

The Great Oasis in the Later Fourth Century

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THE ARCHAEOLOGICAL AND TEXTUAL finds from Egypt's Great Oasis (the modern Kharga and Dakhla Oases) can easily give the impression of a thriving society and economy in the fourth century, the period from which most of the remains visible on the surface today come. By the end of that century, however, many sites had been abandoned and others much reduced. Although the oases remained inhabited throughout the following centuries, the extent of cultivation and habitation did not recover until the last century. Both the causes and (to a lesser degree) the chronology of this quasi-abandonment have been subjects of controversy. Our purpose here is to argue first, that there are reasons to think that much of the decline had already occurred by the later 360s, and second, that the shrinkage was much more pronounced in the Kharga Oasis than in Dakhla.¹

1. *A snapshot from 368* (Roger Bagnall)

The first season of excavation at Amheida, ancient Trimithis, in the Dakhla Oasis in 2004 yielded a number of ostraka that involved a man named Serenos, who was evidently the owner of the large and elaborately decorated house in which they were found. In an article presenting a first impression of the

¹ We thank Gilles Bransbourg for helpful discussion of the complications of transportation taxes in Late Roman Egypt, Rodney Ast for several useful suggestions on part 1, and Paola Davoli, Corinna Rossi, and Nicoletta De Troia for comments and suggestions on part 2.

results of that season, Giovanni Ruffini and I argued that Serenos was a member of the city council, and we tried to find clues to the political structure of the Great Oasis at this period, which was probably the early to mid 360s.² Trimithis was, we suggested, one of three Great Oasis settlements with the status of *polis* at this time. This was a point in fact already sufficiently demonstrated by a papyrus of 368/9, *P.Lips.* I 64 (*fig.* 1), republished by Ulrich Wilcken as *W.Chr.* 281. This collection of official correspondence (or the essential parts of it), which forms part of the archive of the *officialis* Isidoros (TM Arch 89), includes in lines 10–21 a letter of Flavius Herakleios, ὁ λαμπρότα[τ]ος ἡγεμῶν (*praeses* of the Thebaid),³ to the *exactor*, presumably of the Great Oasis, although the place is erased or partly lost.⁴ The governor orders the *exactor* to collect the tax for transportation of grain to Constantinople (ναύλον θαλασσιῶν sc. πλοίων) for the twelfth indiction (368/9) at the same rate as that for the eleventh indiction (κατὰ τὸν τύπον τ[ῆ]ς ια ἰνδικ(τίονος)), because the tax schedule for the twelfth indiction had not yet arrived. The letter concludes with the quota for the Great Oasis, which is then broken down into the quotas for Hibis, Mothis, and Trimithis, that is, for the areas of which they were the administrative centers.

Ruffini and I referred to this papyrus, saying “Trimithis (with

² R. S. Bagnall and G. R. Ruffini, “Civic Life in Fourth-Century Trimithis: Two Ostraka from the 2004 Excavations,” *ZPE* 149 (2004) 143–152.

³ J. Lallemand, *L'administration civile de l'Égypte de l'avènement de Dioclétien à la création du diocèse (284–382)* (Brussels 1964) 252.

⁴ So Wilcken's text shows, at any rate. Mitteis, in contrast, printed a lacuna of four letters after ἡγεμῶν, in which he supposed the *exactor's* name would have been given, and then ἐξάκτορι Ὀάστ[εως μεγάλης(?)]. It appears that this text stood on the fragment inv. 446, now missing. It seems in any case more likely that as in Wilcken's text the *exactor* is simply addressed by title, as is commonly the case in official correspondence. Presumably identical letters, apart from changes of places and quotas, were sent to other administrative units in the Thebaid.

its district) was responsible for a tax liability about three-quarters that of Mothis or Hibis and was treated on the same level as these cities.”⁵ So one would indeed gather from the text of Wilcken for these lines (19–21), which appears, with resolution of abbreviations, in the DDbDP as follows:

Ἰβεως (δηναρίων) μ(υριάδας) γ χξα,
 Μώθεως (δηναρίων) μ(υριάδας) δ Δχοα,
 Τριμίθεως (δηναρίων) μ(υριάδας) γ Αχι .

