AIN EL-GEDIDA

2006-2008 EXCAVATIONS OF A LATE ANTIQUE SITE IN EGYPT'S WESTERN DESERT

Nicola Aravecchia

With contributions from Roger S. Bagnall, Pamela J. Crabtree, Delphine Dixneuf, Dorota Dzierbicka, and David M. Ratzan

TABLE OF CONTENTS

LIST OF PLATES

PREFACE

This archaeological report is the first comprehensive study on the excavations carried out at the site of Ain el-Gedida, in the Dakhla Oasis of Upper Egypt, between 2006 and 2008, followed by two study seasons conducted in 2009 and 2010. During these seasons, the project team also recorded areas of the site excavated between 1993 and 1995, by the Supreme Council of Antiquities of Egypt and briefly described in an article by Mr. Kamel Bayoumi, who conducted these excavations.[1] The work reflected in the present report has been presented briefly in two earlier articles by the author.[2] The project was sponsored by Columbia University during the entire excavation period, with management passing to New York University starting with the 2009 study season.

Two primary goals drove the writing of this report. One was to offer a comprehensive presentation and discussion of the archaeological and documentary evidence retrieved at the site during the three years of excavations and the two study seasons that followed. I have tried both to make this evidence available in the form needed by scholars and to keep the study accessible to others interested in the site, particularly in its church complex. A second goal was to use the discussion of the material evidence to approach and try to find answers to broad questions that led, in the first place, to the development of the research project and constantly inspired and drove our research activity, both in and outside the field. Among these were issues of relative and absolute chronology; questions about the origins and the abandonment of the site, about paganism and the spread of Christianity at the site (in relation to the oasis) in the fourth century; highly-debated issues concerning the nature of the site and its place within the physical,

[1] Cf. Bayoumi 1998.
[2] Originally presented at the 2006 and 2009 Dakhleh Oasis Project International Conference. Their publication is forthcoming. The preliminary reports of all seasons are available on-line: cf. Aravecchia 2006-2010.

administrative, and economic environment of the Dakhla Oasis in Late Antiquity; and also a necessity (and desire) to learn more about the ancient inhabitants of Ain el-Gedida, their social structure and the patterns of their daily life.

Chapter I is an introduction to the Dakhla Oasis and to the site of Ain el-Gedida. The evidence for the spread of Christianity throughout the oasis, particularly in the fourth century when Ain el-Gedida flourished, is presented here. The chapter includes also a brief history of the research project, from its inception to the work carried out on site each season, and information about the methodology of excavation and documentation that was adopted. Chapters II-VI discuss the data collected during the survey and excavations carried out at Ain el-Gedida. The evidence is divided by topographical area (*i.e.*, the five mounds of the site), by building, and by room, with a thorough analysis of the architectural features, their stratigraphy, finds, and the contribution that their study may give to a better understanding of the site's history. Chapter VII concludes by touching upon broad issues -just mentioned above- concerning the identification of the site's nature, its development, and its relation to the broader context of the Dakhla Oasis in the fourth century. There then follow five chapters, written by specialists of the Ain el-Gedida research team, cataloguing and presenting the ceramics, the coins, the documentary evidence (mostly ostraka), other categories of small finds, and the zooarchaeological remains retrieved at the site.

I am profoundly indebted to Prof. Roger Bagnall, who invited me to join the excavations at Ain el-Gedida as the field director since the very beginning of the project. Throughout the years, he has provided me with constant and invaluable guidance, at both professional and personal levels. I am also grateful to the faculty of the Department of Art History at the

University of Minnesota and, in particular, Prof. Rick Asher for having supported, when I was still a doctoral student, my participation in the Ain el-Gedida mission.

I would like to acknowledge Prof. Paola Davoli for having shared with me her vast knowledge and expertise in archaeological fieldwork in Egypt. I also feel deeply grateful for the invaluable contribution given to the project by each and every member of the Ain el-Gedida team and, in particular, by my assistant and senior archaeologist Dorota Dzierbicka. Their skills and their dedication to the project, both in and outside the field, made the three seasons of excavations at Ain el-Gedida an extremely successful and rewarding experience.

Finally, I would like to thank my family and friends for their unfailing belief in the value of my research project and their support throughout these years.

CHAPTER I

INTRODUCTION

I.1. Ain el-Gedida and the Dakhla Oasis

The Dakhla Oasis lies in the Western Desert of Upper Egypt, *ca.* 800 km southwest of Cairo, 280 km southwest of Asyut, and about 300 km west of Luxor (pl. 1). It is one of the five major oases that lie west of the Nile Valley, including Siwa, Bahariya, Farafra, Dakhla and Kharga.

<Plate 1about here>

Dakhla is oriented northwest-southeast and has an extension of *ca.* 80 km from east to west and *ca.* 30 km from north to south, covering a green area of *ca.* 410 km^2. It lies to the south of an escarpment, 300 to 400 m high, which separates the depression of the oasis from the northern Libyan plateau.[1] In fact, the oasis does not consist of a continuum of fertile, irrigated land, but rather of a set of smaller oases, divided by the desert. To the west of Dakhla are the dunes of the Great Sand Sea and to the south is a vast desert expanse leading to Sudan. About 190 km east of Dakhla, and separated from it by desert land, is the Kharga Oasis. Apart from the escarpment, the only mountain of the depression is Gebel Edmondstone, located toward the northwest end of the oasis. Smaller outcrops and spring mounds dot the relatively flat landscape, which is at a height of 92-140 m above sea level.[2]

The natural environment of Dakhla is harsh. The average temperatures are high, soaring to 40° and beyond during the summer months.[3] Also, significant temperature differences exist

[1] Cf. Kleindienst et al. 1999, 1.
[2] Detailed information on the geology and geomorphology, but also on the palaeobotany and palaeozoology of the Dakhla Oasis, is available in Kleindienst et al. 1999. Cf. also Mills 1999, 171.
[3] Cf. Kleindienst et al. 1999, 3, and Giddy 1987, 3.

between day and night, especially in the winter. Precipitation is a very rare occurrence, while northern winds hit the oasis with fierce intensity, causing sandstorms that halt any human activity.[4]

The oasis lies in a region that is the result of geological phenomena occurring since the Early Cretaceous.[5] Surveys carried out in Dakhla gathered evidence, datable from the Late Cretaceous to the Quaternary Eras, proving that large parts of the oasis were covered with water.[6] Afterwards, dramatic environmental changes led to a progressive desertification process of the entire region, which obliterated the rich prehistoric fauna and flora and the first human settlements of the oasis, while wind erosion progressively cancelled their traces.

In antiquity, several roads and caravan routes connected Dakhla with the neighboring oases, the Nile Valley, and farther regions, mostly through the northern escarpment or via Kharga.[7] The northern escarpment is dotted with passes, which allow access from the oasis onto the plateau and further north.[8] The Darb el-Tawil is a desert track linking Dakhla to Manfalut, near Asyut in the Nile Valley, and was one of the two main routes used in antiquity to access the oasis. Another route, only partially known, heading to Asyut is the Darb el-Khashabi; it sets off at the village of Ismant and heads straight north onto the escarpment via the Naqb Ismant. The main alternative route to the Nile Valley is via Kharga, which is connected to Dakhla through the Darb Ain Amour, a road crossing the Abu Tartur Plateau. A longer, but easier, path from Dakhla to Kharga is the Darb el-Ghubari, which runs further south and bypasses the Abu Tartar Plateau. The Darb el-Farafra leaves from El-Qasr in the western part of the oasis and after crossing the

[4] Especially in the months from March to June: cf. Kleindienst et al. 1999, 3.
[5] *Idem*, 2.
[6] *Idem*, 6.
[7] Cf. Vivian 2000, 115-16. Cf. also Giddy 1987, 10-11.
[8] From west to east: Bab el-Qasmund, Naqb Asmant, Naqb Balat, Naqb Tineida, Naqb Rumi, Naqb Shyshini: cf. Vivian 2000, 114.

escarpment at Bab el-Qasmund runs northwest to the Farafra Oasis, continuing thereafter to Bahariya and further north. The Darb Abu Minqar is the modern roadway, leaving from El-Qasr and passing by the Gebel Edmondstone in a northwest direction (toward Farafra and beyond). The only route heading south of Dakhla is the Darb al-Tarfawi, crossing the inhospitable southwestern desert.

Life in Dakhla has been made possible since antiquity by easy access to water, located in aquifers under the sandstone bed of the oasis.[9] The low elevation of the depression makes it relatively easy to reach subterranean water, which is rich in sulfur and iron. Hundreds of wells are spread throughout the oasis, many of which date to the Roman period, and several springs can also be found.[10] An extensive network of irrigation canals brings the water from the wells, which nowadays are often operated with mechanical pumps, to the cultivated fields.[11] Thus far, no ancient *qanats*, i.e., irrigation systems based on a series of vertical shafts connected through a sloping underground channel -that transports water from its source to destination-, have been identified in the oasis; this lack of archaeological evidence seems to contrast with the abundance of remains found in the neighboring Kharga Oasis, raising questions on the possible reasons.[12]

After centuries during which the oases existed in relative isolation, in 1959 the Egyptian government started a program of modernization and agricultural development in the Western Desert, including the Dakhla Oasis. The "New Valley Project" caused a substantial increase in the population of the oasis, through the immigration of farmers from other regions. At the same time, the indigenous tribes of Bedouins progressively adopted a more sedentary life-style and

[9] The particular type of sandstone found in Dakhla is described in detail in Schild and Wendorf 1977, 10. On the underground water and its possible sources, cf. Giddy 1987, 29-31.
[10] Wells are considered a source of considerable wealth in the oasis: cf. Mills 1999, 177. On phreatic layers beneath the Western Desert, cf. Ball 1927a-b, Hellström 1949, and Murray 1952.
[11] On the irrigation systems used at Dakhla in antiquity and modern times, cf. Mills 1999, 173.
[12] Cf. Vivian 2000, 115. Cf. also Bagnall and Rathbone 2004, 262. On *qanats*, cf. Wuttmann 2001.

became farmers as well. Currently, about 75,000 people live in Dakhla, about 11,000 in the capital Mut and the rest in the remaining fifteen villages.[13]

Evidence of human activity in Dakhla can be traced back to *ca.* 400,000 BCE, in the Lower Palaeolithic.[14] The Neolithic is also represented, with remains that are datable to the first half of the ninth millennium BCE.[15] The oasis lies far from the Nile Valley but, notwithstanding its location that favored a relatively high degree of isolation, it held regular contacts with the people of the Valley throughout its history. In the Pharaonic period, Dakhla (together with its neighboring oases) was a strategic outpost on the way to Nubia and an economically significant site.[16] According to A. J. Mills, the oasis experienced the arrival of a substantial number of migrants/settlers from the Valley starting around 2300 BCE, likely employed in the agricultural exploitation of the fertile land.[17] Archaeological evidence of settlements from the Old to the New Kingdom was found, although the number of Old Kingdom sites vastly outnumbers those from the Middle and New Kingdom.[18] The oasis was continuously inhabited under the Ptolemies (although the evidence for this period is only now becoming substantial as a result of excavations at Mut) and, after 30 BCE, under the Romans, when intensive agricultural development took place.[19] At an administrative level, Dakhla became part of the "Great Oasis", which included Kharga, and was then divided into the Mothite and Trimithite units in later Roman times. It was under the administration of Rome that the oasis reached its highest population density and its

[13] Cf. Vivian 2000, 112. For 1987, Mills mentions a total population of 65,000, with 15,000 in Mut and the rest living in the other main villages and some smaller settlements: cf. Mills 1999, 173.
[14] Thanks to the work of R. Schild and F. Wendorf (cf. their 1977 volume).
[15] Cf. McDonald 1999, 130.
[16] Cf. Giddy 1987, 51-52.
[17] Cf. Mills 1999, 174.
[18] Cf. Bagnall and Rathbone 2004, 262.
[19] Dates, olives, and wine were among the specialized products of Dakhla and the other oases of the Western Desert in Roman times: cf. Kaper and Wendrich 1998, 2. According to Giddy 1987, 5, it is possible that he Romans were also interested in the extraction of alum.

economy thrived.[20] Water and fertile land were not the only reasons that attracted the interest of the Romans in the Great Oasis. Indeed, the region was strategically located at the periphery of the empire and along major caravan routes. These factors were likely the rationale for the establishment, throughout the region and especially in Kharga, of military outposts and fortresses, with the aim to protect the roads and the empire's commercial interests.[21]

Dakhla was populated also in the Byzantine period, although with evidence for economic decline and the abandonment, between the end of the fourth and the fifth century, of some areas of the oasis,[22] and from the Arab conquest until modern times.

Its "re-discovery" began in the early nineteenth century, with the exploration of several European travelers who wrote about the oasis, its people, and its significant archaeological remains.[23] The first European traveler to leave a written record of his trip to Dakhla was Sir Archibald Edmondstone, in whose honor the gebel at the west end of Dakhla was later named.[24] His arrival in the oasis in 1819 was immediately followed by Bernadino Drovetti, a French diplomat of Italian origin, and then by several other Europeans, including Frédéric Cailliaud (1819), Frederic Muller (1824), and John G. Wilkinson (1824). In 1874, Dakhla was reached by the scientific expedition organized by the German Gerhard Rohlfs, who carefully recorded the topography of the oasis.[25] In 1894, Captain H. G. Lyons went to Dakhla, followed in 1898 by Hugh Beadnell, who surveyed the oasis for the Geological Survey of Egypt, founded in 1896.[26] In 1908, H. E. Winlock and Arthur M. Jones traveled to Dakhla, and Winlock published a

[20] As testified to by the available archaeological and documentary evidence: cf. Bagnall and Rathbone 2004, 249; 262.
[21] Cf. Boozer 2007, 65-66.
[22] Such as at Kellis, Amheida, and Ain el-Gedida. There is no consensus among scholars on the reasons for the decline in the local population and the abandonment of sites in Dakhla (and neighboring oases) during the fifth century.
[23] Cf. Starkey 2001 and Kleindienst et al. 1999, 7-8.
[24] Cf. Edmondstone 1822.
[25] Cf. Rohlfs et al. 1875.
[26] Cf. Beadnell 1901 and Vivian 2000, 39-42.

detailed account of his trip in 1936.[27] Still today, his diary is a source of significant information on the oasis before the modernization process of the mid-twentieth century. W. J. Harding King followed in 1909, on a mission for the Royal Geographical Society.[28]

The relative geographical isolation experienced by Dakhla, the natural environment, and the dry climate favored, in contrast to what often happens in the Nile Valley, the excellent preservation of archaeological sites and artifacts. Nonetheless, it was only from the middle of the twentieth century, with the work of Ahmed Fakhry, that the oasis attracted significant scholarly attention.[29] In 1977, the Institut Français d'Archéologie Orientale (IFAO) began its scientific activity in Dakhla. In 1978, an international, multidisciplinary research venture (the Dakhleh Oasis Project) was created, with the aim to investigate all aspects of the oasis environment, its changes, and their effect on the development of human presence and activity in the oasis.[30] Research under the D.O.P. umbrella spans the period from Prehistory to the modern era; it is independently carried out by different teams and institutions, but always in a collaborative fashion, which promotes the exchange of knowledge and data among the various disciplines.[31]

I.2. Early Christianity in Dakhla

In light of the well-established connection of Ain el-Gedida with a fourth-century Christian environment, some remarks on the evidence for early Christianity in the oasis may be helpful. It is during the fourth century that Christianity seems to have spread and developed dramatically in the region of the Western Desert, the evidence for earlier centuries being

[27] Cf. Winlock 1936.
[28] Cf. Harding King 1912.
[29] Cf. Fakhry 1982 and Mills 1985.
[30] Cf. Thurston 2003, 17-22.
[31] Cf. the D.O.P website: http://www.arts.monash.edu.au/archaeology/excavations/dakhleh/index.php.

negligible.[32] The particularly rich heritage of Early Christian monuments from the Kharga oasis, to the east of Dakhla, points to the flourishing of Christian communities in the region long before the Arab conquest.[33] Churches, monasteries, and cemeteries excavated or surveyed at Kharga are witnesses of the profound influence Christian art and architecture had on the natural and urban environment of that oasis.[34]

Although the archaeological evidence for Christian monuments is more abundant, and is relatively better known, with regard to Kharga, the Dakhla Oasis also proved to be a suitable location for thriving Christian communities already at an early stage. The Dakhleh Oasis Project survey, carried out from 1977 to 1987, recorded well over one hundred archaeological occurrences assigned on the basis of ceramic evidence to the Byzantine Period (*ca.* 300-700 CE).[35] For most of the sites listed as "Byzantine",[36] however, no remains were found pointing to their use by a specifically "Christian" community. The information that was collected allowed a preliminary dating of these sites, including large settlements but also smaller *loci* such as caves and cemeteries, to Late Antiquity. Several data gathered during the excavation of cemeteries at Kellis and, quite recently, at Deir Abu Matta and near Muzawwaka, provide evidence on Christian burial customs in Dakhla, which are consistent with those found at other Christian sites in Egypt: bodies lying supine with their head to the west and almost no goods associated with them.[37] Yet, for most sites listed by the D.O.P., no precise conclusions can be drawn, without proper excavation, on the religious affiliation of the people living at those settlements. Literary,

[32] On the beginnings of Christianity in Egypt, cf. Bowman 1996, 190-202, Wipszycka 1996, and Davis 2004.
[33] For an introduction to Kharga, cf. Vivian 2000, 52-105, and Bagnall 2004, 249-61. On Early Christianity and ecclesiastical institutions in Egypt, cf. Wipszycka 2007b, 1997, and 1996.
[34] Among the most significant monuments of the Christian era in Kharga (and with the most dramatic visual impact on the natural landscape) are the cemetery of Bagawat (cf. Fakhry 1951) and Deir Mustafa Kashef (cf. Müller-Wiener 1963).
[35] 119 "Byzantine" sites are listed in Churcher and Mills 1999, 263-64.
[36] Although not necessarily occupied only in that period.
[37] Cf. Bowen 2003b, 168-71. The excavation of another Christian cemetery in Dakhla, located near Rashda, has been planned by Bowen (2008b, 2).

documentary, and archaeological evidence has shown that Egypt was a profoundly Christianized country already in the fourth century.[38] This might lead one to assume that Christian communities were somehow linked to most or all of the "Byzantine" sites identified in Dakhla, and indeed that is very likely by the later fourth century, but the mere fact that people from different ethnic, cultural, and religious backgrounds co-existed in Egypt in Late Antiquity prevents any easy generalization. At least some Egyptian temples were still operating in the third century and perhaps even the first quarter of the fourth.[39] Only an in-depth archaeological investigation could shed light on such matters in relation to those sites.

Significant evidence of a Christian presence in Dakhla during Late Antiquity comes from the site of Kellis/Ismant el-Kharab. The D.O.P. survey of 1981-82 found consistent traces of three churches, one located along the west edge of the village, and two, part of an extensive, multi-roomed complex, at the south end of the settlement.[40] The western church, excavated in 1992-93, measures *ca.* 15 m east-west by 7 m north-south and consists of two rooms, one to the west, possibly functioning as a narthex, and one to the east, with a passageway centrally placed within the shared wall. An apse with a raised floor, accessed via a step, is located along the east wall. The conch is flanked by engaged semi-columns and in front of it is a raised platform, accessible from the west through a couple of steps. Two doorways, placed to the north and south of the apse, open onto small side-rooms. *Mastabas* (low benches) run along the walls of the two rooms forming the main body of the church, the only access to which is through a doorway located in the south wall of the narthex.[41] This opens onto a cluster of seven rooms forming an architectural complex together with the church. The area covered by these spaces, whose

[38] While the evidence for earlier times is somewhat scantier: cf. Bagnall 1993, 278-80.
[39] Cf. Bagnall 1993, 261-68.
[40] Cf. Knudstad and Frey 1999, 189; 201; 205.
[41] There is a second door in this wall, opening onto a long, narrow room possibly used as a magazine: cf. Bowen 2002, 77.

function is unclear, roughly equals the church in size.[42] The only entrance to the complex is located in the southwest corner; it opens onto a large rectangular room with *mastabas*, possibly functioning as an anteroom. Two Christian burials were found against the east wall of the church and others in its proximity. These discoveries led the excavators to identify the complex as funerary.[43] According to the numismatic evidence, the foundation of the complex occurred around the mid-fourth century CE. The ostraka found in the building are largely dated to the third quarter of the fourth century, with links that can be established with similar material from the nearby site of Ain el-Sabil.[44]

The two churches built in the southeast periphery of Kellis were once part of a rather large complex.[45] The so-called Small East Church is located near the southeast corner of its enclosure, built against the east wall. It was partially investigated in 1981-82 by J. E. Knudstad and R. A. Frey and fully excavated in 2000 by Gillian Bowen.[46] The church, the overall dimensions of which are *ca.* 10.5 m north-south and 9.5 m east-west, consists of two rectangular, interconnected rooms oriented east-west. To the north is a large hall, originally barrel-vaulted, that was originally accessible through a doorway placed in the middle of the north wall (bricked in at some point in antiquity), and another door in the south half of the west wall. Only from this room could one enter the church to the south via two doors, one (larger) located in the middle of the walls separating the two rooms and one (narrower) at the west end of the same wall.[47] Bowen found ample evidence that the room had not been built originally as a church, and its conversion

[42] The archaeologists found the remains of mud-brick bins, donkey hooves, and straw in one of the rooms, which might have been used to keep animals: *idem*, 78.
[43] Although Grossmann believes that the nature of the complex was administrative: *idem*, 78.
[44] Roger Bagnall (personal communication, February 2011).
[45] Whose exact shape and size are unknown.
[46] Cf. Knudstad and Frey 1999, 205-6, and Bowen 2003a.
[47] Cf. Bowen 2003a, 158. According to her report, the west doorway was created removing part of the original wall and the central one was narrowed; in both cases, sections of the *mastabas* running around the walls of the church had to be removed.

into an ecclesiastical building entailed several alterations. The most significant was the addition of a raised, tripartite sanctuary set against (and partially into) the east wall, with a central apse, delimited by two pilasters and richly decorated, and two side rooms. According to ceramic and numismatic evidence, the Small East Church, which shares several and significant similarities with the church of Ain el-Gedida, was in use during the first half of the fourth century.

Bowen argues that the Small East Church is to be considered a *domus ecclesiae*, an originally domestic building altered by a Christian congregation in need of a place in which to gather and celebrate the Eucharist.[48] Therefore, it would slightly predate the construction of the Large East Church, which was, instead, the result of careful planning and possibly served a rapidly growing Christian population at the site.[49] The church, built against the southeast enclosure wall of the complex, is a rectangular building, measuring *ca.* 17 m north-south by 20 m east-west and oriented east-west.[50] It is in a fairly good state of preservation and some of its walls stand to a considerable height. Access was originally through three doorways located along the western wall and connecting the church with the larger ecclesiastical complex. The material used for the construction is mud brick, and most of the features were once covered with mud plaster and then whitewashed. The main body of the church is divided into a central nave and two side aisles by two rows of six columns. The base of the two columns at the west end of both colonnades show that they originally had a trefoil shape. A west return aisle (a common feature of Upper Egyptian Christian architecture) was created by adding an additional column between the north and south colonnades, against which is a mud-brick stepped platform.[51] To the east, a transverse aisle with four columns completes the ambulatory, which runs along the four walls of

[48] *Idem*, 162.
[49] *Idem*, 164.
[50] Cf. Bowen 2002, 65-75. According to the report of the excavator, the church possibly had a flat roof.
[51] Grossmann identified it as an *ambo*, although Bowen disagrees (cf. Bowen 2002, 73). For its similarities (and differences) with the podium found in the church of Ain el-Gedida, cf. III.1.1. below.

the church and surrounds a central area paved with flagstones. *Mastabas* are built against the north, west, and south walls. The north and south intercolumniations were originally sealed with wooden screens, as well as the northwest intercolumniation of the return aisle.[52] The sanctuary consists of a raised apse centrally placed against the east wall, framed by two engaged pilasters and with a floor of triangular mud bricks. A rectangular *bema*, accessed by two steps at its north and south ends, is located in front of the apse and protrudes into the transverse aisle. The apse is flanked by two small *pastophoria*, accessible from the transverse aisle; the south room is also directly connected with the apse via two steps.

A set of four rooms is located to the south of the church, accessed through the south aisle. The function of three of these spaces is unknown; a staircase and two ovens were found in the westernmost room, which likely served as a kitchen for the baking of bread used in the liturgy.[53]

The archaeological investigation revealed the existence of sub-structures predating the construction of the church, which, on the basis of numismatic analysis of the coins found in it, occurred under the reign of Constantine I.[54] Therefore, the archaeological evidence points to a dating, for the foundation of the Large East Church and of the other churches of Kellis, within a relatively short time range, i.e., the first half of the fourth century. This was undoubtedly a period of intense growth for Christianity in the oasis, as confirmed by the discovery of the ecclesiastical complex of Ain el-Gedida, which shares the same early chronology.[55]

In addition to Kellis' rich archaeological evidence, other sites in Dakhla testify to the existence of Christian communities in the oasis throughout Late Antiquity. The 1977-1987 D.O.P. survey listed two churches whose substantial remains are still visible above ground level.

[52] Cf. Bowen 2002, 67.
[53] *Idem*, 71.
[54] *Idem*, 81-83.
[55] For a discussion on the chronology of the church of Ain el-Gedida, cf. V.1. and VII.1. below.

One is found at the site of Deir el-Molouk,[56] located a few kilometers northwest of Masara, and consists of a cruciform building made of mud bricks.[57] It had a domed roof at its center and an entrance located, according to the D.O.P. surveyors, along the poorly preserved north wall.[58] It was internally divided into nine square spaces by four cruciform pillars centrally placed. Three apses with small niches were built against the east wall and three additional conches were located at the center of the north, west, and south wall, visually emphasizing the cruciform shape of the building. To the south of the church, and built against it, was a square room ending with a semicircular apse along its east side. This space was not interconnected with the main building and was accessible through a narrow room built outside the south apse of the church. The south room, which carried traces of painted plaster, was possibly built shortly after the construction of the church and functioned as part of the same complex. Subsequent architectural alterations affected the structure, as proved by the addition of later walls near the southwest corner of the church and the entrance to the south room. The dimensions of the complex, including the church and the south room, are *ca.* 17.5 m north-south by 15.5 m east-west. Its dating is unclear, lacking almost any archaeological and/or documentary evidence. However, the little evidence gathered from the test trenching suggests a later period for its construction than for the other churches excavated or surveyed in the oasis.

The archaeological remains of Deir Abu Matta,[59] located *ca.* 8 km southeast of the town of El-Qasr and *ca.* 6 km southeast of the archaeological site of Amheida (ancient Trimithis), had already been noticed in 1908 by H. E. Winlock.[60] The area of the visible archaeological remains

[56] D.O.P. number 31/405-M6-1.
[57] The information about the church is drawn mostly by Mills 1981, 184-85; pls. X-XI, and Grossmann 2002a, 566-67; plan 181.
[58] Although its exact placement is not marked on the available plans.
[59] D.O.P. number 32/405-A7-1.
[60] Cf. Winlock 1936, 24; pls. 12-13.

is fairly limited and is surrounded to the north, west, and east by some desertic land, habitations, and cultivated fields, and to the southeast by a paved road. In 1980, D.O.P. members surveyed the mound atop which a church is located and carried out test trenching inside the basilica.[61] An archaeological project involving the investigation and documentation of the church and adjacent structures began at the end of 2007, under the direction of Gillian Bowen. Full excavation started in 2008 and continued in the following years.[62]

The church is the largest visible building of the site. It is oriented east-west and is rectangular in shape, measuring *ca.* 24 m east-west by 10.35 m north-south. The mud-brick walls are over 1 m thick and are still standing several meters above ground level. They were built in sections and originally supported a beamed roof, as suggested by holes piercing the south wall. A triconch, whose entrance is framed by two engaged pillars, is set inside the church along its east wall. To the sides of the lateral conches, against the northeast and southeast corners of the building, are L-shaped *pastophoria*. According to Grossmann's plan, the church was originally divided into a nave and two side aisles by two rows of six square pillars, with an additional L-shaped pillar at the west end.[63] A return aisle along the west side of the building joined the two colonnades by means of two square pillars, forming an ambulatory around the central nave. A *mastaba* is still visible against the northern section of the west wall. Another bench -no longer preserved- was once located against the south wall. Evidence of a relatively narrow door -possibly a secondary entrance into the church- was detected toward the west end of the north wall.[64]

[61] Cf. Mills 1981, 185.
[62] Cf. Bowen 2009; 2008a-b.
[63] Cf. Grossmann 2002a, plan 180. Little archaeological evidence of the two east-west colonnades is available, and only in the western section of the church.
[64] Bowen (2008a, 11) noted how this doorway, *ca.* 84 cm wide, might have been too narrow to function as the main entrance. The latter may have been placed along the west wall.

Test trenches were dug along the north wall of the church between 1979 and 1980 and then in 2008. These revealed numerous Early Christian burials, although some of them, at least those excavated more recently, were found to have been disturbed.

Considerable evidence of different construction phases in the area of the church was documented since 2008. Architectural features predating the construction of the basilica are visible to the north of it, possibly extending further south. Other walls, later than the church according to the excavators, were found to the north and to the west. A wide, tower-like building was also excavated to the west of the basilica. It is possible that at least some of the structures excavated in the proximity of the church were associated with a small-scale monastic establishment,[65] whose existence in Late Antiquity is suggested by the modern name of the site.[66]

According to the D.O.P. report, fifth-century coins and ceramics datable from the fifth to the seventh century were collected during the survey and the test excavation.[67] The finds collected during the 2008-2009 seasons, which include coins, ceramics, and an ostrakon, were all dated to the fourth/fifth century CE, with no evidence from earlier or later centuries.[68] Hence, it is possible that the church of Deir Abu Matta was constructed a few centuries earlier than previously thought.[69]

In February, 2009, Kamel Bayoumi of the local SCA Islamic and Coptic Inspectorate found a church at the site of Ain el-Sabil, near the village of Masara. Although not yet excavated, the church, which is oriented to the east, shows a basilical plan with a central nave and two side aisles, defined by two rows of four mud-brick columns each. The apse is rectangular and is framed by two semi-columns. An arched niche is set into the sanctuary's north and south walls,

[65] Cf. Bowen 2008a, 8.
[66] According to Vivian 2000, 135, the site is also known as Deir al-Saba Banat ("Monastery of the Seven Virgins").
[67] Cf. Mills 1981, 185.
[68] Cf. Bowen 2008a, 8-11.
[69] Cf. Grossmann 2002a, 566, according to whom the church was built right before the Arab conquest.

which open onto side *pastophoria* through small doorways.[70] The church of Ain el-Sabil, the dating of which is yet unknown, seems to share some typological similarities with the Large East Church at Kellis, although a full-scale investigation of the former is needed in order to gather more precise information.[71]

Documentary evidence, although not abundant, testifies to the existence of Christian communities in the oasis in the fourth century.[72] One example is a Coptic letter, on papyrus fragments, discovered during the excavation of House 2 at Kellis and published by Iain Gardner.[73] Within lines 6-7, the document contains a specific reference to an individual named Titoue in relation to his trip to "the monastery to be with father Pebok."[74] This letter is quite significant, as it suggests either the presence of fourth-century monastic communities in Dakhla or links with such communities elsewhere. At the moment, no incontrovertible archaeological evidence has been found for monasteries in Dakhla, apart from modern toponyms that might be related to ancient monastic establishments.[75]

Another letter from House 4 at Kellis, also dated to the fourth century and still unpublished, contains a reference to "Father Shoei of Thaneta".[76] It might be an additional

[70] Information based on a personal visit to the site.
[71] Some ostraka from a house located in the proximity of the church are dated to the 360s, possibly the last occupational phase of the building (Roger Bagnall, personal communication, February 2011).
[72] Not all of them were, in fact, Orthodox Christian. Indeed, written sources exist that testify to a strong Manichaean presence in the region during the fourth century. On Manichaeism in Dakhla, cf. three essays by I. Gardner (2000, 1997a-b).
[73] Cf. Gardner, Alcock, and Funk 1999, 131-34.
[74] *Idem*, 133.
[75] Such as Deir el-Molouk and Deir Abu Matta. Winlock (1936, 24) mentions other toponyms (recorded by earlier visitors to the oasis, such as Beadnell and Drovetti) as evidence for the existence of Christian communities in the oasis during Late Antiquity: a well to the south of Qalamun, called Ain el-Nasrani (the Christian's spring), and two other sites in the same area, called El-Selib ("The Cross") and Buyut el-Nasara ("Houses of the Christians"). G. Wagner argued that the village of Tineida, located at the east end of the oasis, derived its name from the Coptic word for "monastery": cf. Wagner 1987, 196.
[76] Iain Gardner (personal communication). Published?

reference to a monastery in Dakhla, although the reading of "Thaneta" as a Coptic word for "monastery" is not beyond doubt.[77]

Additional evidence on Early Christianity in Dakhla might come from the planned investigations of the old mosque of El-Qasr, a Medieval town located along the northwest edge of the oasis. According to Fred Leemhuis, who leads a project for the study and preservation at the site, the tripartite structure and the east-west orientation of the mosque closely resemble the typology of the Christian basilica. Leemhuis noticed that the *mihrab* is not aligned with the main axis of the building, but slants awkwardly to the southeast. This might suggest that the *mihrab*, which had to be built facing Mecca, was a later addition to an east-west oriented building, possibly a church, that was turned into a mosque under the Ayyubids.[78] No excavation has yet been carried out to provide archaeological evidence for the use of the building as a church or concerning its original foundation. Nevertheless, the preliminary conclusions drawn by Leemhuis are quite cogent and make the future investigation project of the mosque particularly worthy of attention for the scholars of Egyptian Christianity.

On the whole, the documentary and archaeological evidence for the growth and expansion of Christianity in the oasis is quite extensive and gaining an ever-increasing scholarly interest. In particular, the work carried out at Kellis/Ismant el-Kharab added significant information on several aspects regarding the early developments of Christian architecture in the Western Desert and, more broadly, in Egypt. Above all, it showed how Dakhla had embraced Christianity, together with its artistic and architectural expressions, from an early stage, which went back to at least the early fourth century CE.

---

[77] According to Gardner, the word could also be a reference to a toponym and possibly correspond to the modern village of Tineida, located along the eastern edge of the oasis. Besides Kellis, other documentary evidence was recently retrieved at Amheida, testifying to the existence of a Christian community at the site in Late Antiquity: cf. Bagnall 2011 (?).

[78] Leemhuis, unpublished comments (February 2008).

The discovery of the church complex of Ain el-Gedida brings additional, significant evidence on the development of Christianity in the oasis, testifying to the fact that churches had become, by the fourth century, a familiar feature of the urban and country landscape of Dakhla. Therefore, the new data will help shed light on the process of far-reaching transformations that the society of the oasis experienced, at all levels, possibly beginning under Licinius and certainly since the advent of Constantine's rule in Egypt in late 324.[79]

I.3. Topography of the Site

Ain el-Gedida is located three kilometers north of the village of Masara and to a short distance to the northwest of the ancient site of Kellis (Ismant el-Kharab) (pl. 2). The whole site is delimited to the north by the escarpment, which dramatically divides the Dakhla Oasis from the desert plateau. A narrow strip of desert land, with two rocky mounds as its most striking topographical features, lies to the south of the escarpment. The desert is followed to the south by cultivated fields, which border with the northern edge of the settlement.

To the south, east, and west sides of the site today are mostly cultivated fields. The site is reachable through a very rough, unpaved track that leaves west of the main road leading from Dakhla to Kharga and crosses desert areas and crop fields (pl. 3).

<Plate 2 about here>

<Plate 3 about here>

The area is spotted with fairly numerous trees, bushes, and palm trees, which grow thanks to the easy accessibility to water (pl. 4). One source lies in a sunken depression a few meters to

[79] Cf. Bagnall 1993, 279-80.

the east of mound I;[80] water is also mechanically pumped out of a modern well dug to the northwest of the site and channeled for the irrigation of the surrounding cultivated fields. A network of narrow water canals runs north-south along the west and southeastern edges of the site, but also extends -quite dangerously- into the southern sector of the archaeological area.

<Plate 4 about here>

The toponym of Ain el-Gedida, which means "the new spring", points to the relative wealth of water in the area as the reason for its exploitation as cultivated land. There is a strong likelihood, although not a certainty yet, that the modern name coincides with the ancient toponym, at least on the basis of a Greek ostrakon that was found during the 2008 excavation season.[81] This inscription, of a rather utilitarian content, mentions a toponym that is the precise Coptic correspondent of the modern name "Ain el-Gedida".[82] Therefore, the abundance of a precious resource like water is the key to understand why a settlement developed at Ain el-Gedida in antiquity and the source of its name.

The site consists of five mounds of different sizes and heights (pl. 5): four of them (mounds I-IV) are relatively close to each other, while one (mound V) lies at a certain distance from the other hills.

<Plate 5 about here>

Archaeological remains were identified on all of them, but excavation was carried out only on mound I, which lies at the center of the site at a maximum height of *ca.* 116 m above sea level. It is the largest of the five hills identified as part of the same settlement and the one with the largest amount of visible archaeological remains. The mound extends for about 85 m from

[80] The depression is, at least in part, man-made and fairly modern. No evidence was found for the existence of a water spring in the same location in antiquity.
[81] Inv. no. 830: cf. Chapter X.
[82] If the correspondence were confirmed, the ostrakon would be the first known piece of written/documentary evidence about Ain el-Gedida.

north to south and 70 m from east to west and covers an area of about one-half hectare.[83] A track runs northwest to southeast along the north edge of the hill, which borders another north-south track to the west, parallel to a low water canal and thick vegetation. A hut, used by the *ghafir* (guard) of the site, was built near the southeast corner of the hill.

Mound II lies about 23 m south of the main hill and is separated from it by a low east-west oriented wall, 44.2 m long, which was built by the Egyptian team in the 1990s.[84] It measures 42 m from north to south and 21 m from east to west and the area of the archaeological remains is approximately 725 m^2.

About 48 m south of the main hill and 13 m southwest of mound II is mound III. Relatively few archaeological remains were identified above ground level, extending about 33 m north-south, 12 m east-west, and covering an area of *ca.* 300 m^2.

Mound IV lies 106 meters to the southwest of the main hill of Ain el-Gedida. It rises about 113 m above sea level, at a lower elevation than mound I. The main cluster of visible structures on the hill measures about 48.5 m from north to south and 27.8 m from east to west; it extends over an area of about 1500 m^2.

At a far greater distance from mound I than the three small hills to the south is mound V, which lies about 230 m to the northeast of area B, in a very disturbed context. It measures about 16 m from east to west and 11 m from north to south. The few surveyed archaeological remains extend over an area of *ca.* 130 m^2; however, this measure is particularly approximate because of the rather poor state of preservation of the features.

It is difficult to establish the overall dimensions of the site, including the five mounds. As said above, the cultivated fields, especially to the east and west of mound I and to the south of

[83] The length and width were taken at their maximum extent.
[84] The area between mound I and mound II, south of the modern east-west wall, and that to the southeast of mound I were seemingly used by the Egyptian mission to dump the sand from the excavation of area A.

mounds II-IV likely encroached upon a sizable portion of the ancient archaeological remains. It is therefore possible to assume that the process of agricultural exploitation of the land heavily modified the original morphology of the local environment.[85] This makes it hard to assess whether the areas between and around the mounds were also zones of dense construction, forming a continuum with the five mounds, or, vice versa, if the site consisted of separate clusters of buildings on each mound. Also, the heavily disturbed context of mound V complicates the situation, making it impossible, in the absence of further archaeological investigation, to establish its outline with any degree of precision. According to the survey carried out by the Dakhleh Oasis Project in 1980, the overall extension of the settlement is three hectares.[86] The CAD topographical map, which was generated using the data from the 2006-2008 survey, allowed us to calculate an overall extension of *ca.* 0.8 ha; since it was not possible to determine the original physical extent of the five mounds, the calculation took into account only the areas covered by the archaeological remains visible above ground.[87]

I.4. History of the Ain el-Gedida Project

In 1980, members of the Dakhleh Oasis Project carried out a preliminary survey of Ain el-Gedida, as part of their third season of investigation.[88] The focus was on the central part of Dakhla and covered the area including the villages of Budkhulu, Rashda, Hindau, Mut, Sheikh Wali, Masara, and Ismant.[89] 116 sites were recorded in an area of approximately 161 square

[85] A problem that is common to several other sites in the Dakhla Oasis: cf. Zielinski 1999, 186.
[86] The calculation is presumably based on the overall extension of the five mounds grouped together, with no specific reference to the archaeological remains surveyed at that time: cf. Churcher and Mills 1999, 263.
[87] The original extent of the settlement, at least in its latest phase of occupation, might have been significantly larger than the figure calculated for the visible archaeological remains at the time of the topographical survey, as also suggested by aerial imagery.
[88] A brief report of the work carried out during the 1980 season, including few notes on each surveyed site, is Mills 1981.
[89] *Idem*, 176.

kilometres, dotted with numerous wells, springs, and water channels, the latter undated but no longer in use at the time of the survey. The archaeologists of the D.O.P. identified several ancient sites that, on the basis of a preliminary analysis of the ceramic specimens collected on the ground and from test trenches, were assigned to a rather broad chronological range called "Roman/Christian".[90] Among them was Ain el-Gedida, unknown from documentary or literary sources.[91] Ain el-Gedida appeared to the surveyors as a group of low mounds lying in the proximity of each other. Extensive archaeological remains, visible above ground, were identified on all mounds, especially on the largest hill, where 145 rooms, clustered in several complexes, were noticed. A test excavation was carried out in a sample room; this space was cleared of the windblown sand that had accumulated in it and excavated down to 2.80 meters from ground level.[92]

The D.O.P. members assigned the site of Ain el-Gedida index number 31/405-N3-1, based on the site's location within the map that included all the surveyed sites.[93] No further information about the 1980 survey at Ain el-Gedida is available as published material, except for a brief mention of the settlement in an updated list of the archaeological sites surveyed by the D.O.P., which was published in 1999.

In 1993, the Coptic and Islamic Inspectorate of the Supreme Council of Antiquities in Dakhla began excavation at Ain el-Gedida, under the direction of Mr. Ahmad Salem and Mr.

---

[90] *Idem*, 182.
[91] The toponym "el Ain el-Gedid" is found in Winlock 1936, 17 and 19, but, according to the words of the explorer, refers to a site near Tineida, in the east part of Dakhla.
[92] The room is described by the surveyors as a "lower room." Traces of white plaster were found on the walls, but, apparently, no side entrances: cf. Mills 1981, 185. The large mound can be identified with mound I (areas A-B) as identified and recorded by the 2006-2008 archaeological mission.
[93] The maps used by the D.O.P. surveyors were elaborated on the basis of the "Egypt 1:25,000" maps, considered the most reliable ones at the time of the survey (and still in use today); cf. Churcher and Mills 1999, 251.

Kamel Bayoumi.[94] The investigation focused on the southern half of the largest mound (mound I, pl. 6), where several mud-brick structures were cleared of the windblown sand and excavated, completely or in part. A very intricate complex of rooms was revealed, surrounding a large, open-air kitchen, centrally placed, and showing a multi-phased development, with the addition of clusters of rooms built against earlier ones and extending to the outer edges of the mound.

The SCA mission resumed excavation in 1994 and 1995, carrying out more investigation on the southern half of mound I and expanding the excavated area to the northern half, where a large rectangular room (A46) was completely cleared of wind-blown sand. In order to distinguish the work carried out by the SCA mission from later excavations, all the rooms investigated by the Egyptian team on mound I between 1993 and 1995 were later assigned numbers preceded by the letter A.[95]

A topographical survey, carried out eleven years after the 1995 excavation season, revealed that the SCA conducted brief, additional investigation on mound IV (Area E), located to the southwest of mound I. A small rectangular room was cleared of windblown sand at the center of the low mound, but due to the lack of information and to the fact that the room is, at present, partially filled with sand, it is not known if the excavation was carried out partially or to floor level.

An intense restoration effort was carried out in the mid-1990s on several architectural features, such as walls and especially doorways, which were in danger of collapse due to their exposure to the elements and to the lack of protection provided for by the sand.[96]

[94] I would like to take this opportunity to thank Mr. Salem and Mr. Bayoumi for allowing our team to continue their work at Ain el-Gedida and for their cooperation throughout our work.
[95] While the rooms investigated later on mound I were given the letter B.
[96] Several signs of this restoration activity are easily recognizable nowadays.

No written documentation is left of the work carried out at Ain el-Gedida in the 1990s. Most of the architectural features excavated at that time are still extant, although filled, in large part, with wind-blown sand that accumulated in the last decade. There is no account of the ceramic objects or of any other kind of small finds from the excavated rooms. The only exception is represented by nine items, including five lamps, two complete clay pots, and two dull glass bracelets, that were registered at the time of their discovery and then brought to the Kharga Museum.[97]

As mentioned above, one brief essay by Mr. Bayoumi appeared in 1998, conveying some information on the work he carried out at Ain el-Gedida from 1993 to 1995 and focusing on general, preliminary conclusions concerning the nature of the settlement, which were brought forth by scholars who visited the site.[98] After Bayoumi's essay, a brief mention and description of Ain el-Gedida were included in Bagnall and Rathbone's archaeological guide of Egypt published in 2004.[99]

In 2005, a short, preliminary visit to Ain el-Gedida was conducted by Olaf Kaper, Mr. Bayoumi, and the author, in order to assess the condition of the site ten years after the last SCA-led excavation season. After a few meetings, a collaborative project between the local Coptic and Islamic Inspectorate and a group of international specialists was developed, thanks to the funding provided by Columbia University and Roger Bagnall.[100]

---

[97] These objects were analyzed and documented in 2007 and included in the catalogues of ceramics and small finds.
[98] Cf. Bayoumi 1998, 57-62.
[99] Cf. Bagnall and Rathbone 2004, 264-65.
[100] The staff of the 2006-2008 missions consisted of: Roger Bagnall, project director in cooperation with Ahmed Salem (2006-2008); Nicola Aravecchia, archaeological field director (2006-2008); Kamel Ahmad Bayumi, cooperating archaeologist (2006-2007); Anna Boozer (2006), Roberta Casagrande (2007), Dorota Dzierbicka (2007-2008), Maria Guadalupe Espinosa Rodriguez (2008), Francesco Meo (2006), archaeologists; Gillian Pyke (2006), Delphine Dixneuf (2007-2008), ceramicists; Angela Cervi, registrar (2006-2008); Marina Nuovo, assistant registrar (2006-2008); Fabio Congedo (2006), Valentino de Santis (2006), Silvia Maggioni (2008), Simone Occhi (2007), Fabrizio Pavia (2007-2008), topographers; Johannes Walter, archaeobotanist (2006); Silviu Angel, photographer (2006); Bruno Bazzani, IT and photographer (2006-2008). The inspectors, from the local Coptic and Islamic

Archaeological investigation was resumed in the second half of January 2006 and lasted for fifteen days.[101] Before scientific work started, an absolute elevation for the site was taken using a differential GPS system.[102] This allowed a precise calculation of the elevations for all of the different features that were uncovered.

A general, surface clearance of mound I was conducted in order to expose the tops of the mud-brick walls that were visible at ground level throughout the hill. The topographers recorded, with the help of a total station, all of the visible features, including the rooms excavated by the Egyptian mission in the 1990s in the southern half of the mound. It was the first time that their existence was documented in a scientific fashion. More topographical work was carried out on the four smaller mounds (II-V) lying adjacent or in close proximity to mound I. The data were downloaded in Autocad and their elaboration brought to the creation of the first detailed map of the site.

Furthermore, the five mounds were surveyed with a magnetometer, which revealed six anomalies in the ground in the area south of mound I.[103] Two more anomalies were identified, one north of mound I and one on mound IV. These were possibly related to the presence of features like kilns or ovens.[104]

Excavation was conducted in the north part of mound I in three different sectors, where the layout of several rooms, various in size and often interconnected, was clearly visible above ground. Three rooms (B1-B3) were excavated to floor level (B1) and gebel (B2-B3) in the northwest sector. The layout of rooms B1-B3 (and of the two unexcavated rooms along the north

---

Inspectorate of the Supreme Council of Antiquities, were: Sahar Habeb Farid (2006-2007); Mahmoud Mohamed Massoud (2006); Adli Abdallah Zawal (2008). Funding came from a Distinguished Achievement Award given by the Andrew W. Mellon Foundation to Roger Bagnall.

[101] Cf. Aravecchia 2006.

[102] With the technical support of Dr. Jennifer Smith of Washington University, St. Louis.

[103] The survey with a magnetometer was carried out by Dr. Tatyana Smekalova, at that time affiliated with St. Petersburg State University, Russia.

[104] Smekalova (personal communication, February 2006).

side of B1) suggests that they belonged to a domestic unit. Another room (B4) was excavated to gebel southwest of rooms B1-B3. At least in its latest phase of occupation, the room was used as a dump, as suggested by the large quantity of ash, charcoal,[105] organic material, broken objects, and pottery sherds found during the excavation.

After work was completed in rooms B1-B4, excavation focused on room B5, a long, rectangular space with a semicircular apse along the east short side and identified as a church. Windblown sand was removed and a roof and wall collapse were revealed. Because of time constraints, it was decided to leave the collapse in place in order to protect the floor level until the following field season.

Moreover, intensive documentation took place in area A, excavated by the Supreme Council of Antiquities in the 1990s. The goal was to document as many rooms as possible within that sector. The collection of information about the features uncovered in area A allowed a more complete knowledge about the urban topography of Ain el-Gedida and enabled comparative architectural analysis with the buildings newly excavated.

In addition to the large hall A46, six rooms were selected for their particular architectural interest, in order to create a representative sample.[106] These rooms were easily cleared of the windblown sand that had deposited in the last ten years and all their architectural features were fully photographed and recorded, using standardized feature forms already adopted at Amheida.

Furthermore, an architectural survey was conducted in thirteen additional rooms in area A.[107] Windblown sand was removed from all of them and detailed notes and photographs were

[105] With no trace of smoke on the walls.
[106] Rooms A2, A5, A9, A14, A15, A25.
[107] Rooms A1, A3, A4, A6, A24, A26, A27, A28, A34, A38-A40, A46.

taken.[108] Most of these rooms, as well as the six mentioned above, seemed to be largely utilitarian in nature, such as magazines for the storage of food.

Before the beginning of the 2007 excavation season, two rooms previously excavated by the SCA -A6, identifiable as a large kitchen, and A7 to the northeast of A6-, were fully documented and photographed. The poor conditions of preservation of the walls and of the features located inside, such as two ovens in the northwest corner of A6, required the complete backfilling of these two rooms, together with the adjacent spaces to the west and the corridor to the north. The excavation of room A25, begun in the 1990s, was completed and the documentation of its features updated.

The investigation of the fourth-century church, begun in 2006, was completed and evidence was found of earlier phases of occupation of the site. The nave and the large hall to the north were fully documented. Further north, a complex of rooms, interconnected and spatially related to the church, was uncovered. A narrow corridor, which served as the only entrance to the church complex, led from the east into a rectangular room used, at least in its latest phase of occupation, as a kitchen and as the anteroom to the large hall and to the church to the south. Graffiti were found on the west and north walls of this room, including inscriptions in Greek and in Coptic and drawings. An almost complete staircase was uncovered to the north of the anteroom, leading to a roof; its upper part was supported by a narrow vaulted passageway, which led from the anteroom into a poorly preserved room to the north, possibly used as a pantry.

Another large room, not connected to the church complex and presumably functioning as a kitchen, was excavated west of the anteroom, showing clear traces of ancient damage and later repairs.

[108] In three instances (rooms A24, A27, and A40), the clearance was interrupted before reaching floor level; the reason was that unexcavated archaeological deposits were detected.

The topographers updated the 2006 overall site plan by adding the plans of the rooms that were excavated in 2007. Scalable photographs of the walls and floors of rooms B5-B9 and A46 were taken and then elaborated for photogrammetrical analysis. Sections and profiles of the church were also drawn. A microrelief of the area covering the five mounds of Ain el-Gedida was created, with the goal of collecting precise information about the geomorphology of the site. In addition to the fixed point created in 2006, two more survey triangulation points were set in the ground on the west and north edges of mound I. These allowed subsequent recording of topographical data to be carried out in a fashion coherent with the work done in 2007.

Permission was granted to study the nine objects that had been collected during the SCA excavations of the 1990s. A group of specialists had access to these objects in the Kharga Museum, where they were drawn, recorded, and photographed.

In 2008, excavation was resumed and focused in the area immediately to the south and to the east of the church complex.[109] The main goal was to ascertain the topographical relationship of the complex with the surrounding buildings, within the topographical framework of the main hill of Ain el-Gedida. A long, east-west oriented passageway (B11) was excavated to the south of the church, along the north edge of area A (the zone excavated by the SCA in the 1990s). To the east of the church, a long north-south oriented street, with a rather irregular layout, was investigated. It crossed another east-west passageway (B16) to the north, which formed the northern boundary of B12 and was excavated only in part in 2008. To the south, street B12 led to room B13, which was the crossroad where B11 and B12 (and another unexcavated street to the south) met. This space opened onto an unexcavated area to the east and on a room along its south side.

[109] Cf. Aravecchia 2008.

After the area including streets B11-B12 and room B13 was completely excavated and documented, another set of two spaces was investigated further east, i.e., rooms B14-B15, respectively identified as a storage facility and a kitchen.

Following the excavation of the area to the south and east of the church complex, further archaeological investigation was carried out along the west edge of mound I, where a large complex of eight rooms was uncovered. Its preliminary analysis pointed to different construction phases that dramatically altered the inner layout of the complex, and presumably its function/s.

The topographers surveyed the excavated rooms and updated the two plans of the archaeological site, the first showing the plan of the walls at ground level and the second depicting the overall architecture of each room. The methodological standards and graphic conventions that were set in 2007 were followed. Scalable photographs of the outer face of the eastern and southern walls of the church complex were taken and then elaborated for photogrammetric analysis. Furthermore, the planimetric and photogrammetric data of the church complex, collected in 2007 and 2008, were processed and plates for most rooms of the complex were created. Each of them included a CAD plan of mound I, a simplified plan of the church complex, and the photogrammetric images pertaining to each room.

