Fig. 1. Map of Egypt with detail of the Dakhleh and Kharga oases and location of Ismant el-Kharab (Kellis).
A painted residence at Ismant el-Kharab (Kellis) in the Dakhleh Oasis

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Since 1986, a major component of the research conducted in the Dakhleh Oasis (Egypt’s Western Desert) has been the exploration of the site of Ismant el-Kharab (fig. 1). This village, ancient Kellis, appears to have been founded in the late 1st c. B.C. and to have been occupied until the end of the 4th c. A.D.\(^1\) Occupying an area of \(c.3/4 \text{ km}^2\), it comprises a settlement and associated cemeteries (fig. 2). Excavations have revealed a temple complex (area D) dedicated to the god Tutu (Greek: Tithoes),\(^2\) his consort Tapshay (Greek: Tapsais),\(^3\) and mother Neith, at the W end of the site, surrounded by ancillary structures, a bath-house to its south-east, and an extensive residential sector in the N part of the site (areas B-C), the development of which can be ascribed to the first three centuries A.D. Contemporary cemeteries lie on the S and NW perimeters of the settlement and in a chain of low hills further to the north-west.

In the late 3rd-4th c. many of the earlier sectors of the site were either abandoned or experienced a major change in function: a new residential sector was developed east of the temple compound (area A) with a complex of churches erected on the S side, and a cemetery north of the site came into use.\(^4\) Substantial quantities of inscribed material have been found in area A in the form of papyrus documents written in Greek and Coptic, with some Latin and Syriac, inscribed wooden boards, and intact wooden codices and ostraka, which illuminate every aspect of life in the village.\(^5\) Artefacts are abundant and well preserved.

Although a diverse range of structures and material covering four centuries has been unearthed, the excavations have undoubtedly revealed more about Kellis of the 3rd-4th c. than of earlier stages of its development. To rectify this, fieldwork since January 2005 has been focused on residential sectors that were known to have been developed during the first three centuries A.D., namely areas B and C. Excavations in 2005-6 revealed an important residence at the north of the site in area B (fig. 2).

The residence B/3/1, by C. A. Hope

Description (fig. 3)

At its N end, area B comprises a series of large residential complexes (B/3), several with traces of decorated wall-plaster, separated from an imposing two-level complex of more than 200 rooms to the south (B/1) by less-formally laid out structures (B/2). On the east, it is contiguous with Area C, which comprises a residential and light-industrial sector in which activity can be dated by documentary papyri to the 2nd-3rd c. A.D.

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Fig. 2. Plan of Ismant el-Kharab (Kellis) with detail of area B (B/1, B/2 and B/3).
The residence B/3/1 is a mud-brick building measuring 28 m N–S by 24 m E–W. On the basis of surface survey and excavation, 22 spaces have been provisionally identified as belonging to the unit. It appears to have been entered from the north from an almost square (14 x 14.8 m) open area, off which two further large residences also opened (fig. 2) and which provided access to a 4-roomed pigeon loft (B/3/2) and other buildings to the west of B/3/1.

The entrance room (8) opens into a square (10.6 x 10.8 m) room (1b) in which stand the lower parts of 4 substantial (diam. 1.4 m) columns, equidistant (2 m) from all adjacent walls and twice that distance from each other; their bases have two torus mouldings. A slightly smaller (9.8 x 7 m) room (1a) opens off its S side, the entrance into which is marked by two square (1.2 x 1.2 m) piers, set equidistant from the walls of the room. Excavation against the W wall of the room showed that a wide, single step runs the width of the entrance into the southern room; access from 1b into 1a at the extreme W end was probably closed by a wooden door since the emplacement for a frame and sill was noted here. While it is probable that this was matched by a door on the east between the rooms, it is not known whether the central space between the piers was closed. To the west of Room 1b lies a rectangular (7.2 x 5.6 m) space (6); it has two rooms (4-5) to its south and one (7) to the north, while two rooms (9-10) open to the east. These originally formed a single large (8 x 4 m) room, in the S wall of which was a niche. When the room was subdivided, it was reduced by a wall built in its S end and a bench-like structure on the E side of its southern part. To the east of room 1a lie three rooms, one (12) having a large semicircular niche (exedra) at its S end. A similar feature occurs at the W end of an L-shaped narrow space (11) on the N and E sides of 1b, accessed through a door directly east of the entrance room (8). On the W side of 1a lie two rooms (2-3). Through the W wall of room 3 doors were cut to give access to rooms on the west that had previously been accessible via a corridor (16) on the S side of 1a, at the E end of which is a blocked door.
Excavation has been taken down to floor-level between the W wall of room 1a extending to the W pier and SW column of room 1b, between the N wall of room 1b and the two northern columns, within rooms 2-4 and 9-10, and in room 6 adjacent to the N wall of room 4. It has revealed extensive painted decoration within each of these spaces, and indications are that all other spaces were similarly adorned; the paintings are discussed below.

