

**Christians of the Western Desert in Late Antiquity:
The Fourth-Century Church Complex of Ain el-Gedida, Upper Egypt**

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

Nicola Aravecchia

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

Adviser: Prof. Frederick M. Asher

June 2009

Acknowledgements

I am profoundly indebted to Prof. Roger Bagnall, thanks to whom I became involved in the research project at Ain el-Gedida and who always provided me with financial aid and intellectual guidance. I am also grateful to the Department of Art History at the University of Minnesota, my committee members, and, in particular, my advisor Prof. Rick Asher, for granting me constant support during my last years in graduate school. I would also like to thank my family and friends, for their unfailing belief in the value of my research project.

Dedication

To my mother

Abstract

This dissertation examines the fourth-century church complex excavated, between 2006 and 2008, at Ain el-Gedida, in the Dakhla Oasis of Upper Egypt.¹ The church and the set of interconnected rooms that form the complex are one of the earliest examples discovered in Egypt thus far. Therefore, they provide valuable information on the development of Christian public architecture, not only in the region of the Western Desert but also throughout Egypt. Furthermore, the uncommon layout of the church itself, its location within a cluster of rooms serving more utilitarian functions, and the evidence of different phases of substantial architectural alterations make the complex a particularly significant case study. One goal of this dissertation is not to discuss the church complex as an isolated building, but to contextualize it within the topographical framework of the settlement. The archaeological evidence from the complex is not presented in the form of a standard report; rather, it is used to approach more general issues, regarding the chronology of the site, its abandonment, and the nature of the settlement, particularly the social structure of its inhabitants.

This work first examines the architectural history of the complex and sheds light on its different phases, thanks to the study of the evidence gathered in the field. Furthermore, it discusses the results of comparative analysis between the church of Ain el-Gedida and other examples of Early Christian architecture inside and outside Egypt. In particular, it emphasizes the considerable typological similarities shared with the Small East Church at the nearby site of Ismant el-Kharab (ancient Kellis). The

¹ The project was directed by Professor Roger Bagnall.

investigation of the typological origins of the church of Ain el-Gedida includes comparisons with the earliest known examples of Christian architecture, even from relatively distant regions, such as Dura Europos and its well-known *domus ecclesiae*.

Furthermore, methods of spatial analysis, in particular access analysis, are applied to the church complex and its immediate surroundings, with the aim of investigating patterns of access control and use of space at the site in Late Antiquity. The results are offered as a valuable ingredient in typological analysis, integrating the available archaeological evidence.

In its last section, this dissertation examines issues of chronology, both relative and absolute, in relation to the church complex. It also takes into consideration the highly debated question concerning the nature of the complex and, more in general, of the site of Ain el-Gedida, with the goal of shedding light on its people and their social identity. In addition to the monastery/village readings, originally brought forth by scholars, further interpretations are proposed, analyzing the available evidence in favor or against any of them.

Table of Contents

Acknowledgements	p. i
Dedication	p. ii
Abstract	p. iii
List of Plates	p. viii
Chapter I: Research Overview	
Summary	p. 1
I.1. <i>Introduction</i>	p. 1
I.2. <i>Methodology and Contribution</i>	p. 6
I.3. <i>Sources</i>	p. 10
I.4. <i>Outline of Chapters</i>	p. 14
Chapter II: Ain el-Gedida and the Dakhla Oasis	
Summary	p. 28
II.1. <i>The Dakhla Oasis: Geographical and Historical Framework</i>	p. 28
II.2. <i>Christianity in the Oasis</i>	p. 34
II.3. <i>Ain el-Gedida: Topography of the Site</i>	p. 45
II.4. <i>Archaeological Investigation</i>	p. 48
II.5. <i>Methods of Excavation and Documentation</i>	p. 58
II.6. <i>The Archaeological Remains</i>	p. 64

Chapter III: The Archaeological Record

Summary	p. 85
III.1. <i>The Excavation of the Church Complex</i>	p. 85
III.1.1. <i>The Church (B5)</i>	p. 88
III.1.2. <i>The Gathering Hall (A46)</i>	p. 94
III.1.3. <i>The Anteroom/Kitchen (B6)</i>	p. 98
III.1.4. <i>The Corridor/Entrance (B7)</i>	p. 101
III.1.5. <i>The Staircase (B8)</i>	p. 102
III.1.6. <i>The Pantry? (B9)</i>	p. 104
III.2. <i>Investigations Outside the Church Complex</i>	p. 106
III.2.1. <i>The Kitchen to the West (B10)</i>	p. 106
III.2.2. <i>The Vaulted Passageway to the South (B11)</i>	p. 108
III.2.3. <i>The Street to the East (B12)</i>	p. 110
III.2.4. <i>The Courtyard to the Southeast (B13)</i>	p. 112
III.2.5. <i>The Kitchen and Storage Room to the East (B14-B15)</i>	p. 113
III.3. <i>The Development of the Church Complex</i>	p. 116
III.4. <i>The Material Evidence</i>	p. 128
III.4.1. <i>Ceramics</i>	p. 136
III.4.2. <i>Numismatics</i>	p. 141

Chapter IV: Ain el-Gedida and Christian Architecture of Late Antiquity

Summary	p. 149
IV.1. <i>Egypt</i>	p. 149

IV.1.1. <i>The Small East Church of Kellis</i>	p. 157
IV.2. <i>The Late Roman World</i>	p. 165
IV.2.1. <i>Ain el-Gedida and the Domus Ecclesiae of Dura Europos</i>	p. 175
Chapter V: The Church Complex and Mound I: Models of Spatial Analysis	
Summary	p. 186
V.1. <i>“Public and Private” Analysis</i>	p. 187
V.2. <i>Access Analysis</i>	p. 192
V.3. <i>Patterns of Movement Inside the Complex and Access from Outside</i>	p. 207
Chapter VI: Monastery or Village? Considerations on Ain el-Gedida and Its	
Fourth-Century Church	
Summary	p. 217
VI.1. <i>Issues of Chronology</i>	p. 218
VI.2. <i>Early Egyptian Monasticism</i>	p. 228
VI.3. <i>Ain el-Gedida: The Monastic Connection and Alternative Readings</i>	p. 241
VI.4. <i>Epilogue</i>	p. 260
Plates	p. 265
Bibliography	p. 322
Appendix: Chronological Outline of Roman and Byzantine Egypt	p. 354

List of Plates

Pl. 1: satellite map of Egypt (http://visibleearth.nasa.gov)	p. 265
Pl. 2: map of the Dakhla and Kharga Oases (from Kaper 1998, 148)	p. 266
Pl. 3: satellite image of Ain el-Gedida (from Google Earth)	p. 267
Pl. 4: view of mound I (to S)	p. 267
Pl. 5: micro-relief of Ain el-Gedida	p. 268
Pl. 6: site map	p. 269
Pl. 7: plan of buildings on mound I	p. 270
Pl. 8: plan of the church complex	p. 271
Pl. 9: excavated complex of rooms along the west edge of mound I	p. 272
Pl. 10: aerial view of mound I-area A (to ENE)	p. 273
Pl. 11: view of room A2 (to NE)	p. 273
Pl. 12: view of room A5 (to E)	p. 274
Pl. 13: view of room A9 (to NE)	p. 274
Pl. 14: aerial view of rooms A14-A15 (to W)	p. 275
Pl. 15: view of room A25 from above (to SE)	p. 275
Pl. 16: view of rooms A6-A7 (to E)	p. 276
Pl. 17: plan of rooms A6-A7	p. 276
Pl. 18: aerial view of rooms A6-A7 (to SW)	p. 277
Pl. 19: view of mound I-area B (to NW) before excavation	p. 277
Pl. 20: view of large square structure -pigeon tower?- (to NW)	p. 278
Pl. 21: aerial view of rooms B1-B3 (to NW)	p. 278

Pl. 22: white band in the NE corner of room B3	p. 279
Pl. 23: aerial view of room B4 (to NW)	p. 279
Pl. 24: aerial view of rooms B17-B24 (to SE)	p. 280
Pl. 25: aerial view of rooms B17-B24 (to NE)	p. 280
Pl. 26: view of mound II (to SW)	p. 281
Pl. 27: view of mound III (to SW)	p. 281
Pl. 28: view of mound IV (to SW)	p. 282
Pl. 29: view of mound V (to NW)	p. 282
Pl. 30: aerial view of the church complex (to SSW)	p. 283
Pl. 31: view of the church (room B5) before excavation (to W)	p. 283
Pl. 32: aerial view of rooms B5 and A46 (to NW)	p. 284
Pl. 33: aerial view of rooms B5 and A46 (to NE)	p. 284
Pl. 34: aerial view of rooms B5 and A46 (to W)	p. 285
Pl. 35: view of the apse of room B5 (to E)	p. 285
Pl. 36: aerial view of the apsidal area of room B5 (to W)	p. 286
Pl. 37: apse of room B5 (view from above)	p. 286
Pl. 38: detail of the east end of the <i>pastophorium</i> , with traces of burnt oil	p. 287
Pl. 39: view of the church (to NW)	p. 287
Pl. 40: view of the blocking wall and stepped podium in room B5 (to N)	p. 288
Pl. 41: close-up of the stepped podium (to NE)	p. 288
Pl. 42: view of the stepped podium from room A46 (to S)	p. 289
Pl. 43: stepped feature in the Large East Church at Kellis (from Bowen 2002, 72)	p. 289

Pl. 44: defaced painting above a niche of room B5 (east end of north wall)	p. 290
Pl. 45: graffiti on the north wall (west half) of room B5	p. 290
Pl. 46: view of room A46 (to NE)	p. 291
Pl. 47: view of room A46 (to SW)	p. 291
Pl. 48: aerial view of rooms A46 (left) and B5 (right) (to E)	p. 292
Pl. 49: aerial view of room B6 (to NE)	p. 292
Pl. 50: imprints of vessels on the floor of room B6 (along south wall)	p. 293
Pl. 51: view of the passageway from room B6 to rooms A46 and B5 (to S)	p. 293
Pl. 52: graffiti on the north wall of room B6	p. 294
Pl. 53: detail of graffiti on the north wall of room B6	p. 294
Pl. 54: Greek inscription on the west wall of room B6	p. 295
Pl. 55: detail of graffiti on the south wall of room B6	p. 295
Pl. 56: view of the northeast corner of room B6 (with door leading to staircase B8)	p. 296
Pl. 57: aerial view of corridor B7 (to NW)	p. 296
Pl. 58: view of corridor B7 (to W)	p. 297
Pl. 59: view of corridor B7 (to E)	p. 297
Pl. 60: view of staircase B8 (to SW)	p. 298
Pl. 61: view of staircase B8 (to W)	p. 298
Pl. 62: aerial view of the northwest sector of the church complex (to W)	p. 299
Pl. 63: aerial view of room B9 (to S)	p. 299
Pl. 64: view of the southeast corner of room B9	p. 300
Pl. 65: mud-brick cupboard in room B6 (view to S)	p. 300

Pl. 66: aerial view of room B10 (to SE)	p. 301
Pl. 67: detail of clay basin (<i>hawasel</i>) above the east vault spring of room B10	p. 301
Pl. 68: view of retaining wall along the east side of room B10	p. 302
Pl. 69: view of passageway B11 (to W)	p. 302
Pl. 70: view of passageway B11 (to E)	p. 303
Pl. 71: aerial view of street B12 (to SW)	p. 303
Pl. 72: aerial view of street B12 (to SE)	p. 304
Pl. 73: view of street B12 (to N)	p. 304
Pl. 74: aerial view of crossroads B13 (to SW)	p. 305
Pl. 75: view of two mud-brick basins along the south wall of room B13	p. 305
Pl. 76: aerial view of rooms B14-15 (to SE)	p. 306
Pl. 77: aerial view of rooms B14-15 (to SW)	p. 306
Pl. 78: mosaic of photogrammetric images of the church complex	p. 307
Pl. 79: photogrammetric image of the walls of room B5	p. 308
Pl. 80: photogrammetric image of the walls of room A46	p. 308
Pl. 81: mosaic of photogrammetric images of the west walls of rooms B5, A46, and B6	p. 309
Pl. 82: early structures in the area of the church complex	p. 310
Pl. 83: fragment of textile from room B5 (inv. no.: 536)	p. 311
Pl. 84: lamp from room B5 (inv. no.: 577)	p. 311
Pl. 85: fragment of dull glass bracelet from room B5 (inv. no.: 530)	p. 312
Pl. 86: fragments of incomplete ring or earring from room B6 (inv. no.: 567)	p. 312
Pl. 87: coin of Gallus, dated to 352-354 (recto). From room B5 (inv. no.: 505)	p. 313

Pl. 88: tetradrachm of Maximian, dated to 286-287 (recto).	
From room B5 (inv. no.: 513)	p. 313
Pls. 89-90: coin of Constantine II as Caesar, dated to 322-323 and minted in	
London. Left: recto; right: verso. From room B5 (inv. no.: 507)	p. 314
Pl. 91: complete bowl found within the floor of room B5 (inv. no.: 637)	p. 315
Pl. 92: complete bowl from room B10 (inv. no. 570)	p. 315
Pl. 93: complete globular flask from room B10 (inv. no.: 576)	p. 316
Pl. 94: Coptic ostrakon from room B4 (inv. no.: 4)	p. 316
Pl. 95: plan of the Small East Church at Kellis (from Bowen 2003a, 154)	p. 317
Pl. 96: Dura Europos, plan of house before (A) and after (B) conversion	
into a <i>domus ecclesiae</i> (from Wharton 1995, 27)	p. 317
Pl. 97: plan of the church of Douch (from Reddé 2004, 83)	p. 318
Pl. 98: plan of the church of Shams ed-Din (from Reddé 2004, 84)	p. 318
Pl. 99: plan of the church complex of Ain el-Gedida (with a distinction	
among public, semi-public, and semi-private areas)	p. 319
Pl. 100: unjustified access map of the church complex	p. 320
Pl. 101: justified access map of the church complex	p. 320
Pl. 102: main (red) and secondary (green) axes of movement within	
the church complex	p. 321
Pl. 103: recognizable streets and passageways on mound I	p. 321

Chapter I

Research Overview

Summary

The following chapter is an introduction to the present work. It articulates its main subject, its goals, and the intellectual framework that was the foundation of both the preliminary research in the field and the subsequent analysis and synthesis of the data. The methodology followed in the collection of the evidence and its discussion is stated, as well as the basic sources (literary and documentary) and the previous studies that provided both inspiration and significant references in the research and writing phases of the dissertation. Furthermore, the contribution of this work to the field of Coptic studies is taken into consideration, with particular regard to the early developments of Christian architecture in Egypt during Late Antiquity. An outline of the various sections, with a brief description of their main subject and content, ends the chapter.

I.1. Introduction

This dissertation focuses on the fourth-century church complex that was unearthed at the site of Ain el-Gedida, in the Dakhla Oasis of Upper Egypt. Its discovery occurred in 2006 and its excavation was completed in 2007, with further work carried out in the area immediately surrounding the complex in 2008.¹ The aim was to provide the first extensive, detailed, and critical study of the church complex of Ain el-Gedida.

¹ For the reports on the three most recent seasons of excavation, cf. Aravecchia 2006-2008.

The site was never fully studied before, nor do any publications exist about its archaeological remains, apart from a short article written by Mr. Kamel Bayoumi, who conducted excavations at the site between 1993 and 1995, on account of the Supreme Council of Antiquities of Egypt,² and an essay I wrote about the 2006 digging season.³ I analyzed the evidence collected in the field during three seasons of excavation (2006-2008) carried out under the direction of Roger Bagnall, in which I served as the archaeological field director.⁴ Because the amount of evidence about the church and its adjoining rooms is very large, its use had to be selective, with the aim of supporting the archaeological and historical analysis that is at the core of this work. The discussion of the material remains was not limited to their description, which was, nonetheless, necessary as I dealt with new, unpublished material. I did not treat the available data separately; instead, I considered them within the overall architectural framework of the complex. My goal was to gain as much information as possible on the original construction phase and the later development not only of the church and the large gathering hall to the north, but also of the several rooms that, at some point, came to be part of the same complex. Indeed, it is the study of the architectural origins and expansion of the complex as a whole, which involved a multi-phased process of demolition, alteration, and addition of features, that interested me and played a significant role in my dissertation.

I investigated the origins and architectural development of the church complex of Ain el-Gedida in order to gain a better, although incomplete, understanding of its

² Cf. Bayoumi 1998.

³ The conclusions of which were included in this dissertation. The publication of my article is forthcoming.

⁴ The three seasons of excavation were sponsored by Columbia University.

meaning and the function/s -religious and utilitarian, of a more or less public nature- that the complex might have served before it was abandoned, possibly sometime in the second half of the fourth century CE. To accomplish this, I considered the church complex not in isolation, but within the overall topographical framework of the site, including, in particular, the area immediately surrounding or directly connected to the complex. As stated more amply below, I paired a descriptive approach with comparative analysis of other Late Antique churches discovered and studied within and outside Egypt. Furthermore, I turned to methods of spatial analysis in my study of the church complex of Ain el-Gedida, looking for more evidence to add to the information provided for by the archeological data. I was particularly interested in investigating how the fourth-century inhabitants of the site (at least those who had to do with and accessed the complex) used spaces such as the church, the large hall, and the surrounding areas, taking advantage of the rooms with a more public nature to promote interaction or using those less easily accessible for less public activities and functions.

From the beginning of this research project, the church complex of Ain el-Gedida stood out as an exceptionally significant case study for several reasons, of a chronological, geographical, architectural, and artistic nature. It would have been unfeasible to study, in a scientifically complete fashion, all the unpublished buildings excavated and/or documented at the site thus far. This should rather be the aim of a final archaeological report, while the nature of this dissertation differs substantially from it. Indeed, this project engages in a series of approaches to the analysis of the archaeological evidence that is wider-ranging than with regard to a standard report. Nonetheless, it is the first step toward a project that will see the documentation, study,

and publication of all the architectural features excavated at the site, including those that were the object of archaeological investigation in 2008 and those excavated by the Supreme Council of Antiquities and documented by our mission.

Although this dissertation is centered on the church and the adjoining set of interconnected rooms, it soon became clear that a reasonable work of analysis, with as the fullest possible understanding of the complex as its main goal, could not disregard the investigation of the general topographical and architectural environment of which the church complex was an integral part. In particular, the discussion on the meaning and possible functions that could be assigned to the complex, and also on the nature of the community that used it, could largely benefit from a broader-range examination of the evidence available for the whole site.

One of the most puzzling -and intriguing- pieces of this line of investigation concerned the identification of the settlement of Ain el-Gedida. The question of what the site was, what specific function/s it might have served, and who might have built it arose among scholars soon after the local Coptic and Islamic inspectorate started excavations at Ain el-Gedida in the mid-1990s. The early interest in these questions depended mostly on the rather unusual layout of the architectural features that were visible above ground, particularly on the main mound (I) of the site (cf. pls. 6-7). The topography did not resemble that of any standard Egyptian village or town of Late Antiquity, as documented at other archaeological sites. Scholars who visited Ain el-Gedida at the time of the first excavations initiated this debate. One of the first ideas that was brought forth identified Ain el-Gedida as a fourth-century monastic site. This suggestion caught a high degree of attention among scholars, especially because no other monastic establishments had ever

been found in Egypt whose last occupational phase dated no later than the fourth century CE. Also, the settlement lies in an area where written sources testify to the existence of early monastic communities.⁵ The proposed identification of Ain el-Gedida as a monastic site seemed to receive further support and evidence when the large church complex was discovered at the center of mound I and then fully excavated. The archaeological investigation of the site during the 2006-2008 excavation seasons allowed us to gather data that supported this identification, but also information that challenged it. New possible interpretations were brought forth, which might shed light on the history of the site of Ain el-Gedida and its church complex. These ideas, based on archaeological and documentary evidence and historical studies about the social, economic, and political history of the area in Late Antiquity, differed quite radically from the reading of Ain el-Gedida as a monastic site. They explained the peculiarities of the site not as the product of architectural forms answering the needs of a coenobitic monastic community; instead, they offered alternative readings, based on considerations of a military or economic nature.⁶ None of the possible interpretations could be ruled out completely, but, on the other hand, none could be found to be the true answer beyond any doubt. Nonetheless, this investigation was particularly fruitful, as it allowed a broader and more meaningful interpretation of the archaeological data about the church complex and the whole settlement. Furthermore, this analysis helped to contextualize the site of Ain el-Gedida within the framework of the Dakhla Oasis and, more generally, Egypt in Late Antiquity, embracing several and multi-faceted issues.

⁵ Evidence for the existence of a Manichaean monastic community in the oasis is pointed out in Bagnall 1997, 136-37; 207. On Manichaeism in Dakhla, cf. three essays by I. Gardner (2000, 1997a-b).

⁶ Cf. the outline below and chapter VI for more detailed information.

Therefore, this dissertation not only provides a detailed and critical discussion of an unpublished church complex that, for its early dating and its typological peculiarities, is very significant for the study of Christian architecture in Late Antique Egypt. It also engages in a broader analysis of the archaeological evidence of a particular site to enhance our understanding of the concrete, tangible forms in which the social, religious, and economic world of Egypt -at least part of it- expressed itself. Dealing with the most significant questions, which were raised during and after the excavation and research part of the Ain el-Gedida project, and trying to answer to them is what led to the writing of this dissertation, with the awareness that further, and more extensive, archaeological investigation could substantially enhance our knowledge on many of the above-mentioned issues.

I.2. Methodology and Contribution

As said above, the analytical approach to the study of the archaeological evidence, as much as necessary at least at a preliminary stage, was carried out in conjunction with comparative analysis between the church of Ain el-Gedida and other examples of Christian religious buildings, for which scientific documentation and established dating exist. Examples from Egypt were the object of a close look, which, as will be seen later on, underscored, apart from limited similarities, the basic architectural originality of the church complex of Ain el-Gedida. The only Egyptian example that stood out as a strong case in point, as it offered major typological parallels and was also built in the first half of the fourth century CE, is the “Small East Church”, so called by the excavator, located at the site of Kellis in the Dakhla Oasis, only a few miles from

Ain el-Gedida.⁷ This comparative work held the search for common architectural and typological traits as its main goal, which did not -and could not- include the investigation of possible prototypes, as no other churches have been excavated thus far that are recognizably earlier than the complex of Ain el-Gedida, at least with regard to Egypt. In order to increase the possibility of fruitful comparisons, the analysis was extended to embrace churches and other types of Christian cultic buildings outside Egypt. I focused my attention and efforts particularly on other regions of Northern Africa and the Near East, which shared with Egypt not only a geographical proximity, but also a political, economic, and social network in which artistic and architectural forms and ideas could easily circulate and influence local varieties.

At any rate, the methodology employed in my dissertation is not purely analytical and comparative in nature, nor is it limited to archaeological and art historical sources. As I mentioned above, I extended my analysis to include, especially in chapter V, methods of spatial analysis. In particular, I applied “Space Syntax Analysis”, which developed first in the field of urban studies. One goal of Space Syntax Analysis is to investigate how space can be used to shape and affect human interactions -within a more or less complex set of rooms- through means of access control. Space Syntax Analysis provided significant information on the organization and use of space in the church complex. It helped shed light, suggesting possibilities about the nature and purpose of rooms for which the archaeological evidence did not provide clear answers. However, the investigation of the specific function/s assigned to the rooms of the church complex was not the main goal; indeed, in many instances it was simply impossible to ascertain

⁷ Cf. Bowen 2003a and Aravecchia, forthcoming. For a brief introduction to Kellis/Ismant el-Kharab, cf. Hope 1999a.

beyond doubt what the specific usage of each room was throughout its occupational life, even in the presence of a consistent body of archaeological evidence.

Chapter VI of this dissertation reflected the widening of my research project and its scope, to include an investigation about the nature of the site as a whole. The conclusions I reached in this chapter are not definitive and are open to possible revision, which could be fruitfully carried out on the basis of further archaeological investigation at the site. Notwithstanding the inevitable degree of uncertainty, this line of analysis opened new possibilities toward a more comprehensive understanding of the church complex itself, as a public, multi-functional set of spaces located at the center of a relatively small, but densely constructed, mound.⁸ Its topographical and architectural contextualization within the whole site was based on the available archaeological evidence and the topographical work carried out in the 2006-2008 field seasons. The archaeological evidence was not analyzed and discussed in isolation, but was evaluated in light of the invaluable contribution offered by the existing literature on the political, social, and economic history of Egypt in Late Antiquity.⁹ The identification of Ain el-Gedida as the settlement of a fourth-century monastic community, brought forth by some scholars in the 1990s, was discussed in light of the discovery of the church complex and all the available evidence from the site. As said above, other possible interpretations on the nature and functions of the site came to light, as possible alternatives, while excavating and later processing the range of data that had been collected.

⁸ And possibly carrying a significant role in relation to the other mounds surveyed in the vicinities of mound I. Cf. chapter II for more information on the topography of the site.

⁹ Cf. below for a more specific discussion about the sources used in this dissertation.

As a result, this process added, on one hand, substantial pieces of information to the study of the site as a whole and of its inhabitants. On the other hand, this different, wider-ranging approach allowed, once again, a more inclusive understanding of the church complex itself, of the possible reasons for its construction and later development, and of its overall meaning.

The contribution of my dissertation to the field of Coptic studies is multi-faceted. First, the archaeological site of Ain el-Gedida is mostly unknown to the scholarly world, but has already proved exceptionally rich in information about Early Christian architecture. In particular, the church complex excavated on the main hill of the site is unique and of great significance, because of its layout, its multi-phased development, and the unusual -and sometimes puzzling- functions assigned to its rooms. Even though some close typological similarities exist between the church of Ain el-Gedida and the above-mentioned example from Kellis, the complex of Ain el-Gedida, including the church and its adjoining rooms, has strong architectural and functional peculiarities, which make it an exceptionally relevant case-study.

The significance of my research project is also linked to the very early chronology of the church complex. Archaeological and comparative evidence has established its dating to the fourth century CE; no datable material was found attesting later phases of occupation of the church and the whole site. Based on this dating, the church complex of Ain el-Gedida is one of the earliest, if not the earliest, Christian religious buildings discovered in Egypt until now. Therefore, its study makes a valuable contribution to our still incomplete knowledge of the first centuries of Christian art and architecture in Egypt.

Finally, the discussion about the possible identification of the church complex as part of a monastic settlement is particularly significant. Indeed, it may shed light on the earliest stages of monasticism in fourth-century Egypt, about which very little is known from an archaeological point of view. However, this identification is subject to several reservations and cannot be proven beyond doubt with the archaeological evidence currently at our disposal. The other possible interpretations of the site, and of the church complex within it, may also contribute to increase our knowledge on what is known, from other sources, about the social and economic world of the Dakhla Oasis and, more in general, Egypt in Late Antiquity.

I.3. Sources

An extensive work of documentation, accompanying the excavation activity, was carried out in the field. The large amount of data that were collected and elaborated was the main resource employed in writing this dissertation. The documentation in the field, including measurements, description, drawings, plans, and photographs of all architectural features, pottery, and small finds, was first recorded in paper format. Then, all data were entered into a database expressly created for the project of Ain el-Gedida.¹⁰ All forms, plans, and drawings were scanned and linked to the database, which also included the topographic work carried out at the site and the photogrammetric images of the most relevant architectural elements. The creation of a database containing the entire documentation allows a faster and easier access to the data. These can be searched by different keys and the results of the inquiries are presented in a systematic and

¹⁰ On the basis of the database used at the excavations of Amheida. Both databases were developed by Bruno Bazzani.

straightforward fashion, which makes the study of the documentation by the specialists more consistent with the methodology and standards adopted at Ain el-Gedida and, therefore, more productive. The current database, built in Access, will soon be replaced by an on-line version. It will be accessible to the general public and, particularly, to the specialists working on the Ain el-Gedida documentation, making it easier to update the content of the database, and also share the results of the scientific analysis of the data.

Volumes have been published dealing with general aspects of Egyptian history, society, economy, and religions in Late Antique Egypt.¹¹ Undoubtedly, the most significant of them is *Egypt in Late Antiquity*, by Roger Bagnall. By providing a detailed and complete picture of Egypt in the fourth century CE on the basis of archaeological, textual, and documentary evidence, it is an indispensable resource for the scholars in the field.¹² I used this book as a primary reference point to set my work within the overall historical, economic, and social framework of Late Antique Egypt. Furthermore, my work on Ain el-Gedida largely benefited from the more recent publication of another volume edited by R. Bagnall, *Egypt in the Byzantine World, 300-700*.¹³ The book contains a series of contributions by leading scholars in the field of Late Antique Egypt, who adopted different lines of inquiry, clearly inspired by their own disciplines, and offered various perspectives on the subjects under investigation. The book proved how significant and productive a collaborative effort, with the sharing of different competencies, can be for the advancement of the study of Egypt in the Byzantine world. Further help on how to adopt correct methodological approaches to the subject of my investigation came, in particular, from a volume dealing with several aspects of Egypt in

¹¹ Most of them are listed in the bibliography at the end of this volume.

¹² Cf. Bagnall 1993.

¹³ Cf. Bagnall 2007.

Hellenistic and Roman times.¹⁴ Its several articles allowed me to gain a broader perspective on several topic-related issues; more generally, I became fully aware of how much, in the field of Late Antique studies in Egypt, still needs to be discovered, but, even more notably, how much of what has been discovered requires new rigorous, multi-disciplinary investigation and analysis, in order to achieve meaningful and valuable results.

Significant sources on the history, the physical environment, and the work carried out at several archaeological sites of the Dakhla Oasis are the volumes edited by the “Dakhleh Oasis Project”, which was established in 1978. These volumes include valuable information on the oasis also in Roman and Late Antique times; therefore, they are relevant to the study of Ain el-Gedida and, in particular, of its fourth-century church complex. The comparative analysis that I carried out in this dissertation benefited from the work done at Kellis by Gillian Bowen. She excavated three churches, among which is the one example, mentioned above, that shares many typological similarities with the church of Ain el-Gedida. The results of her investigation were published, for the most part, in two volumes of the D.O.P series.¹⁵

Several archaeological reports dealing with Christian churches and monastic sites in Egypt were also taken into consideration, as they offered useful references for comparative analysis. A work that played a key role in the preliminary phases of my research project, and to which I turned in the writing process of my dissertation, is *Christliche Architektur in Ägypten* by Peter Grossmann.¹⁶ This monumental study does not merely consist of a series of archaeological plans and data, extrapolated from his

¹⁴ Cf. Bagnall 2006.

¹⁵ Cf. Bowen 2002 and 2003a.

¹⁶ Cf. Grossmann 2002a.

own research and the work of other archaeologists. It is rather an extensive study of the various types and artistic forms in which Christian architecture expressed itself, revealing not only the liturgical needs, but also the artistic preferences of Egypt in Late Antiquity and the following centuries. The ground-breaking work of Grossmann is still a reference point for archaeologists and art historians working on Early Christian Egypt.

Scholarship of spatial analysis universally regards the work of Bill Hillier and Juliette Hanson as pioneering.¹⁷ As said above, their method developed in the field of urban studies, but soon the basic concepts and ideas of Space Syntax Analysis were also employed by scholars in other fields. Among them were Mark Grahame, who applied concepts of Space Syntax Analysis to Roman architecture, and David Clarke, who made use of this method in the study of Early Christian architecture.¹⁸ These were primary sources for the methodology of my dissertation and I turned to them particularly in chapter V, in which I discussed forms of spatial analysis applied to the church complex of Ain el-Gedida. Relevant to my research was also the work of Roman archaeologists such as Yvon Thébert and Andrew Wallace-Hadrill, who aimed to examine the relationship of public and private, grand and humble, within the Roman *domus*.¹⁹

At the end of this volume is an extensive bibliography, listing most of the sources and critical studies that were considered in writing this dissertation.

¹⁷ Cf. Hillier and Hanson 1984 and Hanson 1998. Significant was also the contribution of Anthony Giddens, with his concept of “presence-availability” applied to physical spaces where human interaction takes place: cf. Giddens 1984, 70 ff.

¹⁸ Cf. Grahame 1997 and Clark 2007.

¹⁹ Cf. Thébert 1987 and Wallace-Hadrill 1988 and 1994.

I.4. Outline of Chapters

In chapter II, “Ain el-Gedida and the Dakhla Oasis”, I provide a geographical, topographical, and historical frame to the archaeological site of Ain el-Gedida as a whole. The physical context in which the site is located and that surrounds it is discussed, focusing on aspects such as the easy accessibility to water in a fairly deserted area and its proximity to a major archaeological site such as Kellis. These aspects are significant for a thorough understanding of the site of Ain el-Gedida, and of its church complex, within the natural, historical, economic, and social environment of the Dakhla Oasis in the fourth century CE. A primary role in this context was played by the rise of Christianity and its spread into the region of the Western Desert, where it had a deep impact on the landscape of the oasis and on the life of its inhabitants. For this reason, a section is dedicated to the analysis of the archaeological and documentary evidence for Early Christianity in Dakhla.

In the same chapter, I review the history of the excavations carried out at Ain el-Gedida, focusing mostly on the work done by the joint SCA-Columbia mission in 2006 and 2007 and the Columbia excavations in 2008.²⁰ In addition, I take into account the information that was possible to gather about the three seasons, conducted by Mr. Kamel Bayoumi of the local Coptic and Islamic Inspectorate, between 1993 and 1995. This was an especially difficult task, as no documentation existed of any work carried out at the site during those three years, with the consequent loss of a vast, unquantifiable amount of data. The architectural features unearthed in the 1990s are for the most part still standing, but no information was recorded about the excavation process, in particular

²⁰ In 2007 the excavations at Ain el-Gedida were no longer carried out as a joint project, but they were run as an independent project by Columbia (under SCA supervision, like any other foreign archaeological project in Egypt).

concerning the stratigraphy of the deposits and the findings within those deposits. A small number of objects found in these excavations are currently kept in the antiquities magazine in the New Valley Museum in Kharga. Although no documentation exists for their find-spots, they were drawn, photographed, and examined.

Furthermore, the chapter offers a general discussion of the archaeological remains of Ain el-Gedida, which are spread on the five mounds of the site and include the buildings unearthed in the 1990s, those excavated between 2006 and 2008, and those made partially visible by natural agents (pl. 6). Although not all of these buildings were central to this dissertation, their introduction, within the more specific discussion of the church complex, provided a necessary framework. A study of the physical remains of Ain el-Gedida, in relation to each other and to the physical environment in which they were located, was essential in the discussion carried out especially in chapter VI; indeed, it provided considerable information that led to a deeper understanding of the nature and function/s of the site as a whole, in which the church complex occupied a rather central place (not only in a physical sense).

Undoubtedly, the archaeological evidence played a key role in this research project. It follows that the way in which such evidence was gathered and documented was crucial to my analysis and its scientific results. The excavation and documentation method adopted at Ain el-Gedida since 2006, largely borrowed from the system used at the site of Amheida, is explained in this chapter. Stratigraphic excavation by room within a grid (not physically laid out in the field) created by the topographers; documentation of “deposition stratigraphic units” (DSUs, which include natural layers) and “feature stratigraphic units” (FSUs, consisting of artificial features such as walls,

floors, etc.); gathering of artifacts and their conservation, recording, and analysis by professionals in the field: these are some of the aspects that granted the work carried out at Ain el-Gedida a systematically scientific character.

Chapter III, “The Archaeological Record”, offers a detailed analysis of the church complex, including the areas immediately surrounding it that were the object of archaeological investigation (pl. 8). I thoroughly discuss the church (room B5), the large hall to the north of it (A46), a long corridor, serving as the only entrance to the complex (B7), an anteroom with kitchen facilities (B6), a storage room/pantry (B9), and a staircase (B8), in light of the results of the 2006-2008 excavations. For each room, the features still *in situ*, such as walls, floors, doorways, niches, etc., are described according to their measurements, state of preservation, material/s used, construction technique, and function. Significant was the discovery of graffiti within the church (room B5) and the anteroom/kitchen of the complex (room B6). They include a few Greek/Coptic inscriptions and drawings, among which are boats and a bird. Although these graffiti will be the object of future study and publication, they are introduced in the discussion of the archaeological record, together with the preliminary conclusions about their meaning, which have been put forth by experts in the field.

The analysis is carried out within the broader picture of the complex as a whole. The immediately adjacent rooms, such as B10 to the west, the once-vaulted passageway B11 to the south, rooms B12, B14-B15 to the east, and B13 to the southeast of the complex are discussed as well. Once again, the goal of this chapter, or of any other chapter of this dissertation, is not to provide a complete description of all the features that were excavated within the church complex and then documented, as it is not the

place to accomplish this goal. The final site report will carry out a comprehensive study of the whole body of archaeological data collected at Ain el-Gedida. It will be a different project and will be published separately.

The primarily analytical character of this section is integrated by a discussion, still in chapter III, about the architectural development of the church complex. A considerable amount of data was collected, during the excavation and the documentation process of the archaeological remains, proving the existence of different phases of construction within the church complex. Clear signs of reconstruction were visible in the church itself and in the large gathering hall to the north of it, which altered significantly the dimensions and the general layout of those rooms. The investigation also revealed the existence of foundation walls below floor level, belonging either to previous buildings or earlier construction phases of the church and its adjacent room (A46). In addition, extensive and substantial clues were found and recorded that showed how the complex was significantly altered in its northern part, with the enlargement of some rooms and the addition of new ones (including a staircase leading to a second floor or a roof of adjacent buildings).

Although the archaeological record has, in some instances, proved to be of difficult or ambiguous reading, the interpretation of the data allowed a better understanding of the architectural history of the church complex, its development, the change in the physical relations among the spaces, old and new, and, as a possible consequence, the shift in their functions.