Wilcken’s own edition appears as follows:

θαλασσίων πλοί(ων) ἰβ ἰνδικ(τόνος) ἀπροκριτῶς ἄχρις τῆς ἀποστελλομένης
¹⁸ *δηληγατλονος κατὰ τὸν τύπον τ[ῆ]ς ια ἰνδικ(τόνος) (δηνάρια) Μθ σμβ·*
¹⁹ *Ἰβεως (δηνάρια) Μγ χξα,* ²⁰ *Μώθεως (δηνάρια) Μδ δχοα,* ²¹ *Τριμίθεως 20*
(δηνάρια) Μγ αδι.

It is thus obvious what the basis of our statement was. Trimitis has a quota, in this presentation, of 31,910 den., compared to 30,661 for Hibis and 44,671 for Mothis, making a total of 107,242.

Unfortunately, this is wrong. We should have checked the arithmetic and Wilcken’s introduction. In fact, in line 18 a total for the Great Oasis is given, and it is 90,242. It is immediately obvious that the last three digits tally correctly with the sum of the three following numbers, but the thousands and tens of thousands cannot be correct in both the total and the details. Wilcken saw this, as his introduction shows: “Auf Grund der beigefügten Berechnung seines Officiums (uns nicht erhalten) werden die vorläufig für die 12. Indiktion zu erhebenden Summen festgesetzt auf 13661 Denare für das Dorf Hibis (in Summa 90242).” So the correct reading for Hibis, in Wilcken’s view (in the introduction), was not 30,661 but 13,661. Why he did not make his text agree with this statement, it is impossible to say. With this correction, the figures tally. It is in fact pos-

⁵ Bagnall and Ruffini, *ZPE* 149 (2004) 144.

sible to read on the online photo⁶ that the numeral gamma that Wilcken in his text (but not the introduction) took to represent three myriads, is preceded by a large alpha, which is in fact the number of myriads:⁷

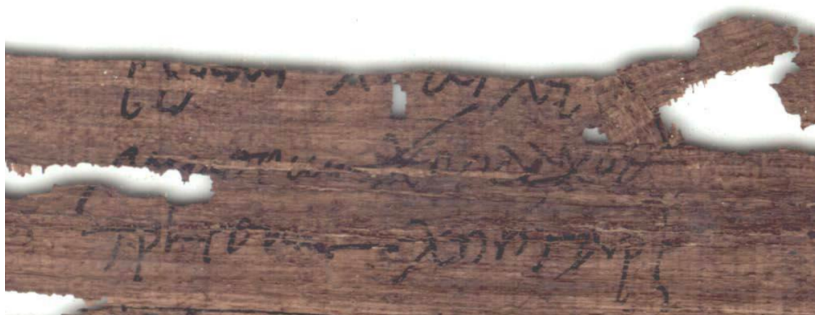


Figure 1: P.Lips. I 64.19–21

But there is more. It takes only a moment to see that where Wilcken read a capital mu, which he interpreted as myriads, in fact there are two of the hoops that symbolize myriads in the papyri of this period. Mitteis in fact saw this in lines 20 and 21, where he prints two of them. In line 19 he printed only one, but three dots after it before the chi. So we are dealing with a total of 90,242 myriads of denarii, not 90,242 denarii. The situation in line 19 is complicated by the breakage, but it is hard to see that space between the denarius sign and the alpha is sufficient for two of the symbols; it is narrower than the corresponding space in the next two lines. It is difficult to say for certain if we should read (δην.) (μυρ.) [(μυρ.)] α Γχξα or (δην.)

⁶https://papyri.uni-leipzig.de/rsc/viewer/UBLPapyri_derivate_00500364/PLipsInv612V300.jpg. I am grateful to Almuth Märker for improved photos of the papyrus after conservation by Jörg Graf.

⁷ In the first edition, Mitteis had not read any of the place-names correctly, and had not printed a text for the first digits of the number for Hibis. Wilcken was also correcting the hundreds digit for Trimithis from 100 to 900.

(μυρ.) <(μυρ.)> α Γχξα; I think the latter is more likely. But in either case, the amounts are ten-thousand-fold those that Wilcken understood. The full breakout of the contributions of the three districts should thus read as follows:

Ἰβεως (δηναρίων) (μυριάδων) (μυριάδα) α Γχξα,
 Μώθεως (δηναρίων) (μυριάδων) (μυριάδας) δ Δχοα,
 Τριμίθεως (δηναρίων) (μυριάδων) (μυριάδας) γ Αχι.

The wording of the *praeses'* letter (τὰ λόγῳ ναύλων θαλασσίῳ δηληγατευθέντα) suggests that it was the *delegatio*, the second stage of the tax cycle each year, that had not yet arrived.⁸ This was due on July 1. It is therefore likely that this letter was written sometime in July or August. As the indiction year in the reckoning of the Thebaid began two months earlier, at the *praedelegatio* on May 1, the collection year was thus already well underway.

