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THE EARLY CYCLADIC SETTLEMENT AT DHASKALIO, KEROS: PRELIMINARY REPORT OF THE 2008 EXCAVATION SEASON

INTRODUCTION

In the 2008 field season of the Cambridge Keros Project, the Early Cycladic settlement on the small islet of Dhaskalio, opposite Dhaskalio Kavos on the Cycladic island of Keros, was more fully investigated and documented (FIG. 1; PLATE 1 a). It can now be recognized as the largest known settlement site of the period in the Cyclades. Dhaskalio has extensive buildings of laminar stone construction. Amongst these, on the summit of the island, was a substantial structure, some 16.1 m in length, as large as any other known structure of the Cycladic Early Bronze Age (EBA).

Work undertaken at Dhaskalio during 2007 was reviewed in the first preliminary report (Renfrew et al. 2007c, 128–31). It was then established that Dhaskalio was the site of a major settlement of EBA date, with the small church at its summit as the only significant indication of more recent activity, as the earlier work of Doumas (1964) had already suggested. The investigation of the Special Deposit South lying opposite, at Dhaskalio Kavos on Keros, was the major undertaking for the 2006 field season, the first of the Cambridge Keros Project. It was

1 The Cambridge Keros Project is directed by Colin Renfrew with Olga Philaniotou as Associate Director, Giorgos Gavalas and Neil Brodie as Assistant Directors, and Michael Boyd as Niarchos Research Fellow. It is a project of the McDonald Institute for Archaeological Research of the University of Cambridge, with generous support from INSTAP (Institute for Aegean Prehistory), the Balzan Foundation, the Stavros S. Niarchos Foundation, the British Academy, the Society of Antiquaries of London, and the British School at Athens. The Project is grateful to the British School at Athens and its Director, Professor Cathy Morgan, for making application to the Greek Archaeological Service for a permit to excavate, and to Dr Marisa Marthari, Director of the 21st Ephorate of Prehistoric and Classical Antiquities, for her encouragement and help in many ways. Excavation work was conducted from Monday, 5 May to Wednesday, 18 June 2008.

The workmen in 2008 included Lefteris Tsavaris (our former phylax), Phanis Lesi, Ioannis Stratoudakis, Viktor Lesi, Valentino Lesi, Nikolaos Nesi and Mario Martini. The apekte was directed by Marina Ugarkovic with the following specialist participants: Tristan Carter and Marina Milić (obsidian), John Dixon (geology and petrology) with a helpful visit from Yannis Bassiakos, Charles French and Sean Taylor (soil micromorphology), Myro Georgakopoulou (metallurgy), Jill Hilditch, (ceramic petrology), Yannis Maniatis and Dimitiris Tampakopoulos (marble), Evi Margaritis with Kyriaki Tsiros (flotation and palaeobotany), Evangelia Michou (ceramic conservator), Jane Renfrew (cloth, mat and leaf impressions), Yorke Rowan (coarse stone), Panagiotis Sotirakopoulou with Venetia Niarchou (pottery), and Lefteris Zorzos (phytoliths). Pot washing was undertaken by Stella Roussou and Maria Platys.

The excavation team included the following: Camilla Briault, Artemis Brofidou, Peter Church, Chloe Duckworth, Eugenia Gatzogia, Clare Kelly-Blazeb, Morag Kersel, Jutt Lebegyev, Rita Letrud, Thomas Loughlin, Victoria McGuiness, Pat Marsh, Will Megarry, Barry Molloy, Ben Moore, Ioanna Moutafi, Rebecca Mullin, Helen Murphy, Gry Nymo, Stavriani Orphanou, Scott Rogerson, David Smith, Ilias Tsouktatos and Matt Williams, and with the students of the No. 1 Keros Archaeological Field School (Amanda Berman, Aaron Chapnick, Dana Arrowsmith, Emily Stevens, Erin Thompson, Kelly Brown and Kenneth Gibson). Evangelia Tsavari as phylax represented the Ephor.

Survey in the field was undertaken by Bill Blake, Imogen Grundon, Javier Naranjo-Santana and Michael Boyd, with the participation of Kostas Athanasiou (architecture) and Victoria McGuinness. Christophe Gaston undertook kite photography. Ground-controlled helicopter photography was undertaken by Olga Georgoula and Charis Georgiades of the Faculty of Rural Survey and Engineering of the Aristotle University of Thessaloniki (with Vassilis Liakopoulos and Tassos Stamnos) through the kindness of Professor Petros Patias.

We are again grateful to the Platys family for their hospitality at Hotel Sorokos and to Captain Kostas Prasinos for taking the excavation crew from Kouphonisi to Keros and back each day with cheerful efficiency.
continued in 2007, and its completion was one of the principal objectives of the 2008 field season. This was successfully accomplished with the recovery of many more fragments of pottery, marble bowls and other vessels, and again numerous fragments of marble figurines, of which ninety-seven were added to the inventory already recovered in the 2006 and 2007 excavation seasons from the Special Deposit South. Further work on Kavos was carried out in the area lying between this and the original looted Special Deposit (the Special Deposit North: see Renfrew et al. 2007b). Despite the existence of some walls of rough limestone construction, which could be dated to the EBA, it became clear that the activities in this ‘Middle Area’ of Kavos during the EBA were of a very limited character. Only in the immediate area of the building excavated by Doumas in 1963 (Doumas 1964) were there finds suggestive of residential settlement.

The surrounding areas overlooking the Special Deposits at Dhaskalio Kavos, including the fissures (or ‘caves’) in the precipitous and rocky terrain were further explored by Morag Kersel and will be further described in the final report. They do not give indications of extensive use.

