegetation, current use, as well as geographic location were recorded.

area traversed. Survey members collected all temporally diagnostic sherds and bagged and processed these as the unit's "grab sample."[12] The precision of these field walking procedures enabled Wansnider to obtain greater insight into land use patterns for coastal terrain beyond the large urban sites. At architectural sites where dense brush prohibited systematic walking Wandsnider assigned Rauh and one other walker to conduct grab collections of temporally diagnostic sherds. Otherwise, the utilization of systematic field procedures dramatically enhanced results obtained from previous seasons.[13]

Wandsnider's systematic procedures revealed the existence of tremendous variation in sherd densities across the Rough Cilicia landscape. In addition, Wandsnider demonstrated that the identification of ceramic sherds on surfaces with different textures and color schemes depended greatly on the contrast between those sherds and the surface on which they resided, something she refers to as the sherd's "obtrusiveness." Red-hued Roman era ceramics, for example, tended to be highly obtrusive (especially in a 'raking' sunlight); whereas, Hellenistic era ceramics were less obtrusive by virtue of their dull coloration, size, roundedness, and degree of surface lichenation or mineralization. She concluded that Pre-Roman era sherds were most probably under-represented in the survey results. In addition, areas with thick scrub were avoided during the survey because diminished surface visibility yielded decidedly inferior results. Since 1998 Rough Cilicia field procedures have typically taken advantage of the high surface visibility afforded by agricultural activities. This means that terrain obscured by dense maquis scrub has mostly gone uninvestigated, despite the likelihood that it was heavily used in the past.[14] Some 890 sherds were collected, processed, and stored during the 1998 season and entered into the project's Chronotype database.

PHASE THREE (1999), coarse interval survey with transect-level georeferencing and in-field processing and photography, eliminating collection and storage

In 1999 Wandsnider and Rauh investigated an area of mountainous hinterland extending from the coastal ridge behind Iotape to the valley of the Delice Çay (the Kahyalar District). They also revisited a region of the Coastal Ridge extending from Nephelion to Antiochia ad Cragum that was superficially investigated by Blanton in 1997.[15] Wandsnider deployed a team of 5-7 survey walkers spaced approximately 25 m. apart to conduct a coarse interval survey of these regions.[16] In this manner the team was able to extend the width of the survey transects some 100 to 150m across.

12In addition, Yi-Shing Chung collected all ceramics along his traverse, referred to as the "Systematic Sample."

13The most notable example being site RC 9717 (28-C-8-b-1), Alaca Dağı, where Blanton concluded (2000: 45), "the comparative paucity of pottery suggests a short occupation or possibly a non-residential function." Systematic walking in 1998 revealed a significant concentration of imitation Cypriot painted fine ware (c. 500 BC) and other Pre Roman forms. See the 1998 project report, *http://pasture.ecn.purdue.edu/~rauhn/reports/AHR98/1998REP.html;* Rauh 2001, and Lafli 2001.

14The background horizon of sherd density in areas obscured by maquis scrub was confirmed during the 2000 season by the pedestrian team's investigation of "fire breaks" cut vertically down the slopes of the Adanda Canyon. Six of eight fire breaks walked as transects (typically 30m across and 2km in length) yielded ceramic finds, four of them with counts greater than ten. When projected across the scrub covered flanks of the canyon, these concentrations suggest fairly active land use during the Roman era.

15Where Blanton identified 8 sites in 1997, Wandsnider and Rauh located 12, and could have investigated more had time allowed. With so many small loci in the vicinity (generally tombs and sherd scatters), it became difficult to determine the ones previously investigated by Blanton.

16Typically the field director walked the crest of the ridge while the line of team members extended down slope on each side.