Numerous other details further our understanding of the architecture and the activities that took place within. The floors in the excavated areas vary in composition. Those in rooms 2 and 3 are sturdy, with gypsum plaster set on stones overlying brick rubble. In rooms 1a and 1b, traces only of gypsum survived upon compacted earth floors; in the north-eastern corner of 1b evidence of brick flooring was found around a square pedestal for the NE column. Emplacements for wooden frames and sills were found in the doors leading into rooms 2-4 and 9. Part of a substantial cavetto cornice (0.48 m long) moulded in mud-brick with plaster, found in structural collapse in room 1b near the door into room 11, may have formed part of its lintel. Within the width of the door jambs of room 10 is a vertical modelled panel; on the exterior of the S jamb are two fluted engaged columns in plaster. Adjacent rubble yielded the remains of a plaster Corinthian capital with central floral motif that would have surmounted one of the columns.

While room 9 had a barrel-vaulted roof (it was found collapsed into the room), the other rooms appear to have had flat roofs. The excavated areas in rooms 1a and 1b contained roofing collapse rich in palm ribs, mud plaster with palm-rib impressions and some palm wood, and, in room 1a, mud plaster from the ceiling with painted decoration which was found lying directly upon the floor beneath wall collapse. Similar structural material was found in rooms 2-3. The maximum preserved height of the walls is 1.9 m but, to judge by the diameter of the columns in room 1b, whatever the exact details of its roof it must have stood at least 5.6 m above the floor.\(^6\) Amongst the structural collapse in room 1b were numerous fragments from large and small acanthus leaves in plaster and volutes (in two sizes: 21 x 22, 15 x 17 cm) modelled in plaster on a mud-brick and plaster base. While the exact design of the capitals has not yet been reconstructed, it is likely that they were Corinthian. Pieces from smaller capitals were found ornamented with small, closely-spaced leaves. Fragments of an extremely thick and hard sand-rich gypsum plaster, its polychrome decoration covered in a thin layer of white plaster, were found in rooms 1a and 1b and amongst surface deposits in room 6, raising the likelihood that there was a second level to this building.

In addition to the structural elements found in the excavations in rooms 1b and 10, there were numerous fragments from gypsum-plaster anthropoid sculptures. They derive from life-size (mainly pieces from hands) and over life-size figures (fragments from a limb with pleated drapery and a big toe), and from several smaller pedestals (to which parts of feet adhered or could be attached). At least one statue painted pink is attested by fragments from the body. One fragment from an arm is ornamented with a snake bracelet; another is a hand clutching the end of what may be a cornucopia. The style of all the material is classical.\(^7\)

The complex appears to have undergone some drastic modifications that paid little attention to the painted decoration. Rooms 3 and 4 each had small open cupboards inserted into their walls. Room 3 had two doors cut through the N part of its W wall, one on either side of an inserted cupboard, and parts of the painted wall were patched with white or mud plaster.

In its modified state this structure may, like so many others in area B, have been used for the stabling of animals, for the lower parts of the wall decoration are quite eroded, the floor has deposits of straw with animal manure, and there are patches of burning.

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6 This estimate uses a proportion of only 1:4 diameter to height, and is probably an underestimate (mud-brick columns in this region are not preserved to their full height).

7 Comparison may be made with material from the Temple of Tutu: C. A. Hope, "Objects from the Temple of Tutu," in W. Clarysse et al. (edd.), Egyptian religion: the last thousand years (Leuven 1998) 803-58.
Whilst some pottery of 4th-c. date recovered by the excavations could indicate the date of the re-use, most of the pottery resembled that from domestic contexts in area C where it was associated with ostraka of the 2nd c., there chiefly from floor and sub-floor contexts. A single demotic ostrakon was found in the fill below the floor of room 2 but its text is rather faded; others were found amongst sherds on the surface, several in Greek script. Some scraps of both Greek and demotic papyri were found at floor level in Room 1b, while a clay tablet inscribed in Greek with a list of names was found below the floor in Room 10.

Discussion

The size of the residence B/3/1 and the details of its architecture distinguish it from most other secular structures at Kellis. In both areas A and C, the dominant domestic architectural form is rectangular or square, with a central room that is often open, around which are smaller rooms, and a staircase providing access to the roof; in the earlier houses of area C, the roofs were mostly flat and supported on beams. While some of the units are laid out along lanes, there is a general informality to the overall layout. These features also characterize the W. extension of area C into B/2.