The present report will focus mainly upon the researches undertaken on Dhaskalio, leaving further detailed discussion of the Special Deposit South on Dhaskalio Kavos for the final report, now in preparation.

**Survey Activities**

The steep slopes of Dhaskalio, and indeed of the areas surrounding the Special Deposits lying opposite on Kavos, had made difficult the survey activities in 2006 and 2007. The essential first step in 2006 was the establishment of a sound grid of pegs at 10 m intervals both on Dhaskalio and on Kavos, and this was undertaken by Joseph Severn and formed the basis for subsequent excavation work. The excavations in the Special Deposit South were undertaken using this grid. During 2007 a total station survey of Dhaskalio and Kavos was initiated by Imogen Grundon and Neil Brodie, and this was further developed under her leadership and that of Bill Blake in the 2008 season, with the participation of Michael Boyd, Javier Naranjo-Santana and Victoria McGuinness. The resulting contour survey with the inclusion of all walls observed on the surface will provide a secure basis for all further work on the site (FIG. 1).

The survey of the excavated areas within the excavation trenches was undertaken by the trench supervisors, co-ordinated by Michael Boyd, who also compiled a wall catalogue of all visible surface features over the entire Kavos and Dhaskalio area. One hundred and forty-six such features were noted on Dhaskalio and forty-two on Kavos. This survey gave definitive indication of the great extent of the settlement on Dhaskalio (FIG. 2), where the settled area may now provisionally be estimated to be of the order of 7000 m²—considerably larger than that of Skarkos on Ios or of any other contemporary site in the Cyclades. Extensive traces of walls were recorded in places very difficult to access today, in view of the steepness of the slopes and the loss of considerable parts of structures through erosion and probably through local seismic activity. Structures were built on carefully prepared terraces (like that revealed between Trenches I and II: see below), and the broadly concentric nature of these terrace systems encircling the central spine of the summit area is now clear. At the north end of the island a succession of wall features, running east–west and rising in successive steps, suggests the possibility of a well-planned monumental effect, especially when seen from the north, which will require further study (FIG. 3; PLATE 1 b).
The study of these features was aided considerably by kite and pole photography undertaken by Christophe Gaston. It proved particularly efficient despite the troublesome north wind, which often made working conditions very difficult. Another significant contribution was made by a team from the Department of Rural Survey and Engineering of the Aristotle University of Thessaloniki, led in the field by Olga Georgoula and employing a ground-controlled helicopter. The aerial view of the whole island (PLATES 1 a and 2) and many further details thus recorded are contributing to the continuing topographic and architectural studies. More particularly, a photomosaic coverage for both Dhaskalio and Dhaskalio Kavos was achieved and on this basis orthophotographic coverage (and a digital terrain model) at a scale of 1 : 500 will soon be available. In addition, as a pilot project, laser scanning was undertaken using an Optech ILR15 3D scanner. Topographic coverage of Dhaskalio Kavos and the eastern side of Dhaskalio has produced a point cloud with resolution of 15 cm. In addition, Trench I was scanned at a 5 mm resolution.
FIG. 2. Plan of Dhaskalio showing walls recorded from the survey and from the excavation, contours at 0.5 m and 5 m.
THE EXCAVATION OF DHASKALIO: THE STRUCTURAL SEQUENCES AND AN OUTLINE CHRONOLOGY

During 2007 excavation was undertaken of the massive exposed terracing on the east side of Dhaskalio some 10.5 m below the summit (FIG. 4). As already reported (Renfrew et al. 2007c, 130), the excavation in Trenches I and II clarified the nature of the retaining wall of massive local limestone boulders, and the well-built stone walling of the room structures in front of it, the stones laid with clay used as mortar, as Olga Philaniotou has observed. The stones used for these domestic structures were of laminar composition (mainly marble and schist) and such materials are not available on Dhaskalio or Keros. Geological survey in the area by John Dixon and Yannis Maniatis confirmed that such building stone is not available on Kouphonisi either. It is, however, abundantly available on south-east Naxos. Some comparable materials were also observed on the island of Schinousa. It is now evident that the bulk of the building materials used at Dhaskalio was imported from other islands, probably mainly Naxos and Schinousa, and that this must have been a very laborious process. The beautifully regular masonry walling achieved from these materials is seen in the interior walls of many of the houses, for instance in Trench VII (FIG. 6). Walling of comparable quality is seen also in Trench I (see Renfrew et al. 2007c, pl. 4 a).

The deep stratigraphy of Trenches I and II offered the first indications toward the overall relative chronology of the site. It is clear that the earliest building remains recovered in them are to be assigned to an early phase of the Keros–Syros culture (Early Cycladic II). No material of the earlier Grotta–Pelos culture or of the Kamos Group has been recovered on Dhaskalio. These buildings and the accompanying finds may be regarded as constituting Phase A of the occupation of Dhaskalio.

Work initiated in 2007 at the north end of the summit area (Trench VI) provided a further important insight into the early use of the site. In the western part of Trench VI, the north end of a large Early Cycladic building (designated the Hall) was investigated. Orientated
north-south, its east and west walls, 3.9 m apart, enclosed a mass of tumbled masonry, which had fallen at the very end of the EBA (see below). Such masonry had also tumbled outwards and downwards from this building (PLATE 7). Two internal walls divide the space into three rooms. The building ends at the north with a semicircular structure. At a depth of 1.8 m below the present surface, the walls of an earlier structure, overlain by the main building or Hall, were revealed. These earlier walls could also be dated to the early Keros–Syros culture and can likewise be assigned to Dhaskalio Phase A.