Several ceramic objects, complete or fragmentary, were found during the 2006-2008 excavations, as well as hundreds of small finds of different kinds and materials, among which were over one hundred and fifty bronze and billon coins. All small finds were cleaned, numbered, and photographed. Written records were created for each of them, then entered into the general database, and their systematic study carried out by specialists.[110]

I.5. Methodology of Excavation and Documentation

[110] For a systematic treatment of the small finds, including ceramics, cf. Chapters VIII-XII at the end of this volume.

The archaeological investigation conducted at Ain el-Gedida between 2006 and 2008 was rigorously stratigraphic, on the basis of well-known methodologies developed by A. Carandini, E. C. Harris, and the Museum of London.[111] The system followed very closely the one used at the site of Amheida and developed in its details by Paola Davoli of the Università del Salento, Italy, the archaeological director of the Amheida Project.[112]

Roger Bagnall held, as the project director, the scientific leadership of the entire mission and the overall responsibility for its organization and management. The author, working as the archaeological field director, was responsible for the establishment of excavation priorities and strategies, in agreement with the project director. Moreover, he was in charge of leading the archaeological operations on site each day and coordinating the processing of the data at the excavation house. A team of archaeologists was assigned the supervision of different areas (usually rooms) to be excavated. Local workmen were allocated to each area and the archaeologists ensured that their work was carried out according to the established scientific standards. The supervisors were also in charge of the documentation of the area for which they were responsible, helped by assistant supervisors.

The entire site was mapped by the topographers and divided into five mounds and areas (A to F) (pl. 6). As said above, the subdivision into areas was originally created in order to distinguish, within the largest mound of the site, between the sector excavated by the Egyptians in the 1990s and the one (roughly corresponding to the north half of the hill) that was excavated ten years later by the Columbia/NYU mission. Up to the end of the 2008 season, the four smaller mounds of Ain el-Gedida were not subdivided into more than one area each, since they had not been the object of archaeological investigation.

[111] Cf. Carandini 2000, Harris 1989, Spence 1994.
[112] More detailed information about the methodology adopted by P. Davoli is found in her 2005-2010 Amheida site manuals.

The area including the five mounds of Ain el-Gedida was divided, in the Autocad map, into a grid of 10 by 10 m squares. Due to the presence of architectural features throughout the main hill, with walls that a preliminary surface clearance had made partly visible above ground level,[113] it was decided that the best way to proceed was to carry out excavation by room and not by square. Furthermore, it would have been extremely difficult, due to the very irregular morphology of the ground, in which mounds of different heights were clustered in a relatively small area, to lay out a physical grid for excavation.

The stratigraphic method adopted at Ain el-Gedida was based on the distinction between "Deposition Stratigraphic Units" (DSU) and "Feature Stratigraphic Units" (FSU). DSUs are three-dimensional units such as layers of sand, soil, or fillings of pits or hearth. Their borders can be natural or arbitrary on the basis of the peculiar context in which each unit was excavated. FSUs are, instead, architectural features such as walls, floors, vaults, etc. They can also be "negative" features, derived from the removal of DSUs, as is the case of pits or foundation trenches.

All excavated DSUs and FSUs were assigned numbers, measured, photographed, and described in detail, following common standards, on pre-printed forms; elevations were taken for all units. Several DSUs, especially artificial, man-made units, and all FSUs were drawn. The topographers took pictures of the most archaeologically significant FSUs for photogrammetric analysis.

As mentioned above, a survey of the whole archaeological area was conducted with a total station and a digital plan of the entire site of Ain el-Gedida was generated from the data that were collected, downloaded, and elaborated in CAD. All the archaeological remains, excavated

[113] Many of the features were already recognizable before the clearance, as was the case for most rooms of area A, previously investigated by the Egyptians.

or already visible on the five mounds, were included, as well as more recent features such as the guards' house and contemporary tracks and irrigation canals. Additional data about the geomorphology of Ain el-Gedida were added with the creation of a microrelief of the area, overlapping the archaeological map. Furthermore, photogrammetric images of archaeological features, mostly of walls, were regularly taken during the excavation and then processed with ?, in order to obtain precise and scalable plates in a relatively short amount of time. Some sections and profiles of walls were also drawn partly by hand, especially in cases where the archaeological features could not be photographed at an angle that would allow photogrammetric analysis.

Each day, field drawings on millimeter paper were made, at 1:50 scale, of the excavated areas. The DSUs and FSUs under investigation and the precise location of the most relevant small finds were marked on the plans, including the elevations taken by the archaeologists. In some instances, where a higher level of detail was needed, a 1:20 scale was adopted. In addition to the drawings, the archaeologists filled day notes forms, in which they recorded at length everything that occurred during each day of work on site, including basic information about DSUs, FSUs, small finds, samples, and elevations.

Several small finds were discovered and collected in all the rooms that were the object of archaeological investigation between 2006 and 2008. Among them were lamps, pieces of coroplastic, dull glass bracelets, beads, and many other incomplete objects made of metal, wood, or vegetal fibers. To ensure that all finds, particularly those of a small size, were collected from each stratum, the soil and sand units were always sieved after their removal from their original context. The surface layer, contaminated and therefore lacking significant diagnostic value, was not sieved.

Depending on their state of preservation, the finds received preliminary conservation *in situ* before collection. The small finds were collected in buckets labeled according to the stratigraphic unit in which they were found. Objects of special significance[114] were assigned field numbers, photographed in their archaeological context, and then put in separate tagged bags. All small finds were cleaned by specialists, numbered, and the photographer took final pictures of them. Written records were created for each of the special objects and then entered into the general database.

The ceramic objects that were uncovered, in complete or fragmentary conditions, during the excavation were also photographed *in situ* and assigned field numbers, then brought to the ceramics' laboratory for cleaning, restoration, further photography, and recording. The pottery sherds, found in large quantities at Ain el-Gedida, were also collected in tagged bags or buckets according to their archaeological contexts (DSU or FSU) and analyzed by the ceramicists. All the fragments were scanned and quantitative analysis on forms and fabrics performed.[115] After this initial gross quantification of the excavated contexts, the body sherds were normally discarded, while the diagnostic fragments were selected for drawing, photography, and further examination. The goal was to build an exhaustive paper and digital catalogue of all forms and fabrics found at Ain el-Gedida during the 2006-2008 excavations.

Among the pottery sherds that were collected during the excavation of area B and the clearance of area A on mound I were twelve ostraka, ten Greek and two Coptic.[116] They were

[114] For example, complete ceramic vessels, coins, and ostraka.
[115] SUQ (Stratigraphic Unit Quantification) forms were used for quantitative analysis of pottery sherds, as well as other kinds of small finds, such as fragments of plaster, charcoal, etc.
[116] Or possibly nine Greek and three Coptic.

assigned field numbers and photographed *in situ*; then, they were cleaned, recorded, and photographed. Their analysis was carried out by Roger Bagnall and Dorota Dzierbicka.[117]

Over one hundred and fifty coins were found on mound I at Ain el-Gedida between 2006 and 2008.[118] Unfortunately, several were in a very poor state of preservation. Most of them were assigned field numbers and photographed *in situ*.[119] They were cleaned in the small finds laboratory by experts, then weighed, photographed, and recorded. Small finds forms were filled for each coin and all the available information was also entered into the excavation database. The detailed analysis of all numismatic evidence from Ain el-Gedida was carried out by David Ratzan, who compiled a catalogue and report.[120]

Several of the objects (ceramic vessels, lamps, and coins among others) uncovered during the 2006-2008 excavations were registered by representatives of the local Coptic and Islamic Inspectorate of the Supreme Council of Antiquities. They are currently in SCA storage facilities in Dakhla[121] and accessible by permit.

Soil samples, including ash and sand rich in organic material, were collected from secure contexts for archaeobotanical analysis.[122] Some materials, such as fragments of unfired pottery and plaster, were also kept for technical analysis. Forms with basic information for each sample were filled and the information entered into the database. The goal behind the collection of the samples was to obtain, from their analysis, additional information on patterns of food consumption at the site in Late Antiquity.

---

[117] Cf. Chapter X.
[118] More than one hundred just in the 2008 excavation season.
[119] Unless they had been found while sieving, therefore out of their original archaeological context.
[120] Cf. Chapter IX.
[121] Except for the nine objects that were uncovered in the 1990s and kept in the Kharga Museum.
[122] A preliminary analysis on the 2006 samples was carried out by Johannes Walter of the Vienna Institute for Archaeological Science, Austria.

Three seasons of excavation, carried out largely in the northern half of mound I, and also the survey of several rooms in area A, excavated in the 1990s but left undocumented, led to a substantial amount of data, consisting of written forms, plans, drawing, and photographs. It was decided to leave the documentation in hard format in Egypt until the completion of all excavation and documentation work on site. However, it was necessary to find a way for all specialists involved in the project to make use of the data also outside of Egypt. Furthermore, the large bulk of information had to be organized in a fashion so that it would be of easy access to them and facilitate searches and comparisons at different levels. Therefore, a database was developed using Microsoft Access software, mirroring the one already in use at the site of Amheida. Digital forms were created using the same fields included in all paper forms, which were filled during the excavation and documentation process on site. To reduce the possibility of loss of information or mistakes in the data-entering process, all paper forms were scanned and linked to the corresponding digital forms.

All photographs, already in digital format, were added to the database and linked to the digital forms associated to each specific image. Also, all lists, day drawings, day-notes, were scanned and included in the database, together with all the digital plans, the microrelief of the site, the photogrammetric images and all excavation reports.

As a result, the database allowed to have a fast and straightforward access to the documentation and to conduct effective cross-reference searches of information according to diverse parameters. For example, tools were created to search the archaeological data either by year, or area, or room, etc, therefore contributing substantially to an effective processing of the data by the specialists. To further facilitate the access to the documentation by all members of the Ain el-Gedida mission, and eventually by the general public, it was decided to make the

database available on-line. This database (available at www.amheida.com) has been systematically linked to the digital version of the present excavation report in order to facilitate the reader's in-depth study of the site and to supplement the inevitably limited detail presented in this report.

CHAPTER II

TOPOGRAPHICAL AND ARCHITECTURAL SURVEY OF MOUNDS I-V

II.1. Mound I

Mound I, where both the Egyptian and the international missions conducted intensive archaeological investigation, was, for the sake of clarity in the documentation, artificially divided into two separate areas: area A, corresponding to the southern part of the hill investigated by the SCA in the mid-1990s, and area B, to the north of area A and roughly occupying two thirds of the whole mound (pls. 6-7).

<Plate 6 about here>

<Plate 7 about here>

II.1.1. Area A

Although no documentation survives from the original investigation of area A, the topographical and architectural survey that was carried out by our team resulted in a significant amount of information on the buildings located in the southern half of mound I (pl. 8).

<Plate 8 about here>

In this sector, the settlement gives the impression of having developed from a smaller, centrally located core of buildings into a larger complex extending toward the edges of the mound. The highly irregular layout shows that several rooms were not built following a systematic plan. It seems, instead, that they were constructed at different times, with mud bricks often laid out in a very poor construction technique and with the walls of the later structures

abutting the outer walls of the earlier buildings.[123] Unambiguous archaeological evidence was found for this addition of architectural features to earlier structures, which were often subject themselves to heavy alterations (as, for example, in room A6 discussed below). It is not possible to say if area B to the north reflects a similar situation and comparable patterns of development and expansion, as it remains largely unexcavated. Instead, area A, in which most rooms had been the object of complete or partial excavation in the 1990s, allows a more comprehensive picture of the topography of mound I in its southern part.

Further evidence for the existence of a multi-phased process of renovation and alteration of architectural features at the site is offered by the discovery, in a few rooms of area A (more extensively in rooms A9 and A25), of foundation trenches belonging to earlier walls.[124] The trenches were hidden below compacted mud floors, which were laid out as the last stage of architectural alterations taking place in those rooms. These changes seemingly entailed not minimal restorations of walls, but rather drastic variations in the layout and, possibly, in the dimensions of the rooms, involving the destruction of earlier walls and the building of new, and often differently oriented, ones.

No easily identifiable domestic units were recognized in area A. Two sets of partially excavated rooms (A35-A37 and A38-A40), located along the southeastern edge of mound I, have a particular layout, consisting of two roughly square rooms built nexto to each other and opening onto a larger rectangular space. This spatial arrangement is quite similar to that of another set of rooms identified during the excavation of a test trench in the northern half of the hill (rooms B1-B3, cf. below). In the latter case, the large rectangular courtyard opens onto an additional set of

[123] On mud-brick architecture in Dakhla, cf. Schijns 2003.
[124] Cf. the discussion of the two rooms below. Evidence of earlier walls razed down or partially reused was found also in area B, for example in the church (room B5) and the large gathering hall to the north of it (room A46). Cf. the analysis carried out in chapter III.

two square rooms, but it is not possible to know if this was also the case for rooms A35-A37 and A38-A40, since the area occupied by these spaces was excavated only in part. Rooms B1-B3, and the two unexcavated rooms to the north, were identified as a relatively small and compact building of a domestic, residential nature, even though its overall arrangement of rooms does not seem to reflect standard types of domestic architecture in Greco-Roman Egypt generally or in the Dakhla Oasis in particular.

In most instances, the rooms surveyed in area A do not belong to small, separate buildings, but are rather interconnected to form a complex network, which extends throughout the southern part of the hill. More in detail, the topographical map of mound I reveals the existence of a large cluster of interconnected spaces in the northwestern part of area A and including rooms A5-A7, A9, A10-11, A13 (and possibly A14- A15 to the east of passage A14-15). This very large set of spaces is, in fact, connected, through a very narrow corridor (A29, located in the southeast corner of room A6) and space A30, to rooms A25 and A31-A32 in the middle of area A (with evidence of staircases leading to roofs or an upper storey). From the same narrow space A30, one could also enter room A27 and from there reach rooms A28, A 26 (which seems to have been the main entrance into the latter set of rooms), A24 (opening also onto A22 and A23) in the southern part of the mound. The only building that seems to have been, at least in its latest occupational phase, physically separated from the surrounding spaces of this packed built-in environment, is located just south of the church (room B5) and consists of rooms A17-A21 (and possibly A17 and A33, although these are completely filled with sand and their relationship with the surrounding spaces could not be ascertained). The building was accessible only through a doorway set in the north wall of room A19 and opening onto the area in the proximity of the church complex.

Three main passageways defined access to and movement within this sector: one vaulted corridor (B11), running from east to west and dividing area A from the church complex and area B; a narrower north-south corridor leading from a large, centrally located kitchen (A6) to the vaulted passageway (B11) and therefore to the area of the church complex and the rest of mound I; finally, a long north-south street (A34) in the southeastern part of mound I, separating the main cluster of buildings of area A from the smaller sets of rooms located toward the southeastern edge of the mound (rooms A35-A37 and A38-A40 mentioned above).[125]

More firmly identifiable as magazines are a set of three rooms (A2-A4) (pl. 9).[126] The existence of these (and presumably other) fairly large storage areas, their proximity to a wide kitchen centrally located (A6), and the general arrangement of most rooms of area A, forming a network of interconnected spaces, point to their overall utilitarian function and to their use by a community, instead of belonging to separate family households.

<Plate 9 about here>

As mentioned above, among the several rooms excavated by the Egyptian mission between 1993 and 1995 in area A, a few were selected for their particular architectural interest, in order to create a representative sample. During the 2006 excavation season, they were cleared of the windblown sand that had partially re-filled them and all their architectural features were documented. A discussion of these rooms follows.

Room A2

Room A2 is located in the south-west corner of mound I. It measures approximately 5.6 m north-south by 3.3 m east-west, with walls that are preserved to a maximum height of 1.42 m

[125] Seemingly built at a later time than the original, central core of structures in area A.
[126] Cf. II.1.1. below.

(north wall) (pl. 10). This space was accessed from a small courtyard through a doorway (width between the jambs: 0.7 m) placed in the south wall toward its east end; remains of a rectangular niche are visible in the middle of the north wall at about 80 cm above gebel. A large basin of unfired clay, of about 1 m in diameter, is set at floor level in the same corner of the room, surrounded by scanty remains of a beaten clay floor. The basin was probably used as a storage bin, as no traces of firing activities were found within or outside this feature, arguing against its identification as an oven or hearth.

<Plate 10 about here>

Room A2 was originally barrel-vaulted, with the vault springing at a rather low height (about 1.4 m) from the floor, which made the room quite unsuitable for living purposes. Indeed, this space is the westernmost of three narrow, rectangular rooms (A2-A4) that may have functioned as small storage areas. These were later additions to the adjacent rooms to the north, as pointed to by the east and west walls of room A2 (as well as the east and west walls of room A4) abutting an east-west oriented wall to the north, which was built against the south wall of rooms A5-A6.

Room A5

Room A5 is located to the north of storage spaces A2-A3. It is a rectangular room, measuring about 6.5 m east-west by 3.2 m north-south, and has mud-brick walls preserved to a maximum height of about 2 m (east wall) (pl. 11). Originally, two doorways gave access to this space. One entrance, originally arched, is located at the south end of the east wall and opens onto a large kitchen centrally placed (A6 on the plan). Remains of a stub protruding into the room and of the threshold, which has a width of *ca.* 0.65 m, are still visible, although heavily weathered.

The second doorway, which shows evidence of a stone lintel supported by two protruding jambs, is set at the east end of the north wall and leads into room A9 (width between the preserved jambs: *ca.* 0.6 m).

<Plate 11 about here>

Vault springs are still partially visible on the long, and fairly low (approximate height of 1.4 m) north and south walls. Three rectangular niches are inserted in the south wall (AF15), set at about 80 cm above ground level. Their width varies between 53 and 59 cm and their average depth is *ca.* 70 cm. The back wall of the niches is, in fact, wall AF1, built to the south of room A5 and forming the north boundary of rooms A2-A3. Therefore, it seems that, before the construction of AF1, the three features were not niches but open windows.

The floor of room A5, quite uneven as it slopes toward the door on the north wall, was found in very poor condition, with only few visible traces of a leveled layer of gray-brown clay. A drain, made with a large fragment of a ceramic vessel (possibly an amphora or a keg), is still partially *in situ* in the west wall of the room, at floor level, set within a north and south facing consisting of stone cobbles.

Room A9

Room A9 is a large rectangular space located to the northeast of room A5. It measures 5.25 m north-south by 3.5 m east-west and has mud-brick walls that are preserved to the considerable height of 2.6 m (east end of the north wall) (pl. 12).

<Plate 12 about here>

Four doorways open onto this room: one (width between the jambs: 90 cm) is set at the west end of the north wall and leads into room A13; another (width: 68 cm) is located at the

north end of the west wall and was once the only access into square room A11; along the same wall, but further south, is a third doorway (width: *ca.* 70 cm), which opens onto room A10; the fourth opening is set at the west end of the south wall and leads, as seen above, into room A5. The north and south doorways, both defined by side jambs built within, and part of, the same walls, show a higher degree of complexity and craftsmanship than the two doors along the west wall. The latter were, in fact, built within a double wall, consisting of the west wall of room A9 and the east wall of rooms A10-A11, which were seemingly built at a later time than A9.

The room was originally covered by a barrel-vaulted roof. The vault was oriented north-south and is now preserved only in the lowest courses of the vault-springs. To the east of the room are the visible remains of a tall wall, standing behind the east vault-spring, which points to the existence, in antiquity, of an upper story.[127] The presence of a stairway in the adjacent room A6 further supports this possibility.

Two roughly square niches, measuring *ca.* 50 by 50 cm and 37 cm deep, are set into the east wall, at about 1 m above ground level. Both are framed by a thick band of white gypsum, as customary in the oasis. The northern niche has a stone lintel still *in situ*, while the upper part of the southern niche shows signs of heavy damage. Another niche, sharing similar width and depth as the other two but with a recessed round top, is inserted in the north wall, at a distance of about 72 cm from the wall's east end. It is also framed by a roughly square band of white gypsum.

The original floor of beaten clay, laid on gebel, is largely missing, with most visible remains located to the north of the doorway opening onto room A5. An L-shaped foundation trench, filled with a course of mud bricks, is still visible at ground level in the northeast corner of

[127] Nicholas Warner, who visited the site, confirmed this possibility (personal communication to Gillian Pyke, February 2006).

the room. This feature is presumably associated with an earlier structure the walls of which were leveled when the compacted mud floor of A9 was laid.

Rooms A14-A15

Two interconnected rooms were cleared in the north part of area A, that is, rooms A14 and A15. A14 is a rectangular space, larger than room A15 and located to the north of it, which measures 4 m north-south by 3.5 m east-west. Its walls are standing up to 2.6 m (east wall) (pl. 13). A15 is a roughly square space that measures 2.6 m north-south by 3 m east-west, with walls preserved to the maximum height of about 2.45 m (east wall).

<Plate 13 about here>

Room A14 is located immediately to the southwest of church B5 and is accessed via a north-south oriented passageway (A8) that connects the area of the church complex to the core of area A, particularly a large kitchen centrally placed in the southern half of mound I (i.e., rooms A6-A7). From A8, one could enter room A14 through a doorway (width: 74 cm) set in the middle of the room's west wall. The remains of the doorway consist of a mud-brick threshold and one protruding jamb built on the south side, which also shows evidence for the placement of a door in antiquity. The sill was found at a considerably higher level than the floor, suggesting that at least a couple of steps once led into the room. Another door (width between the two preserved jambs: 75 cm), located at the west end of the south wall, allowed passage into room A15. No other door exists in this space, which was therefore accessible only through room A14.

The two spaces were originally barrel-vaulted, with both vaults oriented east-west. Their remains, as well as traces of the mud bricks and potsherds filling the space between the two vaults, are still visible. The floors of both rooms, now largely destroyed, consisted of levelled

clay, with inclusions of iron pan, laid out on gebel. The cleaning of room A14 revealed a few traces of mud bricks at floor level, placed just south of the west doorway. It was not possible to verify if these mud bricks belonged to an earlier wall that was razed down when the floor of room A14 was laid out, although it seems likely.

Room A14 has two arched niches set into the west wall, to the north and south of the doorway, at about 1.3 m above ground. The north niche (width: *ca.* 55 cm; depth: *ca.* 45 cm) is framed by a square band of whitewash above mud plaster, while the niche to the south (width: *ca.* 45 cm; depth: *ca.* 40 cm) was only covered with mud plaster. The arch framing the top of this niche is slightly recessed into the wall. Another niche (width: *ca.* 60 cm; depth: *ca.* 25 cm) is located in the south wall of room A15 at above 1 m above ground level. It is architecturally more complex than the other two niches of room A15. It has a roughly round top, but it is set within a slightly recessed square frame, plastered with mud, which has horizontal slots set within its upper and lower edge (possibly for now-disappeared stone or wood elements). Only one niche decorates room A15 (width: *ca.* 60 cm; depth: *ca.* 40 cm). It is placed in the middle of the west wall, at above 1.3 m above ground level. It has a recessed round top and is framed by a thick (about 30 cm) band of white gypsum plaster (now largely disappeared) on top of mud plaster.

Two horizontal recesses, each more than 1 m long and *ca.* 20 cm deep, run above the two niches in the west wall of room A14, at a height of about 2.40 m above ground level (pl. 14). They were both coated with mud plaster. The west wall of room A15 seems to reflect a similar situation, although the two segments of the recess are in poorer condition. The considerable height of these features, which makes them difficult to reach, and their shallow depth make their original function particularly difficult to identify.

<Plate 14 about here>

Traces of white plaster with three Greek letters [*ΗΠΑ*] were found on the east wall of room A14, but it was impossible to discern the meaning of the inscription or its original extent; even the language (Greek or Coptic) is uncertain.

The north and south walls of rooms A14-A15 abut walls to the east that seem to belong to older buildings and therefore testify to earlier construction phases. Reflecting the pattern of topographical development that was noticed in several other instances in area A, both rooms A14 and A15 reveal the growth of the built environment (more obvious in the southern half of mound I) from a central core of buildings to a larger and more complex network of structures, which reached the outer edges of the mound.

Room A25

Another room, A25, was cleared of sand and recorded in the central part of area A, more to the east (pl. 15).[128] It measures *ca.* 3.90 m north-south by 3.60 m east-west and the maximum height of its walls is 2.48 m (south wall). The room was once covered by a barrel-vaulted roof oriented north-south; scanty remains of the vault were detected on both the east and west walls. Behind the east walls are the substantial remains of a tall mud-brick wall, laid out in English bond, which points to the existence of a now-lost upper story.

<Plate 15 about here>

In its latest occupational phase, room A25 was accessed through two doorways. One, *ca.* 90 cm wide and still bearing traces of a mud-brick threshold and holes (possibly door sockets), is set at the west end of the south wall and opens onto room A27 to the south. The second opening (width between the jambs: 60 cm) is placed at the south end of the west wall and leads into room

[128] The clearance of the sand revealed that part of the room, against the SE corner, had been left unexcavated in the 1990s. The full investigation of the room, begun in 2006, was completed, due to time constraints, during the 2007 season.

A31. This doorway was heavily restored and rebuilt as an arched passageway in the mid-1990s. Originally, a third doorway was set into the east wall at its north end and opened onto room A24 to the east. At some point in antiquity, the opening, which had a considerable width (*ca.* 1.15 m), was sealed through the construction of a poorly-made mud-brick partition wall, which is recessed by *ca.* 20 cm compared to the east wall of the room.

A rectangular niche is set into the east wall, to the south of the bricked-in opening. It has a rectangular shape, with a width of 58 cm and a depth of *ca.* 25 cm. The niche, whose stone lintel is still *in situ*, is framed by a poorly preserved rectangular band of whitewash. A ledge, built at about 1.15 m above floor level, runs along the entire width of the south wall. Both the wall and the sill are part of the same construction episode; the function of the latter feature, however, is not known beyond doubt.

Consistent traces of a compacted mud floor are still visible in the northwest corner of the room; more to the east, the excavation revealed the foundation trench and the first course of a wall (with a maximum preserved length of 2.35 m) precisely oriented north-south, at an angle compared with the northeast-southwest orientation of room A25 and belonging to an earlier building. Other remains of early walls were found in the southeast corner. They partly run under the east and south walls of the room, following the same orientation, and partly protrude into the room itself, covered by the preparatory layer of a later floor (contemporary to the last occupational phase of room A25). One complete oval lamp (inv. no. 615), several pottery sherds, as well as complete and almost complete vessels (including a small globular flask -inv. no. 609- and a bowl -inv. no. 612-), were found below this floor level. Their analysis led to a fourth-century dating for the entire assemblage. It is possible that these vessels and sherds had been deposited there to flatten the uneven geological surface (including the remains of earlier

architectural features) before the floor was laid out. Two heavily worn bronze coins (inv. nos. 503-504), broadly datable to the first quarter of the fourth century, were also brought to light within this fill. The general surface clearance of the room revealed two additional bronze coins, also datable to the first quarter of the fourth century (inv. nos. 502-503), as well as three Greek ostraka. One (inv. no. 10) is an account of donkeys on four lines, while the other two (inv. nos. 8 and 17) are incomplete and of unclear content. Based on palaeographic evidence, the three ostraka are dated to the fourth century, in line with the information provided by coins and ceramics.

Rooms A6-A7

A significant effort was made, in 2006 and 2007, to fully document room A6 and adjacent space A7, centrally placed in the southern half of mound I -slightly to the west- and to the northeast of the three narrow rooms (A2-A4) preliminarily identified as magazines (pls. 16-17). The location of room A46, its dimensions, and its wealth of architectural features and installations make this space a significant case-study.

<Plate 16 about here>

Room A6 was partially excavated by the Egyptian team in the 1990s and is identifiable beyond doubt as a kitchen.[129] It is a rectangular space, measuring about 7 m east-west by 4 m north-south, and has walls preserved to a maximum height of *ca.* 2.20 m (in its northeast corner). The room was once accessible through two main doorways. One opening, *ca.* 1.05 m wide, is set between the northwest and the northeast walls and opens on a long, narrow passage oriented north-south (A8), which in turns leads to a passageway (B11) running northwest-southeast to the

[129] The clearing of sand from this space was not completed because of the extremely precarious condition of some of its features; unfortunately, several other structures throughout the site share a similar condition.

area of the church complex . The other door is located at the south end of the west wall and gives access to room A5. A mud-brick threshold (width: *ca.* 65 cm) is still visible, as well as remains of a stub built against the north side of the doorway and protruding into room A5. A third, narrow passage exists at the east end of the south wall. It is 58 cm wide and opens onto a very narrow space (A29), against whose walls numerous traces of ash were detected. This space might have been used, perhaps, as a dump for the ash cleared from at least some of the ovens found in room A6.

At the time of its investigation, the floor level was not identified within the room, as it seemed to have suffered heavy disturbances.[130]

<Plate 17 about here>

The scanty remains of a low mud-brick wall, running north-south and parallel to the west wall of the room cuts A6 roughly in half. Its original function is unknown. Among the visible courses of this wall, which was laid out in English bond, a bricked-in section was noticed, about 140 cm wide, which seems to have belonged to an earlier opening that was sealed at some point in antiquity. This wall once abutted the south wall of room A6, although today the latter is slightly slanted toward the south.

A staircase is set against the northeast wall. It was originally built above a stratified deposit of many thin layers rich in ceramic and organic inclusions (pl. 18). The upper section of the stairway is oriented north-south and is supported by a north-south wall and a vault built with mud bricks laid out as stretchers on edge. Above the vault are four stone steps embedded in mud mortar. The staircase continues with a lower section that is oriented east-west and consists of three (remaining) steps. The available archaeological evidence suggests that originally the

[130] As there is no documentation of the investigation of the room in the 1990s, it is difficult to determine whether such disturbances occurred exclusively in antiquity or also in modern times.

staircase was built just as one flight of steps oriented north-south. Indeed, to the south of the deposit supporting the upper section of the staircase, and projecting from it, is a mud-brick rectangular feature that may be the poorly preserved remains of the lowest part of the original stairway. A second construction episode involved the addition of the east-west flight of steps, whose lowest end is almost completely missing. The result was a staircase running, in its upper section, north-south and then turning clockwise, obstructing almost completely the passage into corridor A8. This testifies to the fact that, during at least the latest phase of occupation of room A6, the doorway/passage into A8 was no longer in use.

<Plate 18 about here>

To the east of the stairway, two partition walls were constructed with a very poor construction technique: one running east-west from the staircase and the other set against the north sector of the kitchen's east wall. A secondary room (A7, measuring *ca.* 2.10 m east-west by 1.60 m north-south) was thus created against the northeast corner of A6, separate from the kitchen and accessible only through the vault supporting the highest ramp of steps (and built in phase with the staircase).[131]

The high walls of room A6, all showing a rather poor and hurried craftsmanship, bear no trace of vault springs or sockets for the placement of beams supporting a flat roof. Either the roof and the highest courses of the walls collapsed, leaving no sign of its original existence, or this space was actually an open courtyard, as pointed to by the very poor craftsmanship of many of its walls and the rather central placement of the staircase. The possible absence of a roof is also suggested by the existence of at least three ovens built at some point here (pl. 19).

<Plate 19 about here>

[131] As proved by the fact that the wall forming the east face of the staircase is bonded with the south wall of room A7.

Two circular bread ovens are located in the northwest sector of the kitchen; one is still partially *in situ*, while the other lies to the south of its original location; it fell in 2005, probably as a result of the collapse of part of the staircase to the east.[132] The former appears to belong to the "Later Type" of ovens, following S. Yeivin's classification, or "Type II-Subtype a", according to D. D. E. Depraetere: that is to say, a circular ceramic oven, built on a raised earth platform and surrounded by mud-brick partition walls.[133] Parts of another round oven were found *in situ* in the southeast sector of the kitchen. Behind the latter are the remains of a long rectangular installation, which consists of a wall and part of a vault. A circular opening, measuring *ca.* 55 cm in width, cuts through the wall from north to south. The original shape and function of this installation is unknown.[134]

The archaeological evidence shows that room A6 went through several construction phases, which involved most walls of the room and the staircase. As mentioned above, room A6 was located in a rather central position and led, through a narrow passageway (A8) -at least before the latter was blocked by the lower end of the staircase-, to an area in the proximity of the church. The dimensions of the kitchen and the presence of at least three ovens suggest that the facility served a fairly large group of people, although they do not shed light on who these people were.

II.1.2. Area B

[132] Photographic evidence exists of its original location *in situ*.
[133] Yeivin 1934, 114-15, and Depraetere 2002, 123-25.
[134] Several traces of ash and burning marks were detected in the proximity of this feature, especially against the east wall of room A6. This fact led Mr. Bayoumi to identify the feature as a rectangular oven, also on the basis of a comparison with modern examples still in use in the oasis (personal communication, January 2006). The available evidence is not conclusive on this identification.

Before the beginning of excavations in 2006, a systematic surface clearance of mound I revealed a network of several buildings, various in size and often interconnected, extending throughout most of area B (pl. 20). Although the layout of area B gives the impression of a rather confused arrangement of space, traces of a more regular planning can be easily identified. A network of perpendicular streets, dividing the northernmost part of the hill into quadrants, can be detected to a certain extent. Sets of interconnected rooms (unexcavated), sometimes opening onto spaces that seem to have been inner courtyards, were built against each other to form larger, roughly rectangular blocks divided by the streets. Rooms B1-B3, investigated as a test trench just to the south, reflect a similar spatial arrangement, although with additional rooms.

<Plate 20 about here>

The results of archaeological investigation in this area (concerning, in particular, rooms B1-B3) point to its identification as a possible residential area, with the smaller groups of rooms-plus-courtyard as domestic units. The southern part of area B, especially the sector occupied by the church complex and the spaces adjacent to it, reflects a more irregular layout. However, this might be due, at least in part, to the substantial and multi-phased rearrangement of space that involved the area of the church complex, as proved by its archaeological investigation.

A remarkably large structure, rectangular in shape, lies toward the northern edge of mound I (pl. 21). Although it was not excavated, its outline was, to a certain extent, visible above ground level. The building consists of two rectangular rooms, oriented east-west, sharing one of the longer walls; their dimensions are *ca.* 4 by 3 m. It was not possible to determine, without excavation, if they were originally interconnected. The two rooms are located at the center of a wide, rectangular structure measuring *ca.* 16 m north-south by 12 m east-west.

<Plate 21 about here>

The state of preservation of these walls seems to be rather poor and parts of their outline could not be mapped during the survey. This does not imply that the missing walls' segments (especially in the middle of the south side and toward the northern end of the west side) indicate the precise location of doorways into the complex; indeed, the walls might simply be preserved at a lower level in those points. Only a thorough archaeological investigation could shed light on the building's outline, the interrelationship of its architectural features, and the precise location of its entrance/entrances. A preliminary analysis of the available evidence suggests an identification of the complex as a pigeon tower, surrounded by a large rectangular courtyard.[135] Pigeon towers were a typical feature of the oasis landscape in Roman times and during Late Antiquity, as shown by the D.O.P. survey of ancient farmhouses and villages of Dakhla.[136] In particular, the remains of a *columbarium* were discovered and investigated in recent years by Colin Hope at the site of Kellis, in the proximity of Ain el-Gedida.[137] Located within an open area in the northern part of the site, and possibly associated with a group of three large residences to the east and southeast, the pigeon tower consists of two adjoining structures of rectangular shape and similar dimensions, each of them further divided into two roughly equal rooms. Considerable ceramic evidence was collected of pigeon nesting jars, once set into the upper walls of the tower. The overall layout of the Kellis *columbarium* closely resembles that from Ain el-Gedida, although the former is of a substantially bigger size.[138]

Ten meters west of the pigeon tower, three rooms (B1-B3) were identified as part of a larger structure that included two additional rooms and that was possibily identified as a residential unit. Test trenches were conducted in this area and involved the excavation of rooms

[135] As preliminarily proposed by R. Bagnall, C. Hope, and A. Mills (personal communications).
[136] Cf. Churcher and Mills 1999, 251-65. A published farmhouse from Dakhla is in Mills 1993.
[137] Cf. Hope 2007, 16-21. A plan of the *columbarium* is published in Hope and Whitehouse 2006, 315.
[138] Several pigeon towers were found at the site of Karanis, in the Fayyum, resembling the typology of the *columbarium* from Kellis: cf. Davoli 1998, 85.

B1-B3. Another room (B4) was chosen and excavated, as part of preliminary test trenching, to the southwest of rooms B1-B3. During the investigation, remains of earlier walls were brought to light, suggesting that the room, as well as the building of which it was part, underwent substantial modifications. The room was used as a domestic midden in its latest phase.[139]

To the west of room B4, a large complex of eight rooms, uncovered in 2008, lies along the western edge of the mound, only a few meters away from the cultivated fields (pl. 100). A preliminary examination of the walls and their relative chronology points to different construction phases for the complex. The archaeological evidence allowed the identification of the complex as a ceramic workshop, built reusing features that comparative analysis allowed to recognize as part of an earlier mud-brick temple.[140]

About twenty-five meters to the southeast of rooms B17-B24, and immediately to the north of area A, lies the complex excavated between 2006 and 2007 (pl. 35).[141] It consists of a church (B5), a large gathering hall (A46), two rooms (B6, B9), an entrance/passageway (B7), and a staircase (B8), all developing to the north of the church. The discussion of the archaeological remains pertaining to the church and its neighboring rooms will be the object of chapters III-V. Two more sectors, along the southern and eastern ends of the church complex, were investigated in 2008. They include an east-west passageway (B11), a north-south street (B12), a crossroad (B13), a kitchen and a pantry (rooms B14-B15). Because of their close spatial relationship to the church complex, they will also be discussed in connection with it in the two following chapters.

Notwithstanding the intense work carried out between 2006 and 2008, especially in the area of the church complex, a large number of buildings remain unexcavated in area B.

[139] On the preliminary test trenching carried out in rooms B1-B3 and B4, cf. II.3. below.
[140] Cf. VI.7. below for evidence supporting the identification of the complex as a temple.
[141] Apart from room A46, first excavated by the Egyptian team in the mid-1990s.

Therefore, discerning the general architectural layout of this part of the site and identifying the possible phases of its development are a very complex matter. The site plan, created with the data obtained during the topographical survey, offers several pieces of information. However, a simple reading of walls that are visible only at their higher end, without their proper and complete excavation, can be misleading in terms of the interpretation of their architectural relationship with each other. In fact, the depth of preservation of most features often makes doorways difficult, if not impossible, to identify, because the walls above their lintels are not readily distinguishable from other parts of the walls. As a consequence, it is not sufficient to shed light on the construction process of the buildings surveyed at ground level. Nonetheless, a great deal of information was collected during the excavation of large sectors of this part of mound I, considerably adding to the understanding of Ain el-Gedida's typology of buildings, construction techniques, phases of expansion, and overall development of the site.

II.2. Mounds II-V

Excavations were not carried out on mounds II-IV, located to the south of the main hill, or on mound V, a few hundred meters to the northeast of mound I, where the visible remains of architectural features are rather limited. Nonetheless, a topographical survey was carried out on all mounds in 2006-2007 and, once again, in 2010, when additional surface clearance allowed for the gathering of further architectural details (pl. 22).

<Plate 22 about here>

The survey of mound II revealed the existence of several mud-brick buildings and of a street oriented northwest-southeast. The visible remains of this street consist (from north to south) of a long (about 30 m) passage running northwest-southeast, joined to the south to a

segment running to the east for *ca.* 8 m; then the street continues with a third sector following, for about 10 m, the same northwest-southeast orientation as the northern segment, until it gets lost under the sand (pl. 23).

<Plate 23 about here>

All structures, in most cases completely filled with windblown sand, are built along this passageway and show a rather compact -and complex- organization of space, following a pattern already identified on mound I. In particular, a set of three rectangular rooms parallel and built next to each other, with the long side oriented north-south, were noticed in the southwest sector of the mound; these spaces show an arrangement that reminds that of rooms A2-A4 in the southern part of mound I, identified as storage rooms. To the northeast of the street two clusters of rooms were found that consist of two, roughly square rooms flanked (with at least one of them opening onto) a larger rectangular space. This building (or part of) has a shape that is suggestive of rooms B1-B3 investigated in the north half of mound I and of rooms A35-A37 (and possibly A38-A40) partially excavated in the southern half of mound I in the mid-1990s.

The construction technique and the material of the architectural features surveyed on mound II (mostly walls laid in English bond, with gray-brown mud bricks of standard size and rich in organic inclusions), seems to be quite similar to those investigated on the main hill.

At the time of the topographical survey, only few remains of mud-brick buildings were identified on mound III above ground level (pl. 24). They consist of two clusters of interconnected rooms, the larger only a few meters to the west of mound II and the smaller located further to the southwest. Most of the visible architectural features follow the same north-south orientation as found on mound II and share the same materials and construction

techniques. In light of the close proximity of the two mounds and of their archaeological remains, it seems that the buildings on both hills were, in fact, one large built-in area.

<Plate 24 about here>

Mound IV, like mounds II-III, is closely surrounded by cultivated fields, which have been encroaching upon the archaeological remains. The topographical survey revealed how several architectural features had already disappeared due to the extensive crop growing, while others were in danger of being permanently erased by the seemingly expanding agricultural exploitation of the area. Notwithstanding, several structures were mapped on this mound (pl. 25).

<Plate 25 about here>

As was the case for all the rooms surveyed on neighboring hills II-III, most spaces were found almost completely filled with sand.[142] However, the preserved tops of their often mud-plastered walls revealed a tight and complex network of rooms, in a few instances clustered around, or opening onto, larger rectangular spaces. A set of three narrow rooms, oriented north-south and with well-preserved remains of barrel-vaulted roofs, is located in the northeast part of the mound. These rooms reflect an arrangement that is similar to other sets of spaces located on mounds I (area A) and II and possibly in use in antiquity as magazines for crops. No buildings with a complete and clearly defined layout could be discerned on mound IV; thus, any typological study of its architectural remains is not possible without further, in-depth archaeological investigation.

The topographical survey did not reveal significant traces of the streets or passageways once running on the mound. However, it showed that the orientation of the rooms is, once again, similar to that followed by most buildings on hills II and III. It is not known, although is

[142] Apart from a rectangular room, with plastered walls and a rounded niche, that was found partially empty in the middle of the mound.

certainly possible, if the buildings located on mound IV were once part of the same built-in area extending throughout hills II-IV and perhaps also continuing to the north onto mound I.

Mound V is located to the northeast of the main hill of Ain el-Gedida, outside the protected archaeological area (pls. 26-27). This has led to heavy disturbances, caused by human activity connected with the agricultural exploitation of the surrounding land, which continues today. As a consequence, the very few remains of architectural features that are visible above ground are in extremely poor condition.

<Plate 26 about here>

<Plate 27 about here>

The survey identified and recorded scanty traces of mud-brick walls that likely belong to two rectangular structures, roughly oriented east-west. The southernmost of these two rooms has its long south wall preserved to a length of about 8.5 m and bears traces of a smaller space built inside, presumably placed against the east wall (now missing or standing at a lower elevation beneath the sand). The smaller room seems to have been built at the east end of the main axis of the rectangular space and once opened onto it through a doorway (width between the jambs: *ca.* 1.15 m) placed along its west wall. It was impossible to map the full outline of this structure, or that of the other room to the northeast, due to their extremely poor state of preservation. No serious attempt in reconstructing the original layout of these spaces, as well as identifying their function, can be carried out without their full archaeological investigation.

It should be added that, according to Mr. Kamel Bayoumi, who led the Egyptian mission at Ain el-Gedida in the mid-1990s, local farmers found several human bones while digging in the area of mound V in recent years. This fact led him to tentatively identify this mound as a

cemetery in connection with the main site.[143] No human bones were found during the topographical survey of the area; however, only in-depth excavations would allow us to gather more information regarding the relation of mound V to the site and its use in Late Antiquity.

The poor condition of many rooms excavated and surveyed from 2006 to 2008 raised the question of conservation at Ain el-Gedida. Several problems must be faced when dealing with fragile materials such as mud bricks and mud or gypsum plaster. Once the archaeological remains are completely exposed, no longer protected by windblown sand, they become subject to the dangers of the harsh natural environment (including strong winds, sunlight, sand dunes, and salinization) and face physical, chemical, and biological deterioration.[144] New chemicals and techniques are regularly developed and tested, but they are often very expensive and not always effective under any conditions. In light of the specific conservation issues faced at Ain el-Gedida, backfill following complete documentation was selected as the most suitable and cost-effective option.[145] Particular attention was paid to features that were more in danger of collapse or damage,[146] such as, within the church complex, the staircase (B8) and doorways without lintels in rooms B6, B9, and B10. Furthermore, the graffiti on the west and north walls of room B6 were protected with mud-brick screens placed at a short distance in front of them, with the space in between filled with clean sand. In 2008, the church (rooms B5), the large hall (room A46), and rooms B9-B10 were completely backfilled with clean sand, and partial backfilling was carried out in all other excavated rooms. In area A, several architectural features were the object

[143] Bayoumi (personal communication, February 2005).
[144] Cf. Zielinski 1999, 185.
[145] I am thankful to the architect Nicholas Warner for his expertise and help. The conservation approach adopted at Ain el-Gedida reflects the choice made by several archaeologists working at other sites in the Dakhla Oasis, for example at Amheida and Kellis (Ismant el-Kharab).
[146] Which might have arisen from a prolonged exposure to the elements.

of partial restoration by the Egyptian mission in the mid-1990s. The rooms whose full documentation was carried out in 2006 and 2007 were either partially or completely backfilled.

II.3. Test Trenches on Mound I

In 2006, the topographical survey of Ain el-Gedida was paired with preliminary excavation activity in the northern half of mound I. In order to gather additional data on the underexcavated (by 2006) area B, two small areas were selected for archaeological investigation, one in the northwest sector of the hill (rooms B1-B3) and another a few meters to the southwest (room B4), in the proximity of the western complex excavated two years later.

II.3.1. Rooms B1-B3

Rooms B1-B3 are located a few meters to the west of the large structure identified (preliminarily) as a pigeon tower and discussed earlier (pls. 28-29). The excavation of these rooms to floor level (or gebel), paired with an accurate surface clearance of the surrounding area, allowed the identification of the three rooms as part of a larger building extending further to the north. The overall layout reveals a regular and well-planned arrangement of space, with a large rectangular room (B1, oriented east-west) that opens, to the north and to the south, onto two sets of roughly square rooms symmetrically placed; B2-B3 are the two rooms built to the south of room B1. Due to time constraints, it was not possible to investigate the two spaces to the north.

The size of the three investigated spaces is *ca.* 42 m^2, while the entire area of the building, including the two rooms to the north, is about 64 m^2.

<Plate 28 about here>

<Plate 29 about here>

B1 is a rectangular room measuring 3.15 m north-south by 6.45 m east-west. The mud-brick walls, which are preserved to a maximum height of *ca.* 1.80 m (west half of the north wall), were originally coated with mud plaster. The room, and the rest of the building to which it belongs, was once accessible from the outside through a doorway (BF11; width: 109 cm) located at the northwestern corner.

Room B1 opens onto rooms B2-B3 along the south side and onto another set of two unexcavated rooms along the north side. Bonded walls BF4 and BF5 form the western boundary of the room, while BF1 is its east wall. The north side is defined by three different walls (BF6-BF8, the last abutting BF1) and two doorways (BF9, whose width between the jambs is 67 cm, and BF10, with a width of 68 cm). The lower rectangular half of a niche (56 cm wide and 37 cm deep) is preserved in the east half of the room's north side. The remains of the niche show evidence of alterations carried out in antiquity, such as a low, narrow barrier poorly built to partially seal the bottom of the niche.

The south boundary of the room reflects an arrangement similar to that of the north side and consists of three walls (BF2, BF3, and BF17 in between) separated by two doorways (BF12 and BF13).[147]

A clay floor was uncovered in rather good condition throughout most of the room (pl. 30).[148] A roughly circular hearth (diameter: *ca.* 90 cm), set into the floor and surrounded by low edges of clay was found, in very good condition, in the southwestern corner of the room. A high quantity of ash, charcoal, and seeds were found inside the fireplace, whose presence points to the use of room B1 as a courtyard with utilitarian functions, such as the preparation of food.

<Plate 30 about here>

[147] Their width is given below in the discussion of rooms B2-B3.
[148] Only patches of a floor were found in room B3 and almost none in room B2.

The excavation of this space led to the identification of three main depositional units, all extending throughout the room.[149] The surface layer (DSU1) consisted of windblown sand and a few ceramic inclusions (0.50 kg) and covered a unit of sand (DSU5), which was very similar to the unit above but cleaner and less disturbed. A large quantity of ceramic sherds (70.09 kg) was found, although in a relatively low concentration when considering the average thinckness of the unit (91 cm). Underneath this unit was DSU14, an occupational level mixed with wall and roof debris. DSU14 consisted of a thick layer of brown soil, with lenses of yellow sand (particularly in the middle of the room), and rich in organic inclusions, mud-brick debris (from wall collapse), and mud plaster with imprints of palm ribs (likely from a flat roof once covering the room). A high concentration of pottery sherds (51.56 kg) was gathered during the excavation of this unit. Among the vessels that could be reconstructed -partially or almost completely- were a sieve, a keg, storage jars, and several bowls, representing a valuable example of a fourth-century ceramic assemblage of a domestic, utilitarian nature.[150] The fourth-century chronological range provided by ceramics for this context is supported by a Greek ostrakon on four lines (a receipt for chickens) found within the same unit (inv. no. 25). Based on palaeography and the indictional date mentioned in the text, the ostrakon was securely dated to the fourth century. The sand filling the niche that was set in the east half of the north wall was excavated as a separate unit (DSU21). It consisted of windblown sand with some mud-brick debris (possibly from the collapsed top of the niche) and contained few pieces of white gypsum plaster and only two pottery sherds (0.08 kg). A fourth-century Greek ostrakon (inv. no. 28), a receipt -probably for wheat- on seven lines, was embedded in the preserved lower half of the niche.

[149] Matching the stratigraphy of both rooms B2 and B3.
[150] Cf. Chapter VIII.

The hearth placed in the southwest corner of room B1 had a filling (DSU17, below DSU14) of moderately compact gray ash, with charcoal and ceramic inclusions (0.24 kg).

Room B1 opens, along the west half of its south side, onto room B2, which measures *ca.* 2.50 by 2.50 m. The mud-brick walls, preserved to a maximum height of 1.35 m (north wall), are coated with mud plaster, which is a typical feature of several buildings throughout the site. Access to this room was through a doorway (BF12; width between the jambs: 70 cm) located at the eastern end of the north wall (BF3). The two jambs and a stub (BF20, perpendicular to the north wall and protruding into the room) are still partially visible. As seen above, the north and the east walls of room B2 abut respectively BF4+BF19 (forming the west boundary of rooms B1-B3) and BF18+BF16 (the south wall of the complex). A niche (width: 73 cm; depth: 38 cm) was inserted in the east wall; today it is only partially visible in its bottom end, due to the collapse of the roof and of the upper courses of the wall and to wind erosion. Overall, B2 is the most poorly preserved room of the building.

The simple stratigraphy of room B2 consisted of a surface layer of windblown sand (DSU2), with a low density of inclusions -mostly pottery fragments (0.1 kg)-, covering a sub-surface level (DSU6) that was quite similar in nature to the previous one but with slightly less inclusions. The removal of this unit revealed a dark brown context (DSU9) at the level of the largely deteriorated clay floor. This layer, which was very rich in organic inclusions (including bones) and ceramic sherds (2.04 kg) and lay directly on top of gebel, was identified as occupational debris mixed with the decayed floor. The only small find that was gathered within room B2 came from this occupational layer; it is a fragmentary base of a vessel of yellow blown glass (inv. no. 6).

To the east of room B2, and also opening onto the rectangular court (B1), is room B3; it measures *ca.* 2.60 by 2.75 m and the maximum height of its preserved walls is 1.32 m (west wall). The room still shows a few traces of a beaten earth floor, laid out on gebel.

Reflecting the symmetrical arrangement of room B2, the north wall of room B3 (BF2) abuts, at its east end, BF1+BF15, which form the eastern boundary of the building. To the west of BF2 is doorway BF13 (width between the jambs: 62 cm), which is the only entrance into the room from court yard B1. Remains of the mud-brick threshold, of two jambs and a stub (BF21), bonded with the north wall and protruding into the room, are still visible.