In the later houses of area A, the smaller rooms were barrel-vaulted. Sometimes there are two central rooms of similar size, either flat-roofed or vaulted, and the units are provided with courtyards. Some lanes and streets can be detected in area A; in both area A and C sections were apparently developed as urban blocks.

The layout of B/3 is more formal: 4 substantial units run N–S on its E side, one immediately to the south of B/3/1 and two to its north. The three northern units open off the same open space, which provides access to other units on the north and south. Continuous N, S and E walls define the area of these units; this regularity is interrupted only in a short stretch of the W wall. Like B/3/1, the northermmost unit possesses a central room, the roof of which was supported on columns. The southernmost unit has two central areas that are separated by piers. The entire area is 5400 m² (90 x 60 m); B/3/1 covers an area of 625 m², the unit to the south is 400 m², that directly to the north is 306 m², and the northermmost is 416 m².

On a comparable scale are the structures of area B/1 to the south, here an original unit in the north centre covers 1406 m², while within a massive southern extension there is a peristyle court that alone covers 281 m², and a unit abutting to its east occupies 402 m².

The scale of these units is far greater than any others of comparable function known at Kellis. Excavated units in area C are of 101, 110, 130 and 175 m², those in area A with courtyards are 242, 282 and 253 m², while those lacking courtyards are 99 and 130 m². Thus, it is clear that area B held a series of prestigious buildings, the majority of which were probably domestic units occupied by the community’s élite.

The units of B/3, particularly B/3/1, rival in scale units of the Ptolemaic and Roman periods elsewhere in Egypt. At the nearby site of Amhida (Trimithis), a team from Columbia University has revealed an extensive painted unit (4th c.), the core of which covers 296 m². Three structures apparently have peristyle courts, one of which covers c.308 m². At Dush (Kysis) in the Kharga Oasis, four large brick structures (again of the 4th c.) lining the approach to the temple range from 195 to 478 m². In the Fayum, houses at Dionysias, Narmouthis, Tebtynis, Heracleides and Bacchias are smaller, but some at Philadelphia and

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9 Ibid. and Hope in Hope and Bowen 2002 (supra n.1) 173-78.
10 Hope in Gardner et al. (supra n.5) and in Bowen and Hope 2003 (supra n.1) 238.
11 Hope in Hope and Bowen 2002 (supra n.1) 170-73.
Dime are comparable; since many at Dime and those at Karanis are multi-storeyed, their total habitable areas exceed those of the Kellis units, although the area covered by each storey is far smaller. On the coast, the houses at Marina el-Alamein range from 192 to 456 m². The new discoveries at Marina el-Alamein and Tebtynis illustrate the presence of classical-style housing in parts of Egypt, despite what has been claimed to be the general prevalence of vernacular domestic architecture, as exemplified by the houses of Karanis and Dime. They employ stone extensively throughout and were elaborately decorated. Both peristyle and portico houses occur. Papyri record references to houses that might have possessed a classical layout, and the marked increase in the price of some houses in the 2nd-3rd c. has been seen as the result of building more luxurious residences, probably of classical style.

In this regard the evidence from Kellis is important. House 1 in area A possesses a stibadium. If the painted peristyle court in B/1 (B/1/1, room 1) is part of a domestic unit (it is of considerable size and pretension), it attests the use at Kellis of the peristyle house, of which there are possibly three examples at nearby Trinithis. B/3/1, however, resembles the atrium type, modified to blend with local architectural traditions and the environment. It possesses a basic symmetry in layout. Room 1b may be identified provisionally as the atrium itself, with a flat roof supported on 4 columns. The existence of an impluvium is unlikely given the lack of rain in this region. Whether the centre of the room was open is unknown but this is possible and might result from a desire to provide light for the flanking rooms, which were all roofed. Room 1a forms a more private area; it is a large space (7 x 9.8 m), larger than expected, and the exact details of its roof structure are uncertain. No obvious triclinium presents itself. Room 10 is a possible candidate for a domestic shrine; despite the lack of religious themes in its decoration, most of the plaster sculptures were found there and could originally have been set on the plastered ledge in its E wall; traces of oily mud on this ledge may well point to ritual activity. Room 9/10 in its original layout possessed a niche in its S wall that could have served as a focus for acts of veneration. Some such niches at Karanis and elsewhere possessed religious paintings, and are distinguished by elaborate frames; in this respect we may note the existence of engaged pilasters at the entrance to room 10 at Kellis.