The material evidence collected during the 2006-2008 excavation seasons, particularly within the church complex, is introduced as well, including lamps, ostraka,

fragments of cloth and ropes, metal and wood objects, etc. Special consideration is given to ceramics and coins, due to their significance as dating material. The small finds supplied important information on the rooms where they were found, on the chronology of the church (as said above, especially in the case of coins and pottery), and possibly on the function -or functions- performed in the different areas of the complex. Their study is significant and its results valuable for a better understanding of the church complex when they are carried out not in isolation, but together with a careful analysis of the architectural remains. Sadly, it was noticed how, in several instances, the objects were found in rather disturbed, and by consequence unreliable, contexts, decreasing (but not erasing completely) their value as dating material.

In chapter IV, “Ain el-Gedida and Christian Architecture of Late Antiquity”, I consider the church complex of Ain el-Gedida within the general framework of fourth-fifth century Christian architecture, in Egypt and beyond. In the case of Egypt, several ancient churches were the object of archaeological investigation and were, although not always thoroughly, published. In the last few decades, the resurgence of a general interest in Egyptian Coptic Christianity has been accompanied by a greater awareness, among scholars interested in Late Antiquity, of the value and significance of Christian Egypt’s rich heritage, which included artistic and architectural forms and idioms. A renewed, more rigorous inter-disciplinary study of Christian sites and monuments, both in the Delta and the Valley, has substantially increased our knowledge on the first developments of Christianity in Egypt, shedding light on key historical, social, economic, and artistic aspects.

Grossmann's above-mentioned volume *Christliche Architektur in Ägypten* played a particularly significant role in writing this chapter, which focuses on comparative analysis between the church of Ain el-Gedida and other examples of Christian cultic buildings. I examine the architectural types applied in the construction of the church at Ain el-Gedida in relation to others used at different sites; the goal is to verify how original, or common, such types were within the overall context of Christian architecture in Egypt, at least concerning the examples that are known to us. The data resulting from the comparative analysis, in which datable buildings are considered, help in the discussion of chronology, introduced in the previous chapter.²¹ The information is tested against the results obtained with the examination of the archaeological record, including pottery and coins. Unfortunately, it does not help that the chronology of many of the churches excavated in Egypt has not always been established on incontrovertible evidence.

A serious challenge to my investigation was the lack, noticeable in some publications, of a detailed documentation of rooms adjacent -and in some cases interconnected- to churches and, in general, buildings of monumental nature, which seem to have been privileged by some scholars.²² Therefore, this chapter centers on, although is not limited to, the church (room B5) and the room to the north of it (A46) at Ain el-Gedida, both of which have more evidence for comparative analysis.

A preliminary investigation of known architectural types allowed the identification of a high degree of originality with regard to the church of Ain el-Gedida. As mentioned above, the only example known to me of a building sharing consistent

²¹ And examined more lengthily in chapter V.

²² And often still are.

typological similarities with rooms B5 and A46 is the Small East Church at Kellis.²³

Located in the proximities of the site of Ain el-Gedida, the church has an almost identical layout, with a large rectangular space opening to the south into an apsidal room through two doorways, a smaller one to the west and a wider passage in the middle. The similarities are quite striking. The dating, which is based mostly on the evidence provided by coins, is also consistent with the dating of the church complex at Ain el-Gedida. Nonetheless, substantial differences were also noticed, especially in the later phases of architectural alteration of the building. These peculiarities make the church of Ain el-Gedida a highly original example in the context of Christian archaeology in Egypt, at least for what is known to this day.²⁴

The comparative analysis of the church of Ain el-Gedida is not limited, from a geographical point of view, to the region corresponding to modern Egypt. As mentioned above, forms and languages, both in secular and religious architecture, spread frequently in the Byzantine world, even in regions very far from each other. This process led to the development of different artistic and architectural forms. It was an uneven phenomenon, in which foreign ideas could either influence local idioms, creating new artistic expressions, or develop in parallel with them. Therefore, it was necessary to broaden the geographical spectrum of my comparative investigation to include other regions of the Byzantine world, in which Christianity left consistent traces of its artistic and architectural forms. In the end, the aim was to either corroborate the initial impression of a strong typological originality of the church complex of Ain el-Gedida or, instead, to reassess that judgment, in light of possible similarities with other, roughly

²³ Discussed in Bowen 2003a.

²⁴ This statement is, therefore, susceptible to revision in light of new discoveries in the field, which have been occurring at a high pace in the last decades.

contemporary, examples of Christian architecture in the Mediterranean world.

Particularly significant in this context is the *domus ecclesiae* of Dura Europos, in Syria.

It is one of the earliest and best-known Christian public buildings, in which a domestic architectural unit was readapted to answer the cultic needs of a Christian community.

The strong similarities -but also the differences- with the church of Ain el-Gedida (and the gathering room to the north/A46) are emphasized and discussed.

In chapter V, “The Church Complex and Mound I: Models of Spatial Analysis”, I apply methods of spatial analysis to the church complex of Ain el-Gedida and to neighbouring buildings. The discussion regarding the archaeological evidence, as carried out in chapter III, attested the impossibility, already pointed out, to achieve, solely on the basis of the archaeological record, a full understanding of the way people used space within the church complex. While the purpose of some rooms was identified with a reasonable degree of certainty, as in the case of the church (room B5) or the entrance corridor (room B8), the assignment of a specific function (or functions) to other rooms could not be proved beyond doubt. In face of this challenge, it was imperative to look at this issue from different points of view and turn to other approaches, which could help shed some light.

One model of spatial analysis examines the relationship of public and private, of grand and humble, within any spatial configuration consisting of multiple, interconnected rooms. The same concepts, used by Roman archaeologists, can be applied to Christian architecture.²⁵ A visual representation of this method, with regard to the church complex of Ain el-Gedida, was obtained dividing the overall space into

²⁵ Cf. Thébert 1993 and Wallace-Hadrill 1994, ch. 2. On the use of the terms public and private as applied to the Roman *domus*, cf. Hales 2003, in particular 58.

differently colored areas, each identifying varying degrees of accessibility into each room.

Another valuable methodology for the investigation of spatial relations is “access analysis”. Through the identification of patterns of access control and availability, calculated with mathematical formulas, it provides a graphic illustration of the relations of each space with its immediate neighbors and the other spaces of the same building. Ultimately, access analysis can provide a significant contribution in identifying models of control and use of space, for example showing which rooms of the church complex had, at the time of their construction and use, a higher degree of privacy and which spaces were, instead, more easily accessible and of a more “public” nature.

A few years ago, I applied the above-mentioned methods of spatial analysis to Coptic monastic hermitages, with significant results.²⁶ I believe these approaches, in particular access analysis, to be very interesting ingredients in typological analysis. They proceed independently of textual and archaeological evidence and can be of considerable help, especially when other sources of evidence are scanty or of questionable reliability. Nevertheless, their findings should always be integrated with, and tested against, the data provided by the archaeological record and the written sources.

As mentioned above, one must recognize that in several instances, when studying either public or private architecture in antiquity, functions cannot always be clearly assigned to a specific space or set of spaces. In the case of Ain el-Gedida, the reasons are several, including the lack of enough documentary evidence, but two stand out above all.

²⁶ Cf. Aravecchia 2001, in which I examined the use of space in monastic cells at the Lower Egyptian site of Kellia. A preliminary version, including examples from the hermitages of Esna, is Aravecchia 1999.

One is that most rooms were the object of substantial architectural alterations through time; this possibly affected, even radically changed, how and for what purpose these spaces were used, as confirmed by the archaeological evidence in numerous instances. The second reason is that at least some of the rooms of the church complex might have well been multi-functional spaces, where different activities could have been performed within the same occupational phase. If this were the case, it would just be impossible, and not make sense, to try to single out a specific, univocal function for each space. These are the instances when space syntax analysis can be applied and provide useful results, with the aim of supplementing the archaeological evidence.

Chapter VI, “Monastery or Village? Considerations on Ain el-Gedida and Its Fourth-Century Church”, ends this dissertation. It consists both of conclusions from the previous chapters and of original remarks about the nature, development, and function of the church complex at Ain el-Gedida. Its originality and/or adherence to architectural and artistic standards of fourth-century Christian Egypt are assessed and emphasized. I also newly evaluate what contribution the archaeological investigation carried out at Ain el-Gedida will give to the field of Christian/Coptic studies. In particular, I consider how it will further our (still incomplete) knowledge about the earliest stages in the development of Christian architecture in Egypt.

The chapter begins with a discussion regarding issues of chronology, both relative and absolute, which were raised in previous chapters in relation to the church complex and, more broadly, the entire site. The aim is to reach some preliminary conclusions, based on the available data, concerning the history of the site, from its development to the possible time and reasons for its abandonment.

At present, the archaeological and documentary evidence, consisting of physical remains *in situ*, ceramics, and especially coins, point to a very early dating for the creation of the complex, that is to say, the first half of the fourth century CE. Very few coins were found, either in reliable or unreliable contexts, later than that period²⁷ or earlier than the second half of the third century CE. Therefore, the occupational life of the church complex seems to have been relatively short. The limited time range under consideration, the poor condition of several features, and their structural complexity due to several alterations affecting them, made it very difficult to deal with issues of relative and absolute chronology of the different construction phases. Particularly unfortunate was the absence, within the area of the church complex, of dating materials undoubtedly associated with the remains of the earliest buildings below floor level.

A significant aspect of this chapter consists in the broadening of the dissertation's scope, to integrate the overall site into the discussion of the church complex. Since the very first excavation season, the issue that caught the highest degree of attention and interest concerned the nature of the site, identified either as a rural village or a monastic settlement.²⁸ The highly unusual layout of most of the buildings excavated thus far; the existence of a large area for the storage and production of considerable quantities of food; the presence of a church complex located in a central position within the main mound of the site: all these factors raised significant discussion about the site of Ain el-Gedida, its nature, and the role it played in the Dakhla Oasis during the fourth century CE. No conclusive archaeological evidence has been found yet proving the existence of forms of monastic life at Ain el-Gedida. Also, the general plan

²⁷ Also, for some of these "late" coins, their identification and dating was rather tentative; it is the case for the so-called "Vandalic imitations".

²⁸ For a brief review of this topic, cf. Bayoumi 1998.

does not seem to offer, at first glance, the picture of an organized monastery, built to answer the spiritual and earthly needs of a community of monks living a coenobitic life. Nevertheless, it is important to keep in mind that the structures surveyed and excavated thus far appear to be datable to the fourth century, at a time when one could hardly expect to see already-standardized forms of monastic architecture. The current lack of other fourth-century monastic settlements in the region does not allow comparative analysis, which might help in clarifying the problem. On the other hand, the presence of a church with a large gathering hall and adjoining a set of interconnected rooms, not far from a wide kitchen presumably serving a large number of people, seems to leave the question open. The data collected during the excavations are also ambiguous, pointing for example, in the case of an ostrakon, to the possible presence of monks in the area,²⁹ and, in the case of several fragments of bracelets and other jewels, to a strong female element.

Aside from the difficulty of categorizing Ain el-Gedida as a monastic settlement, there are several peculiar features, among which the seemingly “public” or “communitarian” nature not only of the church but also of numerous buildings (especially in the southern half of mound I), that at first sight do not support the identification of the site as a fourth-century village. A careful examination of the topography of the site, combined with the study of ostraka and other small finds collected during the excavations, led to the formulation and discussion of alternative interpretations for Ain el-Gedida. According to one of the possible readings, the

²⁹ Although not necessarily at Ain el-Gedida. As discussed later in chapter VI, the ostrakon, which is a letter from a certain Apa Alexandros to another man named Nikolaos, does not clarify the monastic affiliation of the former. Indeed, the Coptic word *apa* does not always designate an ascetic man, but may simply identify him as a Christian: Bagnall (personal communication, January 2008). On the use of this term in Byzantine Egypt, cf. Derda and Wipszycka 1994.

excavated areas might belong to a settlement inhabited, for the most part, by wage-workers, who were seasonally employed in the running of a large country estate, and possibly their families.³⁰ They might have come from relatively far villages, therefore finding it necessary to temporarily settle at Ain el-Gedida, either alone or with their families.³¹ Another tentative interpretation holds Ain el-Gedida as a small military outpost, depending on a larger fort located in the Dakhla Oasis, for which documentary evidence exists.³² At any rate, there is also some ground not to rule out the identification of Ain el-Gedida as a fourth-century village, without any peculiar military or economic affiliation. The discussion will take into consideration and evaluate the arguments in favor of (but also those against) this possible reading.

The excavation and documentation of a large part of the site is needed to hopefully find an unambiguous answer to these issues, which go beyond the scope of this dissertation. Nevertheless, a preliminary discussion of what the nature of the site might have been was believed to be essential at this stage, too, in order to place the church complex within the religious, social, and economic framework of the site.

Following chapter VI is a set of plates to which I referred in all chapters. They include: satellite images; the micro-relief of the area; site maps; room plans (original and elaborated); photographs of the church, the whole complex, and of all investigated areas on site; photogrammetric images of the most significant architectural features; finally, access analysis maps of the church complex.

³⁰ Cf. Banaji 1999, 206-07.

³¹ The presence of structures, especially in the northern half of mound I, that seem typologically similar to domestic units might suggest that families lived at Ain el-Gedida.

³² Very recently, archaeological evidence was found of a Roman *castrum* at the site of El-Qasr, to the northwest of Ain el-Gedida.

Chapter II

Ain el-Gedida and the Dakhla Oasis

Summary

The chapter provides a geographical and historical framework of the Dakhla Oasis and the site of Ain el-Gedida. It begins with an introduction to the oasis, including data on the topography of the region, its natural and human environment, and a brief history of the exploration of Dakhla. Although they concern the oasis as a whole, these data are presented here as they are relevant to a better understanding of the natural and human environment associated to the church complex of Ain el-Gedida. Particular attention is paid to the evidence for Early Christianity in Dakhla; the goal is to obtain as clear a picture as possible on social and religious life in the oasis, especially in the fourth century CE, when the church of Ain el-Gedida was built. The topography of the site is then presented and discussed, followed by a history of the archaeological investigation carried out at Ain el-Gedida. The methods of excavation and documentation, adopted by the international mission that worked at the site between 2006 and 2008, are included in the discussion. An introduction to the overall archaeological remains surveyed and excavated at Ain el-Gedida ends the chapter. The church complex is not discussed here, as it is the object of full analysis further ahead.

II.1. The Dakhla Oasis: Geographical and Historical Framework

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 oases that lie west of the Nile Valley, including Siwa, Bahariya, Farafra, Dakhla and Kharga.

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 an area of *ca.* 410 km². 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 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

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.

⁴ Especially in the months from March to June: cf. Kleindienst et al. 1999, 3.

⁵ *Idem*, 2.

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. The Darb el-Tawil is 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 Tartar 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 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

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.

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 and connecting channels, 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 of 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

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 *Idem*, 173, on the irrigation systems used at Dakhla in antiquity and modern times.

¹² Cf. Vivian 2000, 115. Cf. also Bagnall and Rathbone 2004, 262. On *qanats*, cf. Wuttmann 2001.

life-style and 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 since *ca.* 2300 BCE, likely employed in the agricultural exploitation of the fertile land.¹⁷ Archaeological evidence of settlements spanning 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, who supported a program of intensive agricultural development.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

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 the Romans were also interested in the extraction of alum.

oasis reached its highest population density and its 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.²³

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.²⁴ 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.²⁵ 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 Frederic 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.²⁶ In

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. chapter II.2. for archaeological and documentary evidence on Christian settlements in Dakhla since the fourth century CE.

²⁴ Cf. Starkey 2001 and Kleindienst et al. 1999, 7-8.

²⁵ Cf. Edmondstone 1822.

²⁶ Cf. Rohlfs et al. 1875.

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 1896.²⁷ In 1908, H. E. Winlock and Arthur M. Jones traveled to Dakhla, and Winlock published a detailed account of his trip in 1936.²⁸ 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.²⁹

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.³⁰ 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.³¹ 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.³²

²⁷ Cf. Beadnell 1901 and Vivian 2000, 39-42.

²⁸ Cf. Winlock 1936.

²⁹ Cf. Harding King 1912.

³⁰ Cf. Fakhry 1982 and Mills 1985.

³¹ Cf. Thurston 2003, 17-22.

³² Cf. the D.O.P website: <http://www.arts.monash.edu.au/archaeology/excavations/dakhleh/index.php>.

II.2. Christianity in the Oasis

Christianity seems to have spread and developed early in Egypt, including the region of the Western Desert.³³ 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.³⁴ 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.³⁵

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 Dakhla Oasis Project survey, carried out from 1977 to 1987, recorded well over one hundred archaeological occurrences providing evidence for human occupation in the oasis in the Byzantine Period (*ca.* 300-700 CE).³⁶ For most of the sites listed as “Byzantine”,³⁷ 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 Metta and near Muzawwaka, provide evidence

³³ On the beginnings of Christianity in Egypt, cf. Bowman 1996, 190-202, Wipszycka 1996, and Davis 2004.

³⁴ 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 1996, 1997, and 2007b.

³⁵ 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).

³⁶ 119 “Byzantine” sites are listed in Churcher and Mills 1999, 263-64.

³⁷ Although not necessarily occupied only in that period.

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.³⁸ 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, documentary, and archaeological evidence has shown that Egypt was a profoundly Christianized country already in the fourth century.³⁹ 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.⁴⁰ 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.⁴¹ 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, that can be accessed via a step, is located along the east wall. The conch is

³⁸ Cf. Bowen 2003b, 168-71. The excavation of another Christian cemetery in Dakhla, located near Rashda, has been planned by Bowen (2008, 2).

³⁹ While the evidence for earlier times is somewhat scantier: cf. Bagnall 1993, 278-80.

⁴⁰ Cf. Bagnall 1993, 261-68.

⁴¹ Cf. Knudstad and Frey 1999, 189; 201; 205).

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.⁴² This opens onto a cluster of seven rooms forming an architectural complex together with the church. The area covered by these spaces, whose function is unclear, roughly equals the church in size.⁴³ 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.⁴⁴ According to the numismatic evidence, the foundation of the complex occurred around the mid-fourth century CE.

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

⁴² There is a second door in this wall, opening onto a long, narrow room possibly used as a magazine: cf. Bowen 2002, 77.

⁴³ 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.

⁴⁴ Although Grossmann believes that the nature of the complex was administrative: *idem*, 78.

⁴⁵ Whose exact shape and size are unknown.

⁴⁶ Cf. Knudstad and Frey 1999, 205-6, and Bowen 2003a.

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 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, as said in chapter I, 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

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.

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.

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 the church and surrounds a central area paved with flagstones. *Mastabas* are built against the north, west and south wall. 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

⁵¹ Grossmann identified it as an *ambo*, although Bowen is in disagreement (cf. Bowen 2002, 73). For its similarities (and differences) with the podium found in the church of Ain el-Gedida, cf. chapter III and also Aravecchia 2007, 1.

⁵² Cf. Bowen 2002, 67.

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 flourishing 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 thriving 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. 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

⁵³ *Idem*, 71.

⁵⁴ *Idem*, 81-83.

⁵⁵ For a discussion on the chronology of the church of Ain el-Gedida, cf. chapter III.

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.

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 Metta,⁵⁹ located 3.4 kilometers to the northwest of Rashda, in the northwest part of the oasis, had already been noticed in 1908 by H. E. Winlock.⁶⁰ In 1980, D.O.P. members surveyed the mound atop which a church was located, with walls standing at a considerable height above ground level.⁶¹ The building is oriented east-west and is rectangular in shape, measuring *ca.* 24 m east-west by 10.5 m north-south. The walls are over 1 m thick and were built in sections, originally supporting a beamed roof.⁶² A *mastaba* is visible at ground level, built against the northern section of the west wall. A triconch is set inside the church, along the east wall; two rooms are located behind it, against the northeast and southeast corners of the

⁵⁹ D.O.P. number 32/405-A7-1.

⁶⁰ Cf. Winlock 1936, 24; pls. 12-13.

⁶¹ Up to 6.5 m in the western section of the north wall: cf. Bowen 2008, 3. A window is still visible within the south wall, *ca.* 3 m above floor level.

⁶² *Idem*, 3.

building. A door was possibly set within the north wall, although it is not clear if it was originally the only access to the church.⁶³ According to the plan drawn by Peter Grossmann, 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. 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.⁶⁴ Consistent evidence of different construction phases was detected, as well as traces of burials linked with the church and a block of rooms more to the west;⁶⁵ the latter were tentatively associated with a small-scale monastic establishment, whose existence in Late Antiquity is suggested by the modern name of the site.⁶⁶ According to the report of the 1980 D.O.P. season, fifth-century coins and ceramics datable from the fifth to the seventh century were collected during the survey and the test excavation.⁶⁷

In 2008, Gillian Bowen surveyed the church of Deir Abu Metta and carried out excavations in its proximities.⁶⁸ The testing confirmed the existence of burials around the building and of structures pre-dating and post-dating the church. The small finds collected during the excavation, including coins, ceramics, and an ostrakon, were all dated to the fourth/fifth century CE, with no evidence from earlier or later centuries.⁶⁹

⁶³ Bowen noted how this doorway, *ca.* 84 cm wide, might have been too narrow to function as the main entrance.

⁶⁴ *Idem*, pl. 180. Little archaeological evidence of the two east-west colonnades is available, and only in the western section of the church.

⁶⁵ The surveyors found walls below floor level within the church, but could not identify them beyond doubt as part of an earlier religious building: cf. Mills 1981, 185.

⁶⁶ Cf. Grossmann 2002a, 565-66; plan 180; pl. XVIa. 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 A preliminary report is Bowen 2008, mentioned above. Bowen re-opened the test trench dug by the D.O.P.

⁶⁹ Cf. Bowen 2008, 3.

Hence, it is possible that the church of Deir Abu Metta was built earlier than originally thought at the time of the D.O.P. survey or by Grossmann.⁷⁰

Both churches at Deir el-Molouk and Deir Abu Metta are still largely unexcavated and only their plans, together with brief descriptions, were published.⁷¹ Some additional information can be found in Grossmann's work on Christian archaeology in Egypt, together with plans of both churches. New trenches were dug at Deir Abu Metta in 2008 by Gillian Bowen. Thorough archaeological investigation at the site was begun in 2009.⁷²

In February, 2009, Kamel Bayoumi of the local SCA 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, which open onto side *pastophoria* through small doorways.⁷³ 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.

Documentary evidence, although not abundant, also testifies to the existence of Christian communities in the oasis in the fourth century. One example is a Coptic letter, on papyrus fragments, discovered during the excavation of House 2 at Kellis and

⁷⁰ Cf. Grossmann 2002a, 566, according to whom the church was built right before the Arab conquest.

⁷¹ Cf. footnotes above for the bibliography concerning the two sites.

⁷² Some preliminary work was carried out in 2008: cf. Bowen 2008, 7-11.

⁷³ Information based on a personal visit to the site.

published by Iain Gardner.⁷⁴ 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.”⁷⁵ This letter is quite significant, as it points to the presence of fourth-century monastic communities in Dakhla, for which no incontrovertible archaeological evidence has been found thus far, apart from modern toponyms that might be related to ancient monastic establishments.⁷⁶

Another letter from House 4 at Kellis, also dated to the fourth century and still unpublished, contains a reference to “Father Shoei of Thaneta”.⁷⁷ It might be an additional reference to a monastery in Dakhla, although the reading of “Thaneta” as a Coptic word for “monastery” is not beyond doubt.⁷⁸

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 resembles 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

⁷⁴ Cf. Gardner, Alcock, and Funk 1999, 131-34.

⁷⁵ *Idem*, 133.

⁷⁶ Such as Deir el-Molouk and Deir Abu Metta. 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.

⁷⁷ Iain Gardner (personal communication, November 2007). I am grateful to Prof. Gardner, who will edit and publish the letter, for the reference and helpful comments.

⁷⁸ As Gardner pointed out, 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.

into a mosque under the Ayyubids.⁷⁹ 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.

As already remarked in chapter I, 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 shedding light on the process of far-reaching transformations that the society of the oasis experienced, at all levels, possibly under Licinius and certainly since the advent of Constantine's rule in Egypt in 324.⁸⁰

II.3. Ain el-Gedida: Topography of the Site

⁷⁹ Leemhuis, unpublished comments (February 2008).

⁸⁰ Cf. Bagnall 1993, 279-80.

Ain el-Gedida is located three kilometers north of the village of Ma'sara and to a short distance to the northwest of the ancient site of Kellis (Ismant el-Kharab) (pls. 2-3). 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.

The area is spotted with fairly numerous trees, bushes, and palm trees, which grow thanks to the easy accessibility to water. One source lies in a sunken depression a few meters to the east of mound I;⁸¹ 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.

The toponym of Ain el-Gedida, which means “the spring of the new [village]”, points to the relative wealth of water in the area as a significant factor of 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. This inscription, of a rather

⁸¹ 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.

utilitarian content, mentions a toponym that is the precise Coptic correspondent of the modern name “Ain el-Gedida”.⁸² Therefore, it is possible that 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 (pls. 5-6): four of them (mounds I-V) are relatively close to each other, while one (mound V) lies at a certain distance from the other hills. 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 (pl. 4). 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 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 with 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 (pls. 6, 26).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 m².

⁸² If the correspondence were confirmed, the ostrakon would be the first known piece of written/documentary evidence about Ain el-Gedida.

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.

About 48 m south of the main hill and 13 m southwest of mound II is mound III (pls. 6, 27). 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 m².⁸⁵

Mound IV lies 106 meters to the southwest of the main hill of Ain el-Gedida (pls. 6, 28). 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;⁸⁶ it extends over an area of about 1500 m².

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 (pls. 6, 29).⁸⁷ It measures about 16 m from east to west and 11 m from north to south.⁸⁸ The few surveyed archaeological remains extend over an area of approximately 130 m², although the measure is particularly approximate because of their particularly poor state of preservation.

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 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.⁸⁹ 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

⁸⁵ Cf. footnote 83.

⁸⁶ *Idem.*

⁸⁷ Cf. section II.6 below.

⁸⁸ Cf. footnote 83.

⁸⁹ A problem that is common to several other sites in the Dakhla Oasis: cf. Zielinski 1999, 186.

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 Dakhla Oasis Project in 1980, the overall extension of the settlement is three hectares.⁹⁰ The CAD topographical map, which was generated using the data from the 2006-2008 survey, allowed us to calculate an overall extension of *ca.* 7600 m² for the five mounds.⁹¹ Since it was not possible, for the above-mentioned reasons, 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.⁹²

II.4. Archaeological Investigation

As mentioned above, members of the Dakhleh Oasis Project carried out, in 1980, a preliminary survey of Ain el-Gedida, as part of their third season of investigation.⁹³ 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.⁹⁴ 116 sites were recorded in an area of approximately 161 square kilometres, dotted with numerous wells, springs, and water channels, the latter undated but no longer in use at the time of

⁹⁰ 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.

⁹¹ It is impossible to establish, with any degree of precision, a comparison between the archaeological features that were visible above ground at the time of the 1980 survey and those surveyed after more than twenty-five years.

⁹² Therefore, the full extent of the settlement, at least in its latest phase of occupation, cannot be determined with any degree of certainty. However, it might have been larger than the figure calculated for the visible archaeological remains at the time of the topographical survey, as also suggested by aerial imagery.

⁹³ A brief report of the work carried out during the 1980 season, including few notes on each surveyed site, is Mills 1981.

⁹⁴ *Idem*, 176.

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”.⁹⁵ Among them was Ain el-Gedida, unknown from documentary or literary sources.⁹⁶ 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, presumably on the large mound; this space was cleared of the windblown sand that had accumulated in it and excavated down to 2.80 meters from ground level.⁹⁷

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.⁹⁸ 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 1999.⁹⁹

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.

⁹⁵ *Idem*, 182.

⁹⁶ 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.

⁹⁷ 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.

⁹⁸ 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.

⁹⁹ Additional information may be available in the notebooks of the D.O.P. surveys.

Ahmad Salem and Mr. Kamel Bayoumi.¹⁰⁰ The investigation focused on the southern half of the largest mound (mound I, pls. 6-7), 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, pl. 7) 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.¹⁰¹

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 those years on several architectural features, such as walls and especially doorways, which were in danger of

¹⁰⁰ 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.

¹⁰¹ While the rooms investigated later on mound I were given the letter B.

collapse due to their exposure to the elements and to the lack of protection provided for by the sand.¹⁰²

Unfortunately, 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.

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.¹⁰³ 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 2004.¹⁰⁴

In 2005, a short, preliminary visit to Ain el-Gedida was conducted by Olaf Kaper, Mr. Bayoumi, and me, in order to assess the conditions 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

¹⁰² Several signs of this restoration activity are easily recognizable nowadays.

¹⁰³ Cf. Bayoumi 1998, 57-62.

¹⁰⁴ Cf. Bagnall and Rathbone 2004, 264-65.

specialists was developed, thanks to the funding provided by Columbia University and Roger Bagnall.¹⁰⁵

Archaeological investigation was resumed in the second half of January 2006 and lasted for fifteen days.¹⁰⁶ Before scientific work started, an absolute elevation for the site was taken using a differential GPS system.¹⁰⁷ 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 (pl. 6). The data were downloaded in Autocad and their elaboration brought to the creation of the first detailed map of the site.

¹⁰⁵ 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 Dziejczak (2007-2008), Maria Guadalupe Espinosa Rodriguez (2008), Francesco Meo (2006), archaeologists; Gillian Pyke (2006), Delphine Dixneux (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 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.

¹⁰⁶ From 19 January to 2 February. Cf. Aravecchia 2006.

¹⁰⁷ With the technical support of Dr. Jennifer Smith of Washington University, St. Louis.

Furthermore, the five mounds were surveyed with a magnetometer, which revealed six anomalies in the ground in the area south of mound I.¹⁰⁸ 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.¹⁰⁹

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 (pl. 7). The layout of rooms B1-B3 (and of the two unexcavated rooms along the north side of B1) suggests that they belonged to a domestic unit. Another room (B4) was excavated to *gebel* southwest of rooms B1-B3 (pl. 7). At least in its latest phase of occupation, the room was used as a dump, as suggested by the large quantity of ash, charcoal,¹¹⁰ 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 (pl. 8). 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 field season, when the excavation of B5 was then completed.

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

¹⁰⁸ The survey with a magnetometer was carried out by Dr. Tatyana Smekalova, at that time from St. Petersburg State University, Russia.

¹⁰⁹ Smekalova (personal communication, February 2006).

¹¹⁰ With no trace of smoke on the walls.

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.¹¹¹ 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.¹¹² Windblown sand was removed from all of them and detailed notes and photographs were taken.¹¹³ 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.

In 2007, the research project at Ain el-Gedida became under the complete scientific directorship of R. Bagnall, although forms of collaboration with the local Coptic and Islamic Inspectorate continued.

Before the beginning of the 2007 excavation season,¹¹⁴ two rooms previously excavated by the SCA -A6, identifiable as a large kitchen, and A7 to the northeast of A6- (pl. 7), 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

¹¹¹ Rooms A2, A5, A9, A14, A15, A25 (pl. 7).

¹¹² Rooms A1, A3, A4, A6, A24, A26, A27, A28, A34, A38-A40, A46 (pl. 7).

¹¹³ 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.

¹¹⁴ Which was carried out from 20 January to 15 February. Cf. Aravecchia 2007.

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 (pl. 8). 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.

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 geo-morphology 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 later 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 finds 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.¹¹⁵ 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 (pls. 7-8). A long, E-W oriented passageway (B11) was excavated to the south of the church, along the north edge of area A (excavated by the SCA in the 1990s). To the east of the church, a long N-S oriented street, with a rather irregular layout, was investigated. It crossed another E-W 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.

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.

¹¹⁵ The excavation was carried out from 8 January to 14 February. Cf. Aravecchia 2008.

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 begun by specialists.¹¹⁶

¹¹⁶ The results will be published in a final excavation report, in collaboration with the SCA.

II.5. Methods of Excavation and Documentation

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.¹¹⁷ The system followed very closely the one used at the site of Amheida and developed in its details by Paola Davoli.¹¹⁸

The project director held the scientific leadership of the entire mission and the overall responsibility for its organization and management. An archaeological 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. The archaeological director led a team of archaeologists, who were 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 mission. Up to the

¹¹⁷ Cf. Carandini 2000, Harris 1989, Spence 1994. Also, cf. above I.4.

¹¹⁸ Useful information about the methods adopted by P. Davoli is found in her 2005-2008 Amheida site manuals, for use by all members of the excavation project.

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 extensive archaeological investigation.

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,¹¹⁹ 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,¹²⁰ and described in detail, following common standards, on pre-printed

¹¹⁹ Many of the features were already recognizable before the clearance, as was the case for most rooms of area A, which had already been investigated by the Egyptians.

¹²⁰ For each DSU and FSU, at least one photograph was taken showing the N arrow and basic information about the unit indicated in a photo-board. The elevations of all DSUs, FSUs, and special small finds were taken using either a total station or, as was more often the case, with the help of an optical level. In this

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 partly described above,¹²¹ 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 or already visible on the five mounds, were included, as well as more recent features such as the guardians' 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 the help of a software program, 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 on 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

case, the absolute heights were calculated on the basis of the day height, which was registered each day after the setting of the instrument.

¹²¹ Cf. chapter II.4.

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 significance¹²² 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

¹²² For example, complete ceramic vessels, coins, and ostraka.

analysis on forms and fabrics performed.¹²³ 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.¹²⁴ They were assigned field numbers and photographed *in situ*; then, they were cleaned, recorded, and photographed. Their analysis was carried out by Roger Bagnall.¹²⁵

Over one hundred and fifty coins were found on mound I at Ain el-Gedida between 2006 and 2008.¹²⁶ Unfortunately, several were in a very poor state of preservation. Most of them were assigned field numbers and photographed *in situ*.¹²⁷ 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 begun by David Ratzan, who compiled a preliminary catalogue and wrote a preliminary report.¹²⁸

Several of the objects (ceramic vessels, lamps, and coins among others) uncovered during the 2006-2008 excavations were registered by representatives of the

¹²³ 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.

¹²⁴ Or possibly nine Greek and three Coptic.

¹²⁵ Dorota Dziedzic will publish the ostraka from Ain el-Gedida, under supervision of R. Bagnall.

¹²⁶ More than one hundred only in the 2008 excavation season.

¹²⁷ Unless they had been found while sieving, therefore out of their original archaeological context.

¹²⁸ David Ratzan will be in charge of the publication of the coins from Ain el-Gedida.

local Coptic and Islamic Inspectorate of the Supreme Council of Antiquities. They are currently in SCA storage facilities in Dakhla¹²⁹ and accessible by permit.

Soil samples, including ash and sand rich in organic material, were collected from secure contexts for archaeobotanical analysis.¹³⁰ 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.

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 very 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.

¹²⁹ Except for the nine objects that were uncovered in the 1990s and kept in the Kharga Museum.

¹³⁰ A preliminary analysis on the 2006 samples was carried out by Johannes Walter of the Vienna Institute for Archaeological Science, Austria.

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.¹³¹

II.6. The Archaeological Remains

Mound I. As said above, 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.

Area A. Although no documentation survives from the investigation of area A, the topographical and architectural survey that was carried out resulted in a significant amount of information on the buildings located in the southern half of mound I. 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

¹³¹ As said above, to further facilitate the access to the documentation by all members of the Ain el-Gedida mission, and, to a limited degree, by the general public, the database will soon be available on-line.

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.¹³² Unambiguous archaeological evidence was found for this addition of architectural features to earlier structures, which were often subject themselves to heavy alterations (as 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 (particularly in rooms A9 and A25), of foundation trenches belonging to earlier walls.¹³³ 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, as instead were discovered in area B. Most rooms were not shaped into separate clusters, but rather interconnected among them to form a complex network, which extended throughout

¹³² On mud-brick architecture in Dakhla, cf. Schijns 2003.

¹³³ 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.

most of the southern part of the hill. 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 from smaller sets of rooms toward the southeastern edge of the hill.¹³⁴ The possibility that these groups of rooms might have been domestic units cannot be ruled out; however, their poor state of preservation and the fact they are largely filled with windblown sand does not allow a completely secure identification of their function.

More firmly identifiable as magazines are a set of three rooms (A2-A4) described below. 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.

As mentioned above, among the several rooms excavated by the Egyptian mission between 1993 and 1995 in area A, six 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 brief discussion of these rooms follows.

¹³⁴ Presumably built at a later time than the original, central core of structures in area A.

Room A2 is located in the southwest corner of the main hill (pls. 7, 11). It measures about 5 by 3 m and its mud-brick walls are preserved to a height of 1.42 m. It was accessed from a small courtyard (A1) through a doorway placed in the south wall; remains of a rectangular niche are visible in the middle of the north wall. A2 is the westernmost of three narrow, rectangular rooms (A2-A4) that might have functioned as small storage areas and seem to be later additions to the adjacent rooms to the north.¹³⁵ Room A2 was originally barrel-vaulted, with the vault springing at a rather low height from the floor, making the room quite unsuitable for living purposes. A large basin of unfired clay, of about 1 m in diameter, is set at floor level in the northeast corner of the room; it was probably used as a storage bin.¹³⁶

A5 is a rectangular room measuring about 6.5 by 3.2 m, with mud-brick walls preserved to a maximum height of about 2 m (pls. 7, 12). It is located immediately to the north of room A2. There are two doorways, one set at the east end of the north wall and another at the south end of the east wall, leading to the large room A6 described below. Vault springs are still partially visible on the long, and fairly low, north and south walls. Three rectangular niches are inserted in the south wall, backing on the north wall of the adjacent room A2.¹³⁷ The floors of room A5 and of room A2 are in a very poor state of preservation, showing only traces of a levelled layer of grey-brown clay. A drain, made with a large fragment of a ceramic vessel, is still partially *in situ* in the west wall of the room, at floor level.

¹³⁵ Indeed, they abut rooms A5-A6.

¹³⁶ No traces of firing activities were found within or outside this feature, arguing against its identification as an oven or hearth.

¹³⁷ It is possible that these niches were originally windows, before room A2 was built.