The lower part of a niche, 44 cm wide and 37 cm deep, is set toward the north end of the east wall. Of particular interest, although of yet unclear function, is the white gypsum band that decorates the northeast corner of this room. This band partially frames the niche on the east wall and continues on the north wall, following an irregularly stepped pattern and ending against the stub of the doorway (pl. 31).[151]

The surface layer (DSU3) removed from room B3 consisted of windblown sand with a low concentration of ceramic sherds (1.15 kg), plaster, very few fragments of mud brick. Another depositional unit of sand (DSU7) was found underneath, which contained more fragments of mud bricks and ceramic sherds (30 kg). Two fragments of ropes, of light yellow-brown vegetal fibers (inv. nos. 14-15), were also found in this deposit. DSU7 extended throughout the room and covered the lowest, and most significant, archaeological context (DSU10), which consisted of decayed mud-brick debris (from a wall collapse) and brown sediment (from an occupational level and a deteriorated clay floor). Several traces of palm rib impressions and straw matting were found on the mud plaster and bricks in this layer, suggesting that originally the room had a flat roof. This context, which contained a higher percentage of

[151] P. Davoli pointed out that similar bands were found at the site of Amheida (personal communication).

ceramics than the units above (10.45 kg), lay on gebel and on the scanty remains of a beaten clay floor. The few objects that were retrieved during the excavation of DSU10 consist of a fragmentary rope of light brown vegetal fibers (inv. no. 16) and a Greek ostrakon (inv. no. 7), an account of wheat and must written on both the convex and concave sides of the body sherd. Based on information written in the text, the ostrakon is dated to the third quarter of the fourth century.[152]

<Plate 31 about here>

The layout of rooms B1-B3 (and of the two unexcavated rooms along the north side of B1) suggests that they may have belonged to a residential unit, consisting of a roofed courtyard, with a hearth for food preparation, and smaller spaces opening onto it. The overall design shows a rather simplified spatial arrangement, compared with that of other houses found at Kellis or Amheida, also in the Dakhla Oasis.[153] Quite peculiar is also the symmetrical layout of spaces in the building of Ain el Gedida and the fact that rooms B2-B3 (and the two unexcavated rooms to the north of B1) roughly share -quite unusually in a domestic context- the same dimensions. At any rate, the identification of this building as a house still stands as a reasonable possibility. The relatively small dimensions and seemingly private character of the building; the spatial arrangement of rooms opening onto a central, rectangular courtyard with a hearth placed in one corner;[154] and the discovery, within the occupational level of the courtyard, of a ceramic assemblage of a clearly domestic nature, point towards the identification of this building as a residential unit. It is not clear, however, if a family inhabited this building. The simmetricity of the spaces and their roughly equal dimensions (apart from the court) is also suggestive of a

[152] Cf. Chapter X.
[153] Cf. Boozer 2007, 197.
[154] Two structures reflecting a partially similar layout, with two smaller rooms of roughly equal dimensions opening onto a larger rectangular space, were excavated by the SCA in the mid-1990s along the southeast end of mound I, although their identification as domestic residential units is not proved beyond doubt.

structure occupied by individuals occupying same-size rooms and sharing only the central court as a communal space. The available evidence does not confirm -nor does it rule out- this hypothesis. Certainly, this would fit quite well with the possible reading of the site as an agriculturally-oriented settlement, in which people might have resided, with or without families, on a seasonal basis.[155]

II.3.2. Room B4

Still in 2006, a second area was selected for test trenching to the southwest of room B1-B3, where one roughly rectangular space (B4) was excavated to gebel (pls. 32-33). Room B4 is located immediately to the east of the complex of rooms B17-B24 that was investigated in 2008.[156] In fact, the west wall of B4 is part of the west wall (BF30, oriented north-south) of the complex and predates the construction of room B4 (certainly in its latest stage). This space measures *ca.* 4.90 m east-west by 2.70 m north-south, with mud-brick walls that are preserved to a maximum height of about 2.30 m near the southeast corner.

<Plate 32 about here>

<Plate 33 about here>

The north side of room B4 consists of different segments, including two east-west oriented partition walls (BF24 and BF26) abutting earlier ones. In particular, BF24 abuts B31 to the west (belonging to the western complex, as mentioned above) and BF25 to the east. BF25 is a north-south oriented wall that was partly razed down in the section that once continued into room B4. Originally, this wall was bonded with another wall (BF33) running perpendicularly to the former and that was also razed down at some point, possibly when room B4 was constructed.

[155] Cf. the discussion in Chapter VII.
[156] Cf. Chapter VI below.

Consistent remains of BF33 are still visible well above gebel inside B4, suggesting that the room did not have a floor (indeed, no traces of it were identified), but was built with the specific function of serving as a dump. BF25 is abutted to the east by the second partition wall, i.e., BF26, which ends to the east abutting BF27, another north-south oriented wall (parallel to BF25). BF27 serves also as the northern sector of the east wall of room B4. The southern part (BF29) is divided from BF27 by a doorway, which was the only access into room B4 (although it is not clear if this passage was indeed in use in the room's last phase of use). The remains of the doorway, consisting of two protruding side jambs and a threshold, were found in very poor condition and could not be fully excavated to gebel. BF27 abuts the south wall of the room (BF30), which is considerably narrower than the other sectors and runs along an unexcavated wall to the south. All walls are built in a very poor construction technique in English bond, which is particularly irregular in the case of south wall BF30; indeed, four of the visible courses of bricks are headers placed on edge.

During the excavation of the midden, remains of another wall (BF34, pl. 34) were uncovered at foundation level along the south wall, clearly predating the latest phase of use of the room. BF34, as well as the above-mentioned evidence of earlier walls, testify to the substantial alterations to which pre-existing architectural features underwent in the area subsequently occupied by room B4, with the razing of older walls and the addition of new ones. Unarguably, the investigation of the rooms and buildings to the north, east, and south of the dump would allow us to shed light on the occupational history not only of room B4, but of the entire area.

<Plate 34 about here>

The highest depositional level (DSU4), removed from the entire area of room B4, consisted of windblown sand and fragments of mud bricks and ceramics (4.40 kg). Among the small finds that were retrieved in the surface layer are fragments of undecorated textile (inv. nos. 3, 11, 12) and a Coptic ostrakon (inv. no. 4) of nine lines, which is a letter from a monk or clergyman named Apa Alexandros to Nikolaos. Based on palaeography, the ostrakon was dated to the fourth century (possibly the second half). Below DSU4 was another layer of sand (DSU8), still covering the whole room and sharing similar characteristics with the previous unit, except for a higher density of mud-brick fragments (likely from the collapse or dismantling of the surrounding walls) and pottery inclusions (204.5 kg). Four fragments of textile (inv. no. 21) and a headless Bes amulet of blue faience with yellow glaze (inv. no. 5) were collected during the excavation of DSU8. The removal of this depositional unit revealed a layer (DSU11) of sand of a darker color, likely due to its mixture with mud-brick dust. It contained a few pebbles, charcoal, bones, ceramic sherds (22.26 kg), and a fragment of a rope made of light brown vegetal fibers (inv. no. 13). Underneath, and filling the entire room down to gebel, was a thick, dark gray/brown layer of ash mixed with mud-brick dust (DSU15). This unit, which was thicker along the perimeter of the room than in the center,[157] contained fragments of glass and glass slag, a high percentage of charcoal, pottery sherds (219.08 kg) and organic inclusions, such as wood, fruit seeds, and bones. The small finds that were uncovered in DSU15 consist of two bracelet fragments made of black dull glass (inv. nos. 23, 24), two complete cylindrical beads (inv. no 19, of gold leaf between two layers of transparent glass, and inv. no. 20, of blue dull glass), an incomplete sandal sole of vegetal fibers (inv. no. 22), an elongated conical shell (inv. no. 101) with a perforation at the broad end (likely used as a pendant), and an enigmatic piece of coroplastic (an incomplete head molded around a pit, inv. no. 27). The excavation of DSU15

[157] Possibly due to the pattern of refusal-dumping, which occurred from outside the room and along its walls.

brought to light also a complete Greek ostrakon of nine lines (a receipt for annona of horse archers) that is dated to the fourth century (inv. no. 9). A coin (inv. no. 548) was found while cleaning the features of room B4. Due to its poor condition, only a tentative dating to the late fourth-early fifth century, based on size and weight, could be established.

There is a high probability that room B4 was not the primary context for several of the objects found during its investigation (especially within DSU11 and DSU15), as they were likely thrown into the room together with the ash refuse. Indeed, the presence of a thick layer of ash, charcoal (with no traces of burning along the walls), and fragmentary material -organic and not- filling the entire room up to sub-surface points to the use of room B4, at least in its latest phase, as a domestic midden.

CHAPTER III

MOUND I – THE CHURCH COMPLEX

III.1. The Excavation of the Church Complex

The church complex was first excavated in 2006 and its investigation was completed in 2007 (pl. 35). Room A46, a large gathering hall located to the north of the church, had already been excavated in 1994 by the Supreme Council of Antiquities;[158] however, due to the lack of documentation, the room was once again cleared of the windblown sand and fully recorded in 2007. Room B5 was discovered and identified as a church in 2006. Windblown sand was removed and a roof and wall collapse was revealed. Because of time constraints, it was decided to leave the collapse in place in order to protect the floor level until the following year, when the excavation of the room was completed. Still in 2007, further investigation was carried out to the north of the church and of the gathering hall, leading to the discovery of four other rooms, including a corridor/entrance and a staircase, that belonged to the same complex. A room (B10), built against the northwest corner of room A46, was also excavated; although it was not directly connected with the complex, its vaulted roof was accessible from it via the staircase. In 2008, the area to the south and east of the church complex was excavated. Evidence was collected that shed light on the topographical context in which the church and its adjoining rooms were located. Also, significant information was gathered on their construction and development history.

<Plate 35 about here>

The church complex is centrally located on mound I, slightly toward the south, and covers an area of approximately 164 m^2 (pls. 36-37).

<Plate 36 about here>

[158] Cf. Bayoumi 1998, 57.

<Plate 37 about here>

The church (room B5) is the southernmost space of the complex and, including its apse, is its second largest room (*ca.* 35.5 m^2), surpassed only by the large rectangular room (A46) immediately to the north of the church (*ca.* 36.5 m^2). Room A46, which leads into the church to the south, also opens to the north onto room B6, a smaller rectangular space (*ca.* 10 m^2) built against the west half of the north wall of A46. Room B6 is accessed from a long corridor (B7) running east-west along the outer face of the north wall (east half) of room A46 (pl. 38). Corridor B7 (*ca.* 7 m^2) ends to the east with a doorway that is the only entrance into the church complex from the outside. Room B6 also leads into room B9 to the north, a fairly large space (almost 19 m^2) whose outer walls form the northwest boundary of the complex. A doorway located in the northeast corner of room B6 opens onto a staircase (about 3 m^2), which leads to the remains of vaulted roofs belonging to rooms B9 and B10.

A long street (B12) runs from north to south along the east side of the church complex, joining the north and south halves. A small open-air industrial area (rooms B14-B15) opens onto B12 near the main entrance of the complex. To the southeast of the church, street B12 intersects another passageway that runs east-west along the south wall of the church, ending in an open courtyard (B13).

<Plate 38 about here>

All rooms of the church complex, like all other buildings excavated or surveyed at Ain el-Gedida, had walls built of sun-dried mud bricks, rich in organic inclusions. Their dimensions (*ca.* 34 by 17 by 9 cm) fit the standard measures of Roman samples, which were generally adopted in Late Antiquity.[159] The bricks used to build the vaulted ceilings were of a considerably large size

[159] The bricks used at Ain el-Gedida are slightly longer (an average of 2 cm) than those given as standard samples by Badawy (on the basis of bricks from Djeme and Tell Edfu): cf. Badawy 1978, 109-11.

(*ca*. 43-45 by 21-23 by 8-10 cm). Stone was rarely used at Ain el-Gedida, mostly for the lintels of doorways. No wooden feature was found *in situ* within any of the excavated rooms, but wood was certainly a common building material, employed for the construction of items such as doorways and shelves.

Below is a discussion of the rooms of the church complex, based on the results of the 2006-2008 seasons of archaeological field work and on their subsequent analysis.

III.1.1. Room B5

Features

Room B5 is a rectangular space oriented to the east (pls. 39-40). It measures *ca.* 3.65 m north-south by 11.35 m east-west. It has walls preserved to a maximum height of 2.64 m (west half of the north wall), and was once barrel-vaulted.

<Plate 39 about here>

<Plate 40 about here>

Room B5 was originally connected, through two doorways, to another large rectangular room to the north (A46). The larger door, about 2 m wide by 0.85 m deep, is located in the middle of the north wall, slightly to the east. Its sides are plastered with mud and whitewashed, but no other details are visible. Indeed, this doorway is now almost completely obscured by an ancient mud-brick plug, which testifies to the process of architectural (and possibly functional) alterations involving both rooms B5 and A46.

The second doorway, functioning as the only entrance to the church in its latest phase, is located at the west end of the north wall. It is *ca.* 80 cm wide and 70 cm deep and is preserved to a maximum height of about 2.20 m. The door has a well-preserved threshold, which is the

continuation of the church's north wall and is also bonded with the west wall of room B5 (and A46). Two holes, visible at about 180 cm above the threshold on each side of the doorway, originally supported a stone lintel. A small relic of a barrel vault, located on top of the north wall of the doorway, suggests that the passage might have been originally vaulted. Mud plaster and a white gypsum coat cover the sides of the door and a few traces of mud plaster were also identified on the top surface of the threshold.

The north and south mud-brick walls of room B5 are uniformly coated with mud plaster and whitewashed (with the exception of the bricked-in doorway in the north wall) (pl. 41). Nonetheless, they do not form an original unit but rather consist of several sections belonging to features that were built at different stages. This is particularly noticeable within the south wall, made of three partitions that are not perfectly aligned (pl. 42). Their different orientations generate an overall outline that is very irregular but with a specific rationale. Indeed, it seems to address specific needs concerning the use of space to the south of the church complex at the stage of its expansion westwards.

<Plate 41 about here>

<Plate 42 about here>

The north wall also consists of three sections, including a short north-south wall that abuts the northeast wall of the room at its west end, built to provide additional support for the doorway and the vaulted roof.[160] The remains of two different vaults, supported by the north and south walls of room B5, are further evidence of the multi-phased construction process that involved the church and affected the surrounding area.

[160] In fact, the sectors of the north wall become four with the construction of the mud-brick plug sealing the central doorway.

The west wall of room B5 is in fact a very thin facing that abuts an earlier north-south wall (pl. 43). At a height of about 1.80 m above floor level, it forms a recessed sill 16-17 cm deep, which extends for about 2.60 m from the southwestern corner of the room. The ledge is covered with mud plaster, as is the rest of the wall, and a thin layer of whitewash.[161] The facing becomes progressively wider toward the north, where it forms also the western boundary of room A46; it was built in order to create a straight and uniform west wall for the church and its gathering hall to the north, as part of the expansion of the church complex to the west.

<Plate 43 about here>

A semicircular apse occupies the middle of the east side of room B5 (pls. 44-45). The conch, whose diameter is *ca.* 1.75 m, is defined by two engaged semi-columns, with a diameter of 34 cm and preserved to a height of 138 cm (north) and 148 cm (south).

<Plate 44 about here>

<Plate 45 about here>

Both semi-columns consist of a shaft resting on a low, moulded base, which is supported by a rectangular stylobate measuring *ca.* 45 by 25 by 20 cm. The apse is raised by approximately 40 cm above the original floor of the nave, although a pit dug in the sanctuary in antiquity destroyed the platform almost in its entirety. No traces of steps leading to the raised sanctuary were found, as the area in front of the apse was the object of heavy disturbance in antiquity. The apse, including its original raised surface, and the semi-columns are covered by a thick layer of mud plaster and a coat of white gypsum.

[161] A similar ledge is in the east wall of room A46 to the north. High horizontal sills were noticed in several other buildings of area A (mound I). They do not seem to have had a structural function within the wall and they may have been used as shelves, although some of the sills are at a considerable height and not easily accessible. In the Large East Church at Kellis, niches were set into the north wall (possibly also in the south wall, now less well preserved) at the height of 2.7 m above floor level, raising questions on their function due to their difficult accessibility: cf. Bowen 2002, 67-70.

A large hole is carved into the northern sector of the east wall, to the left of the northern semi-column (facing the apse). It is *ca.* 60 cm wide, 44 cm high, and 30 cm deep; the thickness of the hole corresponds to the full width of the wall. The opening is poorly executed and left unplastered, but it has a roughly arched top and flat bottom. Therefore, it seems to be the result of an intentional effort to create a niche, although its original purpose is unknown. Not far from this hole is another niche, built within the eastern section of the church's north wall. It seems to have been constructed at the same time as the wall, not carved out of it at a later stage (pl. 46). This niche, of a better craftsmanship than the one in the east wall, is rectangular in shape and stands 40 cm above the preserved floor level. It measures 40 cm (width), 77 cm (depth), and 43 cm (height). A band of white gypsum plaster, about 34 cm thick, seems to have originally framed the niche, although it is not clearly discernible on all sides, as it is obscured by the later whitewashing of the entire section of the wall. The flat bottom of the niche is incomplete, with one brick missing in the western half. The inner space is not rectangular but L-shaped, with a smaller recess beginning 18 cm inside the wall and extending to the east for about 33 cm. The eastern edge consists of a screen of mud bricks set as stretchers on edge and plastered with mud. Traces of defaced painted decoration, possibly two feet of a standing figure, were found above the opening.

<Plate 46 about here>

The apse of the church opens to the south onto an L-shaped *pastophorion* (pl.47). It consists of a square recess measuring *ca.* 70 cm on each side and raised above the original floor level of the apse by 40 cm.

<Plate 47 about here>

A hole in the northeast corner of the recess, *ca.* 50 cm above its floor level, points to the existence of a door sealing off the *pastophorion* from the church in antiquity. A poorly preserved step of mud bricks, about 20 cm high, protrudes from the south wall of the *pastophorion* by *ca.* 15 cm. The recess opens eastward into a small niche measuring 41 by 39 cm, with walls preserved to a maximum height of 43 cm. All sides and the floor of the *pastophorion* were originally covered with mud plaster, but it was not possible to ascertain whether a white gypsum coat had been laid on top of it. Traces of burnt oil are still visible against the southeast corner of the niche, likely due to a lamp (pl. 48).

<Plate 48 about here>

The apse and the *pastophorion* belong to the same construction episode and are part of a later addition to room B5. Indeed, their walls are not bonded but clearly abut the north and south walls of the church, as a test trench dug outside the apse, down to foundation level, has proved (pl. 49). Further evidence comes from the discovery of the remains of a north-south wall, forming the western boundary of the circular apse and belonging to the original east wall of room B5, which predates the construction of the sanctuary.

<Plate 49 about here>

Built against the east jamb of the central passageway is a stepped rectangular platform, visible also from room A46 but protruding only into room B5 (pl. 50).

<Plate 50 about here>

The podium was partially obscured when the central doorway was bricked in. Within room B5, the feature measures *ca.* 135 cm east-west by 93 cm north-south and has a maximum height of *ca.* 47 cm (pl. 51). Considering that it originally extended into the central doorway, its maximum length (north-south) is about 1.80 m.

<Plate 51 about here>

The platform consists of three steps. The bottom one has a roughly square shape and measures *ca.* 35 by 35 cm and rises by *ca.* 25 cm above floor level. It is built against the southeast end of the central step, a large, rectangular block measuring *ca.* 135 cm east-west and protruding into room B5 by 65 cm; its height above floor level is *ca.* 40 cm. The highest step is built against the southeast stub of the central doorway and rises on top of the middle step by *ca.* 20 cm. It runs against the north wall of the church for 80 cm and along the above-mentioned stub for 12 cm. A rectangular protrusion is visible at the west end of the south side, increasing the visible width of the step to about 20 cm. The three steps are made of mud bricks and covered by a thick layer of hard mud-plaster, which obscures the architectural relationships among the platform's components.

It is possible that the stepped platform was used as a podium by a preacher to read the Scripture or deliver a sermon; by standing in a higher position in the large, central passageway, he would have been easily seen and heard by the people sitting both in room B5 and in the adjoining space (A46). The podium surely lost its function when the doorway was sealed off with mud bricks, becoming completely obscured within room A46 (pl. 52).

<Plate 52 about here>

Olaf Kaper suggested the similarity of the stepped podium to a structure uncovered by Gillian Bowen in the Large Eastern Church at Kellis and identified by Peter Grossman as an *ambo*.[162] This included two other elements, a semicircular feature and a small platform to the east of the stepped structure, which have not been identified so far at Ain el-Gedida. While the

[162] Kaper (personal communication, February 2006). Cf. Grossmann 2002b, 153.

identification of the stepped feature at Ain el-Gedida seems quite certain, the structure found at Kellis is of more difficult interpretation, especially regarding its components.[163]

Along the north, south, and west walls of room B5 are low mud-brick *mastabas* (benches). The substantial remains found along the south wall originally formed a single feature with those against the west wall, notwithstanding the break near the southwest corner due to ancient damage. The long bench begins *ca.* 80 cm south of the west doorway and runs along the west wall for about 2.20 m; at the southwest corner of the church, it turns east for *ca.* 8.90 m, ending at approximately 70 cm from the apse. Along the south wall, the *mastaba* takes a curvilinear shape to follow the very irregular course of the wall itself. Another bench lies against the north wall of the church; it begins *ca.* 14 cm east of the west doorway of the room and runs for 4.30 m, ending at about 1 m from the stepped podium. It is in rather poor condition, especially in its western half; it was probably damaged by the extensive collapse of vaults and walls found along the north side of the church. All *mastabas* are about 30 cm wide and rise by 28-30 cm above floor level. They are made of mud bricks and covered by a thick layer of mud plaster; they were found with several encrustations, probably due to presence of water and moisture. The benches abut the walls of the church and lie on top of the preparation layer of the floor, while the floor itself was laid against the benches themselves. Therefore, the relative chronology for the construction of these features is: walls - floor preparation layer - *mastabas* - floor.

A two-line graffito was carved on the west half of the north wall, mentioning the name *Orikeni* (Horigenes) and, according to R. Bagnall's reading, the Coptic word for God, i.e., *Pnoute* (pl. 53).[164]

[163] Cf. Bowen 2002, 73.
[164] Bagnall (personal communication, February 2006). Cf. also Chapter X.

<Plate 53 about here>

Three foundation courses of a north-south oriented wall were found below floor level, cutting the nave of the church in two parts. The wall, resting on gebel and a leveling layer of compact soil, seems to be the continuation of the north-south wall identified in room A46, to the north of B5 (pl.54). Parts of this feature are still standing, incorporated in the north and south walls of the church and of the gathering hall. It seems that the wall belongs to an earlier construction phase, before the expansion of rooms B5 and A46 to the west.

<Plate 54 about here>

Several test trenches, dug inside and along the outer perimeter of the church, helped to clarify the relationships among its walls and investigate the different construction phases of the building.[165]

Stratigraphy

The stratigraphy of the deposits excavated in room B5 is quite complex and includes several deposits of windblown sand, wall- and vault-collapse contexts, and soil from pits dug out in antiquity. The surface layer (DSU 19), which consisted of windblown sand, limited ceramic inclusions (2.83 kg), some pebbles, a moderate quantity of plaster, and a few animal bones, extended throughout the room down to an average depth of 40 cm. Below it, and covering the entire area of the church, was a thick sub-surface layer (DSU20) of windblown sand and lenses of grayish sand, with potsherds (7.52 kg), a large amount of plaster, some mud-brick fragments, and a few bones. Two joining fragments of a yellow glass beaker (inv. no. 35), as well as the lower part of a grinding stone (inv. no. 26) and a bronze coin (inv. no. 33, broadly assigned to the fourth century on the basis of size and weight), were collected within this unit. After the removal

[165] Cf. the discussion in V.1. below.

of DSU20, a substantial context of vault and wall collapse (DSU22), with pockets of sand, was found in the center of the room. The highest elevation of the unit was against the north wall of room B5, from which the collapse sloped to the south. The layer included whole mud bricks, mud-brick debris, potsherds (1.76 kg), bones, two fragments of glass vessels, and one bronze coin (inv. no. 32), which was dated to 323-329. Additional evidence of wall and vault collapse, with a very low density of ceramic inclusions (0.91 kg), bones, and plaster, was detected within the area of the apse (DSU23). One bronze coin (inv. no. 29), minted between 353 and 361, was found in this context. It seems that two collapse units were in fact the result of the same episode, but they were kept separated because of the physical boundaries in which they were first identified.

In the west half of the nave, a very small unit of mud-brick debris, lying below both DSU20 and DSU22 at ground level, was identified and removed as DSU25, revealing several fragments of cotton textile (inv. no. 37), very poorly preserved. These consisted of pieces of two different textures and colours, sewn together with a thick string.

Within the apse, a unit of hardened mud-brick melt (DSU24), mixed with mud-brick debris, a few potsherds, charcoal, and ash, lay on top of the original raised floor, now largely destroyed. Four bronze coins were gathered; one (inv. no. 30) was tentatively dated between 353 and 361, while another (inv. no. 31) was assigned to the mid-fourth century, based on size and weight and the visible traces on the reverse, and the remaining two specimens (inv. nos. 34 and 522) were broadly dated to the fourth century (on the basis of size and weight). In the center of the sanctuary, the fill of a pit, dug in antiquity down through the original floor, was removed as DSU26. It consisted of mud-brick debris, mixed with sand and mud dust, and contained a few pockets of ash, potsherds (0.41 kg), small pebbles, one fragment of (possibly) a terracotta

figurine (inv. no. 568), and four bronze coins (inv. no. 520, dated to 351-356; inv. no. 521, dated to 353-361; 523, dated to 330-340; and inv. no. 562, dated to 347-348). The excavation of the area immediately to the west of the apse revealed the existence of a low mound of debris (DSU32), which was likely the displaced material from the original pit dug inside the sanctuary. The unit consisted of mud-brick debris, mixed with sandy soil, a few fragments of sandstone blocks, potsherds (1.32 kg), three joining fragments of a beaker of white glass (inv. no. 535), and some organic material (like wood, charcoal, and bones). The removal of this deposit brought to light five bronze coins datable to the fourth century (inv. no. 511, dated to 353-361; inv. no. 512, minted in Rome in 318; inv. no. 516, dated to 333-336; inv. nos. 515 and 517, poorly preserved and broadly assigned to the fourth century based on size and weight). Five billon tetradrachms were also found within the same disturbed context (inv. no. 509, dated to 285-286; inv. nos. 510 and 514, minted in Alexandria between 284 and 285; inv. no. 513, dated to 286-287; inv. no. 518, minted in Alexandria between 279 and 280). These third-century coins, which represent a considerably small percentage compared to the fourth-century specimens found at Ain el-Gedida, are likely to be associated with the original context of this unit below the floor of the apse and point to earlier phases of occupation at the site than the fourth century.

Below DSU32 was another pit (earlier than the one dug in the apse), which extended inside the nave along the west side of the apse. Its fill, excavated as DSU43, consisted of mud-brick fragments, pebbles, ceramic sherds (4.52 kg), organics (including wood, bones, charcoal), and plaster (presumably from the south engaged semi-column of the apse and from the ledge adjacent to it). Only one coin (inv. no. 566), a bronze nummus dated between 330 and 340, was found within DSU43.

The removal of the large collapse in the central part of the room revealed that the unit rested on a layer of windblown sand mixed with mud dust, particularly in the lower strata (DSU28). This context, which had accumulated in the middle of the nave, contained fragments of mud bricks, ceramic sherds (38.90 kg), remains of white plaster, ash, charcoal, and other organic material (including wood and bones). The excavation of DSU28 brought to light several complete and fragmentary objects. These include: three fragments of bracelets, all of dull black glass (inv. nos. 530-532); a small piece of a bronze object, possibly a hook (inv. no. 533); two diagnostic fragments of glass beakers, one light green (inv. no. 534) and the other light yellow (inv. no. 582); five fragments of a rope made of dark brown fibers (inv. no. 540); six pieces of tight-weave textile (inv. nos. 536-539, 541-542); an incomplete iron nail (inv. no. 574); and three bronze coins (inv. no. 526, dated to 353-361; inv. no. 527, fragmentary and tentatively assigned to the fourth century based on the coin's original diameter; and inv. no. 528, dated to the fourth century on the basis of size and weight).

Below DSU28, two smaller collapses were identified and removed. One (DSU29) lay against the south wall of the nave and consisted of mud-brick debris mixed with mud-dust, sand, fragments of gypsum plaster, organic material (wood, charcoal, bones), and some potsherds (3.25 kg). Four bronze coins were discovered while excavating this context: one specimen was dated to 351-354 (inv. no. 505), another to 337-340 (inv. no. 506), a third one to 322-323 (inv. no. 507), while the fourth coin (inv. no. 508) was fragmentary and illegible. DSU29 (possibly resulting from the collapse of the ceiling) rested above a layer of windblown sand (DSU30) containing ceramic sherds (0.24 kg), fragments of plaster, bones, and a few fragments of tight weave textile (inv. nos. 543-544). It was a later episode than the other small collapse, which was excavated along the north wall of the room (DSU31). This layer contained complete wall and

vault bricks (some of which were still bound together with mud mortar), mud-brick debris, mud dust, plaster, potsherds (1.55 kg),cobbles, and organic inclusions (like vegetal fibers, charcoal, and few bones). DSU31 also lay on top of a deposit of relatively clean windblown sand (DSU36), mixed with few organic particles (including charcoal) and potsherds (1.44 kg). The removal of this unit revealed a complete Greek ostrakon dated the fourth century (inv. no. 529) and consisting of a memorandum or tag on one line.

DSU28, the layer of sand detected below the more extensive collapse (DSU22), continued uninterruptedly in the middle of the room, down to a unit of brown sand mixed with mud dust (DSU33). This context contained plaster fragments, mud-brick debris, potsherds (1.51 kg) and was rich in organic inclusions (straw, seeds, charcoal, bones -some of which charred-). Two bronze coins were found in this deposit; one specimen (inv. no. 525) was dated between 342 and 395, while the other (inv. no. 524) was broadly assigned to the fourth century based on size and weight. DSU33 extended to the south below DSU30, where it was removed as DSU34. The same range of materials was found in the latter unit, including potsherds (0.86 kg). The excavation of DSU33 and DSU34 revealed, in the east part of the room, a layer of packed dirt and mud dust (DSU35), mixed with mud-brick debris, pebbles, and potsherds (2.20 kg). A fragment of a bronze ring (inv. no. 551) and one bronze coin (inv. no. 550), which was dated to the fourth century based on size and weight, were also gathered within this unit. DSU35 lay directly on top of the remains of the original clay floor and on DSU41, a layer of brownish-gray soil, mixed with several small potsherds (1.07 kg), some pebbles, and mud-brick fragments. The unit contained also wood, two small pieces of glass vessels, two ceramic lamps (inv. no. 577, complete, and inv. no. 636, with a broken handle), a complete bowl (inv. no. 637), painted with a motif of red waves inside and with red circular dots around the rim, and a bronze coin (inv. no.

519), poorly preserved and only datable to the fourth century on the basis of size and weight. DSU41, which was also identified in the western half of the room (where it covered part of the north-south razed wall below floor level), seems to have belonged to a preparation layer for the church's floor.

The cleaning of excavated architectural features brought to light three additional bronze coins (inv. nos. 545-547); they were found in poor condition and could only be assigned to the fourth century on the basis of size and weight.

III.1.2. Room A46

Features[166]

Room A46, excavated by the SCA in 1994, is a large gathering hall located to the north of the church (pls. 56-57). It is rectangular in shape and measures *ca.* 9.5 m east-west by 4 m north-south; its walls are preserved to a maximum height of 2.84 m (north end of the west wall).[167]

<Plate 56 about here>

<Plate 57 about here>

The room is accessed from the anteroom B6 to the north through a doorway located in the northwest corner. The opening is 95 cm wide, 73 cm deep, and has a maximum preserved height of 1.97 m. A mud-brick threshold is still *in situ*; two holes are visible on the east wall and one groove on the east wall, pointing to the existence, in antiquity, of a wooden door closing the entrance. The sides of the doorway were originally plastered in mud and then covered with a thin layer of white gypsum plaster, of which only few traces are visible.

[166] No information on the stratigraphy or the finds of the room, excavated in 1994, is available.
[167] The maximum height applies to the west wall of the room.

As said above, two doorways open from room A46 into the church; the larger of the two, placed in the middle of the south wall, was sealed off in antiquity, leaving the doorway at the west end of the south wall as the only entrance into the church.

All walls are made of mud bricks laid out in English bond and are plastered with mud, above which is a thin layer of white gypsum plaster (pl. 58).

<Plate 58 about here>

The north wall supports, at about 1.45 m from ground level, substantial remains of the original vault springs, which form a lipped overhang protruding into the room. Two square niches are set within the wall; one is located at *ca.* 3.80 m from the west end, 80 cm above the floor, and measures 51 cm (width) by 38 cm (depth) by 51 cm (height). The second niche is built *ca.* 1.60 m to the east of the previous one, at the same height above floor level. Its dimensions roughly match those of the western niche: 51 cm (width) by 37 cm (depth) by 51 cm (height). Both niches are completely whitewashed inside; also, they are framed by a square band of white gypsum plaster, 35-36 cm in thickness, which partly extends on top of the vault springs and predates the later whitewash coating that covers the rest of the wall. A graffito with concentric circles is carved in the upper part of the white band framing the east niche. It might have been part of a decorative motif, but the evidence is too scanty to draw any conclusion about its nature.

No niches are set within the short east wall, which has a pronounced sill, one brick (header) wide,[168] built at *ca.* 1.45 m above floor level. Scattered remains of white gypsum plaster are still visible.

As already mentioned with reference to room B5, the south wall consists of partitions linked to different construction episodes, including the mud-brick plug that seals off the central doorway between rooms A46 and B5. With the exception of the latter, covered only with mud

[168] 17 cm.

plaster, the rest of the south wall bears substantial traces of a white gypsum coating above the mud plaster. An arched niche is set within the wall at about 1.35 m east of the open doorway and 85 cm above ground. It measures 51 cm in width, 38 cm in depth, and 55 cm in height. Three holes vertically placed (at equal distances) on both the west and east sides of the niche point to the existence, in antiquity, of a lintel on top and two shelves inside. The bottom is not flat but slightly concave; this seems to be the result of later alterations, which involved the removal of the original floor. Also, a short mud-brick partition was built along the lower-front edge. A rectangular band of white gypsum plaster, 34 cm thick on each side, frames the niche, which is also whitewashed inside.[169]

It has already been mentioned that the west wall consists of a facing common to both rooms B5 and A46 and partially built against an earlier north-south wall.[170] A large rectangular niche is inserted in the west wall of A46, 153 cm south of the north end of the wall and *ca.* 80 cm above floor level. It is 53 cm wide, 56 cm deep, and 85 cm high. All inner faces of the niche are covered with mud plaster; traces of a white gypsum coating are also visible. The outer edges of the cupboard are framed by a well-preserved whitewash band (*ca.* 34 cm thick), which predates the coating of white gypsum plaster that covers the entire wall. Traces of superimposed layers of white gypsum plaster (on top of the mud plaster) were identified also on the north and south walls of room A46 and bring additional evidence testifying to the different construction episodes involving the church and the gathering hall to the north.

Mud-brick *mastabas* are built against the entire north and east walls of room A46, as well as along the south wall, to the east of the central doorway. The bench along the north wall is in

[169] With the exception of its bottom.
[170] The part of the facing corresponding to the west wall of room A46 is preserved to a considerable height, but was found in a poor state of conservation, with a large crack running vertically throughout its height and threatening the stability of the feature. To avoid further damage, the room was completely backfilled with clean sand after full documentation.

rather good condition, while the south end of the east *mastaba* is missing. The sector along the east half of the south wall is preserved in its entire length, but is poorly preserved, especially at its east end. The mud-brick structure is coated with a thick layer of mud plaster, on which several incrustations, probably due to moisture, can be observed. The height of the *mastabas* is *ca.* 34 cm and their width ranges, in their best preserved portions, from 26 to 31 cm. The benches run around the walls of room A46 for more than 13 m and must have accommodated a fairly large number of people.[171] Therefore, it is possible to argue that room A46 held a public function as a gathering hall, in close association with the church that was originally accessible via two doorways. The bricking-in of the central doorway and of large part of the podium, once visible from both rooms B5 and A46, might be related to a re-functionalization of the gathering hall, which, however, does not seem to have ever lost its essentially public nature.

Large patches of a compacted mud floor are scattered throughout the room, especially in its western half and abutting the *mastabas* along the north, east, and south walls. The foundation trench and the first courses of a wall, running from north to south, were found below floor level. As already mentioned, they seem to belong to the same wall identified below the floor of the church and partly incorporated in the north and south wall of room B5 and, possibly, also within the north wall of room A46. In room A46, the foundation wall is bonded with the scanty remains (two courses) of an east-west oriented wall, which runs below the east half of the wall separating the western and the central doorways opening into room B5. Evidence of the same feature was identified also under the mud-brick plug of the central doorway and the stepped podium, therefore predating its construction.[172]

[171] Up to thirty-five: cf. V.2. below.
[172] As already mentioned, no records are available on the archaeological contexts excavated in 1994 within the gathering hall to the north of the church (room A46).

III.1.3. Room B6

Features

A46 opens to the north, through a doorway by its northwest corner, onto room B6 (pls. 59-60). It is a rectangular space, measuring 3.78 m from east to west and 2.77 m from north to south, and has walls preserved to a maximum height of 3.20 m (north end of the east wall).

<Plate 59 about here>

<Plate 60 about here>

The room was once covered by a barrel-vaulted roof (oriented from east to west), of which only parts of the north and south vault springs are still *in situ*. Another doorway, placed near the southeastern corner (width: *ca.* 90 cm), separates room B6 from a long corridor to the east (B7); evidence for the existence of a wooden door was detected. A third doorway, *ca.* 70 cm wide, 155 cm high, and with a mud-brick threshold 27 cm high above floor level, is built in the southern end of the north wall. It opens onto a well-preserved staircase (B8), which originally led up to a roof (pl. 61).

<Plate 61 about here>

The mud-brick walls were first plastered in mud and then covered with a thin layer of white gypsum (pl. 62). Two arched niches are set in the west wall, at a height of *ca.* 90 cm above floor level; the southern one measures 49 by 50 by 60 cm and the northern one 48 by 49 by 56 cm. Both niches have a semicircular, recessed band on top and are completely whitewashed inside; traces of a rectangular band of white gypsum are visible around each niche.

<Plate 62 about here>

Another arched niche, with a recessed band on top, is built within the east wall, about 50 cm above the mud-brick platform built against that wall; it is 49 cm wide, 68 cm high, and 36 cm

deep. At the center of its bottom is a depression, but it is unclear if it is the result of ancient damage or if it was intentional and served some unknown function. The niche is painted with white gypsum inside. A fourth rectangular niche, measuring 48 by 35 by 57 cm, pierces the north wall of room B6, at a height of *ca.* 66 cm above the platform running along the same wall. A rectangular band, about 35 cm thick, of white gypsum frames the niche, although now it is hardly distinguishable from the whitewash layer of the entire wall.

The floor of the room, of which only scanty traces remain, is of compacted mud, with several organic and ceramic inclusions. Along the south wall, eight circular impressions, with a diameter varying from 10 to 17 cm, are visible at ground level (pl. 63); they testify to the existence of storage vessels lined against the wall, probably when the room was used as a kitchen. Other imprints of cooking and/or storage vessels were found on the poorly preserved mud-brick platform, measuring 146 by 40 by 10 cm, built against the east wall. Another raised platform or *mastaba*, measuring 219 by 36 by 23 cm is located against the north wall; a hearth (diameter: *ca.* 85 cm), cutting through the floor, was found in front of it, filled with ash and charcoal.

<Plate 63 about here>

Graffiti can be seen on three walls of room B6, either drawn with black ink or carved in the plaster. On the north wall are a hardly readable inscription (written in black), a sketch of what seems to be a bird (in black), and two boats (one drawn in black and one carved in the plaster); a Greek inscription, consisting of a rather commonly attested invocation to God, is written in black on the west wall, near the northwest niche.[173] A six-petal rosette, inscribed in a circle, is carved in the south wall (pls. 64-65).

<Plate 64 about here>

[173] Cf. Chapter X.

<Plate 65 about here>

Room B6 is the anteroom of the church complex, the first place one would cross after entering through corridor B7. The analysis of its architectural features suggests the existence of a multi-phased history for its construction. Originally, the room was much larger and oriented from north to south, including the area later occupied by the staircase. Corridor B7 had not been built, yet, and the eastern wall was originally bonded with the southern one. There is no evidence of the exact location of the original entrance into room B6. At some point in antiquity, the space was heavily modified, with the addition of a staircase in the northern half of the room, abutting the west wall, and the opening of a vaulted passageway into room B9, also a later addition to the complex.[174] The doorway leading from room B6 into this passageway cuts the northern end of the northwest niche, providing additional evidence that the northern side of the room was originally further north. Possibly at the same time, although the evidence is not conclusive on this point, the room was used also as a kitchen, as testified to by the hearth and the imprints of vessels on the floor and on one platform.

Stratigraphy

Several stratigraphical contexts were identified and removed during the excavation of room B6. The surface layer (DSU39) consisted of windblown sand, mixed with very few potsherds (0.99 kg) and fragments of mud plaster. A fragment of a leather bracelet or belt (inv. no. 564) was found within this level, which extended uniformly throughout the room, apart from its southern end where evidence of a vault collapse episode (DSU40) was found. This unit consisted of large vault bricks and chinking sherds (0.66 kg) mixed within the mud mortar. Another deposit of windblown sand (DSU42), containing very few ceramic sherds (0.38 kg),

[174] Cf. V.1. below.

plaster fragments, and bones, lay underneath the two previous contexts and above two collapse layers. One (DSU46) was located near the doorway in the southeast corner of the room and probably resulted from the disintegration of part of the rooms' east wall. Very few potsherds and some fragments of white gypsum and mud plaster were found within the loose mud bricks and brownish sand. The other unit (DSU54) consisted of part of a wall collapse that occurred within staircase B8 (excavated there as DSU52) and partly leaked into room B6 through the doorway connecting the two spaces. Whole and fragmentary mud bricks, a stone slab not in situ, and some potsherds were found in this unit. A layer of windblown sand (DSU55), with very few ceramic inclusions (0.06 kg) and containing one fragment of glass, was revealed below the two collapses DSU46 and DSU54, spreading throughout the room above DSU59, identified as an occupational level. It lay directly above floor level and consisted of mud dust and sand, with a considerable amount of organic inclusions (mostly straw, seeds, charcoal), numerous potsherds (1.84 kg), a few loose stone slabs, once used as stone lintels, and two fragments of glass (one of which is part of the rim and wall of a bowl of light aquamarine glass: inv. no. 583). The excavation of this unit revealed also a bronze coin of Constantius II, dated to the years 353-361 (inv. no. 561). Another bronze coin (inv. no. 563), minted between 361 and 363, was found within a patch of the original floor of compacted mud (hence from a more reliable context than the other specimen).

The hearth set into the floor near the north wall was filled with charcoal, ash, organic material, and a few small potsherds (0.08 kg); this fill was excavated as a separate unit (DSU60). Evidence of a preparatory layer below floor level (DSU61) was also identified and partly excavated to gebel in a small area to the west of the hearth. It consisted of dark brown sand mixed with organic particles (including straw and wood fragments and seeds), lime spots, ash

pockets, some mud-brick debris, and a few pottery sherds (0.14 kg). The excavation of this unit revealed also two joining pieces of an incomplete bronze ring (or ear-ring) (inv. no. 567).

The vaulted passageway located at the northwest corner of room B6, running below staircase B8 and opening into room B9 to the north, was excavated separately from the rest of room B6, due to the particularly delicate condition of its architectural features. A vertical section was removed from the part of the passageway that is closer to room B6. The deposit consisted of windblown sand (DSU58) mixed with pottery sherds and, in its higher half, some fragmentary mud bricks, possibly resulting from the collapse of walls in room B9. An incomplete wood bolt with a rounded head (inv. no. 572) was found during the removal of this unit. Following the excavation of rooms B6 and B9, relations could be established between DSU58 and several contexts identified within these two spaces.

Finds

The excavation of anteroom/kitchen B6 resulted, quite surprisingly, in the discovery of very little material evidence. Only two coins were found; one came from the occupational layer of the floor (DSU59), a context that was unsealed and, therefore, not reliable; the second specimen was identified, instead, within a patch of the original floor of compact mud, hence from a more significant archaeological context.

III.1.4. Room B7

Features

B7 is a long corridor located along the outer face of the north wall of room A46 (pls. 66-67). It measures *ca.* 5.22 by 1.13 m and is oriented from east to west. Its north and south mud-

brick walls, laid out in English bond, are preserved to the considerable height of 2.92 m (west half of the north wall) and are in a fairly good state of conservation.

<Plate 66 about here>

B7 opens onto room B6 through a now badly damaged doorway and functioned as the only entrance to the church complex. The north wall abuts the east wall of room B6 and is therefore later. The south wall of the corridor is also the north wall of room A46, the large gathering hall described above. The north face of this wall, facing the corridor, shows that the wall was constructed in two phases, although it is not clear how distant in time. The lower sixteen courses consist of gray mud bricks with very few organic inclusions. A large quantity of mortar was used and the pressure caused by the higher courses led to the formation of caps of excess mortar. The upper courses, in contrast, were laid using brownish mud bricks with several inclusions and more limited quantities of mortar. Four holes can be seen piercing the wall toward its west end, between the fourth and fifth course from ground level, blocked from the *mastaba* built against the south face in room A46. The nature of these holes is unknown.

<Plate 67 about here>

The north and south walls bear no traces of vault springs. No beam holes were detected either, but the walls are not preserved to their original height. Therefore, it is possible that the corridor/entrance either was an open-air space or had a flat roof. The latter seems more plausible, especially in light of the discovery of a thick layer of organic material above floor level, which might be the result of a decayed light roof made of palm ribs and mud. Only a few, scattered patches of the original floor, consisting of a layer of compacted mud, were found along the north wall and at about 1.5 m from the threshold at the west end of the corridor. A test trench excavated at the east end, where the corridor opens onto street B12 with a passage *ca.* 1.2 m

wide, revealed two thresholds, associated with different floor levels (the lowest of which is no longer preserved) (pl. 68).

<Plate 68 about here>

The south wall of corridor B7 was originally bonded with the east wall of room B6, before a doorway between the two rooms was created. It is also bonded with the north-south wall, traces of which are visible in rooms B5 and A46 below floor level. As previously said, the south wall of the corridor was built in two different phases. The upper mud-brick courses (those above the sixteenth course from the ground) continue to the west and bond with the west wall of room B6, making them part of the same construction episode. The southern face of the south wall of the corridor, as well as the lower sixteen courses of its north face, seem instead to belong to an earlier phase. The upper courses of the north face were laid out as part of a remodeling episode, during which it is possible that a vault, springing from the north face of the wall, was razed and a partially new south wall built for corridor B7. At that time, the doorway between rooms B7 and B6 was created by tearing down part of an earlier wall; also, the north wall of the corridor was built, abutting the east wall of room B6.

Stratigraphy

The stratigraphy of the depositional units in corridor B7 was rather simple, as opposed to that of other rooms of the complex (such as the church) and revealed an almost complete lack of evidence of wall collapse. The room was filled with a thick surface layer (DSU37, *ca.* 35 cm deep) of windblown sand, mixed with ceramic sherds (3.8 kg), small pebbles, and plaster fragments. After the removal of this unit, another layer (DSU38) was found consisting of clean windblown sand, including some pottery sherds (0.48 kg) and bones, which filled the entire

space down to floor level for over 2.2 m. Only a few mud bricks were discovered at the eastern end of the corridor, but they seem to be associated with collapse episodes occurring in street B12. Above bedrock and the remains of the floor was a unit (DSU45) consisting of loamy sand, ceramic sherds (0.24 kg), fragmentary mud bricks, mud plaster, and organic material, often found packed in layers. As mentioned in the previous section, this layer is perhaps to be associated with the decaying of a flat roof that collapsed into the room. Within the same organic-rich unit, consistent traces of burning activity (ash and small charcoals) were detected toward the west end of B7, probably linked to the use of the neighboring room B6 as a kitchen. To the east of the corridor, the unit seems to continue and mix with an occupational layer extending throughout large part of street B12. Within the stratigraphy of corridor B7, DSU45 was the only context in which small finds were retrieved. These included a fragmentary iron nail (inv. no. 581), a small piece of a vessel of white blown glass (inv. no. 584), and an incomplete oval lamp (inv. no. 1005). No numismatic evidence was gathered in any of the contexts of room B7; this is quite surprising, since large numbers of coins were found in functionally similar spaces near the church, such as the vaulted passageway to the south (B11) or the street to the east (B12), which were also built to direct movement on mound I.

III.1.5. Room B8

Features

B8 is a staircase located along the outer side of the north wall of room B6 (pl. 69). B8 measures *ca.* 3.80 m from east to west and 0.72 m from north to south. Its walls are preserved to a maximum height of *ca.* 2.80 m (east wall). As mentioned above, access to the staircase is via

room B6 through a doorway located near the northeast corner. The stairway is complete and in good condition and appears to have worn down, because of usage, only in its central part.

<Plate 69 about here>

The staircase ascends from east to west and consists of thirteen mud-brick steps, each built with a row of four headers[175] lying on top of a row of stretchers. The visible surface of each step measures approximately 71 cm north-south by 25 cm east-west and its height corresponds to that of two rows of bricks (with only few exceptions). The walking surface of the staircase bears evidence of a coating of mud plaster (mixed with straw), which lips down on the lower courses of stretchers.

The lowest step is embedded within a mud-brick floor, at a distance of *ca.* 1.24 m from the east wall. The staircase currently leads to the scanty remains of the roof of room B10, where small industrial installations were found,[176] and possibly on the south vault spring of room B9 (pl. 70).[177]

<Plate 70 about here>

The upper part of the stairway, which is almost completely preserved and was not originally roofed, is supported by a narrow vaulted passageway opening from room B6 into B9; its measurements are *ca.* 1.4 m from north to south by 0.75 m from east to west and its height is 1.78 m. The lower part of the staircase, consisting of a mud-brick floor laid out at the bottom of the staircase, might have had a flat palm-leaf roof, as suggested by a layer of decayed organic material found right above floor level. However, it is not possible to ascertain this possibility beyond doubt. The stairway is supported to the north by sections of different walls: from west to east, a stub belonging to the doorway into room B9, an east-west wall (BF92, built above an

[175] Except for the two highest steps, which are larger and consist of five headers.
[176] Cf. III.2.1.
[177] Discussed in length below (cf. III.1.6.).

earlier feature -BF121- that is visible below it within room B8) (pl. 71), the south end of a north-south wall (the east wall of room B9), and a sector of another wall shared with an unexcavated room to the northeast. A ledge, 85 cm long, is visible in the west part of this wall, at about 1.02 m above floor level. To the east of the ledge, an arched niche (100 cm high, 57 cm wide, and 30 cm deep) is built within the same wall, 44 cm above floor level. Traces of hacking in the back of the niche suggest that it was not part of the original plan, but was created at a later stage, possibly using an already existing ledge as its bottom. The east wall of the staircase continues south into room B6. The south wall is also shared with room B6 and seems to have been built in one phase.

<Plate 71 about here>

All architectural features forming staircase B8 seem to have been built as the result of one construction episode, which also involved the creation of room B9.[178]

Stratigraphy

A surface layer (DSU44) consisting of windblown sand and including mud-brick fragments, pottery sherds (4.54 kg), and small pebbles, extended throughout the room. Only one small find was retrieved during the excavation of staircase B8 and came from this depositional unit. It is a poorly preserved bronze coin (inv. no. 549) that was minted between 364 and 383, bearing a legend that seems to refer to emperor Valentinian. Unfortunately, due to the highly unreliable context in which it was found, the coin is of little diagnostic significance for the dating of the room. The removal of the surface layer revealed a unit of mud bricks (DSU49), likely collapsed from the north and south walls into the center of room B8. This unit, as well as

[178] Cf. III.1.6. below.

DSU44, covered a layer of windblown sand (DSU48) that filled the western half of the staircase. The unit contained only a few bones and ceramic sherds (1.74 kg).

The excavation of the surface layer (DSU44) led to the identification of a second unit (DSU50), which consisted of another mud-brick collapse and extended eastward from the second upper step. It was soon discovered that this unit was, in fact, the uppermost part of a more extensive wall collapse episode (likely originating from the north, south, and east walls of the staircase) that was investigated, and then removed, as DSU52. The latter covered the entire area of the staircase and continued, through doorway BF84, into room B6 (where it was excavated as DSU54). DSU50 and DSU52 were divided by DSU51, a thin layer of loose sand, with inclusions of mud-brick debris and small pebbles, which was later identified as a lens within the same collapse episode. Directly underneath DSU52 was DSU53, a context of clean sand mixed with mud-brick dust, organic particles, very few pottery sherds, and small pebbles. The unit sloped down, with increasing thickness, from west to east, ending near the west jamb of the doorway opening into room B6.

A deposit of mud-brick dust mixed with sand, organic particles, and very few pottery sherds (DSU57) was excavated below DSU52, at the east end of room B8, and DSU53, in the area above the staircase itself. DSU57 lay above a context of mud-brick debris (DSU56), sloping down from west to east, that was also found in part under DSU52 and DSU53. Evidence of mud plaster with imprints of palm ribs, as well as an actual fragment of palm rib, were found within DSU56, suggesting the possibility that staircase B8 had a flat roof, at least at its bottom end near the doorway (where most traces were retrieved). The unit also contained a few pottery sherds (1.82 kg).

III.1.6. Room B9

Features

Room B9 is located at the north end of the church complex (pl. 72). It is roughly rectangular in shape and measures *ca.* 5.30 m from east to west and 3.70 m from north to south, with walls reaching a maximum height of *ca.* 2.90 m (west half of south side).

<Plate 72 about here>

This space is not accessible from any room other than the anteroom/kitchen of the church complex (B6), through a vaulted passageway below the upper part of staircase B8. The doorway, preserved to a height of about 1.55 m, has a well-preserved mud-brick threshold, measuring 74 cm east-west by 46 cm north-south, and is defined to the east by a thick stub protruding northward into the room.

Space B9 was originally covered by an east-west oriented barrel vault, which was found still largely *in situ* except for its central part. A short, east-west oriented wall is partly preserved above the south vault spring, functioning as the upper west end of the north wall of staircase B8 (pl. 73). To the west, another short wall, oriented from north to south, divided the space above the same vault spring in two halves. The original subdivision of space above the southern vault spring of room B9 is not clear, due to its very poor state of conservation.

<Plate 73 about here>

As the test trenching carried out in the room showed, the walls were built directly on gebel and the very uneven ground was leveled with a compact mud floor. Scanty remains of mud-brick features, covered with mud plaster, were uncovered along the north and west walls, possibly comparable to those found in room B6 and serving as platforms for the storage and/or preparation of food.

A rectangular mud-brick feature, plastered with mud, is built in the south wall of the room, to the east of the doorway opening into room B6 (pls. 74-75). It is *ca.* 1 m wide and 44 cm deep and is set at 48 cm above floor level. Its original height cannot be determined, as the upper part of the room in the southeast corner is heavily damaged. The recess might have been used as a cupboard for the storage of vessels and/or food.

<Plate 74 about here>

<Plate 75 about here>

The features associated with staircase B8 and room B9 seem to be part of the same construction episode. Below the vault supporting the staircase, two thresholds were found, one to the south, near room B6, and another to the north, at the entrance of room B9. In fact, the latter seems to be the soldier course of an earlier east-west oriented wall that was torn down when the staircase and room B9 were built. The razed wall formed part of the original north wall of room B6, which was therefore much larger prior to the construction of the staircase in its northern half.[179] The northeast wall of staircase B8 seems to be the only preserved section of the north wall of room B6 in its earlier phase; it was in fact a separate wall, not bonded but abutting the razed one.