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14 Data on these sites can be found in P. Davoli, *L'archeologia urbana nel Fayum di età ellenistica e romana* (Napoli 1998); for Tebtynis, see C. Gallazzi and G. Hadji-Minaglou, *Tebtynis 1* (Cairo 2000), and C. Gallazzi in *Egyptian Archaeology* 14 (1999) 16-17; for Dime, see P. Davoli, ibid. 25 (2004) 34-36.


18 I had at first wondered if B/1/1 served some civic function, but, as R. S. Bagnall pointed out to me, a village the size of Kellis would not have possessed an elaborate bureaucratic structure of the kind to have needed such a building.

19 The distance between the columns is such that a flat roof supported on palm beams is structurally possible.

20 It is at the upper limit for roofing with beams derived from the palm without employing some central support system (I owe this information to F. Lemaître).

21 A. Ross and B. Stern, "A preliminary report on the analysis of organic materials from Ismant el-Kharab," in Bowen and Hope 2003 (supra n.1); similar oily deposits occur within temples and churches at Kellis.

The standard houses at Kellis have elements in common with traditional domestic architecture throughout Egypt dating back at least to the second millennium. They are of mud brick, prefer a staggered entrance system, have one or more central living areas off which open other rooms, and are either square or rectangular. Shrines are also incorporated into Egyptian house complexes of various periods, sometimes within the house itself. On the other hand, in possessing central open rooms or courts (and, of course, in their decoration) the Kellis houses differ significantly; in traditional elite Egyptian houses the main living space regularly had a flat roof supported on wooden columns. The discovery of these elite houses at Kellis can be taken as an indicator that they were to be found more widely throughout Egypt.

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The wall-paintings, by H. Whitehouse
In the 5 rooms examined, 6 different decorative schemes had been employed: two variations on panelled décor; ‘wallpaper’; and three designs incorporating columns, two of them also imitating decorative revetments (opus sectile). Although they have aspects in common with other wall-schemes uncovered at Kellis, the new paintings greatly expand the range of decoration at the site. They are also of technical interest since they retain signs of how they were drafted and executed.

The largest room (1) is unified by the use of the same green colour for the walls throughout, but is divided by the application of two different schemes on that green ground. This may reflect the structural difference between its N and S parts and perhaps also a functional one: the N part (1b) was probably a more public area where visitors would be received, the enclosed space at the south (1a) being more private.

At the N end, the main zone of the wall is divided into large panels (1056 mm max. pres. height x 970 mm max. pres. width) with a motif painted at the centre of each. They are framed by red and yellow bands, the colours changing their relative position from one panel to the next. Between them is a vine (black stem, white leaves, red/yellow grapes) undulating upwards within a narrow vertical frame, formed by a black strip within a cream band, which abuts the frames of the large panels. The N wall (col. pl. 1) displays the most substantial extent of this scheme, seven panels in all, but the surface is not well preserved and the details of the central motifs are difficult to make out. The majority show a bird (all of which seem to be doves, save for the westernmost, apparently a cockerel) accompanied by red/white floral sprays, with lily-like flowers formed of 3-pointed petals. The panel to the left of this, next to a doorway, shows a female face in frontal view (col. pl. 2), her black hair ending on either side in upward-curving locks and a golden yellow nimbus(?) above. The face is set directly above a

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25 The most comprehensive study of the topic is A. Stevens, A study of the material evidence for non-State religion at Amarna (Ph.D. diss., Monash Univ. 2002), now being prepared for publication.

26 Cf. my preliminary comments in Hope et al. (supra n.8) 46-49.
in upward-curving locks and a golden yellow nimbus(?) above. The face is set directly above a golden-yellow chalice(?) surmounted by an arc, seemingly a cover, with traces of some white detail below. Below the main zone, the dado is decorated with oblong panels (282 mm ht. x 980 mm av. width) outlined in black.

The decoration continues on the E side of the room, with two narrower panels (traces of a bird and lily-spray can be seen on one), followed by the grape-vine and then by a lattice design composed of diagonal strips, alternately red and yellow and outlined in white. The same lattice-work, in larger format, is painted around the columns.27

A short, incomplete stretch of panels is also found on the wall at the W side of room 1b, outside room 4, with the face-and-chalice motif, and a bird.

The small room 10, entered off the E side of room 1b, has the simplest scheme of all (col. pl. 3): the pink-ground walls were decorated with at least three zones of oblong panels (250-60 mm high). They are outlined in red and black, with an inner pink band enclosing a central reddish rectangle, and are set like ashlars blockwork, their width (max. 850 mm) varying according to their situation; the 'blocks' of the second course from below turn around the corners of the room. Rotated 90°, they also create vertical panels on the reveals of the doorway.