Two consequences flow from a correct reading of the passage. The first is that Hibis, i.e., the Kharga Oasis, accounted for only 15.1% of the total tax to be collected from the Great Oasis, with 49.5% coming from Mothis and 35.4% from Trimithis, or nearly 85% from Dakhla as a whole. Dakhla was simply far more valuable to the treasury than Kharga, and we must assume that its population was also several times that of Kharga in this period. This was not the first period in which this was true. Dakhla was by far the more important region in the Old Kingdom. We do not yet have a full picture of the process or the timetable on which Kharga emerged as the administrative capital of the Great Oasis, which seems not yet to have happened in the 22nd Dynasty but certainly had taken place by the Ptolemaic period.⁹ Quite likely the change oc-

⁸ See R. S. Bagnall and K. A. Worp, *Chronological Systems of Byzantine Egypt*² (Leiden 2004) 34 n.29.

⁹ For the administrative development of the Great Oasis see R. S. Bagnall and G. Tallet, "The Great Oasis: An Administrative Entity from Pharaonic Times to Roman Times," in *The Great Oasis of Egypt. The Kharga and Dakhla*

curred in the Saite or Persian period, when enormous effort was put into developing the Kharga Oasis. This was also not the last time the capital was in Dakhla; it was located at Qalamun for part of the medieval and early modern period. But Hibis appears to have remained the center of the administration of the Great Oasis through the Roman period, and it is striking to see its comparative economic weakness in 368. It is impossible not to think of the remarkable census of wells published a half-century ago by Peter Parsons, with its clear indication of many wells out of use in the middle of the third century and the apparent attempt of the imperial administration to remedy the situation.¹⁰ It looks now as if any improvement was not durable. Wells required not only frequent cleaning but replacement from time to time. Without new investment, the water supply would decline.

It is also of interest to ask what the correctly-read tax numbers can tell us about the economy of the Great Oasis in this period. This is not a simple matter, but even an approximate sense may be valuable. The *naulon* was per se a minor tax. The much-discussed list of tax rates in *P.Oxy.* XVI 1905 includes (line 9) [ναύ]λου θαλαπτίων ὄς (read θαλασσίων ὄς)¹¹ τῶν (ἀρουρῶν) σμγ νο(μισμάτιον) α, “for transportation tax for sea-going (ships) at a rate of 1 solidus per 243 arouras.” The fifteenth indiction in this text is most likely 371/2, and one may suppose that the tax schedule was issued in 371.¹² To make use of this information in the present context, with reference to the

Oases in Antiquity (Cambridge 2019) 83–104.

¹⁰ P. J. Parsons, “The Wells of Hibis,” *JEA* 57 (1971) 165–180. Cf. R. Ast, “Land and Resource Administration: Farmers, Managers, and Soldiers in the Great Oasis,” in *The Great Oasis of Egypt* 103–121, at 105–106.

¹¹ Corrections in *BL* IV 62 from *P.Cair.Isid.* 59.4n.

¹² See the contextualization of this document in G. Bransbourg, “Fiscalité impériale et finances municipales au IV^e siècle,” *AntTard* 16 (2008) 255–296, at 261, 270, with older bibliography.

tax assessment of an indiction just four years earlier (the 11th, 367/8, which was being used for the following year), we need to know the relationship of the solidus to the myriad of denarii at the time. This is unfortunately far from clear, because of a lack of precisely dated documents with prices for gold, but the range is likely to have been somewhere between 1200 myriads/solidus and 2000 myriads/solidus (i.e., gold at somewhere between 576,000 talents/lb. and 960,000 talents/lb.).¹³ At the lower value, the roughly 90,000 myriads of the Leipzig text would equate to 75 solidi, at the higher, 45 solidi. If we apply the figure from *P.Oxy.* XVI 1905 and multiply by 243, we would find that the Great Oasis should have had a taxable area of 10,935 to 18,225 arouras. Neither figure is likely to be accurate, if only because we do not have any evidence that these taxes were based in the Great Oasis on arable land as they were in the valley. Arable land was not the coin of the realm in the oases, not in this period and not under the Ottomans. Fruit trees, orchard land, and the flow of water are the core of the oasis economy and much more likely to have been the main basis of taxation. Certainly no wheat from Dakhla was being shipped to Constantinople. There is little evidence, in fact, for how taxes other than poll-tax and other capitation taxes were assessed in the oases. But if we think of the numbers as rough equivalents, calculated on whatever basis, we can see how small an economy the oasis represented at this period.