To the northeast of room A5 is room A9, a large rectangular space measuring 3.5 by 5.25 m, with mud-brick walls preserved to the considerable height of 2.6 m (pls. 7, 13). Four doorways open into this room: two are set opposite each other in the north and south walls, and two other doors are located in the west wall. Two beautiful rectangular niches, framed by a white gypsum band, decorate the east wall; a third, arched niche is inserted in the north wall, to the right of the doorway. The room was originally barrel-vaulted; behind the east vault spring is a wall that might indicate the existence of an upper storey.¹³⁸ The presence of a stairway in the adjacent room A6 supports this possibility. An L-shaped foundation trench, filled with a course of mud-bricks still visible at ground level, is perhaps to be associated to another, earlier structure the walls of which were levelled when the compacted mud floor, now in poor condition, was laid.

Two other rooms were cleared in the north part of area A, that is, rooms A14 and A15, measuring 3.5 by 4 m and 2.5 by 3 m respectively (pls. 7, 14). They were accessed through a doorway set in the west wall of A14 and opening onto a north-south passage, which led to the area of the church complex. Another door, located at the west end of the south wall of room A14, allowed passage into room A15. The mud-brick walls are preserved to a considerable height, 2.6 m in A14 and 2.45 m in A15. Both rooms, originally barrel-vaulted, are characterized by beautiful niches, some of which are framed with bands of white gypsum plaster.¹³⁹ Traces of white plaster with a few Greek letters 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

¹³⁸ Nicholas Warner, who visited the site, confirmed this possibility (personal communication to Gillian Pyke, February 2006).

¹³⁹ Room A14 has two arched niches on the west wall, to the sides of the doorway, and another round-topped niche in the south wall. An arched niche is set in the middle of the west wall of room A15.

uncertain. The floors of both rooms are poorly preserved; room A14 shows a few, irregular remains of mud-brick features at floor level, presumably traces of earlier phases of occupation.

Another room, A25, was cleared of sand and recorded in the central part of area A, more to the east (pls. 7, 15).¹⁴⁰ It measures 3.60 by 3.90 m and the maximum height of its walls, bearing few traces of a barrel-vaulted roof, is 2.48 m. The room was accessed through two doorways, one set at the west end of the south wall and another at the south end of the west wall. A rectangular niche, with a stone lintel still *in situ*, is inserted in the east wall, to the south of a doorway -bricked in at some point- located at the north end of the same wall. Consistent traces of a compacted mud floor are visible in the northwest corner of the room and the foundation trench of an earlier wall can be detected in the centre. Several complete and almost complete ceramic vessels, as well as hundreds of smaller pottery sherds, were found below the original floor level. It is possible that they had been deposited there to flatten the uneven geological surface before the floor was laid out.

A significant effort was also made, in 2006 and 2007, to fully document room A6, centrally located in the southern half of mound I and to the north of the three narrow rooms (A2-A4) preliminarily identified as magazines (pls. 16-17). Room A6 was partially excavated by the Egyptian team in the 1990s and is identifiable beyond doubt as a kitchen. 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 shared a similar situation. A6 is a large, rectangular room

¹⁴⁰ As said above, 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 restraints, during the 2007 season.

(it measures about 7 by 4 m) with two doorways. One is set between the northwest and the northeast walls and opens on a long, narrow passage oriented north-south and leading to a passageway running northwest-southeast to the area of the church. The other door is located at the south end of the west wall and gives access to room A5. At the time of its investigation, the floor level was not identified throughout the room, as it seemed to have suffered heavy disturbances.¹⁴¹ A low mud-brick wall, running north-south and in line with the west wall of the passageway (A8) to the north of the room, cuts through A6. Because of its poor state of preservation, its original function is unknown. A staircase is set against the northeast wall, supported by a mud-brick vault; it was originally built above a stratified deposit of many thin layers rich in ceramic and organic inclusions. To the south of this deposit, and projecting from it, is a mud-brick rectangular feature, possibly reinforcing the staircase, although its exact nature and function are not clear yet. To the east of the stairway, two walls were constructed with a very poor construction technique: one is set against and follows the north sector of the east wall of the kitchen, while the other runs east-west from the staircase, abutting the east wall; a small room (A7) was thus created, separate from the kitchen and accessible only through the vault supporting the highest ramp of steps. The stairway runs north-south and then turns clockwise, apparently obstructing the passage into A8 and suggesting that during at least the latest phase of occupation of this room the passage into the corridor was no longer used. The high walls of room A6 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

¹⁴¹ Lacking the rooms any documentation of its 1990s investigation, it is difficult to determine whether such disturbances occurred exclusively in antiquity or also in modern times.

this space was actually an open courtyard. The possible absence of a roof is also suggested by the existence of at least three ovens built at some point here (pl. 18). 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.¹⁴² The former appears to belong to the “Later Type” of ovens, following Yeivin’s classification, or “Type II-Subtype a”, according to Depraetere: that is to say, a circular ceramic oven, built on a raised earth platform and surrounded by mud-brick partition walls.¹⁴³ Parts of another round oven were found *in situ* in the southeast sector of the kitchen, as well as remains of another missing installation behind it.¹⁴⁴ The southeast corner of the room opens on a very narrow passage (A29) with numerous traces of ash that were detected against its walls; this space might have been used, perhaps, as a dump for the ash cleared from at least some of the ovens in the kitchen. The archaeological evidence shows beyond doubt that room A6 went through several construction phases, which involved the alteration of most of the walls of the room and of the staircase. As it is possible to see on the plan of mound I, room A6 was located in a rather central position and led, through the straight passageway A8, to an area in the proximity of the church and of the gathering hall. Also, the dimensions of the kitchen and the presence of at least three ovens might suggest that the facility served a fairly large group of people.

¹⁴² Photographic evidence exists of its original location *in situ*.

¹⁴³ Yeivin 1934, 114-15, and Depraetere 2002, 123-25.

¹⁴⁴ This installation was originally set near the southeast corner of the room, where the archaeologists discovered consistent smoke marks (against the east wall) and ash (filling a hole cut through the remains of a very low barrel vault). 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.

Area B. 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. 19). 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 in quadrants, can be detected to a certain extent. Sets of interconnected rooms, 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. The results of archaeological investigation in this area (concerning, in particular, rooms B1-B3) point to its identification as a residential area, with the smaller groups of rooms-plus-courtyard as domestic units. The southern part of area B reflects a more irregular arrangement, which might be the result of a less planned, multi-phased rearrangement of space on mound I. However, evidence was found, within the area of the church complex, of earlier structures that likely reflect the patterns of domestic architecture identified in the north part of the hill.

A remarkably large structure, rectangular in shape, lies toward the northern edge of mound I (pl. 20). 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. 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.¹⁴⁵ 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.¹⁴⁶ In particular, the remains of a *columbarium* were recently discovered and investigated by Colin Hope at the site of Kellis, in the proximity of Ain el-Gedida.¹⁴⁷ 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.¹⁴⁸

Ten meters west of the pigeon tower, three rooms (B1-B3) were excavated to floor level (B1) and gebel (B2-B3) in the northwest sector of area B (pls. 7, 21). Room B1 measures 3.15 by 6.45 m and opens onto rooms B2-B3 along the south side and two

¹⁴⁵ As preliminarily proposed by R. Bagnall, C. Hope, and A. Mills (personal communications).

¹⁴⁶ Cf. Churcher and Mills 1999, 251-65. A published farmhouse from Dakhla is in Mills 1993.

¹⁴⁷ Cf. Hope 2007, 16-21. A plan of the *columbarium* is published in Hope and Whitehouse 2006, 315.

¹⁴⁸ 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.

unexcavated rooms along the north side. Another doorway is located on its west side and gives passage to an area that was not investigated. The mud-brick walls, which are preserved to a maximum height of *ca.* 1.80 m, were originally coated with mud plaster. Archaeological evidence shows that room B1 was originally flat-roofed. A niche is partially preserved in the east half of the north wall. A clay floor was uncovered in rather good condition during the excavation. On the southwest corner of room B1 a well-preserved mud hearth was found with a high density of ash, charcoal, and seeds. Room B1 opens, along the west half of its south side, onto room B2, measuring *ca.* 2.50 by 2.50 m. The room is very poorly preserved overall, with a clay floor that is largely destroyed. The clearance of the sand from inside the room revealed the *gebel* on which the floor was originally laid. The mud-brick walls, preserved to a maximum height of 1.35 m, were coated with mud plaster, which is a typical feature of several buildings throughout the site. A niche was inserted in the east wall; today it is only partially visible, due to the collapse of the roof and of the upper courses of the wall and to wind erosion. 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 1.30 m. The room still shows a few traces of a beaten earth floor, built above *gebel*. The lower part of a niche is set toward the north end of the east wall. Several traces of palm rib impressions and straw matting were found on the mud plaster and bricks in the collapse layer excavated immediately above floor level, suggesting that originally this room had a flat roof. Of interest is the white gypsum band decorating the northeast corner of this room; it partially frames the niche on the east wall and continues on the

north wall, following an irregularly stepped pattern the purpose of which is still unclear (pl. 22).¹⁴⁹

The layout of rooms B1-B3 (and of the two unexcavated rooms along the north side of B1) suggests that they belonged to a domestic unit. The size of the three investigated spaces is *ca.* 42 m², while the entire area of the building, including the two rooms to the north, is about 64 m². The overall layout shows a rather simplified spatial arrangement, compared with that of other houses found at Kellis or Amheida, in the Dakhla Oasis.¹⁵⁰ At any rate, the identification of rooms B1-B3, and the two unexcavated spaces to the north, as a house seems to be supported by the presence of the hearth in the southwest corner of the central court. Furthermore, the typology of the ceramic vessels found in those rooms is undoubtedly domestic.

Another room (B4) was excavated to the southwest of rooms B1-B3 (pls. 7, 23). Room B4, measuring 4.90 by 2.70 m, has mud-brick walls that are preserved to a maximum height of about 2.30 m near the southeast corner. The access to this room was originally through a doorway located at the north end of the east wall. During the excavation, 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, altering the structure of the room itself. The presence of several sectors of walls that are not bound but abut earlier walls and form the north side of room B4 provides additional evidence of these modifications. The large quantity of ash, charcoal (with no trace of smoke on the walls), organic material, broken objects, and pottery sherds found during the excavation suggests that the room was used as a dump at some point.

¹⁴⁹ P. Davoli pointed out that similar bands were found at the site of Amheida (personal communication).

¹⁵⁰ Cf. Boozer 2007, 197.

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 (pls. 7, 9, 24-25). The complex is 18.50 m N-S by 7.10 m E-W and has walls preserved to a maximum height of 2.19 m to the east, while the north and west parts of the complex were subject to a severe process of erosion and all features are preserved above *gebel* to a low height. The east wall is characterized by the presence of ten regularly spaced niches; it is possible that the west wall was niched as well, but it is currently preserved to a lower level than the one at which the niches would have been placed. Two rectangular rooms are located in the southern part of the complex, B17 and B18. To the west is B17, measuring 3.73 m N-S by 1.76 m E-W, with walls preserved to a maximum height of 1.04 m. The room was accessible through a doorway located at the northern end of the east wall. The north and south walls and the stratigraphy of the room were subject to substantial shifting, as several large cracks suggest.

To the east of B17 is room B18, whose dimensions are 3.65 m N-S by 3.21 m E-W (maximum walls' height: 2.19 m). B18 seems to have been the only access to the whole complex of rooms B17-B24. A mud-brick staircase, which was found, in fairly good condition, against the southeast corner of B18 once gave access to an unexcavated area. Puzzlingly, no wall was found against the south side of the staircase, and no traces of a south wall for room B18 were identified. A mud-brick rectangular feature was also built against the northeast corner of B18, with a large stone slab placed horizontally on top of this structure and two channels running to both sides. The nature and original function of this feature have not yet been identified. Consistent traces of at least two floor levels were found throughout the room. An analysis of the walls and the study of

the stratigraphy of B17 and B18 shows that these two rooms had not been built originally as separate spaces, but only some time after the construction of the long east and west walls of the complex.

A large and poorly preserved doorway opens from room B18 into room B19, the largest space of the complex. B19 measures about 9.10 m N-S by 4.74 m E-W and has walls preserved to a maximum height of 1.91 m (E wall). The east and west inner walls, built against earlier ones, and the south wall of B19 suggest that the room went through different phases of construction, as seen for rooms B17-B18. 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. In the northwest corner of the room a mud and mud-brick hearth is preserved to the south of an earlier hearth partly visible within the floor. In the northeast corner of B19 traces of a roughly rectangular clay basin are visible, embedded in the latest floor. 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. A smaller but deeper stone and clay basin, of a roughly rectangular shape, was found in the southeast corner of the room. A further circular bin, made of clay, was found, not *in situ* and in a very poor state of preservation, while excavating the deposits in the southern half of the room. The presence of all these features, seemingly pertaining to a small-scale industrial establishment, and the discovery of a significant number of sherds of unbaked vessels, led to the preliminary identification of the complex, at least in its late occupational phase, as a workshop for the production of ceramic vessels.

Room B19 opens onto a set of four rooms to the north through three smaller openings. A very small rectangular room (B20), measuring 1.83 m E-W by 1.73 m N-S

and whose poorly preserved walls measure 0.93 m at their highest point, could be originally accessed through a central doorway, which is on an axis with the main entrance from room B18 into room B19. A floor of compacted mud, with organic inclusions and small pottery sherds, had been laid out directly on *gebel*, hiding the foundation courses of the surrounding walls.

To the north, room B20 opens onto room B21, which measures 1.83 m E-W by 1.55 m N-S and has walls preserved to a maximum height of 0.65 m. This small space is located at the north end of the complex, on its N-S axis. A narrow facing was built inside the room, abutting the south face of the north wall; its precise function could not be ascertained.

Rooms B20-B21 are flanked by two symmetrically placed rooms: B22 to the west and B23 to the east. B22 measures 4.27 m N-S by 1.64 m E-W and has walls preserved to an extremely limited degree due to erosion: their maximum height is 0.60 m. The north and west walls are almost completely missing. Very limited traces of a compacted mud floor were uncovered above *gebel*.

Room B23 measures 3.54 m N-S by 1.57 m E-W; its walls are, by comparison, slightly better preserved, with a maximum height of 1.06 m. Larger patches of a floor of compacted mud were preserved below the stratigraphical units. Among the small finds that were uncovered in this room are three small complete vessels, which had been buried in a hole beneath the foundations of the west wall of B23.¹⁵¹

¹⁵¹ Several small fragments of a funerary mask were found scattered mostly in rooms B20, B21, and B23. They were the object of preliminary conservation by Laurence Blondaux: cf. Blondaux 2008. A preliminary comparison was established with third-fourth century funerary masks found at Kellis: cf. Schweitzer 2002. On Egyptian funerary practices in Late Antiquity, cf. Dunand 2007.

Another very small space (B24) was built against the southwest corner of room B19. It measures 1.40 m E-W by 1.07 m N-S, with walls preserved to a maximum height of 0.75 m. A doorway placed within the east wall gave once access to it from room B19. A mud-brick step, built to the west of the doorway inside the room, leads to a mud-brick platform, as could be ascertained during the excavation of a test trench in the southern half of B24. Two lumps of unbaked clay were found in the threshold, lying on a thin layer of dark brown sand, right above floor level. Room B24 seems to belong to a later construction phase, possibly contemporary to the rearrangement of the large complex that involved also the construction of rooms B17-B18.

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, at least in its late phase of occupation, covered with a barrel-vaulted roof.

A preliminary examination of the walls and their relative chronology points to different construction phases for the complex. It is possible to argue that at a first stage rooms B17-B19, and B24 were one large, rectangular space, which was later partitioned into several rooms. Two long walls were built along the inner face of the west and east original walls, possibly to support them, as evidence was found of structural problems and of attempts to restore the complex already in ancient times. The central doorway between rooms 18 and 19 does not seem to have been the earliest entrance to the building, whose original function has not yet been ascertained beyond doubt. However, the considerably large dimensions and the layout of the complex, particularly the location of the small rooms at the north end (B20-B23) with regard to the main N-S axis and to the large room/courtyard to the south (B19), seem to point toward its

identification as a public building of certain significance, likely a temple.¹⁵² This would suggest that Ain el-Gedida had been inhabited, at least in its early occupational phase, by (some if not all) people practicing paganism and that only at a later time Christianity was universally adopted, leading to the closing and the re-functionalization of the temple on mound I. The absolute chronology of Ain el-Gedida would, therefore, appear longer and more complex than the archaeological evidence collected thus far would indicate at first. At any rate, further study, especially in-depth comparative analysis, is needed to shed light on the nature of this particularly unusual building, which was, at least in its earlier construction phase, a major landmark within the landscape of Ain el-Gedida.

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 (pls. 7-8).¹⁵³ 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 chapter III. 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 chapter III.

Notwithstanding the intense work carried out between 2006 and 2008, especially in the area of the church complex, a large number of buildings remains unexcavated in area B. Therefore, discerning the general architectural layout of this part of the site and

¹⁵² Cf. VI.3. below for evidence supporting the identification of the complex as a pagan temple.

¹⁵³ Apart from room A46, first excavated by the Egyptian team in the mid-1990s.

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. 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.

Mound II (Area C). Mound II was not the object of archaeological excavation, but the topographical survey revealed the existence of several mud-brick buildings and a street oriented NW-SE (pls. 6, 26). These structures, in most cases completely filled with windblown sand, show a rather compact -and complex- organization of space, following a pattern already identified on mound I. Also, the construction technique and the material of the surveyed architectural features (mostly walls laid in English bond, with grey-brown mud-bricks of standard size and rich in organic inclusions), seems to be quite similar to those investigated on the main hill.¹⁵⁴

Mound III (Area D). At the time of the topographical survey, very little was visible above ground level on mound III (pls. 6, 27). Small, incomplete sections of mud-brick walls were noticed, making it hard to discern the layout of any structure on the

¹⁵⁴ These similarities were observed also on mounds III-V.

mound without excavation. As noticed with regard to mound II, the material and the construction technique used on mound III correspond to those employed on the main hill and surrounding mounds.

Mound IV (Area E). Several structures were mapped on mound IV (pls. 6, 28). Most of the rooms were found almost completely filled with sand, but their layout could be identified, revealing a complex network of spaces often interconnected among them. On some of the walls remains of mud plaster and white wash were found. Parts of the vaults, originally covering at least some of the rooms, were preserved. One rectangular room, with traces of plaster and a rounded niche, was found partially empty, possibly a test excavation carried out by the Egyptian team in the 1990s.

Mound IV, as well as mounds II-III, are 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.¹⁵⁵

Mound V (Area F). No excavation activity was carried out on mound V (pls. 6, 29). Only few traces of mud-brick walls, visible a few centimeters above ground level, were identified, possibly related to two rectangular structures roughly oriented east-west. However, it was impossible to map their complete outline with absolute precision, due to the extremely poor state of preservation of the surveyed remains.

¹⁵⁵ Which is officially under the authority and protection of the Supreme Council of Antiquities.

No other major features were identified in this area, which seems to have been the object of heavy disturbance caused by agricultural activities, at least in modern times.¹⁵⁶

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.¹⁵⁷ 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.¹⁵⁸ Particular attention was paid to features that were more in danger of collapse or damage,¹⁵⁹ 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. In area A, several architectural features were the object of

¹⁵⁶ According to Mr. Bayoumi, years ago local farmers found several human bones while digging on mound IV. This fact led him to tentatively identify this mound as a cemetery in relation to the main site.

¹⁵⁷ Cf. Zielinski 1999, 185.

¹⁵⁸ 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).

¹⁵⁹ Which might have arisen from a prolonged exposure to the elements.

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.

Chapter III

The Archaeological Record

Summary

The chapter begins with a detailed description of the archaeological evidence concerning the church complex of Ain el-Gedida. The analysis does not follow the structure of a standard archaeological report; the data were selected and presented on the basis of their relevance to the key issues investigated in this dissertation.

The architectural features of the church and its adjoining rooms, but also of the spaces surrounding the complex, are then analyzed with the goal of identifying the different phases of construction and development of the church complex.

The last section of the chapter deals with the material evidence from the excavation of the ecclesiastical complex (including the excavated surrounding area) and its archaeological context. The data provided by a preliminary study of the ceramic evidence are discussed here, together with the results of the analysis on the coins found in the church and its proximities.

III.1. The Excavation of the Church Complex

As mentioned above, with regard to the archaeological work carried out at Ain el-Gedida, the church complex was first excavated in 2006 and its investigation was completed in 2007.¹ 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;² however,

¹ Cf. II.4.

² Cf. Bayoumi 1998, 57.

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 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. Several data were collected, which 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.

The church complex is centrally located on mound I, slightly toward the south, and covers an area of approximately 164 m² (pl. 7). The church (room B5) is the southernmost space of the complex and, including its apse, is its second largest room (*ca.* 35.5 m²), preceded only by the large rectangular room (A46) immediately to the north of the church (*ca.* 36.5 m²) (pl. 8). Room A46, which leads into the church to the south, also opens to the north onto room B6, a smaller rectangular space (*ca.* 10 m²) 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. Corridor B7 (*ca.* 7 m²) 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 m²) 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 m²), 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).

All rooms of the church complex, indeed all 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 Coptic architecture.³ The bricks used to build the vaulted ceilings were of a considerably larger size (*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 synthetic 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.

³ 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.

III.1.1. The Church (B5)

Room B5 is a rectangular space oriented to the east (pls. 31-33). It measures *ca.* 3.65 m north-south by 11.35 m east-west. It has walls preserved to a maximum height of 2.65 m, and was once barrel-vaulted. It was originally connected, through two doorways, to another large rectangular room to the north (A46) excavated in 1994. 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 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. 79). Nonetheless, they 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. 34). Their different orientation generates 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. 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.⁴ 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.

The west wall of room B5 is in fact a very thin facing that abuts an earlier north-south wall. 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.⁵ 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 (pl. 78, 81).

A semicircular apse occupies the middle of the east side of room B5 (pls. 35-36). The conch, whose diameter is *ca.* 1.75 m, is defined by two engaged semi-columns, with

⁴ In fact, the sectors of the north wall become four with the construction of the mud-brick plug sealing the central doorway.

⁵ 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 don't seem to have held 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.

a diameter of 34 cm and preserved to a height of 138 cm (north) and 148 cm (south).

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.

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. In the proximities of this hole is another niche, built within the eastern section of the church's north wall (pl. 44). It seems to have been constructed at the same time of the wall, not carved out of it at a later stage. The niche, of a better craftsmanship than the previous example, is rectangular in shape and stands 40 cm high 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.

The apse of the church opens to the south onto an L-shaped *pastophorion*. 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. 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. 38).

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 test trenches dug outside the apse, down to foundation level, have proved. 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, before the construction of the sanctuary.⁶

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 (pls. 39-42). It

⁶ For more details on this early wall and its architectural relationship with the later features of the sanctuary, cf. III.3. below.

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. Considering that it originally extended into the central doorway, its maximum length (north-south) is about 1.80 m. 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. 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* (pl. 43).⁷ This included two other elements, a semicircular

⁷ Kaper (personal communication, February 2006). Cf. Grossmann 2002b, 153.

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 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.⁸

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's preparation layer - *mastabas* - floor.

⁸ Cf. Bowen 2002, 73.

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. 45).⁹

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. 48). 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 of the church complex, before the expansion of rooms B5 and A46 to the west.

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.¹⁰

III.1.2. The Gathering Hall (A46)

Room A46, excavated by the SCA in 1994, is a large gathering hall located to the north of the church (pls. 46-47). 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.¹¹ 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,

⁹ Bagnall (personal communication, February 2006).

¹⁰ Cf. III.3. below.

¹¹ The maximum height applies to the west wall of the room.

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.

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. 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 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,¹² 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 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 from the west 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.¹³

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.¹⁴ 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 (pl. 80). It is 53 cm wide, 56 cm deep, and 85

¹² 17 cm.

¹³ With the exception of its bottom.

¹⁴ 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 damages, the room was completely backfilled with clean sand after complete documentation.

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 rather good conditions, 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.¹⁵ 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.

¹⁵ Up to thirty-five: cf. V.3. below.

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 (pl. 48). 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.

III.1.3. The Anteroom/Kitchen (B6)

A46 opens to the north, through a doorway by its northwest corner, onto room B6 (pls. 49, 51). 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. It 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, 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 and with a threshold 27 cm high above floor level, is built in the southern end of the north wall and opens onto a well-preserved staircase (B8), which originally led up to an upper storey or roof (pl. 56).

The mud-brick walls were first plastered in mud and then covered with a thin layer of white gypsum. 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. 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. 50); they are evidence of 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.

Graffiti can be seen on three walls of room B6, either drawn with black charcoal¹⁶ 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) (pls. 52-53); a Greek inscription, consisting of a rather commonly attested invocation to God, is written in black on the west wall, near the northwest niche (pl. 54). A six-petal rosette, inscribed in a circle, is carved in the south wall (pl. 55).

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.¹⁷ 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.

¹⁶ A likely source of charcoal was the hearth located along the north wall of the room, used for the preparation of food.

¹⁷ Cf. III.1.5.-6.

III.1.4. The Corridor/Entrance (B7)

B7 is a long corridor located along the outer face of the north wall of room A46 (pls. 57-59). It measures *ca.* 5.22 by 1.13 m and is oriented from east to west. Its north and south walls are preserved to the considerable height of 2.95 m and are in a fairly good state of conservation. 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 grey 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. Instead, the upper courses 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.

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 leaves and mud. Within the same organic-rich layer, consistent traces of burning activity (ash and small charcoals) were detected toward the west end of the

corridor, probably linked to the use of the neighboring room B6 as a kitchen. 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. At the east end, where the corridor opens onto street B12, two thresholds, associated with different floor levels, were identified.

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 whose traces 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. Instead, the southern face of the south wall of the corridor, as well as the lower sixteen courses of its north face, seem 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 down and a partially new south wall was 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.

III.1.5. The Staircase (B8)

B8 is a well-preserved staircase located along the outer side of the north wall of room B6 (pls. 60-61). 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.* 2.71 m. As seen above,

access to the staircase is via room B6 through a doorway located near the northeast corner. The staircase ascends from east to west and consists of thirteen mud-brick steps, each made of a row of stretchers topped by a row of headers and all covered with mud plaster rich in organic inclusions. 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,¹⁸ and possibly on the south vault spring of room B9 (pl. 62).¹⁹ 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 (part of the south wall of room B9), 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

¹⁸ Cf. III.2.1.

¹⁹ Discussed in length below (cf. III.1.6.).

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.

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 B9.²⁰

III.1.6. The Pantry? (B9)

Room B9 is located at the north end of the church complex (pl. 63). 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. 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. Room 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. 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 9 is not clear, due to its very poor state of conservation.

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.

²⁰ Cf. III.1.6. below.

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. 64-65). 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.²¹ The recess might have been used as a cupboard for the storage of vessels and/or food.

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.²² 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 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.

²¹ The lintels that are visible in pls. 64-65 are modern restorations at the top of the surviving height.

²² However, it was not possible to verify the architectural relationship between the razed wall and the west wall of room B6.

III.2. Investigations 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.

III.2.1. The Kitchen to the West (B10)

Room B10 is a rectangular mud-brick room, located to the west of rooms B6 and B8 and to the south of B9 (pl. 66). 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 in the east wall. 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 grey color, probably caused by cooking activities carried out inside the room. Four doorways originally opened onto room B10. One was located near the west end of the north wall, but was later bricked in and plastered over. Two other doorways are set along the west wall of the room, leading into rooms that were not objects of investigation. A fourth and larger doorway, framed along its east side by a thick mud-brick stub, is located at the west end of the south wall.

Considerable traces of ancient damage are visible especially along the east wall; indeed, a roughly trapezoidal mud-brick buttress was uncovered against it, likely built to

support the wall after a rather poor restoration (pl. 68). 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 lies in good condition in the southern half of the room, to the southwest of a circular, shallow pit. 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. 67). 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.²³ 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 out, in phase with the three other doorways but preceding the damage occurred to the east wall of the room and its restoration.

III.2.2. The Vaulted Passageway to the South (B11)

B11 is a long, E-W oriented passageway that runs along the south wall of the church (B5) and the north edge of area A (pls. 69-70). It measures approximately 10.76 m E-W by 2.15 m N-S and has walls preserved to a maximum height of 2.09 m (at the western end of the south wall). 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

²³ Unless the use of the roof had been granted by its owner/s to those in charge of the church complex.

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.²⁴

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. 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 consistent section

²⁴ 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. III.2.4. below.

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 in 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.

III.2.3. The Street to the East (B12)

B12 is a long N-S oriented street, running to the east of the church (pls. 71-73). 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. 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.²⁵ 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;²⁶ it is not clear if the opening was still used at that time, although without a door, or if it became inaccessible.

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. The

²⁵ Cf. the discussion of rooms B14-15 below (III.2.5.).

²⁶ For more information on the relative chronology of rooms B12 and B15, cf. III.3.

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.

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 a very difficult task. 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.

III.2.4. The Courtyard to the Southeast (B13)

To the south, street B12 leads to room B13, which is a courtyard at the intersection of streets B11 and B12 (pl. 74). 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. 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 leads to an unexcavated area to the east of the church complex. Another opening in the southeast corner of the courtyard 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 opens onto an unexcavated room (A19) to the south. Two mud-brick basins, roughly rectangular in shape, were found at floor level to the sides of this doorway (pl. 75). Their precise function 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.²⁷ 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.²⁸

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 church's apse, allowed us to determine that the earliest of the three floors is in phase with the floor of east-west passageway B11.

III.2.5. The Kitchen and Storage Room to the East (B14-B15)

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 (pls. 76-77). They are identifiable as a small open-air working area, possibly a kitchen/bakery (B15), furnished with a small storage area (B14). A small doorway located at the northwest corner of B15, discussed above, allowed the passage from this room onto 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. It consists of a longer rectangular section, oriented from north to south, and a smaller, roughly square

²⁷ Cf. Reddé 2004, 25, 207.

²⁸ 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 chapter VI, 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.

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 burnt on the west and north walls. 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.

B14 is a fairly small room located to the northeast of room B15. It 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. 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 jamb to the north.²⁹ Along the east side of the threshold, a mud-brick step was found below the highest 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 bear 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

²⁹ The doorway was found in a very poor condition and partially shifted from its original location.

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.* 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-in.

Room B14 possibly served, at least when it was roofed, as a storage facility for kitchen B15.

III.3. 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 found below floor level in rooms B5 and A46. The wall was partially razed down to foundation level to give space to 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 built to seal the central doorway between rooms B5 and A46. The reasons for its construction were not 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 of reconstructing 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. 82). To the north was room α , whose west wall was also the west wall of room B6. 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. The latter wall was bonded with the east wall of room α , incorporated as the east side of rooms B8 and B6. 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 face. 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 and two niches were symmetrically built within its south face. The west wall of β was the north-south razed wall 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 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 found at foundation level under the floor of the church. Traces of its east boundary 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 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 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 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 abuts the west wall of α (and later room B6) and, in its south half, the scanty relics of another wall against which the west wall of 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 opened onto corridor B7. The latter was created through the addition of an east-west wall 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 that abutted both the east and west walls of room α . The south wall of room B6 was built at this stage, abutting the west wall of α and the north

wall (west face) of β . A new barrel roof, with the vault oriented east-west, covered room B6. A doorway 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, located near the east end, led to staircase B8; the other, 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 only access through room B6 and its southeast wall, 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 down, as well as the wall dividing the two rooms. A new partition 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-in at some point in antiquity. 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 extending the original south wall of room β to the west; in fact, the new section 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 of the corridor, which, due to its unparallel north and south walls, substantially narrowed down westwards.³⁰ 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. 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 to the enlargement of the complex to the west, as the threshold of the western doorway 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 likely supported to the north by the east-west wall once separating rooms β and γ (and later razed down). The later east-west wall between the two 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 down 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; its construction is therefore contemporary with the addition of the sanctuary to the church. Furthermore,

³⁰ For more details, cf. III.2.2. above.

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.³¹ 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.

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).

³¹ And, at least in some cases, with also their inner sides painted in white.

No evidence was collected to associate the closing of the central doorway between the church and the gathering hall with any specific rearrangement episode carried 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 interaction between people sitting in both rooms. It 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 felt, pointing to a re-functionalization of hall A46. It was mentioned above that a higher degree of privacy 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,³² of large refectories not only built in the proximities of churches, but also functionally related. Although several factors seem to support this very fascinating hypothesis, with regard to the gathering hall at Ain el-Gedida, there is, however, not enough archaeological evidence to prove it beyond doubt.

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

³² Such as at the Kellia in Lower Egypt: cf. Grossmann 2002a, plan 108.

domestic nature, with the basilica form being adopted in Christian architecture around the time of Constantine.³³ There is evidence for the existence of such *domus ecclesiae* in the ancient world, with the best known example coming from Dura Europos.³⁴ 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 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 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 of them seems to be

³³ Cf. Krautheimer 1981, 43.

³⁴ Cf. MacDonald 1986, 45-68, and Bowen 2003a, 162-64.

contemporary with the alterations carried out in the eastern halves of rooms B5 and A46. The two higher floors are to be associated, instead, with the buildings to the east of B12, in particular rooms B14-B15. The south segment of B12's east boundary predates the construction of the central and north partitions of the same wall. Indeed, the central one abuts the southern sector and is abutted by the northern one.³⁵ 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 (pls. 8, 71). 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 B5.³⁶ 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.

³⁵ Cf. III.2.3.

³⁶ For a thorough discussion of rooms B14-B15, cf. III.2.5.

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 assume 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 still 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, therefore, 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.³⁷ The analysis of the archaeological data suggests that when the latest floor of street B12 was laid out and extended into room B15, the

³⁷ Whose remains were identified against the north end of the west wall of room B15.

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 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 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 was not in use well before it was eclipsed under extensive wall collapses.

III.4. The Material Evidence

The 2006-2008 seasons of excavation at Ain el-Gedida led to the discovery and collection of a large body of material evidence, which was the object of preservation and study by experts in the field. All rooms investigated on mound I revealed several objects, complete or fragmentary, that belong to different categories of evidence, such as ceramics, lamps, ostraka, coins, wood and metal (especially bronze) objects, dull glass jewels, and items made of vegetal fibers.

The contexts in which the material evidence was identified were of varying nature and levels of reliability, ranging from surface and subsurface layers (of almost no diagnostic value), to collapses and other types of mixed depositional units, for example due to the excavation of pits in antiquity (hard to evaluate and not very reliable), to sealed units. The latter had a high level of reliability and the material evidence gathered from them significantly contributed to the study of issues such as construction phases and relative and absolute chronology of a room or a building.

The excavation of the church led to the discovery of several small objects, mostly coins and ceramics. Among the other types of material evidence, the largest group consists of nine textile fragments, mostly found in rather poor condition (pl. 83); seven of them were collected from the same unit of windblown sand below wall and vault collapse. Two lamps were also found, one of which (complete) had been incorporated in the preparatory layer of the floor (pl. 84). Other finds include one Greek ostrakon, one grinding stone, three fragmentary bracelets made of dull glass (pl. 85), one piece of rope, a little piece of coroplastic, and three fragments of metal objects, among which are a bronze handle and an iron nail. A consistent amount of material evidence from room B5 came from unreliable contexts (or of uncertain reliability).

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).

The excavation of anteroom/kitchen B6 resulted, quite surprisingly, in the discovery of very little material evidence. A fragment of a leather bracelet or belt was found in the uppermost level of windblown sand; an incomplete wood bolt was collected while removing the sand that filled the vaulted passageway between rooms B6 and B9 (below staircase B8). The other small finds unearthed in room B6 are a small fragment of a glass vessel, from an occupational level of brown sand above the floor, and two joining pieces of an incomplete ring or ear-ring, from the (unsealed) preparation layer of the floor (pl. 86).

Very few objects were found in the relatively simple stratigraphy of corridor B7, which functioned as the only entrance into the church complex. The finds included a fragmentary iron nail, a small piece of a glass vessel, and an incomplete oval lamp; they

all came from a layer of mud dust, sandy soil, and several organic inclusions lying directly on *gebel*, possibly the preparation layer of the (now largely missing) floor.

No material evidence was found, with the exception of a coin, during the excavation of staircase B8, once leading to an upper floor/roof.

Room B9, connected to anteroom/kitchen B6 through the vaulted passageway below staircase B8, held more finds than its neighboring rooms. Three pieces of glass vessels (two possibly belonging to lamps) and a fragmentary wooden peg were gathered during the excavation of a consistent vault and wall collapse in the southeast corner of the room. Underneath it, a small unit consisting of a sand lens (located in the northern half of B9) held two joining fragments of a glass flask. A stone weight, two fragments of dull glass bracelets, a piece of a gypsum stopper, an incomplete rope, and two fragmentary wooden objects all came from a unit of mud-brick dust, small pebbles, and organic inclusions above the floor and related to the room's occupational level.

To the northwest of the complex, the excavation of room B10 (a kitchen) led to the discovery of a large amount of material evidence; the best represented category was ceramics, which included complete and almost complete objects (pls. 92-93). Among the other types of evidence, three wooden objects, including a complete spindle, a broken knob, and a fragmentary stopper, came from the lowest depositional unit above floor level, corresponding to the occupational level of the kitchen. A complete oval lamp, a gypsum stopper, and a fragmentary dull glass bracelet were found in the same archaeological context.

Several small objects were found in the vaulted passageway to the south of the church (B11). Among them are three matching pieces of a Greek ostrakon, a

fragmentary circular lamp, metal objects (an iron nail and -possibly- a pair of bronze tweezers), three fragmentary ropes made of vegetal fibers, four pieces of dull glass bracelets, four beads, and five small fragments of glass vessels. The variety of the objects found in B11 can be explained by its very use both as a passageway and especially, at least at a later stage, as a refuse dump. Similarly rich, possibly for the same reasons, is the material evidence coming from street B12, to the east of the church complex. The excavation of the room revealed five pieces of dull glass bracelets, five glass beads, one fragmentary rope, one wood decorative element (perhaps originally attached to a piece of furniture), and six fragments of glass vessels.