FIG. 4. The summit area on Dhaskalio, showing excavation trenches.
FIG. 5. Plan of northern summit area, showing the Hall and the Summit Enclosure.
Study of the pottery by Peggy Sotirakopoulou allows the two main constructional phases so far observed at Dhaskalio to be situated in relative chronological terms. The first constructional phase, Phase A, has been identified in the early contexts noted above. The second phase may have seen the construction of most of the buildings evident in the upper levels of the site today, and the bulk of the pottery recovered may provisionally be assigned to Phase C. In most of the rooms excavated, for instance in Trench VII, the pottery can be identified as belonging to a developed phase, which may be regarded as succeeding Phase B. There is continuity of ceramic production and use, and the coarse wares do not yet in themselves permit assignment by phase. Storage jars constitute some 46% of the diagnostic ceramic fragments recovered. The most popular among them are the jar with a cylindrical or concave-profile neck, everted rim, and two horizontal arched handles. Pithoid jars with a flat projecting rim, tubular lug handles below the shoulder and usually with one or two horizontal bands of relief rope pattern decoration below the rim and over the shoulder are also common, along with a range of bowls, baking pans and basins.

A chronologically significant observation is that the pottery of Phase B includes, albeit in small numbers, various forms characteristic of the well-known Kastri Group, including one-handed tankards, depa amphikypella, and other diagnostic shapes (Plate 6 a), including an Anatolian jug with a raised cut-away spout. These generally have a dark brown burnished surface, and the spherical or lentoid pyxides have incised and pointillé decoration characteristic of this group. It is to be stressed that there is continuity in the ceramic assemblage between phases A and B, and that the proportion of these ‘Kastri’ shapes is not great (up to a count of about ten diagnostic ‘Kastri’ sherds per thousand sherds recovered). This is a feature which Dhaskalio shares with other sites where sherds indicative of the Kastri Group are found: likewise at Panormos on Naxos, at Markiani on Amorgos and at Kastri on Syros itself their presence is proportionately small. But their presence here allows Phase B to be situated as contemporary with the later phase of the Keros–Syros culture and specifically with the Kastri Group, as originally identified at Kastri on Syros (Renfrew 1972, 533–4) and much discussed subsequently (Sotirakopoulou 1993). The typical Kastri Group shapes seem to have been imports.
Indications of the later phase (provisionally designated Phase C) are found in many of the trenches excavated so far (Plate 6b). These include the upper levels of the large building or Hall on the summit, both in Trench VI and in Trench XXIV, immediately to the south, and also in Trench XXI, lying further south, immediately south of the apse of the later church. In these locations several interesting later sherds were recognized. Some of these could be assigned to the Phylakopi I culture, best documented at the eponymous site on Melos (Plate 6b, lower centre), where they fall within Phylakopi Phase B (Renfrew and Evans 2007, 157–76). These included a body fragment of a closed vase with dark-on-light painted decoration with wide bands intersecting vertically, and fifteen body fragments of a jar and jug with painted dark-on-light decoration of cross-hatching (both from Trench XXI, layer 9), and two conical cups with one or two studs some way below the rim (Trench VI, layers 8 and 13).

In the same levels in these trenches were found sherds that, on comparative grounds, might be situated slightly later, at the very end of the Cycladic EBA (and therefore comparable with some materials in Phylakopi Phase C: see Barber 2007). These include red-slipped pithoid jars with successive horizontal ribs on the neck (Trench VI, layers 27–30, 33: Plate 6b right), black-burnished vases with successive horizontal ribs (Trench XXIV, layers 5–6), a white-slipped spouted basin with red-painted band on the rim (Trench XXI, layer 9), and the spout of a Cycladic White jug (Trench XXIV, layer 6) which might be assigned to the Middle Cycladic period, but which for the present may be regarded as ‘transitional’ in character. Fabric study of the Dhaskalio ceramics is under way by Jill Hilditch and already her macroscopic examination has shown that the dominant fabric of Phase C is a pale or buff, probably derived from a volcanic source, perhaps Thera. In the pilot study so far undertaken, this represents 31% of the fabrics in Phase C as against 10% in Phase A and 4% in Phase B. As she stresses, it would not be appropriate to make too much of these observations until study is further advanced. Nor does it follow that these trends will be maintained when a larger sample is studied. There is hope, however, that the fabric frequencies may prove as chronologically informative at Dhaskalio as they did in our earlier project at Markiani on Amorgos (Vaughan 2006) and Hilditch’s own work on the pottery recovered from the investigations in the Special Deposit North (Hilditch 2007).

It is tempting at this point to undertake some wider correlation of the pottery at Dhaskalio with that from other Early Cycladic sites. But there are grounds for caution here. At Phylakopi the ‘Kastri’ phase is scarcely represented—or at least not by the characteristic imported shapes seen at Dhaskalio. And the transition from EBA pottery (Evans and Renfrew 2007) to that of the Middle Bronze Age (Barber 2007) is complicated by the paucity of Phylakopi I Dark Faced wares in the recent excavations at the site. At Akrotiri, ware of the Kastri Group is now represented (Sotirakopoulou 2008, 127; Angelopoulou 2008, 161), and the rock-cut chambers revealed during the sinking of pillar shafts, the so-called ‘chambers of mystery’ (Doumas 2008), have yielded abundant material of Early Cycladic and later date, but the formation processes involved and their stratigraphic status is not yet entirely clear. When the study of the Dhaskalio material by Peggy Sotirakopoulou, supplemented by the petrological analysis of Jill Hilditch, is complete, we shall hope to make bolder chronological claims. At this stage in the study of the material we shall restrict such observations to the summary presented below.