Quite clearly, the data gathered in the field show that room B9 is not contemporary to room B6 in its first phase, but was built after the staircase and the vaulted passageway below it were added within room B6. The latter was, therefore, considerably sized down and its refunctionalization as a kitchen likely occurred when the staircase was built, leading to an upper floor where installations related to food production and storage were found. This process also

[179] However, it was not possible to verify the architectural relationship between the razed wall and the west wall of room B6.

involved the construction of room B9, accessible only from room B6 and possibly used as a storage room/pantry in association with the latest occupational phase of the kitchen.

Stratigraphy

The deposits that filled room B9 consisted of windblown sand and a series of wall and vault collapses, which accumulated, in large part, in the southeast corner and sloped down over the north and central parts of the room (and partly into the vaulted passageway to the south).

Two units were removed as the surface layer: one (DSU63), consisting of sand mixed with pebbles, pottery sherds (0.71 kg), bones, and traces of ash and charcoal -due to a modern fire-, covered the west half of the room; the second unit (DSU69) was a mud-brick collapse layer, possibly originating from the eastern and south (east segment) walls and extending through the eastern part of room B9. This context contained a large quantity of pottery sherds (12.53 kg) and was mixed with sand, especially below the uppermost level. A series of vault and wall collapses was then revealed; the uppermost was DSU72, located in the southeast sector of the room (below DSU69) and consisting of a vault collapse (as testified to by the several vault bricks found in it) mixed with several ceramic inclusions (4.38 kg). Below DSU72 was DSU75, a wall and vault collapse that sloped from the southeast corner of room B9 northwards and that contained lenses of yellow sand and several inclusions, like pebbles, plaster, glass, bones, bronze fragments, lime spots, and several potsherds (58.91 kg). The excavation of this context revealed also a complete wooden peg (inv. no. 575) and three fragments of transparent green glass, one of which (inv. no. 596) belonged to a bowl, while the remaining two (inv. nos. 597-598) were once part of lamps.

DSU75 was partially covered by DSU68, a context of windblown sand and mud-brick dust, with a few bones and several ceramic inclusions (9.22 kg) filling the entire room. In its lower part, some lenses of ash and charcoal were identified. This layer, excavated under surface (both units DSU63 and DSU69), lay directly on top of the lowermost depositional unit (i.e., DSU79) in the western half of the room. DSU79 was an occupational level of packed mud-brick dust mixed with some pebbles, numerous potsherds (21.51 kg), rare glass slag, and organic inclusions. It covered the remains of the clay floor and was considerably thicker near the walls of the room than at its center. The small finds that were gathered within this unit include a stone weight (inv. no. 590), two fragments of black dull glass bracelets (inv. nos. 565 and 595), a piece of a gypsum stopper (inv. no. 593), an incomplete rope (inv. no. 592), and two fragmentary wooden objects, probably used as pegs (inv. nos. 585-586). One bronze coin (inv. no. 580) was found associated with this stratigraphical context, but its poor condition allowed only a broad dating to the fourth century, on the basis of size and weight.

In the eastern half of room B9, DSU79 lay underneath wall and vault collapse DSU75 and DSU 82, a lens of windblown sand, mixed with a few mud-brick fragments, some cobbles, potsherds (1.53 kg), bones, and traces of ash and charcoal. Two joining fragments of a bowl of green glass (inv. no. 591) were also retrieved within this unit, which lay in part below DSU75 and possibly included some of its debris.

Three depositional units were excavated in the wedge created by the south wall and the vault springing from it. These were DSU66, a surface layer of windblown sand, and, below it, DSU67, consisting of sand mixed with mud-brick dust, a few pebbles (in DSU66), and pottery sherds (0.63 kg in each unit). The lowest level, above the debris that formed the original filling of the wedge, was DSU70, a layer of mud-dust with some sand, mud-brick fragments, and

ceramic inclusions (0.1 kg). As for the wedge along the north wall, two units were identified, that is to say, DSU 71, a unit of windblown sand mixed with pottery sherds (3.84 kg), pebbles, ash and charcoal from a modern fire, and DSU77, consisting of mud-brick debris, mud-brick dust, a few bones, cobbles, and numerous potsherds (31.02 kg), which resulted to be part of the original fill and, therefore, was not excavated further.

CHAPTER IV

EXCAVATIONS OUTSIDE THE CHURCH COMPLEX

In 2007, and especially in 2008, in-depth archaeological investigation was carried out in the area immediately to the west, south, and east of the church complex. The main goal was to ascertain the topographical relationship of the church complex with the surrounding buildings, within the urban fabric of the main mound of Ain el-Gedida.

IV.1. Room B10

Features

Room B10 is a rectangular mud-brick room, located to the west of rooms B6 and B8 and to the south of B9 (pl. 76). It is built against the outer west wall of the church complex, but is not connected to it. Room B10 measures *ca.* 5.70 m from north to south and 3.80 m from east to west and is preserved to a maximum height of *ca.* 4.50 m along the east wall.

<Plate 76 about here>

A north-south oriented barrel vault originally covered the room; substantial remains of both vault springs are still visible on the north and south walls. All walls are mud-plastered, as was the vault; their upper part is of a dark gray color, probably caused by cooking activities carried out inside the room. Four doorways originally opened onto room B10. One (width: 74 cm) was located near the west end of the north wall, but was later bricked in and plastered over. Two other doorways, with an average width of 70 cm, are set along the west wall of the room and once led into spaces that were not objects of investigation. Both openings were found in extremely poor condition and modern wood lintels had to be placed in order to avoid the collapse

of features. A fourth and larger (1.2 m wide) doorway, framed along its east side by a thick mud-brick stub, is located at the west end of the south wall and opens onto an unexcavated area. None of the four doorways has preserved lintels (or clear sockets where these would have once been placed), so that their original height is very difficult to reconstruct.

Considerable traces of ancient damage are visible especially along the east wall. Indeed, a roughly trapezoidal mud-brick buttress, measuring 3.03 by 0.35 m and standing to a maximum height of 1.40 m, was uncovered against it, likely built to support the wall after a rather poor restoration (pl. 77).

<Plate 77 about here>

Two rectangular niches were originally set into the east wall. The southern one was bricked in at some point and almost completely hidden by the mud-brick buttress, apart from the stone lintel. The northern niche is still visible, at a height of *ca.* 80 cm above ground level. It is 52 cm wide, 57 cm high, and its depth is 48 cm; its bottom part was subject to heavy damage in antiquity and later restoration. The niche, as well as the wall, is covered by a thick layer of mud plaster; traces of a white gypsum band, *ca.* 30 cm thick, can be seen on both sides of the niche, although it is likely that it originally marked the upper and lower edges, too.

Evidence of at least three different floors of compacted mud was found above gebel, together with remains of a north-south wall at foundation level along the west wall. A hearth (diameter: *ca.* 45 cm) lies in good condition in the southern half of the room, to the southwest of a circular, shallow pit with a diameter of about 60 cm. The large amount of pottery fragments, the few complete or almost complete vessels collected above floor level throughout the room, and the evidence of the hearth allowed the identification of this room as a kitchen. Above the east vault spring of room B10, but accessible only from room B6 in the church complex via

staircase B8, lies a rectangular storage bin made of clay (called *hawasel* in Arabic), measuring 66 by 49 by 126 cm (pl. 78).

<Plate 78 about here>

Another clay feature, of a circular shape and measuring 55 cm in diameter, is attached to the north side of the *hawasel*. As mentioned above, the function of the rectangular bin, and possibly of the circular feature, is likely related to the storage of food. Therefore, the roof of room B10 is not only architecturally connected to the anteroom/kitchen of the church complex (room B6), but also seems functionally linked to it. The fact that people inside the church complex were entitled to freely access and use the vaulted roof of B10 suggests that the latter was not owned by a private villager or a family.[180] Indeed, it seems likely that no private or family property rights were associated with this particular space.

Room B10 went through several construction phases. The razed wall running from north to south was found below the earliest floor level and is therefore to be linked to an earlier building. The middle floor seems to have been used when the northern doorway was still open; after it was blocked, a third floor was laid, in phase with the three other doorways but preceding the damage occurred to the east wall of the room and its restoration.

Stratigraphy

Room B10 was filled with a surface layer of windblown sand that was excavated in two different units, one (DSU62) above the remains of the vault springing from the east wall and the other (DSU65) in the area to the west of them. Both units contained mud-brick debris, mud-dust, pebbles, cobbles, and potsherds (3.75 kg in DSU62 and 0.47 kg in DSU65), with a decreasing density of inclusions in the lower levels. The clay rectangular bin that was revealed -above the

[180] Unless the use of the roof had been granted by its owner/s to those in charge of the church complex.

east half of the vault- by the removal of DSU62 had a fill (DSU64) of sand mixed with organic inclusions (seeds, charcoal) and including some potsherds (0.6 kg) and a limited amount of mud-brick debris. The wedge between the east wall of the room and the eastern half of the vault, which had collapsed, was filled with a unit (DSU73) of mud-brick debris, mud-dust, potsherds (5.01 kg), and organic material. The investigation of this layer brought to light a complete bowl (inv. no. 570) whose surface is completely burnt, suggesting that it was used as a cooking pot.

Underneath the surface layer of windblown sand, two isolated collapse episodes were identified. One (DSU74) was located in the middle of the room and originated from the collapse of the central part of the vault. It consisted for the most part of decayed mud bricks, mud dust, organic particles, and some ceramic fragments (1.18 kg). The second collapse unit (DSU78) was found against the northwestern corner. It included two large clusters of mud bricks, which rested on a thin layer of compact mud-dust, several potsherds (4.74 kg), rare wood, and some animal bones. The deposit was possibly the result of the collapse of part of the north wall. The removal of these two units and of the surface layer (DSU62), in the areas not covered by wall or vault collapse, revealed a deposit of relatively clean sand (DSU76) with ceramic inclusions (5.11 kg), especially at its lower end. A bronze coin of Constantius II (inv. no. 589), dated to the years 353-361, was gathered within this unit. Furthermore, three matching pieces of a globular cooking pot (inv. no. 569), with traces of burning along the rim and in the lower half of its body, were found in the middle of the room.

Underneath DSU76, the occupational level of the kitchen was identified above the latest floor (and directly above bedrock -cutting through earlier floor levels- along the north and east walls). This unit (DSU80) consisted of packed soil and sand mixed with organic material (wood and bones), a few mud bricks (especially toward its northern end), rare glass and iron slag, a

rather large amount of potsherds (10.07 kg), and fragmentary or complete ceramic vessels, including a complete globular flask (inv. no. 576), three matching fragments of an open-mouth jar (inv. no. 579), and an incomplete bowl with a flat-foot base, a restricted rim, and a body with scattered burning spots (inv. no. 571). Among the other objects that were brought to light within this unit are three wooden items, i.e., a complete spindle (inv. no. 573), a broken knob (inv. no. 588), and a fragmentary stopper (inv. no. 587); a complete oval lamp (inv. no. 578), with decorations molded on the top; a gypsum stopper (inv. no. 599); and a fragment of a bracelet made of black dull glass (inv. no. 594).

Below DSU80 was the fill (DSU81) of the circular clay hearth set near the southeastern corner of the room. It consisted of ash, a few lime spots, and a limited amount of potsherds (0.05 kg).

IV.2. Space B11

Features

B11 is a long, east-west oriented passageway that runs along the south wall of the church (B5) and the north edge of area A (pls. 79-80). It measures approximately 10.76 m east-west by 2.15 m north-south and has walls preserved to a maximum height of 2.09 m (at the western end of the south wall).

<Plate 79 about here>

The corridor is in a fairly good state of preservation, although bearing traces of damage caused by termites. Mud bricks were used for the construction of the walls, laid out in English bond with just few anomalies in some courses. Three small holes were noticed along the east sector of the north wall and two along the east sector of the south wall; their origin and/or

possible function was not ascertained beyond doubt. Signs of wear are visible along the north wall, due either to natural erosion or to the friction caused by the passage of small carts. A floor of compacted mud, with several organic inclusions and small pottery fragments, was found in a fairly good state of conservation below layers of sand, organic deposits, and ash. It gently slopes down from west to east, where it intersects street B12 and courtyard B13. The presence of animal coprolites and signs of wear along corner walls suggest that the passageway was accessible not only to men but also animals and carts.[181]

<Plate 80 about here>

The corridor was originally barrel vaulted, as significant remains of vault springs are still extant. However, although the remains of the actual vaults are scanty, the excavation of the corridor did not lead to the discovery of any substantial traces of vault collapse. It is possible that the vaults either collapsed or were removed in antiquity and that, at least in its latest phase, the corridor was used as an open-air passageway. Deposits of ash, broken pottery vessels, animal bones, and also animal coprolites suggest a continuity of usage for this space by men and animals, even after the removal/collapse of the vaulted roof.

The north wall of passageway B11 is shared by the church (room B5) as its south wall. The construction episodes of the corridor are, therefore, closely linked to the architectural development of the church to the north. A deep examination of the walls, their foundations, and their mutual relations allowed the recognition of at least two different phases of construction (pl. 81).

<Plate 81 about here>

[181] The discovery, in nearby room B13, of two mud-brick rectangular bins, possibly used for the feeding of animals, further supports the possibility of corridor B11 being used by animals as well as humans; cf. IV.4. below.

At a first stage, the corridor was of a shorter length, corresponding to the eastern sector of the entire passageway, i.e., it followed the north wall from its eastern end to the point where it suddenly regresses into the church. This first corridor was covered with a barrel vault, which seems to have been built in phase with the vault springing over the eastern half of the church. When the area of the church was expanded to the west, by tearing down the west wall and adding a large section to the original space, the passageway to the south was also the object of extensive alterations. In particular, another section was added to the west and connected to the earlier corridor. It had a barrel-vaulted roof as well, but its orientation was not perfectly on axis with the vault covering the east half. The north wall of room A16 (unexcavated) was incorporated into the passageway at this stage, and the doorway previously leading into that space was bricked in, shortly before the construction of the west vault.

The western addition is considerably wider than the original passageway at its western end and creates a rather irregular layout. This may be due to the fact that the north and south walls of the earlier corridor are not parallel to each other, but slightly converging to the west. As a result, the passageway substantially narrows down westwards, so that a later addition would have created, if following the exact orientation of both north and south walls, an excessively narrow space, not allowing the passage of humans, animals, and small carts. Therefore, the discontinuity and irregularity found in the layout of the corridor in its second phase, especially in the western half of the north wall, likely answered specific functional needs.

Stratigraphy

The stratigraphy of room B11 revealed evidence of the collapse of architectural features associated with the passageway, like walls and the vaulted ceiling. Most deposits, however,

consisted of refuse layers, rich in ash and organic materials, that were thrown and unevenly piled into the corridor, apparently not to flatten the area prior to the creation of a new surface. It is possible that B11, as well as several other spaces in the area, like B12, B14, and B15, were used as domestic dumps in their latest occupational phases. With regard to room B11, the discovery, within these contexts, of several coins (possibly dropped -at least in part- by people walking through this space) and also animal coprolites suggests that this space continued to serve also as a passageway for humans and their animals.

The surface layer (DSU83) consisted of windblown sand, about 40 cm thick, and contained some potsherds (2.78 kg) and pebbles. Underneath, a sub-surface unit of soft brownish sand was revealed (DSU89), which covered the entire area of the corridor. The sand was mixed with some pottery sherds (2.07 kg), the majority of which were retrieved along the eastern half of the north wall, and contained one fragment of a glass vessel and few animal bones. A few mud bricks were found in the southeastern corner of the room, right below surface. The removal of this deposit revealed DSU90, a context of soft brown sand containing several small, medium, and large ceramic fragments (125.87 kg), a few mud bricks (in the central part of the room), ash pockets, fragments of plaster and of glass vessels, glass slag, and a considerable amount and variety of organic inclusions, such as charcoal, wood fragments, animal hair, coprolites, and shells. Among the finds that were retrieved within this context are: three dull glass beads, one light blue (inv. no. 662), one light green (inv. no. 664), and one turquoise, white, and red (inv. no. 1090); one piece of a bracelet made of black dull glass (inv. no. 649); one diagnostic fragment of a glass jug (inv. no. 1204); two joining fragments of a bent bronze wire (inv. no. 1089); one fragment of a circular ceramic lamp (inv. no. 1006). Ten bronze coins were also found, mostly in poor condition; three of them could be dated to a relatively limited time range

(inv. no. 667, dated to 324-330, inv. no. 676, dated to 364-375, and inv. no. 692, dated to 330-336), while the remaining specimens could be dated only tentatively to the fourth century on the basis of size and weight.

In the area between vaulted passageway B11 and courtyard B13, the removal of the sub-surface layer revealed a wall collapse unit (DSU92), consisting of a larger mound against the eastern end of the north wall and a smaller pile to the south. The collapse included mud-brick debris, mud dust mixed with sand, several potsherds (4.02 kg), rare plaster, glass slag, and bones. DSU92 rested above a layer of ash (DSU94), which contained several potsherds (26.37 kg), organic inclusions (mostly wood and bones), few pieces of bronze, glass slag, a lenticular bead of dull blue glass (inv. no. 661), part of an iron nail (inv. no. 1088), and fragments of glass vessels (two diagnostic fragments of glass bowls were assigned inventory numbers 663 and 817). The deposit abutted the eastern end of the north wall of the passageway and also extended eastwards into courtyard B13. Within it, the unit was particularly rich in organic material, potsherds, and small finds.

Three superimposed units of ash and soil were removed in the central part of the passageway, against its south wall. The upper layer (DSU97), found below sub-surface, consisted of soft but compact ash, mixed with soil and containing several potsherds (20.99 kg), rare glass slag, three fragments of glass vessels, one small piece of iron, and abundant organic material (charcoal, vegetable fibers, few animal bones, animal hair). The excavation of this unit brought to light also one fragment of a bracelet made of dull black glass (inv. no. 833), three incomplete ropes of vegetal fibers (inv. nos. 836-838), and two poorly preserved bronze coins (inv. nos. 671 and 673), which were broadly dated to the fourth century on the basis of size and weight. Furtnermore, three matching fragments of an almost complete Greek ostrakon (inv. no.

660) were found, consisting of an order or receipt about wheat and dated to the mid-to-third quarter of the fourth century (according to the handwriting). The chronology is in line with the tentative dating of the (rather limited) numismatic evidence gathered within this context.

Underneath DSU97 was a layer of brown soil (DSU100) with pockets of ash, especially in the area along the south wall. This deposit contained fragments of glass vessels (one of which had a diagnostic value and was assigned inventory number 818), several potsherds (12.12 kg), and organic inclusions; among the latter were date pits, vegetable fibers, charcoal, wood, and coprolites.

The lowest of the three units was DSU108, a layer of compact brown soil and ash mixed with a very large amount of organic material (such as charcoal, plant fibers, coprolites, wood, seeds, bones), potsherds (19.97 kg), fragments of glass vessels (with one diagnostic piece, i.e., inv. no. 1209), one small piece of iron, two small fragments of bracelets of dull black glass (inv. nos. 842 and 843), and four fragments of sandstone blocks. Two coins were also gathered during the excavation of this context; due to their bad condition, they could be dated only tentatively to the fourth century on the basis of their size and weight. DSU108, as well as DSU90 mentioned above, rested on the scanty remains of a compacted clay floor (in which a bronze coin, dated to 320/321, was found -inv. no. 684-) and, where the floor was missing, lay directly on bedrock.

IV.3. Space B12

Features

B12 is a long north-south oriented street, running to the east of the church (pls. 82-83). It measures approximately 14.75 m north-south by 2.04 m east-west and has walls preserved to a maximum height of *ca.* 1.90 m (west wall of the middle segment).

<Plate 82 about here>

<Plate 83 about here>

The street has an irregular layout, due to the different construction phases of the buildings whose walls define its outline. Indeed, three different sectors, all running north-south and joined among them, can be identified. The northernmost measures *ca.* 4.80 m north-south by 1.80 m east-west and stretches from the eastern end of corridor B7 to another east-west passageway (B16) to the north. The west and east walls, relatively well preserved, separate this sector from unexcavated rooms, so that only their sides facing street B12 are known. The east wall consists in fact of a longer segment to the south and a smaller addition toward the north end, which rests on two foundation courses running also beneath the longer segment to the south. While the latter does not bear traces of mud plaster, the addition to the north is almost completely obscured by a thick layer.

The central sector of the street measures *ca.* 6.80 m north-south by 2.00 m east-west; it lies to the east of the entrance to the church complex (corridor B7) and of room A46, extending southward to the north side of the apse of room B5. The west wall is also the east wall of room A46; to the east, a poorly preserved north-south wall abuts, at its south end, a much shorter partition, running from northwest to southeast and roughly following the line of the apse. Both the north and south segments of the east wall were seemingly built at the same time or after the addition of the apse to room B5 and are closely linked to the construction of room B15, of which they form the west side.[182] A narrow doorway opens from room B15 onto street B12 across from the entrance into the church complex. It was originally closed with a door, as testified to by the presence of a socket in room B15. However, at a later stage the door was no longer in place; it is

[182] Cf. the discussion of rooms B14-15 below.

not clear if the opening was still used at that time, although without a door, or if it became inaccessible (pl. 84).

<Plate 84 about here>

The third sector, whose dimensions are *ca.* 3.20 m north-south by 1.15 m east-west, runs along the east side of the church and ends to the south into room B13 (pl. 85). The west wall is shared with the apse of room B5, of which it forms the east face; the east wall, bonded with the north wall of room B13, is later than the construction of the apse, as its foundations cut through a floor abutting the apse itself.

<Plate 85 about here>

The excavation of street B12 revealed substantial traces of different street levels. They all consist of packed silty mud rich in organic material and small potsherds. The poor condition of the evidence and its scattered nature make the assignment of each patch to a particular street level very difficult. The use of absolute elevations to correlate them is limited by the fact that the street gently slants down from north to south, following the natural slope of gebel underneath.

Stratigraphy

The surface of street B12 was covered by a thick layer of windblown sand mixed with mud dust (DSU84), which was also removed from rooms B14 and B15. This unit contained several pebbles, mud-brick debris, mud dust, lime spots, small potsherds (0.66 kg, including the fragments collected in all rooms where this DSU was removed), and, within street B12, a diagnostic fragment of a green glass beaker (inv. no. 814). The excavation of this context revealed the full extent of a wall collapse unit (DSU85), up to *ca.* 120 cm in thickness, whose remains were partly visible above ground level in the north part of the street (pl. 86). The mud

bricks and mud-brick debris were mixed with some fragments of plaster and potsherds (1.21 kg). Underneath it, a deposit of windblown sand (DSU87) was identified, covering the entire area occupied by B12. Among the few inclusions were pebbles, charcoal, lime spots, some mud dust, and potsherds (0.99 kg). In the middle sector of the street, DSU87 rested on top of a collapse (DSU88) located along the west edge and that probably resulted from the partial crumbling of the east wall of room A46. Within this layer, which consisted of whole and fragmentary mud bricks, were pebbles, charcoal, rare glass slag, organic material (bones and date pits), and ceramic fragments (2.27 kg). This collapse lay over a unit (DSU91) of occupational debris, ash and other disposed organic material (like charcoal, bones, date pits), fragments of glass, glass slag, and numerous potsherds (16.34 kg). The unit extended into room B7, where it was excavated as DSU45. The excavation of DSU91 brought to light two fragments of bracelets of black dull glass (inv. nos. 650 and 651), two glass beads (one white -inv. no. 811- and the other light green -inv. no. 1214-), one fragment of a vessel made of aquamarine glass (inv. no. 813), and eight bronze coins minted in the fourth century. Of these, two specimens were dated to 364-383 (inv. nos. 656 and 659) and one to 355-361 (inv. no. 653); four other coins were broadly assigned to the fourth century on the basis of size and weight (inv. nos. 652, 655, 657, and 658), and one could not be dated due to its poor condition (inv. no. 654).

<Plate 86 about here>

As mentioned further above, several street levels, visible only in scattered patches, were identified within B12. They were all made of packed mud, with several potsherds and organic inclusions, and gently sloped from north to south. The highest street level (BF134) was investigated in the middle of the room. Its preparation layer (DSU93), consisting of packed mud dust, lenses of ash, pebbles, copious organic material (including palm fibers, hair, bones,

charcoal), fragments of glass vessels, and potsherds (5.86 kg), was likely a refuse unit, which was leveled before the floor above was laid. Five bronze coins were found in this context, one of which was dated to 364-375 (inv. no. 670) and the remaing specimens were could be only assigned broadly to the fourth century on the basis of size and weight (inv. nos. 666, 672, 696, 699). DSU93 rested on lower street level BF139, which had been laid out on top of a leveled unit (DSU95) very similar, in its content and inclusions, to DSU93 above. The removal of this context revealed several ceramic sherds (9.03 kg) as well as three bronze coins, one of which was dated to 364-383 (inv. no. 668), while the two other specimens were badly preserved and assigned to the fourth century on the basis of size and weight (inv. nos. 669 and 801). A particularly thick lens of ash (DSU98), also resting between floors BF134 and BF139, was isolated in the corner between the north wall of room B5's apse and the north-south wall forming the east boundary of the church complex (pl. 87). The ash was mixed with several small pieces of charcoal and pottery sherds (1.43 kg).

<Plate 87 about here>

Excavations carried out in the central sector of the street revealed the remains of floor level BF135 (the lowest in this area), which partly covered the foundations of the east wall of room A46. A coin was found set into this floor (inv. no. 678), thus in a significant archaeological context; unfortunately, it was in very poor condition and could only be assigned broadly to the fourth century, on the basis of size and weight. BF135 rested on a very thin layer (ca. 6 cm) of packed mud dust (DSU99), with lenses of ash, organic inclusions, and few ceramic fragments (0.24 kg). The unit lay directly on bedrock.

Two street levels were identified in the southern sector of B12 and assigned different feature numbers, since it was not possible to determine their relationship with the patches of

street levels found further north. The upper floor (BF143) and its preparation layer (DSU102), consisting of mud dust, small pebbles, lime spots, organic particles, one glass fragment, and several potsherds (10.53 kg) were partially excavated outside the eastern face of the apse, to reveal the lower floor (BF155).

A deposit of loose sand and mud dust (DSU96), with several organic inclusions (like charcoal, fruit pits, bones, wood), pebbles, three fragments of glass vessels (one of which diagnostic, inv. no. 1208), and numerous small fragments of pottery (7.45 kg), filled the foundation trench of the west and southwest walls of room B15. Three bronze coins were found in this unit; one was dated to 353-361 (inv. no. 665), another to 361-363 (inv. no. 697), while the third specimen was generically assigned to the fourth century on the basis of size and weight (inv. no. 698). The foundation trench cut through earlier deposits and was covered by floor BF139. DSU96 was identified and removed also along the southeast wall of the street, where it filled the wall's foundation trench. The latter had cut, in part, through DSU101, a layer (seemingly equal to DSU99) of soil and ash with ceramic fragments (1.75 kg) and organic inclusions, on which both the southeastern wall of the street and floor BF155 had been built. A fragmentary wooden object (inv. no. 1047, possibly part of a round decorative element for furniture) and a bronze coin dated to 363-364 (inv. no. 840) were found in this context.

In the northern sector, which was excavated separately from the central and southern parts, some of the units were assigned different numbers, but relations of equality were established with other units previously excavated further south. The surface layer (DSU106=DSU84) consisted of windblown sand mixed with mud dust and some mud-brick debris, pebbles, a little organic material, and potsherds (0.12 kg). Partly below and partly abutted by DSU106 was an episode of wall collapse (DSU107=DSU85), which consisted of a thick and

compact layer of whole and fragmentary mud bricks, mud dust, pottery sherds (8.75 kg), one small piece of faience, and one glass fragment. Among the finds were also a bead of dark green glass (inv. no. 819), a fragment of a rope of vegetal fibers (inv. no. 820), one complete ceramic object -a wine bottle with two handles- (inv. no. 1110), and three bronze coins (inv. nos.): one specimen was tentatively dated to 330-336 (inv. no. 688), another to 355-361 (inv. no. 690), and the third broadly assigned to the fourth century (inv. no. 821).

The removal of DSU106 and DSU107 revealed several units: a layer of clean windblown sand without inclusions (DSU111) in the southeast corner of the street's northern sector; a layer of sand (DSU121) throughout large part of the same sector, mixed with fragments of white plaster, few bones, fragments of glass vessels (including a diagnostic piece that was part of a green glass beaker, inv. no. 1029), and several ceramic sherds (0.88 kg); a deposit of sand (DSU120, partly above 121) mixed with mud-brick debris and potsherds (0.53 kg), located near the intersection with corridor B7 (leading into the church complex) and possibly associated with collapse DSU107 above. Still in the proximity of room B7 was a small wall collapse (DSU125, below DSU121), with whole and fragmentary mud-bricks and few ceramic sherds, which lay above a deposit of windblown sand (DSU126) with some organic material (including vegetal fibers and coprolites) and few potsherds (0.20 kg). Underneath it, and extending throughout the northern part of the street, was an occupational level (DSU124) consisting of mud dust mixed with scattered mud bricks, mud-brick debris, pebbles, cobbles, glass slag, one small piece of bronze, organic material (including animal bones), and a large quantity of potsherds (21.87 kg). Several objects were collected during the excavation of this context. They include three fragments of dull glass bracelets (inv. nos. 845-847), two beads of dark blue glass (inv. nos. 1010 and 1015), diagnostic fragments of glass vessels (inv. nos. 1067, 1069, 1080, 1206, 1207, in

addition to non-diagnostic pieces), one fragment of a glass lamp (inv. no. 1037), and nine bronze coins. Of these, one specimen was dated between 342 and 395 (inv. no. 828), one to 364-375 (inv. no. 822), and two between 353 and 361 (inv. nos. 827 and 1049). Two coins could only be assigned broadly to the fourth century on the basis of size and weight (inv. nos. 1046 and 1099), while, with regard to three other specimens, not enough data were available to establish any chronology (inv. nos. 824, 1042, and 1076).

The removal of DSU 124 revealed a unit (DSU128) of packed brown sand, with few pebbles and rare organic inclusions (mostly charcoal and vegetal fibers), on which street level BF134 had once been laid. The only registered find from this unit consists of a bead of dark green glass (inv. no. 1013).

IV.4. Space B13

Features

To the south, street B12 leads to space B13, which is a courtyard at the intersection of streets B11 and B12 (pl.88). B13 is roughly rectangular and measures *ca.* 4.45 m east-west by 3.41 m north-south, with walls preserved to a maximum height of 2.10 m (southwest wall).

<Plate 88 about here>

No evidence of a flat or vaulted roof was found and it seems most plausible that B13 was conceived as an open space. A doorway placed at the northern end of the east wall (width between the protruding jambs: *ca.* 90 cm) leads to an unexcavated area to the east of the church complex. Another opening in the southeast corner of the courtyard, about 2.25 m wide, originally allowed passage into a north-south street (A34) partially excavated in the mid-1990s, which seems to have been the continuation of street B12 discussed above. At the opposite end of the

south wall, a doorway (width: 1 m) opens onto an unexcavated room (A19) to the south. Two roughly rectangular basins of mud brick (and stone, in one case) were found at floor level to the sides of this doorway (pls. 89-90). To the south is the largest bin, measuring 2.03 m east-west by 0.93 m north-south and with an average height of 30 cm. The feature consists of an east-west partition wall of mud bricks and dressed stones, which is bonded, at its southern end, with a shorter wall of mud bricks that runs north-south and abuts the south wall of B13, leaving the north side of the bin open. Both partition walls lie on top of a foundation layer of compacted mud dust and debris. Inside the bin are scanty traces of a floor of mud plaster, mixed with small potsherds and pebbles. The other bin, located 1.2 m to the north, is considerably smaller (72 cm east-west by 52 cm north-south). It was built by placing a low east-west partition wall, standing to 20 cm above ground level, against the southeast corner of the south wall of corridor B11. The bin was open along its south side, where it faced the other bin.

The precise function of the two clay bins has not yet been ascertained beyond doubt. However, several examples of flat rectangular bins, comparable to the two examples from Ain el-Gedida, were found at the site of Douch in the Kharga Oasis, excavated by the Institut Français d'Archéologie Orientale.[183] Also at Douch, the bins were located against the outer walls of buildings along the streets. One of the more likely interpretations that were brought forth by the French team, and which might be applicable to Ain el-Gedida as well, is that these features were used for the feeding of animals.[184]

<Plate 89 about here>

[183] Cf. Reddé 2004, 25, 207.

[184] Although this explanation raises several questions on the nature and management (public or private?) of the bins: i.e., if the forage were used to feed only the animals belonging to the owners of the nearby houses or if, instead, it were accessible also to any animal passing along those streets. If Ain el-Gedida were, in fact, a small agricultural center under wealthy ownership, as suggested in the last chapter, its situation may have been substantially different from that of the village of Douch, where one would have had to deal with private or family property rights.

<Plate 90 about here>

Patches of floors belonging to at least three different phases were identified throughout the room. A test trench, excavated along the southeast corner of the apse of the church, allowed us to determine that the earliest of the three floors is in phase with the floor of east-west passageway B11.

Stratigraphy

The fill of courtyard B13 consisted, for the most part, of small collapse episodes and refuse deposits accumulated above the remains of the ancient floors. The surface layer (DSU103, about 30 cm thick) consisted of windblown sand mixed with some mud-brick debris, pebbles, glass slag, potsherds (2.57 kg), and organic material. Along the doorway set in the northeast corner was a small wall collapse unit (DSU112), lying below surface. It consisted of a cluster of whole mud bricks, mud-brick debris, mud dust, and sand with organic inclusions and some ceramic sherds (0.41 kg). In the rest of the room, DSU103 rested on a sub-surface layer of soft windblown sand (DSU104) with very few, and small, inclusions of organic material, fragments of glass vessels, pebbles, numerous potsherds (19.25 kg), and one illegible bronze coins (inv. no. 681). A sandstone block (38 by 15 by 8 cm) was found, not in situ, toward the lower end of the unit.

Underneath the collapse in the northeast corner, and partially under the sub-surface layer, was DSU109, a thin deposit of sand mixed with mud dust, potsherds (6.55 kg), pebbles, fragments of glass vessels, organic material (including bones and shells), and three bronze coins, of which two (inv. nos. 683 and 804) were broadly dated to the fourth century -on the basis of size and weight-, while a third specimen (inv. no. 805) was assigned to the fifth century,

although this later dating is not beyond doubt. DSU109 extended throughout the courtyard and rested above the lower strata of an extensive collapse (DSU105), which covered the southeastern sector of B13 and sloped -considerably narrowing down- toward the northwest. The collapse consisted of several mud bricks, fragments of mortar, and mud-brick debris with lime spots, potsherds (1.43 kg), pebbles, and organic inclusions (charcoal, date pits, bones). The small finds that were retrieved in this context are one diagnostic fragment of a glass vessel (inv. no. 1024) and two illegible bronze coins (inv. nos. 691 and 802), tentatively dated to the fourth century based on size and weight. DSU105, seemingly the first collapse episode that occurred within the courtyard after its abandonment, originated, at least in part, from the disintegration of the upper courses of the east wall.

DSU109 covered several other deposits. One of these was DSU110 (possibly a refuse layer), consisting of mud dust and several pockets of ash, mixed with organic material (date pits, charcoal, bones, animal hair), pebbles, fragments of glass vessels two of which diagnostics, inv. nos. 1079 and 1213), and a large amount of pottery fragments (15.67 kg), which extended in the northeast part of the room and abutted its north and east walls. The small objects that were gathered within this context include two beads (one rhomboidal and of transparent green glass, inv. no 810, and the other globular and made of black and yellow dull glass, inv. no. 812) and four poorly preserved bronze coins; one specimen (inv. no. 687) was dated between 355 and 363, another (inv. no. 686) was broadly assigned to the fourth century on the basis of size and weight, while the remaining two (inv. no. 689 and 826) were illegible.

DSU94 was another refuse unit below DSU109 and covered the southwest part of the room, continuing into corridor B11. The deposit was made of ash mixed with organic material (including vegetal fibers, wood fragments, bones, charcoal, and a few fragments of textile), glass

slag, fragments of glass vessels (including three diagnostic pieces, inv. nos. 815, 816, and 1212), very small fragments of bronze, and several potsherds (26.37 kg). Among the small objects that were retrieved during the excavation of DSU94 were three beads -two cylindrical and of blue dull glass (inv. nos. 807 and 808) and one globular and made of transparent green glass (inv. no. 809)-, one fragment of a bracelet of black dull glass (inv. no. 806), and two bronze coins (inv. nos. 685, dated between 347 and 348, and inv. no. 700, tentatively assigned to the fourth century based on size).

DSU113 was below DSU109 and consisted of fine sand, pebbles, potsherds (4.20 kg), one of which had worn-out edges and was possibly reused as a tool (inv. no. 1082), one fragment of a glass vessel, and some organic inclusions, which filled the upper part of the large clay bin along the south wall.

DSU109 lay also above DSU114, a small cluster of loose mud bricks, mixed with sand, fragments of white plaster, wood, and several potsherds, which lay above the filling (DSU116) of the small clay bin in the southwest corner of the courtyard. DSU116 consisted of fine sand mixed with abundant organic material (including date pits, bones, wood fragments), pebbles, and several potsherds (5.77 kg) and was quite similar to the lower fill of the south bin (DSU117), which contained a higher quantity of ceramic fragments (15.80 kg).

The removal of the collapse units and ash deposits within the courtyard revealed the scattered patches of three different floor levels. These were covered by an occupational level (DSU115) consisting of brown sand and soil with ash pockets and mixed with abundant organic material (straw, bones, charred pits), numerous potsherds (23.37 kg), and other categories of finds, such as glass slag, fragments of glass vessels, small pieces of textile, one bronze collet with a bezel of dark blue dull glass (probably a finger ring, inv. no. 1050), and three largely

illegible bronze coins (inv. nos. 823, 825, and 839, all tentatively dated to the fourth century). Only small part of the wire, probably of a finger ring, remains.. A deposit (DSU118) of brown sand, mixed with potsherds (0.73 kg), fragments of glass vessels, rare glass slag, some organic material (including straw and bones) and containing one fragment of a bracelet of dull black glass (inv. no. 834), was identified and partially excavated between the uppermost and the middle floor and likely served as a leveling layer underneath the former. Two objects were found set in the middle floor (FSU153), i.e., a lenticular bead, made of gold leaf between two layers of transparent white glass (inv. no. 1016), and an unfortunately illegible bronze coin (inv. no. 829).

IV.5. Rooms B14-B15

Features

B14-B15 are a set of two interconnected spaces investigated to the east of street B12, in the vicinity of the entrance to the church complex (pl. 91). They are identifiable as a small open-air working area, possibly a kitchen/bakery (B15), furnished with a small storage area (B14).

<Plate 91 about here>

A small doorway located at the northwest corner of B15, mentioned above, allowed passage from this room into street B12 and corridor B7. B15 is an L-shaped room, measuring approximately 4.81 m east-west by 4.55 m north-south and has walls preserved to a maximum height of 1.97 m (north wall of the section below room B14). It consists of a longer rectangular section, oriented from north to south, and a smaller, roughly square area to the south of room B14. The west and the southwest walls are poorly constructed and seem to be the result of an enlargement of room B15 protruding into street B12, which possibly happened at the same time or after the apse was added to room B5. The removal of a large collapse in the western part of

B15 revealed significant remains of substructures related to the presence of ovens, together with consistent traces of burning on the west and north walls (pl. 92).

<Plate 92 about here>

Possibly, three ovens were once located against the west wall and a fourth against the west end of the north wall. The lack of almost any fragments of the pot chambers below the mud-brick rubble suggests that the ovens had already been largely dismantled when the west wall collapsed. The western sector of room B15 is physically separated from the southeast area of the same room by the scanty remains of a long north-south oriented wall. Toward its northern end, it abuts the south wall of room B14 and forms part of the west wall of that room. Within room B15, it seems to have been utilized, at least at a later stage, to define the eastern edge of the platform where the ovens were built.

The southeast part of room B15 does not bear any traces of ovens. Only a clay stove was found, not *in situ*, against the south face of the south wall of room B14; this discovery further supports the identification of the room as a kitchen/bakery. Three niches are cut within the east wall of room B15, which seems to have been built as a thick facing, covered with a thick layer of mud plaster, against an earlier north-south wall; a small niche, about the size of an oil lamp, is placed in the center, with two larger ones, of very irregular dimensions, to the sides. These two side niches are connected inside and form one storage space. Another niche is located within the south face of the east-west wall dividing room B15 from room B14, about 45 cm from its east end. The niche is 44 cm wide, 24 cm high, and 38 cm deep. Originally, it had a curved ceiling and was higher; at some stage, the niche was partially bricked in, in order to raise its floor. The substantial remains of gypsum found in the area suggest that the wall in which the niche was inserted was once whitewashed.

Besides the narrow doorway in the northwest corner of room B15, opening onto street B12, two other doorways once led onto an unexcavated space to the south. No evidence of any roof was found *in situ* or inside room B15; also, the presence of ovens suggests that it was an open-air space. Three floor levels, visible in the south-east part of the room, are evidence of different occupational phases. The stratigraphical contexts identified within room B15 suggest that at some point the ovens were no longer in use (and for the most part dismantled, as mentioned above) and that this space was used as a domestic midden.

Room B14, located to the northeast of room B15, measures *ca.* 2.70 m from east to west by 2.30 m from north to south and has walls preserved to a maximum height of 1.97 m (south wall). It was originally plastered in mud, traces of which are still visible. B14 is connected with B15 through a doorway set into the west wall, framed by a protruding jamb to the north.[185] Along the east side of the threshold, a mud-brick step was found below the higher of the two floor levels identified during the excavation. The west wall of the room abuts, at its northern end, a stub protruding from the east end of the north wall of room B15; archaeological investigation revealed that the oven originally located against the north wall of B15 also lay against the outer face of the west wall of B14. The east wall is the oldest feature of the room, as the north and south walls, which supported an east-west oriented vault, abut it. In fact, the east boundary consists of two separate walls, the southern of which bears scanty remains of a vault that was no longer *in situ* when B14 was built. The vaulted roof seems to have collapsed, or to have been intentionally dismantled, before the complete abandonment of the room, as no traces of it were found inside B14.

An arched niche is built within the south wall of the room, about 60 cm from its west end. It is 44 cm wide, 44 cm high, and 40 cm deep and has a semicircular band on top, recessed by *ca.*

[185] The doorway was found in a very poor condition and partially shifted from its original location.

4 cm. No traces of white gypsum plaster were found inside or around the niche, whose bottom part is heavily damaged and was likely the object of alterations already in antiquity. Another rectangular opening, *ca.* 80 cm wide and 70 cm high, was once set into the north wall of the room toward its eastern end, four courses above the latest floor level. At some point in antiquity, it lost its purpose and was completely bricked up. Room B14 possibly served, at least when it was roofed, as a storage facility for kitchen B15, and, in its latest phase of usage, as a domestic midden.

Stratigraphy

The uppermost unit (DSU84) removed from room B15 (and also room B14 and street B12) consisted of windblown sand mixed with mud dust, a limited amount of mud-brick debris, lime spots, small pebbles, and potsherds. This layer rested, in the southeastern part of the room, above a deposit (DSU87) of windblown sand mixed with pebbles, mud dust, charcoal, lime spots, and potsherds (0.99 kg), and, in the western half, on an extensive wall collapse (DSU86). This context likely resulted from the disintegration of the upper courses of the west and southwest walls of the room and also by the collapse of the doorway once opening onto room B14. DSU86 consisted of whole mud bricks, mud-brick debris, and plaster (the latter clustered largely in the northeastern part of the unit) and included organic material (wood and charcoal, bones, date pits), and several potsherds (15.65 kg). The excavation of this unit revealed also a fragment of a vessel of honey-yellow glass (inv. no. 1018), a cylindrical bead of dark blue glass (inv. no. 1017), and three bronze coins, of which one was fragmentary and illegible (inv. no. 1075), another was broadly dated to the fourth century, on the basis of size and weight (inv. no. 1073), and a third one is possibly datable between 337 and 340 (inv. no. 1095).

Underneath the collapse, in the southwestern quadrant of the room, was a refuse layer (DSU129) of brown sand mixed with ash, some pebbles, organic material, glass, and numerous pottery sherds (33.11 kg). The small finds that were retrieved within this unit include: a bead of dark blue glass (inv. no. 1014); a shell (perforated and used as a bead, inv. no. 1036); the wooden head of a spindle (inv. no. 1048); two bronze wires (bent and twisted to form two interlocked rings, inv. no. 1051); a flat elongated object of corroded iron (possibly a small blade, inv. no. 1084); the globular head of a hair-pin made of bone (inv. no. 1021); a diagnostic fragment of a vessel of dark violet glass (inv. no. 1031); an unusual piece of coroplastic representing a donkey or a horse, possibly used as a toy (inv. no. 1003). Six bronze coins were also found, two of which (inv. nos. 1061 and 1062) were illegible. Two specimens were heavily corroded and were generically dated to the fourth century on the basis of size and weight (inv. no. 1033 and 1077); one coin, although incomplete, could be dated between 312 and 319 (inv. no. 1008); another one (inv. no. 1041) was dated to the fifth century on the basis of size, weight, and design of the reverse, but its identification and dating are not certain.

DSU129 rested in part above the remains of substructures -visible along the western and northern walls of the room- that once hosted clay ovens. Indeed, traces of the original pot chambers were found scattered throughout this area. Within the remains of an oven placed against the north wall, the removal of a deposit of soft brown sand (DSU134), with a few pebbles and limited organic inclusions, revealed a lower layer of dark brown/grayish ash, which contained pockets of soil of different colors (dark brown soil with organic inclusions; fine, light gray ash; reddish brown clay, likely debris from the oven). DSU129 was identified also in the southeastern part of room B15, beyond the mud-brick platform and thus in an area that seems to have differed, from a functional point of view, from the rest of room B15.

A test trench excavated in the northwest corner, where an opening once gave way into street B12, revealed, below the extensive wall collapse, a thin layer (DSU119) of brownish sand mixed with ash, charcoal, potsherds (0.043 kg), some of which burnt, and burnt organic inclusions.

The removal of the layer of brown sand and ash (DSU129) showed patches of the uppermost clay floor, above which a broken bin of clay was found, although not in situ. This floor lay above thick and heterogeneous deposits. The uppermost was DSU132, which consisted of soft brown sand mixed with several inclusions, like wood fragments, charcoal, bones, date pits, fragments of glass vessels (including two diagnostic pieces, inv. nos. 1027 and 1205), glass slag, fragments of textile, pebbles, and numerous potsherds (51.22 kg). The excavation of this unit brought to light also a complete oval lamp, with a polished slip on its external surface (inv. no. 848); a segmented bead of dark blue glass (inv. no. 1011); two fragmentary iron objects (possibly blades, inv. nos. 1085 and 1087). Four bronze coins were found in DSU132: two of them were illegible (inv. nos. 1064 and 1065), while one specimen was dated between 364 and 383 (inv. no. 1063) and another could be broadly assigned to the fourth century on the basis of size and weight (inv. no. 1093).

Below DSU132 was a compact layer (DSU136) of brown sand and mud-brick debris that contained pebbles, vegetal fibers, bones, and fragmentary ceramic material (4.2 kg). The lowermost context was DSU137, consisting of yellowish/brown sand with some lime spots and mixed with pebbles, organic material (mostly wood, vegetal fibers, and bones), fragments of glass vessels (including a diagnostic piece, inv. no. 1211), glass slag, and potsherds (26.24 kg). The other finds include two tubular beads, one of dark green glass (inv. no. 831) and the other of dull blue glass (inv. no. 832), and three bronze coins, one of which minted between 364 and 395

(inv. no. 1066) and two assigned to the mid-to-late fourth century (inv. nos. 1096 and 1097). DSU 137 rested on the remains, visible in the southeastern quadrant of the room, of two earlier floor levels. The mixed nature of DSU132, 136, and 137 suggest that they were refuse layers, deposited into the room and then compacted when the uppermost floor was laid out.

DSU84, the thick surface level of windblown sand removed from room B15 (and street B12), covered also room B14. Within the latter, one bronze coin (inv. no. 1009) was found, datable between 324 and 330. This unit lay above a sub-surface deposit (DSU122) consisting of sand mixed with mud dust and containing organic inclusions (including wood and bones), fragments of white plaster, charcoal, several potsherds (10.08 kg), and a globular bead of green glass (inv. no. 835). Beneath sub-surface, a thick refuse layer of brownish sand (DSU127) extended throughout the room. It contained lenses of ash, mud-brick debris, mud dust, bones, hair, fragments of wood, iron, and bronze, and a remarkably large quantity of potsherds (92.96 kg). The small finds that were retrieved within this context include four pieces of glass vessels (bowls: inv. nos. 1030 and 1032; a jug: 1058; an unidentified close form: inv. no. 1059), a complete and well-preserved oval lamp (inv. no. 1001), the bottom of a lamp of green glass (inv. no. 1210), and an inscription (ligature AN) scratched on a body sherd of a juglet (inv. no. 1216). Five bronze coins were also found; only one specimen (inv. no. 1091) was securely dated between 367 and 375, while one (inv. no. 1071) was completely illegible and the remaining three (inv. nos. 1035, 1072, and 1200) could be broadly dated to the fourth century on the basis of size and weight.

DSU127 covered a deposit of compact brown sand and mud dust (DSU130), rich in organic inclusions (mostly wood and bones), glass slag, and potsherds (38.60 kg), that rested on the later of the two floors identified within the room. The excavation of this unit brought to light

also two fragments of dull glass bracelets (inv. nos. 844 and 1020) and a fragment of a lamp of green glass (inv. no. 1019).

A test trench was dug along the original doorway into room B14 and revealed DSU131, the preparation layer of the upper floor. DSU131, which consisted of sand and mud dust and included bones, other organic material, and pottery sherds (2.73 kg) rested on top of the earlier floor. This lay in turn on preparation layer DSU133, which was made of sand and mud dust and mixed with several inclusions, among which were pebbles, lime spots, organic material, bronze fragments, and potsherds (0.73 kg). DSU133 lay directly above bedrock.

CHAPTER V

THE CHURCH COMPLEX AND SURROUNDING STRUCTURES – DISCUSSION

V.1. The Development of the Church Complex

The excavation of the church complex of Ain el-Gedida uncovered several features that predate its latest construction phase. Ample evidence was collected about the reuse of earlier walls in the construction and alteration of the church and its adjoining rooms. The most noticeable example, already mentioned in the discussion of the archaeological remains, is the north-south wall (BF68+AF98) found below floor level in rooms B5 and A46. The wall was partially razed down to foundation level to open space for the expansion of the two rooms to the west. It was also partly incorporated within the north and south walls of room B5 and possibly within the north wall of room A46.

Another feature that clearly testifies to the multi-phased construction process of the church complex is the mud-brick plug (AF76/BF66) built to seal the central doorway between rooms B5 and A46. The reasons for its construction could not be clarified beyond doubt by its archaeological investigation, but they might be related to a re-functionalization of room A46 and to the ensuing need of a higher degree of privacy and separation of room B5 from A46.

These are just two examples of the architectural features that provide incontrovertible evidence for the multifaceted history of the complex and, more in general, of the area on which it developed. The data they offer are significant but cannot be used as the only source of evidence for an in-depth discussion of the complex and its architectural development. Indeed, close attention must be paid to the structural relationships existing between each wall and its neighboring ones, in the attempt to reconstruct their relative chronology. In order to achieve this,

the investigation of the complex included the excavation, along the walls of each room, of test trenches down to foundation level. These were an invaluable source of information and contributed, together with the more noticeable features mentioned above, to the identification of different construction phases within the area of the church complex. The results were partially presented above, included in the analysis of each room, but will be brought together and further discussed here, in order to gain a complete picture of the overall architectural development of the complex.

Evidence was collected that testifies to the existence of buildings pre-dating the church and the set of interconnected rooms to the north. The walls of these structures were, as mentioned above, either razed or incorporated within the walls of the church complex. According to the available data, it was possible to identify at least three rooms in the area later occupied by rooms B5, B6, and A46 (pl. 93).

<Plate 93 about here>

To the north was room α, whose west wall was also the west wall of room B6 (BF72). The north side is preserved only in the foundations included in the threshold of the doorway leading into room B9 and in the east end of the north wall of staircase B8 (BF91). The latter wall was bonded with the east wall of room α, incorporated as the east side of rooms B8 (BF90) and B6 (BF75). This wall originally continued south and formed a corner with the north wall (east half) of room A46, which supported two different vaults springing from its north and south faces. The south wall of room α is not preserved.

To the southeast of α, room β occupied the eastern half of later room A46. Its north wall was the eastern half of the north wall of A46 (AF69) and two niches were symmetrically built within its south face. The west wall of β was the north-south razed wall (AF98) identified below

floor level in room A46. It was possible to ascertain that its foundation courses are bonded with the remains of an east-west wall (AF103) running below the partition dividing room B5 from A46; therefore, the latter wall originally formed the south boundary of room β. It was not possible to identify the remains of its east wall.

To the south of room β, and sharing with it the east-west wall found at foundation level, was room γ, extending through the eastern half of later room B5. Its west side was delimited by the north-south wall (BF68) found at foundation level under the floor of the church. Traces of its east boundary (BF65) were identified below the sanctuary along the east side of the church, supporting the screen walls and the two semi-columns to the north and south of the apse. This foundation wall is bonded with the east-west partition (BF42) forming the south boundary (east half) of room B5; the two walls are, therefore, contemporary and part of an early construction episode, with the east-west wall originally built as the south edge of room γ. The same wall is also bonded, at its west end, with a stub (BF44) that was used, when room B5 was created, to join the east and west halves of the room's south boundary. As already mentioned above, it is likely that this stub was originally part of the razed north-south wall that formed the west edge of room γ (as well as β).