There is a second *Oxyrhynchos papyrus* that may be relevant to this exercise, *P.Oxy.* XLVIII 3424, referring to the 15th and 1st indictions, and thus, given its provenance from the archive of Pappnouthis and Dorotheos, most likely from 357 or

¹³ See *P.Kellis* IV 96 (the *Kellis Agricultural Account Book*), pp.57–59, updating the discussion in R. S. Bagnall, *Currency and Inflation in Fourth Century Egypt* (Chico 1985).

372.¹⁴ Its use, however, is complicated by the fact that it is headed *προσαίτησις*, rendered “additional demand” by the editor. This term does not appear elsewhere in the papyri, nor do we find the relative verb *προσαιτέω* in texts of the Roman period. The editor interprets it as meaning amounts charged above the usual amounts for these taxes, but it is not certain that this is correct; the word could instead refer to the entire group of money taxes on top of the basic agricultural taxes in grain. Lines 3–4 read ναύλ(ου) θαλαππίων σὺν κομοδίου δοθ(έντος) Ἀθανασίου κορνικου(λά)ρης¹⁵ τῆ (ἀρούρη) α μυρ(ιάδες) η καὶ (τάλαντα) β (“for transportation charge on seagoing vessels, including *komodion*, given to Athanasios the *cornicularius*, 8 myriads and 2 talents per aroura”). We may convert the figure into 8.3 myriads per aroura.¹⁶ Here, then, we have a vademecum for the collector with a simpler algorithm than the computation of so many arouras yielding a solidus. On this reckoning, dividing 90,242 myriads by 8.3 we get 10,572, uncannily similar to the result we obtained using the higher value for the solidus and the rate of *P.Oxy.* XVI 1905. That might, if the later date for that papyrus is right, provide some support for the later date of *P.Oxy.* XLVIII 3424. But the speculative character of the calculation will be evident.

There is a further complication to be considered. The rates in question in these two papyri are very modest. If the total taxes in wheat at the time amounted to something like 1.3 to 1.5 artabas per aroura, and wheat was at its typical fourth-

¹⁴ The use of myriads shows that the text does not date before 353; see most recently R. S. Bagnall and G. Bransbourg, “The Constantian Monetary Revolution,” *ISAW Papers* 14 (2019): <http://dlib.nyu.edu/awdl/isaw/isaw-papers/14/>.

¹⁵ For *κομόδιον* see most recently *P.Nekr.* 31.1n. The term here refers to a gratuity to an official. Read Ἀθανασίῳ κορνικουλαρίῳ (or κορνικουλάρη as Shelton curiously gives it).

¹⁶ 2 talents was 3000 denarii, thus 0.3 myriad.

century rate of 8 artabas to the solidus, the rate for *naulon* in *P.Oxy.* XVI 1905 amounts to something like 2.2 to 2.5% of the wheat taxes. There is a fair amount of evidence for the sixth century of a total rate for transportation taxes of around 12%, or even more with surcharges, and also some evidence for earlier in the fourth century of rates more like a tenth.¹⁷ There is in fact another tax listed in *P.Oxy.* XVI 1905 that may be for transportation, the [. . .] πορείας of line 14, at a rate of 1 gram of gold for 18 arouras, or a solidus for 72 arouras, thus significantly more than for the *naulon*. If it were combined with the *naulon*, it would provide a total transportation fee of roughly 10–11%. But this may create more problems than it solves. The editors suggest several possible restorations (ναύλ(ου), ζῶων, ὄνων) but prudently adopt none, and texts published since 1924 have not provided further information. The term πορεία is not used elsewhere for river transport. The word can, in papyri of the Roman period, refer to journeys in general,¹⁸ to caravans,¹⁹ and to trips for inspection of land.²⁰ But it does not figure in any other taxation records, and it never refers to transportation by the Nile. It is thus hard to see it as the river pair for the seagoing transportation.

There is an additional argument for taking the wording of *W.Chr.* 281 at face value rather than supposing that the tax in question was some amalgamation of multiple rates. This is *SB*

¹⁷ G. Bransbourg, “Capital in the Sixth Century: The Dynamics of Tax and Estate in Roman Egypt,” *Journal of Late Antiquity* 9 (2016) 305–414, at 335–338; for the fourth century, 338 n.112.