These materials of Phase C on Dhaskalio, the latest on the site, date the use and then the abandonment and collapse of the structures in question, notably the Hall on the summit and
FIG. 7. Marble figurines of Dhaskalio sub-variety, from Dhaskalio (Scale 1 : 2).
the room situated in Trench XXI. It should be noted that there are no indications of any hiatus or ‘gap’ at Dhaskalio. The impression from the pottery is one of considerable continuity (although, of course, continuity is a feature that is generally difficult to document stratigraphically). These late sherds are clearly imports to Dhaskalio, where the ceramic assemblage is very different from that of what must be the contemporary settlement at Phylakopi (Phylakopi I, or Phase B on the more recent terminology). The impression is therefore one of considerable regionalism at the end of the Early Cycladic period, where the pottery of Dhaskalio differs from that of Phylakopi in Melos or Kastri on Syros, despite the presence of a few imported sherds which make possible the synchronisms observed. As Peggy Sotirakopoulou (pers. comm.) remarks:

The stratigraphic and pottery evidence from Dhaskalio strongly suggest unbroken occupation of the settlement from the early Keros–Syros phase to the beginning of the Middle Cycladic period, and proves the long-standing and still controversial issue of a supposed discontinuity of life in the Cyclades during the Early Cycladic III period and the existence of a ‘gap’ in occupation between the ‘Kastri phase’ and the Phylakopi I culture to be unsubstantiated.

The following outline sequence, based upon the stratigraphic and ceramic observations made above, may therefore be suggested:

**Dhaskalio Phase C.** Late Early Cycladic (Early Cycladic III), contemporary with Phylakopi Phase B and continuing into early Phase C at that site. Use of the Hall on the summit and other buildings nearby. Following the radiocarbon chronology established for Markiani on Amorgos (Renfrew, Houseley and Manning 2006) one might situate Phase C in calendar years between about 2200 BC and 2000 or 1900 BC.

**Dhaskalio Phase B.** Later Keros–Syros culture (Early Cycladic IIB or ‘Kastri’ phase), contemporary with Phylakopi later Phase A2 and early Phase B. Later use of some buildings below the summit area. In calendar years between about 2500 BC and 2200 BC.

**Dhaskalio Phase A.** Earlier Keros–Syros culture (Early Cycladic IIA or ‘Skarkos’ phase). Contemporary with Phylakopi Phase A2. First use of the site with buildings in Trenches I and II and on the summit area (Trench VI). In calendar years between about 2800 or 2700 BC and 2500 BC.

Radiocarbon samples are available from various contexts, particularly of Phase C, so it is hoped that an absolute chronology, based upon determinations taken from Dhaskalio, can be established.

**The Hall**

The principal building on the summit, here designated the Hall (Fig. 5; Plate 3), occupies the spine of the summit, running north from the four small rock outcrops which serve to define the summit of the island. Its west wall and semicircular north end were clearly visible on the surface before the start of the excavation. In general the west wall is well preserved, the east wall less so since the ground falls away steeply to the east. Excavation has shown that the Hall was some 16 m long and 4 m wide, and entered by a doorway in the southern part of the west
wall (in Trench XIV). The internal space was divided into three rooms by walls running east-west (located in Trenches XXIV and XXX), each with a doorway in the middle.

The southern part of the building incorporates two of the limestone rock outcrops mentioned, one towards the south end of the west wall, and one at the southern end of the building itself, where the east and west walls converge. The bedrock is higher in the south than at the north, and the floor is consequently higher at the south end. There is, as noted, a small east–west wall with a doorway 2.5 m north of the south end, seen in the foreground in Plate 3. It was in this space that the important find was made of three substantial copper or copper alloy objects: a long flat axe or chisel, a shaft-hole axe, and an axe-adze (FIG. 8; PLATE 7 a and b). The abandonment of this space may be presumed to be contemporary with that of the other parts of the Hall at the end of Phase C. The find at once suggests comparison with the 'Kythnos hoard' (Renfrew 1967, pls. 5–6) but both the integrity and the find-spot of that alleged assemblage have persuasively been called into question (Fitton 1989). What we may now term the Dhaskalio hoard, with its excellent context, represents an important example of Cycladic metalwork at the end of the EBA. One interesting and perhaps relevant find among the debris of the collapse in Trench VI, at the northern end of the Hall (and so approximately contemporary), was the lead cylinder or weight illustrated in our earlier report (Renfrew et al. 2007c, fig. 15.12).

The complete excavation of Trench VI gives the best insight into the constructional sequence of this building. As noted above, it was preceded by a substantial building in Phase A, whose wall is clearly seen in the Trench VI sequence. The plan of that earlier building cannot at present be established. The floor levels associated with the building of Phase C are overlain by a considerable depth of debris, giving rise to the possibility that the finds recovered in the upper levels may have been in use on the hypothetical flat roof of the building. The construction of the Hall may be situated in Phase B or C, and its use continued to the conclusion of Phase C. The very considerable debris of the building, seen for instance in Trench XVIII (PLATE 5 b), indicates that this was a very substantial structure. Running along the ridge at the very summit of Dhaskalio it must have been a prominent landmark in all directions, clearly visible from Naxos and Ios as well as from all the Mikres Kyklades (Herakleia, Schinousa, and the Kouphonisia).