The investigation of courtyard B13, at the crossroads of street B12 and passageway B11, showed a similar range of objects and materials, including five pieces of glass vessels, six beads, one bronze ring, and two fragmentary bracelets of dark dull glass.

Notwithstanding the extremely poor condition of room B15 and the signs of abandonment in antiquity, several small objects were found in it. Besides ceramics and coins, the largest category of material evidence is represented by glass beads (six were discovered in different units), followed by metal objects (three iron fragments, among which two blades, and two bronze wires), and the wooden head of a spindle. One complete oval lamp was found in the preparatory layer for the latest floor of the room, although in a context that was, unfortunately, unsealed. A depositional unit of sand and ash, excavated in the south half of the room below subsurface, revealed an unusual piece of coroplastic representing a donkey or a horse, possibly used as a toy. Further material evidence came from nearby room B14, the small magazine accessible only through room

B15: one bead, four pieces of glass vessels, and two fragments of dull glass bracelets were recovered from it. The most significant small find brought to light in this room (once again, not including ceramics or coins) is a complete oval lamp, unearthed in a sandy unit below extensive wall collapse.

Ceramics and coins are the two types of small finds for which the material evidence from Ain el-Gedida, and in particular from the church complex and the surrounding area, is most abundant. Due to their considerable value, especially toward the establishment of a chronology of the site, they will be discussed in separate sections below.³⁸ With regard to the other types of artifacts, the large majority of the objects was retrieved from the areas to the south and east of the church complex. In particular, the north-south street (B12) to the east of the complex, the east-west vaulted corridor (B11) to the south of the church, and their crossroads to the east (B13) contained the highest number of small finds excavated on mound I. This was possibly due to their function as passageways, where movement of people, animals, and things was particularly intense and the chance of small objects being dropped in them, more or less voluntarily, was higher than in other spatial contexts. Indeed, all categories of artifacts are quantitatively better represented in the investigated areas outside the church complex than inside it. The only exception is textile, nine fragments of which were found, as said above, during the excavation of the church (room B5) and nowhere else in the adjoining rooms or immediately around the complex.

Other rooms were investigated on mound I in which a particularly high number of small finds was retrieved. It is the case of room B4, excavated in 2006 to the west of

³⁸ Cf. III.4.1.-2. below.

the church complex and a significant source of material evidence. The room was used as a dump, at least in its latest phase of usage, and completely filled with ash rich in organic and pottery inclusions. The layers of refuse in room B4 were difficult to identify and did not provide relevant data on the overall stratigraphy of the room, nor did they offer useful chronological information. There is a high probability that most, if not all, the objects found in the dump were unrelated to the room itself, as they were probably deposited into it together with the ash refuse. In fact, the same argument on the casual association of the small finds with the rooms from which they were retrieved is true for the objects, at least several of them, found in the streets running to the east and south of the church complex (B11-B13). Indeed, besides the fortuitous loss of objects, such as coins, by people passing along these streets in antiquity, there is evidence, particularly significant in room B11, pointing to the partial use of these streets as dumps.

Within the church complex, room B5 provided the highest number of small finds. Twenty-one objects were collected during its excavation, not counting coins (particularly numerous) or pottery vessels and sherds. The only Greek ostrakon found in the complex (a memorandum of one line in black ink)³⁹ came from the church, as well as the only piece of (unidentified) coroplastic.⁴⁰ Among the other objects of room B5, dull glass bracelets (three fragments), of which further evidence was gathered in room B9 (two fragments), as well as in most of the rooms excavated around the complex, are particularly significant, as they provide valuable information on aspects of gender with regard to Ain el-Gedida. Indeed, the discovery of typically feminine items raises the question of a female presence not only within the church but, more in general, at the site,

³⁹ Inv. no. 529.

⁴⁰ Inv. no. 568.

identified by some scholars as a monastic settlement. This and further evidence that may support the presence of women (not necessarily in the form of a female monastic community) is further discussed in chapter VI.

The east-west corridor leading into the complex (B7) provided only three objects, one of which (a lamp) was, in fact, retrieved on the threshold along street B12. Even scantier was the material evidence coming from the staircase (B8) leading from room B6 to the roof of the complex; as already mentioned, its excavation did not reveal any small finds, except for one coin. The reasons for the uneven amounts of findings within the rooms of the church complex cannot be explained with the different size of the rooms or their location within the complex, or even with their different functions. The stratigraphy of the church shows episodes of disturbance caused by men (especially in the area of the sanctuary) after its abandonment. These events and, more in general, the depositional history within each room after the complex was no longer in use may have affected the presence (or absence) of certain categories of objects in each space, therefore not depending necessarily on its purpose or place within the complex.

The range of material evidence retrieved from the church does not seem to reflect the room's particular function. Indeed, the array of objects is not substantially different from that of the other rooms of the complex or of the areas excavated in its proximity. Furthermore, the 2006 investigation of three rooms in the northern half of mound I, identified as part of a domestic unit (B1-B3), revealed a substantially similar range of objects.⁴¹

⁴¹ Cf. Aravecchia 2006.

Aside from ceramics (including ostraka and lamps) and coins, the other types of small finds discovered within the church complex do not provide significant chronological information. In fact, they cannot be assigned *per se* to any specific period and only their association with otherwise datable contexts allows their assignment within a chronological frame. Nevertheless, these objects offer valuable data for the study of material culture at Ain el-Gedida in Late Antiquity. Quite significantly, the typology of the evidence from the site is largely similar to the range offered by other sites in the oasis, such as nearby Kellis, both from domestic and public contexts, and also Amheida, in particular from the excavation of large domestic units.⁴²

On the whole, the material evidence from the church complex is not particularly abundant, especially when compared with the numerous finds from the rooms excavated in its proximities (including rooms B11 to the south, B12-B15 to the east and southeast, and B10 to the west). The motives for this relative scarcity of objects are unknown. Nonetheless, the impression is that most (if not all) rooms within the church complex were emptied of any valuable object before those spaces became no longer used. Indeed, their occupational levels, buried under units of sand and wall or vault collapse, did not provide much evidence in terms of items of common use. Only small fragments were found of most of the objects. The pieces gathered within an occupational level had probably been discarded as items of no value, while those unearthed in higher stratigraphical units were most likely not present in the rooms at the time of their abandonment. Furthermore, some of the (very few) complete objects came from units lying below occupational levels, such as in the preparatory layers of floors; hence, they

⁴² For Kellis, cf. Hope 2003 and Bowen 2002. Concerning Amheida, cf. Boozer 2007 and the excavations' reports available on-line at: <http://www.nyu.edu/isaw/amheida/index.php?content=reports>.

did not belong to the furnishings of the rooms in which they were found, at least in their latest stage.⁴³

The archaeological evidence does not testify to the existence of any episode of sudden and/or violent destruction involving the church and its neighboring rooms in antiquity. Rather, it is possible to argue, for the above-mentioned reasons, that the abandonment of the church complex was planned, including the removal of any object that could be reused in another context.

Undoubtedly, the human or/and environmental factors that brought the complex to its end must have involved the other buildings of mound I and, possibly, the entire site.⁴⁴ A lengthier discussion on this matters follows in chapter VI.

III.4.1. Ceramics

A substantial amount of pottery was retrieved during the excavation of the church complex and its surrounding area. The vast majority consists of small and medium pottery fragments, scattered throughout each room and found in almost all depositional units. Several pieces belonged to vessels located within occupational levels and destroyed either before or after the abandonment of the complex, for example as the result of wall and vault collapse. Also, smaller fragments were likely brought inside each room by natural agents such as strong northern winds. Nonetheless, a very large percentage of the unearthed fragments had not been casually left on the ground, but had been reused in particular contexts well before the church and its adjoining spaces were permanently deserted by its occupants. For example, chinking sherds were largely

⁴³ The same was true for the East Churches of Kellis: cf. Bowen 2002, 73, and 2003a, 162.

⁴⁴ Although no evidence is available with regard to the other mounds of Ain el-Gedida, as they were not the object of archaeological excavation.

employed in the construction of vaults, following a technique attested throughout the oasis. These fragments originally belonged to vessels whose origin is unaccounted; therefore, their retrieval within a room, due to episodes of vault collapse, can considerably complicate the study of ceramics from the archaeological contexts in which they were found and the establishment of a chronological range.

Relatively few complete or almost complete vessels were found during the 2006-2008 seasons of excavation. Quite significantly, only one complete object was unearthed within the church complex. It is a ring-based bowl, whose inner surface is painted with a motif of red waves, while the rim is decorated with red circular dots (pl. 91). It was found within the preparatory layer of the church's floor, in its western half. It was possible to ascertain that the bowl was part of the floor's preparatory layer and not the result of later contamination of the unit. Therefore, this vessel predates the enlargement of the church to the west and is not necessarily representative of the ceramic assemblage in use within the room during its latest occupational phase.

No data are available on the finds from the gathering hall (A46) and the excavation of the other rooms of the church complex (rooms B6-B9), to the north of A46, did not lead to the discovery of any complete -or largely complete- ceramic object. This further supports the argument that the complex was not abandoned hastily, but each room was carefully emptied of all items of any utilitarian value. However, the possibility that the complex was pillaged after its abandonment cannot be ruled out, although if so this must have happened in antiquity, before the main episodes of vault and wall collapse, especially within the church, occurred.

More substantial evidence was retrieved within room B10, built against the western boundary of anteroom/kitchen B6. Although the room, also identified as a kitchen, was not connected to the complex via a doorway, it had a vaulted roof that could be reached from staircase B8, located between rooms B6 and B9. The investigation of a layer of mud dust and mud-brick debris, which filled the space behind the eastern vault spring of the room, brought to light a complete bowl (pl. 92). The vessel has a curved rim and a ring base and its surface is completely burnt, suggesting that it was used as a cooking pot. Three matching pieces of a globular cooking pot, with traces of burning along the rim and in the lower half of its body, were found in the middle of the room, within a layer of clean sand mixed with few pottery sherds. The unit lay below surface and a unit of mud-brick debris possibly related to a vault collapse. Three further objects -complete or largely complete- were retrieved from the occupational level of the kitchen, above the latest of the three floors that were identified: a complete globular flask (pl. 93), three matching fragments of an open-mouth jar, and an incomplete bowl with a flat-foot base, a restricted rim, and a body with scattered burning spots.

No complete vessels were found in the rooms excavated to the south and southeast of the church complex (passageway B11 and crossroads B13), or in the room with the ovens (B15) or its storage room (B14), located to the east of the complex. Street B12, to the west of B14-B15, contained one complete object, found below an extensive wall collapse in its northern sector. It consists of a wine-bottle with two handles, a short-neck, and a ring base, bearing remains of white slip on its outer surface and resin inside.

The analysis and classification of ceramics from Ain el-Gedida was started by Gillian Pyke and is currently under study by Delphine Dixneuf.⁴⁵ 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. 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.⁴⁶ Strong parallels, with regard to fourth-early fifth century types and materials, can be established with the evidence from several other sites in the oasis, including Amheida, and also from Kharga.⁴⁷

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 excavated in 2006. Two significant ceramic deposits were unearthed, one in room B1 and another in room B4, providing substantial information on the ceramic corpus of Ain el-Gedida as a whole.⁴⁸ 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.⁴⁹ 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.

⁴⁵ Preliminary reports were written on the ceramics from the 2006 and 2007 excavation seasons (cf. Pyke 2006 and Dixneuf 2007), although they have not yet been published. Due to time constraints, the pottery from the 2008 season will be studied in 2009.

⁴⁶ Cf. Dunsmore 2002 and Hope 1999b.

⁴⁷ Cf. Dixneuf 2007 and Rodziewicz 1987.

⁴⁸ At least with regard to the areas that were the object of survey or full-scale excavation.

⁴⁹ Particularly in room A25, whose disturbed floor context had been left partially unexcavated in the mid-1990s.

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 the 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 these 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.⁵⁰

A preliminary study of the corpus of ceramics from mound I points to a rather homogeneous chronological framework, spanning from the early fourth to the beginning of the fifth century CE. An exception is represented by a few pottery sherds, found in the occupational level of room B10, which possibly belong to Early Roman forms. A few other pieces were found that are likely dated to the third century CE. Their otherwise puzzling presence within fourth century contexts was explained as a consequence of the numerous episodes of vault collapse identified in the excavated rooms.⁵¹ As mentioned above, the vaults were built using large quantities of chinking sherds, which therefore predate the rooms in which they were found.

⁵⁰ Cf. Dixneuf 2007.

⁵¹ *Idem.*

III.4.2. Numismatics

Thirty-six coins were found during the excavation of the church (B5) between 2006 and 2007, representing the largest group of material evidence from this room (pls. 87-90).

Eight coins came from sand and mud-brick debris units excavated in the church at a fairly high level below surface. Four were gathered while investigating an extensive vault and wall collapse that extended through most of the room (pls. 87, 89-90). The majority of the finds was identified in relation to the disturbances that occurred in antiquity in the area of the apse (therefore, from unsealed contexts). Ten coins belonged to a unit of mud-brick and sandy soil piled up at the entrance of the sanctuary, near a large pit dug within the apse (pl. 88). Possibly, the small mound was the result of the excavation of such a hole. Four other coins were collected from the filling of the pit, and four more from a layer right above the remains of the original floor of the apse. One coin came from a layer of packed dirt and mud-brick dust lying on top of the preparation layer for the floor of the church (in the east half of the room). Another specimen was discovered within such a compact preparation layer, therefore in a fairly reliable context. An additional pit had been excavated in antiquity along the east side of the church, to the west of the apse, and the excavation of its fill revealed a further coin.⁵²

Only two coins were found in anteroom/kitchen B6, to the north of the gathering hall.⁵³ One came from the preparation layer of the floor, a context that was unfortunately unsealed and, therefore, not reliable; the second coin was identified, instead, within a

⁵² Three more coins were collected inside the room, but could not be associated with any archaeological context.

⁵³ As mentioned above, no data are available on the numismatic evidence (or any other kind of material evidence) for room A46.

patch of the original floor of compact mud, hence from a more significant archaeological context.

No numismatic evidence was unearthed in corridor/entrance B7, which once channeled the flow of people entering the church complex from outside. This is quite surprising, since large numbers of coins were found, instead, 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.

Only one coin was gathered from staircase B8 (indeed, the only small find from that room). It was found in a surface layer of wind-blown sand, therefore bearing little or no diagnostic significance for the dating of the room. Also room B9, the magazine located in the northwest corner of the complex, held only one numismatic specimen; this came, however, from a more significant context, *i.e.*, the occupational level immediately above the floor.⁵⁴

Although the material evidence coming from room B10, to the west of room B6 and outside the complex, is very abundant, only one coin was found during its investigation. It came from a unit of windblown sand partially deposited below a vault collapse in the middle of the room.

Still outside the church complex, fifteen coins were found in the vaulted passageway (B11) running east-west to the south of the church. It is the largest type of material evidence found during the excavation of this room. Unfortunately, many of them are illegible. Nine coins came from a sandy layer below surface and two from an ash unit deposited in the central part of the room. The last coin was identified within the

⁵⁴ Where most of the material evidence of the room was uncovered.

floor, but it was not possible to establish if it was part of that context or the result of contamination.

The long north-south street (B12), running to the east of the church complex, was particularly rich in numismatic findings, with thirty-three specimens gathered in both depositional and stratigraphical units. Eight coins came from an occupational layer of sand and mud dust with lots of organic inclusions, excavated near the entrance into corridor B7. Five were collected in the preparation layer of the upper floor of the street, while three were found in the preparation layer of the middle floor. The filling of the foundation trench dug for room B15's west wall revealed (within the area of the street) three coins and one specimen was gathered further south, below the foundation of the southeast wall of the street. The excavation of an extensive wall collapse in the northern part of the street brought three additional coins to light, but the highest number of coins (nine) was collected from a unit of sand and mud dust scattered throughout the room, right above the latest floor level. A significant archaeological context, *i.e.*, the earliest floor level of the street, revealed one coin; unfortunately, it was found in very poor condition and is almost completely illegible.

To the south of the street is courtyard B13, which, as already discussed above, forms the crossroads of B12 and vaulted passageway B11. Its excavation led to the discovery of fairly abundant numismatic evidence (sixteen coins), coming from different archaeological contexts. One was identified within a subsurface layer of windblown sand and inclusions, while two came from an ash layer located in the western half of the room, near the entrance into B11. The removal of wall collapse in the southeast corner of B13 revealed two coins, while four other samples were found in a context of mud

dust, with several organic inclusions, along the north and east walls. A unit of sand and mud dust spread throughout the room contained three coins, and more numismatic evidence (three coins) came from the occupational level of the room, lying above the remains of the upper and middle floor levels.⁵⁵ A last specimen, regrettably incomplete and unreadable, was found associated with the middle floor.

The investigation of the large kitchen/bakery (room B15), to the east of street B12, led to the discovery of sixteen coins, all from rather unreliable contexts. Three were collected during the removal of an extensive collapse filling the entire room and obliterating the remains of the ovens. Six coins came from a unit of grey sand, with several inclusions of ash, located in the south half of B15 and four others from the (unsealed) preparation layer of the latest floor. More numismatic evidence (three coins) was unearthed also in the preparation layer of the middle floor.

Six additional coins came from the small storage room (B14) located to the northeast of B15; one was found within the surface layer, and five in a unit of soft mud dust and organic inclusions along the north wall, below wall collapse.

The large majority of the coins retrieved from the church complex, as well as from the surrounding area, were found in mixed contexts of dubious reliability. Archaeological evidence testifies, for each of the investigated rooms, to several episodes of collapse of walls and vaults, which might have contaminated previous depositional units and were likely contaminated by windblown sand and inclusions of unknown origin. On the other hand, mud-brick layers as the result of collapses sealed, in some instances, the lower stratigraphy (except for the unit -or units- that shared its/their

⁵⁵ Out of the three identified within the room.

interface with the collapse unit), granting some useful information on relative and absolute chronology. Further evidence of contamination of significant stratigraphical units comes from the church and is the result of human activity. Indeed, most of the coins from room B5, found in the area of the sanctuary, were associated with pits excavated in antiquity inside the apse and along its western edge.⁵⁶

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.

The chronological range of the readable coins, both from reliable contexts and unsealed units, is quite homogenous throughout the site (its excavated part) and is coherent with the preliminary results from the study of the ceramic evidence.⁵⁷ Indeed, most of the numismatic specimens were struck in the fourth century CE, with a higher percentage from the first half of the century. To the fourth century in general were also assigned sixty-three coins that could not be read and dated with a higher degree of precision.

The majority of the readable coins found inside the church (B5) is from the first half to the mid-fourth century (until *ca.* 363 CE). One specimen, retrieved from a depositional unit of mud dust and sand above the room's occupational level, was broadly dated to the second half of the fourth century. Five other coins, uncovered near the apse, are significantly earlier than any other specimen found not in the church complex and

⁵⁶ Cf. III.1.1.

⁵⁷ Cf. III.4.1. above. The preliminary analysis of the coins from Ain el-Gedida was carried out by David Ratzan, who will be in charge of their publication.

throughout the site. They are datable to the second half of the third century CE and belong to the same depositional unit of soil and mud-brick debris, which is possibly associated with the pit dug inside the sanctuary in antiquity. Due to the unsealed context of the layer, it is not possible to ascertain if these early coins were originally located below the floor of the apse (then dug out), or if they were dropped by the people who excavated the pit in the sanctuary. The fact that these coins are older than any other specimen from the church does not necessarily support their association with earlier construction phases of the room, nor do they suggest that their original location was below the apse. Indeed, the site of Kellis provides evidence for the existence of third-century coins, no longer officially minted, alongside early fourth-century issues within the same archaeological context.⁵⁸ There is no particular reason to think that the situation within room B5 at Ain el-Gedida could not be similar.

The pair of coins gathered in anteroom/kitchen B6 was struck around the middle of the fourth century; the specimen found within the floor of the room is more precisely datable to 361-363 CE. The remaining rooms of the church complex revealed only two more coins. One came from the excavation of staircase B8 and was dated to 364-383; however, it has no real diagnostic value with regard to the chronology of the room, as it was found in the surface layer. The other coin was collected within room B9, in a unit immediately above floor level, and was broadly assigned to the fourth century CE.

The chronological range of the coins found outside the complex does not seem to differ substantially. The vaulted passageway (B11) to the south of the church bore only one specimen datable to the second half of the fourth century. So was the case for the

⁵⁸ Cf. Bowen 2007, 263.

room with several ovens to the east of the complex (B15) and its small storage space (B14). A heavier loss of coins from the second half of the fourth century (six specimens from four depositional units) occurred in the north-south street (B12) running to the east of the church.⁵⁹

Two coins were found outside the complex, one in street B12 and one in courtyard B13, whose dating might be substantially later than the rest of the evidence discussed thus far. The preliminary analysis, carried out by D. Ratzan, pointed to their possible identification as fifth-century “Vandalic” imitations of Roman coins.⁶⁰ It must be remarked, though, that the reading of these two specimens as late imitations is, at the moment, tentative. Also, caution must be in order on this point, due to the lack of comparable evidence from Ain el-Gedida or nearby Kellis.⁶¹ Even if the proposed identification of the two coins can be verified, the contexts in which they were found are either unreliable (coin from B12) or of uncertain reliability (specimen from B13); therefore, the discussion on the relative and absolute chronology of the church complex and, more broadly, of mound I at Ain el-Gedida would not be significantly affected by the two late coins.

Overall, the numismatic evidence of the church complex fits with the typology and dating of the coins found in the Small East Church at Kellis, with which it shares several typological similarities and whose construction was assigned to the early fourth century.⁶² However, at least with regard to Ain el-Gedida, one must bear in mind, as already mentioned above, that a significant amount of coins found inside the church

⁵⁹ No contemporary coins were found in courtyard B13 to the south of street B12.

⁶⁰ Based on Ratzan’s preliminary report (unpublished).

⁶¹ No similar coins were found at Amheida, either.

⁶² Cf. Bowen 2003a, 164.

complex (and in the surrounding rooms) is either unreadable or only broadly dated to the fourth century CE.

A more general discussion about chronological issues, with regard to the site of Ain el-Gedida, will be carried out in chapter VI below. It will take into account the above-mentioned numismatic evidence from the church complex and the coins retrieved from all other excavated areas of mound I.⁶³

⁶³ Therefore, including the evidence from the complex of rooms B17-B24 to the west of the church.

Chapter IV

Ain el-Gedida and Christian Architecture of Late Antiquity

Summary

The chapter consists of comparative analysis carried out between the church complex of Ain el-Gedida and other examples of Early Christian architecture, located in the Oasis, within Egypt, and in other regions of the Mediterranean in Late Antiquity. The archaeological evidence from Ain el-Gedida is evaluated against that from other Christian sites, in order to find similarities -but also differences- in plan, materials, architectural forms, and patterns. The main goal is to identify how the church, as well as the whole ecclesiastical complex, of Ain el-Gedida fit within the context of Christian architecture in Egypt and in the Byzantine world of Late Antiquity. First, the discussion takes into consideration the evidence from Dakhla, in particular the Small East Church of Kellis, and from the nearby Kharga Oasis. Then, the analysis is broadened to include Early Christian churches from both Upper and Lower Egypt. Finally, comparative work is carried out using the archaeological evidence from other regions of the Late Roman empire. Particular attention is granted to the case-study of the *domus ecclesiae* from Dura Europos, in Syria, whose layout and architectural development show considerable affinities with the church of Ain el-Gedida.

IV.1. 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.¹ The discovery of the church complex of Ain el-Gedida has considerably increased, at a quantitative and qualitative level, the evidence available on the subject. Indeed, it represents one of the earliest known examples of Christian public architecture in the region and provides significant material for comparative analysis.

As mentioned in chapter II, 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

¹ The evidence for early Christianity in Dakhla was discussed in II.2. above.

several historical ties with Dakhla.² Churches and church complexes, dated to the fourth and fifth century CE, were excavated 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 of the IFAO, include valuable archaeological evidence on Early Christianity.³ 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” *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.⁴ Besides the *sigma* couch, signs of substantial alterations within the temple of Isis and Serapis were put in relation 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. 97). 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*.⁵ A small doorway by the northwest corner provided direct access into the church, which was originally connected to a set of

² For a useful introduction to the evidence of Early Christian churches in Kharga, cf. Bagnall and Rathbone 2004, 251-61.

³ Cf. Reddé 2004, 56-68; 75-91.

⁴ *Idem*, 56-57. On the use of the *stibadium* in Late Antiquity, cf. Ellis 1997.

⁵ Cf. Reddé 2004, 82-83.

additional rooms to the northeast and southwest.⁶ 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 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. 98). 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.⁷ 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.⁸ 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.

⁶ A second doorway led into the church via a small anteroom and a larger hall to the southwest.

⁷ Cf. Grossmann 2007, 107.

⁸ The rooms line the south wall of the church and follow a less-articulated arrangement than at Ain el-Gedida.

Further remains of fourth-fifth century churches and ecclesiastical complexes have been identified in the Kharga Oasis, although not yet properly 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.⁹ 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, of which one was identified as a chapel, including a considerable area 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.¹⁰ 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 partitioned into a cluster of smaller rooms and presumably lost its original function.¹¹

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

⁹ Cf. Bagnall and Rathbone 2004, 253-54, and Vivian 2000, 78-79.

¹⁰ As reflected also at Ain el-Gedida.

¹¹ A rearrangement of space, involving the loss of the original religious function, occurred also in the church of Douch discussed above.

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.¹² Still at Qusur al-Izayla, the chapel from hermitage no. 31 is a southwest oriented structure, consisting of one nave divided into two bays and oriented to the west.¹³ 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.¹⁴ 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.¹⁵

¹² Cf. Capuani 2002, 80.

¹³ Cf. Grossmann 2002a, 265; 283; plan 117.

¹⁴ Cf. Capuani 2002, 177-79.

¹⁵ The list includes other examples, including the church of the Monastery of St. Antony in the Eastern desert (cf. Grossmann 1995).

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.¹⁶ 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 and the chapel from a cemetery in Antaeopolis.¹⁷ Others are located within monastic settlements, such as building I of the Lower Church at Deir Abu Fana.¹⁸ 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.¹⁹ 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 also at 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

¹⁶ Cf. Capuani 2002, 198; Grossmann 2002a, 270-71; plan 145.

¹⁷ Grossmann 2002a, 317; 338; plans 61-62.

¹⁸ *Idem*, 62; plan 134.

¹⁹ *Idem*, plan 131.

than the one-nave model. Examples such as the fourth-century Large East Church at Kellis prevent us from making such an assumption. 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.²⁰

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.²¹ 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 hall, extending almost by the entire length of each church and interconnected with it.²² Further 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.²³ 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

²⁰ Cf. Grossmann 2007, 104.

²¹ Cf. Grossmann 1998, 1991d and 1991e.

²² 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.

²³ Cf. Grossmann 1995 (St. Antony); Grossmann 1991c (Deir Anba Bishoi); Innemée 1999 and Grossmann 1991a (Deir el-Baramus); Grossmann 1991b (Deir el-Suryan).

and function.²⁴ If this is true, the gathering hall (room A46) at Ain el-Gedida, directly opening into the church (room B5), would represent a significant fourth-century precedent of this church-rectangular hall arrangement, which, nonetheless, is not enough evidence to prove the monastic nature of the church complex of Ain el-Gedida (and of the settlement in which it is nestled).²⁵

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.²⁶ It is built of mud-bricks and consists of a one-nave church oriented to the east, ending with an inner apse.²⁷ 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.²⁸ The area 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.

IV.1.1. The Small East Church of Kellis

Within the Dakhla Oasis, the Small East Church at Kellis shares striking similarities with 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

²⁴ Although the evidence for this is not conclusive: cf. Walters 1974, 39; 99-102.

²⁵ 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.

²⁶ The church was excavated by a team of the University of Bologna directed by Sergio Pernigotti: cf. Buzi 2007 and Tassinari and Buzi 2007.

²⁷ Not built against the outer face of the east wall, as at Ain el-Gedida.

²⁸ Cf. Tassinari and Buzi 2007, 38-39.

sanctuary.²⁹ Gillian Bowen conducted extensive excavation of the church in 2000 and published the building in 2003 (pl. 95).³⁰

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 painted ornamentation, with the exception of scanty fragments of a fresco identified above the niche in the north wall.³¹

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.³² 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

²⁹ Cf. Mills 1982, 99-100 and Knudstad and Frey 1999, 205.

³⁰ Cf. Bowen 2003a.

³¹ Some graffiti were identified in both churches but do not seem to have been part of any original decorative program.

³² Cf. Bowen 2003a, 158.

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.

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.³³ 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-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 church to the south (room 1), 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;

³³ Although at Kellis the west doorway was built only at a later stage, when the building was converted into a church.

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. Indeed, the presence of benches along the four walls of the room, undoubtedly part of the first construction episode, supports this interpretation, as they would have easily fit a large group of people gathering in the room at the same time.³⁴ 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 congregational hall associated with it.³⁵ 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 (pl. 8). 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,

³⁴ 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°.

³⁵ *Idem*, 162.

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. The archaeological evidence available for Ain el-Gedida, concerning in particular the development of the church complex, was discussed in chapter III. 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. Overall, there is no reason to suggest that these structures were of a public nature and not related, instead, to a private domestic context. With regard to Kellis, there seems to be compelling evidence, as already mentioned above, that both rooms 1 and 2 served as gathering halls for relatively large groups of people.³⁶ The transformation of these two rooms into an ecclesiastical complex involved several alterations, which the investigation of the building has brought to light. A large doorway, set in the middle of the north wall of room 2, was completely sealed off with a mud-brick plug, which

³⁶ *Idem*, 158.

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.³⁷ 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 sanctuary 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

³⁷ Which were, used, at least in their final stage, as storage rooms: *idem*, 161.

Small East Church. Instead, it is directly connected 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.³⁸

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.³⁹

The numismatic evidence collected from both churches grants additional parallels. A few third-century specimens were found in the church of Ain el-Gedida

³⁸Cf. Hamilton 1956, 151, concerning Early Christian churches from Umm el-Jimal, in nowadays Jordan. The church of Ain el-Gedida is a fitting example of an early fourth-century building with an external apsidal sanctuary. The site of Umm el-Jimal was the object of archaeological investigation under the direction of H. C. Butler of Princeton University: for a preliminary report, cf. Butler 1900 and Butler and Littmann 1905.

³⁹ Cf. Bowen 2003a, 162. On catechumens, and their physical separation from the rest of the congregation during the liturgy, cf. Stalley 1999, 23-24.

(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 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).⁴⁰ 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 substantially different.

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.⁴¹ 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 church was, therefore, constructed within an earlier “house”; the precise nature of the latter has not been ascertained beyond doubt, even though it seems to have held a public function rather than serving, for example, as a private domestic unit. 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

⁴⁰ For a discussion of the ceramics from the church complex of Ain el-Gedida, cf. III.4.1. above.

⁴¹ On the *domus ecclesiae* of Dura, cf. IV.3.1. below.

earlier structure into the “house of the church”.⁴² 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 rather than any known example of private building. 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*. On the other hand, the possibility that the earlier structure answered cult-related needs of a Christian community, even before its conversion into a basilical-plan church, cannot be ruled out. The issue related to the use of this term also involves the church of Ain el-Gedida, 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, the available archaeological evidence is not conclusive on this issue.⁴³

IV.2. 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.⁴⁴ This is largely testified to by the archaeological evidence dating as early as the fourth century CE, as information. Even the written sources mentioning the existence of

⁴² Cf. Bowen 2003a, 158; 161-62.

⁴³ 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.

⁴⁴ For a discussion on the alternative “Atrium House” theory, cf. White 1990, 12 ff.

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”.⁴⁵

It is attested that the first Christian communities gathered in the houses, referred to as *tituli*, of fellow Christians to celebrate the Eucharist.⁴⁶ 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 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.⁴⁷ 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*.

⁴⁵Cf. Bowen 2003a, 26.

⁴⁶ On the term *titulus*, cf. Stalley 1999, 20, and White 1990, 19.

⁴⁷ Cf. Koch 1996, 17, and Krautheimer 1986, 29.

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.⁴⁸ 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. The work of L. M. White incorporates the available archaeological evidence on pre-Constantinian Christian sites. Overall, the existing data are limited and include structures whose chronological range is based on evidence that is not always sound.⁴⁹ Most of the buildings that are more securely dated were found in Syria, Palestine, Greece, Istria, and Italy, even further north to Britain.⁵⁰ 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 example of 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 at the beginning of the twentieth century. Due to its significant value as

⁴⁸ 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).

⁴⁹ Cf. White 1997, 431-41, a catalogue of sites for which the pre-Constantinian dating is uncertain or has been disproved by a re-evaluation of the evidence.

⁵⁰ Cf. Section II in White 1997.

one of the earliest known examples of Christian religious architecture and, most of all, because of the comparisons that can be established with the church of Ain el-Gedida, the evidence of the *domus* from Dura will be treated in a separate section below.

The evidence listed by White 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 identify the space as Christian.⁵¹ 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.⁵² According to Y. Tepper, the cult focused around the central podium.⁵³

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.⁵⁴ 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, the presence of an apse, and its early

⁵¹ Cf. Tepper 2006 and Tepper and Di Segni 2006.

⁵² As proved by epigraphic evidence: cf. Tepper 2006 (no pagination).

⁵³ Cf. Tepper 2006 (no pagination).

⁵⁴ 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.

dating, the Christian hall of Megiddo does not share significant similarities with the church of Ain el-Gedida. However, it is relevant 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 demonstrates, notwithstanding its fragmentary character, that the origin of Christian places of worship lies within a domestic architectural context.⁵⁵ It is only gradually that churches develop specific 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.⁵⁶ 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 very beginning of the fourth century.⁵⁷

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.⁵⁸ 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 on the reason/s that led to the adoption of the basilica-model into Christian architecture, although

⁵⁵ Cf. Krautheimer 1986, 28.

⁵⁶ Cf. Williamson and Louth 1989, 257, and Creed 1984, 12.3, 5. More sources are listed in White 1997, section I.

⁵⁷ As in the case of a fourth-century basilica at Tyre: cf. Mango 1978, 37-38.

⁵⁸ Cf. Stalley 1999, 19.

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.⁵⁹ 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.⁶⁰ 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 of the basilica as a model for Christian places of cult.⁶¹ It must be emphasized, though, how 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.⁶²

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 to the construction of a monumental basilica on the site

⁵⁹ Cf. Ward-Perkins 1954, 85.

⁶⁰ Cf. McClendon 2005, 4.

⁶¹ *Idem*, 5.

⁶² White 1990, 23.

venerated as Christ's Sepulcher in Jerusalem.⁶³ Another basilica was built, under his sponsorship, at Bethlehem, whose remains lie under a later Justinianic foundation.⁶⁴

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.⁶⁵ The monumental building, brought to completion by Constantine, has a simple 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 completely different scale, the church of Ain el-Gedida shows, in its latest construction phase, a similar plan, 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 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,

⁶³ On Constantine's sponsorship of Christian basilicas, cf., among the others, McClendon 2005, 5-9, Armstrong 1993, and MacDonald 1979, 19-24.

⁶⁴ Cf. Hamilton 1956, 145-46.

⁶⁵ Cf. Stalley 1999, 21-22.

such as the Western Desert and Dakhla, the basilical type had to be well-established, in the more accessible and populated areas of Egypt, at least from the beginning of the 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 *nimphaea* 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 Villa Armerina).⁶⁶ 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.⁶⁷ 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 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

⁶⁶ 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 Villa Armerina, cf. Wilson 1983, 73-85, which discusses several other examples of Late Roman villas with apsed meeting halls.

⁶⁷ 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.

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.⁶⁸ 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 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 firmly 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,

⁶⁸ Two general studies that, although not recent, are still excellent sources about Early Christian architecture are Krautheimer 1986 and Mango 1978.

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.⁶⁹ 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.⁷⁰ 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 instead 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 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. Significantly, the chapel of Khirbet et-Tina was built to fulfill the religious needs of a monastic

⁶⁹ Cf. Krautheimer 1986, 41

⁷⁰ Cf. Hirschfeld 1990, 64; 66, and Corbo 1962.

community, whose living quarters were located immediately to the south of the building. From the residential area, one could have access directly into the chapel, not through the north hall like at Ain el-Gedida. The monastic nature of the chapel is particularly suggestive, especially in light of the proposed identification of Ain el-Gedida as a monastic settlement, too. However, the different geographical and chronological contexts do not allow us to draw any conclusion on this issue, besides acknowledging the architectural parallels between the two churches.⁷¹

IV.2.1. Ain el-Gedida and the *Domus Ecclesiae* of Dura Europos

The church complex of Ain el-Gedida, in particular rooms B5 and the gathering hall to the north (A46), allows the establishment of significant typological parallels with the most notable and well-known example of third-century *domus ecclesiae*, the above-mentioned *domus ecclesiae* of Dura-Europos, in Syria.⁷² 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 (pl. 96). The building is located within a residential block (M8) south of the main gate of the city.⁷³ The construction of its earliest occupational stage is dated, based on the archaeological evidence, to the first half of the third century CE.⁷⁴ The house has a layout that is, to use

⁷¹ 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.

⁷² Kraeling 1967 is the final report on the excavation of the *domus ecclesiae* at Dura Europos. On the 1931-1932 campaign at Dura Europos, cf. also Hopkins 1979, 75-105, and Hopkins 1934, 238-88.

⁷³ Cf. Wharton 1995, 26-27.