Both rooms β and γ were covered with barrel-vaulted roofs, in which the vaults had an east-west orientation.

Room B10, excavated to the northwest of the church complex, was built to the west of room α. The east wall of B10 (BF103) abuts the west wall of α (and later room B6) (BF72) and, in its south half, the scanty remains of another wall against which the west wall of the later room A46 was built. On the basis of architectural evidence and of the ceramic findings collected

during its excavation, it is possible to argue that room B10 predates the expansion of the church complex to the west.

Rooms α, β, and γ were substantially altered when the church complex was created in its full extent, involving the enlargement of rooms β and γ to the west and the addition of rooms B6-B9 to the north. The east wall of room α, bonded with the north wall of β, was partially demolished and a doorway (BF89) opened onto corridor B7. The latter was created through the addition of an east-west wall (BF76) parallel to the north wall of room β, which was also subject to substantial alterations in its north face at this stage.

Room α was divided into two spaces, anteroom B6 and staircase B8, separated by an east-west oriented wall (BF73) that abutted both the east and west walls of room α. The south wall of room B6 (BF70) was built at this stage, abutting the north wall (west face) of β. A new barrel roof, with the vault oriented east-west, covered room B6. A doorway (AF100/BF88) was opened along the south wall (leading to later room A46); it was part of the same construction episode, as the threshold was bonded with the rest of the structure. Two additional doorways were set along the north boundary of anteroom B6: one (BF84), located near the east end, led to staircase B8; the other (BF86), placed against the northwest corner of the room, opened into a short vaulted passageway, which ran below the staircase and led into room B9. The construction of B9 belongs to the same phase of B6-B8, as testified to by its access only through room B6 and its southeast wall (BF115+BF121), which was built as part of staircase B8.

To the southeast of B6, rooms B5 and A46 were created by extending rooms β and γ to the west. To do so, the west wall of both spaces was razed, as well as the wall dividing the two rooms. A new partition (AF72/BF58+AF74/BF57+AF75/BF55+AF77/BF52) was built on top of the foundations of the earlier wall and two doorways were created; as already mentioned above,

the larger opening, located in the middle of the wall, was bricked up at some point in antiquity (AF75/BF55). The south wall of room B6 functioned as the west section of the north wall of room A46; the south wall of room B5 was created by extending the original south wall of room γ to the west; in fact, the new section (BF45) was not built in line with the earlier wall, but slightly recessed into the room and the two sections were joined with a short diagonal partition; the latter might have incorporated a relic of the razed north-south wall that formed the west boundary of rooms β and γ. It has already been mentioned, in the discussion of corridor B11, that the reason for this irregular layout could lie in the complex rearrangement of space to the south of the church. During this process, involving the expansion of passageway B11 to the west, it was necessary to face the challenge of maintaining a sufficient width within the western addition to the corridor, which, due to its unparallel north and south walls, substantially narrowed westwards. The existence of earlier structures to the south of the corridor's western extension may have made it inevitable to create a recess within the southwest part of room B5.

As said above, the west wall of the church was created by building a thin facing against an earlier north-south wall (BF47).[186] The facing widened to the north, where it formed also the western boundary of the gathering hall. The west wall of rooms B5 and A46 is undoubtedly contemporary with the enlargement of the complex to the west, as the threshold of the western doorway (AF99/BF78) is bonded with it.

New vaults were built on the west sectors of both the church and the gathering hall to the north, paralleling the situation in the eastern half of both rooms. Originally, the vault springing from the south wall (east half) of the church was probably supported to the north by the east-west wall once separating rooms β and γ (and later razed). The later east-west wall between the two

[186] The facing itself was very difficult to recognize. It could be identified and roughly measured only by looking at the very complex situation on the tops of the walls located along the west end of rooms B5 and A46.

doorways had to support not only the new vaults covering the western halves of rooms B5 and A46, but also the northwest part of the (new) vaulted roof covering the eastern half of B5. Indeed, unequivocal traces of two rather different vault springs can be noticed on the south face of that wall.

Substantial alterations were also carried out at the eastern end of room γ/B5, with the razing of the east wall, except for its foundation courses, and the construction of the sanctuary. The north sector of the east wall, built to the north of the apse, continues further north and forms the east boundary of room A46 (AF71/BF127); its construction is therefore contemporary with the addition of the sanctuary to the church. Furthermore, the same north-south wall is bonded with the eastern sector of the wall dividing rooms B5 and A46 and is, consequently, part of the same episode as the creation of the apse.

During the archaeological investigation of the complex, data were collected suggesting that the walls of rooms β and γ were originally covered with a coat of mud plaster, with only the niches framed by rectangular bands of white gypsum.[187] This decorative pattern was customarily adopted in domestic architecture of Roman and Byzantine times in the Dakhla Oasis, as testified to by the examples found at several sites. After the enlargement of both rooms β and γ to the west (and the creation of B5 and A46), all walls and the vaulted roofs were completely whitewashed. Indeed, the layer of white gypsum plaster covering the walls was found to partially overlap the white frame around the niches in the north wall (south face) of room A46, which was also the north wall of β. Also the west wall of room α (and later room B6) testifies to the existence of a decorative pattern of niches framed with white gypsum bands predating the whitewash coating of the entire room.

[187] And, at least in some cases, with also their inner sides painted in white.

It seems likely that the alterations involving the eastern halves of rooms B5 and A46 were carried out at the same time when both spaces were enlarged to the west, as the result of an overall, well-planned project. However, no conclusive archaeological evidence was found proving this hypothesis beyond doubt. Neither was it possible to determine their relative chronology, that is to say, to establish if the expansion of both rooms to the west pre- or post-dates the changes in the eastern half, which involved the construction of new vaulted roofs (as they were partly supported by a wall bonded with a feature that belonged to the sanctuary).

No evidence was found to associate the closing of the central doorway between the church and the gathering hall with any specific rearrangement arried out in the church complex. Unquestionably, however, the enlargement of rooms B5 and A46 to the west, with the overall whitewashing of their walls, represents a *terminus post quem* for the construction of the mud-brick plug. Indeed, the east and west inner faces of the doorway show partial but unambiguous traces of the same layer of white gypsum plaster, which was later obscured by the bricked-in wall.

Furthermore, the sealing of the passageway certainly meant that the stepped podium, built against its east face, was no longer in use. The location of the podium itself suggests that its original function was to promote the ability of a single speaker to address people sitting in both rooms. The platform could be accessed only from the church, where the steps were placed, and, as said above, was likely used by a celebrant to read the Scriptures and/or preach from a vantage point that allowed him to be easily seen and heard by everyone in either room. The fact that the people sitting in the gathering hall could participate, at least to some extent, in the liturgies celebrated in the church suggests the possible identification of room A46 as a hall for catechumens, who were allowed only partial participation to the Eucharist. When the main

opening between the two rooms was bricked in and the podium was sealed off, the need for easy accessibility (apart from the small doorway to the west) and interaction was no longer extant, pointing to a re-functionalization of hall A46. It was mentioned above that a higher degree of separation may have led to the construction of the mud-brick plug. Certainly, the public nature of the room does not seem to have ever been abandoned, as testified to by its unaltered dimensions and by the fact that the long *mastabas*, built along the north, south, and east walls for a relatively large number of people, were never dismantled. The presence of a kitchen in room B6, immediately to the north of A46 and accessible from it through a doorway at the west end of the north wall, suggests the possible use of room A46, in its latest stage, as a hall for the eating of common meals. This interpretation is further supported by the discovery, across the street from the entrance into the church complex and fairly close to room A46, of a kitchen (B15) with several ovens, which undoubtedly served not the needs of a single family but rather those of a large group of people. Room A46 could have been used by such a community, whose nature remains unknown, as a refectory, for the consumption of the bread baked in the large kitchen and also the food prepared in room B6 and stored in pantry B9 (and above staircase B8). The use of room A46 as a refectory, rather than for strict liturgical purposes, might also explain the higher degree of separation needed from the church. Even if of a different nature, a close association of the gathering hall with the church was maintained also at this stage through the western doorway. Indeed, there are numerous examples in Egypt, mostly coming from monastic contexts,[188] of large refectories not only built in the proximities of churches, but also functionally related to them.[189]

[188] Such as at the Kellia in Lower Egypt: cf. Grossmann 2002a, plan 108.
[189] No traces of tables, which are common features in refectories at several other sites, were detected at Ain el-Gedida.

An intriguing question concerns the nature of rooms β and γ before their alteration into rooms B5 and A46, i.e., if they functioned as a church before their expansion to the west and the addition of an apsidal sanctuary. In the first centuries of Christianity, the common worship and the liturgies were carried out in buildings of a domestic nature, with the basilica form being adopted in Christian architecture around the time of Constantine.[190] There is evidence for the existence of such *domus ecclesiae* in the ancient world, with the best known example coming from Dura Europos.[191] The possibility that religious ceremonies were carried out in rooms β and γ prior to their enlargement and/or the construction of the apse cannot be ruled out, but there are no available archaeological data to support it.

The architectural changes and additions that led to the creation of the church complex were substantial, deeply affecting the surrounding context. Indeed, the early structures that were incorporated into the complex lay within a densely constructed environment, as pointed to by consistent archaeological evidence. It was noticed, for example, how the irregular layout of the church in its south wall was likely dependant on space limitations to the south, possibly due to the existence of earlier buildings in the area. Therefore, the construction of the church and its adjoining rooms generated profound changes in the topography of the mound, especially around the complex. The archaeological investigation to the south and east of rooms B5 and A46 shed some light on these transformations, which must have involved also the unexcavated area to the north and west of the complex.

The floor identified in vaulted passageway B11 and the lower of the two levels (BF153) found in courtyard B13 (to the southeast of the church) seem to predate the construction of the church complex; indeed, they abut only the east half of room B5's south wall, which was also the

[190] Cf. Krautheimer 1986, 43.
[191] Cf. MacDonald 1986, 45-68, and Bowen 2003a, 162-64.

original south wall of room γ. Of the three floor levels found in street B12, running north-south to the east of the complex, the lowest (BF135) seems to be contemporary with the alterations carried out in the eastern halves of rooms B5 and A46. The two higher floors (BF134, BF143) are to be associated, instead, with the buildings to the east of B12, in particular rooms B14-B15.The south segment (BF131) of B12's east boundary predates the construction of the central and north partitions of the same wall. Indeed, the central one (BF130) abuts the southern sector and is abutted by the northern one (BF128). However, it is not in line with either of them, but is slanted in a northwest-southeast direction, roughly following the outer layout of the apse located to the southwest. It is possible that its orientation was chosen to grant enough width for passage along the street, at a point where the apse had caused it to narrow down substantially. If the central sector of B12's east wall had been built perpendicular to the north and south segments, the straight angle would have made the street too narrow to allow people, animals, and especially small carts to pass. Indeed, the signs of weathering in the northeast corner of the apse, eight courses above ground level, are likely due to the passage and turning of carts and animals, for which the passage at that point might have already been particularly narrow, even with a slanted wall.

The north and central sectors of the street's east wall form the west boundary of room B15, whose construction, for the above mentioned reasons, postdates the addition of the apse to room B5.[192] Further evidence comes from the discovery that the foundation trenches of the west and south (west end) walls of B15 cut through a floor of street B12 in phase with the apse. When room B15 was built, another smaller space was added to the northeast, i.e., B14; as mentioned above, it once opened onto the former through a small doorway (now collapsed) and possibly served as a small storage room.

[192] For a discussion of rooms B14-B15, cf. IV.5. above.

The earlier discussion of the archaeological evidence for room B15 included the remains of several ovens. These were found in the western half of the room, which protrudes into B12 and gives access to the street through the narrow doorway in the northwest corner. An intriguing fact is that the passage is precisely located across the street from the entrance into corridor B7. Therefore, it is possible to suppose that room B15 (a bakery serving the needs of a large group of people) was built in relation to the church complex, particularly the anteroom/kitchen (B6) and the large gathering hall (A46). This is a fascinating possibility, supported, among other things, by the established relative chronology, but incontrovertible evidence is lacking.

The two higher floor levels of street B12 postdate the establishment of the small industrial installation in room B15, as they abut its western wall. In fact, the middle floor was laid out against the foundation courses of this wall and seems to be in phase with it. On top of the same level, substantial lenses of ash were found, particularly in the central part of the street and against the corner between the east wall of room A46 and the north wall of the apse; these units are likely to be correlated with the activities carried out in room B15 when the ovens were still in use. The highest floor of street B12 partially extended into room B15 through the narrow passageway located against the northwest corner of the latter. Quite significantly, the floor obscured a stone with a socket placed on the ground at the west end of the north wall of B15. The socket likely held one of the hinges of a doorway once closing the passageway and blocked on the opposite side by a mud-brick jamb.[193] The analysis of the archaeological data suggests that when the latest floor of street B12 was laid out and extended into room B15, the passageway between the two spaces was no longer closed off. Indeed, no evidence for the placement of other doors was found. At a broader level, the changes that occurred in the northwest corner of B15 may be put in relation to the partial abandonment of the room, which took place in its latest

[193] Whose remains were identified against the north end of the west wall of room B15.

phase. Indeed, the oven chambers were almost completely dismantled, leaving only traces of their mud-brick substructures, and room B14 was turned into a refuse dump. Substantial evidence points to the fact that the small industrial area including rooms B14 and B15 went out of use well before it was eclipsed under extensive wall collapses.

V.2. Patterns of Movement Inside the Complex and Access from Outside

Movement within the church complex seems to have followed two main axes, roughly perpendicular to each other (pl. 94).

The first starts at the only entrance, located at the northeast end of the complex and once controlling the entire flow of people entering the building. It runs from east to west and leads from street B12, outside the building, into anteroom B6 via corridor B7, crossing the doorway between the two rooms. B6 is indeed the place with the highest degree of accessibility and where the strongest form of control and selection of access could be carried out. From there, a second axis of movement leads to the church at the south end of the complex. As said above, it is perpendicular to the former and begins at the entrance from anteroom B6 into gathering hall A46. It runs from north to south and crosses the open doorway in the southwest corner of A46, ending in room B5. This spatial arrangement was created to channel the flow of people from outside into the complex, leading them into the church, which was their most likely destination. The two axes cross four out of the seven rooms of the building, covering more than three quarters of the entire area. Furthermore, they once organized the access into the two largest and functionally most significant spaces of the complex, that is to say, rooms B5 and A46.

<Plate 94 about here>

Access to the rooms at the northwest end of the church complex was, instead, regulated by minor axes, all starting from anteroom B6 and therefore secondary to the main east-west axis crossing corridor B7. One runs perpendicular to the latter, along the east wall of the anteroom, and crosses the doorway into staircase B8. From there, the staircase follows a line perpendicular to the previous axis, leading to the roof of the complex and, in particular, to the small-scale industrial installations on the vaulted roof of kitchen B10. A third minor axis starts at the southwest corner of room B6, where the two main axes meet near the doorway into the gathering hall. It is oriented north-south and runs below the narrow vaulted passageway below the staircase, ending in pantry B9 at the northwest edge of the complex. This axis is, in fact, in line with the north-south one that leads from anteroom B6 to the church at the south end of the building, via room A46. Indeed, these two axes form one major pathway running from the north to the south end of the church complex, crossing three boundaries and four rooms plus the vaulted passageway below room B8. Therefore, it must have held a key role within the overall spatial configuration, controlling and shaping the movement of anyone entering the complex.

It has been amply discussed how spatial analysis can shed light on the arrangement of particular configurations, identifying ways in which human interaction can be affected by space.[194] It provides information on the degree of privacy or permeability of any given space, or how access can be controlled to increase or limit the chances for encounters among inhabitants and/or visitors. However, it cannot be used to estimate the number of people living in, or habitually accessing, buildings of different sizes and spatial complexity, and its application to the

[194] Cf. Aravecchia 2009b and 2001 (particularly Chapter V), which includes relevant bibliography, including - among others- Hillier and Hanson 1984. References on space syntax analysis applied to Roman architecture are Grahame 2000; Laurence 1994, especially chs. 5-8; Laurence and Wallace-Hadrill 1997, which includes a relevant essay by M. Grahame; McIntosh 2003, a Ph.D. dissertation on the Roman *domus*. On space syntax analysis and Christian archaeology, cf. Clarke 2007 and 1999. Access analysis was applied, more recently, to houses from Roman Egypt by R. Alston: cf. Alston 2002, especially chapter 3.

church complex of Ain el-Gedida is no exception. It is extremely difficult to estimate, to any degree of approximation, how many people were in the complex at any given time. The nature of some rooms is not clear beyond doubt and some others, such as room B6, held multiple functions, making the identification of the people once accessing those spaces even more complex. Also, the information that is available on the size of the settlement or the density of its population is currently too limited to provide any significant contribution. Nonetheless, the archaeological evidence that is available for some rooms of the complex allows us to gather some data of a quantitative nature. The church and the neighboring hall to the north have walls lined with benches that were built to host a considerable amount of people. Room B5 bears well-preserved evidence of a *mastaba* built along the south wall for a length of *ca.* 9.8 m, including a small sector near the southeast corner where the bench is now missing. The *mastaba* continues along the west wall for about 2.2 m and another bench lines part of the north wall, between the northwest entrance and the central passageway -later bricked in-, for about 4.3 m. The overall length of the *mastabas* within room B5 is *ca.* 16.3 m, pointing to a number of about forty people who might have been seated within the church at any given time.[195] To the north of B5, the gathering hall has benches built along the north wall for *ca.* 8.3 m and the east wall for *ca.* 3.9 m. The east *mastaba* continues along the south wall of the hall for a length of about 1.9 m, giving a total length of *ca.* 14.1 m for the benches of room A46. Therefore, the hall was capable of seating at least thirty-five people at the same time.[196]

[195] Once again, not counting the people standing. The calculation is based on an average of 40 cm per person.
[196] And, undoubtedly, of hosting several more besides those who were seated. The rough parity of the numbers provided for by the church (room B5) and the gathering hall (room A46) raises the question of male/female as a possible organizing principle.

Two features very similar to mud-brick *mastabas* were uncovered in anteroom B6, against the north and east wall.[197] Although the circular imprints found on top of them suggest their use as platforms for jars and other ceramic vessels, it is possible that they had been built as benches before the room functioned also as a kitchen. Indeed, *mastabas* are common features lining the walls of vestibules and anterooms, as proved by archaeological evidence.[198] The feature lining the north wall is, at least in its preserved part, about 2 m long, while the remains of the platform along the east wall measure *ca.* 1.5 m in length. All together, they might have seated, if in fact they had been in use as benches, about eight/nine people.

The seating capacity of the church complex, with regard to the church and the gathering hall, that is to say, those spaces for which there is consistent archaeological evidence, was about seventy-five people, or more than eighty including the anteroom. This amount does not take into consideration those who were in charge of cooking in room B6, who would have also accessed the pantry (B9), the staircase (B8), and the vaulted roof of B10. On the other hand, there is no substantial evidence on the identity of those who gathered and worshipped in the church complex. Therefore, it is not possible to be sure of a clear-cut distinction between the people who entered the complex just to attend a religious service and those who carried out more practical tasks. At any rate, considering not only the small-to-average size of the church and of the entire complex, but also the seemingly limited extent of the settlement, especially compared to nearby sites such as Kellis, this is a considerable number of people, testifying to the existence of a relatively large and well-established Christian community at Ain el-Gedida. Once again, it must be emphasized that these numbers give an approximate idea of how many people could have sat

[197] The latter in very poor condition.
[198] For example, in the square court of the *domus ecclesiae* at Dura Europos: cf. V.4. below. At Deir Mustafa Kashef, in Kharga, the so-called "valley building" (sometimes referred to as "Deir Bagawat") shows a series of rooms, leading to the center of the complex, that are all lined with benches.

inside the church and the gathering hall (and possibly in the anteroom) at any given time, but do not provide an estimate of the maximum capacity of these two rooms. Indeed, it cannot be excluded that people, even a considerable number of them due to the large size of both spaces, gathered for meetings and liturgies standing in the middle of rooms B5 and A46, while others were seated on the *mastabas*.

Unfortunately, not only is our knowledge about the people living at Ain el-Gedida extremely limited, but very little is also known about the exact size and ancient topography of the settlement in which they lived. The church complex is centrally located on top of the main hill. It is surrounded by a compact layout of buildings of different shapes, sizes, and functions, and a network of streets and passageways that has been partially surveyed and excavated. The four other mounds that are part of the site, three to the south and one to the northeast of the main hill, bear archaeological evidence that is comparable, in many respects, to that of mound I. Due to its planned central setting, it seems likely that the church complex was meant to be accessed not only by the inhabitants of the main hill, but also those living on the other mounds. The mounds to the south, and possibly the one to the northeast, must have been connected by streets and/or passageways leading to mound I and to the area of the church complex. Unfortunately very little is known at present about the topography of mounds II-IV and nothing about the network of roads running on top of each mound and interconnecting them, to allow easy movement from one end to the other of the settlement.[199] Large sand dumps, from the excavations of the 1990s, lie to the south of mound I, between the main excavated area and mounds II-IV, which were the object of survey but not excavation. Therefore, a considerable effort would be required to clear the area from the sand and properly investigate it; however, such an endeavor would be well rewarded with a deeper knowledge of the overall village layout.

[199] Except for part of a street, running northwest-southeast, that was detected during a 2009 survey.

Concerning mound V, located a few hundred meters to the northeast of the main hill, the archaeological data are even scantier. While it is reasonable to assume, on the basis of the available evidence, that mounds II-IV belonged in antiquity to the same site as mound I, this can be hypothesized with a much lower degree of certainty with regard to mound V. Indeed, the mud-brick features that are visible above ground are very meager and do not provide any clue about the nature of the buildings of which they were once part. Therefore, it is hard to carry out any sort of comparative analysis with the evidence on the other mounds, besides the establishment of obvious similarities in construction materials. Moreover, mound V lies at a considerably greater distance from the main hill than mounds II-IV, in an area that was -and still is- the object of heavy disturbances in modern times.

The study of the topography of Ain el-Gedida, and of ancient patterns of movement within it, is further limited by the lack of any data about the surrounding roads and, in general, of how access to the site from outside was shaped in the fourth century CE. No evidence is available to support the identification of the modern unpaved track as the main road leading to Ain el-Gedida in antiquity. However, it is reasonable to assume that a path must have existed roughly following the same southeast direction, connecting the village of Ain el-Gedida with the contemporary, and significantly larger, site of Kellis. The latter had at least three churches, one of which was of considerable size, which were built approximately in the same time frame as the church of Ain el-Gedida.[200] A large Christian community must therefore have existed at that site in the fourth century, with several places available for congregation, prayer, and the celebration of the Eucharist. It thus seems unlikely that Christians from Kellis needed to walk the (few) miles separating the two settlements to attend services at Ain el-Gedida with any regularity. This

[200] Cf. I.2 for a discussion of the evidence for fourth-century Christianity from Kellis.

does not rule out the possibility that some of them could have done so, also due to the limited distance between the two sites; however, there is no evidence on this matter.

Apart from Kellis, no information exists about settlements lying in the close vicinity of Ain el-Gedida in the fourth century.[201] The agricultural exploitation of the region, with the fields encroaching upon the archaeological remains and extending in all directions, makes any investigation of the area surrounding the site a very complex, if not impossible, task. At any rate, it cannot be excluded that the church complex was accessed also by people who did not come from one of the five mounds of Ain el-Gedida, but lived somewhere else in their proximity. On the other hand, there is no evidence pointing to the existence and precise location of ancient roads or tracks that once led to mound I from outside the settlement.

More information is available concerning the main hill, where surveys and excavations revealed some of the axes regulating the movement of people, animals, and things in antiquity (pl. 95). The data are incomplete, due to the fact that the mound has not yet been the object of full archaeological investigation. However, what is known allows identification, even if partial, of the network of streets and passageways built around the church complex. The study of this arrangement helped shed light on how people moved on mound I and approached the complex strategically located at its center.

<Plate 95 about here>

In the north part of the hill, a street (a) runs from east to west and connects the two edges of the mound, although the eastern end is less clearly identifiable than the western and central segments. The street lines the south side of the very large rectangular building (unexcavated), which was earlier identified, on the basis of comparative evidence from other sites of the oasis,

[201] Some uninvestigated ruins were detected to the south of Ain el-Gedida, toward the main modern road leading to Mut, the oasis capital.

as a pigeon tower. A shorter lane (b) runs parallel to the west wall of the tower and perpendicular to the east-west oriented street. Its northern edge is connected with another street (c) running westward and perpendicular to the former. To the east of the pigeon-house is a north-south oriented street (d) that in its southern part crosses the east end of another road (e), running from northwest to southeast and partially investigated as space B16. The latter is parallel to the vaulted passageway (g) largely excavated as space B11 and lining the south side of the church (room B5). It is not clear if the passageway once continued further east as an open-air street, connecting the west and the east edges of the hill like street (a), although with a slightly different orientation. B16/e and B11/g are joined through a north-south oriented street (f) that is, in fact, space B12 running to the east of the church complex and leading to its entrance. The east end of vaulted passageway B11/g is connected with a street (i) partially investigated by the SCA in the 1990s. It runs perpendicular to B11/g in a southward direction and joins the area of the church complex with the southern end of the mound. Another narrow passageway (h), also excavated by the Egyptian mission and newly surveyed in 2006, runs north-south in the southwest part of mound I and connects the large kitchen found there (rooms A6-A7) with vaulted passageway B11/g and, through street B12/f, with the church complex.

The available archaeological evidence allows us to identify a major axis crossing mound I from north to south, consisting of streets (d), (f), and (i), which are in fact segments, although slightly shifted from each other, of the same north-south oriented street. This axis is matched by another street running from east to west and crossing the former near the southeast corner of the pigeon-house, located in the north half of the hill. All other paths surveyed or excavated on mound I, that is to say, (b), (c), (e), (g), and (h), are connected, directly or indirectly, with the

main north-south or east-west axes. They once channeled the flow of people in and from all edges to the mound and through its dense topographical layout.

The plan of mound I shows a somewhat different orientation of buildings, streets, and passageways in the south area of the hill from that exhibited in the central and northern parts. Indeed, the horizontal (i.e., east-west) axes in the south are shifted more to the southeast than the streets further north, likely testifying to the different phases of architectural development that occurred on the main hill in antiquity. Nonetheless, all streets identified there appear as part of a carefully designed and unified network, whose spatial focus is on the center of mound I and, more specifically, on the area of the church complex. The overall spatial arrangement of mound I and in particular of its streets, passageways, and alleys must have been quite effective, although not necessarily created for that purpose, in bringing people from all corners of the mound -and outside it- toward the center of the hill and, quite significantly, in channeling their flow into the area of the church complex. Once again, the archaeological evidence for mound I is incomplete and does not allow categorical conclusions. However, what is known -and it is not a little- undoubtedly points to the spatial centrality of the ecclesiastical complex, which, although built in a densely constructed environment, was granted a considerably high degree of accessibility by an efficient network of streets.

V.3. Ain el-Gedida and Christian Architecture of Late Antiquity – Egypt

The current resurgence of interest in the study of Coptic Christianity has generated a process of intensive investigation of Egyptian churches and monasteries, which offer a significant contribution to the study of Christian architecture in Late Antiquity. No substantial information has been retrieved thus far on pre-Constantinian churches in Egypt. However, early

fourth-century Christianity is becoming much better known thanks to the data provided by the growing archaeological evidence. In particular, the investigations carried out in the Dakhla Oasis have brought to light a considerable wealth of data about Early Christian architecture.[202] The discovery of the church of Ain el-Gedida has added new and significant data, as the complex represents one of the earliest known examples of Christian public architecture in the region and provides significant material for comparative analysis.

As already mentioned, the Early Christian building that shares most typological similarities with the church of Ain el-Gedida also comes from the Dakhla Oasis, i.e., the Small East Church at Kellis, only a short distance from Ain el-Gedida. Because of its considerable comparative value, the Small East Church will be discussed, in relation to the church of Ain el-Gedida, in a separate section below.

Apart from the Small East Church at Kellis, the archaeological evidence for early fourth-century churches in the Dakhla Oasis does not provide for close parallels with the church of Ain el-Gedida or the whole architectural complex. However, it testifies, quite significantly, to the existence of thriving Christian communities in this relatively isolated region of the Western Desert since an early time.

A considerable wealth of information on Early Christian buildings, both from monastic and non-monastic contexts, comes from the nearby Kharga Oasis, which shares several historical ties with Dakhla.[203] Churches and church complexes, dated to the fourth and fifth century CE, were excavated or recorded at numerous sites in Kharga, although they have not yet been extensively published. The extensive remains of the town of Douch (ancient Kysis), located in the south half of the oasis and investigated by a French mission (IFAO), include valuable

[202] Cf. I.2. above for the evidence on early Christianity in Dakhla.
[203] For an introduction to the evidence of Early Christian churches in Kharga, cf. Bagnall and Rathbone 2004, 251-61.

archaeological evidence on Early Christianity.[204] A significant feature is a mud-brick semi-circular podium, surrounding a square mud-brick table. It was built, as a later addition, within a complex of rooms lying between a fortress and a mud-brick temple. The structure, which follows the outline of a "C" or *sigma*, has the characteristic shape of a Palaeochristian *stibadium*. Within Kharga, the association of the *sigma* couch with a Christian context is proved by other examples found at Shams ed-Din and at Bagawat, both built in relation to churches.[205] Besides the *sigma* couch, signs of substantial alterations within the temple of Isis and Serapis were connected to its possible use as a church. To the east of the temple, another church was found, which seems to have been built within an earlier set of buildings (pl. 96).

<Plate 96 about here>

The church, whose religious function was lost during its last occupational phase (when it was turned into a series of stables), is dated to the fourth century, a chronological framework shared also by the church of Ain el-Gedida. The building, which is divided into a nave and two side aisles by two rows of columns, has a return aisle along the northwest side and ends, to the southeast, into a long, rectangular *presbyterium*.[206] A small doorway by the northwest corner provided direct access into the church, which was originally connected to a set of additional rooms to the northeast and southwest.[207] The overall layout of the church of Douch does not share significant similarities with the ecclesiastical complex of Ain el-Gedida. It is noteworthy, however, to emphasize that both churches, which are roughly contemporary, were built not as isolated structures, but as part of larger, multifunctional complexes, although with their rooms differently arranged. Furthermore, there is substantial evidence, in both instances, pointing to the

[204] Cf. Reddé 2004, 56-68; Bonnet 2004, 75-86.
[205] Cf. Reddé 2004, 56-57. On the use of the *stibadium* in Late Antiquity, cf. Ellis 1997.
[206] Cf. Bonnet 2004, 82-83.
[207] A second doorway led into the church via a small anteroom and a larger hall to the southwest.

re-use of earlier structures, presumably of a domestic nature, for the construction of the church and the set of interconnected rooms.

The fourth-century church of Shams ed-Din, located a few kilometers from Douch and considered one of the earliest known examples of Christian architecture in Egypt, is typologically closer to the church of Douch than to the one at Ain el-Gedida (pl. 97). Indeed, it shows the elongated rectangular sanctuary and the partition into central nave and side aisle, plus the west return aisle that is a typical feature of several Upper Egyptian churches.[208] Like the ecclesiastical complex from Douch and that of Ain el-Gedida, the church of Shams ed-Din opens onto a set of interconnected rooms.[209] Several features of this complex are also attested to at Ain el-Gedida, including *mastabas* along the north, west, and south walls of the church and a nearby staircase leading to an upper floor or a roof. Also, a mud-brick stepped podium can still be noticed in both churches, although the one of Shams ed-Din, located against the northeast column, did not have to answer to the same requirements of visibility from two different rooms, as was the case at Ain el-Gedida.

<Plate 97 about here>

Further remains of fourth-fifth century churches and ecclesiastical complexes have been identified in the Kharga Oasis, although not yet fully investigated and published. Particularly impressive are the monastic settlements of Deir Mustafa Kashef and of Ain Zaaf, located in the proximity of the necropolis of Bagawat.[210] The complex at Deir Mustafa Kashef, located on the side of a hill, consists of a church and several rooms arranged on different floors and surrounded by high and thick walls. In the plain to the west is another complex of rooms (sometimes referred to as Deir Bagawat), of which one was identified as a chapel, adjacent to which is a large waiting

[208] Cf. Grossmann 2007, 107.
[209] The rooms line the south wall of the church and follow a less-articulated arrangement than at Ain el-Gedida.
[210] Cf. Bagnall and Rathbone 2004, 253-54, and Vivian 2000, 78-79.

room for visitors. At Ain Zaaf, one kilometer to the north of Deir Mustafa Kashef, is another possibly monastic complex, located at the foot of a hill dotted with tombs. The two complexes of Deir Mustafa Kashef and that of Ain Zaaf show layouts that are substantially larger and more developed than the church complex of Ain el-Gedida, with a host of small and large rooms, some of which are lined with *mastabas* (partly reminding one of gathering hall A46 at Ain el-Gedida) and all interconnected. Their construction did not occur as the result of a single episode; indeed, the archaeological evidence testifies to a multi-phased construction history for all of them.[211] The remains of partition walls built inside the church of Ain Zaaf, originally built on a basilical, tripartite plan, show that, at least in its latest occupational phase, the building was subdivided into a cluster of smaller rooms and presumably lost its original function.[212]

The evidence for churches consisting of one nave without side aisles, such as room B5 at Ain el-Gedida, is not very abundant, but far from nonexistent; it spans the fourth to at least the seventh century CE. Several examples of churches with one nave attest to the fact that the church of Ain el-Gedida and the Small East Church at Kellis are not a type restricted to the geographical context of the Dakhla Oasis. Overall, most of the comparative evidence is from a date later than the two examples from Dakhla. Churches consisting of one nave and oriented to the east were found at the monastic site of Kellia, in Lower Egypt. One structure, built within hermitage no. 16 in the area of Qusur al-Izayla, has a rectangular sanctuary connected with a side room to the south. The church is dated to the seventh century.[213] Still at Qusur al-Izayla, the chapel from hermitage no. 31 is a southwest oriented structure, consisting of one nave divided into two bays

[211] As reflected also at Ain el-Gedida.
[212] A rearrangement of space, involving the loss of the original religious function, occurred also in the church of Douch discussed above.
[213] Cf. Capuani 2002, 80.

and oriented to the west.[214] A semicircular apse is built at the west end, while a side room was once accessible through a doorway set into the east wall.

Two other churches consisting of one nave were found in the area of Antinoopolis.[215] One, dated to the sixth century, is located in the west part of the city's ruins and shows a more developed type than the church of Ain el-Gedida, including a narthex along the west side and a choir near the sanctuary, which consists of a central square apse flanked by two side rooms. The other one-nave church (or, in fact, its fifth-century construction phase) lies at the center of the village of Deir Abu Hinnis, south of Antinoopolis. A semi-circular apse is placed at the east end of the building, with two elongated rectangular rooms to the north and south of it. A narthex is at the opposite (western) end of the church.[216]

Among the additional examples that can be mentioned are the three churches from the presumably monastic site (earlier a Roman military fortress) of Manqabad, to the northwest of Asyut.[217] They all consist of one nave, with a choir and a semi-circular apse at the east end. Like the above-mentioned churches, they bear a basic typological resemblance to the church of Ain el-Gedida, although their layout is less simple, including more architectural features such as (in some cases) a narthex and a choir.

The monumental work by P. Grossmann on Christian architecture in Egypt lists other examples of churches with a simple basilica plan, consisting of one nave and a semi-circular apse placed at the east end, sometimes with side rooms to the north and south of the sanctuary. Some were found in funerary contexts, such as tomb-chapel 42 from the necropolis of Oxyrhynchos

[214] Cf. Grossmann 2002a, 265; 283; plan 117.
[215] Cf. Capuani 2002, 177-79.
[216] The list includes other examples, including the church of the Monastery of St. Antony in the Eastern desert (cf. Grossmann 1995).
[217] Cf. Capuani 2002, 198; Grossmann 2002a, 270-71; plan 145.

and the chapel from a cemetery in Antaeopolis.[218] Others are located within monastic settlements, such as building I of the Lower Church at Deir Abu Fana.[219] Church A at Deir el-Naqlun, in the Fayyum, is divided into a nave and two side aisles by two rows of columns, with a return aisle along the west side. However, signs of an early construction phase point to a smaller and simpler layout, with a single, undivided nave and eastern apse.[220] The available evidence for one-nave churches with semi-circular sanctuaries, including the above-mentioned example but also room B5 at Ain el-Gedida and the Small East Church at Kellis, testifies to the use of this type since an early stage of Christian architecture in Egypt, although the available evidence is not particularly abundant. This is not to say that the type with a tripartite body and, especially in Upper Egypt, a western return aisle was chronologically later than the one-nave model. Examples such as the fourth-century Large East Church at Kellis prevent us from making such an assertion. Indeed, the predominant type in Early Christian architecture, in Egypt as well as other regions of the ancient world, was the basilica with a central nave and two (or four) side aisles.[221]

Concerning the arrangement of church-rectangular halls, as shown at Ain el-Gedida (and Kellis), there are several instances in Egypt, especially within monastic contexts, of churches that, although not sharing significant typological similarities with the complex of Ain el-Gedida, are either in the immediate proximity of, or even interconnected with, large rectangular spaces. Two of the best known examples are the church complexes of the White and Red monasteries at Sohag, in Middle Egypt.[222] Their dimensions are considerably wider and their layouts more elaborate when compared with the church of Ain el-Gedida, but they all include a rectangular

[218] Grossmann 2002a, 317; 338; plans 61-62.
[219] *Idem*, 62; plan 134.
[220] *Idem*, plan 131.
[221] Cf. Grossmann 2007, 104.
[222] Cf. Grossmann 1998, 1991d and 1991e.

hall, extending along almost the entire length of each church and interconnected with it.[223] Other examples of large rectangular halls that are interconnected with churches can be seen at the Monastery of Saint Antony near the Red Sea and in several monastic settlements of the Wadi Natrun, in Lower Egypt: among them are the monasteries of Deir Anba Bishoi, Deir el-Suryani, and Deir el-Baramus.[224] At these sites, the rectangular halls, identified as refectories, were built much later than the fourth-fifth century, but, according to C. C. Walters, since they are part of the oldest nucleus of each monastery, it is not unreasonable to assume that they are adaptations of earlier structures, similar in shape and function.[225] If this is true, the gathering hall (room A46) at Ain el-Gedida, directly opening onto the church (room B5), would represent a significant fourth-century precedent of this church-rectangular hall arrangement. That is, however, far from sufficient evidence to show that the church complex of Ain el-Gedida (and of the settlement in which it is nestled) are monastic either in origin or in character.[226]

A smaller church, whose layout is very similar to that of rooms B5 and A46 at Ain el-Gedida, was recently found at the site of Bakchias, in the Fayyum.[227] It is built of mud bricks and consists of a one-nave church oriented to the east, ending with an inner apse.[228] To the north is another rectangular space, possibly of the same length. According to its excavators, it seems to have once opened onto the church, although the available evidence is not conclusive.[229] The area

[223] The hall is located along the outer face of the south wall in the churches of the White and Red monasteries, while it opens onto the church of Ain el-Gedida from the north.
[224] Cf. Grossmann 1995 (St. Antony); Grossmann 1991c (Deir Anba Bishoi); Innemée 1999 and Grossmann 1991a (Deir el-Baramus); Grossmann 1991b (Deir el-Suryan).
[225] Although the evidence for this is not conclusive: cf. Walters 1974, 39; 99-102.
[226] According to Walters, evidence for monastic architecture in general points to a progressive loss of importance, in monastic environments, of the habit of communal eating, leading to less strict arrangements: *idem*, 102.
[227] The church was excavated by a team of the University of Bologna directed by Sergio Pernigotti: cf. Buzi 2007 and Tassinari and Buzi 2007.
[228] Not built against the outer face of the east wall, as at Ain el-Gedida.
[229] Cf. Tassinari and Buzi 2007, 38-39.

surrounding the church has not yet been excavated; further investigation might reveal if the two spaces formed an isolated building or were part of a larger complex, as at Ain el-Gedida.

V.3.1. The Small East Church of Kellis

Within the Dakhla Oasis, the Small East Church at Kellis stands out as the closest typological parallel to the church complex of Ain el-Gedida, in particular the set of rooms consisting of the church (B5) and the gathering hall (A46). The Small East Church was partially cleared in 1981-82, with the investigation focusing especially on the area of the sanctuary.[230] Gillian Bowen conducted extensive excavation of the church in 2000 and published the building in 2003 (pl. 98).[231]

<Plate 98 about here>

The Small East Church of Kellis and the church of Ain el-Gedida have similar dimensions; they share the same length (*ca.* 9.5 m) from east to west, but the Small East Church is two meters wider (*ca.* 10.5 m) than rooms B5 and A46 at Ain el-Gedida. Almost identical is the layout of the two churches, with a large rectangular space to the north opening to the south into an apsidal room. Both buildings were built using mud bricks, which were the main construction material in the oasis. All walls were plastered in mud and then covered with a coating of white gypsum. Consistent traces of polychrome painted decoration were found inside the apse of the Small East Church, including two columns on the back wall and panels with geometric forms and wavy lines. An engaged semi-column was also built within the wall of the apse, a little off the main axis of the building. The church of Ain el-Gedida is empty of any

[230] Cf. Mills 1982, 99-100 and Knudstad and Frey 1999, 205.
[231] Cf. Bowen 2003a.

painted ornamentation, with the exception of scanty fragments of a fresco identified above the niche in the north wall.[232]

At Ain el-Gedida, both room B5 and room A46 were once covered by a barrel-vaulted roof. At Kellis, evidence for a barrel-vaulted ceiling was found only for the meeting hall to the north (room 2), while room 1 had, at least before its conversion into a church, a flat roof.[233] The Small East Church had two windows letting light in, one set in the west wall of the meeting hall, high above floor level, and the other placed at the north end of room 1's west wall, close to the west doorway into room 2. No traces of windows or small holes, opening onto the exterior of the complex, were found in either the church or the gathering hall at Ain el-Gedida. The west walls of both rooms are preserved to a considerable height, but do not carry any sign of having been pierced by windows; the same applies to their other walls.[234]

In the Small East Church, access into the complex was only via a doorway (*ca.* 1.10 m wide) located at the south end of room 2's west wall; no door led directly into the church (room 1) from the outside. The church of Ain el-Gedida reflects a similar arrangement, with the entrance located at the west end of room A46's north wall and no direct access from the exterior into room B5. Another significant parallel, in relation to the organization of space, is the existence, in both buildings, of two doorways connecting the northern hall with the nave and the sanctuary to the south, i.e., a smaller one to the west and a wider passage in the middle.[235] A mud-brick podium was built against the east side of the central doorway at Ain el-Gedida, visible from both rooms. No such feature was found in the Small East Church. However, at Ain el-

[232] Some graffiti were identified in both churches but do not seem to have been part of any original decorative program.
[233] Cf. Bowen 2003a, 158.
[234] It is not to be excluded, however, that openings for light and air might have been set at a very high level.
[235] Although at Kellis the west doorway was built only at a later stage, when the building was converted into a church.

Gedida the central opening was bricked in at a later stage, leaving the west doorway as the only entrance into the church from the gathering hall.

Room A46 at Ain el-Gedida has *mastabas* lining the north, east, and -partially- south walls, while the comparable meeting hall (room 2) of Kellis does not show evidence of benches. On the other hand, *mastabas* coated in white gypsum are built in the Kellis church proper (room 1), to the south of room 2, running along the north, west, and, except for a small gap, south walls. Before the construction of the apse -and its side rooms- against the east wall of the church, the south bench turned north along the east wall for about 2.85 m; however, this sector of the *mastaba* was concealed following the architectural alterations that were carried out in the room. According to Bowen, room 1 was used, before the addition of the sanctuary, as a meeting hall. The presence of benches along the four walls of the room, undoubtedly part of the first construction episode, suggests that this space could host a large group of people gathering in it at the same time. Nevertheless, it is not clear if this room, as well as room 1, belonged, before the more substantial alterations carried on them, to a building with civic or religious functions.[236] Similarly to the Small East Church, room B5 at Ain el-Gedida has benches built against the north, west, and south walls. Due to the heavily disturbed context of the area in front of the sanctuary, it is not possible to say if benches once lined the east wall, too. Nonetheless, the overall evidence for the architectural development of the complex suggests that the *mastabas* in room B5 were in phase with the apse and the overall use of this space as a church.

The absence of *mastabas* in room 2 at Kellis is remarkable, considering not only its similarities with room A46 at Ain el-Gedida, but also its large dimensions and the function as a

[236] Bowen (2003a, 158) suggests that the hall was part of a complex that did not belong to a domestic context, but rather might have held a civic function. C. Hope believes (same essay, footnote 3) that the room was spatially focused on the middle of the south side. Following Hope's observation, it is worth remarking how the addition of the sanctuary against the east wall entailed the shifting of the focal point of the room by 90°.

congregational hall associated with it.[237] Another difference between rooms 2 and A46 is the absence of any niche/cupboard in the former, while several niches pierce the walls of the latter: one is set into the west half of the south wall, two within the north wall, and a fourth niche in the west wall, near the doorway into anteroom B6. Although lacking in room 2, niches are a common feature of buildings at Kellis and throughout the oasis. Indeed, the nave of the Small East Church, to the south of the meeting hall, has four cupboards built into its walls; two are set along the north wall, symmetrically placed to the sides of the central doorway, one at the center of the west wall, and a fourth at the west end of the south wall. Within the same room, two other cupboards pierce the north and south sides of the inner wall of the apse. To the north of the sanctuary, a small side room has a rectangular shelf built within the north wall. The situation at Ain el-Gedida is almost reversed; unlike room 1 at Kellis (but also the gathering hall -room A46- at Ain el-Gedida), only one niche is built inside the main nave (room B5), toward the east end of the north wall, in addition to the L-shaped *pastophorion* associated with the east apse.

Both the church of Ain el-Gedida (including rooms B5 and A46) and the Small East Church at Kellis (rooms 1-2) are the result of substantial alterations that were carried out on earlier buildings, in order to convert them into Christian places of cult that conformed to certain specified requirements. The archaeological evidence available for Ain el-Gedida, concerning in particular the development of the church complex, was discussed in the previous chapter. What should be remarked here is that there are no data allowing us to identify, in a conclusive manner, the function performed by the buildings that were involved in such transformations. With regard to Kellis, the excavators believe, as mentioned above, that both rooms 1 and 2 served as gathering halls for relatively large groups of people.[238] The archaeological investigation of these

[237] *Idem*, 162.
[238] *Idem*, 158.

spaces has brought to light evidence of substantial alterations. A large doorway, set in the middle of the north wall of room 2, was completely sealed off with a mud-brick plug, which remained un-plastered. The door once opened onto a passageway oriented east-west and, through another doorway located further north, into the area of the Large East Church. In room 1, the northwest doorway was opened, which made it necessary to remove part of the north bench, and the central doorway was substantially narrowed. Also, the window set in the west wall was sealed off and the *mastaba* lining the south wall was extended to fill the original gap. Yet the most significant new feature was the tripartite sanctuary constructed against the east wall. A semicircular apse was built in a central location, partially cut into the wall, and its inner wall was, as mentioned above, painted with frescoes. To the north and south of the apse two small side-chambers were built.[239] The floor of the sanctuary was raised above the level of the main nave and the central apse was made accessible through a set of two steps. In the south-side chamber, the raised floor allowed the preservation of the bench originally set in the southeast corner, with the remaining gap filled with debris and brought to the level of the *mastaba*. A domed roof covered the central apse, while the two side rooms had barrel-vault ceilings. A tripartite architectural frame, consisting of three arches and two engaged pilasters, one at each side of the apse, outlined the entire sanctuary.

Few similarities and substantial differences exist between the apse of the Small East Church and that of the church of Ain el-Gedida. Both of them are later additions to pre-existing structures, substantially raised above floor level. Also, the focus is, in both cases, on a semi-circular apse, centrally placed and framed by engaged half-pilasters (half columns in the case of Ain el-Gedida). However, the conch of room B5 at Ain el-Gedida is not flanked by two side chambers accessible from the nave, as in the Small East Church. Instead, it is directly connected

[239] Which were, used, at least in their final stage, as storage rooms: *idem*, 161.

with a small L-shaped *pastophorion* built to the south, which cannot be reached from the main nave. Another significant difference is that, while the sanctuary of the Small East Church was built within the perimeter of the original structure, the apse and the *pastophorion* of the church of Ain el-Gedida were added against the outer face of the nave's east wall. Thus, the construction of the sanctuary did not entail a reduction of the space occupied by the nave, on the contrary of what occurred at Kellis. In general, there is no substantial evidence to argue that, in Christian architecture, the addition of an external apse represents a later development than the construction of a sanctuary within the original perimeter of an earlier structure.[240]

Notwithstanding the above-mentioned differences, it is undeniable that the similarities between the Small East Church of Kellis and the church of Ain el-Gedida are quite striking. Even the interpretation of rooms 1 and 2, proposed by Bowen in relation to the Small East Church, closely match the preliminary analysis of the evidence from Ain el-Gedida. In particular, both room 2 at Kellis and room A46 at Ain el-Gedida have been identified as meeting halls, used either for the consumption of meals by the community of the faithful or as rooms for catechumens, who had only partial access to the Eucharist, which was celebrated in the adjoining church.[241]

The numismatic evidence collected from both churches grants additional parallels. A few third-century specimens were found in the church of Ain el-Gedida (five) and in the Small East Church at Kellis (four), but the dating of most coins suggests that the two churches were in use in the first half of the fourth century. The chronological range provided by the numismatic analysis is supported by the ceramic evidence coming from both buildings, with the dating of the

[240]Cf. Hamilton 1956, 151, concerning Early Christian churches from Umm el-Jimal, in modern Jordan. The church of Ain el-Gedida is a fitting example of an early fourth-century building with an external apsidal sanctuary. On the excavations carried out at Umm el-Jimal cf. Butler 1900 and Butler and Littmann 1905.
[241] Cf. Bowen 2003a, 162. On catechumens, and their physical separation from the rest of the congregation during the liturgy, cf. Stalley 1999, 23-24.

pottery from the Small East Church only slightly earlier than the span assigned to the evidence from Ain el-Gedida (i.e., third-fourth century vs. fourth-early fifth century). In fact, substantial differences cannot be established, with regard to forms and materials, between the ceramic evidence of the late fourth and that of the early fifth century in Dakhla. Therefore, the two chronological ranges proposed for the church of Ain el-Gedida and the Small East Church at Kellis cannot be considered as significantly dissimilar.

The Small East Church of Kellis has been interpreted by Bowen as a fitting example of *domus ecclesiae*, comparable to the earlier Syrian *domus* of Dura Europos.[242] The archaeological evidence clearly points to the construction of the church as the result of substantial alterations carried out on an older building, in order to suit the needs of a Christian community. The building in its later phase shared, as emphasized by Bowen, strong similarities with the basilica-type church, such as the existence of a nave oriented to the east and the presence of a raised sanctuary defined by a semi-circular apse and side rooms. The identification of the Small East Church of Kellis as a *domus ecclesiae* is certainly legitimate and compelling, as it pertains to the re-use and transformation of an earlier structure into the "house of the church".[243] It must be remarked that the conversion of the early building into a basilical-plan church considerably altered the layout of the former, especially in room 1, which, as just mentioned above, came to resemble a standard type of religious architecture. However, with regard to the Small East Church, the archaeological evidence does not provide data allowing us to determine if the original structure had already been in use as a Christian *domus ecclesiae*. In fact, nothing prevents the early building from having been a place of cult even before these alterations. The issue related to the use of the term *domus ecclesiae* also involves the church of Ain el-Gedida,

[242] Cf. Bowen 2003a, 162-64.
[243] Cf. Bowen 2003a, 158; 161-62.

due to its construction history and the similarities with the Small East Church of Kellis. The former also developed into a basilica-type church from pre-existing structures, which might well have served as a Christian place of cult before their enlargement to the west and the addition of an apse along the east side of room B5. However, as mentioned in a paragraph above, the available archaeological evidence is not conclusive on this issue.[244]

V.4. The Late Roman World

The secular basilica of the Roman world is generally understood, by most scholars, as the source from which the basilical type of Christian architecture derived.[245] This is largely testified to by the archaeological evidence dating as early as the fourth century CE. Even the written sources mentioning the existence of gathering halls for Christians are largely dated from the early fourth century on, when, in certain instances, these halls are associated with the term "basilica".[246]

It is attested that the first Christian communities gathered in the houses, referred to as *tituli*, of fellow Christians to celebrate the Eucharist.[247] The borrowing of pre-existing architectural forms, the creation of new ones, and their overall arrangement, which brought to the creation of the first churches, must have occurred gradually.

As said above, archaeological evidence on the development of Christian public architecture is scanty for the first three centuries of the Common Era. The fact that private houses had been used, until then, by Christians for their cultic needs, in addition to commemorative ceremonies held in honor of the dead, might explain why the archaeological

[244] Further considerations, related to the identification of the church of Ain el-Gedida as a *domus ecclesiae*, will be discussed below in this chapter: cf. IV.2.1.
[245] For a discussion on the alternative "Atrium House" theory, cf. White 1990, 12 ff.
[246] Cf. Bowen 2003a, 26.
[247] On the term *titulus*, cf. Stalley 1999, 20, and White 1990, 19.

record for such *domus ecclesiae* is particularly scanty. Indeed, the private houses of Christians did not differ from those inhabited by pagans. Nonetheless, some information is available, by means of documentary and archaeological evidence, on the use of specific buildings for the regular meeting of Christian communities before the time of Constantine.

Archaeological investigation carried out below several churches in Rome, such as at San Clemente and Santa Sabina, revealed the remains of earlier houses which might be related to the first phase of occupation of those sites by Christian communities; that is to say, they could be the original *tituli* from which the later basilicas developed.[248] No conclusive evidence was found, though, allowing us to establish incontrovertible links between the houses and the later churches built on top, or to assign specific functions, in relation to the Christian cult, to the rooms of the early *domus*.