The Summit Enclosure

A curious feature of the summit area, immediately to the south of the Hall, is a small, enclosed space, roughly circular, some 2.4 m across, and accessible by a doorway to the south (FIG. 5; PLATE 4 a). Its structure incorporates three of the four limestone outcrops at the summit. It was in this space that a considerable quantity (more than 340) of rounded limestone pebbles was found. These smooth, rounded pebbles are clearly beach pebbles, and such stones had already been recovered and recorded as special finds on other parts of the site. Although beach pebbles are present on the shore at Dhaskalio Kavos on Keros, they are of poor quality marble. The limestone pebbles found in cultural contexts on Dhaskalio have instead been identified by John Dixon as coming from one of the beaches on Ano Kouphonisi. Those found in the summit enclosure had clearly been specially selected and deliberately brought to Dhaskalio. Metrical study by Gry Nymo suggests that these egg-shaped limestone pebbles in the summit enclosure were deliberately selected for their larger size and more rounded
appearance than the average pebbles on the beach at Ano Kouphonisi. They are systematically larger than those studied for comparison from the Special Deposit South on Kavos, where such pebbles are also found.

This deliberate and perhaps successive deposition of selected beach pebbles in this special place is suggestive of ritual practice. The deposition of naturalia in an analogous manner is recorded from peak sanctuaries in Crete (Kyriakidis 2005, 144; Peatfield 1992; Nowicki 2007), and is of course well established as a ritual practice in classical times (Kron 1992, 631–3). No other artefacts of symbolic significance were found in the summit enclosure, other
than two of the attractive stone cylindrical spools or ‘pestles’ (perhaps weights) of which several have been found in varying contexts on Dhaskalio.

**THE SOUTH SUMMIT AREA**

South of the summit enclosure (Plate 4 a), whose entrance is also seen in the foreground of Plate 5 a) the surface slopes down towards the small Byzantine or early mediaeval church, whose walls, lying over the EBA structures, may be seen in the background of Plate 5 a. Trench VII lies further to the south.

The building excavated in Trench VII and that lying immediately to the west are separated by a narrow space or street some 1.0 m wide. Its surface is constituted by the bedrock, which is irregular. A comparable street probably runs up the hill from Trench XV, immediately to the south of Trench I. The building in Trench VII is beautifully constructed of laminar stone walling (see Fig. 6) and furnishes many architectural details, which will be discussed in the final report by Olga Philaniotou in her description of the excavated buildings.

The street in question runs north (Plate 4 b), overlain now by the south and north walls of the church, and emerges into the space constituted by Trenches XXV and XX. To the east lies the room within Trench XXI, which originally intercommunicated with the building of Trench VII to the south.

Immediately to the north of these lies the summit of the site, defined by four prominent outcrops of metamorphosed limestone bedrock incorporated in the two structures of the summit, which we have designated the Hall and the Summit Enclosure.

**CONSERVATION**

At the conclusion of the excavation the trenches at Dhaskalio Kavos were backfilled, with small superficial channels made to divert downwashed surface water on the slope away from the excavated areas. During the dig the excavations were visited by Eleni-Eva Toubaki of the Department of Restoration of Ancient Monuments of the Ministry of Culture, accompanied by Maria Wassenhoven, and designs were outlined by her for the wooden shoring for the deeper trenches at Dhaskalio. We would like to thank the Director of Restoration of Ancient Monuments, Dr Demosthenis Ziro, for his help with this matter. At the end of the dig the shoring was prepared by the excavation carpenter, Phanis Lesi, and the trenches backfilled.

**THE FINDS**

The finds from Dhaskalio are abundant, with pottery naturally the most plentiful cultural material. The frequent coarse wares (about 88%), include abundant storage jars, bowls and baking pans. The overwhelming majority of pottery (about 75%, following Peggy Sotirakopoulou’s count) is of domestic character. This is in sharp contrast to that from the two Special Deposits at Kavos, which have much less domestic ware. Mat, cloth, and leaf impressions (to be studied by Jane Renfrew) appear on the bases of coarse closed vessels and offer a useful insight into the matting and textiles of the time.

The recovery of plant remains by flotation has allowed a preliminary assessment of the botanical food remains by Evi Margaritis. Although the study is now at a preliminary stage,
relatively large concentrations of emmer wheat and barley have already been identified in
floor layers in Trenches VII and XVII. Other samples produced limited quantities of grape
pips, olive stones, almond fragments, legumes such as bitter vetch, and other nut fragments.
The presence of olive and vine is interesting, as they represent the first well-stratified finds of
these species from the Cycladic EBA, and support the view that Mediterranean polyculture
had developed in the area by this time.

The obsidian industry from Dhaskalio is under study by Tristan Carter and Marina Milic.
Their preliminary observations suggest that the Dhaskalio finds may offer some insight as to
how the craft of obsidian working was organized spatially and, perhaps more important,
socially. Two locations, in Trench V and Trench XXIII, seem to attest the entire production
sequence, with evidence for the procurement and working of true raw material, with a
number of large cortical flakes, via finer decorticated blanks, to the items associated with the
initial stages of blade production (crested pieces), and the end-products themselves, a
complete blade-core and blanks associated with the core's rejuvenation. Other contexts on
the site seem to have received their obsidian in the form of prepared cores.

The most important evidence for such working comes from the major structure (the Hall)
on the site's summit. As Carter and Milic (pers. comm.) report:

The building runs through four trenches, with obsidian recovered in varying amounts in all four. It is within
Trench VI that we have clear evidence for production, with levels 27-42 producing a not inconsiderable
quantity of obsidian, with a wide range of blanks including two blade cores (one complete), and a range of
knapping debris, albeit mainly in the form of non-cortical blanks indicating that the person making these
blades had either received a preformed nucleus from someone else, or had undertaken the initial roughing
out of the cobble elsewhere. In the middle section of the building we have almost exclusively the end-
products themselves (with some use-wear), while the southern end of the structure (Trench XXX) has also
produced a certain amount of evidence for blade making. It is quite conceivable—estimates will be produced
after the study season—that this represents a level of production above and beyond what was required by
those working/living in this structure.