⁷⁴ 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

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, on which three rooms opened along the west, south, and east side. Two other spaces were directly connected, through smaller doorways, with the courtyard; one was located against the northwest corner of the house and the other against the northeast corner, functioning as an anteroom. To the north of the court, a staircase led to the roof.⁷⁵ Two additional rooms were located against the southwest and southeast corner of the house but did not open onto the central courtyard; one led either to the west or the south main room, while the other could be accessed only through the south room. The character of privacy was enhanced by the almost complete absence of windows within the outer walls. Furthermore, the only entrance, located in the northeast corner of the building, was very narrow, and the anteroom behind it led into the court through a doorway that was shifted to the west, so to avoid any degree of visibility into the house from the outside.

During the first half of the third-century, the 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,

violent destruction of Dura Europos, is undoubtedly another valid *terminus ante quem*: cf. MacDonald 1986, 45-68.

⁷⁵ Or to a second floor, according to Koch 1996, 16, who locates here the lodging of the priest. It is possible, indeed likely, that the house had two floors, since, according to the excavators of the *domus ecclesiae*, the original roof might have been at a height of up to five meters. According to Kraeling, who excavated the *domus ecclesiae*, no conclusive evidence was detected proving the existence of a second floor: cf. Kraeling 1967, 26.

west, and southwest side 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 and marked by two semi-columns.

A baptistery, richly decorated with frescoes depicting Old and New Testament scenes, was created in the northwest room of the house.⁷⁶ The ceiling was lowered down and a brick tub was built at the west end of the room, surmounted by a canopy.

In the central court, the bench 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. The result was a long rectangular hall, roughly oriented east-west and running to the south of the courtyard and the western room. The south hall was connected with 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.⁷⁷ The original paintings that decorated the south room were plastered over and a rectangular podium was built against the east side in a central position, once holding a chair for a lecturer.⁷⁸

A comparison between the *domus ecclesiae* of Dura Europos and the church of Ain el-Gedida (to which the Small East Church at Kellis could be paired) allows the establishment of significant parallels, but also of differences, between the two buildings. Both plans reflect a similar layout, consisting of a main body (without side aisles), located at the south end of the complex. This hall is, in either building, the result of substantial architectural alterations, involving the combination of two once-separated spaces by tearing down the north-south wall that originally separated them. To the north

⁷⁶ On the iconographic program of the baptistery's frescoes, cf. Baur 1934 and Wharton 1995, 51-63.

⁷⁷ 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*.

⁷⁸ Cf. Wharton 1995, 31.

of this hall, and interconnected with it, is a large space. At Ain el-Gedida, this room, which once functioned as a gathering hall, extends to match the entire length of the nave, while at Dura this space is, in fact, occupied by two rooms, *i.e.*, the central court plus the west room. In the church of Ain el-Gedida, the gathering hall (room A46) opens onto the nave (room B5) via two doorways, while in the *domus ecclesiae* of Dura, as seen above, three openings are set within the north wall and open into the south hall. Overall, the central part of the *domus ecclesiae* of Dura (court plus west room) and the south hall to the south are wider and longer, although not greatly so, than rooms B5 and A46 at Ain el-Gedida.

Besides the *dais* along the east side of the south hall, no podium was found in that space, the central court, or the west room at Dura. At Ain el-Gedida, a podium is built against the east side of the central doorway, once visible from both rooms A46 and B5 although accessible only from the latter via a set of steps. Other differences are the lack of *mastabas* in the south hall of Dura and the existence, within the same room, of two narrow windows within the short west wall. The space is also connected, through a small doorway at the north end of its east wall, with a small side room to the east. At Ain el-Gedida, room B5 has benches built against the north, west, and south side; no windows pierce its walls, which are preserved to a considerable height. Furthermore, the space does not open onto a side room along either of its short sides.⁷⁹ Access into the church of Ain el-Gedida was mediated by several spaces, consisting of a long east-west corridor in the northeast part of the complex (B7), an anteroom to the west (B6), and the gathering hall (A46) to the south. The *domus* of Dura reflects a simplified, but rather

⁷⁹ With the exception of the L-shaped *pastophorion*.

similar pattern of access, with the only entrance into the complex located in the northeast corner, leading onto an anteroom to the north of the central court. From there, one could access the south hall, either directly or via the west room.

In general, the layout of the church of Ain el-Gedida bears a considerable resemblance to the *domus ecclesiae* of Dura Europos, in particular to the area including the south hall, the central court, and the west room. The comparison suggests the possibility that the south hall might have been used not just for generic meetings, among which would be the instruction of the faithful, but for liturgical purposes.⁸⁰ The hall is relatively large (*ca.* 13 m from east to west by 5 m from north to south) and could have hosted a congregation of up to fifty-sixty people.⁸¹ The *dais* lining the short east wall might indicate a possible east orientation of the hall, although the podium was not associated with an altar, but rather with a now-missing chair, destined to a person of special dignity within the local community.⁸² No decorative program, associated with the conversion of the house into a *domus ecclesiae*, was found in the room, in stark contrast to the highly decorated baptistery to the north, but not necessarily proving that the room was not used for the celebration of the Eucharist (see the plain white walls of room B5 at Ain el-Gedida).⁸³ The absence of benches along the walls of the hall is quite puzzling, though, in light of the fact that the court is furnished with *mastabas*, as well as room B5 at Ain el-Gedida (clearly identifiable as a church).

According to the first excavators of the *domus*, and other scholars like G. Koch and R. Krautheimer after them, the west room of Dura was possibly used for the

⁸⁰ Which seems implied in the discussion of the *domus* available in Krautheimer 1986, 27.

⁸¹ *Idem.*

⁸² Cf. Krautheimer 1986, 27.

⁸³ As mentioned above, frescoes belonging to the an earlier phase were found in the south hall, hidden beneath a layer of white gypsum plaster.

instruction of catechumens.⁸⁴ Although no incontrovertible evidence was found to support this identification, the partial degree of physical separation to which the unbaptized catechumens would have been subject, while being allowed, at the same time, partial access to both the south hall and the baptistery to the north, are significant clues. The church of Ain el-Gedida offers a valuable parallel. Indeed, the presence of the podium between the gathering hall and the church to the south suggests that the former was used by catechumens, who could see and listen to the priest preaching from the podium, but not fully participate in the Eucharist celebrated in the church.⁸⁵

C. H. Kraeling argues that the canopy of the baptistery in the *domus ecclesiae* of Dura, placed against the short west wall, also marked the setting for the celebration of the Eucharist within that room, which would have been then a west-facing chapel.⁸⁶ According to C. Hopkins, the baptistery was not contemporary to the construction of the south hall, but belonged to the house before the latter was fully converted into a *domus ecclesiae*.⁸⁷ The baptistery of Dura would therefore pre-date any known example that might confirm the existence of a specific rule (*i.e.*, regarding the east orientation of churches) being firmly established already in the third century CE. In fact, there are notable examples of Early Christian churches that were built oriented to the west: among them, the fourth-century basilicas of San Lorenzo *extra muros* and of Saint Peter in Rome and the Holy Sepulcher (with the *Anastasis* rotunda) in Jerusalem.⁸⁸ Although it

⁸⁴ Cf. Koch 1996, 16, Hopkins 1979, 96, and Krautheimer 1986, 27.

⁸⁵ The Small East Church at Kellis also reflects a similar pattern: cf. IV.1.1.

⁸⁶ Cf. Kraeling 1967, 151.

⁸⁷ Cf. Hopkins 1979, 117.

⁸⁸ Cf. Krautheimer 1986, 52-62. Also in Egypt there is evidence of churches not oriented to the East. One example is provided for by the fourth-century church found at Douch, in the Kharga Oasis. The church, as well as most other buildings at the site, follows the northwest-southeast orientation of the main stone temple: cf. Bonnet 2004, 75. Another church that does not follow the general east orientation is the west-facing basilica from the necropolis of Bagawat (again in the Kharga Oasis): a plan is available in Bonnet

might be tempting to use the different chronology as an explanation for the different orientation of baptistery and south hall, there is no conclusive archaeological evidence on this matter.

A close look at the plans of the *domus ecclesiae* of Dura and of the church of Ain el-Gedida discloses, besides the above-mentioned similarities, also considerable differences. Room B5 at Ain el-Gedida and the south hall at Dura are both elongated rectangular spaces, lying at the south end of the complex and both provided with highly selected access. However, the rooms to the north are arranged in a different fashion in the two buildings. At Ain el-Gedida, the church is paired by a gathering hall (room A46) that matches its entire length. At Dura, two separate (although interconnected) rooms line the north wall of the large hall, *i.e.*, the west room and the central court, which continues further east into a portico (not present at Ain el-Gedida). Although smaller than the *domus* of Dura (south hall plus court and west room), the church of Ain el-Gedida (rooms B5 and A46) provides a sense of openness and amplitude, thanks to its elongated and minimally divided space, that is markedly stronger than at Dura Europos.

Overall, 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 independently and only in part re-using earlier structures. Also, the apse of room B5, conceived as a later addition to the nave, was built against the outer face of the short east wall, occupying part of street B12 that runs north-

2004, 85. On Bagawat, cf. Fakhry 1951. Cf. also Walters 1974, 19, who sees the few examples of churches not oriented to the east as exceptions due to contingent situations.

south to the east of the complex. Undoubtedly, the semi-circular sanctuary, placed within an area of high traffic near crossroads B13, made the church easily recognizable from the outside, certainly by everyone walking along that street. 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.⁸⁹ 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, as mentioned above, written sources testify to the existence of pre-Constantinian churches built in preeminent locations and clearly identifiable as Christian places of cult.⁹⁰

Another significant difference between the *domus-ecclesiae* of Dura and the complex of Ain el-Gedida does not concern their layout or architectural features, but their ornamentation (or lack of). At Ain el-Gedida, the inner walls and the vaults of both rooms B5 and A46, as well as those of room B6, were completely plastered with mud and then whitewashed.⁹¹ No evidence of a painted decorative program was found, with the exception of very few fragments on top of the niche in the north wall of room B5, which might be the remains of a small figurative painting.⁹² At Dura, the south room of the *domus* was originally decorated with a Bacchic frieze, which was plastered over

⁸⁹ On the conscious effort, made by the first Christian communities, to create places of cult unrecognizable as such from the outside, cf. Krautheimer 1986, 28.

⁹⁰ Cf. the evidence discussed in IV.2.

⁹¹ The remaining rooms of the complex (corridor B7, staircase B8, and storage room B9) had walls that were either left un-plastered or covered only with mud plaster, without any coating of white gypsum.

⁹² Cf. III.1.1. above.

when the meeting hall was created incorporating that space.⁹³ No frescoes were painted on the new plaster nor does evidence exist for elaborate decoration of the central rooms of the *domus*. In fact, the lack of decoration in the central and south parts of the house parallels the above-mentioned situation at Ain el-Gedida. However, the chapel in the northwest corner at Dura was richly adorned with frescoes, painted over plaster that was laid out when the space was converted into a baptistery. The frescoes covered the ceiling of the canopy and extended, on a double register, throughout the inner walls. As mentioned above, the figural scenes depict themes borrowed from the Old and the New Testament (among them, the Healing of the Paralytic, Christ walking on the Sea of Galilee, Adam and Eve) and must have held both a symbolic and didactic function for the benefit of the Christian community gathering in the chapel. The presence of the baptismal font and canopy and the rich figural decoration qualify the room, at both a visual and functional level, as one of the more significant spaces of the *domus ecclesiae*, notwithstanding its limited size.

On the whole, the *domus ecclesiae* of Dura Europos represents a valuable case study for the investigation of parallels and possible typological antecedents to the church of Ain el-Gedida. The different geographical and chronological contexts of the two churches do not necessarily represent a limitation, as ample evidence exists for the intense circulation of architectural types, forms, and themes within the various regions of the Roman empire throughout Late Antiquity. The *domus ecclesiae* of Dura Europos is mentioned by G. Bowen with regard to the Small East Church of Kellis, with which the church of Ain el-Gedida, as seen above, shares not only a geographical proximity but

⁹³ Cf. Wharton 1995, 31.

also considerable typological similarities.⁹⁴ Quite significantly, the Small East Church is included by the scholar among the earliest known examples of *domus ecclesiae*, although she points out that the church already shows many characteristics of later, more standardized Christian buildings.⁹⁵

Concerning Ain el-Gedida, there is sound archaeological evidence to support its identification as an example of *domus ecclesiae*. However, the meaning of the term must be further discussed, also in relation to the Christian building of Dura. Indeed, even the latter cannot really be considered as a “house-church”, in the sense of a private house that was used, without significant adaptations, by an early community of Christians as a gathering place. The Dura building was, as mentioned above, the object of substantial alterations that converted it into a cult place, with a meeting to the south, a baptistery to the north, and essentially no private spaces, suggesting that it was no longer used also as a domestic space. At the same time, there is no evidence to suggest that the house had been used, during its first occupational phase and before the major changes occurred, to fulfill the cultic needs of a Christian community.⁹⁶ The remodeling modified not just the basic layout of the house, but also, and especially, the use of space within it, so that a private dwelling was turned into a public building. The latter was built to “house” a community, but had no longer so much in common, in terms of function if not layout, with the private house from which it originated. Therefore, the term *domus ecclesiae* is meaningful, when applied to the house from Dura Europos and to the church of Ain el-Gedida,⁹⁷ if it points to the conversion of an earlier example of domestic architecture

⁹⁴ Cf. Bowen 2003a, 162.

⁹⁵ *Idem*, 164.

⁹⁶ Cf. Krautheimer 1986, 27.

⁹⁷ Which also developed from an older architectural context of a possibly domestic nature: cf. III.3. above.

into a cult place, not implying the use of a private dwelling *per se* as a church or as an explicit model for early religious architecture.⁹⁸

A comparison between the *domus ecclesiae* of Dura and the church of Ain el-Gedida is a meaningful and valuable process because it offers, as said above, some significant parallels. However, 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. The geographical and chronological contexts are very different and must be always kept in mind. 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.

⁹⁸ Cf. Krautheimer 1986, 26. The distinction between “house-church” and *domus ecclesiae* is properly discussed by White 1990, 19-21.

Chapter V

The Church Complex and Mound I: Models of Spatial Analysis

Summary

This chapter deals with methods of spatial analysis applied to the church complex of Ain el-Gedida, with the goal of gaining a deeper knowledge of degrees and patterns of accessibility and human interaction within each room, analyzed not as an isolated structure but within the overall architectural context of the ecclesiastical complex. The focus is on access analysis, whose basic principles are enunciated and the current literature reviewed, especially with regard to its possible applications in the field of archaeology. All rooms of the church complex are then analyzed and simple mathematical formulas applied, in order to find values that define the different levels of accessibility of each space. Access analysis maps are created to provide clear visual representations of the results of this study. The maximum capacity of the complex, especially of the church and the gathering hall, is calculated, providing additional data on the people whose access and interaction are studied here. The application of spatial analysis involves not only the rooms of the complex, but also the surrounding spaces that were the object of survey or excavation, with the goal of ascertaining patterns of movement outside, but in relation with, the complex itself. The chapter also emphasizes how the new data provided for by spatial analysis integrate and enrich the archaeological evidence recorded in the field, helping to shed light on the meaning and possible function/s associated with each room of the complex.

V.1. “Public and Private” Analysis

The literary sources provide considerable details about the life of Christian communities in the fourth and fifth century, but say little about the physical spaces where they gathered to share meals and celebrate the Eucharist.¹

The archaeological evidence shows that the complex of Ain el-Gedida consists of rooms of differing size and architectural complexity, with a multiplicity of functions that are often difficult to detect fully. Looking closely at the plan of these rooms and at the general layout of the complex, it is possible to get a better understanding of how physical spaces favor isolation or social interaction, by examining the ease and difficulty with which people could gain access to individual spaces.

Different types of spatial analysis can be applied to the plan of the church complex, with the goal of gaining a deeper knowledge of the meaning, access to, and use of its rooms. One model, which was carried out by Roman archaeologists such as Y. Thébert and A. Wallace-Hadrill, aims to examine the relationship of public and private, of grand and humble, concepts that can be applied to models of Christian architecture.² A visual representation of this method, with regard to the church complex of Ain el-Gedida, is obtained dividing the overall space of the complex into different areas. Different colors are used to distinguish between “public” or “semi-private” rooms, that is to say, between spaces open to all people entering the complex (*i.e.*, with the highest degree of human interaction) and rooms meant to be accessed by a selected group of people. Hues of the same basic color are then used to differentiate between “public” and “semi-public” rooms, that is to say, spaces in which public access was granted but

¹ An excellent source on literary and documentary evidence about Early Christianity is White 1997, in particular sections I-II.

² Cf. Thébert 1993 and Wallace-Hadrill 1994, ch. 2.

subject to selection to some degree (pl. 99). The overall nature of the church complex as a gathering place for a Christian community, and not as a domestic unit (*i.e.*, a dwelling), does not allow us to identify any room of the complex as a fully private space. Nonetheless, this type of analysis is meaningful also in relation to the complex of Ain el-Gedida, as it draws attention to the different degrees of accessibility of its rooms.

The above-mentioned distinctions are based on what the layout of the complex, and the overall archaeological evidence, suggest about the nature of each space. Some rooms can be identified better than others, such as the church (room B5), but the evidence does not allow us to be certain of the use of every room. Therefore, the attribution of spaces to a particular area cannot be determined beyond doubt in some instances.

Room B7 (colored in red on the plan) is the only entrance into the church complex from outside. It can be considered as a highly public space, since access to any room of the complex required passage through this corridor before reaching anteroom B6, which controlled access to most other rooms. Moreover, the east entrance into room B7 seems to have been open at all times, as no evidence proving the existence of a door was detected within the side walls or on the threshold. Thus, a permanently open access from street B12 into the corridor further emphasizes the public character of this space.

B6 is also a highly public room. Indeed, it is the place where all people entering the church complex from outside were directed, before accessing the gathering hall (A46), the church (B5), or any of the service areas (B6, B8-B9, or the vaulted roof of B10). Anteroom B6 is not as “public” as corridor B7, since a minimum of access control could be obtained by locking the door once built between the two rooms. Nonetheless,

the overall public nature of B6 can be recognized rather clearly from its central position and the key role it held in sorting the movement within the church complex (therefore, it was marked using the same red color).

Room 46 (filled with a dark orange color) can be identified as a semi-public space. On one hand, the evidence points to its highly public function as a gathering hall, capable of hosting several people. However, access to it was through two rooms (B7 and B6) and two doorways that could be locked (one between B6 and B7 and the other between B6 and A46), therefore allowing control of movement into the gathering hall. Furthermore, if room A46 was in fact destined, as it has been suggested on the basis of comparative evidence,³ as a hall for catechumens, its use by a selected group of people (compared to the overall Christian community accessing the church complex) assigns the room a less public character than, for example, rooms B6 and B7.

Room B5 is also a semi-public space (colored in light orange on the plan). In fact, it is a large room, roughly sharing the same dimensions as room A46 and built to host a considerable number of people. Also, its function as a church suggests a public rather than private nature. Nevertheless, room B5 was not as easily accessible as, for example, corridor B7 or anteroom B6. Indeed, the church did not have any doorway connecting it directly with the exterior and could be reached exclusively through a set of three adjoining rooms (*i.e.*, B7, B6, and A46), which allowed a high level of access control. Moreover, the fact that the church could not be entered by the catechumens (or some other group) meant that access into room B5 was not entirely “public”, but entailed a degree of selection.

³ Cf. chapter IV above.

Entrance into the church was originally through two doorways set into the north wall, shared with the gathering hall. No evidence of a door locking the western passage was found. Indeed, it would have been puzzling to have a doorway that could be locked at the west end of the church and, at the same time, a central passageway (into the same room) that, due to the presence of the podium, was undoubtedly always open.⁴ At any rate, a possible re-functionalization of room A46, as already discussed in a previous chapter, led to significant alterations, involving the bricking-in of the large central doorway and of the podium built against it.⁵ The consequence was an increased degree of separation between rooms A46 and B5. The latter was still accessible through the west passageway, but in general its level of “openness” (visual if not physical) into the gathering hall became substantially lower. Therefore, the identification of room B5 as a “semi-public” space, especially in its latest occupational phase, is not only granted by spatial analysis but also supported by the available archaeological evidence.

To the north of anteroom B6 is room B9, tentatively identified, after its excavation and the discovery of a mud-brick cupboard against the south wall, as a pantry. B9 seems not only spatially but also functionally associated with room B6, at least when the latter was used as a kitchen. Room B9, located at the northwest end of the church complex, could be accessed only from B6, through a narrow vaulted passageway running below staircase B8. The semi-private character of room B9 (marked by a green color on the plan) is pointed to by the overall spatial arrangement, the decentralized location of the room, and also by the existence of a door locking room B9 from the rest

⁴ The only reasonable possibility would be that the door was added to the west passage at a later stage, after the central opening with the podium had been sealed. However, as just mentioned above, there is no evidence testifying to the existence of wooden doors locking room B5.

⁵ Cf. III.3.

of the complex, as suggested by holes carved into the west wall of the passageway.⁶

Further evidence is provided for by the use of this space as a pantry, which suggests that it was accessed mostly by the people in charge of cooking within the church complex, presumably in nearby-room B6.

Another space that, although part of an overall “public” spatial configuration, can be identified as a relatively private area is staircase B8. It can still be accessed from anteroom B6 through a doorway placed near the northeast corner, where some traces for the placement, in antiquity, of a wooden door locking the opening were detected. The very narrow flight of steps (less than 1 m wide) is surrounded on all four sides by high walls, making the staircase a discrete architectural unit within the church complex. Indeed, although accessible from a highly “public” space such as room B6, the structure does not seem to have been built to host and direct large numbers of people to an upper floor. Undoubtedly, room B5 (the church) and A46 (the gathering hall) were the final destination for the majority of those who entered the complex. According to the available evidence, the stairway did not lead to a second storey, but rather to the vaulted roof of anteroom B6 and its surrounding rooms. Several traces of small-scale industrial installations, including substantial remains of a large rectangular container and of a circular feature, both made of clay, were found above the east vault spring of kitchen B10, very close to the top of staircase B8.⁷ As mentioned in a previous chapter, these installations are associated with the production and conservation of food; therefore, it is likely that the stairway was built to connect anteroom/kitchen B6 with an area on the

⁶ Near the northwest corner of room B6.

⁷ Cf. III.2.1. above.

roof that was functionally linked to it.⁸ If this is true, room B8 was used only (or for the most part) by those people in room B6 who were in charge of cooking and who would have also accessed room B9. It is for all these reasons that the staircase was assigned a green color on the plan, to emphasize the relatively private character of this space in comparison with other, unarguably more public rooms of the complex.

Room B10, located to the west of room B6 and used as a kitchen, was not connected, as mentioned above, with the church complex. Nonetheless, the area above its vaulted roof, at least the part behind the east vault spring (better preserved), could be reached directly from the complex through staircase B8. The archaeological evidence testifies to the utilitarian nature of this space, used for the storage and processing of food (but not its consumption) and characterized by a limited degree of accessibility. Therefore, the roof of kitchen B10 can also be considered a semi-private space, marked on the plan by the same green color of room B9 and staircase B8.

V.2. Access Analysis

The above mentioned analysis indicates how space was organized to create public and semi-public/private areas within the same complex. However, it does not define the relations of each space with its immediate neighbors and with the other spaces of the same building. One way to characterize those relations can be found in a method called “gamma” or “access” analysis, which yields significant results. This does not provide a comprehensive answer to all questions concerning issues of space within the

⁸ And also to the pantry (room B9).

complex and is not a substitute for the archaeological evidence. Nonetheless, it is a valuable ingredient in typological analysis.

Developed by Bill Hillier and Juliette Hanson in relation to urban studies and then widely used by pre-historians, access analysis was applied to Roman architecture by R. Laurence, A. Wallace-Hadrill, and M. Grahame, among the others, and to Early Christian architecture by David Clarke.⁹ The aim of this method is to provide an objective graphic representation of the way space shapes interactions among people. It is independent of documentary information, but, of course, its application must be integrated into a study that includes all the available evidence.

The model was successfully applied by Grahame to the analysis of a Roman building such as the *Casa del Fauno*, whose rooms were studied in relation to their level of “presence-availability.” The same concept was employed in the study of Egyptian hermitages from Kellia. Indeed, literary and archaeological evidence attests to the interactions of people, that is to say, monks, disciples, and visitors, even in a monastic environment that encouraged spiritual and physical isolation.¹⁰ Undoubtedly, the people available for regular encounters would have been more numerous within the context of a Roman *domus*; nonetheless, the application of this type of analysis to Kelliote cells proved a valuable resource for the study of monastic architecture.

In his analysis, Grahame further distinguishes encounters with outsiders from those with inhabitants and defines two types of encounters: “occasions,” described as

⁹ Cf. Hillier and Hanson 1989. Some bibliographical 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.

¹⁰ Cf. Aravecchia 1999.

organized, planned meetings, and “gatherings,” which are, instead, casual and unplanned encounters. With regard to the church complex of Ain el-Gedida, whose spaces are for the most part of a public or semi-public nature and cannot, therefore, be considered as part of a domestic context (like a monastic cell or a Roman house), it is appropriate to say that “occasions” were more likely to occur within the church and adjoining rooms rather than “gatherings”.

Access analysis shows how private or public spaces can be arranged through controlled access, therefore suggesting how physical spaces favor isolation or social interaction. The accessibility of the various rooms from the outside is visible in the concrete way certain spaces, which for various reasons required a stricter selection process, were reachable through a more developed system of doorways. A higher or lower degree of privacy can be defined for each room, even within the church complex that, by its nature, is generally more public than private. A visual representation of the spatial relations among the rooms of a house (or any building) is the “unjustified access map,” which was employed at Ain el-Gedida to show the spatial configuration within the church complex (pl. 100). Rectangular boxes were drawn for each room, whose number is written inside of them. Then, the boxes were joined with lines indicating the possibility of going from one space to another within the complex. Another version of this graph is the “justified access map,” in which all the spaces having the same depth from the exterior, that is to say, sharing the same number of barriers between them and the outside world, are aligned (pl. 101). Despite the re-arrangement, the levels of permeability are still clearly visible.

One aspect that cannot be neglected in approaching access analysis is the varying degree of accessibility of doorways. Indeed, the creation of more or less private spaces was not regulated simply by a succession of rooms opening onto each other. In some instances, rooms could be accessed through open passageways. Most of the time, however (at least with regard to the church complex of Ain el-Gedida), these passageways were furnished with doors that could be locked, so to forbid access and communication with certain areas of the complex. In fact, the presence or absence, in antiquity, of doors within each passageway might have substantially affected the degree of accessibility of a particular space. That is one of the several reasons why the archaeological evidence is necessary to integrate the results of access analysis, as a simple unjustified or justified access map, although providing considerable information, cannot be considered as the only means to approach the study of spatial relations.

Access analysis also applies different mathematical and statistical concepts, in order to describe local and global relations of the rooms within a particular structure and with the aim to understand the meaning of their spatial configuration. One basic concept of access analysis, formulated by A. Giddens, is “presence-availability.”¹¹ The idea is related to the concepts of “private” and “public”, as employed in other kinds of analysis. However, it does not identify the nature of a particular space in such a categorical way; rather, it is used to underscore the rooms within a building where encounters of people are most likely to occur.¹² The degree of presence-availability within any room is identified by comparing different sets of values that are calculated on the basis of local and global relations. Local relations concern each room and its neighboring spaces

¹¹ Cf. Giddens 1984, 73.

¹² The degree of presence-availability of a room does not measure the number of people inside that space at a certain time: cf. Grahame 1997, 150.

directly opening onto it. One key concept associated with local relations is that certain rooms have a higher degree of control over their neighbors than others. This is established according to the physical relation of each room with the spaces that are interconnected with it. A mathematical formula, based on the number of doors and passageways between these spaces, is used to calculate a value expressing this relation, which is called “control value.” The idea behind it is that spaces with a higher number of adjoining spaces than others are characterized by a higher level of control value. In general, a score above 1 identifies a “controlling” space, while a room with a value that is less than 1 is considered a “controlled” space.¹³ The rooms with the highest level of control over their neighbors are defined as “nodes.”¹⁴

Global relations are those that define the spatial arrangement of each room in relation to the overall configuration of a building. To use the words of Grahame, they describe “how accessible a room is from any starting point.”¹⁵ This means that the rooms with least boundaries are the most accessible. To calculate these global relations, Hillier and Hanson used the concept of “symmetry-asymmetry”.¹⁶ According to it, a room that has a large number of similar relations with other spaces (*i.e.*, the same number of boundaries to be crossed in order to reach it) is very “symmetrical.”¹⁷ By consequence, a space that has the least amount of similar relations with other rooms, like those at the end of any spatial configuration, are considered as significantly “asymmetrical”.

Access analysis uses a mathematical value to identify the global relations of each space within a building. This index is called “relative asymmetry” (RA) and its formula

¹³ Cf. Grahame 1997, 147.

¹⁴ *Idem*, 153.

¹⁵ *Idem*, 147.

¹⁶ Cf. Hillier, Hanson, and Peponis 1984.

¹⁷ Cf. Hillier and Hanson 1984, 111.

is calculated on the basis of another value describing the “mean depth” (MD) of the system according to each of its spaces.¹⁸

Mean depth and relative asymmetry values are instrumental in studying spatial relations according to access analysis. In particular, relative asymmetry values help determine the level of relative accessibility of rooms within the overall spatial configuration of the building. Indeed, those spaces with the lowest level of relative asymmetry (*i.e.*, close to 0 within a range from 0 to 1) are the most accessible rooms from any starting point inside (and outside) the building; vice versa, the rooms with a relative asymmetry value close to 1 are characterized by a lower degree of accessibility.

Control and relative asymmetry levels can be paired and analyzed together, with the aim of identifying the degree of “presence-availability” for each room of a building.¹⁹ This process examines the intersection of control and relative asymmetry values and finds the level of accessibility of any unit within the spatial configuration. Considering the fact that local relations affect the degree of presence-availability of a room more immediately than global ones, control values play a bigger role than accessibility levels in establishing presence-availability. In general, high control value and high accessibility level determine a high degree of presence-availability, while high control value combined with low accessibility level defines moderately high presence-availability. Vice versa, low control value and high accessibility underscore moderately low presence-availability, which is (evidently) even lower with low control value and low accessibility level.²⁰

¹⁸ Cf. Grahame 1997, 148-49.

¹⁹ Cf. Giddens 1984, 73, and Grahame 1997, 150.

²⁰ Table 1 in Grahame 1997, 150, is a useful summary of the possible combinations of control values and accessibility levels.

Below is a table listing the above-mentioned values (*i.e.*, Control, Mean Depth, and Relative Asymmetry) calculated for each room of the church complex of Ain el-Gedida:

Room Number	Control Value	Mean Depth (MD)	Relative Asymmetry Value (RA)
0 (exterior)	0.5	2.8571	0.6190
B7 (corridor/entrance)	1.25	2	0.3333
B6 (anteroom/kitchen)	2.5	1.4285	0.1428
B9 (pantry?)	0.25	2.2857	0.4285
A46 (gathering hall)	1.25	2	0.3333
B8 (staircase)	1.25	2	0.3333
B5 (church)	0.5	2.8571	0.6190
B10 (roof)	0.5	2.8571	0.6190

Table 1: control, mean depth, and relative asymmetry values calculated for all rooms of the church complex of Ain el-Gedida.

The apparently dry mathematical values, combined with the visual help of the unjustified and justified access maps, allow us to draw significant conclusions on the spatial configuration of each room, at the same time shedding light on the overall arrangement of the complex.

Corridor B7 is located immediately to the west of the (only) entrance into the church complex. It was the first room crossed by anyone entering the building and, as already said above, was easily accessible, without any physical boundaries, such as doors, that could limit or hinder the flow of people. Therefore, the space is characterized by a high level of permeability, as no other rooms had to be traversed in order to reach it and the only “barrier” consisted in the open doorway into the complex. Table 1 points to a fairly high (more than 1) control value for room B7, suggesting that the corridor was a controlling space rather than its opposite. Indeed, the whole flow of people accessing the church complex from outside was first channeled into this space, before a selection

occurred in vestibule/kitchen B6. The high level of accessibility of the corridor, suggested by the archaeological evidence, is further confirmed by its relative asymmetry value, which is significantly closer to 0 than 1. The high control value and degree of accessibility signify a high level of presence-availability for room B7; that is to say, they provide statistical evidence suggesting that the chances for human interaction were higher in this room than in others of the same building.

Anteroom B6, located to the west of corridor B7, once provided the first means to control, select, and direct the movement of anyone entering the church complex through corridor B7. It was a fairly permeable space, although less than the latter. In order to reach the vestibule from the exterior, only one level (*i.e.*, space B7) and two doorways (one -always unlocked- between the exterior and the corridor and another -that could be closed off- between the corridor and the anteroom) had to be crossed. The unjustified and justified access maps emphasize the very high level of symmetry of room B6. Indeed, the anteroom shares the highest number of similar relations with the other spaces of the complex, when compared with any other unit of the same spatial configuration: *i.e.*, it has four rooms (A46, B7, B8, and B9) at one-level distance and two (B5 and B10) separated from it by two levels. A maximum of (only) two boundaries had to be crossed in order to reach B6 from any point outside or inside the church complex. According to the basic principles of access analysis, this further supports the identification of the anteroom as a highly symmetrical space.²¹

According to table 1, B6 is a room with a significant control value, two and-a-half times higher than 1 (the level above which a space is considered “controlling” and

²¹ Cf. Grahame 1997, 148-49.

not “controlled”). The great number of neighbors opening directly onto room B6 explain why this space has such a high degree of control (in fact, the highest) over its neighbors. Its central location and highly symmetrical character, as already discussed, assign the room a key role in selecting and controlling movement inside the church complex. The relative asymmetry value for anteroom B6 is, indeed, the lowest among all rooms of the building, corroborating the information that can be gathered from the access maps. The combination of the highest control value with the lowest degree of relative asymmetry (and therefore the highest level of accessibility) generates, with regard to anteroom B6, a level of presence-availability that is the highest within the complex and testifies to the spatial significance of this room. Indeed, the latter can be considered as the only “node” of the entire spatial configuration, that is to say, a room with a high degree of control over its neighbors and that plays a key role in shaping access to, and movement within, the whole complex.

Storage room B9, accessible only from anteroom/kitchen B6 and, as seen above, functionally linked to it, has a depth of two rooms (B7 and B6) and three doorways from the exterior. Two of these openings, one located between rooms B7 and B6 and the other leading into the vaulted passageway below staircase B8, bear evidence pointing to the existence of wooden doors, which could be locked and therefore increase the degree of privacy of the room. The relatively low level of permeability of this space, *i.e.*, ease of access from the exterior, can be easily detected from the justified access map of the complex. The control and relative asymmetry values for room B9, listed in table 1, shed further light on its spatial configuration. The local relations of B9 are characterized by a very low control value, indeed the lowest of all rooms of the complex. B9 is therefore a

“controlled” space, since it controls access only to one neighbor, that is to say, anteroom B6. The relative asymmetry value does not provide particularly significant information on the room’s global relations, since it is almost equidistant from 0 and 1. The access map is more helpful in highlighting the lower degree of accessibility of room B9 when compared, for example, to anteroom B6, yet higher than in other spaces such as the church or the roof of kitchen B10. The significantly low control value of room B9 determines, although combined with an average relative asymmetry level, a decidedly limited degree of presence-availability. Indeed, it has already been mentioned that presence-availability depends more directly on local than global relations; therefore, control value is more determining than relative asymmetry level in its calculation.

Staircase B8 opens onto anteroom B6, through a passage that could once be locked, and leads to the vaulted roof of B10. Two spaces and three boundaries had to be crossed in order to access the staircase from outside: that is to say, the entrance from the exterior into B7; the entire corridor; the doorway between B7 and B6 (originally furnished with a wooden door); the east half of the anteroom; finally, the above-mentioned opening at the east end of the anteroom’s north wall. Thus, the staircase is subject, within the overall spatial configuration, to a higher degree of control by its inhabitants, or rather its users, especially when compared with rooms such as corridor B7 or anteroom B6. Nonetheless, since the staircase, as it can be easily evinced from its structural function, does not lie at the end of the configuration but connects two different spaces *i.e.*, B6 with the roof of B10, its control value is slightly above 1. Therefore, it can be considered as a controlling, although not so significantly so, rather than a controlled space. As for its global relations, the relative asymmetry value is somewhat

low, closer to 0 than 1, and points to a discreet, but, once again, not considerable, level of accessibility for this space. The combination of control and relative asymmetry values bears a moderate level of presence-availability for the staircase.

The justified access map underscores the spatial isolation of the vaulted roof above kitchen B10. The area lies at the northwest end of the church complex and is the only space with a utilitarian purpose, in addition to its structural function, that is not located at ground level. Unarguably, this contributes to the relatively low accessibility of this space, which can still be reached exclusively through staircase B8. Four boundaries are interposed between the exterior and the roof B10, that is to say, the maximum amount within the entire complex. This suggests that the area above B10, which is at the end of the spatial configuration together with room B5 (the church), is the most asymmetrical space of the complex. Indeed, its relative asymmetry value is closer, although not substantially, to 1 than 0, thus highlighting a negligible amount of symmetrical relations between the roof of B10 and other spaces inside the church complex. The relative degree of privacy and low accessibility of this room is hinted to by its control value, which is considerably lower than 1 and therefore distinctive of a space that is “controlled” rather than “controlling”. The comparatively high degree of relative asymmetry and the low control value assign the area above B10 a low level of presence-availability. This value suggests that the chance of encounters among individuals was more limited on the vaulted roof of B10 than in other rooms of the ecclesiastical complex. Therefore, it provides additional support, from a mathematical point of view, to the impression that one can gather from the analysis of the archaeological data.