¹⁸ As in *BGU* VII 1662.17.

¹⁹ By far the most common use, as in *P.Lond.* II 328.11 (from Berenike), *P.Gascou* 80.15 (Kellis to Panopolis), *M.Chr.* 77.7 (to the Inner [i.e., Great] Oasis), and in numerous ostraka from the Eastern Desert, where the term refers to the regular supply caravans: see H. Cuvigny, *Rome in Egypt's Eastern Desert* (New York 2021) ch. 15.

²⁰ *SB* XX 14087 (trees), *SB* XXVI 16414 (unirrigated land).

XVIII 13252, a liturgical nomination by the phylarches of the thirteenth indiction (thus the following year, 369/370), addressed to the strategos of the Great Oasis. The person he has named as *hypodektes* is going to be charged with collecting τοῦ τε ναύλου καὶ χρυσοῦ βο[υ]ρδόνων καὶ δειρόνων (l. τιρόνων) καὶ τῶν ἀδηληγατεύτων (“the transportation charge and gold for mules and recruits, and charges not included in the *delegatio*”) of the 11th, 12th, and 13th indictions. These three named taxes occur clustered in *P.Oxy.* XVI 1905.7–9. It is thus extremely likely that the term ναῦλον θαλασσίον means in both of these oasis papyri exactly what it does in the tax schedule. Moreover, as Bärbel Kramer observed in her commentary on the nomination,²¹ the three taxes occur together also (and only) in *P.Oxy.* XLVIII 3424, along with ἀδηληγατεύτων, charged at 64 myriads per aroura, nearly eight times the amount of the *naulon*.²² It is difficult to escape the conclusion that *P.Oxy.* XVI 1905, *P.Oxy.* XLVIII 3424, *SB XVIII* 13252, and *W.Chr.* 281 all belong to the same taxation environment of the last years of the indiction cycle that ended in 372. I therefore believe that despite the apparently low rate of *naulon* we should not try to extend the term to represent the totality of transportation taxes.

If this is accepted, then even allowing for the limitations of this exercise, the figures do not seem very impressive. On one recent estimate, Roman Egypt had about 7,884,000 arouras of cultivable land,²³ which would make the oases constitute about

²¹ B. Kramer, “Zwei Leipziger Papyri,” *ArchPF* 32 (1986) 33–46, at 44. The nomination continues with the naming of an additional liturgist, who is to collect the πραγματευτικὸν χρυσάργυρον. This tax does not occur in *P.Oxy.* XVI 1905 and XLVIII 3424, because these are concerned only with taxes levied on land.

²² Apparently no further occurrences have been published in the interim.

²³ L. De Ligt, “The Urban System of Egypt in the Early Third Century AD. An Economic-Geographical Approach to City-Size Distribution in a Roman Province,” *AncSoc* 47 (2017) 255–321; but this total is my tabulation of the nomes, not his, obtained by multiplying his estimated gross area times

0.134% of the economic weight of the province. To put it another way, Egypt as a whole on this estimate should have yielded about 32,922 solidi for the *naulon* at the rate given in *P.Oxy.* XVI 1905. The oases' 45 solidi would amount to the same percentage of the total. If we use the lower gold price and thus the larger number of solidi, we would still be at only 0.23% of the tax yield. That is not so far from the 0.4% of the population of Egypt that the oases represented in 1848, or the 0.66% of the total land tax of Egypt in 1189, including Bahariya and Farafra.²⁴ But it is on the low side even compared to those numbers, and it looks as if the oases by the 360s had already declined significantly from their Roman peaks.

The documentary evidence otherwise does not give us a very firm basis for verifying this conclusion. There are no papyri or ostraka from the northern and central parts of Kharga dated after the second quarter of the fourth century, except for the ostraka from 'Ain el-Turba, part of ancient Hibis, which are probably from the third quarter, perhaps the 360s.²⁵ But the documentary record from these parts of Kharga is in general scanty; chance of preservation and excavation could be responsible. In south Kharga, the finds of ostraka from Douch and 'Ain Waqfa show continued occupation in the second half of the fourth century, but nothing can be securely dated later than the 370s.²⁶ The critical point, however, is not whether sites were abandoned but how extensive they and their surrounding cultivation were, and the surviving documents offer

his estimated cultivated percentage for each nome and summing. Whether this is the base that the authorities used in calculating taxes is not certain. The number is in any case very approximate.

²⁴ N. Michel, *Oasis Ottomanes* (Cairo forthcoming).