Individual field walkers, however distant, remained in close contact with the director and with each other using hand-held radios. When the team observed evidence of past human activity or disturbances, especially architectural remains or ceramics clusters of more than 1 sherd per square meter, Wandsnider designated the area as a 'site', if only for purposes of recording. After locating, describing, and recording a site located in 1999, Wandsnider employed a less obtrusive means of ceramic analysis by having the team process all pottery in the field. This method enabled the team to leave the ceramic material relatively undisturbed in close proximity to their original locations. It also allowed the team to cover more terrain by eliminating the need to convey bags of collected pottery long distances through high, remote, and oftentimes difficult terrain.[17] Instead, at every 'site" the team stopped to conduct 'grab collections" of the general area of material remains. Each sherd thus selected was processed, photographed, and discarded on site.

Processing the pottery in the field required Rauh to identify and to record the pottery without benefit of cleaned sherds or of comparing them with the 330+ Chronotype examples maintained in the Project Study Collection. While theoretically it should have been possible to apply the Chronotype identification system in the field, in reality Rauh found it impossible to recall each and every designated type from memory. Nonetheless, the hierarchical nature of the Chronotype system enabled better identifications than might otherwise have been possible. For example, while Rauh may not have been able to identify a sherd fully as a West Cilicia Fabric Everted Rim Stewpot, in most instances he at least came close, identifying the same sherd as a West Cilicia Fabric Stewpot. The inability to collect precluded later examination by specialist such as Rothaus or Slane. Rauh essentially assumed responsibility for identifying sherds in their existing state based on his acquired knowledge of regional ceramics and his previous field experience. As a result many ceramic identifications of the 1999 season remained tentative and susceptible to error.[18] Nevertheless, on reviewing the data of the 1999 season Rauh and Rothaus believe that the in-field procedures yielded remarkably good results**.** Some 760 sherds were recorded and photographed. The pragmatic nature of the results must again be emphasized. Not only is this less than perfect data preferable to some illusory record of perfection, but the area in question is undergoing rapid development and looting. The 1999 fieldwork may represent the last best chance to recover any data whatsoever.

PHASE FOUR (2000), coarse interval survey with enhanced georeferencing, modified in-field processing, and photography

During the 2000 season the pedestrian team surveyed approximately 5 square kilometers along the ridges surrounding the Adanda (Hasdere) River valley in interior Rough Cilicia (in the vicinity of Lamos and Asar Tepe). The walking team identified forty sites, now referred to as "cultural complexes," including three previously unknown urban sites -- Tomak Asarı, Govan Asarı, and Goçuk Asarı. Half of the area was surveyed using coarse interval pedestrian survey methods, with surveyors spaced 10-35 m apart. In surveying 30 units in this fashion, the team recorded ceramic densities, collecting all ceramic rim sherds and chipped stone. The remainder of the area was surveyed using modified topographic survey methods, with all ridges, hilltops and outcrops inspected for cultural remains. At the urban sites the team conducted sherd processing in a modified procedure resembling grab collections but with more precise georeferencing of sherd locations. Working amid dense sherd scatters Rauh and team members took GPS locations to inspect sherds within a 10m radius. With each movement beyond that radius another GPS location was taken. Rauh conducted minimal sherd collections for context purposes and brought these back to the laboratory. Otherwise, sherds were left in situ, relying on GPS references, data descriptions, and

17Transects units were becoming increasingly removed from accessible roadways.

18To some degree mitigated by the chronotype record and photography undertaken for each individual sherd. Rauh continued to collect reduced samples of diagnostic ceramics, nonetheless, particularly Pre Roman sherds.

photography to record the finds. Using these survey methods, the pedestrian team processed some 318 ceramic sherds during the 2000 Season.