The other stone tools are the subject of study by Yorke Rowan and John Dixon. There are
surprisingly few stone tools of well-established types. Most of the stone artefacts collected in
the trenches and inventoried as 'special finds' are pieces of imported stone (such as emery
from Naxos) indicating very little modification for use, but often with indications of wear. This
may therefore be described as an 'expedient' technology. Quernstones are found but they do
not seem as abundant as might have been expected on so large a settlement. Further study,
aided by the petrological identifications of John Dixon, will perhaps clarify this slightly
paradoxical situation.

A notable feature at Dhaskalio is the abundance in almost every context of 'stone discs',
known elsewhere in the Cyclades from Ayia Irini (Wilson 1999, 148–9), Markiani
(Angelopoulou 2006), Mount Kynthos (Plessart 1928, 33–4), Phylakopi (Renfrew et al.
2007a, 430, 434) and Korfari ton Amygdalion (Angelopoulou 2008). These are flat and
circular, varying in diameter from less than 10 to more than 45 cm. In general they are made
of stone with laminar fracture (marble and schist) so that the two faces are naturally parallel.
The circular form is achieved by flaking. Only in a few cases is the discoid form produced by
grinding. While some of the larger ones may have served as lids for pots, such as pithoi, and
many could also have formed the base on which to stand a pot, their great abundance seems
to us puzzling and enigmatic. They are to be the subject of special study by Michael Boyd.
Another puzzling feature of the finds is the almost complete lack of weaving equipment. Just two or three fragments of terracotta spindle whorls were found, in contrast to the 171 from EBA Markiani on Amorgos, where spinning and weaving seem well-attested (Gavalas 2006, 199–209). These disparities will require further careful study, with a consideration of the information on sheep to be gleaned from the faunal remains. At first sight they might call into question the status of Dhaskalio as a residential site—a difficult conclusion in view of the ceramic evidence. Alternatively, they might suggest an unexpected degree of specialization between Early Cycladic sites, with Markiani as a producer of wool and of textiles, and Dhaskalio as a consumer.

The site has yielded some metal objects, and modest indications of metallurgical production, now in the course of study by Myrto Georgakopoulou. In Trenches I and VII there are some indications of metal production, probably casting rather than smelting. The abundance of slags at Kavos Promontory, already the subject of preliminary study by Georgakopoulou (2007), suggests that this may have been the location where smelting took place. Splashes of copper on stone and the find of what may prove to be three tuyères in Trench I suggest some continuing metallurgical activity there (Plate 7c: compare a find from Avios Dhimitrios in the southwestern Peloponnese: Zachos 2008, fig. 52 and pl. 54). A small shaft-hole hammer of lead from Trench VII may have been used in metalworking. Lead clamps to repair pottery were also found. Such use is an indication that lead was sufficiently cheap (and pottery sufficiently valued) to make such repair appropriate. The practice may further indicate some degree of metalworking at a domestic level. The find in 2007 in Trench VI, in the Hall on the summit, of a lead weight (of spool shaped form) as noted above (Renfrew et al. 2007c, fig. 15, 12) may be an indication of commercial production. The finding in different locations at Dhaskalio of up to twenty stone or Spondylus shell ‘spools’ (formerly termed ‘pestles’) should perhaps not be taken too quickly as confirmation of Rahmstorfs view (2003) that these are all to be regarded as weights. They are more frequent than most other categories of artefact (other than the ubiquitous stone discs). Their frequent presence (usually broken) at Dhaskalio Kavos may lead toward some different interpretation.

The marble bowl fragments at Dhaskalio are fairly numerous, some eighteen examples, invariably fragmentary. At EBA Markiani on Amorgos only a single such fragment was found in a stratified context, whereas that site yielded seven of the spools or pestles (Scarre 2006, 177). The comparison of the frequencies may reflect the greater wealth and centrality of Dhaskalio in contrast with Markiani. One piece from a large open bowl of marble, probably more than 50 cm in diameter and of preserved length 22 cm, was of note (SF 10713 from Trench VII, layer 11). Well polished on the inside, it was rough on the base and lower surface, giving the impression that it had been made to sit flat on the ground and so not to require polishing on the under surface. This fragment documents the largest marble bowl ever found in an Early Cycladic settlement (although larger pieces come from the Special Deposits at Dhaskalio Kavos). It hints at practices, and perhaps rituals, of which we know little.

The figurines from Dhaskalio are of particular interest. Ten have been recorded, all schematic in form and falling within the broad ambit of the Apeiranthos variety. It is remarkable, therefore, that not a single fragment of a canonical folded-arm figurine has come from Dhaskalio, in view of the many hundreds of such finds in the two Special Deposits at Dhaskalio Kavos, just opposite. This must carry significant implications for the different ways the two sites were used. It is also notable that most of the figurines are related in form (fig. 7;
PLATE 8). The typical Dhaskalio figurine is schematic and with a triangular or squarish section, rather than the flat section of many of the Apeiranthos variety figurines at Dhaskalio Kavos, many of which are closer to the Brettidolen of the Grotta–Pelos culture. The head is typically triangular (suggesting the nose at the apex) rather than flat. It is thus now possible to identify a Dhaskalio sub-variety of schematic figurine. The find contexts are of Phase C. It is clear that this sub-variety is relatively late, and that it was produced and used after the later (Kastri phase) part of the Keros–Syros culture. The absence of folded-arm figurines on Dhaskalio remains to be explained.