Further evidence, both written and archaeological, for the existence of Early Christian house-churches and *domus ecclesiae* was found in several regions of the Late Roman empire. L. M. White put together a comprehensive collection of written sources, both literary and documentary, that testify to the existence of Christian assemblies in the time up to Constantine.[249] These texts, written by both Christian and pagan authors, shed considerable light, if not on the overall architectural models of Early Christian architecture, on the life of the first Christian communities and on their use of the space destined to common prayer, liturgy, and consumption of meals. However, in most cases, these sources do not allow the establishment of significant comparisons with the church of Ain el-Gedida. White's work also incorporates the available archaeological evidence on pre-Constantinian Christian sites. Overall, the existing data are limited and include structures assigned to a chronological range on the basis of sometimes

[248] Cf. Koch 1996, 17, and Krautheimer 1986, 29.
[249] Cf, White 1997, which follows his work on the adaptation of earlier architectural types in the Roman world, focusing in particular on the first Christian communities in the Roman world (White 1990).

shaky evidence.[250] Most of the buildings that are more securely dated were found in Syria, Palestine, Greece, Istria, and Italy, even further north to Britain.[251] Their investigation points, in several instances, to the re-use of earlier structures that were adapted to the needs of Christian communities. The same process occurred, as discussed above, with regard to the church of Ain el-Gedida, which shows, however, a general spatial arrangement that is rather different from the evidence collected by White.

The best preserved and best known example of a pre-Constantinian house-sanctuary, safely datable to the first half of the third century CE, is the *domus ecclesiae* from Dura Europos, in Syria, excavated in the first half of the twentieth century (pl. 99).

<Plate 99 about here>

Excavated in 1931-32 and then published in 1967 by Carl H. Kraeling, it is a remarkable, even unique, example of an ancient private house remodeled into a Christian gathering place. The building is located within a residential block south of the main gate of the city.[252] Its earliest occupational stage is dated, based on the archaeological evidence, to the first half of the third century CE.[253] The house has a layout that is, to use the words of A. J. Wharton, "introverted" and "highly privatized"; that is to say, it does not develop along an axis leading from the outside to the peristyle and the more public (or semi-public) rooms of the Roman house. And neither is it divided into two separate sectors, one for men and the other destined for women, like a Greek house of Classical Antiquity. The plan of the house of Dura Europos was focused on a wide rectangular court, onto which several rooms opened. During the first half of the third-century, the

[250] Cf. White 1997, 431-41.
[251] Cf. Section II in White 1997.
[252] Cf. Wharton 1995, 26-27.
[253] A. Wharton provides, on the basis of Kraeling's archaeological report, the date of 232/233 CE as a *terminus ante quem* for the construction of the house: *idem*, 26. The year 256/7 CE, which marked the violent destruction of Dura Europos, is is the latest possible date for its abandonment: cf. MacDonald 1986, 45-68.

house was the object of architectural alterations that led to its conversion into a Christian cult place, substantially modifying not only its layout but also its nature. *Mastabas*, or benches, were built along the north, west, and southwest sides of the court, to host the gathering community. A direct access from the court to the west room, raised above the level of the court, was maintained. A baptistery, richly decorated with frescoes depicting Old and New Testament scenes, was created in the northwest room of the house.[254] The bench originally running around the walls of the large room to the south of the courtyard was razed, as well as the west wall separating this space from another room to the west. These changes led to the creation of a long rectangular hall, roughly oriented east-west and located to the south of the courtyard and the western room. The south hall was accessible from the two rooms to the north through a set of three doorways, one placed in the south wall of the west room and two in the south wall of the court.[255]

At a first look, the layout of the church of Ain el-Gedida bears some resemblance to that of the *domus ecclesiae* of Dura Europos, particularly with regard to the arrangement and sequence of some of its rooms, i.e., entrance from the north, vestibule, room with *mastabas* opening into the large hall to the south (the latter certainly in use as the main space for the liturgy at Ain el-Gedida, while it is not clear if a fully "liturgical" function can be assigned to the south hall at Dura Europos). However, a closer observation of both plans discloses also considerable differences. The Syrian *domus ecclesiae* is a compact structure, self-contained within the original walls of the house, and inconspicuous from the outside. On the contrary, the church complex of Ain el-Gedida does not consist of spaces all built within a pre-existing outer wall in a compact fashion, but develops on a north-south axis, with rooms connected among them but built

[254] On the iconographic program of the baptistery's frescoes, cf. Baur 1934 and Wharton 1995, 51-63.
[255] The westernmost of the doorways opening onto the court did not exist in the first construction episode of the house and was added when the building was turned into a *domus ecclesiae*.

independently and only in part re-using earlier structures. The difference between the private character of the *domus* of Dura and the (relatively) high degree of visibility of the complex of Ain el-Gedida might reflect a new sense of security felt by Christians, in light of the dramatic changes brought by Constantine's attitude of tolerance and favor toward Christianity. However, as Wharton accurately notices, the private and introverted character of the *domus ecclesiae* of Dura cannot be taken as incontrovertible evidence of a general tendency, in the third century CE, toward architectural inconspicuousness. Indeed, written sources testify to the existence of pre-Constantinian churches built in preeminent locations and clearly identifiable as Christian places of cult.[256]

On the whole, the *domus ecclesiae* of Dura Europos represents a valuable case study for the investigation of possible typological parallels/antecedents to the church of Ain el-Gedida. Obviously, due to their different geographical and chronological contexts, it is not suggested here that a direct typological link exists between the two buildings, or even that the former (or better, the overall type of which Dura might have been an example) somehow inspired the construction of the latter. Nonetheless, it is not impossible that the early fourth-century church of Ain el-Gedida embodies an architectural type that, adopted at Dura at least since the third century, might have developed, in the context of Early Christian architecture, in different regions of the Roman empire.

White's list of archaeological and documentary evidence for Early Christian assemblies (and places of cult) can now be updated with the recent discovery of an Early Christian building at Megiddo, in present-day Israel. In 2005, excavations carried out within a building complex revealed a rectangular room richly decorated with mosaics and inscriptions, which unarguably

[256] Cf. Wharton 1995, ?.

identify the space as Christian.[257] A podium is built in the middle of the room and the base of an engaged pilaster lines the west wall, with a recess for another pilaster against the east wall. A small, semicircular recess is located in the southeast side, but its identification as an apsidal sanctuary cannot be proved. The hall is believed by its excavators to have served as a meeting place for Christians, among whom were women and members of the Roman army stationed at Megiddo.[258] According to Y. Tepper, the cult focused around the central podium.[259] The archaeological reports suggest, on the basis of ceramic evidence, an early dating for the hall, between the second half of the third century and the beginning of the fourth. This range is not chronologically distant from either the church of Ain el-Gedida or the Small East Church of Kellis.[260] Although the excavation of the surrounding area is not complete, the Christian hall at Megiddo was part of a large habitational unit. It is not clear, from the published reports, if the room was the result of architectural alterations, leading to its conversion into a Christian cult place, or if it had been part of the original building project. Apart from its rectangular shape and the presence of an apse, the Christian hall of Megiddo does not share significant similarities with the church of Ain el-Gedida. At any rate, if the early chronology that has been proposed is secure, the discovery of the hall is quite significant, as it provides evidence for the construction, within domestic contexts, of spaces for the Christian cult at a very early time.

The documentary and archaeological evidence on the *domus ecclesiae* of the third century suggests, notwithstanding its fragmentary character, that the origin of Christian places of worship lies within a domestic architectural context.[261] It is only gradually that churches develop specific

[257] Cf. Tepper 2006 and Tepper and Di Segni 2006.
[258] As proved by epigraphic evidence: cf. Tepper 2006 (no pagination).
[259] Cf. Tepper 2006 (no pagination).
[260] Material datable up to the third century was found below floor level, but only probe trenches were dug. Third and fourth century evidence was retrieved from the occupational level of the hall.
[261] Cf. Krautheimer 1986, 28.

and more recognizable architectural forms, partly borrowed from the type of the Roman basilica. At any rate, written sources from Late Antiquity testify also to the existence of monumental churches in different parts of the empire, such as Nicomedia and Laodicea (present-day Turkey), at least from the time of Diocletian.[262] They also witness the fact that, at least in a few instances, the basilica-type had already significantly developed, to incorporate architectural features fitting the needs of the Christian liturgy, by the beginning of the fourth century.[263]

Nonetheless, it was from the time of Constantine, with the edict of Milan of 313 CE granting religious freedom to Christians, that the construction of churches received a substantial impulse, especially under imperial patronage.[264] The basilical type became a widely adopted standard in Christian religious architecture, although with several variations. The documentary and archaeological evidence testifying to its popularity since the fourth century is copious. There are no conclusive explanations of the reason/s that led to the adoption of the basilica-model into Christian architecture, although scholars such as J. B. Ward-Perkins emphasized how the basilical type was adopted to fill the complete lack of monumental Christian architecture pre-dating Constantine and his edict of 313 CE.[265] Indeed, the availability of this building type, which adequately answered all practical and liturgical needs of the new religion, is very likely to have exercised a powerful attraction to the eyes of the first Christian communities, as pointed out quite convincingly, among the others, by C. B. McClendon.[266] Furthermore, the basilica was, as an architectural type, radically different from the temples of the pagans, who were still very much alive in the third-fourth century CE. This factor, too, might have played a role in the choice

[262] Cf. Williamson and Louth 1989, 257, and Creed 1984, 12.3, 5. More sources are listed in White 1997, section I.
[263] As in the case of a fourth-century basilica at Tyre: cf. Mango 1978, 37-38.
[264] Cf. Stalley 1999, 19.
[265] Cf. Ward-Perkins 1954, 85.
[266] Cf. McClendon 2005, 4.

of the basilica as a model for Christian places of cult.[267] It must be emphasized, though, that the adoption of the basilica type in Christian architecture did not imply a sudden and complete abandonment of pre-Constantinian models, such as the *domus-ecclesiae*. Indeed, archaeological evidence, although not abundant, points to a continuation in their use as places of cult even after the edict of 313 CE.[268]

Particularly significant are, in the context of Early Christian architecture, the major projects sponsored by Constantine in Rome and other regions of the Late Roman empire. In the old capital, the emperor funded the construction of the Basilica of Saint Peter and the Lateran Basilica of Saint John. In Palestine, his generosity (and his political agenda) brought about the construction of a monumental basilica on the site venerated as Christ's Sepulcher in Jerusalem.[269] Another basilica was built, under his sponsorship, at Bethlehem, whose remains lie under a later Justinianic foundation.[270]

One of the most significant, and best preserved, examples of secular basilicas from Late Antiquity is, however, the *Aula Palatina* of Trier. Its construction was begun by the tetrarchs at the very beginning of the fourth century CE, for use by the Western Caesar in one of the capitals (*Augusta Trevirorum*) of the newly re-organized Roman empire.[271] The monumental building, brought to completion by Constantine, is a stunning example of a simple basilical plan, with one nave, no side aisles, and an imposing semicircular apse at the east end, framed by a triumphal arch. The absence of columns dividing the inner space gives the basilica a sense of uniformity and openness that is further enhanced by the dramatic height of the walls. Although on a

[267] *Idem*, 5.
[268] Cf. White 1990, 23. Of course, in the East it was not until after 324, with the defeat of Licinius, that Constantine's views were fully in force.
[269] On Constantine's sponsorship of Christian basilicas, cf., among the others, McClendon 2005, 5-9, Armstrong 1993, and MacDonald 1979, 19-24.
[270] Cf. Hamilton 1956, 145-46.
[271] Cf. Stalley 1999, 21-22.

completely different scale, the church of Ain el-Gedida is based on a similar model, with an undivided inner space and a semicircular apse placed against the short east side. There is no evidence for the existence of columns within room B5 in antiquity, except for the two engaged semi-columns that frame the sanctuary. At Ain el-Gedida, the similarities with the basilical form are limited to the church itself and not to the gathering hall to the north (A46), which represents a functional addition to a well-established architectural type. The fact that the early adoption of this simple plan of Roman basilica is testified to not only at Ain el-Gedida, but also at the nearby site of Kellis, is quite significant with regard to the development of Christian architecture in Egypt. Indeed, as the circulation of architectural forms and types likely occurred from the Nile Valley to more remote areas, such as the Western Desert and Dakhla, the basilical type had to be well-established, in the more accessible and populated areas of Egypt, in the early fourth century.

The circular apse at the east end of the church of Ain el-Gedida was not a fourth-century novelty of Christian architecture. Its use is well attested in the Roman world, both in public buildings such as *nymphaea* and, as seen above, secular basilicas, and in private or semi-private contexts, such as the reception halls of important Late Roman *domus* (cf., for example, the *coenatio* of the villa at Piazza Armerina).[272] The basilica of Maxentius and Constantine in Rome, built between 306 and 312, had a semicircular apse placed at the west end of the central nave, which was supposed to host the monumental statue of Constantine.[273] In Early Christian architecture (and afterwards), the apse is normally placed at the opposite, i.e., east end of the church. Although the nature of the central apse in Christian architecture is different from that of

[272] Which typologically depends on the administrative basilicas of Roman *fora*. The basilical type was also widely adopted for the construction of audience chambers in imperial villas, such as the Palace of Domitian in Rome and Hadrian's villa at Tivoli: cf. Stalley 1999, 22. In fact, the imperial audience chamber might have influenced the popular adoption of the basilical type in private villas. On Piazza Armerina, cf. Wilson 1983, 73-85, which discusses several other examples of Late Roman villas with apsed meeting halls.

[273] A second apse was added, at a later time, in the middle of the north wall, matched by a new entrance on the opposite (south) side. On the basilica, cf. Barral i Altet 1997, 16-17.

a Roman basilica, it shares the same idea of centrality, marking the point of highest focus in the building. In churches, that is represented by the sanctuary area, in which the altar is placed and the liturgy of the Eucharist is celebrated. The apse is an architectural frame that partially encloses the area of the *bema* and puts it into a direct relation, which is both physical and symbolic, with the *Oriens* and the resurrected Christ. The addition of a semicircular apse to the east end of room B5 at Ain el-Gedida, on whose previous use as a *domus ecclesiae* no conclusive evidence is available, is particularly significant. Indeed, it suggests that the semicircular apse became to be considered, from an early time, an essential component of Christian architecture, to be added not only to the major imperial projects in the capitals, but also to small churches located in rural areas of the empire. Although the function of the apse was no longer associated with the administration of public affairs, it retained a similar architectural meaning; that is to say, it visually emphasized the core of the building, where God -no longer the emperor or his officers- would become manifest to the audience through the mediation of the priest.

As seen above, the basilica as a type for Christian architecture developed, from the early fourth century, not only in Rome but in most cities of the Late Roman world. Numerous examples of Early Christian architecture have been excavated and studied throughout Europe, North Africa, and Western Asia, providing valuable information on how the borrowing of a rather standardized architectural type did not occur mechanically, but was combined with regional variations, which contributed to create original results.[274] Also, the model was adopted not only in the context of large-scale buildings in the major cities of the empire. In fact, consistent archaeological evidence proves a widespread adoption of the basilica-model (at least its basic features if not its monumentality) in all regions, even in very remote areas, and in

[274] Two general studies that, although not recent, are still excellent sources about Early Christian architecture are Krautheimer 1986 and Mango 1978.

projects of substantially different scale. This trend developed very rapidly, as testified to by the early chronology of churches found at a considerable distance from the main political and cultural centers. Among the pertinent examples is unquestionably the church of Ain el-Gedida, whose dating is established to the early fourth century. It is to this time that the adoption of a type of basilica with a simplified plan, including one nave without side aisles, became widespread, both in the context of religious and civic architecture. Among the best-known examples are, as seen above, the *Aula Palatina* at Trier and the palace basilica of Piazza Armerina in Sicily.[275] The Small East Church at Kellis and the church of Ain el-Gedida, although on a reduced scale, fit within this tradition.

The layout attested to at Ain el-Gedida and Kellis (Small East Church), that is to say, of a single-nave church with apse, oriented to the east and interconnected, to the north, with a gathering hall of similar dimensions, is found also outside of Egypt, although the evidence is not copious. One valuable example, later than the two Egyptian examples, is the chapel of the *coenobium* of Khirbet et-Tina, located to the southeast of Bethlehem, in the Judean desert.[276] The church consists of a single nave oriented to the east and ending with an apse, which is not protruding from the perimeter walls of the church, as is the case at Ain el-Gedida. To the north is a long rectangular room, which extends for the entire length of the church. The two rooms are not connected by doorways but by a colonnade and, near the apse, by the north side of the chancel screen enclosing the sanctuary. In fact, the columns make this north room look more like a side aisle, although its east end is closed off to the south by the north wall of the apse. The function of the north room is unclear, but it is unlikely, due to the monastic context of the chapel, that it was a space destined for catechumens. On the other hand, there is no evidence proving that

[275] Cf. Krautheimer 1986, 41
[276] Cf. Hirschfeld 1990, 64; 66, and Corbo 1962.

early monasteries were always isolated from the outer communities. In fact, it cannot be ruled out that churches might have been accessed by both laity and monks, possibly with rooms destined to each group.[277]

[277] Another example of a single-nave church, with an apse at its east end and a long rectangular room along the north side, was found at the fifth-century Monastery of Gabriel, to the northeast of Jerusalem. However, it is not possible, on the basis of the available evidence, to verify if the two rooms were, in fact, interconnected: cf. Hirschfeld 1990, 23-25, and Corbo 1951. Worth mentioning is also the fact that the apse seems, according to the plan published by Hirschfeld, to have been added to the church at a later stage, therefore reflecting the situation attested to at Ain el-Gedida.

CHAPTER VI

THE WESTERN COMPLEX ON MOUND I

In 2008, a large complex of eight rooms was uncovered along the western edge of mound I, only a few meters away from the cultivated fields (pls. 100-101). The complex is 18.50 m north-south by 7.10 m east-west and has walls preserved to a maximum height of 2.19 m to the east. The north and west parts of the complex were subject to a severe process of erosion and destruction; indeed, all mud-brick features are preserved only to a very low height above gebel or are completely missing, as in the northwest corner.

<Plate 100 about here>

<Plate 101 about here>

The rooms of the complex are built along a main axis running north-south and originally accessed from the south (room B18). This space opens onto a side room to the west (B17) and onto the large courtyard to the north (B19), which hosts several industrial installations. Episodes of extensive vault collapse suggest that at least the area of the courtyard was once barrel-vaulted. A small room (B24) is located against the southwestern corner of B19, which opens, through a doorway centrally placed along its northern boundary, onto a set of two interconnected rooms (B23-B24). These are flanked by two rectangular rooms, symmetrically built in the northwest and northeast corners of the complex (B21-B22).

Considerable evidence was gathered that proves that the complex went through at least two construction phases. As will be discussed more extensively at the end of this chapter, the alterations that were carried out on the original structure affected substantially its internal layout, revealing the profound functional changes that the complex underwent.

A discussion of the features, stratigraphy, and finds associated with the rooms of the western complex follows below.

VI.1. Room B17

Features

B17 is a rectangular room located in the southwestern part of the complex. It measures 3.73 m north-south by 1.76 m east-west and has walls preserved to a maximum height of 1.04 m (east wall). The west wall of the room is part of the same wall that formed the western boundary of the complex in its oldest stage. The north side of B17 is in common with room B24 and consists of a wall built on top of a mud-brick platform, which was partially exposed in room B24. The south wall of B17 abuts the west wall and is, in turn, abutted by the east wall. The latter also abuts the features, mentioned above, forming the north boundary of this space. No evidence was gathered on what kind of roof (if any) covered the room, which was accessible through a doorway (width: 72 cm) located at the northern end of the east wall. A mud-brick threshold is set between jambs, which are preserved to a height of about 40 cm. The threshold, which stands 19 cm above four foundation courses that are a continuation of the east wall, is in phase with both the floor of room B17 and the uppermost of the two floors of room B18 to the east. Thus, it seems that the lower floor level of room B18 had been laid out when the east wall of room B17, and the doorway between B17 and B18, had not yet been built.

The archaeological investigation of room B17 revealed that the north and south walls of this space, as well as its stratigraphical deposits, were subject to substantial shifting, as pointed to by large cracks running north-south.

Stratigraphy

The fill of room B17 consisted of a surface layer of wind-blown sand (DSU138), which covered also the other rooms of the complex. The inclusions consisted mostly of pebbles and potsherds (10.04 kg from the surface of rooms B17-B24). Underneath DSU138 was a sub-surface level (DSU150) extending throughout room B17 and consisting of soft yellow sand, mud-brick debris, a few ceramic fragments (1.73 kg), pebbles, and rare organic inclusions (mostly wood). DSU150 rested on top of a thick deposit of soft brown sand (DSU152), which covered the entire area of room B17. This deposit was mixed with potsherds (1.79 kg), pebbles, mud-brick debris, and rare organic inclusions, and contained a large fragment of limestone. Three bronze coins were found during the excavation of this unit; two were badly corroded and unreadable (inv. nos. 1034 and 1078), while a third one was a votive coin of Constans dated to 347-348 (inv. no. 1203).

DSU152 covered another deposit (DSU160) of yellowish/brown sand with lenses of mud dust, extending along the east wall and in the central and southern parts of room B17. It also filled a cavity below the eastern wall of the room. DSU160 was mixed with potsherds (5.54 kg), mud-brick debris, a small piece of limestone, and organic material, such as vegetal fibers, wood fragments, and animal bones. A globular ribbed bead of blue dull glass (inv. no. 1023) was also found while excavating this unit, which lay, as well as sub-surface (DSU150) and DSU152, on the scanty remains (visible in the north half of the room) of a floor made of packed silt and mixed with lime spots and small potsherds. DSU160 seems to have filled part of the room shortly after the formation of the north-south oriented cracks that are visible, within the stratigraphy of B17 and in its north and south walls, down to bedrock.

DSU160 lay on top of what appeared to be two structural layers. One was DSU164, a levelling layer of compacted grayish/brown soil containing a few pottery sherds and pebbles. It was found in the western half of the room and seems to have been an upper preparation layer for the room's floor. Underneath DSU164 (and partly under DSU160) was a second leveling layer of packed brown soil, mixed with a large amount of potsherds, pebbles, and rare organic material (DSU162). This deposit, which had been laid directly above the geological surface, was visible, in relatively good condition, in the central part of the room, while it was completely absent in the southern part of the room (where the geological layer appeared to be at a higher elevation).

A small hole near the northeast corner of the room was filled with yellowish/brown sand (DSU159), which contained a few potsherds, pebbles, and rare mud-brick debris. The unit, which was rather similar to DSU152, lay under sub-surface and above bedrock. In the proximity to the doorway, a small wall collapse (DSU151) was found immediately below the surface and resting above DSU150. It consisted of fragmentary mud bricks and mud-brick debris and also included a roughly worked stone.

VI.2. Room B18

Features

To the east of B17 is room B18, a rectangular space measuring 3.65 m north-south by 3.21 m east-west (pl. 102). Its walls are preserved to a maximum height of 2.19 m (in the northeast corner). The east boundary of this space is in fact the north-south niched wall belonging to the earliest construction phase of the complex, thus predating the creation of room B18. Indeed, the north wall abuts the crenellated feature to the east and the west wall, which is shared with room B17, was built, as seen above, at a later stage, abutting the mud-brick features

forming the south boundary of room B24. The south wall of room B18 seems to be missing, considering that the south end of both the west and east walls were reached during the excavation. Patches of two clay floor levels were discovered within the room, with the uppermost in phase with the floor discovered in room B17 to the west. As was the case for the latter, also in room B18 no information is available on the kind of roof that once covered (if it did) this space. Indeed, the vault bricks found near the doorway between rooms B18 and B19 may have belonged to the ceiling of the courtyard, for which there is considerably more evidence.

<Plate 102 about here>

B18 seems to have been the only access to the whole complex of rooms B17-B24, either through a doorway set into the now-missing south wall or a staircase placed in the southeast corner. Access from room B18 into courtyard B19 was through a large doorway (width: 1.15 m), whose remains consist of two mud-brick jambs and a limestone threshold (pl. 103). The latter, which was not made of a single block but of several pieces, rested on two foundation courses of mud bricks. As seen above, another doorway, set at the north end of the west wall, connected room B18 with an adjacent space to the west (B17).

<Plate 103 about here>

The staircase set against the southeast corner of the room abuts the southern end of the east wall and descends from south to north (pl. 104). It measures *ca.* 120 cm north-south by 85 cm east-west and its maximum height is 70 cm. The western side of the feature shows ten courses of mud bricks uniformly laid out in English bond and without traces of plastering. Five steps, each made of two courses of mud bricks, form the staircase; they were found in rather poor condition, with only one mud brick remaining of the highest preserved step.

<Plate 104 about here>

The stairway once gave access to an unexcavated area to the south. As already pointed out, no wall was found against the south side of the staircase, and no traces of a south wall for room B18 were identified. It is not clear if the staircase was used to enter the complex from an area that was at a higher elevation or if it led to an upper floor or a roof; if this were the case, then an upper flight of stairs is missing.

To the north of the staircase is a puzzling rectangular feature of mud brick (pls. 105-106). It is located in the northeast corner of the room, abutting both the east and north walls. The structure measures 1.50 m north-south by 1.07 m east-west and its highest point, set against the east wall, is *ca.* 1.20 m. It was built in phase with the room's upper floor, which abuts its west and south sides. The platform is made of mud bricks whose bond is largely obscured by a thick layer of mud plaster, very rich in organic material and containing lime spots and several potsherds. Part of the plaster bears traces of ash, possibly due to the presence of a thick layer of ash and charcoal deposited against the central part of the east wall (between the platform and the staircase to the south).

<Plate 105 about here>

<Plate 106 about here>

The east and south sides of this features are higher than the others and partially enclose, together with the north wall of the room against which the platform is set, an uneven upper surface, which is open only along its west side. Two channels run east-west on top of this surface, along its north and south sides. Both are plastered with several layers of beige and pinkish plaster and seem to end where they meet the west edge of the platform. The north gutter is 80 cm long and 40 cm wide, while the south channel is 72 cm long and 20 cm wide. Between

the two gutters, in the western half of the platform, is a rectangular space measuring 45 cm north-south by 22 cm east-west. To the east of it, and 16 cm above its level, is a stone slab laid horizontally and measuring 67 by 38 by 6 cm. The stone has a worked upper surface, which bears traces of circular marks that, because of a lack of space, could hardly have been created above the platform. This suggests that the stone had been reused.

It is possible that the two plastered channels were used to drain liquid off from the platform, but the identification of the feature as a press of some sort lacks indisputable evidence.

Stratigraphy

The fill of room B18 consisted of the same surface layer of windblown sand (DSU138), mixed with few potsherds and several pebbles, that covered the entire west complex. Within B18, this layer rested on a thick (up to 59 cm) sub-surface deposit of yellow sand (DSU149), which included a few ceramic fragments (1.38 kg), pebbles, mud-brick debris and, in the northeast part of the room, a cluster of three mud bricks. This unit contained also a limited quantity of bones, glass (one fragment), and glass slag. The only other find consists of ten fragments of leather, some of which joined together (inv. no. 1083).

A vault collapse, consisting of fragmentary vault bricks and mud-brick debris mixed with pebbles and some pottery sherds (1.23 kg), likely used as chinking sherds, covered the area in the proximity of the doorway between rooms B18 and B19 (DSU155). It sloped down from northwest to southeast, with its highest point against the doorway opening from courtyard B19 into room B24. The collapse rested on a deposit of yellow soft sand (DSU161), mixed with mud-brick debris, rare potsherds (0.81 kg) and some pebbles. The unit sloped from northwest, into room B19, to southeast, crossing the doorway into room B18.

The sub-surface layer, the collapse in the doorway between rooms B18 and B19, and the underlying sand deposit rested on an occupational level (DSU156) consisting of yellowish/brown sand. The unit contained a few potsherds (4.59 kg, including five fragments of faience), pebbles, mud-brick debris, and rare organic inclusions and extended throughout the room above the upper floor level. Two bronze coins were brought to light during the excavation of this deposit. Due to their very poor condition, only a tentative dating to the fourth century (based on size and weight) could be given.

In the north part of the room, where the upper floor was missing, DSU156 lay on top of a deposit of yellowish/brown sand (DSU179) with rare potsherds (0.46 kg) and pebbles and rich in organic inclusions. This unit, which rested on the remains of a lower floor, may have been part of a preparation layer for the upper floor.

A deposit of ash (DSU157), with abundant charcoal, other organic inclusions, ceramic fragments (2.03 kg), and rare pebbles was excavated along the central part of room B19's east wall, between the mud-brick platform to the north and the staircase to the south. It lay beneath DSU156 and on top of DSU172. The latter was a deposit of soft brown sand resting above bedrock. The unit was very rich in organic inclusions (such as plant fibers, wood, and animal bones) and contained a few pottery sherds (0.22 kg) and small lenses of ash and charcoal.

Above the mud-brick platform in the northeast corner of the room, a deposit (DSU158) of mud-brick debris, a few pottery sherds (0.11 kg), three pieces of limestone, and rare organic inclusions was excavated below sub-surface. It possibly originated from the partial disintegration of the upper courses of the platform or of the walls against which the platform itself had been built.

VI.3. Room B19

Features

Room B19 is the largest space of the complex (pl. 107). It is rectangular and measures about 9.10 m north-south by 4.75 m east-west, with walls preserved to a maximum height of 1.91 m (south end of the east wall). Square room B24 was built inside this courtyard, against its southwest corner.

<Plate 107 about here>

Five doorways open onto room B19. The larger one is set in the middle of the room's south side and was once the main access from the outside through room B18. In the southwest corner, a small door leads from the courtyard into room B24, while three doors set along the north side of B19 connect the room with a small square space in the middle (B20) and two rectangular rooms (B22-B23) symmetrically built to the sides of the latter.

The northern boundary of room B19 consists of the two segments forming the south wall of square room B20, while the southern edge is defined by the south wall of room B24/north wall of room B17 and the north wall of room B18. Both the east and west sides of B19 consist of inner partitions built against earlier walls, which are considerably thicker and were once pierced by several niches. The west wall is preserved at a lower elevation than the height at which the niches would have been set, but the east wall still shows the lower half of seven niches (plus three in room B18), about 50 cm wide and 30 cm deep. These outer walls continue further south to form the boundaries of rooms B17 and B18 and likely belonged to the earliest construction phase of the complex. By contrast, the east and west inner walls of room B19 were built at a later stage, as part of a general partition of the space later occupied by rooms B17-B19.

The discovery of collapses, consisting for the most part of vault bricks, throughout room 19 is evidence for the fact that such a large space was originally covered by a barrel-vaulted roof.

The compacted mud floor, quite well preserved above an earlier floor level (identified in the northwest corner of the room), slopes down from north to south and shows considerable evidence of restorations. In particular, a large gap between the floor and the inner west wall of the room, possibly caused by the wall's shifting toward the west, was filled with rubble, mud-brick debris and pebbles and topped by a thin layer of mud rich in organic inclusions. Another restoration was carried out in the southern half of the room, where an area of about 75 by 60 cm was filled with rubble and covered with a layer of mud mixed with organic material. Three circular marks were detected on the floor, possibly the imprints of ceramic vessels. In the northwest corner of the room, a hearth is set at floor level, cutting through it to bedrock and still bearing traces of firing activity. The feature has a circular shape, with a diameter of 58 cm, and its upper edge is defined by special mud bricks with a semi-circular section, of which only two are lacking. A small pot was found set into the wall of the hearth, right below one of the missing bricks. The hearth cuts an earlier circular fireplace located slightly to the north, whose remains were partially obscured by the upper floor of the room.

In the northeast corner of room B19, traces of a roughly rectangular clay basin, built against the east wall, were detected at ground level. The visible remains consist of the upper edge of the east wall (106 cm long) and of a segment (45 cm long) of the south boundary. It seems that the basin was filled with a preparation layer of debris and pottery when the upper floor was laid out, almost completely obliterating the feature.

To the south, a large rectangular basin is placed against the east wall of the room, at a lower level than the late floor in its northern half. The feature consists of two walls, forming its

north and west boundaries, and a clay floor laid on bedrock. The north wall, preserved only in its eastern half, stands to a maximum of 66 cm above the bottom of the basin and rises above the room's floor only by a few centimeters. It is made of iron-rich mud bricks, set on end to form a uniform facing, and small pebbles. The west wall, about 35 cm high above the basin's floor, was found in poorer condition, with only three remaining fragments. It mostly consists of clay molded on top of roughly-hewn sandstone slabs, which are embedded in the floor of the basin. A large piece of a turning-wheel of baked clay,[278] with an original diameter of 22 cm, was also found embedded in the floor, together with several large potsherds and a few pebbles (pl. 108). Traces of thick plaster are visible on the floor and against the east wall of the room, in common with the basin. The latter is open along its southern side, apart from its southeast corner that is bounded by the irregular mud-brick feature set against the east wall. The floor of the basin forms a uniform surface with the floor of room B19 in its southern part, thus allowing easy access into the feature.

<Plate 108 about here>

A smaller but deeper stone and clay basin, of a roughly rectangular shape, was found in the southeast corner of the room. It measures 202 cm north-south by 77 cm east-west and is about 70 cm deep. It consists of four walls covered with a facing of stone slabs, large pieces of pottery, and plaster and a floor of packed clay, which was once fully plastered with mud mortar (pl. 109). The four walls abut earlier features along the east, south, and west (south end) sides. To the north, the basin is abutted by a large and irregularly shaped mud-brick structure that lie, in very poor condition, against the inner east wall of room B19. To the south of the basin is a rectangular ledge that fills the space between the basin itself and the east segment of room B19's south wall. The ledge, which rises *ca.* 65 cm above the level of the floor's basin, has a horizontal

[278] Inv. no. 1613.

surface of mud brick fully plastered with mortar, in which a large fragment of a turning wheel of baked clay was embedded. The existence of stone slabs and plaster facing the walls of the basin suggest that this feature was used to store liquids, for instance water that may have been used in the process of clay kneading.

<Plate 109 about here>

A well-preserved bin of baked clay was identified along the east wall of room B19, between the larger and the smaller basins (pl. 110). It has an ovoidal shape and measures 53.5 cm east-west and 41 cm north-south. The depth of the bin, which is attached to the floor, is 24 cm. The excavation of its fill revealed a lump of partially worked clay, which point to the use of this feature in association with ceramic production.

<Plate 110 about here>

Another clay storage bin, with very thick walls, was found, not *in situ* and in a very poor state of preservation, while excavating the deposits in the southern half of the room. It has a roughly oval shape, with a maximum width of 68 cm and a height of 33 cm. It may have fallen from above the vaulted roof when this collapsed into the room.

The presence of bins and large basins, one of which was plastered and fitted to contain liquids, as well as the discovery of partially worked clay and several sherds of unbaked pots, led to the preliminary identification of the complex, at least in its late occupational phase, as a small-scale industrial establishment, more specifically a workshop for the production of ceramic vessels.

Stratigraphy

The stratigraphy of room B19 consisted largely of units of wall and vault collapse alternating with deposits of sand, in addition to the contexts excavated at and beneath floor level and those contained into features such as the clay basins.

A thin surface layer of windblown sand (DSU138) covered the entire area of the courtyard (as well as all other rooms of the western complex). It contained several pebbles and pottery sherds and, within room B19, a few bones and wood fragments. Underneath DSU138, two large collapse units were revealed, although already partially visible above ground. One was a vault collapse (DSU146) and extended throughout most of room B19. It consisted of four clusters, joined together, of whole and fragmentary vault mud bricks and mud-brick debris and contained a few bones, rare glass slag, two fragments of glass vessels, and potsherds (34.62 kg). Three piles lay in the eastern half of the room, sloping gently from northwest to southeast, while the fourth cluster was located in the western part of the room. The removal of this context brought to light an incomplete oval lamp (inv. no. 1002), a bead of dark blue glass, (inv. no. 1012), and a terracotta figurine of a woman holding a round object, possibly a tambourine (inv. no. 1004). The second collapse unit of wall and vault mud bricks (DSU165), including mud-brick debris, many potsherds (36.76 kg), organic material (bones and textile), and lenses of sand, was removed from the southeastern corner of B19. One diagnostic fragment of a green glass beaker (inv. no. 1068) was found in this context, as well as a complete Greek ostrakon (inv. no. 1007) consisting of a list of names, which bear a striking resemblance with names found on ostraka from the West Church of Kellis and dated after 350 CE.[279] The lower reaches of DSU165 were found under DSU154, a layer of windblown sand mixed with potsherds (17.05 kg), mud-brick debris, a few pebbles, rare wood and bones, and containing a diagnostic fragment of a white glass beaker (inv. no. 1057). This unit extended throughout most of the courtyard, and also

[279] Cf. Chapter X, ostrakon 12.

beneath DSU166, another deposit of sand mixed with mud-brick debris and containing potsherds (5.27 kg), bones, glass slag, and one fragment of a glass vessel. This unit sloped down from northeast to southwest toward the central part of the room. In turn, DSU154 lay under the more extensive collapse (DSU146) and above DSU167, a cluster of about twenty vault mud bricks and mud-brick debris, containing potsherds (1 kg) and glass slag, located in the southwest part of the courtyard. The latter covered the above-mentioned DSU166, therefore providing indisputable evidence for the fact that collapse DSU165 was an earlier episode than the more extensive collapse DSU146.[280]

A roughly circular pit was found below the surface in the southern half of the room. It cut through several units of collapse and sand and was filled by DSU148, a layer of windblown sand with a few potsherds (1.66 kg), pebbles, and rare mud-brick debris.

A thin section of the large collapse DSU146 covered the area of the doorway into room B24, resting above DSU154 and a sequence of wall and/or vault collapses and sand deposits. Under DSU154 was a vault collapse (DSU155), which sloped down from northwest to southeast to fill also the area of the doorway between rooms B18 and B19.[281] Underneath DSU155 was a deposit of windblown sand, mixed with mud-brick debris, a few potsherds (0.81 kg), and pebbles (DSU161). This unit rested on top of a small wall collapse (DSU163), located immediately to the north of the doorway onto room B18 and sloping down, from northwest to southeast, to end above its threshold. The unit, which consisted of small fragments of mud bricks, burnt bricks, mud-brick debris and contained rare potsherds (0.57 kg) and pebbles, partially lay above

[280] At first glance, the two collapse units had seemed to be part of the same episode.
[281] Cf. the section on the stratigraphy of room B18 for information about DSU155.

DSU166, mentioned above. Beneath the latter was an episode of wall collapse (DSU169), which filled room B24 entirely and extended through the doorway into room B19.[282]

The investigation and removal of the extensive collapse below the surface (DSU146) revealed, in the central and northeastern parts of the courtyard, the remains of the room's upper floor and the large rectangular basin placed against the east wall. The investigation of the latter brought to light a large fragment of a baked-clay turning wheel (inv. no. 1613) embedded within the floor. The basin was filled with a dense sequence of vault collapses alternating with units of windblown sand. The uppermost layer, right below DSU146 (and partially under DSU166), was DSU168, which consisted of large fragments of vault mud bricks, mud-brick debris, and a few pottery sherds (1.31 kg). It partly covered a layer of light brown sand (DSU171), mixed with mud-brick debris, some large fragments of mud bricks, potsherds (1.32 kg), and containing one glass fragment. The removal of this deposit revealed an incomplete circular stopper of light brown clay (inv. no. 1052), with a pottery sherd embedded on its convex surface (for a tag?), and two bronze coins (inv. no. 1081, dated to 342-395, and inv. no. 1201, dated to 379-388). Beneath DSU171 was another collapse episode (DSU173), which contained fragmentary vault mud bricks clustered in small piles, mud-brick debris, numerous fragments of mortar, potsherds (3.45 kg), one glass fragment, rare glass slag, bones, and one iron fragment . The few small objects that were retrieved during the excavation of this unit consist of a bead of dark blue glass (inv. no. 1054) and four bronze coins of the fourth century; one of these was dated to 337-340 (inv. no. 1086), while the other three could only be assigned broadly to the fourth century on the basis of size and weight (inv. nos. 693, 1062, and 1094). DSU173 rested on top of a wall facing (DSU175) consisting of mud plaster with brick impressions, which had collapsed into the basin, possibly from a feature abutting the east wall of the room (and part of the basin itself). The

[282] Cf. the section on the stratigraphy of room B24 for information about DSU169.

removal of the collapsed facing, which was made of mud plaster and still bore the impressions of bricks, revealed a layer of soft brown sand (DSU176), mixed with mud-brick debris, fragmentary mud bricks, and a few potsherds (0.07 kg), resting directly above the floor of the basin.

In the southeast corner of the courtyard, a sequence of sand units and wall and vault collapses, possibly associated with the partial destruction of the inner and outer east walls, filled the deep basin dug into the ground. Right below DSU165 was DUS184, a wall and vault collapse below the surface, consisting of two clusters of wall mud bricks, mud-brick debris, pottery sherds (1.97 kg) and very few bones. DSU184, which originated from the partial collapse of the outer east wall, partly lay above another collapse (DSU185), this time from the inner east wall. The unit, which rested also under DSU165, included whole and fragmentary bricks, mud-brick debris, and some pottery sherds of small and medium dimensions (0.6 kg). DSU165 lay also above a unit of light brown sand (DSU187) mixed with mud-brick debris, potsherds (0.92 kg), a few pebbles, and abundant organic inclusions (like charcoal, wood, bones, and vegetal fibers). This deposit surrounded a circular patch of ash (DSU190), mixed with charcoal and pottery sherds (0.96 kg), that was located against the room's inner east wall and. Both units lay on top of a wall collapse (DSU189) that sloped from south to north and consisted of complete mud bricks, mud-brick debris, and small to medium ceramic sherds (0.82 kg). Underneath it was a deposit of light brown sand (DSU191), *ca.* 20 cm thick, that contained mud-brick debris, a few potsherds (0.78 kg), and a limited quantity of charcoal and bones. Its removal brought to light two additional units; one, located in the northwestern corner of the basin, was a context of soft olive brown sand (DSU192), mixed with mud-brick debris, several pebbles, a few pottery sherds (0.19 kg), and some charcoal. The second layer was a limited wall and vault collapse (DSU193), made of complete and fragmentary mud bricks and several small-to-medium potsherds (3.27 kg), and

rare bones. This unit, which was covered also by DSU191, lay on top of DSU196, a deposit of brown sand with mud-brick debris, a few pebbles, small ceramic fragments (0.93 kg), and some organic material (mostly bones and charcoal). Beneath it was a vault and wall collapse (DSU197), consisting of whole wall and vault bricks, mud-brick debris, a few bones, and pottery sherds (0.42 kg). Finally, the bottom of the basin was covered by a layer of brown sand (DSU199) mixed with a few ceramic sherds (0.53 kg), pebbles, fragments of mud bricks, and charcoal.

Several holes were revealed and investigated within the upper floor of room B19. In the northwest corner, where the floor was missing, a layer of mud-brick debris (DSU178) containing potsherds (0.30 kg), pebbles, abundant organic inclusions -mostly vegetal fibers- and two roughly worked fragments of limestone blocks, was removed above the remains of a lower floor. Another unit of mud-brick debris and mud dust (DSU177), containing several potsherds (1.16 kg) and one complete bowl with white plaster inside and red dots along the rim (inv. no. 1111), was cleared in the northeast corner of the courtyard below collapse DSU146, to reveal the remains of the clay basin embedded in the upper floor. The preparatory layer of this floor (DSU200), consisting of packed mud with several potsherds, small pebbles, and numerous fragments of charcoal, was exposed in several parts of the room. Along the northern half of the inner west wall, a unit of yellowish/brown sand was excavated below surface (DSU194). It contained a few potsherds (0.15 kg), pebbles, some lenses of ash, charcoal and numerous vegetal fibers. Underneath it was a layer of yellow sand (DSU195) mixed with several potsherds (0.3 kg, most of which unfired), a few pebbles, burnt mud bricks, rare wood and charcoal. It was possibly laid out intentionally, in order to fill the gap caused by the shifting of the inner and outer west walls.

The clay storage bin, placed along the east side of the room, was filled by a unit of brown sand containing two potsherds (0.01 kg), pebbles, mud-brick debris, and a lump of clay (DSU186).

DSU170 was the fill of the circular hearth set in the northwest part of room B19. It consisted of grayish/brown sand with pockets of ash, charcoal, date and olive pits, plant fibers, two almost complete vessels, a few potsherds (0.52 kg), pebbles, one small piece of iron, and rare coprolites. The remains of the earlier hearth to the north, cut by the later one, were filled by a layer of ash mixed with sand, fragments of charcoal, pebbles, few ceramic sherds (0.13 kg) and vegetal fibers (DSU198).

Two other units were removed below collapse DSU165, resulting from the cleaning of the upper floor level. One was DSU183, a context of mud-brick debris, with few potsherds (2.12 kg) and organic inclusions (such as wood fragments, charcoal, and burnt date pits), that lay in the eastern half of the room. The second unit was DSU188, located in the southwestern part of the room and consisting of light brown sand, mixed with potsherds (4.04 kg, some of which unfired), fragments of glass vessles, organic material (including rare wood, bones, and plant fibers), few pebbles, and, to the east of room B24, mud-brick debris. One bead of faience with blue glaze (inv. no. 1028) was the only registered object found in this context.

In addition to the coins gathered within the stratigraphical deposits of room B19, a bronze specimen (inv. no. 1045) was found embedded in the wall that divides rooms B19 from room B18 to the south. Unfortuantely, it was badly corroded and could be dated only tentatively to the mid-fourth century.

VI.4. Rooms B20-B21

Features

Rooms B20-B21 are located at the north end of the complex, along its main axis running north-south. The two spaces seemingly belong to the earliest construction phase of the building, as no evidence was detected that points to the alteration of older features or addition of new ones, as was the case in the central and southern parts of the complex. Rooms B20-B21 are interconnected and could once be accessed only through courtyard B19. B20 is a very small rectangular room, measuring 1.85 m east-west by 1.73 m north-south and whose walls are poorly preserved to a maximum height of 0.93 m (south end of the east wall). The south wall abuts the east wall, which is shared with room B21 to the north and, in turn, is bonded with the north wall. In the middle of the east wall are the scanty remains of a gap, which may have been either a niche or a window opening onto room B23 to the east. It is set 34 cm from the room's north wall and three courses of mud bricks from the bottom of the wall. Its width is *ca.* 45 cm. The west boundary of room B20 abuts the north wall and is abutted by the south one.

Access into room B20 was through a doorway (width: 62 cm) placed in the middle of the south wall. Relics of two jambs, covered with mud plaster, and of a mud-brick threshold are still visible. A floor of compacted mud, with organic inclusions and small pottery sherds, had been laid out directly on gebel. It hindered the foundations of the surrounding walls, which consist of soldier courses (double row of headers on edge) set directly on bedrock and protruding by *ca.* 10 cm from each face of the walls.

To the north, room B20 opens onto B21, a small space located at the north end of the complex, through a doorway placed in the middle of the north wall. The opening (width: 54 cm) lies along the same north-south axis of the complex, in line with the doorway opening from the large courtyard into room B20. It consists of two side jambs and a poorly preserved mud-brick

threshold. Room B21 measures 1.83 m east-west by 1.55 m north-south and has walls preserved to a maximum height of 0.65 m (east end of the south wall). In the middle of the west wall is an opening (30 to 37 cm wide) possibly unintentional, as it is too low above the foundations to be a window or a niche and unusually narrow to be a doorway. A narrow facing, measuring 100 by 20 by 24 cm and fully plastered with mud, was built inside the room, abutting the south face of the north wall; its precise function is unknown. The floor, made of compacted mud mixed with pebbles and organic particles, is better preserved than that of room B20, although it is partially missing in the western part of the room and along the east wall. No evidence is available on the ceiling of rooms B20-B21, or on that of side rooms B22-B23.

Stratigraphy

Rooms B20-B21, like B22-B23, were found in considerably poorer condition than the remaining rooms of the western complex, likely due to natural erosion and, in part, human activity. As mentioned above, their walls are either preserved to a rather modest height or fully lacking, as in the northwest corner of the complex. Thus, the archaeological deposits within these spaces are not only limited in their extent, but also of scant reliability with regard to the information that one can gather from their investigation.

Room B20 was covered by the same surface layer of windblown sand, containing pebbles and a few potsherds, that covered the western complex in its entirety (DSU138). Within B20, this layer rested above a wall collapse (DSU142) consisting of two clusters of mud bricks and mud-brick debris, one located in the northwest corner and a bigger one against the northeast corner of the room. The removal of both the surface layer and the collapse revealed an occupational level (DSU143) consisting of brown sand mixed with traces of mud-brick debris, ceramic sherds (6.53

kg), pebbles, and organic material (vegetal fibers, wood, and bones). This unit extended throughout the room on top of a mud floor and, where this was missing, on bedrock. The few objects that were found during the investigation of room B20 came all from DSU143. They consist of a badly corroded bronze coin (inv. no. 1092, dated to the fourth century on the basis of size and weight); a fragment of a blue glass vessel (inv. no. 1026); a complete circular lamp (inv. no. 850); and a small object of plaster representing a bunch of grapes, which was possibly used as a miniaturistic capital (inv. no. 1043). Several fragments of a funerary mask of painted gypsum were gathered within the same unit, in addition to a few fragments scattered in adjacent rooms B21 and B23 (inv. no. 1053).[283] Due to the unreliable nature of the layer, close to the surface, and the fact that a few fragments were retrieved also in other rooms, it is not possible to establish any association between the funerary mask and the architectural context in which its remains were found.

The fill of room B21 mirrored the stratigraphy recorded within adjacent room B20. The surface was covered by sand layer DSU138, from which two objects were retrieved, i.e., one bronze coin (inv. no. 1056, roughly dated to the first half of the fourth century) and a small cup (field no. 87). The removal of DSU138 revealed a wall collapse in the eastern half of the room (DSU139), sloping from northeast to southwest. It consisted of large fragments of mud bricks, mud-brick debris, very few potsherds (0.03 kg) and pebbles. Underneath both the surface layer and the collapse was a unit of soft yellowish/brown sand (DSU141), containing potsherds (3.96 kg), pebbles, and organic inclusions (mostly vegetal fibers and bones), which covered the remains of the floor and, where this was lacking, gebel. The objects that were brought to light while removing this context include one complete oval lamp (inv. no. 849) of oasis red slip ware,

[283] They were the object of conservation by Laurence Blondaux: cf. Blondaux 2008. A comparison was established with third-fourth century funerary masks found at Kellis: cf. Schweitzer 2002. Cf. also Chapter XI below. On Egyptian funerary practices in Late Antiquity, cf. Dunand 2007.

with a polished surface, and a few fragments of molded gypsum: one of the pieces is a hand bent into a fist (inv. no. 1039), while four joining fragments belong to the back of a human head (inv. no. 1040).

VI.5. Rooms B22-B23

Features

Rooms B22-B23 are two rectangular spaces oriented north-south and symmetrically placed to the west and east of rooms B20-B21. They were found in poor condition, due to natural erosion and the shifting of the ground. Room B22 measures *ca.* 4.30 m north-south by 1.65 m east-west. The dimensions are approximate, as the north and west walls, as well as most of the south wall with the doorway into the room, are almost completely missing. The remaining walls are preserved to a limited degree, with a maximum height of 0.60 m at the south end of the east wall, which is shared with rooms B20-B21. Very limited traces of a floor were uncovered in the southern part of the room. It consists of compacted gray mud, with a few organic inclusions, and lies directly above bedrock.

Room B23 measures 3.54 m north-south by 1.57 m east-west; its walls are, by comparison, slightly better preserved than those of room B22, with a maximum height of 1.06 m (south end of the east wall). The west wall is in common with rooms B20-B21, while the east boundary abuts, to the south, the niched east wall of the complex. A doorway, set in the middle of the room's south side, was the only access to B23 from courtyard B19. It consists of two jambs and the scanty remains of a mud-brick threshold (width between the jambs: 94 cm). The east jamb is bonded with the long east wall of the complex, suggesting that room B23, along with the other spaces to the west of it, were part of the same early construction phase.

Large patches of a floor of compacted mud, with organic inclusions and lime spots, were preserved below the stratigraphical units in the north and central part of the room.

Stratigraphy

Due to the extremely poor condition of room B22, partially preserved only in its southeastern part, the stratigraphy of its archaeological contexts was very limited and of no reliability. Room B22, as well as the entire complex, was covered by a surface layer of windblown sand, with potsherds and many pebbles (DSU138). Underneath it, and resting directly above bedrock and the scanty remains of the floor, was DSU145, a sub-surface deposit of soft yellowish/brown sand, which contained rare pebbles, pottery sherds (0.18 kg), and some pockets of mud-brick debris, particularly near the southeastern corner of the room. No objects were found during the removal of the scanty fill of room B22.

Within room B23, the same surface layer of windblown sand (DSU138) rested on top of a wall collapse (DSU140), of which three clusters were found: the biggest one was located in the middle of the room, while the other two were removed from the northwest corner and the southern part. The collapse consisted of fragmentary mud bricks, mud-brick debris, pebbles, and ceramic sherds (1.22 kg); also, it contained a large sandstone block (within the southern cluster) that bore traces of a socket hole on one flat side. Both the collapse and the surface layer rested above DSU144, a sub-surface deposit of soft light brown sand, mixed with some potsherds (2.91 kg), several pebbles, rare mud-brick debris, and organic inclusions (mostly vegetal fibers and bones). It extended throughout the room except for its northeastern corner, where the windblown sand of the surface lay directly above DSU147. This was an occupational context of soft light brown sand, mixed with several potsherds (18.37 kg), pebbles, abundant mud-brick debris, one

limestone fragment, two small pieces of glass, and rare organic inclusions (mostly animal bones, wood fragments, and charcoal). This unit lay on the remains of the compacted mud floor and - where this was missing- on bedrock. All objects found during the excavation of room B23 came from this context above floor level. They include a fragment of black dull glass bracelet (inv. no. 1055); one complete Greek ostrakon (a receipt for money dated to the fourth century: inv. no. 830); two bronze coins (inv. no. 1038, dated to 314-315, and inv. no. 1044, tentatively dated between 312 and 319). Furthermore, three complete ceramic objects were discovered within this unit, i.e., a ceramic lid (inv. no. 1100), a small bowl (inv. no. 1102), and a small globular pot (inv. no. 1103), all consistent with a fourth-century dating as pointed to by the numismatic evidence. Interestingly, the three ceramic objects were retrieved within a hole underneath the foundations of the room's west wall, right below the bottom part of the opening that was interpreted as a window or a niche. Unfortunately, the hole was unsealed and filled with the same deposit of sand as the rest of the room at floor level; therefore, it is impossible to prove beyond doubt that the three objects had been intentionally placed in that hollow space.