Gathering hall A46 is at a distance of two spaces, *i.e.*, B7 and B6, and three boundaries (entrance from outside into the corridor, opening into the anteroom, and finally doorway onto the hall) from the exterior. As discussed above, this room is a relatively public space, as testified to by its large dimensions, the presence of benches lining the north, east, and part of the south wall, and its close spatial relation with the church (room B5) to the south. Access to the gathering hall was subject to some form of control and preliminary selection, carried out in rooms B7 and especially anteroom B6. Hence, movement of people from outside into room A46 occurred gradually and through boundaries purposefully created, notwithstanding the unarguably semi-public nature of the hall.²² As mentioned above, the entrance from the exterior into corridor B7 was without any wooden door to seal it, if need be. Therefore, out of the three boundaries between the exterior and room A46, two (between B7 and B6 and between B6 and A46) could be locked, entailing a lower ease of access. This space, although not immediately accessible from outside, was not particularly difficult to reach. With regard to the local relations of the hall, within the spatial configuration of the complex, the control value is slightly above 1 and highlights the relatively controlling character of this space over its neighbors. Instead, the global relations of room A46 are measured by a relative asymmetry value that is closer, even if not substantially, to 0 than 1. The mathematics of gamma analysis point to a moderate degree of accessibility for the gathering hall, bearing further evidence to the archaeological record for doors and doorways leading to this room. Control value above 1 and relative asymmetry value closer to 0 generate a level of presence-availability that is reasonably high, in line with the conclusions drawn

²² As pointed out in the discussion of “private-public” spatial analysis as applied to the church complex: cf. V.1.

above on the nature of the hall. As it can be seen in this instance, the combination of different types of analysis leads to a deeper insight on the spatial arrangement of the complex, which is less plain than a quick look at its layout would suggest.

Concerning room B5, *i.e.*, the church, the unjustified and justified access maps show its peripheral location within the spatial configuration of the entire complex. Indeed, three rooms (corridor B7, anteroom B6, and gathering hall A46) had to be crossed in order to reach it from outside. Consequently, four boundaries divided the church from the exterior: the entrance from outside into B7; the doorway from B7 onto B6 and the one between the latter and A46; finally, the opening from A46 into B5. Out of the four doorways, only two, *i.e.*, between the corridor and the anteroom and between the anteroom and the gathering hall, bear evidence for the existence of lockable wooden doors, while the other two allowed freer access. It must be noticed that before the large, central passage between the gathering hall and the church was bricked in, together with the stepped podium, the openings between the largest rooms of the complex were two. At any rate, the additional opening should not be counted, though, as another boundary to be added to the four just mentioned above. What matters is the relation of “interconnection” between two spaces and, in the case of the gathering hall and the church, this relation has already been identified by means of the west passage, in use even after the central opening had been sealed. The existence of the latter at an earlier stage would have significantly increased the level of accessibility of the church from room A46; its bricking-in may point to an attempt to limit the degree of accessibility to the church, in relation to a possible re-functionalization of the gathering hall. Indeed, the justified access map suggests, with regard to room B5, a fairly low level of permeability.

Table 1 provides a control value for room B5 that is substantially below 1, hinting to the fact that the church was a controlled rather than a controlling space. This conclusion is entirely in line with the analysis carried out above on room B5, based on the justified access map but also on the “private and public” type of spatial analysis.²³ The global relations of the church within the spatial configuration of the complex are defined by a moderately high level of relative asymmetry, *i.e.*, slightly closer to 1 than to 0. The value suggests that B5 is not, on the whole, an accessible space. Indeed, the number of boundaries to be crossed in order to reach it, as already discussed, is the highest among all rooms of the complex. This spatial arrangement created a certain degree of impermeability within a room that was, however, fundamentally of a public nature. On one hand, the church had to be of a relatively ease of access from the exterior, since it was where a large number of people, not counting those who would have sat in the meeting hall (room A46), gathered to worship and celebrate the Eucharist. Interposing an excessively high number of spatial boundaries between the exterior and the church, within a relatively small area, would have made the management of the flow of people too complex. On the other hand, the layout of the church complex unarguably reveals a conscious effort, by those who built it, to create a room that, although public, was endowed with a relative degree of impermeability. Likely, the aim was to provide a means of selection over people approaching the church; access to it was, therefore, meant to be not too difficult, but surely not free from any form of control.

²³ For the latter, cf. V.1.

The moderately low level of accessibility of room B5 is visually emphasized, on the justified access map, by the location of room B5 at the opposite end of the complex from the entrance. Its combination with a decidedly low control value, which is the crucial factor in establishing local spatial relations, provides for a limited degree of presence-availability for the church. The fact that room B5 was, due to its size, unquestionably capable of hosting more people than other rooms of the complex, especially those with a higher degree of presence-availability as, for example, anteroom B6, is not a valid counter-argument and does not disprove the validity of the data offered by access analysis. Indeed, as already remembered, presence-availability is not based on, nor does it determine, the number of people present in a specific room at any given time; rather, it provides a statistical measure of how likely people within the complex were likely to meet, considering the layout of each room in relation to its neighbors and within the entire configuration.

The application of access analysis to the layout of monastic cells at Kellia, in Lower Egypt, revealed a similarly low level of permeability of the oratory as in the church of Ain el-Gedida.²⁴ In the earliest samples from Kellia, the oratory was located in the least accessible place of the entire building, in order to allow strict access control and selection of visitors. In later cells, which often show multiple dwellings within the same outer walls and opening onto a central courtyard, this requirement must have not been felt as strongly. Indeed, the oratory, now considerably larger to host the increased number of monks living in the same complex, is no longer built in the most secluded place, but is easily and directly accessible from the courtyard. The apparent similarities,

²⁴ Cf. Aravecchia 2001, especially 32.

concerning the relatively low degree of permeability and therefore of accessibility, between the church of Ain el-Gedida and the oratory of the earlier cells at Kellia underscores, in fact, a substantial difference. At Kellia, the archaeological evidence, supported by literary sources, underscores the private nature of the oratory, meant to be used only by one person, that is to say, the older monk, or by him and a very selected number of visitors. At Ain el-Gedida, on the other hand, the public character of the church (room B5), in addition to the gathering hall to the north (room A46), is unquestionably apparent. Therefore, the relatively high number of boundaries, which had to be crossed in order to reach the church, did not answer the need to generate and protect privacy for room B5, as instead was the case at Kellia or, within the church complex of Ain el-Gedida, on the vaulted roof of room B10, which puzzlingly (at first sight, at least) shares the same control and relative asymmetry values of room B5. The purpose was rather to coordinate and select access onto a room that undoubtedly was seen as the most important space of the whole complex. The justified access map illustrates how the latter had been conceived, at least in its latest phase of occupation, as a series of rooms of increasing dimensions and significance, ending with the biggest and most monumental space, *i.e.*, the church.

V.3. 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. 102). 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 into room B5. This spatial arrangement was created to channel the flow of people from outside into the complex, leading them into the church that 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.

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 into 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. 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 size and spatial complexity and its application to the 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 up 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.²⁵ 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.²⁶

Two features very similar to mud-brick *mastabas* were uncovered in anteroom B6, against the north and east wall.²⁷ 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.²⁸ 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

²⁵ Once again, not counting the people standing. The calculation is based on an average of 40 cm per person.

²⁶ 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.

²⁷ The latter in very poor condition.

²⁸ For example, in the square court of the *domus ecclesiae* at Dura Europos: cf. IV.2.1. above.

evidence, was of 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, instead, 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 amount 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 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 amount 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 the 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. As already discussed in a previous chapter, the church complex is centrally located on top of the main hill. It is surrounded by a compact layout of buildings of different shape, size, and function, 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 the moment, on the topography of mounds II-IV and nothing on 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.²⁹ Large sand dumps, from the excavations of the 1990s, lie to the south of mound I, between the main excavated area and the smaller mounds, 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.

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

²⁹ Except for part of a street, running northwest-southeast, that was detected during a 2009 survey.

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 of considerable size, that were built approximately in the same time frame of the church of Ain el-Gedida.³⁰ A large Christian community must have therefore existed at that site in the fourth century, with several places available for congregation, prayer, and the celebration of the Eucharist. Therefore, it 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 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.

³⁰ Cf. II.2. for a discussion of the evidence for fourth-century Christianity from Kellis.

Apart from Kellis, no information exists about settlements lying in the close vicinity of Ain el-Gedida in the fourth century.³¹ 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 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. 103). 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.

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 a very large rectangular building (unexcavated), which was tentatively identified, on the basis of comparative evidence from other sites of the oasis, 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

³¹ Some uninvestigated ruins were detected to the south of Ain el-Gedida, toward the main modern road leading to Mut, the oasis' capital.

northern edge is connected with another street (c) running westward and perpendicular to the former. To the east of the large rectangular building 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 (pl. 8). The latter is parallel to the vaulted passageway (g) largely excavated as room 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 large rectangular building, 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 different phases of architectural development 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, channel 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 little- undoubtedly points to the spatial centrality of the ecclesiastical complex, which, although built in a densely constructed environment, is granted a considerably high degree of accessibility by an efficient system of streets.

Chapter VI

Monastery or Village? Considerations on Ain el-Gedida and Its Fourth-Century Church

Summary

This is the concluding chapter of the present work. It does not merely consist, though, of conclusions drawn from the study carried out in the previous sections. Here, the earlier discussion, largely focused on the church complex of Ain el-Gedida, is broadened to include an investigation of some relevant issues concerning the whole archaeological site. The questions that are raised concern mostly aspects of chronology and concerning the overall nature and function of the settlement.

The first section sums up the evidence, partially discussed in chapter III in association with the church complex, that deals with the chronology of the site. Issues of dating of the remains excavated at Ain el-Gedida are touched upon, emphasizing what is known -or still unknown- about their relative and absolute chronology. The problem regarding the abandonment of the site, which is common to other sites in the region, is analyzed, although an unquestionable answer on its causes is yet to be found.

The second, and more extensive, part of the chapter is a discussion of what basic functions the church complex and, more in general, the site of Ain el-Gedida performed in the context of Late Antique Egyptian society of the oasis. It is preceded by a general introduction to Early Christian asceticism in Egypt, necessary to understand the association, proposed by some scholars, between Ain el-Gedida and a monastic milieu. The chapter continues with a discussion more closely pertaining Ain el-Gedida and deals

with the stimulating question of its overall nature and meaning. The section brings together the available bodies of data, but also their counterarguments, pointing to different readings of the settlement and its nature. The goal is to shed light, as much as allowed by the available evidence, on the site itself and the community -or communities- who once built it and lived there.

Finally, the chapter discusses the value of the research project of Ain el-Gedida for the study not only of Christianity but also of Late Antique Egyptian society, offering possible leads for meaningful further research.

VI.1. Issues of Chronology

The chronology of Ain el-Gedida was established on the basis of an accurate reading of the architectural and material evidence gathered during the excavations carried out at the site between 2006 and 2008.

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 very few stones used as lintels; the construction techniques, often mixed and of rather poor quality; the dimensions of walls and vaults' 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.¹ Unfortunately, the seemingly unique layout of the site -or its excavated part- does not provide any significant piece of information in this context, as it cannot be the object of any comparative study with more securely datable examples.

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.² 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. 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 (pls. 9; 23-24).³ Two small rooms at the south end of the complex are built against a large rectangular space to the north, which might have originally been the courtyard of the temple. In turn, this room leads to the north into a sequence of two square spaces, both flanked by two longer rectangular spaces symmetrically arranged. The rather small size of the square rooms, their location at the north end of the complex' main axis, and the fact that the northernmost of the two was accessible only through the twin-space to the

¹ Cf. the discussion in VI.3. below.

² Sometimes as a result of the excavation of test trenches throughout the mound.

³ Although the best known temples in Dakhla are stone buildings, originally most temples 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, was excavated by the IFAO 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.

south, tentatively points to their original identification as a *pronaos* and a *naos*. What matters here is that the possible discovery of a pagan 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. If in fact there were a temple at Ain el-Gedida, it must have been built sometime before its 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.⁴ Recently, comparative analysis has been carried out between the “temple” of Ain el-Gedida and other examples of pagan religious architecture from Dakhla. Although still in need of further investigation, the preliminary results support the identification of the west complex of Ain el-Gedida, in its earlier occupational phase, as a mud-brick temple. Particularly striking is, in fact, the similarity between the layout of the temple of El-Qusur in Dakhla, surveyed by the D.O.P., and that of the west complex from Ain el-Gedida.⁵ Furthermore, the study of the latter’s architectural features revealed different construction episodes, which did not involve just minor changes; on the contrary, they point to substantial alterations carried out on the early building, entailing also its re-functionalization.

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, established through the study of the material evidence, would suggest. In particular, the identification of the west complex as a temple would support, if correct, the existence of the settlement since

⁴ Thus far, it has not been established if any temporal hiatus occurred between the abandonment of the temple and its conversion into a ceramic workshop.

⁵ Cf. Kaper 1997, 7-8. The temple is located to the northeast of Tineida, at the eastern end of the oasis.

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.⁶ The absolute chronology of each phase is very difficult to reconstruct, though. The older architectural features were, in several instances, razed down to the lowest courses of bricks. These were often laid directly on *gebel* -the geological subsurface- 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 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.⁷ 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. This has already been emphasized in a

⁶ Cf. Bagnall 1993, 264.

⁷ Cf. Bowen 2007, 263.

previous chapter in relation to the material evidence from the church complex, but it also applies to all areas investigated on mound I.⁸

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 sanctuary, are not necessarily evidence of an earlier phase of construction, pertaining to the church complex in particular. 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.⁹ The coins suggest that Ain el-Gedida 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".¹⁰ However, as already seen above, there is still considerable uncertainty on the reading of these two specimens; at least at the moment, these cannot be used to prove a longer life-span, with regard to the whole settlement, extending beyond the end of the fourth century.

The evidence provided by the ceramics found at Ain el-Gedida supplements the information offered by coins. 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 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

⁸ Cf. III.4.2.

⁹ Cf. Bowen 2002, 81.

¹⁰ Cf. Ratzan 2008, 1, 5.

the oasis.¹¹ 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.¹² The Early Roman vessels from room B10 and the third-century coins from the church suggest, on one hand, that the site might have gone through construction phases dating back to the third century or even earlier. On the other hand, 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. The overwhelming majority of the pottery finds corroborate the fourth-century evidence offered by most coins. However, it is unlikely that the pottery sherds datable to the third century came from another site or that third-century vessels were still in use during the fourth century. Therefore, they seem to be better indicators than coins of earlier phases of occupation at the site.

Providing similar information as 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-, fifth- century contexts in Dakhla.¹³

Another category 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. They were catalogued by R. Bagnall, who 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

¹¹ Cf. Dixneuf 2007, 7, and the bibliography provided at the end of her report.

¹² Cf. III.4.1.

¹³ Dixneuf (personal communication, February 2008).

from the period 350-370. Bagnall's analysis confirms and supplements the data provided by the other categories of small finds listed above.

A puzzling question, directly related to the chronological issue about 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 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 episode, whose extent may have been rather limited in time, 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 episodes of violent destruction, such as extensive fires, which might have caused the abandonment of the large village toward the end of the fourth century CE.¹⁴ 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 more generalized phenomenon involving the entire region. 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 changes, economic depression, or political unrest. Undoubtedly, a general phenomenon of ruralization and general impoverishment 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 several traces of this trend. The most conspicuous feature was the partition of earlier buildings into smaller spaces, often used 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.¹⁵ Abundant organic material was found that demonstrated the existence of numerous animals inside older houses turned into stables. The archaeological evidence assigns these significant changes to the latest occupational phase of the site, not long before its abandonment that was complete by the fifth century. Indeed, a possible agricultural crisis, associated with an overall “fragile eco-system”, might have led, in the opinion of M. Reddé, the people of Douch to take on breeding rather than agriculture as their main

¹⁴ Cf. Bowen 2007, 260. On the numismatic evidence dating the abandonment of Kellis, cf. Bowen 2001, 63-64.

¹⁵ Cf. Reddé 2004, 56.

occupation.¹⁶ At Kellis, too, some larger buildings were turned, in the site's later phases, into masses of small rooms and stables.¹⁷

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 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 worth being raised, 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.

¹⁶ *Idem*, 207. Reddé also allows the possibility that worsening climatic conditions contributed to the abandonment of the site. No signs were found of violent destruction brought by Nubian tribes.

¹⁷ Cf. Hope 2002, 173, 186.

VI.2. Early Egyptian Monasticism

Considerable attention has been paid, in the last decades, to early Egyptian monasticism, thanks to a resurgent interest towards monastic life in Egypt. Traveling throughout the country, one becomes easily aware of this phenomenon as several old monasteries are being restored and new ones are under construction near the remains of ancient Christian sites. Although not radically, these monasteries that are flourishing throughout the country are slowly modifying the desert and urban landscape of Egypt. At the same time, they testify to the presence of Christian communities -ascetic and not- that are finding a renewed strength and pride in their origins and faith. This is most certainly not a new occurrence; indeed, Egyptian monasticism had already been a key aspect of Late Antique Egyptian society, not limiting its influence to the sphere of religion, but also playing a key role in the political, social, and even economic life of the region.¹⁸ Since its formative period, during the fourth and fifth century CE, the local religious and political leaders looked at Egyptian monasticism with interest (sometimes with preoccupation), since it was considered a force capable of affecting the *status quo* of the Egyptian social order. Authorities made several attempts to control and somehow frame this world, but it was impossible to achieve this goal completely.¹⁹ Egyptian monasticism was not a uniform, consistent phenomenon, but a mirror of its time,

¹⁸ Among the general studies on Egyptian monasticism are Goehring 1999, Wipszycka 1996, and another book (forthcoming) by the same author. On the origins of monasticism cf. also Dunn 2003.

¹⁹ D. Brakke studied the role of the patriarch of Alexandria in the development of early Coptic monasticism. In particular, he recognized in his pastoral activity the attempt to build a Church based on a centralized authority (his own) and linked to a system of parishes. This network would have granted him a form of political, social, and religious control over Christians in Egypt, especially against the heterodox doctrines that were flourishing in the region at that time. Monasticism was, in all the forms in which it manifested itself, a key component of Egyptian Christianity and Athanasius could not avoid dealing with this when putting together his view of a common, unified Church: cf. Brakke 1995, 80-83; 129-31.

reflecting the variety of structures -ideas, doctrines, forms of ascetic performance- gradually adopted by Christianity in those seminal centuries.²⁰

This diversity is reflected, in a particularly visible fashion, in the multiplicity of arrangements in which ascetic life developed in fourth-, fifth-century Egypt. A large body of literature formed around Egyptian monasticism and helped shape the traditional view of it that was subsequently handed down throughout history.²¹ It is the picture of a world divided into anchoritic and coenobitic ascetic practices and that developed within the physical and ideological environment of the desert, which seems to be omnipresent in the literary tradition about asceticism. Nonetheless, contemporary scholarship has re-evaluated the available textual sources and, with the support of archaeological and documentary evidence, demonstrated that the situation was rather different. Thanks to a more critical work, new answers have been found to key questions, such as how asceticism and its practices developed in Late Antique Egypt and how and to what degree the topography of the country contributed to shape this process. A significant accomplishment of recent studies on early Egyptian monasticism has been to review and shed light on the role of the urban environment, and particularly its outskirts, as ideal locations for ascetic practice in Late Antique Egypt.²² The traditional topography of monasticism had always viewed the desert as the indispensable setting for any monastic experience, aspired to by people escaping from religious persecution or heavy taxation.²³

²⁰ Papyrological sources document several aspects of the life of early Egyptian monastic communities; they are introduced in Choat 2007.

²¹ Cf. Ward 2003, Gould 1993, 4 ff., and McLellan 1998 on the *Sayings of the Desert Fathers*, one of the best known literary sources on early Egyptian monasticism.

²² Cf., among the others, Goehring 1999, 87 ff.; Brakke 1995, chs. I-II; Rousseau 2002, 255-57; Elm 1994, 331.

²³ Cf. Chitty 1995, 7, and Brown 1971, 83, who speaks of a “discreet and irresistible pressure” exercised by the desert on the first ascetic communities. More recently, the link between the beginning of monasticism and people escaping persecutions has been reassessed, although not disproved, by scholars.

However, a careful reading of the evidence, both written and archaeological, has proved that cities and villages were germane to the birth of organized ascetic practices and as central to it as the desert. This was even truer for the desert fringes alongside the Nile Valley, which perfectly fit the need of a man who aspired to an ascetic life to fulfill his spiritual goals, while satisfying, at the same time, his more basic needs.

J. Goehring has dedicated much of his recent work to the question of Egyptian monasticism and its origins. By reviewing the written sources on ascetic practices in the late third-early fourth century and combining them with the results of the archaeological investigation carried out at monastic sites, he challenges the above-mentioned traditional view of Egyptian monasticism as a desert phenomenon.²⁴ On one hand, he admits the existence of a tendency to choose far and isolated locations as the setting of monasteries and sees this as the result of a “discovery of the desert”, as an alternative to towns and villages. However, he denies that Christian asceticism developed exclusively within the geographical context of the Egyptian desert, thus disputing the traditional view portrayed by several monastic sources, which he dismisses as largely a literary construction.²⁵ Indeed, there is documentary evidence attesting to people leading an ascetic life in the inhabited regions of the Nile Valley at a very early stage, also testifying to the fact that, for example, monks could play a social role in fourth-century Egyptian villages.²⁶ According to Goehring, the link between the Egyptian *oikoumene* and the development of ascetic practices did not cease in the fourth century, but

S. Rubenson (1995a, 52), argued for the existence of additional reasons, of a more philosophical or spiritual nature, for this “flight” to the desert. On this issue, cf. also Goehring 1999, 89-109.

²⁴ He talks about “the rhetorical power of the desert image”: cf. Goehring 1999, 90.

²⁵ *Idem*, 87; 89-90.

²⁶ As witnessed, for example, by a fourth-century papyrus mentioning, for the first time, the word *monachos* as applied to a monk (and the monk in question was an ascetic living in a village): cf. Judge 1977, 86. Cf. also Boughner and Goehring 1990, 458-9, and, on Early Christian asceticism in Egypt, Pearson 2007, 107-11.

continued as a parallel phenomenon to the establishment of monasteries in the distant desert.²⁷

The traditional separation between anchoritic and coenobitic ways of life is dependant, in many ways, on sources that are focused on Antony and Pachomius, such as the *Vita Antonii* and the *Vita Prima*. However, even these works, whose documentary value has been recently discussed and reassessed, contain information on a variety of ascetic practices that have been long overlooked. In particular, it is possible to find several references concerning the existence of people practicing an ascetic life well before Antony and Pachomius. These early monks lived, for the most part, not in the desert but in the urban context of cities and villages, alone or in groups, and settled in houses that one has no reason to believe differed substantially from ordinary fourth-century domestic units.²⁸ The existence of early groups of ascetics living in an urban context is mentioned in fourth-century literary sources such as the letters of Jerome (in which they are called *remnuoth*) and the *Conferences* of John Cassian (where they are identified with the term *sarabaitae*).²⁹ The authors themselves distinguish them from anchoritic and coenobitic practices, and they therefore form a third, separate group in the scene of early Egyptian monasticism, which was apparently charged, at least by Jerome, with negative connotations.³⁰ Documentary sources provide evidence on the existence of

²⁷ As witnessed to by the *Historia Monachorum* in relation to Oxyrhynchus (5.4-5), which is portrayed as a city full of monks.

²⁸ On Egyptian houses from both urban and rural contexts, cf., among the others, Boak and Peterson 1931; Husselman 1979; Davoli 1998, 73-116 (Karani); *Elephantine* 1980- (multi-volume series on Elephantine); Rodziewicz 1984 (Alexandria); Hope 2002, 170; 199-204; Hope 2003, 235-38; Hope and Whitehouse 2006 (Kellis).

²⁹ On the interpretation of these two rather puzzling terms, cf. Blanchard 2007. Egeria also mentions, in her *Itinerarium* (23.3; cf. Wilkinson 1999), the existence of a trifold ascetic movement in Egypt, including anchorites, cenobites, and apotactics: cf. Harmless 2004, 449 (note 14).

³⁰ Because of a lifestyle that was viewed as unruly and independent from any norm of the local religious authorities.

these urban ascetics and their role in the administrative, social, and economic life of the cities and villages which they inhabited.³¹ They portray a picture of early urban ascetics (often called *apotaktikoi*, or “renouncers”) as people well integrated in their social context and often with an important role in their communities.³² What is significant, from an archaeological point of view, is that the literary and documentary evidence suggests a living arrangement of these ascetics (male and female) that did not differ considerably from that of their contemporary citizens or villagers.³³ The apotactics lived in standard houses, either by themselves or in small communities. Therefore, it can be argued that the types commonly associated with Egyptian monastic architecture (enclosed, centralized monasteries, isolated cells or the intermediate form of dispersed cells coupled with a central facility represented by the *laurae*) need not apply to the context of early urban or village ascetic practices. Unfortunately, while the literary and documentary sources are relatively abundant, there is no archaeological evidence to provide more information on the early apotactic movement. The fact that the early urban or village ascetics adopted living arrangements similar to those of the lay population would thus make it difficult, for any archaeologist, to recognize a particular domestic unit as the abode of an *apotaktikos*.³⁴

Besides the literary and documentary references to early urban ascetics, traditional monastic literature often alludes to fourth-century Christian anchorites living a solitary life on the outskirts of urban centers, where the city or village and their

³¹ Cf. Judge 1977.

³² Cf. Pearson 2007, in particular 107-11.

³³ On the documentary evidence provided by papyri on the existence of female *apotaktikai*, cf. Elm 1994, 234-52.

³⁴ More generally, a key obstacle to the archaeological work in the context of Late Antique Egyptian cities or villages is that the sites where they are located witnessed, in many instances, continuous occupation for centuries. Furthermore, the presence of modern settlements over ancient archaeological remains is a problem that cannot be solved easily and often results in a setback for scientific work.

cultivated fields would yield to the Egyptian desert.³⁵ These early male and female ascetics would sometimes settle in ancient cemeteries and reoccupy empty tombs.³⁶ One of the most famous cases can be found in the *Life of Antony*, which recounts how Antony himself moved, at an early stage in his ascetic career, into an abandoned tomb not far from his town, before he left to the desert in search for a more isolated location.³⁷ Archaeological evidence exists for the reuse of rock-cut tombs by early anchorites since the first centuries of Egyptian monasticism, such as at Esna, Saqqara, and Deir el-Bersha. A particularly significant tomb, reused as a monastic settlement, is found at the Monastery of Epiphanius, investigated under the direction of H. E. Winlock.³⁸ Archaeologists identified several construction phases, which ranged from an early tomb-hermitage to a larger complex that included a central, fortified set of spaces and “satellite” cells, which were built reusing other ancient tombs.³⁹

Literary references to a secluded life of prayer, penance, and work are plentiful, such as in the *Apophthegmata Patrum*, the *Historia Lausiaca*, and the *Historia Monachorum*. According to these sources, the life of the anchorite was to be spent mostly in his own abode, where he would pray, sleep, eat, and work. This suggests a multiplicity of functions performed by the monk in his dwelling, which could be a

³⁵ To fourth-century Egyptians, the uninhabited outskirts of a city, or an isolated area that was at one day walking-distance from a human settlement of any sort, might have been far enough to be considered suitable to an ascetic life style. The topography of Egypt speaks by itself, with the relatively thin strip of green land along the Nile and its outer edges touching, in a stark contrast, those of the sandy, brown desert (the “Outer Desert”). As Bagnall (1993, 144) effectively pointed out, such a contrast had to appear dramatic to the aspiring anchorite, granting him the possibility of settling not far from the Valley and feeling, at the same time, “to belong to another world.”

³⁶ As was the case of the virgin Alexandra mentioned by Palladius in his *Historia Lausiaca*, V (Meyer 1965).

³⁷ Cf. *Vita Antonii*, 2-8 (Vivian and Athanassakis 2003).

³⁸ Cf. Winlock 1926.

³⁹ On the spatial organization within monastic settlements cf. Thirard 1999 and Brooks Hedstrom 2001. Cf. also Brooks Hedstrom 2007 on the origins of monastic dwellings.

natural cave, an old tomb, as said above, or a cell (with one or multiple rooms) built of stones or bricks, with vaulted or flat roofs and a terrace.⁴⁰ According to the sources, the choice of the setting, in an anchoritic or, more commonly, semi-anchoritic context, depended on factors such as relative closeness to the central church, presence of water, and a sufficient distance from other cells to avoid the risk of seeing or hearing the neighboring monks (which would have disturbed the monk's ascetic pursuits).⁴¹ Both literary and documentary sources refer to the habit of exchanging visits between fellow anchorites and welcoming lay visitors in search for help or advice on a wide range of matters, from spiritual to health-related problems.⁴² This suggests forms of human interaction taking place in the monks' cells. The ascetic and the visitor/s would share meals, talk, and pray together. It is possible to assume from these sources that a room like the oratory, where the daily meditation and prayer took place and more rarely a visitor would enter, was the most important place in the cell and had a higher degree of privacy than, for example, the courtyard or the vestibule, where guests were greeted and meals shared. Increased possibilities for human interaction are due to the fact that anchorites (and also cenobites) did not live a constant life of segregation in their cells (or monasteries) and left them, if only temporarily, to run errands or business in the city or village. This is significant, because it shows that the living arrangements of Christian monks were not limited to the physical spaces of their cells or, in the case of coenobitic forms of ascetic life, the monastic complex as a whole. It is, therefore, necessary to broaden one's perception of the physical environment in which ancient monasticism

⁴⁰ Cf. Regnault 1990, 53-64. John Cassian mentions, in his *Conferences* (9.5, cf. Ramsey 1997), multiple-room cells, sometimes richly decorated.

⁴¹ Cf. *Historia Monachorum*: XX.7 (Russell 1981); *Cassian, Conferences*: 3.1.

⁴² Cf. Bagnall 1993, 299.

took place to include cities and villages, as argued above in relation to early urban ascetics.

The texts often indicate that work was a necessity of life for the monk. Basket weaving and rope making are among the activities most commonly associated with the daily life of the monk. Besides providing him with the essential means for survival, work was also considered as a way to keep the body and mind busy, in order to avoid temptation, and was often accompanied by prayer and meditation. Concerning the area designed for the productive activities of the solitary monk, the courtyard and the vestibule seem to be the most suitable spaces.

The sources also provide information on the living and working arrangements of anchorites who shared their cells with a younger disciple.⁴³ The young follower would spend a long time in the cell serving his master and becoming an ascetic by steady prayer, work, and imitation. The figure of the ascetic monk as a spiritual teacher is omnipresent in the literature about early monasticism; in this context, it is significant because it proves that even the life of the ascetic, solitary monk was not characterized by complete segregation. The literature testifies to the lifestyle of these anchorites, who shared some spaces within their cells with their disciples, while arguably a higher degree of privacy was reserved to other rooms.

The interaction among semi-anchoritic monks also included meetings on regular occasions, such as on Saturday night and Sunday, as the literary evidence states.⁴⁴ The celebration of the Eucharist and the sharing of common meals were often the reason for these gatherings, which had to take place in buildings with rooms big enough to host

⁴³ Cf. *Apophthegmata Patrum* (Ward 2003) and *Historia Monachorum* (Russell 1981) for a wide selection of “exemplary” stories.

⁴⁴ Cf. *Historia Monachorum*, XX.7 for evidence pertaining to the monks of Nitria.

large numbers of monks. Therefore, the written texts suggest a relative variety in the living arrangements of monks who practiced a semi-anchoretic form of asceticism. Indeed, they ranged from the smaller, more private spaces for the single monk (and often his disciple), which had rooms for work, an oratory for prayer and meditation, a kitchen for food production, and a vestibule for the reception of guests, to larger buildings, which were obviously of a more “public” nature, such as churches and refectories.

Archaeological excavations at anchoritic and semi-anchoretic settlements have allowed scholars to collect a significant amount of evidence supporting, to a considerable extent, the literary and documentary sources. One of the most extensively investigated (and best published) monastic settlements of this kind is Kellia, on the edge of the Nile Delta to the northeast of Wadi Natrun (Lower Egypt).⁴⁵ During several excavation seasons Swiss, French, and Egyptian missions unearthed hundreds of monastic independent cells dating from the fourth to the ninth century.⁴⁶ The earliest datable structures were modest sunken rooms for only one monk. However, most of the cells show a particular layout that originated around the sixth century. This basic type was rectangular and surrounded by an enclosure wall that guaranteed privacy and (relative) safety to the monk as well as it provided protection from desert winds. It was furnished with latrines, a well, and a set of rooms built against the northwest corner of the courtyard. There were an oratory and another room (presumably a bedroom) in the most secluded area of the cell, accessible only through a vestibule that also opened to the kitchen, pantry, and a set of two small independent rooms. The latter were likely

⁴⁵ For the results of the first scientific work conducted, on a large scale, in the area of the Wadi Natrun cf. Evelyn-White 1932-1933.

⁴⁶ Cf. Kasser 1999, 1984; Kasser et al. 1994. For a more general introduction to monasticism at Kellia and to the architectural and artistic forms in which it expressed itself, cf. Bridel 1986.

occupied by the younger disciple, who would have had, therefore, direct access to the kitchen to prepare food for himself and his master. As suggested by monastic instructions, the older monk would spend most of the time in prayer and meditation in the physically secluded oratory. A large amount of graffiti with drawings, signatures, and invocations often were found in the vestibule of the cell, *i.e.*, the room connecting the open-air courtyard with the cluster of rooms where the monk and his disciple lived. These graffiti are significant not only because of their varied content, but also as they provide archaeological evidence for the frequency of human interactions between the anchorite monk and visitors that occurred mostly in a semi-private space, such as the vestibule.

Further archaeological evidence on the living arrangement of Early Christian ascetics comes from the investigation of sites as Esna, in Upper Egypt, and Deir el-Naqlun, in the Fayyum.⁴⁷ At Esna, the fifth- and sixth-century hermitages, which were built underground and could be accessed through a staircase, consisted of rooms -an oratory, a kitchen, a pantry, and rooms for one or two monks- surrounding a central courtyard. A rather similar, centralized layout characterized the cells, partly built within the rock, at the *laura* of Naqlun, where archaeological evidence points to a dating for the foundation of the monastic settlement from the second half of the fifth century.⁴⁸ As R. Bagnall pointed out, the typological similarity of these cells, opening out onto a central courtyard, with contemporary Egyptian houses is striking.⁴⁹ The living arrangement,

⁴⁷ For Esna, cf. Sauneron and Jacquet 1972, v. II; concerning Deir el-Naqlun, cf. Godlewski 1996.

⁴⁸ Information on the relations between hermitages and central monasteries in the *laurae* system, based on the example of Naqlun, is provided for by Wipszycka 1996, 373-93. She suggests how the proximity of the hermits to a communal center would have provided them not only with a gathering place for cult but also with basic services (such as provisions of water and food).

⁴⁹ Cf. Bagnall 1993, 297.

furthermore, provides significant information on the relatively high financial means of at least some of the hermits, challenging the usual association of poverty to the monks as rendered by many literary sources.⁵⁰

The cells excavated or surveyed at Kellia were built rather close to each other, therefore disproving the above-mentioned tendency (at least according to the sources) to construct semi-anchoretic cells far enough from each other's sight, in order not to disturb the monks' spiritual and physical seclusion. However, one has to remember that the situation documented by the archaeologists at Kellia represents a fairly advanced stage in the development of the site, when apparently the aspiration to a life of complete, or almost complete, isolation seemed to fade. The archaeological evidence of the later types of cells, in which multiple dwellings were often built within the same enclosure wall, seems to confirm this tendency toward a more coenobitic form of monastic life.⁵¹ Furthermore, the discovery, still at Kellia, of a complex of churches and of an area with common spaces credits the picture, portrayed by the traditional literature, of semi-anchoretic monks living part of the time in isolation in their cells and gathering in the main church (or churches) and in the adjacent buildings at least once a week.

Concerning the working arrangement of semi-anchoretic monks, the archaeological evidence is undoubtedly less solid. Apart from more utilitarian rooms, such as kitchens and pantries, which are clearly identifiable in the archaeological record, the space where the monk's productive activities were performed is not often easily

⁵⁰ Such as the *Life of Antony* (2.1). For a detailed discussion of Coptic hermitages, concerning in particular the nature and function of their rooms (based on literary, documentary, and archaeological evidence -the latter coming mostly from the cells of Esna-), cf. Husson 1979. On the relatively high financial means of some anchorites or semi-anchorites, as testified to by quite elaborate and rich cells (especially when compared to those of coenobitic monks), cf. Bagnall 1993, 297.

⁵¹ Cf. Mottier and Bosson 1989, 37-45.

identifiable. The most common finds, coming from Kellia and other monastic sites, include pottery vessels of various kinds, fragmentary or complete textiles, baskets, mats, and ropes. These objects were of common use in fourth-/fifth-century Egypt and the fact that they were found in monastic cells does not necessarily prove that they were produced in that context. This is not to deny what is suggested by the sources about the monk's productive activities, but it is not always possible to identify the work-related function of a specific room through the finds collected from it.

Coenobitic monasticism, traditionally associated with Pachomius and his ascetic communities, is extensively referenced in literary sources.⁵² Texts such as the *Vita Prima*, the *Historia Lausiaca*, the *Ad Monachos* of Evagrius or the *Canons* of Shenoute provide varied and detailed information on the conduct, manner of living, and habits of Pachomian groups, offering valuable, although not always objective, insights on daily monastic life.⁵³ In particular, significant data are found on the way in which the communal nature of this form of ascetic practice shaped the arrangement of the physical space.⁵⁴ The monks, following a rule that resembled a military system, lived in common houses (with cells for up to three monks each, according to Jerome and Palladius)⁵⁵ and shared public spaces for the worship, liturgy, consumption of meals, and production of goods, which were destined not only to the monastic community but to a wider market

⁵² The originality of Pachomius' contribution to Coptic coenobitism and the creation of the *koinonia* has been recently challenged by W. Harmless (2004, 423-25). Following Goehring, not only the Pachomian model of coenobitic practice existed in Late Antique Egypt. Ascetic groups came to be considered heterodox and were, therefore, often "forgotten" by many literary sources. Although different on a theological basis, these forms of asceticism emerge from the documentary evidence as sharing similarities with the "orthodox" Pachomian communities at an organizational level. Notable is the example of Melitianism and its monasteries: cf. Goehring 1999, 187-95.