At the conclusion of the excavation, the special finds of marble and other pieces were selected, as in 2006 and 2007, for transportation to the Naxos Museum, under the supervision of the conservator for the Ephorate, Giannis Staikopoulos. The bulk of the finds—the pottery, stone tools, obsidian and other special finds—were stored in the apotheke of the Ephorate, located in the basement of the Demotiko Scholeio of Kouphonisi.

**FURTHER RESEARCH**

It is hoped that further information will come from the studies now in progress. The study of the micromorphology of floors and other deposits from the settlement should prove particularly rewarding. Charles French of the McDonald Institute for Archaeological Research in Cambridge, accompanied by Sean Taylor, has taken a very promising series of samples. Trench VII has yielded at least three major floor levels, the lowest of which is a compound floor level composed of several finely laminated alternating layers of white and pinkish brown calcitic ‘plaster’. There are comparable samples from a number of other trenches. He was also able to observe and take samples from the continuing excavation at the Special Deposit South on Dhaskalio Kavos, broadly confirming his observations of 2007. It would certainly be helpful to broaden our knowledge of the range of activities undertaken within these various rooms, and the results will supplement the evidence already available from the stratigraphy and from the objects found. Soil samples were also taken by Lefteris Zorzos of University College London for the purpose of phytolith analysis. There is hope that this will supplement what is already emerging from the study of the seed remains recovered through flotation. It is anticipated that the animal and shell remains recovered from the water sieving and from the flotation sample will also be informative.

Characterization studies will prove particularly important for studying the sources of the pottery, obsidian, marble and other stones, and for comparing the source profiles for Dhaskalio and Kavos. Yannis Maniatis and Dimitris Tambakopoulos have continued their detailed study of the marble artefacts recovered, and it is hoped that a programme of sampling will serve to confirm the preliminary and provisional results already suggested—namely that most of the marble for these artefacts come from sources in south-east Naxos.

Jill Hilditch spent some time prospecting for potential clay sources for pottery making in Keros and Schinousa, and there is the hope that, with the aid of earlier studies, a clearer picture may soon emerge for the Cycladic Islands. For the pottery, macroscopic fabric study has already suggested significant trends in the changing frequencies of various imported fabrics. She reports (pers. comm.):
In terms of raw material sources, Amorgos, Naxos and Ios continue to offer the greatest potential for most fabrics seen within the ceramic assemblage at Dhaskalio (Marble, Quartz, Sandy, Blueschist, Redschist, Micaceous Quartz and Micaceous Other). Other islands have been identified macroscopically as possible sources for less abundant fabrics such as Siphnos (Talc), Thera (Pale Volcanic) and Melos (Red-Brown Volcanic). Only the petrographic analysis however will be able to offer a more detailed consideration of provenance and technological variation for each of these categories.

Analysis may also clarify the sources of the copper and lead used in the metallurgical practices at Dhaskalio. And while most of the obsidian found undoubtedly comes from Melos, Tristan Carter and Marina Milić have noted a few pieces that, on the grounds of appearance, might have come from Giali (near Nisyros) and the Central Anatolian sources respectively.

Broader environmental issues are also under consideration. In particular it would be helpful to establish the level and form of the prehistoric coastline near Dhaskalio. There are suggestions that, during the EBA, Dhaskalio might have been united with Kavos by a spit of land, forming a peninsula. This is one of the several aspects of the site and its finds, which are under study by our consultant geologist, John Dixon, but it may prove one of the most intractable.

**Prospect**

The excavations at Dhaskalio have revealed a major settlement of the Early Cycladic period. Its inception seems to have been contemporary with that of the Special Deposit South, situated opposite at Kavos on Keros some 200 m to the east. Study of the Kavos finds indicates that the heyday of the Special Deposit was clearly early in the time span of the Keros–Syros culture, i.e. during Phase A of Dhaskalio. Dhaskalio, as we have seen, continued to flourish during Phase B, by which time the use of the Special Deposit South seems to have diminished in intensity. By the time of Dhaskalio Phase C the Special Deposit seems to have gone out of use.

The interactions and interrelationship of the two sites will be the subject of special study during the compilation of our final report. But some distinctions are now clear. One of the most characteristic finds in the Special Deposit South is the well-known marble folded-arm figurine, always—without exception—found there in fragmentary condition after deliberate breakage. Not a single fragment of such a figurine has yet been recovered from Dhaskalio. There are also significant differences in the ceramic assemblages under study by Peggy Sotirakopoulou. For instance, the multiple lamps (also known from cemeteries on Kouphonisi), which are a prominent feature on Kavos, are not seen on Dhaskalio. Nor are the kratertiskoi with stamped and incised decoration, known mainly from the cemetery at Chalandriani on Syros (see Renfrew *et al.* 2007c, fig. 7. 6–10). These open the possibility that the rituals of deposition practiced at Kavos may have involved persons coming directly from other islands, such as Syros. The rich finds from Kavos and the abundant remains from Dhaskalio should offer many possibilities for further analysis, some of which we hope to incorporate in the final report now in preparation.

Dhaskalio was clearly a major settlement in its own right—no mere adjunct to the ritual activities on Kavos. Indeed, the building remains identified are significantly larger in area that those of Skarkos on Ios, hitherto one of the largest Early Cycladic settlements known, although there are larger settlements elsewhere in the Aegean, and these in turn are small
compared with many in the Near East. The continued prosperity of Dhaskalio into the later Phases B and C is clearly of great importance. This observation perhaps counters the view that this was a time of dramatic change in the Cyclades and suggests rather a period of considerable prosperity. It should also be noted that although Phase B at Dhaskalio was indeed contemporary with the occupation of Kastri on Syros, the term ‘Kastri phase’ has deliberately been avoided here, since the rather limited occurrence of forms characteristic of the Kastri Group, while of real chronological interest, does not seem of great significance otherwise. And Dhaskalio continued in occupation, with every indication of continuity into Phase C, almost to the inception of the Middle Cycladic period.