PHASE FIVE (2001-2002), close interval transect/unit walking, with intensive, georeferenced flag survey

During the 2001 field survey the pedestrian team returned to the Adanda Canyon to sample survey units at closer resolution. In addition to continued inspection of rural terrain for evidence of land use evidence, the pedestrian team revisited the urban sites identified in 2000 to conduct GPS sensitive close interval survey. With the help of GIS coordinator, Larry Theller, Rauh and Wandsnider incorporated highly sophisticated mapping techniques into the pedestrian survey. During the winter of 2000, Theller, Rauh, and Wandsnider brought together satellite images, terrain maps, and surveyed location data to construct a geographic information system (GIS) for the entire survey region. A grant of software, the Farmworks Site Mate Scouting program, from Farmworks Inc., and the purchase of four hand-held PC computers (PDAs) enabled team members to assign spatial locations and descriptive attributes to artifactual and featural remains as these were encountered in the field. This enabled the team to export collected data as shapefiles that were quickly mapped in the GIS stored in the project PC at team headquarters.

During the 2001 pedestrian survey Wandsnider established land parcels the size of fields and smaller areas, approximately 50 x 50m, as units for analysis. Within each unit, the team walked transects at 5m intervals and flagged artifacts along a 1m wide traverse. When investigating a field unit, team members engaged in two phases of field procedure. An initial group of 5 to 7 walkers systematically inspected a given transect unit and, using small wire flags, "flagged" all temporally diagnostic sherds along their respective paths. Rauh then visited each flagged artifact to identify the sherd on written slips of paper. Working in pairs the team then utilized handheld electronic equipment to georeference and to encode in situ the materials thus flagged and identified.[19] All diagnostic sherds were "bagged and tagged," and collected for further analysis in the laboratory.[20] In addition, Rauh conducted an unsystematic walk in each unit to locate any additional temporally sensitive sherds. Once GPS coordinates were verified and sherd descriptions completed, artifact flags were pulled and the team moved on to another transect unit.

Employing these methods, the team walked some 27 transects. These included multiple transects at all five urban sites in the area (Goçuk Asarı, Asar Tepe, Lamos, Tomak Asarı, and Govan Asarı) as well as numerous "off-site" areas of agricultural terrain in the canyon interior. At each urban site several hundred sherds were georeferenced and processed, furnishing a detailed record of sherd densities, locations, typologies, and chronology in the project GIS. The work of the 2001 survey is readily accessible through on-line, interactive GIS maps mounted at the project website.[21] It represents the most detailed data collection the project has ever undertaken. Use of 'flag survey procedure" yielded some unanticipated results, meanwhile. At first pedestrian team members with uninformed eyes tended to flag every sherd in their traverse, hence the high number of coarse ware

19Team members entered Rauh's written identifications along with measurements, descriptions, and georeferenced locations into the Chronotype database using handheld computers linked to GPS devices.

20Description included information regarding chronotype, form, size, temper, interior and exterior decoration, and rim and base radius estimates. Any sherds that Rauh designated as potentially significant were photographed; other sherds recognized as holding potential temporal value were returned to the field laboratory.

21*http://pasture.ecn.purdue.edu/~rauhn*. => GIS. Rauh constructed these maps using ESRI's ArcView 3.2 with the HTML ImageMapper extension. Transects walked at the five urban sites are displayed by the 2001 GIS maps posted at the website. Recollections at several sites in 2002-03 have augmented these totals; see Table Two.

sherds at Goçuk Asarı, the first site investigated during that season.[22] Eventually, the walkers were encouraged to be more selective and learned to delineate diagnostic sherds. Collections of ceramic materials remained minimal since each sherd received detailed treatment in the field. The team successfully processed significant quantities of sherds in areas of high visibility in the urban sites, furnishing a substantial record of the surface pottery at these sites. In addition, sherd by sherd georeferencing enjoyed the advantage of rendering sherd densities self evident, particularly when displayed in interactive GIS maps posted at the website. "Flag survey" procedure has accordingly become the "standard" mode of operation employed under the best of circumstances by the pedestrian team. It appears to offer optimum results, whether with respect to the recording of sherd counts, sherd densities, sherd locations, or sherd photography. Wandsnider and Rauh employed similar “close interval flag survey” procedures at Kale Tepe in 2002 as well as during limited ceramic recollections conducted at Asar Tepe and Tomak Asarı that same season.[23]