At the S end (room 1a), clearance revealed a completely different green-ground scheme (col. pl. 4): a main zone with a 'wallpaper' pattern of intersecting circles, demarcated below by an undulating vine (leaves and stem only, in white) between red stripes. The same motif is used as the vertical border at the N end of the W wall, and might also have formed an upper border to the design, the maximum preserved height of which comprises three and a half circles.28 The pattern is neatly executed, the circles emphatically and precisely outlined in black, with a heart-shaped petal (the shading moves from red to pink to white) at the centre of each; the lenses formed by the intersections are filled with triple rows of white dots, while single large yellow dots mark off in quarters the circumference of the circles, thus forming the centrepiece of each quatrefoil formed by the lenses. A short barred line extends into the circle from each dot. This kind of circle pattern was equally at home in mosaic pavements and on coffered ceilings,29 as painted decoration, it gradually moved from the ceiling to the wall, along with other 'wallpaper' designs increasingly employed in this fashion from the time of Vespasian on.30 The dado (max. ht. 530 mm) is decorated with oblong panels framed by black and yellow bands, and divided into quarters by red cross-bars within a rectangle of paired black lines.31 The diagonal bars are formed of linked wedge-shapes crossing at a bow-shaped centrepiece; they resemble the cross-bars on the double doors depicted on loculus-slabs of Alexandrian tombs, fittings that in real life were probably made of metal.32

Numerous fragments of painted decoration in a different style, many overpainted plain white, as well as fragments of stucco wall decoration in two different geometric patterns, were

27 It was also painted on the column shafts in the forecourt of the temple of Tutu at Kellis.
28 A similar vine border formed the upper limit of a 'wallpaper' design in a small room within the temple enclosure: H. Whitehouse, "Wall paintings in Shrine IV of the Temple of Tutu," in Hope and Bowen 2002 (supra n.1) 311-21, esp. 316, pl. 4.
30 R. Thomas, Die Dekorationsysteme der römischen Wandmalerei von augusteischer bis in trajanische Zeit (Mainz 1995) 154-59 and 306-7. For an example of circle pattern painted above a zone of imitation opus sectile, see the frigidarium in Höllstein (Switzerland) dated to the mid-2nd c.: B. Kapossy, Römische Wandmalereien aus Münzingen und Höllstein (Bern 1966) esp. 36-37, fig. 10.
31 The panels' width averages 650-665 mm, but is adjusted according to their situation and the proportions of the wall.
32 Typically these have jagged outlines like palm-branches and are bicoloured — see the examples from the Gabbri necropolis: A. Guinier-Sorbet et al. in J.-Y. Empereur and M.-D. Nenna (eds.), Nécropole 1 (Cairo 2001) 185-86, 197 figs. 4.5-6, 205 with col. pls. 4.23-24.
recovered from the fill of this area. They might have belonged to a room in an upper storey, if not to the uppermost zone of the ground-floor walls. All these await further study and the reassembly (on paper, at least) of their designs. They lay on top of fragments of the painted ceiling, which lay close to the floor level. The ceiling fragments show parts of a brightly-coloured geometric scheme, including lozenges forming 8-pointed stars, rectangles and octagons with golden-yellow busts of divinities (Isis and Serapis-Helios) on a green or red ground (col. pl. 5). The precise design remains to be worked out from the best-preserved pieces; although such a pattern would be typical of mosaic floors, it was doubtless intended here to evoke a coffered ceiling, the perspective effects of which are recalled in the outlines of the geometric shapes.

The intersected circle which is the key feature of the ‘wallpaper’ design is reprised in the two small rooms lying on the W side of room 1a, where the main zone is divided into square (1150 mm) panels (none preserved to its full height), separated by single (in room 2) or paired (in room 3) columns. In room 2 only their shafts, standing on a plain black socle, survive, painted in graduated shades of grey with a central highlight. Each panel has a central plain-coloured square within a patterned poised square, with patterned triangles at the outer corners (col. pl. 6). Two different patterns are used: the swirling concentric markings of ‘onyx alabaster’, here rendered in many colours, and a chequer pattern composed of ‘tiles’ in diagonal rows (white, red, pink, red). The ‘alabaster’ and chequer pattern exchange their respective positions from panel to panel, and the colour of the plain square is alternately red or yellow, outlined with black lines. In this small room now open to the sky, the total effect is overpowering; for ancient viewers in much reduced lighting, only individual elements would have struck the eye. To the right of the SW corner (painted plain black), the design is interrupted by a short section with a simpler, more geometric, version of the pattern present in the ‘wallpaper’ outside; alternating grey and black squares divide the circles into quarters and emphasize how the lenses can be viewed as petal quatrefoils. This panel faces the entrance from the green room (1a) with its busy circle design, and the choice of pattern was perhaps influenced by the view through from there.