VI.6. Room B24

Features

Room B24 is a very small space located in the southwest corner of room B19 (pl. 111). It measures 1.40 m east-west by 1.07 m north-south, with walls preserved to a maximum height of 0.75 m (east end of the south wall). No evidence exists to suggest the original height of the four walls and what kind of roof (if any) once covered this space. The room was built against the east side of BF200 at its southern end. BF200 is a north-south wall running along the inner face of BF199, a considerably longer wall that was the original western boundary of the complex. The

north and south walls of room B24 abut BF200 to the west; on the east, they end with short stubs oriented north-south that create a doorway opening into the room. Puzzlingly, the north wall ends with a protruding stub also at its west end, which once abutted the west wall of the room (part of BF200).[284]

<Plate 111 about here>

Two floor levels were identified inside room B24. The upper floor consists of a layer of compacted clay, with several organic inclusions, small potsherds, and pebbles, while the lower one, brought to light in the southern half of the room (where a test trench was dug), is in fact a mud-brick platform covered by a layer of mud mortar.

Excavations in the area of the doorway revealed the existence of two superimposed thresholds, an upper one consisting of a large brown/gray mud brick with a rough surface, which may once have been covered with mud plaster, and a lower one (visible only from inside the room against its southeast corner) built of mud bricks and covered by the latest floor level. This feature seems to have been built in phase with the lower mud-brick platform and may have been used as a step to enter the room, before the upper clay floor was laid concealing the features at a lower level (pl. 112).

<Plate 112 about here>

The function of room B24 is unknown, although the discovery of lumps of unbaked clay near the threshold, and the fact that the room is contemporary with the general rearrangement of the complex into a ceramic workshop, suggest that its use was associated with the storage of clay, which was then processed and shaped into vessels in room B19.

Stratigraphy

[284] The stub no longer abuts the west wall, likely due to the shifting of the latter westwards.

Room B24, like the other rooms of the western complex, was covered by a thin surface layer (DSU138) of windblown sand, which contained a few pebbles and potsherds. The unit rested on a wall collapse (DSU169) that extended throughout the room. It sloped from west to east, blocking the doorway between rooms B24 and B19 and partially covering the area near the opening from room B19 onto room B18. The collapse consisted largely of mud-brick debris, complete or fragmentary mud bricks (some of them burnt), and small-to-medium ceramic sherds (1.86 kg). When the collapse was removed, a layer of soft brown sand, mixed with several organic inclusions, mud-brick debris, potsherds (1.85 kg), pebbles, and rare glass slag, was revealed (DSU174). This unit contained a badly corroded bronze coin, roughly dated to the fourth century (inv. no. 1098). DSU 174 rested directly on the uppermost of the two floor levels identified in the room or, where the upper floor was missing, on its preparation layer (DSU180). This consisted of soft light brown sand containing mud-brick debris, a few pebbles, rare glass slag, and a few potsherds (1.1 kg). A lens of dark gray ash, with some charcoal and wood fragments, was identified in proximity to the west wall of the room. A biconical bead of dark blue glass (inv. no. 1022) was retrieved during the excavation of this unit.

In the area near the doorway, wall collapse DSU169 covered two lumps of partially worked clay (DSU181). These lay on top of a thin layer of sand (DSU182), mixed with vegetal fibers and pottery sherds (0.03 kg), that, in turn, rested above the upper floor of the room.

VI.7. Discussion

A preliminary examination of the walls and their relative chronology points to different construction phases for the western complex of Ain el-Gedida (pl. 113). It is highly likely that the area occupied by rooms B17-B19 and B24 was originally one large, rectangular space,

opening to the north into rooms B20-B24, which also seem to belong to the earliest construction phase of the complex (pl. 114). The central doorway between rooms B18 and B19 (BF204) does not seem to have been the earliest entrance to the original building. Access was likely through a doorway set into the south wall -now missing- of the later room B18, or through the staircase set against its southeast corner.

<Plate 113 about here>

<Plate 114 about here>

The complex was originally enclosed, to the east and to the west, by two long walls (BF199 and BF31) with niches set at regular intervals. At a later stage, two additional walls (BF200 and BF210), thinner than the earlier ones and of poorer manufacture, were built against the inner faces of BF199 and BF31 in the area south of rooms B20-B24. Their function was to reinforce and support the earlier walls, as evidence was found of structural problems and of attempts to restore the complex already in antiquity. Possibly at the same time, rooms B17, B18, B19, and B24 were created by adding new partition walls and doorways within the area of the large space. Mud-brick platform BF220 and step BF219 were built in the area occupied by room B24 and wall BF203, the western half of room B19's southern boundary, was laid partially above them. Abutting BF203 is doorway BF204, which gives access into B19 from room B18 to the south. The threshold of the doorway is bonded, to the east, with BF180, which is the northern wall of B18 and abuts both walls BF210 and BF31.

Room B17, in the southwestern part of the complex, was built by adding south wall BF207, abutting BF199 and in turn abutted by a new mud-brick partition, i.e., BF206, which is room B17's eastern boundary and ends with a doorway (BF205) set against the northeast corner of the room. To the east is space B18, where the rectangular mud-brick installation (BF185) is

certainly part of this later construction phase, as it is built against the north wall of the room (BF180 mentioned above). To the north of B17, and against the southwestern corner of courtyard B19, a new small room (B24) was created by adding an east-west oriented wall (BF201, abutting BF200 to the west) as its northern boundary. The space was made accessible through a doorway (BF202) set along the east side and defined by two thick jambs. It was at this stage that industrial installations, such as two large basins for clay kneading, were built within room B19, set against the inner east wall of the complex.

These alterations seem to have been carried out as part of the same episode, responding to a plan of re-functionalization of the complex that entailed a completely new spatial arrangement.

With regard to the function performed by the western complex, substantial evidence was gathered pointing to its use, at least in its latest occupational phase, as a pottery workshop. Basins used for the kneading of clay were found in a relatively good state of preservation in the large courtyard of the complex. Other evidence pointing to this identification includes lumps of partially worked clay found inside a well-preserved clay bin against the east wall of courtyard B19 -as well as in front of a small storage space (B24)-, fragments of turning wheels -one embedded in the floor of the larger basin and another set onto the edge of the southernmost basin-, and several fragments of molded but unfired vessels.[285]

No remains of kilns, where the vessels would have been fired, were found within the western complex, but they might well have existed in its vicinity. No excavations have yet been carried out to the north, south, or east of the workshop (apart from the test trench in room B4). Furthermore, the area to the west of the complex is now occupied by cultivated fields and thus not available for archaeological investigation. Nonetheless, in 2006 several magnetic anomalies

[285] Cf. Chapter VIII.

were detected to the northwest and to the south of mound I, which, according to the specialist who recorded them, might be associated with remains of either ovens or kilns.

The discovery of a building with installations for the production of pottery is undoubtedly significant. Indeed, it offers precious -and rare- evidence on the processes of clay kneading and manufacture of vessels in rural Egypt during the fourth century. Kilns, dated from the Old Kingdom to the Islamic period, have been found and investigated at numerous sites throughout Egypt and also in Dakhla. However, not much archaeological evidence is available -certainly with regard to late antique sites- on the actual workshops where the clay was kneaded and molded into vessels. Therefore, the data provided by the investigation of the workshop at Ain el-Gedida can contribute considerably to the study of ceramic production in late antique Egypt.

The rather large dimensions and the original layout of the building, which did not include the partition walls inside the large room, point toward the identification of the complex -in its earlier occupational phase- as a public building of considerable significance, more specifically a small-scale mud-brick temple. The large rectangular space in the central and southern parts of the building (occupied by rooms B17-B19 and B24) may have been the temple's main courtyard. In turn, this opened to the north onto a sequence of two square spaces (B20-B21), with two rectangular rooms (B22-B23) symmetrically arranged to the west and east of B20-B21. The rather small size of the square rooms, their location at the north end of the main axis of the complex, and the fact that the northernmost of the two was accessible only through the twin space to the south, points to their original identification as a *pronaos* and a *naos*, flanked by service rooms.

The preliminary results of comparative analysis with other similar buildings from Dakhla support the identification of the west complex of Ain el-Gedida as a temple.[286] Particularly worthy of mention is the unpublished temple of El-Qusur, located at the east end of Dakhla and visited in 1908 by Herbert Winlock (pls. 115-116)[287] This structure, surveyed in the 1980s by the Dakhleh Oasis Project,[288] is characterized by a fairly similar layout, with a large courtyard opening, through its short west side, onto a set of three small interconnected rooms (instead of the two at Ain el-Gedida, which are flanked by rectangular side rooms that do not exist at El-Qusur). Quite strikingly, the temple of El-Qusur is also characterized by the same series of niches set into the long walls of its courtyard (pl. 117).[289] Another mud-brick temple, identified in the vicinities of El-Qusur and still unpublished, also shares some similarities with the temple of Ain el-Gedida, although the former lacks the row of niches set into the side walls of the courtyard.[290]

<Plate 115 about here>

<Plate 116 about here>

<Plate 117 about here>

What is particularly significant in this context is that the possible discovery of a temple at Ain el-Gedida, later converted into a small industrial establishment, suggests a longer history of occupation of the site, which must have begun at a time when paganism was a very visible, if not preponderant, component of local society and temples were still being built in the oasis. If in fact there was a temple at Ain el-Gedida, it must obviously have been built sometime before its

[286] Although the best known temples in Dakhla are of stone, originally most pagan cultic buildings in the oasis were of mud brick: cf. Kaper 1997, 7-9. Cf. also Mills 1983, 129-38, and Mills 1981, 181-82. Mud-brick temples are also known from Kharga: one of them, in rather good condition, is at the site of Douch (cf. Reddé 2004, 179-84). On the stone temple of Douch, which bears evidence of an earlier phase consisting of a mud-brick temple, *idem*, 104-20.
[287] Cf. Winlock 1936, 17; pls. IX-X.
[288] Recorded as 31/435-M4-1: cf. Mills 1983, 136-38.
[289] Cf. Kaper 1997, 7-8.
[290] Cf. Winlock 1936, 17; pls. IX-X.

abandonment and then its functional conversion, which seems to be dated to the same time as the church complex, that is to say, the first half of the fourth century.[291] On present evidence, the most likely period of construction seems to be the second century CE, to which most such temples in the oasis are to be dated, or at the latest the early third century. The absolute chronology of the site would, therefore, appear longer and more complex than the rest of the archaeological evidence that was gathered would indicate at first. [292]

The western complex of Ain el-Gedida also provides, with its multi-functional history, new insight to the much-heated discourse concerning the transformation of temples in Late Antiquity, particularly with regard to Egypt.[293] Indeed, the conversion of the mud-brick temple of Ain el-Gedida into a ceramic workshop further attests to what has already been proved by evidence gathered throughout Egypt, i.e., that the "sacredness" of a cultic place, such as a temple, was not -certainly not always- a key factor in its re-adaptation and re-use in Late Antiquity. Undoubtedly, considerations of different nature were at stake in this process, which entailed, in some later cases, the conversion of temples into churches but also, when needed, their transformation into buildings characterized by considerably more mundane functions.

[291] No information was gathered that may answer the question if any substantial temporal hiatus occurred between the abandonment of the temple and its conversion into a ceramic workshop.
[292] For a lengthy discussion of chronological issues pertaining to Ain el-Gedida, cf. VII.1 below.
[293] Cf. Hahn, Emmel, and Gotter 2008 and, in particular, Bagnall 2008.

CHAPTER VII

CONCLUSIONS

VII.1. Issues of Chronology

The chronology of Ain el-Gedida was established on the basis of a study of the architectural and material evidence gathered during the excavations carried out at the site. Although of significant value in many respects, the analysis of the architectural features investigated on the main hill, and also of those surveyed on the other mounds, does not provide particularly relevant information to establish, with any degree of precision, an absolute chronology of the site. The materials, mostly mud bricks and a few stones used as lintels; the construction techniques, often mixed and of rather poor quality; the dimensions of wall and vault bricks, of standard Roman size with little variation: all these elements of the archaeological record cannot be identified as proper to any specific geographic and chronological range within Late Antique Egypt. Both the materials and the techniques employed at Ain el-Gedida are, in fact, the same used for centuries at innumerable other sites in Dakhla, the nearby oases, the larger region of the Western Desert, and throughout Egypt. On the other hand, the spatial arrangement discerned at Ain el-Gedida, on mound I and partially on the smaller hills, is very complex and unusual, not resembling too closely the layout of other known village or monastery-like settlements. Unfortunately, the seemingly unique layout of the site -or its excavated part- does not provide any significant piece of information in this context.

The study of the architectural evidence has allowed us to discover the existence not only of limited alterations and/or restorations, involving features such as walls and doorways, but also of substantially different construction phases, identified in several rooms of mound I below floor

level.[294] The discovery, in 2008, of a large building near the west edge of the hill provided further information testifying to a multi-phased construction history for the site. As discussed above, the underlying layout of this structure, which served, at least in its latest occupational phase, as an industrial workshop for the production of pottery, seems to reflect that of a small-scale pagan temple made of mud bricks.[295]

The archaeological record concerning Ain el-Gedida, especially the temple and the church complex, clearly testifies to a layered history of the settlement, which seems to extend back in time further than the chronological range (fourth to early fifth century), established through the study of the material evidence from occupational levels, would suggest. In particular, the identification of the west complex as a temple would support the existence of the settlement since probably at least the second century CE, certainly by the middle of the third century, when most building activity concerning pagan temples seems to end in Egypt.[296] The absolute chronology of each phase is very difficult to reconstruct, though. The older architectural features were, in several instances, razed to the lowest courses of bricks. These were often laid directly on gebel -the geological sub-surface- without any foundation trench, whose fill might have provided useful dating information. Furthermore, the material evidence that was gathered during the excavations at the site is rather homogeneous, not allowing us to distinguish among the different construction phases more precisely.

The numismatic evidence plays a valuable role in the establishment of the general chronology pertaining to Ain el-Gedida. Indeed, the coins retrieved in several contexts within the church complex and throughout all areas investigated on mound I, especially along the streets running to the east and south of rooms B5 and A46 (i.e., the church and the gathering hall) have

[294] Sometimes as a result of the excavation of test trenches throughout the mound.
[295] Cf. Chapter VI, footnote ?.
[296] Cf. Bagnall 1993, 264.

allowed us to gather a considerable amount of information on the chronological framework of the settlement. Nonetheless, some limitations exist on the use of the numismatic evidence with regard to Ain el-Gedida and must be taken into consideration. First of all, as emphasized by G. Bowen in relation to the site of Kellis, one cannot rely exclusively upon coins found at a site to reconstruct the chronology of any archaeological site.[297] Indeed, a very large number of specimens retrieved at Ain el-Gedida come from contexts that are unreliable or of dubious reliability, although the chronological distribution of these does not substantially differ from the coins found in more secure contexts.[298] Another limitation is caused by the relatively high percentage of coins whose state of preservation was so poor to forbid any identification and/or dating. A rather broad chronological range could be assigned to several unreadable specimens, on the basis of their dimensions and weight, although corrosion caused, in many instances, substantial loss of thickness and weight.

At any rate, the overall pattern of coin loss at Ain el-Gedida testifies to an occupational period that undoubtedly covered the first half of the fourth century CE. The small number of coins dated to the second half of the previous century, found in highly disturbed contexts in the proximity of the church's apse, are not necessarily evidence of an earlier phase of construction. In fact, older issues could still be in circulation, or kept in hoards by private citizens, long after they had been withdrawn from the official currency pool, particularly following the currency reform of 296 carried out by Diocletian.[299] Also, it should be noted that the numismatic evidence from the church complex (matching that from the other excavated areas), fits with the typology and dating of the coins found in the Small East Church at Kellis, typologically very similar to the

[297] Cf. Bowen 2007, 263.
[298] Which, in fact, reinforces the dating established for the site through the numismatic evidence. Also, the lack of later material in disturbed contexts, for example following the excavation of pits, suggests a relatively short time span for the occurrence of these episodes in antiquity.
[299] Cf. Bowen 2002, 81.

church of Ain el-Gedida and whose construction was also assigned to the early fourth century.[300] Nevertheless, some degree of caution is in order, at least with regard to Ain el-Gedida, since, as already mentioned above, a significant number of coins found inside the church complex (and in the surrounding rooms) are either unreadable or only broadly datable to the fourth century CE.

The information gathered from the analysis of coins from Ain el-Gedida suggests that the site ceased to be inhabited sometime in the second half of the fourth century. There are, in fact, two coins that have been tentatively identified by D. Ratzan as fifth-century "Vandalic imitations".[301] However, as already seen above, there is considerable uncertainty on the reading of these two specimens; therefore, in the absence of a more secure identification, these cannot be used to prove a longer life-span, with regard to the whole settlement, extending beyond the end of the fourth century/very beginning of the fifth century.

Ceramics are another highly significant category of evidence for the establishment of the site's chronology. The analysis and classification of pottery finds was started by Gillian Pyke and carried to completion by Delphine Dixneuf.[302] A catalogue of forms and fabrics from the site was created on the basis of the repertoire from the nearby site of Kellis, with which the material from Ain el-Gedida is very consistent.[303] The pottery assemblages from Kellis were extensively studied by C. Hope and A. Dunsmore, whose work has become a standard reference source for the study of Late Roman pottery in Dakhla.[304] Strong parallels, with regard to fourth-century

[300] Cf. Bowen 2003a, 164.
[301] Cf. Ratzan 2008, 1, 5.
[302] Cf. Chapter VIII.
[303] This is significant, since Kellis seems to have been abandoned by about 400, and many contexts at Kellis have their last material from the 360s, suggesting that the last few decades of the century may have been vestigial. Indeed, according to R. Bagnall, only two consular dates in P.Kellis I are securely after 369, with the possible addition of a third one (personal communication, February 2011).
[304] Cf. Dunsmore 2002 and Hope 1999b.

types and materials, can be established with the evidence from several other sites in the oasis, including Amheida, and also from Kharga.[305]

The range of the ceramic repertoire from the church complex and its neighboring rooms (B10-B15) is consistent with the evidence gathered in the northern half of mound I, in particular within rooms B1-B4, where two significant ceramic deposits were unearthed.[306] Indeed, the complete vessels and the diagnostic sherds found in the northern and central part of mound I, particularly in the two assemblages from rooms B1 and B4, include many of the types that were collected in area A, i.e., in the southern part of the hill, during the 2006-2007 survey.[307] Among them are jars, flasks, cooking-pots, craters, plates, and several bowls, often painted with white slip on the outer surface and red dots along the rim.

Overall, the ceramic repertoire from Ain el-Gedida is rather limited in its number of fabrics, with a large majority of polished ware, made with iron- or calcium-rich clay and mostly of local production, while imports from the Nile Valley are rare. The treatment of the surfaces is generally poor and their decoration is simple and quite standard, often limited, as mentioned above, to red dots painted along the rim. There is also a prevalence of small objects, such as cups, bowls, and plates, over larger containers, although the latter are represented within most units. Although they were found in different contexts and rooms, all these vessels, forming the corpus of Ain el-Gedida, share a character that is consistent with a domestic assemblage and a fairly poor rural environment.[308]

The complete vessels and the large quantity of pottery sherds largely confirm the chronological range established by the numismatic analysis, that is to say, an occupational phase

[305] Cf. Rodziewicz 1987.
[306] Cf. Chapter VIII.
[307] Particularly in room A25, whose disturbed floor context had been left partially unexcavated in the mid-1990s.
[308] Cf. Dixneuf 2007.

extending to the third quarter of the fourth century CE. The ceramic forms and materials that were catalogued seem to have been in use until the early fifth century CE, on the basis of the evidence coming from other sites in the oasis. Furthermore, limited evidence of Early Roman forms was found in one room (kitchen B10), besides some third-century pieces likely used as chinking sherds for the construction of vaults. The Early Roman vessels from room B10 and the third-century coins from the church suggest that the site might have gone through occupational phases dating back to the third century or even earlier. It is true that these coins come from unreliable units and the Early Roman pottery was found in contexts mixed with fourth century material. Furthermore, no ceramic or numismatic evidence earlier than the fourth century CE was found in any other excavated room. However, it is unlikely that the pottery sherds (or the coins) datable to the third century came from another site or that third-century vessels were still in use during the fourth century. Therefore, they are valid indicators of earlier phases of occupation at the site.

Providing similar information to the pottery and coins are the ceramic lamps uncovered in several rooms of mound I. They can be generally dated to the Late Roman/Byzantine period and are commonly found in other fourth and fifth-century contexts in Dakhla.[309]

Another type of material evidence that is used to date archaeological deposits consists of ostraka. Twelve of them were found at Ain el-Gedida, two (possibly three) in Coptic and the rest in Greek. Roger Bagnall dated their creation to the fourth-century on the basis of content and palaeography. Those with more precise information come from after 350; some have connections to Kellis documents from the period 350-370. Bagnall's analysis confirms and supplements the data provided by the other categories of small finds listed above.[310]

[309] Cf. Chapter X.
[310] Cf. Chapters X-XI.

Aside from ceramics (including ostraka and lamps) and coins, other categories of small finds collected at Ain el-Gedida do not provide significant information that can be used to establish (or confirm beyond doubt) the site's chronology. They can hardly be assigned to a specific time frame and only their association with otherwise datable contexts allows their tentative dating. Although of a limited chronological value, these objects offer valuable data for the study of material culture at Ain el-Gedida and at other sites in the oasis. Indeed, the typology of the evidence from Ain el-Gedida is consistent with the range found at several other sites in Dakhla, such as nearby Kellis, both from domestic and public contexts, and also Amheida, in particular from the excavation of large domestic units.[311]

A puzzling question, directly related to the issue of chronology of Ain el-Gedida, concerns the abandonment of the site. The archaeological record, gathered during the 2006-2008 excavation seasons and the survey of the structures investigated in the mid-1990s, has not provided, thus far, any evidence suggesting episodes of violent destruction, which might have led the inhabitants to leave the site abruptly. Indeed, no clue pointing to extensive fires was detected in any of the excavated rooms, either on their walls or floors or in their stratigraphy. The numerous layers consisting of vault and/or wall collapses seem to have formed at various times and due to natural factors, such as prolonged exposure to the elements after their abandonment, rather than human action. Consistent deposits of ash, charcoal, and smoke on the walls were identified in several contexts. However, these were all related to cooking activities and indeed were found, for the most part, in kitchens, domestic middens, and rooms with hearths (such as anteroom B6 in the church complex and courtyard B1 in the partially excavated unit in the northern half of mound I). Another piece of information allows us to assume that the

[311] For Kellis, cf. Hope 2003 and Bowen 2002. Concerning Amheida, cf. Boozer 2007 and the excavation reports available on-line at: http://www.nyu.edu/isaw/amheida/index.php?content=reports.

abandonment of the site did not occur abruptly but was carefully planned. It was mentioned in the discussion of the archaeological evidence of the church complex, but it applies to the entire area that was the object of investigation at Ain el-Gedida. Indeed, no objects of significant value were found in the rooms that were excavated. Overall, very few complete items were retrieved and most of the material evidence consists of fragmentary objects, such as pieces of textile, bracelets, and ceramics. A few vessels were found in good condition, such as those unearthed in courtyard B1, but they must have not held a considerable value in antiquity, as they included cooking vessels for everyday use, which could be easily replaced once broken. The only finds from Ain el-Gedida with a monetary value (in the fourth century) are coins. The specimens gathered during the excavations had not been hidden in hoards; rather, they were found scattered within the stratigraphy of each room. Most likely, the coins collected on the streets leading to the church complex had been accidentally lost by people passing by. At any rate, none of the coins was of a precious metal, and their value individually was very low.

In general, the archaeological record suggests that the buildings of Ain el-Gedida, at least those investigated on mound I, had been emptied of any valuable object by their owners. Although it is not impossible, it seems unlikely that they were pillaged after their abandonment. If the whole site had been in fact the target of looters, the latter must have acted in antiquity, before the ancient deposits of wall and vault collapse and the windblown sand filled the rooms. Indeed, even the earliest stratigraphical layers, including the occupational contexts at floor level, did not include precious items, or many items at all.

Possibly, the abandonment of the site was not the outcome of a sudden incident of unknown nature, but was a planned event, taking place in a restricted time span, but not so short

that the villagers could not sort their possessions and take with them anything they wanted before leaving.

Similar circumstances apply to other archaeological sites throughout the oasis. Particularly relevant in this context, due to its proximity to Ain el-Gedida, is the ancient settlement of Kellis (modern-day Ismant el-Kharab). Its excavators did not find any significant evidence pointing to violent destruction, such as extensive fires, which might have caused the abandonment of the large village toward the end of the fourth century CE.[312] It seems, however, that what happened at Ain el-Gedida, that is to say, the simultaneous abandonment of the entire site by all its inhabitants was, in fact, part of a phenomenon involving large parts of the region.[313] The scholars working in the area share the same concern about the necessity of shedding light on the possible causes. The discussion has focused on several key issues, such as climate change, economic depression, or political unrest. A general phenomenon of ruralization seems to have affected, during the fourth century, several sites of the region, such as Douch in the Kharga Oasis. The archaeologists who worked at this large and once prosperous village recognized traces of this trend in the partition and re-use of earlier buildings as stables. These alterations combined with the construction of *loculi*, or low rectangular features at the corner or along the walls of these rooms, likely to feed animals that were employed in agricultural activities.[314] Abundant organic material was found that demonstrated the existence of numerous animals inside older houses turned into stables. The archaeological evidence assigns these changes to the latest occupational phase of the site, not long before its abandonment that was complete by the

[312] Cf. Bowen 2007, 260. On the numismatic evidence dating the abandonment of Kellis, cf. Bowen 2001, 63-64.
[313] However, there is evidence that some sites of the oasis, such as Deir Abu Matta and El-Qasr, continued to be occupied after the end of the fourth century.
[314] Cf. Reddé 2004, 56.

fifth century. At Kellis, too, some larger buildings were turned, in the site's later phases, into masses of small rooms and stables.[315]

With regard to Ain el-Gedida, it is not impossible to imagine a similar scenario, at least in part. Indeed, fairly abundant amounts of organic material, including coprolites and straw, were found in some parts of the site, especially along the passageway to the south of the church complex. Also, two features very closely resembling the *loculi* of Douch were discovered along the south side of courtyard B13, at the intersection of street B12 with vaulted passageway B11. The fourth-century range of the evidence from Douch also fits the record from Ain el-Gedida. However, the relatively limited area that was the object of investigation at the latter site prevents us from drawing conclusions on a generalized phenomenon of ruralization, which would have occurred on all mounds toward the end of their occupational life. Indeed, such a trend, although deserving investigation, is not supported by enough data at the moment. Also, if Ain el-Gedida had been, in fact, an agricultural site, it would be difficult to apply the concept of "ruralization" to it and recognize its traces. Animals must have always been a ubiquitous presence at Ain el-Gedida, as well as throughout the oasis.

At any rate, notwithstanding economic and social changes possibly taking place at Ain el-Gedida during the fourth century, the reasons that led all its inhabitants -as well as those of other sites like Kellis- to abandon their houses and move somewhere else (where, it is not known) have not found a fully satisfying answer thus far.

VII.2. Monastery or *Epoikion*? The Monastic Connection and Alternative Readings

Since the Egyptian excavations, which were carried out in the mid-1990s, started uncovering archaeological features in the southern half of mound I, the possibility that Ain el-

[315] Cf. Hope 2002, 173, 186.

Gedida might have been a monastic settlement has been raised.[316] Scholars visiting the site at that time noticed a highly peculiar layout of the excavated structures, clustered around a large kitchen with several ovens, and consisting of an intricate network of interconnected spaces, several of which had certainly been in use as storage rooms.[317] Indeed, it is not possible to recognize, within the complex spatial configuration of area A, separate buildings showing the distinctive characters of domestic units. The only exception is represented by some rooms located at the southeast end of the hill (rooms A35-A37 and A38-A40). They seem to have been built as separate clusters of at least three rooms each, with the biggest one likely serving as a rectangular courtyard. Unfortunately, this sector was only partially excavated and the data that are currently available are very limited, not allowing us to draw significant conclusions on the nature of these spaces. Nor do the visible layouts resemble in any significant way those of other domestic structures known from this period in the oases.

As previously seen, the survey of the southern part of mound I revealed different construction phases and evidence of restoration and/or re-use of earlier features in later structures. This part of the settlement, more extensively excavated than its northern half, seems to have developed from a central core of buildings, to which other rooms were progressively added, lying against or incorporating the outer walls of the earlier structures. The rooms identified along the south, southwest, and southeast edges of mound I were built in a very poor technique and did not follow any systematic plan. Their hasty construction history suggests, as argued in K. Bayoumi's report, that these structures were built to satisfy a rapidly increasing population at the site. However, no significant information is available to identify who these

[316] Cf. Bayoumi 1998, 57-62. The excavations also extended, although partially, to the central sector of the hill, leading to the discovery of the gathering hall (room A46); its connection with a larger complex, however, remained unnoticed at that time. On early Egyptian monasticism, cf. Wipszycka 2009.
[317] Such as rooms A2-A4 in the southwest corner of mound I.

people were and the lack of any record of the excavation of area A is particularly unfortunate in this respect.

The existence of a large kitchen, centrally placed and connected with the northern half of the mound, and of several magazines, containing clay bins for the storage of cereals or other crops, assigns the whole area mostly utilitarian functions. The absence, once again, of clearly recognizable domestic units and the overall spatial configuration, with most rooms built against and interconnected with each other, points to a social structure based on communal living rather than separate family households.

The discovery of the church (room B5) in 2006 and the investigation of the annexed complex between 2007 and 2008 provided additional data, which shed light on the highly Christianized society living at the site in the fourth century. The complex, capable of hosting a considerable number of people at any given time, was centrally placed on the main hill of the site and, one can assume, easily reachable from all other mounds (if they were in fact discrete units in that period). The excavation of the area to the east and south of the church confirmed the strategic location of the complex along a north-south axis, which connected the two ends of mound I. Furthermore, the network of streets lining the complex allowed for easy access to the latter from area A to the south and, in particular, from its large kitchen through a north-south oriented passageway. An additional bakery (room B15), also bearing evidence of several ovens, was found in 2008 right across the street from the entrance into the complex. The presence of two wide kitchens, undoubtedly not belonging to private, domestic contexts but rather used to answer the needs of a significant amount of people; also, their proximity to the complex and, in particular, to the large gathering hall, capable of seating a considerable number of guests: these elements are, in fact, suggestive of a spatial arrangement entailing the existence, on site, of a

large community of people not organized in the manner of a family, whether nuclear or extended. The considerable size of the hall and the existence of *mastabas*, or benches, that could seat several people at any given time only emphasizes the possibility that many individuals could access the church complex together. It does not provide information on who these people were or where they came from. On one hand, evidence of large halls opening directly onto churches is abundant in Egyptian monastic contexts. On the other hand, similar spatial arrangements are attested at sites that have not been identified (at least not beyond doubt) as monastic, like Kellis and its Small East Church. The lack of incontrovertible data on the function carried out by room A46 (which might be identified either as a hall for catechumens, a refectory, or a space for laity) and the shifting, at least to some degree, of its purpose, as pointed to by architectural alterations that occurred before the abandonment of the site, leave the question open.[318] Overall, the presence of the church complex on mound I is not, *per se*, evidence for a monastic identification of the site, nor is its proximity to large kitchens and the unusual layout of the south half of the hill.

Neither the Egyptian nor the 2006-2008 excavations uncovered any sizable structures at Ain el-Gedida that could be identified as large dormitories or houses for a monastic community, nor buildings divided into a series of cells, as were found at other coenobitic monasteries throughout Egypt. At the same time, no comprehensive data are available on domestic arrangements for family units at Ain el-Gedida. A few buildings surveyed on mound I, particularly near the northwest or southeast ends of the hill, and also excavated rooms B1-B3 (plus the two unexcavated rooms to the north of B1) are characterized by a compact, self-contained layout of small rooms opening onto a larger room -possibly functioning as a courtyard-

[318] On the issue of food consumption in a monastic environment, based on written sources, cf. Layton 2002 and Harlow and Smith 2001.

, which may suggest their identification as residential units for relatively small groups of people. However, the lack of documentation does not allow us to know beyond doubt if these spaces once belonged to private dwellings or served a different function. The paucity of remains of domestic architecture found thus far at the site could be explained with the relatively limited area that was the object of archaeological investigation, compared to the overall extent of the ancient settlement. Indeed, it is not to be excluded that most people resided on the other mounds, while the main hill hosted, although not exclusively, buildings of a more communal nature, such as the church complex, or small-scale industrial installations, including the large kitchens/bakeries, the storage rooms, and even a ceramic workshop at the west edge of the hill.

If any monks lived at the site in the fourth century, they might have used or re-used forms that were well-established and common in Egyptian domestic architecture, in light of the lack of standardized types for monastic architecture at such an early time. It is possible that early Egyptian ascetics lived in dwellings that would have been indistinguishable from those of the lay inhabitants,[319] who would have shared, if Christian, the same church complex as their ascetic fellow villagers. The possibility that these hypothetical early apotactics may have adopted standard domestic arrangements, instead of living in buildings with a larger and more complex spatial configuration, might be related, in some instances, to the re-use, by the members of newly formed communities, of older, abandoned structures in villages or cities. According to his *Life*, the first community founded by Pachomius was in the abandoned village of Tabennesi in the Nile Valley, not deep in the desert.[320] As J. Goehring points out, how "deserted" this village was remains unclear.[321] At any rate, the other monasteries that came to be part of the Pachomian

[319] Making it particularly difficult to recognize the nature of any of these buildings as "monastic".
[320] Cf. Veilleux 1980, 17.
[321] Possibly it was only partially abandoned and the monks settled in the buildings that had been left empty by their previous owners: cf. Goehring 1999, 97. There is ample archaeological evidence about the reuse of deserted spaces

koinonia seem to have followed a similar pattern, although there is not enough archaeological or textual evidence to allow their precise identification: that is to say, if they were all located within or near villages of the fertile band of the Nile Valley or if any of them lay on the fringes of the desert.[322] Surely, some of the reasons for such a proximity to the Nile had to do with easy access to water, markets, and transportation.[323] With regard to the oases of the Western Desert, hundreds of miles away from the Nile Valley, communities (of any kind, not necessarily monastic) had to rely upon the availability of water from natural springs or wells dug deep into the ground. The site of Ain el-Gedida, with its ease of access to water and its proximity to a considerably bigger town such as Kellis, was an ideal location for any kind of settlement, including a monastery. One must recognize, however, that most of these arguments point simply to the possibility that monks settled at Ain el-Gedida, rather than providing concrete evidence for their presence on site at any time.

The material evidence does not provide significant information in this regard, either. The ostraka that were collected during the excavations are not particularly enlightening on this issue, focused as they are for the most part on economic matters. One of them, though, is worthy of mention here. It was found in 2006, during the excavation of a midden filling room B4, located in the western half of mound I.[324] It is a complete ostrakon, made of a ceramic body sherd and of irregular shape, measuring approximately 9.80 by 9.90 cm. Nine lines of Coptic, parallel to the wheel marks, are written with black ink on its convex surface and were dated by Roger Bagnall to the (second half of the) fourth century CE, on the basis of palaeographic evidence and context. The ostrakon is a letter written by a certain *Apa* Alexandros, mentioned at the beginning of the

---

such as tombs and temples as hermitages or coenobitic communities. On the overall economic situation of Egyptian villages and the reasons for their possible abandonment, cf. Bagnall 1993, 144.

[322] Goehring (1999, 108) believes the first possibility to be more plausible.

[323] *Idem*, 95, on the bearing of efficient communication means among the communities of the Pachomian *koinonia*.

[324] Inv. no. 4: cf. Chapter X.

first line, to another man named Nikolaos concerning a third man and his *pakton*. Apart from its utilitarian content, this object is significant as the term *apa*, often used in a monastic context, might be, on one hand, suggestive of Alexandros' identification as a monk. However, the word does also refer, more generally, to Christian clergy, thus not providing unarguable evidence for the monastic context of this ostrakon. Therefore, its value in the discussion on the possibly monastic nature of Ain el-Gedida is rather limited. Also, the ostrakon was found in a domestic dump, within a deeply unreliable context, and we cannot be sure whether it was written at Ain el-Gedida, sent to someone there, or neither. No secure information exists on the identity of either Alexandros or Nikolaos or even the third man and it is not possible to know, on the basis of the available data, who among them, if any, actually resided at Ain el-Gedida. The natural assumption would be that Alexandros lived somewhere else. Therefore, the ostrakon, although a suggestive piece of documentary evidence, cannot be used as indisputable proof of the existence of monks at the site in the fourth century. On the other hand, it is worth observing that an ostrakon from Kellis (*O. Kell.* 121) mentions in an account both an Alexandros and another man described as a monk (*monachos*, misspelled *monochos*).[325]

Other material evidence, more closely associated with the church complex, and this time undoubtedly *in situ*, consists of the graffiti drawn with black charcoal on the west and north walls of anteroom B6. As mentioned in a previous chapter, they include a Greek inscription -a commonplace invocation to God- on the west wall and an almost unreadable one above several drawings on the north wall.[326] The latter consist of a bird and boats, motifs that are commonly found in Christian contexts at several sites in Egypt, even in the Dakhla Oasis.[327] The existence of comparative evidence helps to shed light on the graffiti from Ain el-Gedida. Indeed, it shows

[325] Cf. Worp 2004, 111.
[326] Cf. III.1.3. above.
[327] Cf. Winlock 1936, 17-8; pls. IX-X.

how the drawings, and at least the Greek inscription on the west wall, can be considered as typical motives and formulas of a Christian environment in the world of Late Antique Egypt. However, the contexts in which they are found do not always pertain to monasteries. Therefore, the graffiti of room B6, as well as the Coptic ostrakon from room B4, can hardly be used as evidence for the identification of Ain el-Gedida as a monastic site. It is true that the bulk of the Coptic texts from the fourth century found so far come from monastic communities, but Coptic was also in use at Kellis: therefore, language is also not a decisive criterion.

On the whole, the available archaeological and documentary data do not seem to point to an identification of Ain el-Gedida as a fully monastic settlement, built anew or developed on the remains of an earlier, non-monastic site. In fact, the current state of research does not allow us to exclude that the site was in fact a fourth-century village with an economy based mainly on the agricultural exploitation of the surrounding fields.[328] Evidence for Late Antique villages is not very abundant from the point of view of their archaeological investigation. Indeed, a considerable amount of data comes from the excavation of sites located mostly in the Fayyum. The village of Karanis is, in particular, a copious source of information about Egyptian villages up to Late Antiquity. Peasant settlements were less the object of investigation in other regions of Egypt, although a renewed interest in domestic architecture is slowly changing this balance. On the other hand, documentary evidence abounds on fourth-century villages, shedding light on their economy, society, daily life and their ties with the rest of the country, especially larger towns and cities.[329] R. Bagnall effectively analyzed the many facets of life in Egyptian villages of the fourth

[328] On Egyptian villages of the Byzantine period, cf. Keenan 2007, a discussion of abundant documentary evidence.
[329] On Egyptian villages and cities, cf. Bagnall 2005.

century, based on the information provided by written sources such as documents written on ostraka or papyrus, especially the archives of people involved in the management of land.[330]

Indeed, the picture that emerges from the documentary and, in part, the archaeological evidence is that of a dynamic world, deeply engaged in the economic, social, political affairs of the time, but also involved in religious matters. The link between asceticism and Egyptian villages, mentioned out above, is only one example of the not-so-secondary role that the latter held in the overall organization of the country.

Sources, both archaeological and documentary, testify to a large number of villages spread throughout Egypt in the fourth century, with estimates of their numbers ranging between 2,000 and 2,500.[331] The size could vary considerably, but most of the rural settlements seem to have been smaller than 80 ha, which is the area calculated for Karanis, the most thoroughly investigated village.[332] An average of more than 1,200 people lived in these communities according to Bagnall, who emphasized how the differences could in fact be substantial.[333] It is impossible to make an estimate of the inhabitants of Ain el-Gedida in the fourth century, due to the lack of documentary or archaeological data on the full size of the settlement and especially because the residential area (or areas) have not yet been identified and excavated.

It is attested that villages had small industrial areas functionally related to agricultural activities, which played a primary role in the economy of Egyptian rural settlements.[334] One could usually find -among the others- granaries, pigeon houses, bakeries, and spaces to manufacture objects of daily use, for example pottery workshops, all located within a usually

[330] Cf. Bagnall 1993, 110-47.
[331] Cf. Bagnall 1993, 110.
[332] *Idem*.
[333] Cf. Bagnall 1985, 291-96.
[334] On agriculture in Egypt since the Pharaonic period, cf. Bowman and Rogan 1999, in particular 139-216 on the Roman and Byzantine periods.

irregular spatial arrangement.[335] With regard to the archaeological evidence for Ain el-Gedida, all these features have been identified, although some of them only tentatively, on mound I: i.e., two large rooms with several bread ovens (rooms A6 and B15), a pigeon house (the large rectangular room at the north end of the main hill), granaries (such as rooms A2-A4 in the southwest part), and a pottery workshop (the complex of rooms B17-B24 along the west edge of mound I).[336] Also, the spatial configuration of this area is noticeably irregular, mirroring a seemingly common standard of Egyptian rural settlements.[337] Furthermore, most of the ostraka gathered at Ain el-Gedida concern matters that reveal a world deeply linked to the agricultural exploitation of the land, a feature that is also distinctive, as just mentioned above, of a village-based economy. On the other hand, the fact that small-scale industrial installations, so typical of village life according to the sources, are present at the site does not necessarily confirm the identification of Ain el-Gedida as a standard rural settlement. Indeed, the archaeological evidence is not so abundant to allow comparative analysis to find what a "standard" village might have looked like. Furthermore, spaces destined to activities such as bread-baking or pottery-making were not exclusive features of villages, but could be found associated with other types of settlements, including those of a monastic nature. At any rate, the similarities shared by the archaeological data from Ain el-Gedida and the documentary sources about Egyptian villages are worthy of serious investigation, although it is worth poiting out a glaring difference, namely that all village sites have readily identifiable houses, which is not the case -at least within the excavated and surveyed areas- at Ain el-Gedida.

[335] Cf. Bagnall 1993, 113.
[336] No military installations were detected at Ain el-Gedida: cf. the discussion at the end of this section. On the presence of the army in Egyptian villages, cf. Aubert 1995. For a recent bibliography on pottery production centers in Late Antiquity, cf. Putzeys 2007, 63-65.
[337] Cf. Bagnall 1993, 111; 114 on the overall poor spatial articulation of Egyptian villages.

A strong female component was identified with regard to Ain el-Gedida, largely on the basis of material evidence, such as numerous fragments of bracelets found in almost all excavated contexts. Women were very visible in Egyptian villages of the fourth century, in some instances playing a considerable role in the social and economic life of that period.[338] This is another point of contact between what the documentary sources say about rural communities in Late Antique Egypt and what the archaeological evidence from Ain el-Gedida allows us to decipher about its society. However, not even a sizable female presence on site can be used to prove beyond doubt that Ain el-Gedida was an ordinary village, consisting of family units living in the proximity of a central industrial and religious center that was mound I.

In fact, rural settlements in fourth-century Egypt did not exclusively include villages. An alternative type, attested to by numerous documentary sources although not yet by substantial archaeological evidence, consists of *epoikia*: that is to say, small rural centers associated with the management of large agricultural estates.[339] Work-force could be employed, on a seasonal basis, to work the land under the direction of overseers, but tenancy could also be used to help supply the necessary labor. It is possible to suppose that the workers moved to the estate and lived there for the duration of their contract. The spatial arrangement of these *epoikia* is unknown because none has ever been identified and excavated. On the basis of documentary evidence, D. Rathbone reconstructed the possible appearance of an *epoikion*, which consisted of a complex of buildings functionally associated with the agricultural activities carried out in the farmstead.[340] It seems that Egyptian *epoikia* were created either as isolated entities, later developing in some

[338] On women and their role in the economic and social life of Late Antique Egyptian villages, cf. Bagnall 1993, 130-33. Cf. also Wilfong 1999, 117-49, and 2007, 318 ff. On documentary evidence pertaining to women, cf. Bagnall and Cribiore 2006.
[339] Cf. Bagnall 1993, 151, and Lewuillon-Blume 1979. On landholding and its role within the economy of Late Antique Egypt, cf. Bagnall 1992, Banaji 2007 (especially chapters 5 and 7), 1999, and Hickey 2007.
[340] Cf. Rathbone 1991, 22-43. His reconstruction does not seem, however, to resemble the layout of the buildings on mound I at Ain el-Gedida.

cases into regular villages, or they were integrated, since their very beginnings, into pre-existing villages.[341] A fully communal life-style should not be necessarily implied for the people involved within the system of the *epoikia*. In fact, it cannot be ruled out that the wage-workers moved to these rural settlements with their families, occupying houses that may well not have differed substantially from those found in other types of settlements. At Ain el-Gedida, the south half of mound I might reflect the spatial arrangement of part of an *epoikion*, consisting not of its residential area but rather of a sector where the buildings more closely associated with agricultural activities were concentrated, including installations, such as bakeries, built to satisfy the needs of a relatively large community. The ceramic workshop, located along the western edge of the hill, would also fit within the context of a farmstead.[342] The existence of a church at the center of mound I, largely consisting of public spaces of a utilitarian nature, is not surprising in association with an *epoikion*. Indeed, written sources attest to the possibility that churches were associated with this type of rural settlement.[343] An ostrakon found at the site acknowledges the payment of money by someone described as □π□ γεωργ(□ου) Πμουν Βερρι, "from the *georgion* of Pmoun Berri," the latter being (we may suppose) the likely name of Ain el-Gedida in the fourth century.[344] Here *georgion* should refer to a farmstead or agricultural settlement and, if indeed it refers to Ain el-Gedida, establish that as the basic nature of the place. Quite significantly, small rural settlements connected to a large agricultural estate have been known in Egypt, until now, only from documentary evidence. If Ain el-Gedida were indeed an *epoikion*, it would offer the first archaeological evidence for this type of settlement and shed considerable light on the study of rural society and economy in Late Antique Egypt.

[341] *Idem*, 31.
[342] Installations for the production of pottery, and associated with agricultural centers, were found at other sites, such as at Marea: cf. Bagnall and Rathbone 2004, 76.
[343] Cf. Sarris 2004, 284.
[344] Inv. no. 830: cf. Chapter X.

In 2006, the discovery of a Greek ostrakon from mound I opened the discussion about the nature of the site to another possible interpretation. The sherd, found during the excavation of the domestic dump in room B4, is a receipt for the payment of eight artabas of barley.[345] It is significant in this context because it mentions that the amount was paid for the annona of mounted archers, who formed a military corp of the Roman army. Further evidence in this regard came from another Greek ostrakon found in 2008.[346] The sherd, broken into three pieces and incomplete, was found within an ash layer filling room B11, the vaulted passageway running along the south wall of the church. It consists of three lines written in black ink on the convex surface of a pottery sherd, perpendicular to the wheel marks. The ostrakon is datable to the mid-fourth century, based on the observation of its handwriting. The inscription records a certain Joseph as the signatory of a receipt for two artabas of wheat and includes the mention, in the genitive case, of Joseph's "my lord the *praepositus*". According to Bagnall, the term *praepositus* could refer to the governor of a rural district, a subdivision of a nome (the *praepositus pagi*), or, more likely in this case, the leader of a military unit. Although not indicating that a group of archers and their military leader resided permanently at Ain el-Gedida, the content of this and the previous ostrakon are, nonetheless, suggestive of a military presence at the site, however temporarily.

Archaeological and documentary evidence from Dakhla testifies to a number of military settlements in the oasis during Late Antiquity. In particular, archaeological investigations carried out, in recent years, at the site of El-Qasr, to the northwest of Ain el-Gedida, added new and significant data in this regard. Researchers found, under the remains of the Islamic settlement and partially incorporated into them, consistent traces of a Roman *castrum*, or fort, whose

[345] Inv. no. 9: cf. Chapter X.
[346] Inv. no. 660: cf. Chapter X.

excavation began in recent years.[347] Written sources attest that besides the *castra*, built in towns, villages, and other strategically relevant areas, the country was dotted with smaller military outposts depending on the main forts.[348] Smaller military units were detached there, allowing military control over large areas.[349] No substantial archaeological evidence exists to support the identification of Ain el-Gedida as one of these outposts. The ostrakon mentioning the military *praepositus* might be originally from a context that is not directly associated with Ain el-Gedida or, most likely, refer only to a visit. No traces of outer walls or any sort of fortifications, which one can assume might have existed to secure a military station, were detected during the 2006-2008 excavations and survey of the entire area. The rectangular building located in the north half of mound I, measuring roughly 16 m north-south by 12 m east-west, probably was not a military fortification, used for the defense of the outpost and as a vantage point to inspect the surrounding area. Indeed, as discussed above, it seems more likely that the latter was, in fact, a *columbarium* or pigeon tower, whose presence in villages of Late Antique Egypt is attested to by substantial evidence, including within the Dakhla Oasis.

The existence of a church would not go, *per se*, against the identification of Ain el-Gedida as a military settlement. Indeed, the association of Roman soldiers with a Christian affiliation is testified to by documentary and archaeological evidence not only in Egypt, but also in other regions of the ancient Mediterranean world, even before the fourth century.[350] However, the possibility that Ain el-Gedida was associated with installations of a military nature and

[347] The preliminary report of the 2008 excavation season is available on-line at: http://www.arts.monash.edu.au/archaeology/excavations/dakhleh/assets/documents/qdp-report-2008.pdf.
[348] Cf. Bagnall 1993, 174-75; Carrié 1986, 1977, and 1974; Schwartz et al. 1969, 1-26; Rémondon 1965, 1955. Palme 2007 deals with the Roman government and army in Egypt during Late Antiquity. On Egyptian geography based on the *Notitia Dignitatum*, cf. Worp 1994.
[349] On the dispersal of the Roman army throughout Egypt, cf. Palme 2007, 255-62.
[350] One example is the Early Christian building recently found at Megiddo, in present-day Israel. There is incontrovertible evidence attesting that the *domus ecclesiae* was frequented by members of the Roman army since the second half of the third century CE: cf. V.4. above.

function seems very unlikely. Indeed, the irregular arrangement of most buildings on mound I strongly differs from the carefully planned layout of military camps. Furthermore, the mentioned lack of evidence of fortifications is puzzling, as it is hard to believe that they would have completely disappeared.

VII.3. Epilogue

The aim of the excavation project of Ain el-Gedida was, from its early conception, to carry out a scientifically rigorous and comprehensive investigation of the site, which had raised, since the Egyptian excavations of the mid-1990s, stimulating questions pertaining to the originality of its layout and architectural features. The peculiar nature of this venture, which enjoyed the productive collaboration of Egyptian and foreign members and specialists, allowed a particularly intense and rich process of study and interpretation. Different hypotheses were shared and tested on the field, against all the available evidence, in order to try to provide suitable answers to all the issues at stake.

Indeed, three seasons of archaeological investigation at Ain el-Gedida provided a wealth of archaeological evidence that went beyond any expectation, shedding light on several aspects of life at the site in the fourth century. Highly exciting was the discovery of a ceramic workshop that had been built within the remains of an earlier temple, whose identification is now fairly secure. Not only did this find generate new data on local ceramic-production processes; it also added significantly to our knowledge of the profound changes that the adoption of Christianity brought to the physical, social, and religious landscape of rural Egypt in Late Antiquity. Quite significantly in this respect, another highlight of the project was the discovery of the church and the complex of rooms associated with it. Not only did the church -with the gathering hall to the

north- prove to be one of the earliest examples of Christian public architecture discovered thus far throughout Egypt. It also testified to an original layout, which partially borrowed standard forms but, at the same time, elaborated them in a highly unusual way, closely paralleled only by the Small East Church at the nearby site of Kellis. The study of its construction process led to the identification of different phases, which involved the reuse of earlier structures into the new building. It also revealed the alterations brought to the church complex after its completion, affecting not only its spatial arrangement but also the function of some rooms.

The discovery of the church complex raised considerable interest among scholars for other reasons, which extended beyond its early date and unusual plan. First, it provided significant additional evidence for the flourishing of Christianity in the Dakhla Oasis since -at least- the early part of the fourth century CE. Although geographically isolated and far from the Nile Valley, the oasis proved to be the location of vibrant communities, exposed to a variety of new ideas, and associated life-styles, that were dramatically changing the ancient world. The archaeological remains of Ain el-Gedida testify to a profoundly Christianized society, whose public life centered around the church complex, built in a key spot on the main hill of the site. The evidence from Ain el-Gedida supplements that from other settlements in the oasis and, in particular, from Kellis, with which, due to their proximity and similar chronology, strong economic and administrative links -although not fully clarified thus far- must have existed. Both sites, which did not eperience later phases of occupation than the fourth/early fifth century CE, have provided substantial information on the earliest known types adopted by Christian architecture, not only in the region of the Western Desert but, at least until now, throughout Egypt. Furthermore, the evidence from Kellis and Ain el-Gedida is significant because it allows the possibility of establishing comparative analysis between Christian archaeology in Egypt and

the early evidence from other regions of the Mediterranean world. The value of this investigation lies in the opportunity of reconstructing how architectural forms and types travelled with people and were adopted, sometimes rearranged in personal ways, in provinces that were geographically distant from each other, although not so at other levels.