⁵³ On monastic institutional forms, cf. Wipszycka 2007a.

⁵⁴ The information is often indirect, so that the analysis and study of the literary evidence must proceed by implication.

⁵⁵ Cf. Harmless 2004, 123 and 143 (note 13).

as well.⁵⁶ A large body of documentary evidence exists for such activities, testifying to the strong ties between monastic communities and the external world and to their role in the economy of Egyptian cities and villages in Late Antiquity.⁵⁷

Unfortunately, archaeological data concerning coenobitic monasteries in Early Christian Egypt are more limited. Several ancient monastic sites were reoccupied in modern times and even those that were abandoned bear traces of significant architectural alterations throughout the centuries.⁵⁸ While the architectural layout of the many monasteries that dot the Egyptian landscape may be suggestive of the living arrangement of their fourth-, fifth-century predecessors, much caution is needed. The cooperation between archaeologists wishing to carry out investigations at ancient monastic sites and the religious communities that have since settled there, striving for expansion through new construction projects, has been -at times- problematic. Nevertheless, fairly recent collaborative projects established among scholars, monastic authorities, and representatives of the Supreme Council of Antiquities of Egypt have proved successful. By consequence, a flow of archaeological data has begun to shed light on the spatial arrangement and numerous aspects of daily life in early Egyptian monasteries.⁵⁹

⁵⁶ Bagnall emphasizes the strong typological similarity between coenobitic monasteries and army camps: cf. Bagnall 1993, 296. Palladius gives a detailed account, in his *Historia Lausiaca*, of the Pachomian monastery of Panopolis and mentions the vast array of activities carried out there, from agriculture to metal-working, to the production of boots (XXXII).

⁵⁷ The *Historia Monachorum* (V.1-7) gives one literary example that testifies to the significant role of coenobitic communities in fourth-century urban Egypt. It concerns Oxyrhyncus and provides an impressive -and colorful- description of the monastic presence within and outside the city. Goehring (1999, 91) links Pachomian monasticism, seen as a product more of the city than of the desert, to the early forms of ascetic practices within cities or villages that are mentioned in the written sources. The goal is to fill the gap between the first manifestations of urban asceticism and later Byzantine monastic communities in cities and villages.

⁵⁸ For example, the Monastery of Jeremiah at Saqqara or the Monastery of Saint Simeon at Aswan: cf. Gabra 2002, 108-14; 120-23; Bagnall 2004, 105-6; 241-42; Capuani 2002, 133-36; 248-50.

⁵⁹ As at the so-called White Monastery at Sohag, thanks to the excavations carried out by the SCA and recently studied and published by P. Grossmann and D. L. Brook-Hedstrom: cf. Grossmann et al. 2004.

VI.3. Ain el-Gedida: The Monastic Connection and Alternative Readings

The identification of Ain el-Gedida as a monastic settlement was brought up since the Egyptian excavations, which were carried out in the mid-1990s, started uncovering archaeological features in the southern half of mound I.⁶⁰ 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.⁶¹ 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; cf. pl. 7). 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.

The survey of the southern part of mound I revealed different construction phases and evidence of restoration and/or re-use of earlier features into later structures. This part of the settlement, more extensively investigated 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

⁶⁰ 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.

⁶¹ Such as rooms A2-A4 in the southwest corner of mound I.

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 people were and the lack of any record on 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 and, if it did not confirm, certainly did not disprove a monastic identification for Ain el-Gedida. The complex, capable of hosting a considerable amount 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. 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, as seen in a previous chapter.⁶² On the other hand, similar spatial arrangements are testified to at sites that have not been identified (or not beyond doubt) as monastic, as 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, a space for laity, or the women's section within the church) and the shifting, at least to some degree, of its purpose, as pointed to by architectural alterations occurred before the abandonment of the site, leave the question open.⁶³ The presence of the church complex on mound I is not, *per se*, evidence for a monastic identification of the site, neither is its proximity to large kitchens and the unusual layout of the south half of the hill.

⁶² Cf. also Walters 1974, 39; 99-102.

⁶³ On the issue of food consumption in a monastic environment, based on written sources, cf. Layton 2002 and Harlow and Smith 2001.

The excavation, carried out in 2006, of three rooms (B1-B3) in the north half of the main hill, in addition to a topographical survey of the area, added new data to the picture portrayed by the buildings in the southern part of mound I. Indeed, B1-B3 were identified as rooms belonging to a self-contained structure, consisting of a central courtyard (B1), two spaces opening to the south of it (B2-B3) and two mirror-like rooms (unexcavated) along the north side.⁶⁴ The arrangement was tentatively identified as domestic, that is to say, a house built not for a large community but rather for a family unit, although rooms B2-B3 (and the two unexcavated rooms to the north of B1) roughly share -quite unusually in a domestic context- the same dimensions. As mentioned at the beginning of the chapter, two structures reflecting a similar layout, with two smaller rooms of roughly equal dimensions opening onto a larger rectangular space, were partly excavated by the SCA in the mid-1990s along the southeast end of mound I.⁶⁵ 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. At any rate, the presence, on site, of houses for family units, although puzzling, does not rule out the possibility that the settlement was exclusively -or partially- monastic. There is no archaeological or documentary evidence, from the early fourth century, suggesting that the first monastic communities could have not have lived in buildings reflecting the arrangement of Egyptian houses. Once again, it is not unreasonable to assume that, due to the lack of standardized types for monastic architecture at such an early time, the first ascetics, anchorites or living at least part of their time as a community, might have used or re-used forms that were well-established and common in Egyptian domestic architecture.

⁶⁴ Cf. II.6.

⁶⁵ They also seem to be similar to two unexcavated buildings at the northwest end of mound I.

The possibility exists that Ain el-Gedida was an exclusively monastic settlement, built anew or developed on the remains of an earlier, non-monastic site. On the other hand, it cannot be ruled out that it was, in fact, a village in which a community of monks (or nuns) had settled. In fact, what is known about the first *apotaktikoi* seems, if not to support, surely not to disprove a similar scenario, which undoubtedly makes the search for the evidence of a recognizably “monastic” settlement more complex.

Both the Egyptian and the more recent excavations did not uncover 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. On the other hand, it is possible that the monks of Ain el-Gedida, if such existed, had adopted a form of monasticism other than coenobitic, living in separate houses within the village and meeting in the church complex on Saturdays and Sundays and on special occasions, as suggested by literary sources on early Egyptian monasticism. 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, even a ceramic workshop at the west edge of the hill.

The chance that early Egyptian ascetics 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.⁶⁶ As J. Goehring points out, how “deserted” this village was remains unclear.⁶⁷ At any rate, the other monasteries that came to be part of the Pachomian *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.⁶⁸ Surely, some of the reasons for such a proximity to the Nile River had to do with easy access to water, markets, and transportation.⁶⁹ With regard to the oases of the Western Desert, hundreds of miles away from the Nile Valley, their 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 village 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 in at Ain el-Gedida, rather than providing concrete evidence for their presence on site at any time.

⁶⁶ Cf. Veilleux 1980, 17.

⁶⁷ 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 such as tombs and temples into hermitages or coenobitic communities. On the overall economic situation of Egyptian villages and the reasons for their possible abandonment, cf. Bagnall 1993, 144.

⁶⁸ Goehring (1999, 108) believes the first possibility to be more plausible.

⁶⁹ *Idem*, 95, on the bearing of efficient communication means among the communities of the Pachomian *koinonia*.

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 (pls. 7, 23, 94). 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 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 first line, to another man named Nikolaos concerning a third man and his *pakton*.⁷⁰ 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. Therefore, the ostrakon, although a suggestive piece of documentary evidence, cannot be used as

⁷⁰ Information provided for by Bagnall (unpublished).

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*).⁷¹

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 (pls. 52-54). 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.⁷² 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.⁷³ The existence of comparative evidence helps to shed light on the graffiti from Ain el-Gedida. Indeed, it shows 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:⁷⁴ language is therefore also not a decisive criterion.

⁷¹ Cf. Worp 2004, 111.

⁷² Cf. III.1.3.

⁷³ Cf. Winlock 1936, 17-8; pls. IX-X.

⁷⁴ Cf. Gardner and Funk 1999, a collection of Coptic texts from Kellis.

A different type of monasticism, not involving the traditional dualism of anchoritic and coenobitic practices, could be brought forth in relation to Ain el-Gedida, although with some reservations. It is the form of monastic life adopted by the *apotaktikoi*, whom, as already discussed, documentary and literary sources attest as flourishing in urban contexts, instead of isolated environments, and at a very early time. On one hand, the early chronology of the apotactic movement fits well with the dating of most archaeological remains investigated on mound I. Also, the data pointing to the existence of a monastic community at the site, paired with a lack of a distinctively “monastic” layout, might lead to conjecture a form of ascetic life at Ain el-Gedida alternative to anchoritism and coenobitism. The existence of possibly domestic contexts on site is testified to by archaeological investigation carried out in the northwest quadrant of mound I. If the “monastic” option is granted as valid, it is possible that apotactics lived in some of the dwellings whose existence a surface survey seemed to suggest in the north part, and possibly at the southeast end, of the hill. As said above, they would have been indistinguishable from those of the lay inhabitants, who would have shared, if Christian, the same church complex as their fellow ascetic villagers. However, the main counterargument challenging this picture comes from the issue concerning the strong peculiarity of the site’s layout, discussed earlier on. Indeed, the latter does not appear as -exclusively- a cluster of separate buildings pertaining to private domestic contexts, especially in the south half of mound I. If apotactics lived in regular houses as private villagers, not sharing a communal life based on the coenobitic model, there would have been no reason for the existence of large kitchens, such as rooms A6-A7 and B15, with ovens capable of satisfying the needs of a large number of

people. Or there would have been no reason for the existence of a large area, at the south end of the hill, with spaces designed for the storage of various kinds of food (pl. 7).⁷⁵

This does not mean that apotactics could have not lived at Ain el-Gedida in the early fourth century. Nonetheless, their possible presence on site, as intriguing a picture as it is, does not provide conclusive answers on the topographic and architectural peculiarities that distinguish Ain el-Gedida as a unique case-study.

If Ain el-Gedida were indeed a settlement occupied by a monastic community, nothing is known on the identity or the ethnic and social composition of its inhabitants. Even their gender is something that cannot be easily inferred from the available evidence. Although the archaeological and documentary sources point to a majority of male monastic communities in Egypt since the fourth century, the available data on women monastics is far from being scanty.⁷⁶ The work of Susanna Elm on female asceticism in Late Antiquity is quite valuable in this context.⁷⁷ In particular, her reading of Early Greek literary sources such as the *Historia Lausiaca* and the *Historia Monachorum* sheds light on the not-so invisible world of Egyptian ascetic women. What is of particular significance is the fact that the textual data suggest the existence of a wide variety of forms of ascetic life also for nuns: they were leading either a wandering existence in the desert or, for the most part, living within or close to villages and towns, alone or in groups.⁷⁸ Elm's analysis supports the view, espoused, among the others, by J.

⁷⁵ Including, among others, rooms A2-A4, characterized by circular clay containers, embedded in the floors, and very low ceilings, which rule out the identification of those rooms as domestic units.

⁷⁶ On the issue of gender within a monastic context, cf. Wilfong 2007, 315-18, and Krawiec 1998.

⁷⁷ Cf. Elm 1994, particularly chapters 10-11. Cf. also Krawiec 2002, chapters 2 and 7. On the organization of Medieval female monasticism, although in a different geographical context from Egypt, cf. Gilchrist 1994, especially chapter 8.

⁷⁸ Cf. Davis 2001, 87-89, on evidence of female ascetics in fourth-century Alexandria.

Goehring, on the urban origins of early Coptic asceticism.⁷⁹ Her aim, however, seems rather to reveal the “fluidity” of early monastic practices, which developed in different topographical contexts: the desert, but also the village and the city, including their outskirts.⁸⁰ With regard to Ain el-Gedida, the possibility that a female monastic community lived at the site cannot be excluded *a priori*. Material evidence gathered on site attests to the fact that women lived at Ain el-Gedida, but does not hint to the monastic nature of this female component, which is also unattested to by documentary evidence.

Aside from the issue of gender, no information exists proving beyond doubt that, if any monastic community existed at Ain el-Gedida, it was in fact Orthodox Christian. The dramatic schism that eventually gave origin to the national Coptic Church had not yet occurred and the documentary and literary sources testify to a wide array of religious and philosophical sects, often deeply conflicting among them. However, the available archaeological evidence does not reflect this variety to the same degree. The divergences might have appeared more substantial at a speculative, theological level rather than in the concrete forms that these sects adopted to shape their existence. The physical spaces, in which their followers gathered and celebrated the different liturgies, might have not been considerably different from each other. As mentioned in a previous chapter, written sources testify to a strong Manichaean presence in the region during the fourth century.⁸¹ In particular, there is evidence for the existence of at least one Manichaean monastic

⁷⁹ Cf. VI.2. above. Relevant to the discussion of urban monasticism, in which women were involved, is also the case of the monastic community founded by Hieracas at Leontopolis. Some sources mention a peculiar life arrangement pertaining to the Hieracite ascetic experience, in which the monks would live in the same house with consecrated virgins working at their service: cf. Goehring 1999, 122.

⁸⁰ Cf. Elm 1994, 331.

⁸¹ Cf. Gardner 2000, 1997a, 1997b, and the discussion in chapter II.2.

community, whose spatial arrangement for cultic practices and communal life might have not differed sensibly -if at all- from that of any other Christian community.

On the whole, no crucial archaeological evidence has been found yet proving the existence of forms of monastic life at Ain el-Gedida. Also, the general plan does not seem to offer, at first glance, the picture of an organized monastery, built to answer the spiritual and earthly needs of a community of monks living a coenobitic life.

Nevertheless, it is important to keep in mind that the structures surveyed and excavated thus far appear to be datable to the fourth century, therefore at a time when one could hardly expect to see standardized forms for monastic architecture. Also, the current lack of other fourth-century monastic settlements in the region does not allow comparative analysis, which might help in clarifying the problem. On the other hand, the spatial configuration of a large sector of mound I suggests the existence, on-site, of people sharing part (if not all) of their lives as a community, although the question of what this community exactly was remains unanswered. At any rate, it seems likely that, if monks lived at Ain el-Gedida, they did not found a monastic settlement *ex novo*. Rather, they occupied a site with earlier occupational phases, dated to a time when monasticism was not yet an established phenomenon. This is suggested, in particular, by the complex of rooms excavated along the west edge of mound I, identified as a ceramic workshop but with substantial evidence for its original use as a pagan temple.⁸²

As seen thus far, the identification of the settlement as monastic was certainly not disproved by the archaeological evidence. However, many questions pertaining Ain el-

⁸² Cf. VI.1.

Gedida as the site of an ascetic community remained unanswered after three seasons of excavation, leading researchers to open the discussion to alternative scenarios.

The current state of research on Ain el-Gedida 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.⁸³ 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.⁸⁴ 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.⁸⁵ R. Bagnall effectively analyzed the many facets of life in Egyptian villages of the fourth century, based on the information provided for by written sources such as documents written on ostraka or papyrus, especially the archives of people involved in the management of land.⁸⁶

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 discussion on the link between asceticism and Egyptian villages, carried out above, is only one

⁸³ On Egyptian villages of the Byzantine period, cf. Keenan 2007, a discussion of abundant documentary evidence.

⁸⁴ Cf. footnote 28.

⁸⁵ On Egyptian villages and cities, cf. Bagnall 2005.

⁸⁶ Cf. Bagnall 1993, 110-47.

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, ranging between 2,000 and 2,500.⁸⁷ 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.⁸⁸ 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.⁸⁹ 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.⁹⁰ 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 irregular spatial arrangement.⁹¹ 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

⁸⁷ Cf. Bagnall 1993, 110.

⁸⁸ *Idem.*

⁸⁹ Cf. Bagnall 1985, 291-96.

⁹⁰ On agriculture in Egypt since the Pharaonic period, cf. Bowman and Rogan 1999, in particular 139-216 on the Roman and Byzantine periods.

⁹¹ Cf. Bagnall 1993, 113.

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).⁹² Also, the spatial configuration of this area is noticeably irregular, mirroring a seemingly common standard of Egyptian rural settlements.⁹³ 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 certainly suggestive and worthy of serious consideration.

A strong female component was assumed 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

⁹² 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.

⁹³ Cf. Bagnall 1993, 111; 114 on the overall poor spatial articulation of Egyptian villages.

life of that period.⁹⁴ 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.⁹⁵ Work-force could be hired and employed, on a seasonal basis, to work the land under the direction of overseers. It is possible to assume 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.⁹⁶ It seems that Egyptian *epoikia* were created either as an isolated entity, later developing into a regular village, or they were integrated, since their very beginnings, into pre-existing villages.⁹⁷ A fully communal life-style should not be necessarily implied for the people involved within the system of

⁹⁴ 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 Criore 2006.

⁹⁵ Cf. Bagnall 1993, 151, and Lewuillon-Blume 1979. On landholding and its role within the economy of Late Antique Egypt, cf. Bagnall 1992, Banaji 1999, 2007 (especially chapters 5 and 7), Hickey 2007.

⁹⁶ 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.

⁹⁷ *Idem*, 31.

the *epoikia*. In fact, it cannot be ruled out that the wage-workers moved to these rural settlements with their families, occupying houses that -there is no reason to think- 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.⁹⁸ 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 and destined to its Christian component.⁹⁹ An ostrakon found at the site (inv. no. 830), already referred to in chapter II,¹⁰⁰ acknowledges the payment of money by someone described as ἀπὸ γεωργ(ίου) Πμουν Βερρι, “from the *georgion* of Pmoun Berri,” the latter being the likely name of Ain el-Gedida in the fourth century. 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.¹⁰¹

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, has a convex surface filled with seven lines written in black ink, oblique to the wheel-marks. The ostrakon is a receipt for the

⁹⁸ 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.

⁹⁹ Cf. Sarris 2004, 284.

¹⁰⁰ Cf. II.3.

¹⁰¹ Bagnall (personal communication, January 2009).

payment of eight artabas of barley.¹⁰² 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. 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, analyzed and translated by R. Bagnall, is datable to the mid-fourth century, based on the observation of its handwriting.¹⁰³ 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.¹⁰⁴ 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.

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. Indeed, researchers found, under the remains of the Islamic settlement and partially incorporated into them,

¹⁰² Information recorded in the excavations' database in 2006 by R. Bagnall (unpublished).

¹⁰³ *Idem* (information recorded in 2008 - unpublished).

¹⁰⁴ *Idem*.

consistent traces of a Roman *castrum*, or fort, whose excavation began in recent years.¹⁰⁵ Written sources such as the *Notitia Dignitatum* 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.¹⁰⁶ Smaller military units were detached there, allowing a strict military control over large areas.¹⁰⁷ 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.¹⁰⁸ Indeed, it seems more likely, on the basis of comparative evidence mentioned above, 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, also within the Dakhla Oasis.¹⁰⁹ The presence of a church does not prove, *per se*, that Ain el-Gedida was not 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

¹⁰⁵ 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>.

¹⁰⁶ Cf. Bagnall 1993, 174-75; Carrié 1974, 1977, and 1986; Schwartz et al. 1969, 1-26; Rémondon 1965, 1955. Palme 2007 is a recent essay dealing with the Roman government and army in Egypt during Late Antiquity. On Egyptian geography based on the *Notitia Dignitatum*, cf. Worp 1994.

¹⁰⁷ On the dispersal of the Roman army throughout Egypt, cf. Palme 2007, 255-62.

¹⁰⁸ As it was originally thought, among other possible interpretations.

¹⁰⁹ Cf. II.6.

Mediterranean world, even before the fourth century.¹¹⁰ However, the possibility that Ain el-Gedida was associated with installations of a military nature and 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.

VI.4. Epilogue

The aim of the research 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 ideas and hypothesis were shared and tested on the field, against all the available evidence, in order to provide, or at least try to, suitable answers to all the issues at stake.

Indeed, three seasons of archaeological investigation at Ain el-Gedida provided for a wealth of archaeological evidence that went beyond any expectation, shedding light on several aspects of life at the site in the fourth century. The highlight of the project was undoubtedly 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

¹¹⁰ 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. IV.2. above.

earliest examples of Christian public architecture discovered thus far throughout Egypt. It also testified to a highly original layout, which partially borrowed standard forms but, at the same time, elaborated them in a quite unique 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 evidence for the flourishing of Christianity in the Dakhla Oasis since -at least- the beginning 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 unproved thus far- might have existed. Both sites, which did not know later phases of occupation than the fourth/early fifth century CE, provided (and still do) 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.

Furthermore, the discovery of the church complex of Ain el-Gedida allowed, thanks to the relatively good condition of its architectural features, the application of spatial analysis methods. The location of the complex at the center of mound I, within a compact topographical framework, and its spatial configuration of rooms, which opened onto each other, proved a useful source of information on the use of space in a rural settlement of Late Antiquity. The observation of the different degrees of accessibility, associated with each space of the building, contributed significantly to an understanding of patterns of movement and human interaction within the church complex and on the main hill. Spatial analysis effectively supplemented the archaeological evidence, which maintained, nonetheless, its primary role for the study of the church complex -and the whole site- of Ain el-Gedida.

At any rate, the issue that caught the highest degree of attention since the very first excavation season at Ain el-Gedida and, in particular, since the discovery of the church complex, concerned the nature of the site, which was tentatively identified as a monastic settlement. As said above, the investigation of the archaeological evidence from the complex shed considerable light on Christianity at the site in the fourth century,

although it did not allow us to find an unambiguous answer to this complex and stimulating question. All data were analyzed and comparative analysis carried out with the evidence from other sites, not necessarily monastic in nature. One of the goals was, in fact, to open the discussion to other possible readings concerning Ain el-Gedida.

Truly, several questions about Ain el-Gedida, *in primis* about its nature as a monastic site, a village, an army outpost, or a peasants' settlement associated with an agricultural estate, have not yet received a conclusive and unequivocal answer. Nor have the issues regarding the origins and, at the opposite end of the chronological spectrum, the abandonment of the site. 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 on the church complex and the site is not inconclusive. It testifies to a vibrant rural community that settled at Ain el-Gedida and was 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, which, as said above, seems to be associated with large estates and favors the identification of Ain el-Gedida as an *epoikion*. They also 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. As their fellow neighbors of 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. If the inhabitants of Ain el-Gedida were in fact wage-workers of an *epoikion*, villagers, or/and early ascetics living as a community in a rural environment -not so dissimilar, after all, from that of a village-, this is yet to be known.

Plates



Plate 1: satellite map of Egypt (<http://visibleearth.nasa.gov>).

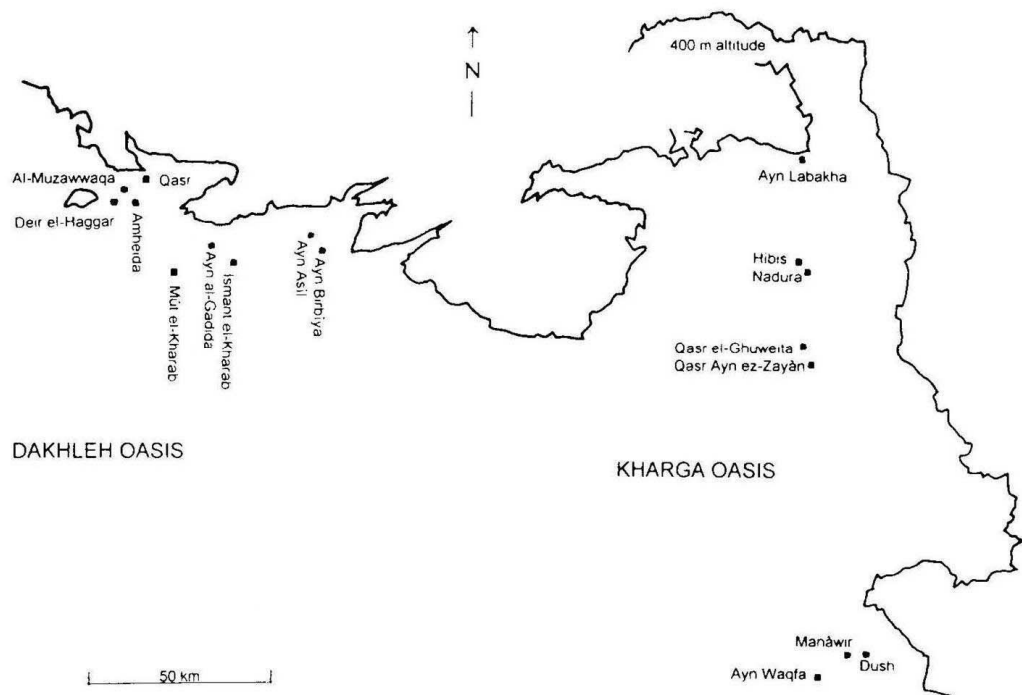


Plate 2: map of the Dakhla and Kharga Oases (from Kaper 1998, 148).



Plate 3: satellite image of Ain el-Gedida (from Google Earth).



Plate 4: view of mound I (to S).

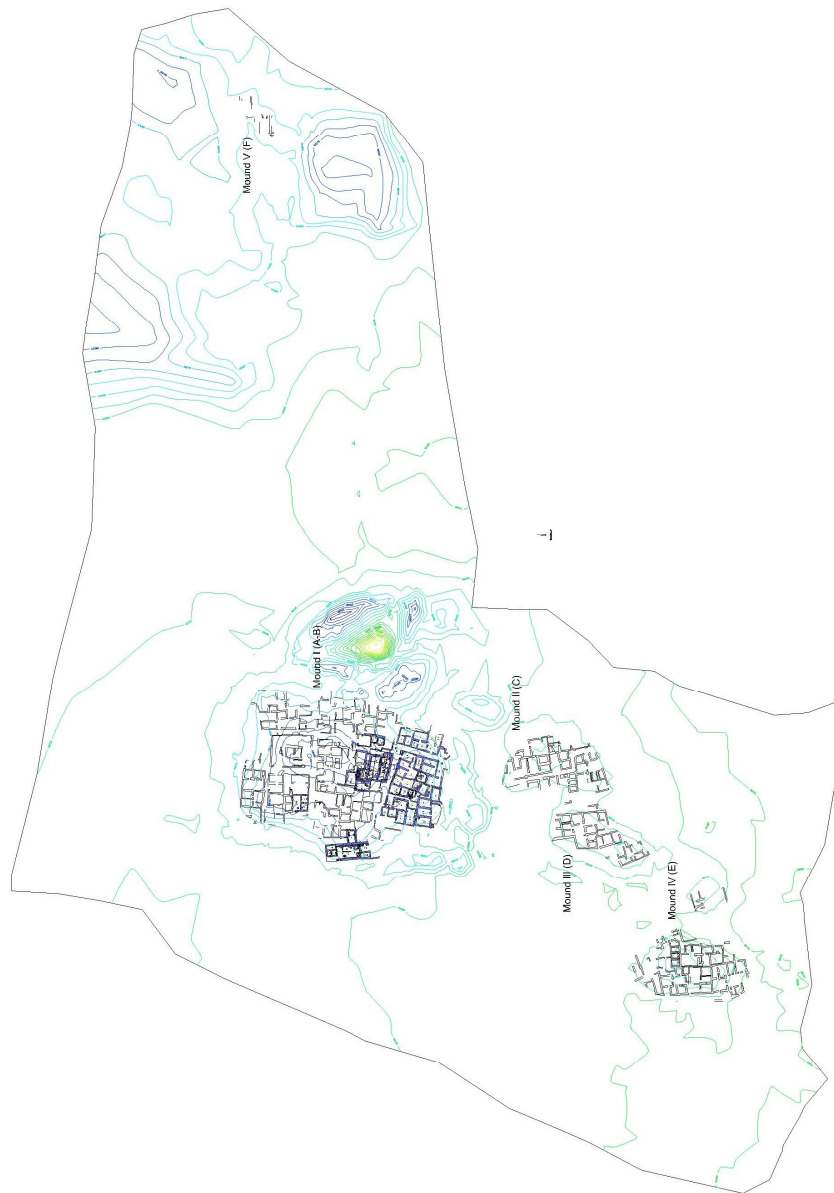


Plate 5: micro-relief of Ain el-Gedida.

Mound V (F)

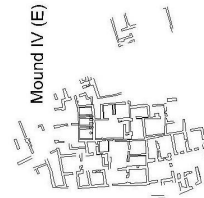
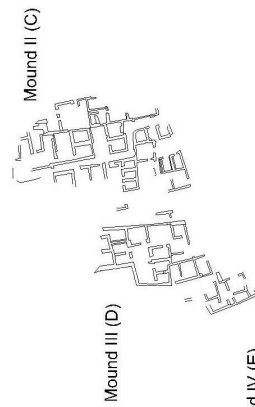
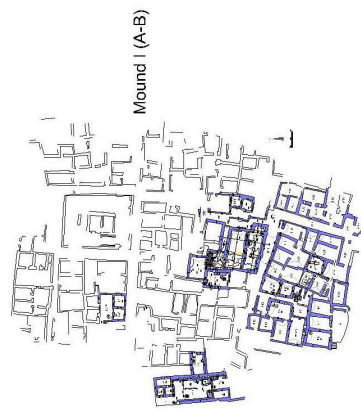


Plate 6: site map.



Plate 7: plan of buildings on mound I.

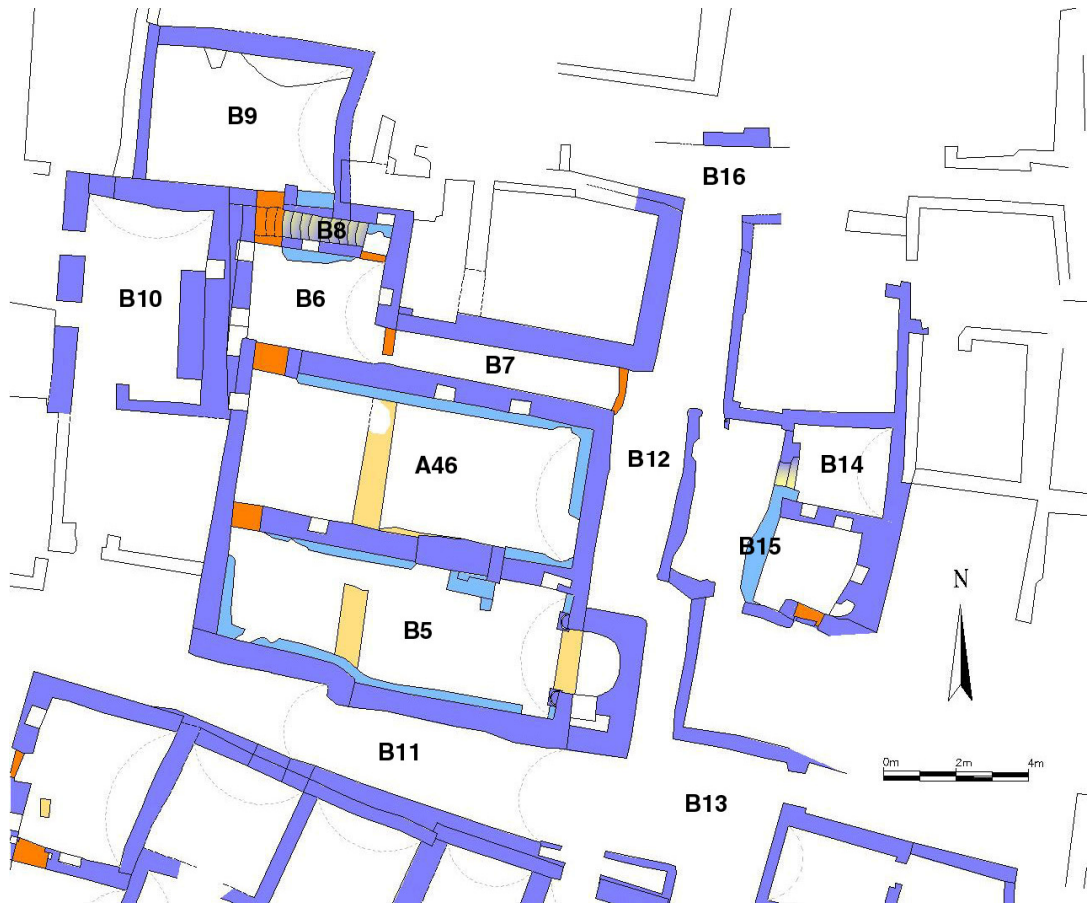


Plate 8: plan of the church complex.

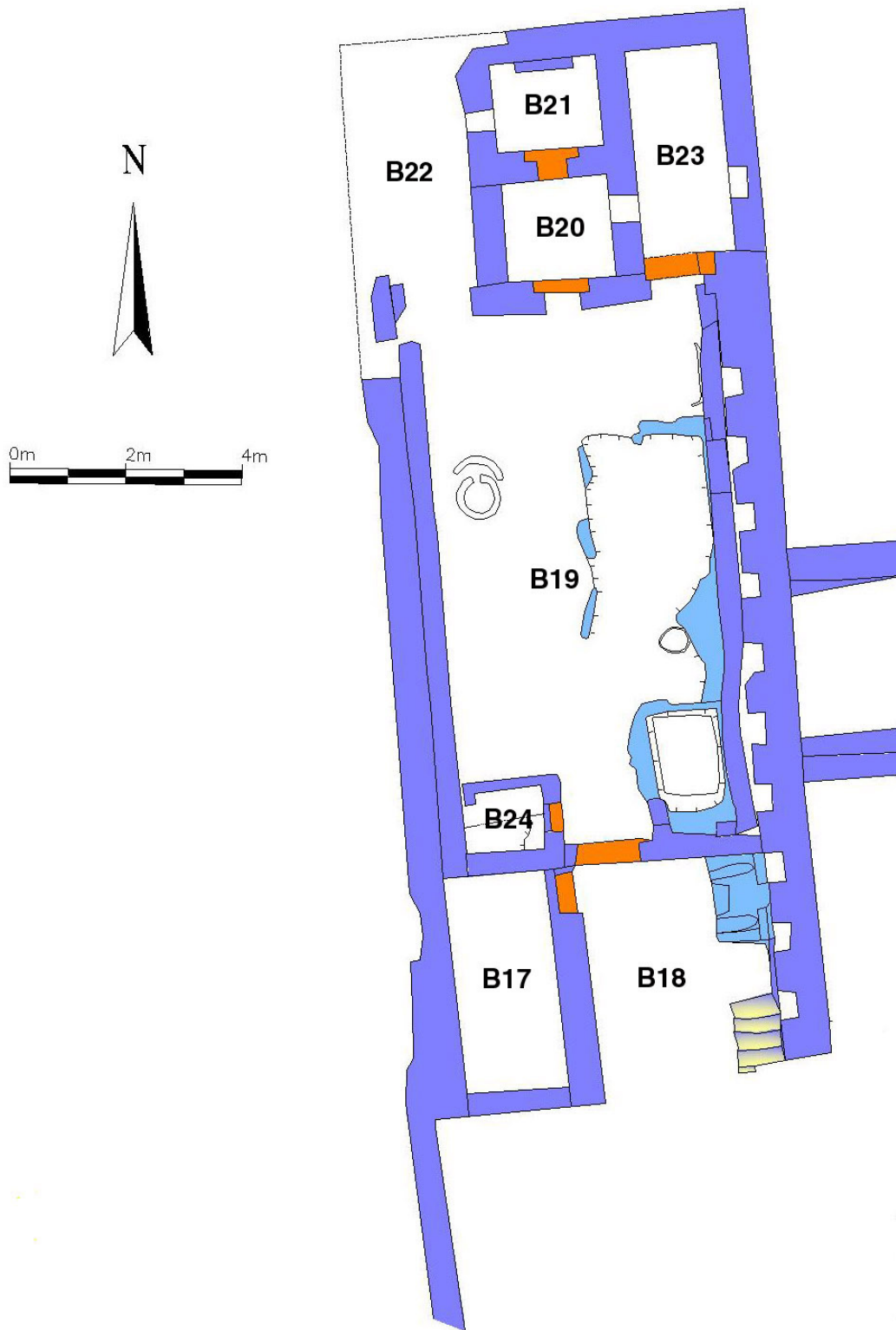


Plate 9: excavated complex of rooms along the west edge of mound I.



Plate 10: aerial view of mound I-area A (to ENE).



Plate 11: view of room A2 (to NE).



Plate 12: view of room A5 (to E).



Plate 13: view of room A9 (to NE).



Plate 14: aerial view of rooms A14-A15 (to W).



Plate 15: view of room A25 from above (to SE).



Plate 16: view of rooms A6-A7 (to E).



Plate 17: plan of rooms A6-A7.



Plate 18: aerial view of rooms A6-A7 (to SW); arrows point to the remains of ovens.



Plate 19: view of mound I-area B (to NW) before excavation.



Plate 20: view of large square structure -pigeon tower?- (to NW).



Plate 21: aerial view of rooms B1-B3 (to NW).



Plate 22: white band in the NE corner of room B3.



Plate 23: aerial view of room B4 (to NW).



Plate 24: aerial view of rooms B17-B24 (to SE).



Plate 25: aerial view of rooms B17-B24 (to NE).



Plate 26: view of mound II (to SW).



Plate 27: view of mound III (to SW).



Plate 28: view of mound IV (to SW).



Plate 29: view of mound V (to NW).



Plate 30: aerial view of the church complex (to SSW).



Plate 31: view of the church (room B5) before excavation (to W).



Plate 32: aerial view of rooms B5 and A46 (to NW).



Plate 33: aerial view of rooms B5 and A46 (to NE).



Plate 34: aerial view of rooms B5 and A46 (to W). The yellow line marks the uneven south wall of the church.