In room 3, each square panel is filled with a single intersected circle, and the ‘alabaster’ and chequer patterns alternate in the lenses and main area of each circle (col. pl. 7). The spandrels at the corner of the squares are plain-coloured, alternately yellow and red. The paired columns between the panels flank an area of plain red. At the N end of the W wall, they are preserved to their full height, with Corinthian capitals painted in white over red, very schematically rendered and now much weathered (but see the description below of those in room 4). Above them runs a narrow frieze of wave-scroll, black on white. The column shafts seem to have been painted grey, as in room 2, but the surfaces here have weathered to white, scored through with lines like fluting (see below). The shafts stand on a black socle decorated with a frieze of black-outlined tangent octagons, alternately red and yellow, each enclosing a small rectangle of the other colour, outlined in black; the interstitial triangles are purple.

Corinthian capitals are also depicted atop the columns in room 4 to the north: only the S wall was completely cleared in this room, revealing two rectangular panels (1355 mm high by 1040 mm wide) separated by a pair of columns and flanked by a single column at either end (col. pl. 8). The left-hand panel has a yellow ground with a central red square; the right-hand panel reverses the colours. The panels and the central squares have wide cream frames with internal black lines, imitating mouldings, and the panels are defined internally with paired lines, pale yellow on the red ground and black on the yellow. The column shafts are in a highlighted grey, with a red field between the shafts enlivened by a narrow linear rectangle in cream; a vertical red strip along the outer side of the columns suggests the continuation of

33 Similar stucco wall fragments were found elsewhere in the cleared area, at the N end of room 1, in rooms 4, 6, 10 and 15-16.
34 The socle measures 145 mm to the gypsum floor but extends below this for c.100 mm.
35 Now pink but perhaps originally red, outlined in white (the walls of this and the adjacent room 3, coated with a grittier plaster than used elsewhere, have not fared so well).
end of the wall. The Corinthian capitals, much better preserved here than in room 3, are painted with cream details on a dark red ground. Although rendered schematically (with blobs on stems for the volutes and helices, spiky acanthus leaves, star-like fleurons on the abaci [nothing is visible on the abaci in room 3]), and paired black lines to suggest the astragal, they are recognizable of the Alexandrian Type I. The columns support a narrow black band such as also forms the outer margin of the wall; at the top, the painted plaster finishes with a neatly bevelled edge, and the wall above is plain white. Partial clearance of the W and E walls showed that the design continues with a single column at each corner, followed by a yellow-ground panel on the W wall, a red one on the E wall. The socle is plain black.

Technical features

Draught lines in red or black paint are visible under several details in these paintings, but there is also more substantial evidence for how the designs were set out. On the walls of room 1a, the circle design was laid out on a grid of squares (107-8 mm) applied to the green-painted wall as a series of dotted lines in red-brown paint, suggesting use of the traditional Egyptian practice for laying out a preparatory grid — snapping a cord dipped in red paint across the wall, both horizontally and vertically. At the N end of the W wall of this room, horizontal marks in red-brown paint indicating the divisions of the grid are clearly visible (col. pl. 9). Upon the grid the black circumferences of the circles (diam. 209-12 mm) were then painted in a neat outline with no loose brush strokes beyond the edge, using a compass-like device which has left a hole at the centre, on an intersection of the grid-lines (obscured in many places by the subsequent freehand painting of the central petal). The yellow and white dots were added freehand, in thick paint. That such details were indeed the finishing touches is clear at the N end of the W wall, where red and white paint from the petals has dribbled on to the vine frieze below. The grid was only used for this part of the design; the details of the socle were laid out in ruled lines applied in red-brown paint, as are visible under the cross-bar motif at the base of the W pier.

A grid was also used to set out the circle pattern in room 2, but here individual red spots were applied in horizontal and vertical lines at intervals of 128-135 mm; the circles were then draughted in red, again with a compass-like instrument that has left round depressions. Draughting lines of red spots, perhaps made by moving a paintbrush along a solid rule, can also be seen in room 3, defining the outline of the column on the N wall, and the interior divisions of the paired columns on the W wall that look like fluting but seem to have indicated the placing for stripes of paint in shades of grey, so as to model and highlight the column shaft (col. pl. 10). The position of these divisions has been roughly marked at the top of the capitals with short grooves in the plaster. The octagonal design on the socle was draughted on a grid of squares (105-110 mm) in dilute black. The repetitious amoeba-like shapes in the 'onyx alabaster' of rooms 2 and 3 suggest that a block or stencil may have been used, at least for the core shape, the bands around which could then have been added freehand.