As discussed above, several questions about Ain el-Gedida, *in primis* about its nature, have yet to receive a conclusive and unequivocal answer, although the archaeological and documentary evidence seems to point more strongly toward an identification of the site as an *epoikion*. Also, issues of the origins and, at the opposite end of the chronological spectrum, of the abandonment of the site are still at stake. Undoubtedly, the full archaeological investigation of the site, including the unexcavated sectors of mound I and the surrounding hills, would provide much needed information on the original extent of the settlement and its overall spatial configuration, especially on the location of the domestic quarters. Clearly, hoping for a full-scale and comprehensive investigation of the archaeological site of Ain el-Gedida (as of almost any other site and related research project) is just wishful thinking, as any archaeologist knows. Nevertheless, the information that was gathered is not inconclusive. It testifies to a svibrant rural community that settled at Ain el-Gedida and was certainly active in the fourth century. It had well adapted itself to the local environment, exploiting what the surrounding land had to offer and processing the products on site. The small industrial establishments investigated on mound I shed light on a society whose involvement in the local economy extended beyond the activities strictly related to agriculture. People crafted pottery, raised pigeons, and baked bread in large open-air spaces. Most likely, other productive activities were carried out on site, whose evidence lies beneath the sand of the desert and waits to be discovered. Like their fellow neighbors at Kellis, these people were also a profoundly Christianized society. This is testified to, for the most

part, by the church complex, strategically built at the center of the main hill and, undoubtedly, a preeminent landmark of the local physical environment. The existence of villagers still practicing paganism at the site cannot be ruled out. However, the fact that the temple of Ain el-Gedida, located near the church, had been turned into a ceramic workshop by the early fourth century suggests that, if pagans lived at at the site at that time, certainly their numbers must have not been substantial. If the inhabitants of Ain el-Gedida were in fact wage-workers and tenants of an *epoikion* or villagers, and if they included ascetics living as a community in a rural environment, this is yet to be known beyond doubt.

CHAPTER XIII

CERAMICS FROM AIN EL-GEDIDA

Delphine Dixneuf

CHAPTER IX

COINS FROM THE 2006-2008 EXCAVATIONS

David M. Ratzan

CHAPTER X

OSTRAKA AND GRAFFITI

Roger S. Bagnall and Dorota Dzierbicka

CHAPTER XI

SMALL FINDS FROM AIN EL-GEDIDA: OTHER CATEGORIES

Dorota Dzierbicka

CHAPTER XII

CHAPTER XII: ZOOARCHAEOLOGICAL EVIDENCE

Pamela J. Crabtree

DSU MATRICES BY ROOM

ABBREVIATIONS

REFERENCES

XXVIII Corso di Cultura sull'Arte Ravennate e Bizantina: Egitto Copto (1981). Ravenna: Edizioni del Girasole.

Abbott, Nabia (1937a). The Monasteries of the Fayyum," *The American Journal of Semitic Languages and Literatures* 53/3: 158-179.

— (1937b). The Monasteries of the Fayyum," *The American Journal of Semitic Languages and Literatures* 53/2: 73-96.

— (1936). "The Monasteries of the Fayyum," *The American Journal of Semitic Languages and Literatures* 53/1: 13-33.

Abdel-Sayed, Edris (1987). *Les Coptes d'Egypte. Les Premiers Chrétiens du Nil*. Paris: Editions Publisud.

Adams, Colin (2007). *Land Transportation in Roman Egypt. A Study of Economics and Administration in a Roman Province*. Oxford: Oxford University Press.

Ägypten. Schätze aus dem Wüstensand. Kunst und Kultur der Christen am Nil (1996). Wiesbaden: Dr. Ludwig Reichert Verlag.

Akermann, Philippe (1976). *Le Décor Sculpté du Couvent Blanc: Niches et Frises*. Cairo: Institut Français d'Archéologie Orientale.

Al Syriany, Samuel, and Badii Habib (1990). *Guide to Ancient Coptic Churches & Monasteries in Upper Egypt*. Cairo: Institute of Coptic Studies, Department of Coptic Architecture.

Alston, Richard (2002). *The City in Roman and Byzantine Egypt*. London and New York: Routledge.

Aravecchia, Nicola. "The Church Complex of Ain el-Gedida, Dakhleh Oasis." Forthcoming.

— "Ain el-Gedida: Results from the 2006 Field Season." Forthcoming.

— (2010). "Ain el-Gedida 2010 Study Season: Field Director's Report." http://www.amheida.org/inc/pdf/Report2010AG.pdf

— (2009a). "Ain el-Gedida 2009 Study Season: Field Director's Report." http://www.amheida.org/inc/pdf/Report2009AG.pdf

— (2009b). *Christians of the Western Desert in Late Antiquity: The Fourth-Century Church Complex of Ain el-Gedida, Upper Egypt.* Ph.D. Dissertation, University of Minnesota.

— (2008). "Ain el-Gedida 2008 Excavations: Field Director's Report." http://www.amheida.org/inc/pdf/Report2008AG.pdf

— (2007). "Ain el-Gedida 2007 Excavations: Field Director's Report." http://www.amheida.org/inc/pdf/Report2007AG.pdf

— (2006). "Ain el-Gedida 2006 Excavations: Field Director's Report." http://www.amheida.org/inc/pdf/Report2006AG.pdf

— (2001). "Hermitages and Spatial Analysis: Use of Space at the Kellia," in McNally 2001: 29-38.

— (1999). *The Architecture of Kellia: A Comparative Study on the Use of Space*. Paper read at the Twenty-fifth Byzantine Studies Conference, November 1999, University of Maryland, College Park, Maryland.

Archeologia e Papiri nel Fayyum. Atti del Convegno Internazionale di Siracusa 24-25 Maggio 1996 (1997). Siracusa: Istituto Internazionale del Papiro.

Armstrong, Gregory T. (1993). "Constantine's Churches: Symbol and Structure," in Finney 1993: 1-12. Originally published in *Journal for the Society of Architectural Historians* 30 (1974): 5-16.

L'Art Copte en Egypte: 2000 Ans de Christianisme. Exposition Présentée à l'Institut du Monde Arabe, Paris, du 15 Mai au 3 Septembre 2000 et au Musée de l'Ephèbe au Cap d'Agde, du 30 Septembre 2000 au 7 Janvier 2001 (2000). Paris: Institut du Monde Arabe; Gallimard.

Atiya, Aziz S., ed. (1991). *The Coptic Encyclopedia*. 8 vols. New York: Macmillan.

Aubert, J. J. (1995). "Policing the Countryside: Soldiers and Civilians in Egyptian Villages in the Third and the Fourth Centuries AD," in Le Bohec 1995: 257-65.

Badawy, Alexander (1978). *Coptic Art and Archaeology: The Art of the Christian Egyptians from the Late Antique to the Middle Ages*. Cambridge, Massachusetts: MIT Press.

Bagnall, Roger S. (2008). "Models and Evidence in the Study of Religion in Late roman Egypt," in Hahn, Emmel, and Gotter 2008: 23-41.

— (2006). "An Urban Population from Roman Upper Egypt," in Storey 2006: 139-44.

— (2005). "Village and City: Geographies of Power in Byzantine Egypt," in Lefort, Morrisson and Sodini 2005: 553-65.

— (2003). *Later Roman Egypt: Society, Religion, Economy and Administration*. Aldershot, Hampshire, Great Britain; Burlington, VT: Ashgate/Variorum.

— (1997). *The Kellis Agricultural Account Book: P.Kell. IV Gr. 96*. Oxford: Oxbow Books.

— (1993). *Egypt in Late Antiquity*. Princeton, New Jersey: Princeton University Press.

— (1992). "Landholding in Late Roman Egypt: The Distribution of Wealth," *Journal of Religion and Society* 82: 128-49.

— (1985). "Agricultural Productivity and Taxation in Later Roman Egypt," *Transactions of the American Philological Association* 115: 289-308.

Bagnall, Roger S., and Raffaella Cribiore (2006). *Women's Letters from Ancient Egypt, 300 BC-AD 800*. Ann Arbor: University of Michigan Press.

Bagnall, Roger S., ed. (2007). *Egypt in the Byzantine World, 300-700.* Cambridge, UK: Cambridge University Press.

Bagnall, Roger S., and Dominic W. Rathbone, eds. (2004). *Egypt from Alexander to the Early Christians. An Archaeological and Historical Guide*. Los Angeles: The J. Paul Getty Museum.

Ball, John (1927a). "Problems of the Lybian Desert," *The Geographical Journal* 70/1: 21-38.

— (1927b). "Problems of the Lybian Desert (Continued)," *The Geographical Journal* 70/2:105-28.

Banaji, Jairus (2007). *Agrarian Change in Late Antiquity: Gold, Labour, and Aristocratic Dominance*. Oxford; New York: Oxford University Press.

— (1999). "Agrarian History and the Labour Organisation of Byzantine Large Estates," in Bowman and Rogan 1999: 193-216.

Bard, Kathryn A., ed. (1999). *Encyclopedia of the Archaeology of Ancient Egypt*. London; New York: Routledge.

Barral i Altet, Xavier (1997). *The Early Middle Ages: From Late Antiquity to A.D. 1000.* Köln: Taschen.

Baur, P. V. C. (1934). "The Paintings in the Christian Chapel," in Rostovtzeff 1934: 254-88.

Bayoumi, Kamel A. (1998). "Excavations at 'Ain al Gadida in the Dakhleh Oasis," in Kaper 1998: 55-62.

Beadnell, Hugh J. L. (1901). *Dakhla Oasis: Topography and Geology*. Cairo: Survey Department.

Beaucamp, Joëlle (2007). “Byzantine Egypt and Imperial Law,” in Bagnall 2007: 271-87.

Bingen, Jean, and Georges Nachtergael, eds. (1979). *Actes du XVe Congrès International de Papyrologie*. Bruxelles: Fondation Égyptologique Reine Élisabeth.

Blanchard, M. J. (2007). “*Sarabaitae* and *Remnuoth*. Coptic Considerations,” in Goehring and Timbie 2007: 49-60.

Blondaux, Laurence (2008). *Painted Plaster from Ain el-Gedida*. Unpublished.

Boak, Arthur E. R., and Enoch E. Peterson (1931). *Karanis. Topographical and Architectural Report of the Excavations during the Seasons 1924-28*. Ann Arbor: University of Michigan Press.

Bohec, Yann Le, ed. (1995). *La Hiérarchie de l’Armée Romaine sous le Haut-Empire*. Paris: De Boccard.

Boisson, Nathalie, and Anne Boud’hors (2007). *Actes du Huitième Congrès International d’Études Coptes. Paris, 28 Juin - 3 Juillet 2004*. Leuven; Dudley, MA: Peeters.

Bolman, Elizabeth S., ed. (2002). *Monastic Visions: Wall Paintings in the Monastery of St. Antony at the Red Sea*. New Haven, CT: American Research Center in Egypt/Yale University Press.

Bonnet, Charles (2004). “L’Église du Village de Douch,” in Reddé 2004: 75-86.

Boozer, Anna L. (2007). *Housing Empire: The Archaeology of Daily Life in Roman Amheida, Egypt*. Ph.D. Dissertation, Columbia University.

Bottini, Giovanni Claudio, Lea Di Segni, and Eugenio Alliata, eds. (1990). *Christian Archaeology in the Holy Land: New Discoveries*. Jerusalem: Franciscan Printing Press.

Boughner, R. F., and James E. Goehring (1990). “Egyptian Monasticism (Selected Papyri),” in Wimbush 1990: 456-63.

Bowen, Gillian E. (2009). "The Church of Deir Abu Metta, Dakhleh Oasis: A Report on the 2009 Excavation," *The Bulletin of the Australian Centre for Egyptology* 20: 7-36.

— (2008a). "The Church of Deir Abu Metta and A Christian Cemetery in Dakhleh Oasis: A Brief Report," *The Bulletin of the Australian Centre for Egyptology* 19: 7-16.

— (2008b). "The Survey and Testing at Deir Abu Metta and a Cemetery at Muzawwaqa." http://arts.monash.edu.au/archaeology/excavations/dakhleh/metta-muzawwaqa/assets/documents/metta-muzawwaqa-report-2008.pdf

— (2007). "Ismant el-Kharab, Ancient Kellis, in the Dakhleh Oasis," *The Numismatic Chronicle* 167: 260-63.

— (2003a). "The Small East Church at Ismant el-Kharab," in Bowen and Hope 2003: 153-65.

— (2003b). "Some Observations on Christian Burial Practices at Kellis," in Bowen and Hope 2003: 167-82.

— (2002). "The Fourth Century Churches at Ismant el-Kharab," in Hope and Bowen 2002: 65-85.

— (2001). "A Suggested Interpretation of the Coin-Finds of Ismant el-Kharab," in Marlow and Mills 2001: 60-64.

Bowen, Gillian E., and Colin A. Hope, eds. (2003). *The Oasis Papers 3*. *Proceedings of the Third International Conference of the Dakhleh Oasis Project.* Oxford: Oxbow Books.

Bowen, Gillian E., Colin A. Hope, and Olaf A. Kaper (1993). "A Brief Report on the Excavations at Ismant el-Kharab in 1992-93," *The Bulletin of the Australian Centre for Egyptology* 4: 17-28.

Bowman, Alan K. (1996). *Egypt after the Pharaohs, 332 BC-AD 642: From Alexander to the Arab Conquest*. London: British Museum Press.

Bowman, Alan K., and Eugene Rogan (1999). *Agriculture in Egypt from Pharaonic to Modern Times.* New York: Oxford University Press for the British Academy.

Brands, Gunnar, and Hans-Georg Severin, eds. (2003). *Die Spätantiche Stadt und Ihre Christianisierung*. Wiesbaden: Reichert Verlag.

Briant, Pierre, ed. (2001). *Irrigation et Drainage dans l'Antiquité. Qanāts et Canalisations Souterraines en Iran, en Égypte et en Grèce*. Paris: Thotm.

Bridel, Philippe, ed. (1986). *Le Site Monastique Copte des Kellia. Sources Historiques et Explorations Archéologiques*. Genève: Mission Suisse d'Archéologie Copte de l'Université de Genève.

Brooks Hedstrom, Darlene L. (2007). "Divine Architects: Designing the Monastic Dwelling Place," in Bagnall 2007: 368-89.

— (2001). *"Your Cell Will Teach You All Things." The Relationship between Monastic Practice and the Architectural Design of the Cell in Coptic Monasticism, 400-1000.* Ph.D. Dissertation, Miami University.

Brown, Peter (1988). *The Body and Society: Men, Women, and Sexual Renunciation in Early Christianity*. New York: Columbia University Press.

— (1971). "The Rise and Function of the Holy Man in Late Antiquity," *The Journal of Roman Studies* 61: 80-101.

Bülow-Jacobsen, A. (1994). *Proceedings of the 20th International Congress of Papyrologists, Copenhagen 23-29 August 1992*. Copenhagen: Museum Tusculanum Press.

Bunson, Matthew (2002). *Encyclopedia of the Roman Empire*. New York: Facts on File.

Butler, Howard C. (1900). "Report of an American Archaeological Expedition in Syria, 1899-1900," *American Journal of Archaeology* 4/4: 415-40.

Butler, Howard C., and Enno Littmann (1905). "Preliminary Report of the Princeton University Expedition to Syria," *American Journal of Archaeology* 9/4: 389-410.

Buzi, Paola (2007). "Nuove Considerazioni sul Complesso Ecclesiastico del Kom Sud", *Ricerche di Egittologia e di Antichità Copte* 9: 93-103.

Camplani, Alberto, ed. (1997). *L'Egitto Cristiano: Aspetti e Problemi in Età Tardo-Antica*. Roma: Institutum Patristicum Augustinianum.

Camplani, Alberto, and Giovanni Filoramo, eds. (2007). *Foundations of Power and Conflicts of Authority in Late-Antique Monasticism. Proceedings of the International Seminar Turin, December 2-4, 2004.* Leuven; Paris; Dudley, MA: Uitgeverij Peeters en Departement Oosterse Studies.

Caner, Daniel (2002). *Wandering, Begging Monks: Spiritual Authority and the Promotion of Monasticism in Late Antiquity*. Berkeley, California; London: University of California Press.

Cannuyer, Christian (2000). *Coptic Egypt: The Christians of the Nile*. New York: Harry N. Abrams.

— (1990). *Les Coptes*. Turnhout: Editions Brepols.

Capuani, Massimo (2002). *Christian Egypt. Coptic Art and Monuments through Two Millennia*. Collegeville, Minnesota: The Liturgical Press.

Carandini, Andrea (2000). *Storie dalla Terra. Manuale di Scavo Archeologico*. Torino: Einaudi.

Carrié, Jean-Michel (1986). "L'Esercito: Trasformazioni Funzionali ed Economie Locali," in Giardina 1986: 449-88; 760-71.

— (1977). “Le Rôle Économique de l’Armée dans l’Égypte Romaine,” in *Armées et Fiscalité dans le Monde Antique*. Paris, Éditions du Centre National de la Recherche Scientifique: 373-93.

— (1974). “Les *Castra Dionysiados* et l’Évolution de l’Architecture Militaire Romaine Tardive,” *Mélanges de l’École Française de Rome. Antiquité* 86: 819-50.

Ceres, Wissa W. (1919). *Pratiques Rituelles et Alimentaires des Coptes*. Cairo: Imprimerie de l’Institut Français d’Archéologie Orientale.

Chevillat, Alain and Evelyine (1990). *Moines du Désert d’Egypte*. Lyon: Editions Terre du Ciel.

Chitty, Derwas J. (1995). *The Desert a City: An Introduction to the Study of Egyptian and Palestinian Monasticism under the Christian Empire*. Crestwood, NY: St. Vladimir’s Seminary Press.

Choat, Malcolm (2007) “Fourth-Century Monasticism in the Papyri,” *Akten des 23. Internationalen Papyrologenkongresses. Wien, 22.-28. Juli 2001*. Vienna: Verl. der Österr. Akad. der Wiss.: 95-101.

Churcher, C. S., and Anthony J. Mills, eds. (1999). *Reports from the Survey of the Dakhleh Oasis Western Desert of Egypt, 1977-1987*. Oxford: Oxbow Books.

Cirillo, Luigi, and Alois van Tongerloo, eds. (1997). *Atti del Terzo Congresso Internazionale di Studi “Manicheismo e Oriente Cristiano Antico.” Arcavacata di Rende, Amantea, 31 Agosto-5 Settembre 1993*. Leuven: International Association of Manichaean Studies in conjunction with the Center of the History of Religions; Turnhout; Brepols.

Clackson, Sarah J. (2000). *Coptic and Greek Texts Relating to the Hermopolite Monastery of Apa Apollo*. Oxford: Griffith Institute, Ashmolean Museum.

Clarke, David L. C. (2007). "Viewing the Liturgy: a Space Syntax Study of Changing Visibility and Accessibility in the Development of the Byzantine Church in Jordan," *World Archaeology* 39/1: 84-104.

— (1999). "In Search of the Byzantine Genotype: An Application of Space Syntax Analysis to Jordanian Byzantine Churches," in Reinhardt Harreither et al., eds. *Akten des XIV. Internationalen Kongresses für Christliche Archäologie, Wien 19.-26.9.1999. Frühes Christentum Zwischen Rom und Konstantinopel*. Vienna: Institut für Klassische Archäologie, Universität Wien.

Clédat, Jean (1999). *Le Monastère et la Nécropole de Baouit.* Cairo: Institut Français d'Archéologie Orientale.

Corbo, Virgilio C. (1962). "La Nuova Laura Identificata con Kh. Tina," *La Terra Santa* 38: 109-13.

— (1951). "Il Romitorio dell'Egumeno Gabriele," *La Terra Santa* 26: 202-7.

Creed, J. L., transl. and ed. (1984). *Lactantius: De Mortibus Persecutorum*. Oxford: Clarendon Press.

D'Ambra, E., ed. (1993). *Roman Art in Context*. Cliffs, N.J.: Prentice Hall.

Davis, Stephen J. (2004). *The Early Coptic Papacy: The Egyptian Church and Its Leadership in Late Antiquity*. Cairo; New York: American University in Cairo Press.

Davoli, Paola (1998). *L'Archeologia Urbana nel Fayyum di Età Ellenistica e Romana*. Napoli: Generoso Procaccini.

Depraetere, D. D. E. (2002). "A Comparative Study on the Construction and the Use of the Domestic Bread Oven in Egypt during the Graeco-Roman and Late Antique/Early

Byzantine Period," *Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo* 58: 119-56.

Derda, Tomasz, and Ewa Wipszycka (1994). "L'Emploi des Titres Abba, Apa et Papas dans l'Egypte Byzantine," *Journal of Juristic Papyrology* 24: 23-56.

Dixneuf, Delphine (2007). *Oasis de Dakhla - Ain el-Gedida 2007: Rapport d'Étude de la Céramique*. Unpublished.

Doorn-Harder, Pieternella van (1995). *Contemporary Coptic Nuns*. Columbia, S.C.: University of South Carolina Press.

Driscoll, J. transl. (2003). *Evagrius Ponticus: Ad Monachos*. New York; Mahwah, NJ: The Newman Press.

Du Bourguet, Pierre (1988). *Les Coptes*. Paris: Presses Universitaires de France.

Dunand, Françoise (2007). "Between Tradition and Innovation: Egyptian Funerary Practices in Late Antiquity," in Bagnall 2007: 163-84.

Dunn, Marilyn (2003). *The Emergence of Monasticism. From the Desert Fathers to the Early Middle Ages.* Oxford, UK; Malden, Mass.: Blackwell Publishers.

Dunsmore, A. (2002). "Ceramics from Ismant el-Kharab," in Hope and Bowen 2002: 129-42.

Edmondstone, Archibald (1822). *A Journey to Two Oases of Upper Egypt*. London: John Murray.

Edwards, W. I., Colin A. Hope, and E. R. Segnit (1987). *Ceramics from the Dakhleh Oasis: Preliminary Studies.* Burwood, Vic.: Victoria College Press.

Egyptian expedition for MCMXX-MCMXXI (1921). New York: Metropolitan Museum of Art.

Elephantine: Grabung des Deutschen Archäologischen Instituts Kairo in Zusammenarbeit mit dem Schweizerischen Institut für Ägyptische Bauforschung und Altertumskunde Kairo (1980-). Mainz am Rhein: P. von Zabern.

Ellis, S. P. (1997). "Late Antique Dining: Architecture, Furnishing and Behaviour," in Laurence and Wallace-Hadrill 1997: 41-51.

Emmel, Stephen, et al., eds. (1999). *Ägypten und Nubien in Spätantiker und Christlicher Zeit: Akten des 6. Internationalen Koptologenkongresses, Münster, 20-26. Juli 1996*. Wiesbaden: Reichert.

Emmerick, Ronald E., Werner Sundermann, and Peter Zieme, eds. (2000). *Studia Manichaica. IV. Internationaler Kongress zum Manichäismus, Berlin, 14.-18. Juli 1997*. Berlin: Akademie Verlag.

Evelyn-White, H. G. (1932-33). *The Monasteries of the Wadi 'n Natrûn.* 3 vols. New York: Metropolitan Museum of Art Egyptian Expedition.

Evetts, Basil T. A., ed. (1969). *The Churches and Monasteries of Egypt and Some Neighboring Countries Attributed to Abû Ṣâlih, the Armenian*. Oxford: Clarendon Press.

Fakhry, Ahmed (1982). *Denkmäler der Oase Dachla*. Mainz am Rhein: Zabern.

— (1951). *The Necropolis of El-Bagawat in Kharga Oasis*. Cairo: Government Press.

Fedden, Romilly (1937). "A Study of The Monastery of Saint Antony in the Eastern Desert," *Bulletin of Faculty of Arts* 5: 1-60.

Finney, Paul C., ed. (1993). *Art, Archaeology, and Architecture of Early Christianity*. New York; London: Garland.

Frank, Georgia (2002). *The Memory of the Eyes. Pilgrims to Living Saints in Christian Late Antiquity*. Berkeley: University of California Press.

Frankfurter, D., ed. (1998). *Pilgrimage and Holy Space in Late Antique Egypt.* Leiden; Boston: Brill.

Gabra, Gawdat (2002). *Coptic Monasteries: Egypt's Monastic Art and Architecture*. Cairo; New York: The American University in Cairo Press.

Gardner, Iain (2000). "He has Gone to the Monastery..," in Emmerick, Werner Sundermann, and Zieme 2000: 247-57.

— (1997a). "The Manichaean Community at Kellis," in Mirecki and BeDuhn 1997: 161-75.

— (1997b). "Personal Letters from the Manichaean Community at Kellis," in Cirillo and van Tongerloo 1997: 77-94.

— (1996). *Kellis Literary Texts: Volume I*. Oxford: Oxbow Books.

Gardner, Iain, Anthony Alcock, and Wolf-Peter Funk, eds. (1999). *Coptic Documentary Texts from Kellis*. Oxford: Oxbow Books.

Giardina, Andrea, ed. (1986). *Società Romana e Impero Tardoantico*. Roma: Laterza.

Giddy, Lisa L. (1987). *Egyptian Oases: Baharia, Dakhla, Farafra, Kharga during Pharaonic Times*. Wiltshire, England: Aris and Phillips Ltd.

Godlewski, Włodzimierz (1996). "Deir el Naqlun. Topography and Tentative History," in *Archeologia e Papiri nel Fayyum, Atti del Convegno Internazionale di Siracusa 24-25 Maggio 1996*. Siracusa: Istituto Internazionale del Papiro: 123-45.

Godlewski, Włodzimierz, Tomasz Derda, and Tomasz Górecki (1994). "Deir el-Naqlun: Preliminary Report 1988-89," *Nubica* III/1: 201-64.

Goehring, James E. (2007). "Monasticism in Byzantine Egypt: Continuity and Memory," in Bagnall 2007: 390-407.

— (1999). *Ascetics, Society, and the Desert: Studies in Egyptian Monasticism*. Harrisburg, PA: Trinity Press International.

Goehring, James E., and Janet A. Timbie, eds. (2007). *The World of Early Egyptian Christianity: Language, Literature, and Social Context. Essays in Honor of David W. Johnson.* Washington, D.C.: Catholic University of America Press.

Gould, Graham (1993). *The Desert Fathers on Monastic Community*. Oxford: Clarendon Press; New York: Oxford University Press.

Grahame, Mark (2000). *Reading Space: Social Interaction and Identity in the Houses of Roman Pompeii. A Syntactical Approach to the Analysis and Interpretation of Built Space*. Oxford: Archaeopress.

Griggs, C. Wilfred (1997). *L'Egitto Cristiano. Aspetti e Problemi in Età Tardo Antica*. Roma: Institutum Patristicum Augustinianum.

Grossmann, Peter (2007). "Early Christian Architecture in Egypt and its Relationship to the Architecture of the Byzantine world," in Bagnall 2007: 103-36.

— (2002a). *Christliche Architektur in Ägypten*. Leiden; Boston; Köln: Brill.

— (2002b). "Typological Considerations on the Large East Church at Ismant el-Kharab," in Hope and Bowen 2002: 153-56.

— (1998). "Koptische Architektur," in Krause 1998: 209-67.

— (1995). "L'Architecture de l'Église de St.-Antoine," in Van Moorsel 1995: 1-19.

— (1991a). "Dayr al-Baramus: Architecture," in Atiya 1991: 791-93.

— (1991b). "Dayr al-Suryan: Architecture," in Atiya 1991: 879-81.

— (1991c). "Dayr Anba Bishoi: Buildings," in Atiya 1991: 740.

— (1991d). "Dayr Anba Shinudah: Architecture," in Atiya 1991: 766-69.

— (1991e). “Pbow: Archaeology,” in Atiya 1991: 232-36.

Grossmann, Peter, et al. (2004). “The Excavation in the Monastery of Apa Shenute (Dayr Anba Shinuda) at Suhag,” *Dumbarton Oaks Papers* 58: 371-82.

— (1998). *Spätantike und Koptologische Studien: Peter Grossmann zum 65. Geburtstag.* Wiesbaden: Reichert Werlag.

Hahn, Johannes, Stephen Emmel, and Ulrich Gotter, eds. (2008). *From Temple to Church. Destruction and Renewal of Local Cultic Topography in Late Antiquity*. Leiden; Boston: Brill.

Hales, Shelley (2003). *The Roman House and Social Identity*. Cambridge: Cambridge University Press.

Hamilton, John A. (1956). *Byzantine Architecture and Decoration*. London: Batsford.

Harding, Mark (2003). *Early Christian Life and Thought in Social Context: A Reader*. New York: T&T Clark International.

Harding King, W. J. (1912). “Travels in the Lybian Desert,” *The Geographical Journal* 39; 133-37; 192.

Harlow, Mary, and Wendy Smith (2001). “Between Fasting and Feasting: The Literary and Archaeobotanical Evidence for Monastic Diet in Late Antique Egypt,” *Antiquity* 75/290: 758-68.

Harmless, William (2004). *Desert Christians. An Introduction to the Literature of Early Monasticism.* Oxford; New York: Oxford University Press.

Harris, E. C. (1989). *Principles of Archaeological Stratigraphy*. London: Academic Press.

Hellström, Bo (1940). “The Subterranean Water in the Libyan Desert,” *Geografiska Annaler* 22: 206-39.

Hickey, Todd M. (2007). “Aristocratic Landholding and the Economy of Byzantine Egypt,” in Bagnall 2007: 288-308.

Hillier, B. and J. Hanson (1984). *The Social Logic of Space.* Cambridge: Cambridge University Press.

Hirschfeld, Yizhar (1990). “List of the Byzantine Monasteries in the Judean Desert,” in Bottini, Di Segni, and Alliata 1990: 1-90.

Hodder Ian (1999). *The archaeological Process: An Introduction*. Oxford: Blackwell.

Hope, Colin A. (2007). “Report on the 2007 Fieldwork by the Monash University Team as Part of the Dakhleh Oasis Project.” http://www.arts.monash.edu.au/archaeology/excavations/dakhleh/ismant-el-kharab/assets/documents/ismant-report-2007.pdf.

— (2003). “The Excavations at Ismant el-Kharab from 2000 to 2002,” in Bowen and Hope 2003: 207-89.

— (2002). “Excavations in the Settlement of Ismant el-Kharab in 1995-1999,” in Hope and Bowen 2002: 167-208.

— (1999a). “Dakhleh Oasis, Ismant el-Kharab,” in Bard 1999: 222-26.

— (1999b). “Pottery Manufacture in the Dakhleh Oasis,” in Churcher and Mills 1999: 215-43.

Hope, Colin A., and Anthony J. Mills, eds. (1999). *Dakhleh Oasis Project: Preliminary Reports on the 1992-1993 and 1993-1994 Field Seasons*. Oxford: Oxbow Books.

Hope, Colin A., and Gillian E. Bowen, eds. (2002). *Dakhleh Oasis Project: Preliminary Reports on the 1994-1995 to 1998-1999 Field Seasons*. Oxford: Oxbow Books.

Hope, Colin A., and Helen Whitehouse (2006). “A Painted Residence at Ismant el-Kharab (*Kellis*) in the Dakhleh Oasis,” *Journal of Roman Archaeology* 19: 312-28.

Hopkins, Clark (1979). *The Discovery of Dura-Europos*. New Haven; London: Yale University Press.

— (1934). "The Christian Church," in Rostovtzeff 1934: 238-53.

Husselman, Elinor M. (1979). *Karanis Excavations of the University of Michigan in Egypt 1928-1935*. Ann Arbor, MI: University of Michigan Press.

Husson, Geneviève (1979). "L'Habitat Monastique en Égypte à la Lumière des Papyrus Grecs, des Texts Chrétiens et de l'Archéologie," in *Hommages à la Mémoire de Serge Sauneron*. II. Cairo: Institut Français d'Archéologie Orientale du Caire: 191-207.

Immerzeel, Mat, and Jacques van der Vliet, eds. (2004). *Coptic Studies on the Threshold of a New Millennium. Proceedings of the Seventh International Congress of Coptic Studies, Leiden August 27-September 2, 2000.* Leuven; Dudley, MA: Uitgeverij Peeters en Departement Oosterse Studies.

Innemée, Karel C. (1999). "The Identity of Deir el-Baramus," *Egyptian Archaeology* 15: 41-3.

Johnson, Janet H., ed. (1992). *Life in a Multi-Cultural Society: Egypt from Cambyses to Constantine and Beyond*. Chicago: The Oriental Institute of the University of Chicago.

Johnston, William M., ed. (2000). *Encyclopedia of Monasticism*. 2 vols. Chicago; London: Fitzroy Dearborn.

Judge, E. A. (1977). "On the Earliest Use of *Monachos* for 'Monk' (P. Coll. Youtie 77) and the Origins of Monasticism," *Jahrbuch für Antike und Christentum* 20: 72-89.

Kamil, Jill (2002). *Christianity in the Land of the Pharaohs.* London and New York: Routledge.

Kaper, Olaf E., ed. (1998). *Life on the Fringe. Living in the Southern Egyptian Deserts during the Roman and Early-Byzantine Periods. Proceedings of a Colloquium Held on the Occasion of the 25th Anniversary of the Netherlands Institute for Archaeology and Arabic*

Studies in Cairo 9-12 December 1996. Leiden: Research School CNWS School of Asian, African, and Amerindian Studies.

— (1997). *Temples and Gods in Roman Dakhleh. Studies in the Indigenous Cults of an Egyptian Oasis*. Ph.D. Dissertation, University of Groningen. Privately published.

Laurence, Ray (1994). *Roman Pompeii: Space and Society*. New York: Routledge.

Laurence, Ray, and Andrew Wallace-Hadrill, eds. (1997). *Domestic Space in the Roman World: Pompeii and Beyond.* Portsmouth, RI: Journal of Roman Archaeology.

Kaper, Olaf E., and Willemina Z. Wendrich (1998). "East and West in Roman Egypt: An introduction to *Life on the Fringe*," in Kaper 1998, 1-4.

Kasser, Rodolphe (1999). *Explorations aux Qouçoûr el-Izeila. Lors des Campagnes 1981, 1982, 1984, 1985, 1986, 1989 et 1990.* Louvain: Peeters.

— (1984). *Le Site Monastique des Kellia. Recherches des Annèes 1981-1983*. Louvain: Editions Peeters.

Kasser, Rodolphe, et al. (1994). *Explorations aux Qouçoûr er-Roubâ'îyât: Rapport des Campagnes 1982 et 1983*. 2 vols. Louvain-Leuven: Éditions Peeters.

— (1983). *Survey Archéologique des Kellia (Basse-Egypte): Rapport de la Campagne 1981*. 2 vols. Louvain-Leuven: Éditions Peeters.

Keenan, James G. (2007). "Byzantine Egyptian Villages," in Bagnall 2007: 226-43.

Khs-Burmester, Oswald H. E. (1954). *A Guide to the Monasteries of the Wadi 'N-Natrun*. Cairo: Société d'Archeologie Copte.

Kleindienst, M. R., et al. (1999). "Geography, Geology, Geochronology and Geoarchaeology of the Dakhleh Oasis Region: An Interim Report," in Churcher and Mills 1999: 1-54.

Knudstad, J. E., and R. A. Frey (1999). "Kellis, the Architectural Survey of the Romano-Byzantine Town at Ismant el-Kharab," in Churcher and Mills 1999: 189-214.

Koch, Guntram (1996). *Early Christian Art and Architecture. An Introduction*. London: SCM Press.

Kraeling, Carl H. (1967). *The Excavations at Dura Europos. Final Report,* 8/2: *The Christian Building*. New Haven: Dura Europos Publications.

Krause, Martin, ed. (1998). *Ägypten in Spätantik-Christlicher Zeit. Einführung in die Koptische Kultur*. Wiesbaden: Ludwig Reichert.

Krautheimer, Richard (1986). *Early Christian and Byzantine Architecture*. New Haven: Yale University Press.

— (1969). *Studies in Early Christian, Medieval, and Renaissance Art*. New York: New York University Press.

Laurence, Ray, and Andrew Wallace-Hadrill, eds. (1997). *Domestic Space in the Roman World: Pompeii and Beyond.* Portsmouth, RI: Journal of Roman Archaeology.

Lavan, Luke, Ellen Swift, and Toon Putzeys, eds. (2007). *Objects in Context, Objects in Use: Material Spatiality in Late Antiquity*. Leiden; Boston: Brill.

Layton, Bentley (2002). "Social Structure and Food Consumption in an Early Christian Monastery: The Evidence of Shenoute's *Canons* and the White Monastery Federation A.D. 385-465," *Le Muséon* 115/1: 25-55.

Lefort, Jacques, Cécile Morrisson, and Jean-Pierre Sodini, eds. (2005). *Les Villages dans l'Empire Byzantin: IV^e^-XV^e^ Siècle*. Paris: Lethielleux.

Lewis, Naphtali (1983). *Life in Egypt under Roman Rule*. Oxford: Clarendon.

Lewuillon-Blume, Marianne (1979). "Problèmes de la Terre au IV^{e} Siècle après J.-C.," in Bingen and Nachtergael 1979/IV: 177-85.

Liebeschuetz, J. H. W. G. (2000). *The Decline and Fall of the Roman City*. Oxford; New York: Oxford University Press.

— (1990). *From Diocletian to the Arab Conquest: Change in the Late Roman Empire*. Northampton: Variorum.

MacCoull, Leslie S. B. (1993). *Coptic Perspectives on Late Antiquity*. Brookfield: Variorum.

MacDonald, David (1986). "Dating the Fall of Dura-Europos," *Historia* 35: 45-68.

MacDonald, William (1979). *Early Christian and Byzantine Architecture*. New York: George Braziller.

Mango, Cyril (1978). *Byzantine Architecture*. Milan: Electa.

Marlow, C. A., and A. J. Mills, eds. (2001). *The Oasis Papers 1. Proceedings of the First Conference of the Dakhleh Oasis Project.* Oxford: Oxbow Books.

McClendon, Charles B. (2005) *The Origins of Medieval Architecture. Building in Europe, A.D. 600-900*. New Haven; London: Yale University Press.

McDonald, Mary M. A. (1999). "Neolithic Cultural Units and Adaptations in the Dakhleh Oasis," in Churcher and Mills 1999: 117-32.

McIntosh, Gillian E. (2003). *Re-Thinking the Roman Domus: How Architects and Orators Construct Self, Space, and Language*. Ph.D. Dissertation. Ohio State University, Dept. of Greek and Latin.

McLellan, Michael W. (1998). *Monasticism in Egypt: Images and Words of the Desert Fathers*. Cairo: American University in Cairo Press.

McNally, Sheila, ed. (2001). *Shaping Community: The Art and Archaeology of Monasticism. Papers from a Symposium Held at the Frederick R. Weisman Museum, University of Minnesota, March 10-12, 2000.* Oxford: Archaeopress.

Meinardus, Otto F. A. (2002). *Coptic Saints and Pilgrimages*. Cairo; New York: The American University in Cairo Press.

— (1999). *Two Thousand Years of Coptic Christianity.* Cairo: The American University in Cairo Press.

— (1965). *Christian Egypt, Ancient and Modern*. Cairo: The American University in Cairo Press.

— (1961). *Monks and Monasteries of the Egyptian Desert.* Cairo: The American University in Cairo Press.

Meyer, Robert, transl. and ed. (1965). *Palladius: The Lausiac History*. Westminster, MD: Newman Press.

Mierow, C. C., transl. (1963). *The Letters of St. Jerome.* New York: Newman Press.

Mills, Anthony J. (1999). "Pharaonic Egyptians in the Dakhleh Oasis," in Churcher and Mills 1999: 171-78.

— (1998). "Recent work of the Dakhleh Oasis Project," *Annales du Service des Antiquites de l'Egypte* 73: 84-91.

— (1993). "The Dakhleh Oasis Columbarium Farmhouse," in *Alexandrian Studies in Memoriam Daoud Abdu Daoud. Bulletin de la Société d'Archéologie d'Alexandrie* 45: 193-98.

— (1985). "The Dakhleh Oasis Project," *Melanges Gamal Eddin Mokhtar* 2:125-34.

— (1983). "The Dakhleh Oasis Project. Report on the Fifth Season of Survey: October 1982-January 1983," *Journal of the Society for the Study of Egyptian Antiquities* 13: 121-41.

— (1982). “The Dakhleh Oasis Project. Report on the Fourth Season of Survey: October 1981-January 1982,” *Journal of the Society for the Study of Egyptian Antiquities* 12: 93-101.

— (1981). “The Dakhleh Oasis Project. Report on the Third Season of Survey. September-December, 1980,” *Journal of the Society for the Study of Egyptian Antiquities* 11: 175-92.

Minnen, Peter, van (2007). “The Other Cities in Later Roman Egypt,” in Bagnall 2007: 207-25.

Miquel, P., et al. (1993). *Déserts Chrétiens d’Egypte*. Nice: Culture Sud.

Mirecki, Paul, and Jason BeDuhn, eds. (1997). *Emerging from Darkness. Studies in the Recovery of Manichaean Sources*. Leiden; New York; Köln: Brill.

Monneret de Villard, Ugo (1928). *Les Eglises du Monastère des Syriens au Wadi en Natrun*. Milan: Tipografia Pontificia Arcivescovile San Giuseppe.

— (1925). *Les Couvents près de Sohag*. Milan: Tipografia Pontificia Arcivescovile San Giuseppe.

Moorsel, Paul van (1995-97). *Les Peintures du Monastère de Saint-Antoine près de la Mer Rouge*. Cairo: Institut Français d’Archéologie Orientale du Caire.

Mottier, Yvotte, and Nathalie Bosson, eds. (1989). *Les Kellia. Ermitages Coptes en Basse-Egypt. Musée d’Art et d’Histoire, Genève, 12 Octobre 1989-7 Janvier 1990*. Genève: Editions du Tricorne.

Müller-Wiener, Wolfgang (1963). “Christliche Monumente im Gebiet von Hibis (el-Kharga),” *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 19: 121-40.

Murray, G. W. (1952). “The Water beneath the Egyptian Western Desert,” *The Geographical Journal* 118/4: 443-52.

Naldini, M. (1997). “L’Egitto Cristiano: Testimonianze Papirologiche,” in Camplani 1997: 273-89.

O'Connell, Elisabeth R. (2007). "Transforming Monumental Landscapes in Late Antique Egypt: Monastic Dwellings in Legal Documents from Western Thebes," *Journal of Early Christian Studies* 15/ 2: 239-73.

Palme, Bernhard (2007). "The Imperial Presence: Government and Army," in Bagnall 2007: 244-70.

Papaconstantinou, Arietta (2001). *Le Culte des Saints en Égypte*. Paris: CNRS Editions.

Pearson, Birger A. (2007). "Earliest Christianity in Egypt. Further Observations," in Goehring and Timbie 2007: 97-112.

Pearson, Birger A., and James E. Goehring, eds. (1986). *The Roots of Egyptian Christianity.* Philadelphia: Fortress Press.

Pike, Gillian (2006). *Ain el-Gedida 2006: Pottery*. Unpublished.

Powell, James A., Ian Cooper, and Sebastian Lera, eds. (1984). *Designing for Building Utilisation*. London; New York: Spon.

Putzeys, Toon. (2007). "Productive Space in Late Antiquity," in Lavan, Swift, and Putzeys 2007: 63-80.

Ramsey, Boniface, transl. and ed. (1997). *John Cassian: The Conferences*. New York: Paulist Press.

Rathbone, Dominic (1991). *Economic Rationalism and Rural Society in Third-Century A.D. Egypt: The Heroninos Archive and the Appianus Estate*. Cambridge; New York: Cambridge University Press.

Ratzan, David (2008). *Coin Report for Ain el-Gedida.* Unpublished.

Reddé, Michel (2004). *Kysis: Fouilles de l'Ifao à Douch, Oasis de Kharga, 1985-1990*. Cairo: Institut Français d'Archéologie Orientale.

Regnault, Lucien (1990). *La Vie Quotidienne des Pères du Désert en Egypte au IV^e Siècle.* Paris: Hachette.

Rémondon, Roger (1965). "Militaires et Civils dans une Campagne Égyptienne au Temps de Constance II," *Journal des Savants* 1965: 132-43.

— (1955). "Problèmes Militaires en Égypte et dans l'Empire à la Fin du IV^e Siècle," *Revista de Historia* 213: 21-38.

Rodziewicz, Mieczysław (1987). "Introduction à la Céramique à Engobe Rouge de Kharga, Kharga Red Slip Ware," *Cahiers de la Céramique Égyptienne* 1: 123-36.

— (1984). *Les Habitations Romaines Tardives d'Alexandrie à la Lumière des Fouilles Polonaises à Kôm el-Dikka*. Warsaw: Editions Scientifiques de Pologne.

Rohlfs, Gerhard, et al. (1875). *Drei Monate in der Libyschen Wüste*. Berlin: Cassel, Verlag von Theodor Fisher. (Reprinted in 1996 by Köln Africa Explorata I. Cologne: Heinrich Barth Institute).

Rostovtzeff, Michael I., ed. (1934). *The Excavations at Dura Europos. Preliminary Report of Fifth Season of Work, October 1931-March 1932*. New Haven: Yale University Press.

Rousseau, Philip (2002). *The Early Christian Centuries.* Harlow, England; New York: Longman/Pearson Education.

— (1999). *Pachomius. The Making of a Community in Fourth-Century Egypt.* Berkeley; Los Angeles; London: University of California Press.

— (1978). *Ascetics, Authority, and the Church in the Age of Jerome and Cassian.* Oxford; New York: Oxford University Press.

Rubenson, Samuel (1995a). "Christian Asceticism and the Emergence of the Monastic Tradition," in Wimbush and Valantasis 1995, 49-57.

— (1995b). *The Letters of St. Antony: Monasticism and the Making of a Saint.* Minneapolis, Fortress Press.

Russell, Norman, transl. (1981). *The Lives of the Desert Fathers*. *Historia Monachorum in Aegypto.* London: Mowbray; Kalamazoo, MI: Cistercian Publications.

Sarris, Peter (2004). "The Origins of the Manorial Economy: New Insights from Late Antiquity," *English Historical Review* 119: 279-311.

Sauneron, Serge, and Jean Jacquet (1972). *Les Ermitages Chrétiens du Désert d'Esna*. Cairo: Institut Français d'Archéologie Orientale du Caire.

Schijns, Wolf (2003). *Vernacular Mudbrick Architecture in the Dakhleh Oasis, Egypt, and the Design of the Dakhleh Oasis Training and Archaeological Conservation Centre*. Oxford: Oxbow Books.

Schild, Romauld, and Fred Wendorf (1977). *The Prehistory of the Dakhleh Oasis and Adjacent Desert*. Warsaw: Polish Academy of Science.

Schwartz, Jacques, et al. (1969). *Qasr-Qarun/Dionysias 1950*. Cairo: Institut Français d'Archéologie Orientale du Caire.

Schweitzer, Annie (2002). "Les Parures de Cartonnage des Momies d'Une Nécropole d'Ismant el-Kharab," in Hope and Bowen 2002: 269-76.

Sheils, William J., ed. (1985). *Monks, Hermits and Ascetic Tradition*. Oxford: Blackwell.

Sijpesteijn, Petra M. (2007) "The Arab Conquest of Egypt and the Beginning of Muslim Rule," in Bagnall 2007: 437-59.

Spence, Craig (1994). *Archaeological Site Manual*. London: Museum of London.

Stalley, Roger (1999). *Early Medieval Architecture.* Oxford; New York: Oxford University Press.

Starkey, Paul, and Janet, eds. (2001). *Travellers in Egypt*. London; New York: Tauris Parke Paperbacks.

Stewart, Columba (1998). *Cassian the Monk.* New York: Oxford University Press.

Storey, Glenn R., ed. (2006) *Urbanism in the Preindustrial World: Cross-Cultural Approaches*. Tuscaloosa: The University of Alabama Press.

Tassinari, Cristian, and Paola Buzi (2007). "Bakchias XV. Rapporto Preliminare della Campagna di Scavo del Novembre 2006," *Ricerche di Egittologia e di Antichità Copte* 9: 21-39.

Tepper, Yotam (2006). "Legio, Kefar 'Otnay," *Hadashot Arkheologiyot - Excavations and Surveys in Israel* 118 (no pagination). On-line resource: http://www.hadashot-esi.org.il/report_detail_eng.asp?id=363&mag_id=111

Tepper, Yotam, and Lea Di Segni (2006). *A Christian Prayer Hall of the Third Century CE at Kefar 'Othnay (Legio). Excavations at the Megiddo Prison 2005*. Jerusalem: Israel Antiquities Authority.

Thurston, Harry (2003). *Secrets of the Sands: The Revelations of Egypt's Everlasting Oasis*. New York: Arcade Publishing.

Tousson, Omar (1935). *Cellia et Ses Couvents*. Alexandria: Société de Publications Égyptiennes.

— (1931). *Étude sur le Wadi Natrun, Ses Moines et Ses Couvents*. Alexandria: Société de Publications Égyptiennes.

Veilleux, A., transl. (1980). *The Bohairic Life of Pachomius.* Kalamazoo, MI: Cistercian Publications.

Viaud, Gerard (1979). *Les Pèlerinages Coptes en Egypte*. Cairo: Institut Français d'Archéologie Orientale du Caire.

— (1978). *La Liturgie des Coptes d'Egypte*. Paris: Librairie d'Amerique et d'Orient.

Vikan, Gary (2003). *Sacred Images and Sacred Power in Byzantium.* Aldershot, Hampshire, Great Britain; Burlington, VT, USA: Ashgate.

Vivian, Cassandra (2000). *The Western Desert of Egypt: An Explorer's Handbook*. Cairo: The American University in Cairo Press.

Vivian, Tim, and Apostolos N. Athanassakis, transl. (2003). *The Life of Antony.* Kalamazoo, MI: Cistercian Publications.

Wagner, Guy (1987). *Les Oasis d'Égypte à l'Époque Grecque, Romaine et Byzantine d'après les Documents Grecs*. Cairo: Institut Français d'Archéologie Orientale du Caire.

Walters, C. C. (1974). *Monastic Archaeology in Egypt.* Warminster: Aris & Phillips.

Ward, Benedicta, transl. and ed. (2003). *The Desert Fathers: Sayings of the Early Christian Monks.* London; New York: Penguin Books.

Ward-Perkins, Bryan (2005). *The Fall of Rome and the End of Civilization*. Oxford; New York: Oxford University Press.

Ward-Perkins, John Bryan (1954). "Constantine and the Origins of the Christian Basilica," *Papers of the British School at Rome* 22: 69-90.

Watson, John H. (2000). *Among the Copts*. Brighton, England; Portland, Or.: Sussex Academic Press.

Watterson, Barbara (1988). *Coptic Egypt*. Edinburgh: Scottish Academic Press.

Wharton, Annabel J. (1995). *Refiguring the Post Classical City: Dura Europos, Jerash, Jerusalem and Ravenna*. Cambridge; New York: Cambridge University Press.

White, L. Michael (1997). *The Social Origins of Christian Architecture. Volume II: Texts and Monuments for the Christian* Domus Ecclesiae *in Its Environment*. Valley Forge, Pennsylvania: Trinity Press International.

— (1990). *Building God's House in the Roman World. Architectural Adaptation among Pagans, Jews, and Christians*. Boston and London: The Johns Hopkins University Press.

Wilfong, Terry G. (2007). "Gender and Society in Byzantine Egypt," in Bagnall 2007: 309-27.

— (1999). *Women of Jeme. Lives in a Coptic Town in Late Antique Egypt*. Ann Arbor: University of Michigan Press.

Wilkinson, John, transl. and ed. (1999). *Egeria's Travels.* Warminster: Aris & Phillips.

Williamson, Geoffrey A., transl., and Andrew Louth, ed. (1989). *Eusebius: The History of the Church from Christ to Constantine*. Harmondsworth: Penguin Books.

Wilson, Roger J. A. (1983). *Piazza Armerina*. London; New York: Granada.

Wimbush, Vincent L., ed. (1990). *Ascetic Behavior in Greco-Roman Antiquity: A Sourcebook.* Minneapolis: Fortress Press.

Wimbush, Vincent L., and Richard Valantasis, eds. (1995). *Asceticism.* New York: Oxford University Press.

Winlock, Herbert E. (1936). *Ed Dakhleh Oasis, by H. E. Winlock. Journal of a Camel Trip Made in 1908*. New York.

— (1926). *The Monastery of Epiphanius at Thebes*. New York: The Metropolitan Museum of Art.

Wipszycka, Ewa (2009). *Moines et Communautés Monastiques en Égypte. IVe-VIIIe Siècles.* Warsaw: JJP Supplement, Volume 11.

— (2007a). "Les Formes Institutionnelles et les Formes d'Activité Économique du Monachisme Égyptien," in Camplani and Filoramo 2007: 109-54.

— (2007b). "The Institutional Church," in Bagnall 2007: 331-49.

— (1997). “Le Istituzioni Ecclesiastiche in Egitto dalla Fine del III all’Inizio dell’VIII Secolo,” in Camplani 1997: 219-71.

— (1996). *Études sur le Christianisme dans l’Égypte de l’Antiquité Tardive.* Roma: Institutum Patristicum Augustinianum.

— (1972). *Les Ressources et les Activités Économiques des Églises en Égypte du IV^e^ au VIII^e^ Siècle*. Bruxelles: Fondation Égyptologique Reine Élisabeth.

Worp, Klaas A., ed. (2004). *Greek Ostraka from Kellis: O. Kellis, nos. 1-293*. Oxford: Oxbow Books.

— (1995). *Greek Papyri from Kellis: I*. Oxford: Oxbow Books.

— (1994). “The *Notitia Dignitatum* and the Geography of Egypt,” in Bülow-Jacobsen 1994: 463-69.

Worp, Klaas A., and Albert Rijksbaron, eds. (1997). *The Kellis Isocrates Codex: (P. Kell. III Gr. 95)*. Oxford: Oxbow Books.

Wuttmann, Michel (2001). “Les Qanāts de ‘Ayn-Manâwîr (Oasis de Kharga, Égypte),” in Briant 2001: 109-35.

Yeivin, S. (1934). “Miscellanea Archaeologica. I, Ovens and Baking in Roman Egypt,” *Annales du Service des Antiquités de l’Égypte* 34: 114-21.

Zielinski, Adam K. (1999). “Conservation, Preservation and Presentation of Monuments and Objects in the Dakhleh Oasis,” in Churcher and Mills 1999: 183-88.

Ziermann, Martin (1993). *Elephantine XVI. Befestigungsanlagen und Stadtentwicklung in der Frühzeit und im Frühen Alten Reich*. Mainz am Rhein: P. von Zabern.