The fieldwork phase of our project is now concluded and the post-excavation study phase has begun. It is anticipated that much more will be learnt from the specialist studies already in progress. The excavation of the Special Deposit South on Kavos may now be regarded as completed. A fuller assessment of the material recovered remains to be undertaken. But it is clear that, taking into account also the Special Deposit North, Dhaskalio Kavos may be regarded as a major symbolic centre for the Cyclades and indeed one which had wider influence during the EBA.

In the case of the small island of Dhaskalio, however, we have only begun the investigation of what must be regarded as one of the major settlements of the EBA Aegean. We hope to resume work at Dhaskalio when the final report of our 2006 to 2008 field seasons has been completed. We have been fortunate in our work on the summit area to find good evidence for the later use of the settlement. But much remains to be learnt about the earlier phase, Phase A, contemporary with the main use of the ritual centre at Dhaskalio Kavos. There is more yet to learn about the relationship between the two sites.

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TABLE 1 Stratigraphic context of illustrated finds.

| FIG. 7.1 | SF 11795 | TXX L13 | Figurine of Dhaskalio sub-variety |
| FIG. 7.2 | SF 11430 | TXIV L6 | Head of Dhaskalio figurine |
| FIG. 7.3 | SF 5751 | TVI L13 | Figurine of Dhaskalio sub-variety |
| FIG. 7.4 | SF 5746 | TVI L12 | Figurine of Dhaskalio sub-variety |
| FIG. 7.5 | SF 5814 | TVII L6 | Figurine of Dhaskalio sub-variety |
| FIG. 7.6 | SF 10793 | TVII L39 | Figurine of Dhaskalio sub-variety |
| FIG. 8.1 | SF 12734 | TXXX L7 | Axe-adze of copper or bronze |
| FIG. 8.2 | SF 12740 | TXXX L8 | Chisel of copper or bronze |
| FIG. 8.3 | SF 12741 | TXXX L8 | Shaft-hole axe of copper or bronze |
| PLATE 6 (a) 1 | Pot 8 | TXIV L4 | One-handled tankard |
| PLATE 6 (a) 2 | C 2145 | TXXI L5 | Rim fragment depas amphikypellon |
| PLATE 6 (a) 3 | C 2109 | TVII L32 | Urfrinis depas handle |
| PLATE 6 (a) 4 | C 2149 | TVII L37+39 | Pyxis rim |
| PLATE 6 (b), left | Pot 22 | TVII L37 | Fragments of whitish slipped jar (dec. vertical ribs) |
| PLATE 6 (b), right | C 2135 | TVI L28 | Red slipped pithoid jar (dec. successive ribs) |
| PLATE 6 (b), lower centre | C 2144 | TXXI L5 | Sherds (dec. dark-on-light cross-hatched) |
| PLATE 7 (a) | SF 12734 | TXXX L7 | Axe-adze of copper or bronze |
| PLATE 7 (b) | SF 12740 | TXXX L8 | Chisel of copper or bronze |
| PLATE 7 (c), 1 | SF 11057 | TI L26 | Tuyère |
| PLATE 7 (c), 2 | SF 12741 | TI L26 | Tuyère |
| PLATE 7 (c), 3 | SF 10130 | TI L25 | Tuyère |
| PLATE 8. 1 | SF 5746 | TVI L12 | Figurine of Dhaskalio sub-variety |
| PLATE 8. 2 | SF 10769 | TVII L32 | Figurine of Dhaskalio sub-variety |
| PLATE 8. 3 | SF 11430 | TXIV L6 | Head of Dhaskalio figurine |
| PLATE 8. 4 | SF 10793 | TVII L39 | Figurine of Dhaskalio sub-variety |
| PLATE 8. 5 | SF 5814 | TVII L6 | Figurine of Dhaskalio sub-variety |
| PLATE 8. 6 | SF 5751 | TVI L13 | Figurine of Dhaskalio sub-variety |

BIBLIOGRAPHY


THE EARLY CYCLADIC SETTLEMENT AT DHASKALIO, KEROS

(a) Helicopter view of Dhaskalio island (right) and of Dhaskalio Kavos on Keros (left), seen from the north. (b) Dhaskalio, seen from the north, showing early Bronze Age walls.
Helicopter view of Dhaskalio, showing excavation trenches near the summit.
The Hall at the summit of Dhaskalio during excavation, seen from the south, with rock outcrop in the left foreground.
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(a) The Summit Enclosure seen from the north (50 cm scale). (b) Early Cycladic street (left) in Trench XXI running up to and under the south wall of the Byzantine church, with EC walling (right).
(a) The summit area looking south, with Early Cycladic buildings; the north and south walls of the Byzantine church run obliquely, indicated by horizontal ranging rods. (b) Tumbled building stones in Trench XVIII, below the Hall, seen from the north-east (50 cm scale).
Pottery: (a) of phase B (Kastri period) with tankard (1) and depas handle (3); (b) of phase C (EC III).

(See Table 1).
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THE EARLY CYCLADIC SETTLEMENT AT DHASKALIO, KEROS
(a) Axe-adze; (b) chisel of copper or bronze from the Dhaskalio hoard; (c) ceramic tuyères, probably used in metalworking, found in Trench I (scales in cm.).
Marble schematic figurines of Dhaskalio sub-variety (scale in cm.).