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36 This colour scheme survives on capitals in Alexandria: see examples cited by G. Foerster, Masada V (Jerusalem 1995) 112, in comparison with those at Herod's palace, which have dark red or purple paint in the recessed areas, and gilding on the carved details (his col. pl. 16a).
39 For a conventional bronze compass which would incise a circle, see A. Donati, Romana pictura (Milan 1998) 205 and 302 no. 98.
40 At the W end of the S wall, the painter lost control of the design (or ran out of white paint?) and filled the lenses with yellow dots.
41 Apparently made before the plaster was fully dry, although here, as elsewhere at Kellis, the paintings are not frescoes but were applied to dry plaster: see L. Blondaux, "Conservation of archaeological wall paintings in the temple of Tutu," in Hope and Bowen 2002 (supra n.1) 61-63.
Color pl. 1 (top). Room 1b, N wall.  Color pl. 2 (lower left). Room 1b, N wall, detail of female head.  Color pl. 3 (right). Room 10, W wall, N section.
Color pl. 4. Room 1a, S and W walls.

Color pl. 5. Room 1a, ceiling, paintings of Isis and Serapis-Helios.
Color pl. 6. Room 2, N wall and N end of W wall.

Color pl. 7. Room 3, N end, with room 4 beyond.

Color pl. 8. Room 4, S wall, W end.
Color pl. 9. Room 1a, W wall, N end, detail of the 'wallpaper' design.

Color pl. 10. Room 3, W wall, N end, detail of the painted columns.
Discussion

The decoration of these rooms adds to our evolving picture of wall-painting in the Roman East, contributing further evidence to the debate on the relationship of provincial decoration to the Pompeian Styles, and the continuing eastern use of variations on the Hellenistic ‘Masonry Style’ which divided the wall into a low socle, a main zone of large panels (orthostates), string course or frieze, and upper courses of isodomic blocks.42 The influence of this style is seen here in the décor of the ‘pink room’ (10), where the panels are treated like ashlar blocks, affording the decorator the flexibility of adjusting dimensions and orientation, and of turning corners, the latter a feature that has been particularly associated with masonry schemes as developed in the First Pompeian Style.43 This flexibility is also observable in the treatment of the lowest zone of the walls in rooms 1 and 3, where the designs move along independently of any divisions in the main zones.

In discussions of the origins of the Second Style with its illusionistic architecture, subsequent architectural decoration in the East has been adduced both as support for the style’s putative eastern origin, and, contrariwise, as evidence for its creation in and export from the West.44 Room 4 presents architectural illusion in its most reduced form, with panels separated by columns which ‘support’ an architrave and ‘stand’ on the socle; they might be envisaged as a colonnade in front of a wall decorated with coloured stone panels, were it not for the fact that any attempt at perspective or shading (save for the modelling of the column shafts) is absent; these architectural elements are merely forms dividing the surface. A similarly flat depiction of architecture, with the main zone of the wall divided into framed panels ‘fronted’ by columns supporting a decorated frieze and standing on a striped patterned socle, was uncovered at the S end of room 1 in structure B/1/1, here appositely painted in a colonnaded court.45

The alternation in rooms 2 and 3 of columns and opus sectile panels recalls in sharp contrast the rich, sophisticated effects of geometric patterns and ‘alabaster’ in the Casa dei Griffi, the earliest surviving Second-Style paintings at Rome.46 Nearer in time and location is the decoration of room 1 in house EZIV at Petra, where illusionistic architecture echoing Petra’s monumental façades is seen in perspective against a background of painted opus sectile, using both large geometric motifs and panels of repeat patterns (including an intersecting-circle design), with stucco decoration above.47 This décor, dated to the 1st c. A.D., has been compared with Second-Style wall-paintings, as well as with simpler schemes at Petra and Masada, and adjudged an “old-fashioned” provincial interpretation of what had been high fashion in early Augustan Italy.48 In the North Palace at Masada (37-4 B.C.), the architecture and decoration of the banqueting-hall features real columns, in a portico fronting a wall with engaged columns; the