Plate 35: view of the apse of room B5 (to E).



Plate 36: aerial view of the apsidal area of room B5 (to W).



Plate 37: apse of room B5 (view from above).



Plate 38: detail of the east end of the *pastophorium*, with traces of burnt oil (against the southeast corner).



Plate 39: view of the church (to NW).



Plate 40: view of the blocking wall and stepped podium in room B5 (to N).



Plate 41: close-up of the stepped podium (to NE).



Plate 42: view of the stepped podium from room A46 (to S).



Plate 43: stepped feature in the Large East Church at Kellis (from Bowen 2002, 72).



Plate 44: defaced painting above a niche of room B5 (east end of north wall).

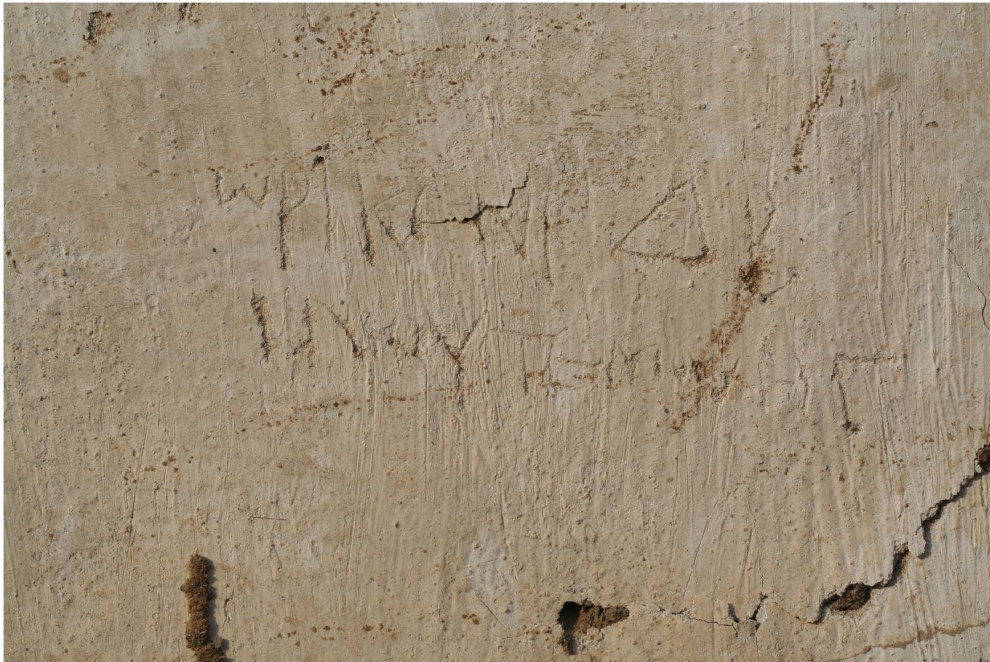


Plate 45: graffiti on the north wall (west half) of room B5.



Plate 46: view of room A46 (to NE).



Plate 47: view of room A46 (to SW).



Plate 48: aerial view of rooms A46 (left) and B5 (right) (to E). The arrows point to earlier walls below floor level.



Plate 49: aerial view of room B6 (to NE).



Plate 50: imprints of vessels on the floor of room B6 (along south wall).



Plate 51: view of the passageway from room B6 to rooms A46 and B5 (to S).



Plate 52: graffiti on the north wall of room B6.



Plate 53: detail of graffiti on the north wall of room B6.



Plate 54: Greek inscription on the west wall of room B6.



Plate 55: detail of graffiti on the south wall of room B6.



Plate 56: view of the northeast corner of room B6 (with door leading to staircase B8).



Plate 57: aerial view of corridor B7 (to NW).



Plate 58: view of corridor B7 (to W).



Plate 59: view of corridor B7 (to E).



Plate 60: view of staircase B8 (to SW).



Plate 61: view of staircase B8 (to W).



Plate 62: aerial view of the northwest sector of the church complex (to W).



Plate 63: aerial view of room B9 (to S).



Plate 64: view of the southeast corner of room B9.



Plate 65: mud-brick cupboard in room B6 (view to S).



Plate 66: aerial view of room B10 (to SE).



Plate 67: detail of clay basin (*hawasel*) above the east vault spring of room B10.



Plate 68: view of retaining wall along the east side of room B10.



Plate 69: view of passageway B11 (to W).



Plate 70: view of passageway B11 (to E).



Plate 71: aerial view of street B12 (to SW).



Plate 72: aerial view of street B12 (to SE).



Plate 73: view of street B12 (to N).



Plate 74: aerial view of crossroads B13 (to SW).



Plate 75: view of two mud-brick basins along the south wall of room B13.



Plate 76: aerial view of rooms B14-15 (to SE).



Plate 77: aerial view of rooms B14-15 (to SW).

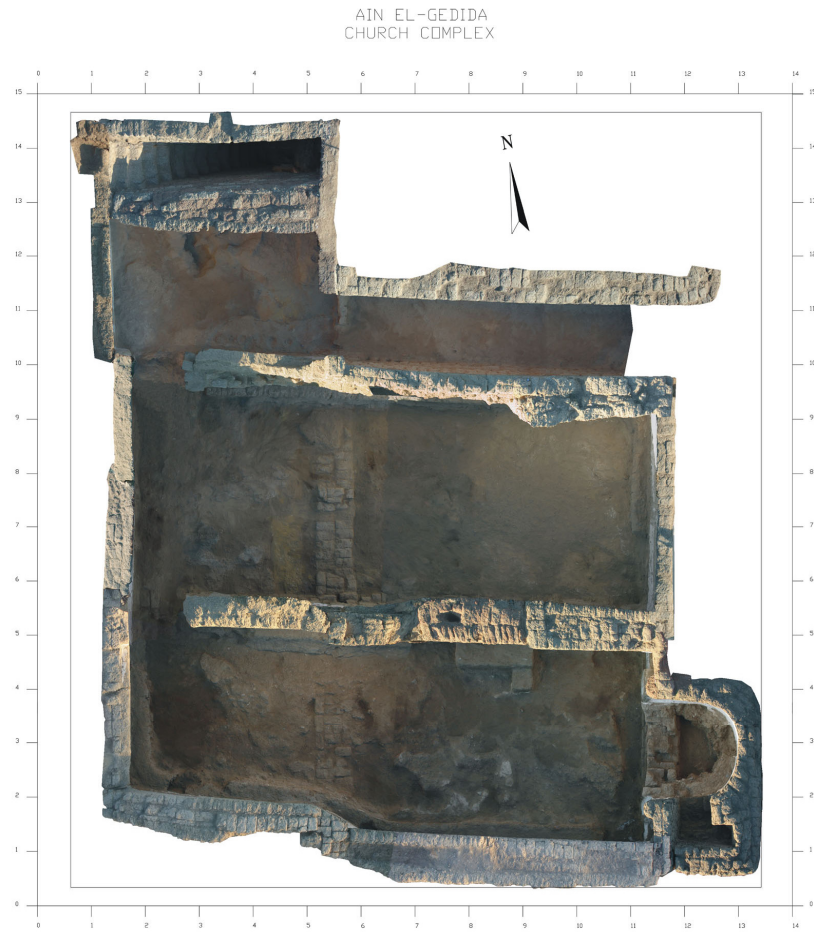
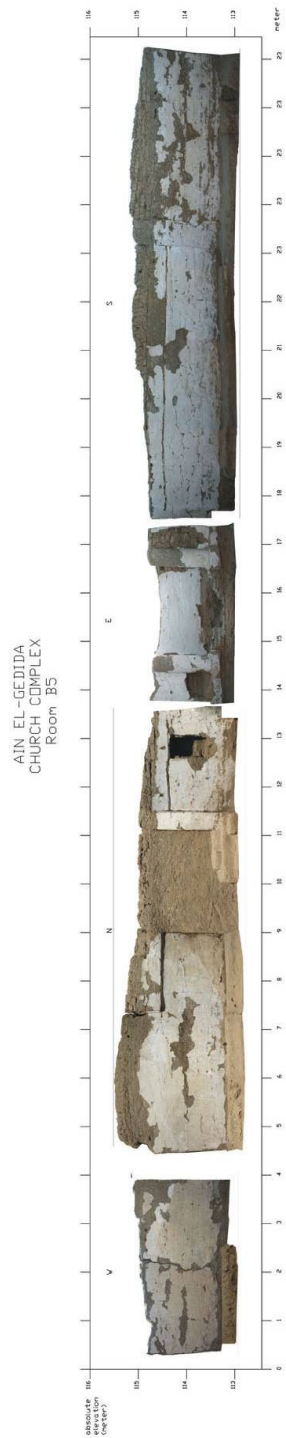


Plate 78: mosaic of photogrammetric images of the church complex.



Plates 79-80: photogrammetric images of the walls of rooms B5 (left) and A46 (right).

AIN EL-GEDIDA
CHURCH COMPLEX
West Wall

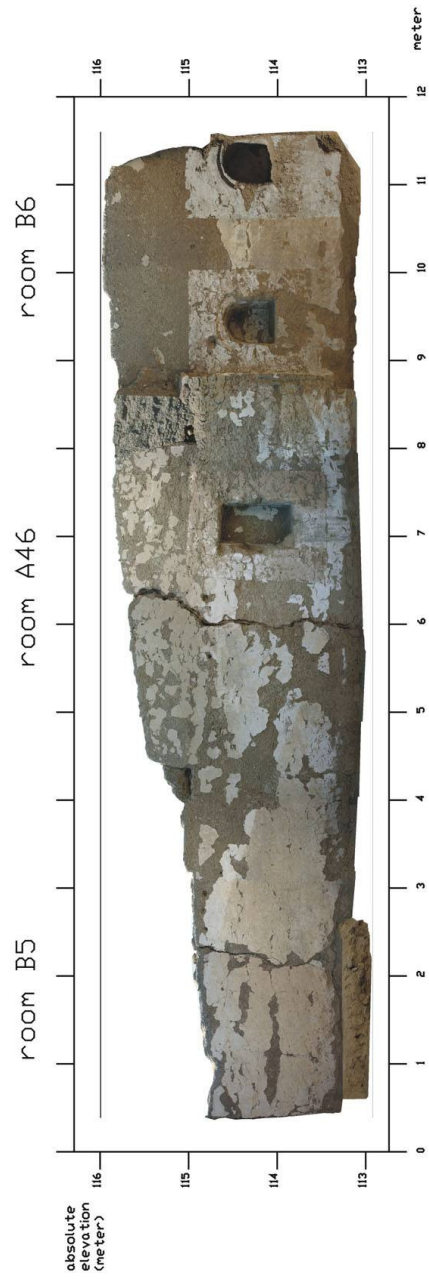


Plate 81: mosaic of photogrammetric images of the west walls of rooms B5, A46, and B6.

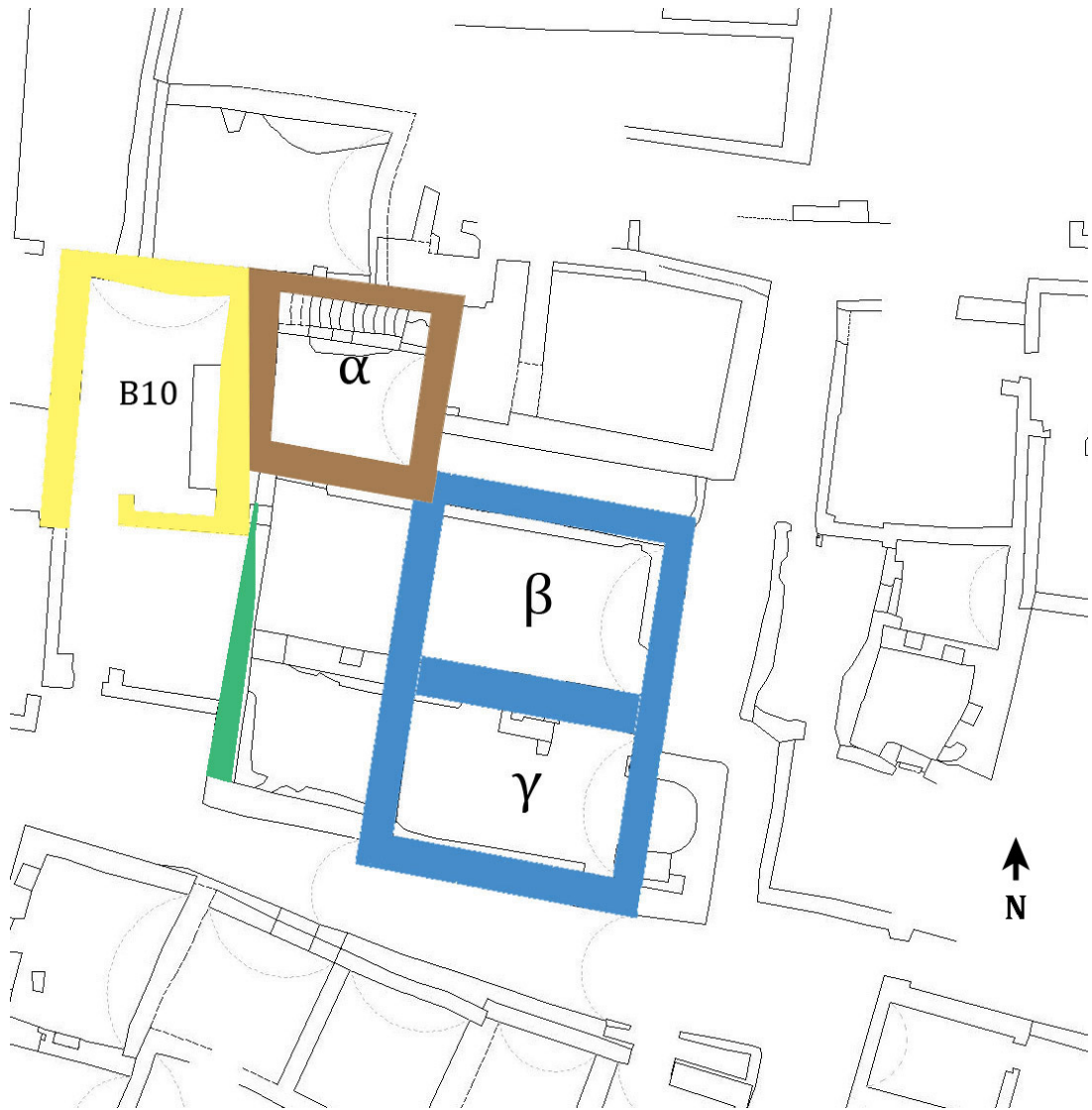


Plate 82: early structures in the area of the church complex.



Plate 83: fragment of textile from room B5 (inv. no.: 536).



Plate 84: lamp from room B5 (inv. no.: 577).



Plate 85: fragment of dull glass bracelet from room B5 (inv. no.: 530).



Plate 86: fragments of incomplete ring or earring from room B6 (inv. no.: 567).



Plate 87: coin of Gallus, dated to 352-354 (recto). From room B5 (inv. no.: 505).



Plate 88: tetradrachm of Maximian, dated to 286-287 (recto). From room B5 (inv. no.: 513).



Plates 89-90: coin of Constantine II as Caesar, dated to 322-323 and minted in London.
Left: recto; right: verso. From room B5 (inv. no.: 507).



Plate 91: complete bowl found within the floor of room B5 (inv. no.: 637).



Plate 92: complete bowl from room B10 (inv. no. 570).



Plate 93: complete globular flask from room B10 (inv. no.: 576).

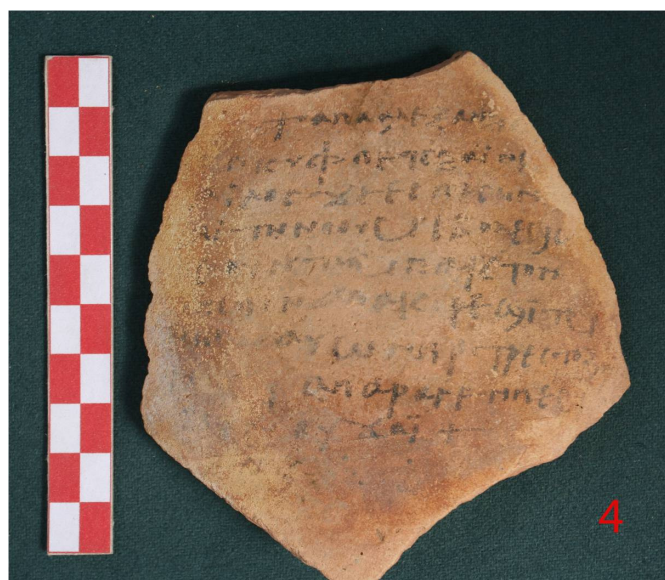


Plate 94: Coptic ostrakon from room B4 (inv. no.: 4).

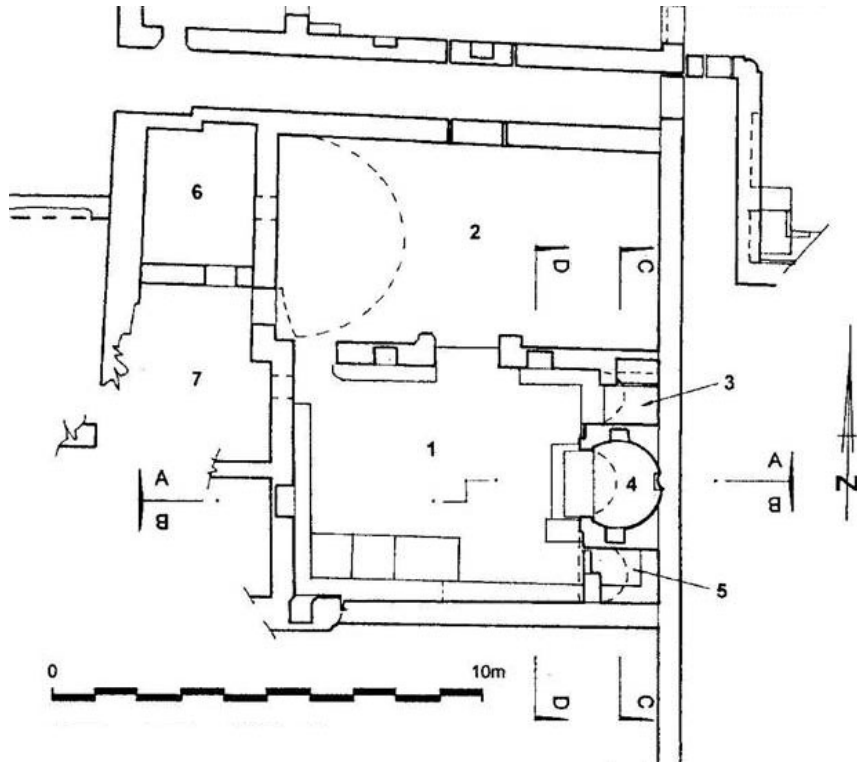


Plate 95: plan of the Small East Church at Kellis (from Bowen 2003a, 154).

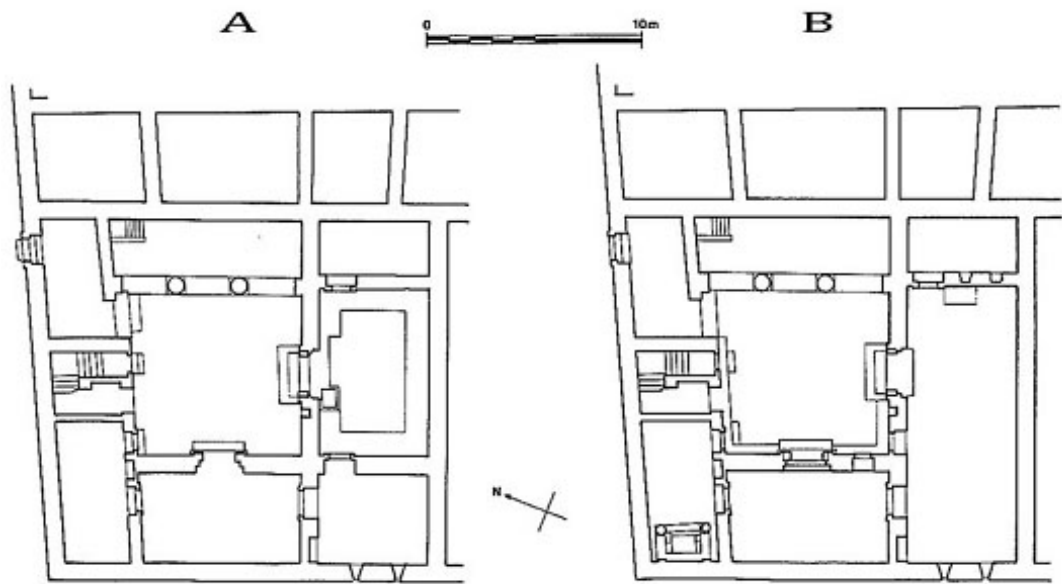


Plate 96: Dura Europos, plan of house before (A) and after (B) conversion into a *domus ecclesiae* (from Wharton 1995, 27).

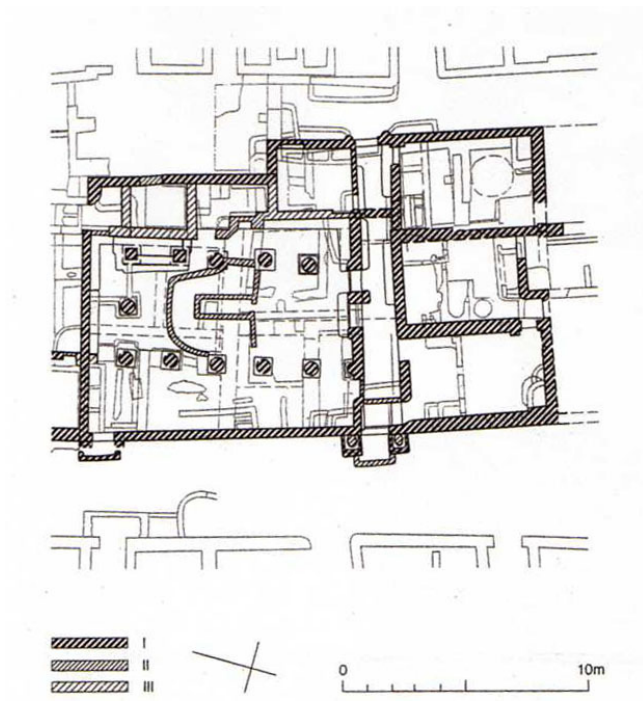


Plate 97: plan of the church of Douch (from Reddé 2004, 83).

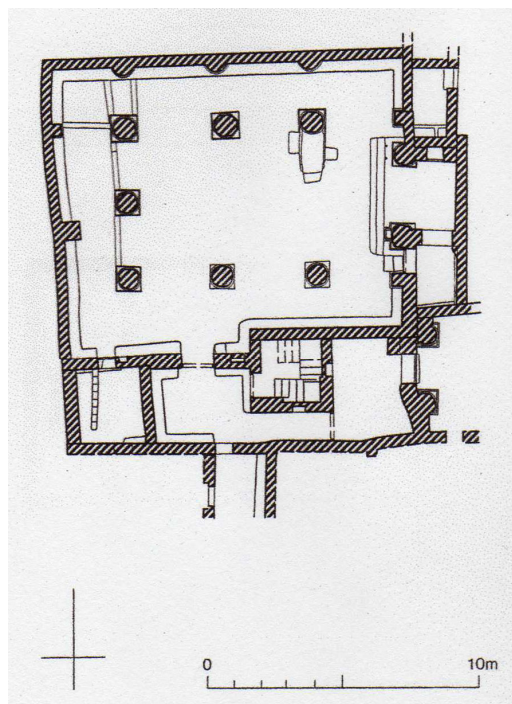


Plate 98: plan of the church of Shams ed-Din (from Reddé 2004, 84).

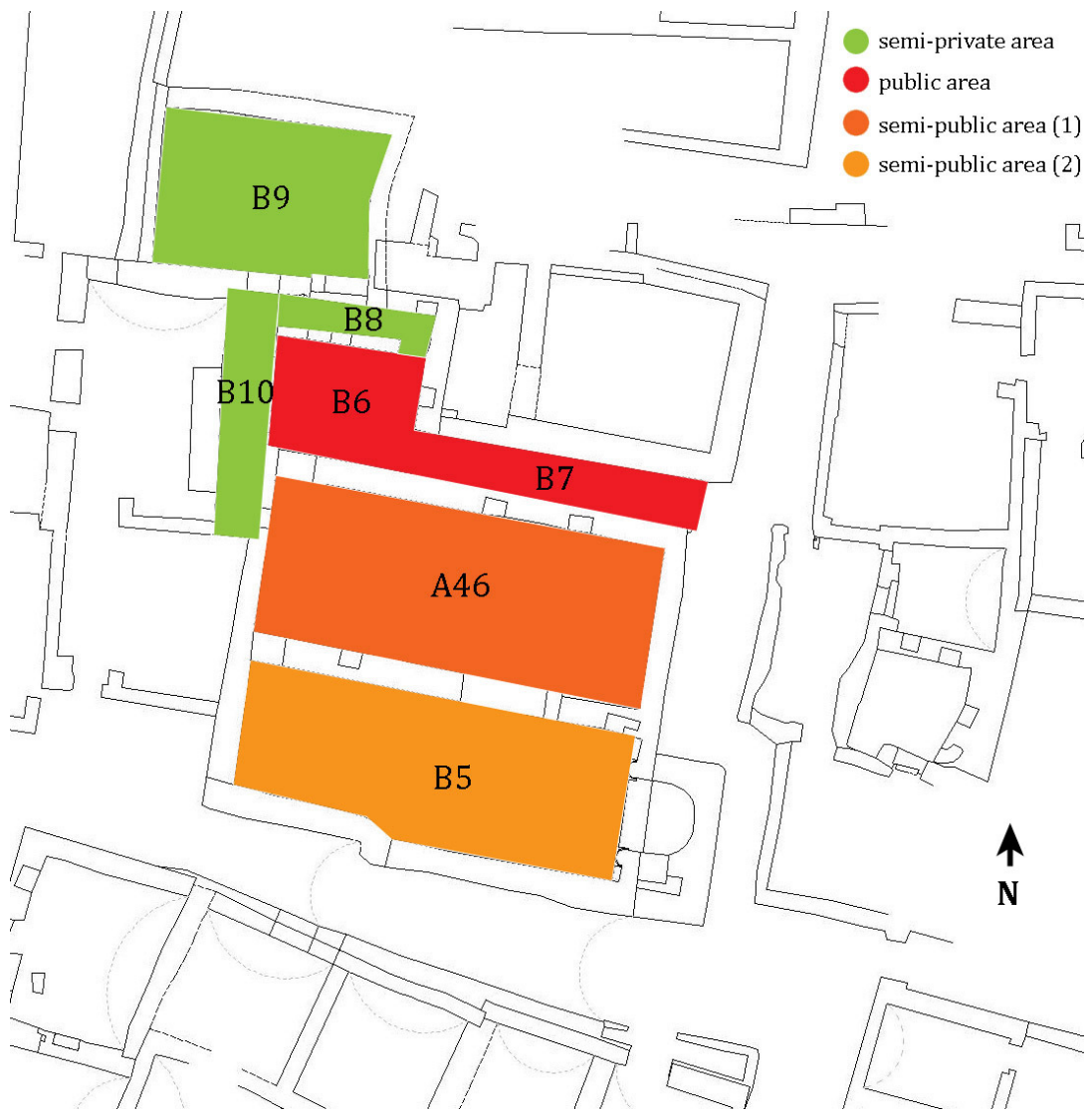


Plate 99: plan of the church complex of Ain el-Gedida (with a distinction among public, semi-public, and semi-private areas).

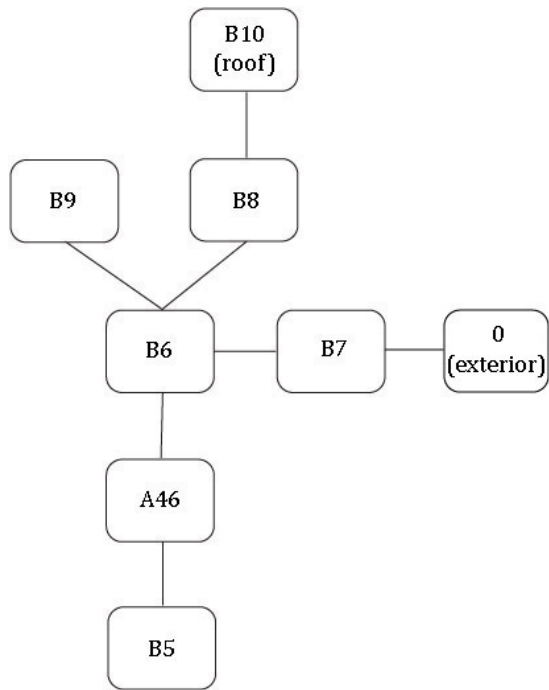


Plate 100: unjustified access map of the church complex.

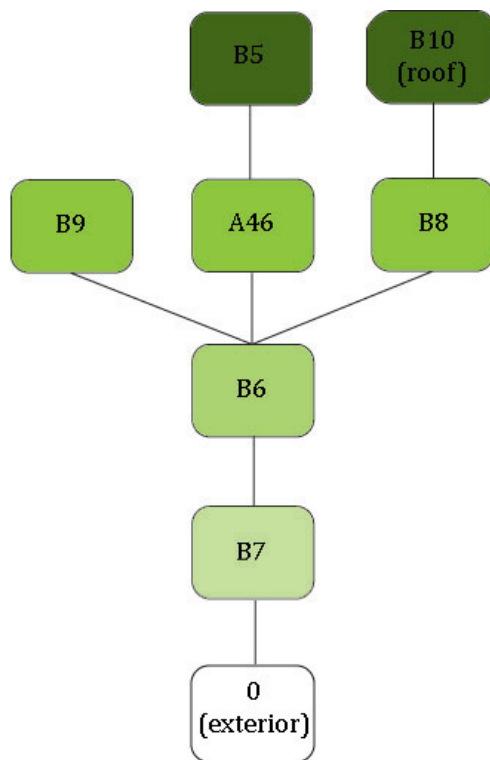


Plate 101: justified access map of the church complex.



Plate 102: main (red) and secondary (green) axes of movement within the church complex.

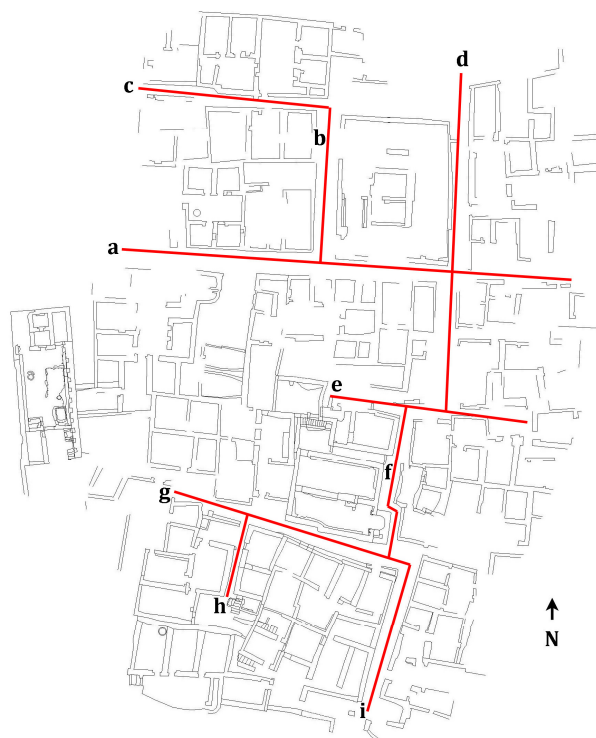


Plate 103: recognizable streets and passageways on mound I.

Bibliography

- 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'Égypte. 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. "Ain el-Gedida: Results from the 2006 Field Season." Forthcoming.
- (2008). "Ain el-Gedida 2008 Excavations: Field Director's Report."
<http://www.nyu.edu/isaw/amheida/inc/pdf/Report2008AG.pdf>
- (2007). "Ain el-Gedida 2007 Excavations: Field Director's Report."
<http://www.nyu.edu/isaw/amheida/inc/pdf/Report2007AG.pdf>
- (2006). "Ain el-Gedida 2006 Excavations: Field Director's Report."
<http://www.nyu.edu/isaw/amheida/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., ed. (2007). *Egypt in the Byzantine World, 300-700*. Cambridge, UK: Cambridge University Press.
- (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., 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 Nachtergaele, 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. (2008). "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.
- (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.
- Brakke, David (1995). *Athanasius and the Politics of Asceticism*. Oxford: Clarendon Press; New York: Oxford University Press.
- Brands, Gunnar, and Hans-Georg Severin, eds. (2003). *Die Spätantike 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 Tusulanum 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'Égypte*. 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.

- (2001). *The Cult of Saint Thecla: A Tradition of Women's Piety in Late Antiquity*.
Oxford: Oxford University 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'Égypte 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, Pieterella 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.
- Elm, Susanna (1994). *Virgins of God: The Making of Asceticism in Late Antiquity*. Oxford; New York: Oxford University Press.
- 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 Şâlih, 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.
- Giddens, Anthony (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.
- Giddy, Lisa L. (1987). *Egyptian Oases: Baharia, Dakhla, Farafra, Kharga during Pharaonic Times*. Wiltshire, England: Aris and Phillips Ltd.
- Gilchrist, Roberta (1994). *Gender and Material Culture: The Archaeology of Religious Women*. London; New York: Routledge.
- 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.
- (1997). “Public and Private in the Roman House: The Spatial Order of the Casa del Fauno,” in Laurence and Wallace-Hadrill 1997: 139-64.
- 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 Verlag.
- Hales, Shelley (2003). *The Roman House and Social Identity*. Cambridge: Cambridge University Press.
- Hamilton, John A. (1956). *Byzantine Architecture and Decoration*. London: Batsford.
- Hanson, Julienne (1998). *Decoding Homes and Houses*. Cambridge: Cambridge University Press.
- 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.

Hillier, Bill, Julienne Hanson, and John Peponis (1984). "What Do We Mean by Building Function?" in Powell, Cooper, and Lera 1984: 61-72.

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.
- 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 Années 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.
- Krawiec, Rebecca (2002). *Shenoute and the Women of the White Monastery. Egyptian Monasticism in Late Antiquity*. Oxford: Oxford University Press.
- (1998). "Space, Distance and Gender: Authority and the Separation of Communities in the White Monastery," *Bulletin of the American Society of Papyrologists* 35: 45-63.

- 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.
- 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 Nachtergaele 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 Lausiaca 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 Antiquités de l'Égypte* 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'Égypte*. 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 Égypte 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.
- Rohlf, 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.
- Thébert, Yvon (1993). "Private and Public Spaces: The Components of the Domus," in D'Ambra 1993: 213-37.
- Thirard, Catherine (1999). "L'Organisation Architecturale des Monastères d'après les Textes et l'Archéologie," in Emmel et al. 1999: 388-400.
- 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 Égypte*. Cairo: Institut Français d'Archéologie Orientale du Caire.
- (1978). *La Liturgie des Coptes d'Égypte*. Paris: Librairie d'Amérique 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.
- Wallace-Hadrill, Andrew (1994). *Houses and Society in Pompeii and Herculaneum*. Princeton: Princeton University Press.
- (1988). "The Social Structure of the Roman House," *Papers of the British School at Rome* 56: 43-97.
- 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 (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.

Appendix

Chronological Outline of Roman and Byzantine Egypt¹

Battle of Actium	31
Roman Period	30 BCE-641 CE
Augustus (Octavian)	30 BCE-14 CE
Egypt is established as a Roman province	30
Tiberius	14-37
Gaius (Caligula)	37-41
Claudius	41-54
Nero	54-68
Galba, Otho, Vitellius	68-69
Vespasian	69-79
Vespasian is proclaimed emperor in Alexandria	69
Titus	79-81
Domitian	81-96
Nerva	96-98
Trajan	98-117
Jewish Revolt in Egypt	115-7
Hadrian	117-138
Hadrian visits Egypt	130-1
Antoninus Pius	138-161
Marcus Aurelius	161-180
and Lucius Verus	161-169
Commodus	180-192
Septimius Severus	193-211
Caracalla	211-217
Alexandrians are massacred by Caracalla	215
Macrinus	217-218
Antoninus (Elagabalus)	218-222
Severus Alexander	222-235
Maximinus the Thracian	235-238
Gordian III	238-244
Philip the Arab	244-249
Decius	249-251
Trebonianus Gallus	251-253
Valerian and Gallienus	253-260
Gallienus (alone)	260-268
Claudius II the Goth	268-270
Palmyrene domination	270-272
Aurelian	270-275
Tacitus	275-276

¹ Based on Bagnall and Rathbone 2004, Bowman and Rogan 1999, and Boozer 2007.

Probus	276-282
Diocletian	284-305
Beginning of the Coptic era (accession of Diocletian)	284
Byzantine emperors	306-641
Constantine I	306-337
Foundation of Constantinople	330
Licinius	308-324
Constantine II	337-340
Constans II	337-350
Constantius II	337-361
Julian ('the Apostate')	361-363
Jovian	363-364
Valentinian	364-375
Valens	364-378
Creation of the The Diocese of Egypt	371
Theodosius I	379-395
The Serapeum of Alexandria is destroyed	391
Division of Roman Empire into eastern and western halves	395
Arcadius	395-408
Theodosius II	408-450
Marcian	450-457
Council of Chalcedon; rejection of monophysite doctrine	451
A treaty is signed with the Blemmyes	453
Leo	457-474
Zeno	474-491
Anastasius	491-518
Justin I	518-527
Justinian	527-565
Justin II	565-578
Tiberius II	578-582
Maurice	582-602
Phocas	602-610
Heraclius	610-641
Persian domination	619-628
Arab conquest	639-642