In all, the pedestrian team processed some 1773 sherds during field operations at the five urban sites during the 2001 season. In addition, our careful attention to detail enabled Wandsnider to develop ceramic indices to speak to issues of use intensity, formational history, and function. Thus, ceramics were coded not only for chronologically sensitive attributes, but also for thickness and temper, size, abrasion, and roundness.[24] The difficulties posed by the logistics of "flag survey," the elaborate coding requirements, and the tedium of electronic data entry were equally apparent, however. When things went well, this was the superior technique by far, but when things went wrong, untangling the problems back in the laboratory proved quite difficult.

PHASE SIX (2003-2011), “Flag Survey” and “Prospective Survey” Procedures

Owing to the increasingly competitive interests of multiple survey operations at the project and the need to juggle both the schedule and the prioritizing of these interests, the work of the pedestrian team was forced into the background during the 2003-2004, and again during the 2007 and 2011 survey seasons.[25] During this phase the need to complete the work of the geoarchaeological and maritime surveys assumed precedence over that of the architectural and pedestrian surveys. These requirements seriously restricted the work of the pedestrian team, forcing Rauh to fall back on a variety of improvised procedures. So long as the pedestrian team, the geoarchaeological team, and/or the architectural team were able to work in relatively close proximity, Rauh directed the pedestrian survey employing standard "close-interval flag survey" methods. Successfully completed “flag surveys” include the ceramic investigations conducted at sites RC 0301-0307 in 2003, RC 0401, 0407, 0408 in 2004, RC 0801, 0802, 0803 in 2008, and RC 1101, 1104, 1105 in 2011. The pedestrian team also conducted “coarse-interval flag survey” procedures in previously uninvestigated rural terrain along the Biçkici and Kaledran Rivers in 2004, in the Biçkici Highland

in 2008, and on the Taşeli Plateau in 2011. Other sites, either located in remote areas difficult to access, or investigated at the end of the season when time was limited, were subjected to what Rauh referred to as "prospective survey,” including RC 0308-0309 and RC 0402-0405, 0407, 0409-0410, RC 0701, 0702, RC 1101, 1102, 1103. Prospective survey resembled the tactics employed in 2000 to the extent that the pedestrian team attempted to GPS (within 10m radii) areas of sherd densities

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22See Table Two.

23The pedestrian team devoted the 2002 season to revisiting coastal sites to record architectural elements commonly associated with ancient wine and olive oil presses.

24Features sensitive to post-depositional transport and time in the plow zone.

25In 2008 the survey team conducted off-site survey in rural terrain below sites identified in 2003 in the Bikici Highland Basin. Otherwise, in 2007 and again in 2011 the pedestrian field work was ancillary to the geoarchaeological component of the survey in the highlands and was conducted intermittently and only in the vicinity of the pollen trench work. It should be stressed that no pedestrian field survey was conducted during the years 2005, 2006, 2009, and 2010.

offering high visibility at any given site, while walking quickly across the site in one pass. The walking procedure included little that could be referred to as ‘systematic,” however, apart from the fact that every sherd selected for consideration was subjected to standard chronotype procedures, including description, measurement, georeferencing, and photography. Minimal “sample” collections were taken at each site. These surveys represent a superficial examination of the sites in question and were hardly intended to furnish a record in any way comparable with the pedestrian “flag surveys" conducted in 2001-2002. During prospective survey Rauh retreated to a strategy of attempting to identify the chronological "range' of pottery that was visible at first glance on the surface, emphasizing datable diagnostic sherds, particularly fine wares and imported amphoras, in an attempt to obtain some minimal sense of the temporal limits of site occupation at each site. Less than half the sites investigated in 2003-2011 were inspected in this manner; the vast majority was inspected using standard “flag survey” procedures. The pedestrian team processed some 530 sherds during the 2003 season, 545 in 2004, 347 in 2008, and 139 in 2011.