42 M. S. Venit, Monumental tombs of ancient Alexandria (Cambridge 2002), 28, 53-54 and 79-83, discusses Alexanderian examples of this style, categorizing the purely painted (as opposed to plastic) examples as ‘zone style’, for the style’s general characteristics, see R. Ling, Roman painting (Cambridge 1991) 12-22.
43 A. Laidlaw, The First Style in Pompeii (Rome 1985) 25-37. See, however, a Hellenistic scheme similar to that of room 10, in which outlined pseudo-isodomic blocks form the main decoration, and turn corners: R. Ginouvès, Macedonia from Philip II to the Roman conquest (Princeton 1994) 104 fig. 92 (House at Amphipolis, 2nd c. B.C.).
44 See K. Fittschen, “Wall decorations in Herod’s kingdom: their relationship with wall decorations in Greece and Italy,” in K. Fittschen and G. Foerster (edd.), Judaeas and the Greco-Roman world in the time of Herod in the light of archaeological evidence (Göttingen 1996) 139-61, esp. 139-40.
pedestals and screen-walls of the portico are painted with 'alabaster' and opus sectile designs, and the wall with red and white 'orthostates' separated by narrow marbled panels.\textsuperscript{49} Rooms 2, 3 and 4 at Kellis might be seen to present the ultimate reduction of this kind of scheme, an example of the ongoing decline of the Second Style in eastern provincial contexts; but the evocation of stone (in both patterning and colour, especially the red/yellow counterchanges) and decorative revetments is a constant element in these schemes, hinting at the influence of Hellenistic, specifically Ptolemaic, interiors. The imitation of 'onyx alabaster' is ubiquitous in Ptolemaic and Roman wall-paintings in Egypt, the source of the stone,\textsuperscript{50} and has been taken to indicate the Egyptian origin of this element of decoration, at least.\textsuperscript{51} The particular combination of 'alabaster' and chequered 'tilling' in rooms 2 and 3 is already found at Alexandria in the later Ptolemaic period, in a more conventional horizontal scheme in tomb II at Anfushy.\textsuperscript{52}

Excavations at Kom el-Dikka have produced domestic wall-paintings reminiscent of the Masonry Style and tentatively dated to the Early Roman period, with large square panels framed in red and black, some containing traces of central motifs, alternating with narrow ones decorated with garlands, with a plain dado below and traces of a string course above.\textsuperscript{53} This scheme could be compared with the decoration at the N end of our room 1b, itself related in a general way to a style seen throughout the empire from the later 1st c. A.D. onwards, where the main zone of the wall is divided into large framed fields, which may carry a central motif; the fields are separated, and sometimes surrounded, by narrower areas of contrasting colour (red fields with black being especially favoured) carrying various types of ornamentation.\textsuperscript{54} Such a scheme has been found in the mammisi of the temple of Tutu at Kellis, where Pharaonic and classical décors are combined; the walls' main zone features alternating red and yellow panels, surrounded on all sides by a scrolling grape-vine on a black ground.\textsuperscript{55} The panels are quartered with cross-bars, and have at their centre a framed gorgoneion, surmounted by a bird holding grapes in its beak. By contrast, the scheme in room 1a-b is unusual for its uniform ground and also the particular colour chosen, green.

Further study of these walls and of the many fragments of decoration and sculpture retrieved from the fill should help clarify what models these decorators at the fringe of the Roman empire were following and to what extent local variations are present.

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\textsuperscript{49} Foerster (supra n.36) 18 and 22, fig. 32 (plan), col. pls. 1, 4a, 11 and 12a-b.
\textsuperscript{50} Actually a banded travertine, for which 9 quarries have been identified: B. Aston et al. in P. T. Nicholson and I. Shaw (edd.), \textit{Ancient Egyptian materials and technology} (Cambridge 2000) 59-60; R. Gnoli, \textit{Marmora romana} (rev. edn., Rome 1988) col. figs. 224-25 (Alabastro cotogno/cotogno erborizzato).
\textsuperscript{51} Flitschen (supra n. 44) 146.
\textsuperscript{52} Rooms 1, second phase of decoration, and 2: Venit (supra n.42) 80-83 and 199-200.
\textsuperscript{53} G. Majcherek, \textit{Polish archaeology in the Mediterranean} 13. \textit{Reports 2001} (Warszawa 2002) 41-43. Most of the Kellis walls are not preserved to a height at which a third zone of decoration would appear, but those that are seem only to have had plain white surfaces above the main zone.
\textsuperscript{54} Thomas (supra n. 30) 308-11.
\textsuperscript{55} Hope in Hope and Bowen 2002 (supra n.1) 188, pls. 10-11, and in Bowen and Hope 2003 (supra n.1) 218-21, pls. 6-7; O. E. Kaper, "A painting of the gods of Dakhla in the temple of Ismant el-Kharab," in S. Quirke (ed.), \textit{The temple in ancient Egypt} (London 1997) esp. 205 and col. pls. VIIb-c.
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