²⁵ R. S. Bagnall and G. Tallet, "Ostraka from Hibis in the Metropolitan Museum of Art and the Archaeology of the City of Hibis," *ZPE* 196 (2015) 175–198.

²⁶ See for example *O. Waqfa*, p.15.

no basis for a quantitative assessment.

In Dakhla the situation is not greatly different. The 360s are the major horizon for the last abundant groups of texts, whether that be the Kellis papyri, the Kellis Agricultural Account Book, the Kellis ostraka, or the Trimithis ostraka. A small number of papyri from Kellis are securely datable between 370 and 390,²⁷ and a handful of coins at Trimithis extend into this period or even to the early fifth century. Once again, however, it is impossible to base on these late documents any clear sense of how much cultivation continued. If more extensive excavations could be conducted at El-Qasr, the Tetrarchic fort at Trimithis, we might know more, but even then it is unlikely that we would have any basis for a quantitative assessment. Overall, however, it is impossible to avoid the sense of decline after the 360s. Just how far that decline had progressed by 368, however, cannot be determined solely from the texts found in the oases.

2. *The view from the pottery* (Clementina Caputo)

Given the limitations of the written sources, then, we have to ask what other evidence can help show the condition of the Great Oasis in the third quarter of the fourth century, and if this evidence is consistent with the documentary sources. The only widely available marker is pottery, which can inform us about aspects such as site function, trade, and cultural interaction. The ceramic evidence is one of the key tools to frame archaeological remains chronologically. Indeed, ceramic sherds are scattered across all the sites but while surface surveys allow us to collect evidence for the evolution of occupation in an urban or rural area, only stratigraphic excavations can offer us quantitative and statistical data to provide a basis for reasoning about contexts and the assemblages that come from them.

²⁷ *P.Kell.* I 26, 43, 44, 45, 67; *P.Sijp.* 11a; *SB* XX 14293, 16826, 16827; perhaps *P.Gascou* 68.

Sometimes the presence of dated texts or coins associated with ceramics gives us a relatively more precise dating, but where this association is absent, ceramics tends to provide us with the widest possible dating range based on the productions and types attested in the various contexts or sites.

From the Ptolemaic through the early Byzantine period, the potters of the Great Oasis show a prolific activity,²⁸ locally producing tableware, cooking wares, utility vessels, and storage and transport containers, as well as related objects such as terracotta figurines and lamps. On the other hand, there are so far no known areas of amphora production in the Great Oasis.

When we focus on late fourth-century contexts, it is evident that Dakhla and Kharga share a substantial consistency and homogeneity in morphology and consumption, while maintaining a certain individuality in the fabrics used for the production of the ceramics.²⁹ In Dakhla, most of the fabrics and wares used for manufacturing are made of ferruginous clay, and in a

²⁸ For an overview of ceramic production in the Great Oasis see P. Ballet, “Cultures matérielles des déserts d’Égypte sous le Haut et le Bas-Empire: productions et échanges,” in O. E. Kaper (ed.), *Life on the Fringe: Living in the Southern Egyptian Desert during the Roman and Early-Byzantine Periods* (Leiden 1998) 31–54, at 31–41, and “And the Potsherds? Some Avenues of Reflection and Synthesis on the Pottery of the Great Oasis,” in *The Great Oasis of Egypt* 152–167. On Ptolemaic and Early Roman ceramic productions in Dakhla and Kharga see C. A. Hope, “Pottery Kilns from the Oasis of el-Dakhla,” in D. Arnold et al. (eds.) *An Introduction to Ancient Egyptian Pottery* (Cairo 1993) 121–127, and “Pottery Manufacture in the Dakhleh Oasis,” in A. J. Mills et al. (eds.), *Reports from the Survey of the Dakhleh Oasis 1977–1987* (Oxford 1999) 215–243, with further references; J. C. R. Gill, *Dakhleh Oasis and the Western Desert of Egypt under the Ptolemies* (Oxford 2016), and “New Insights into an Old Collection: Ptolemaic Pottery from Hibis (Kharga Oasis),” *Metropolitan Museum Journal* 55 (2020) 119–124; S. F. Patten, *Pottery from the Late Period to the Early Roman Period from Dakhleh Oasis, Egypt* (diss. Macquarie 2000). For an overview of the kilns attested in Kharga see Ballet, in *The Great Oasis of Egypt* 160–161, with further references.

²⁹ Ballet, in *The Great Oasis of Egypt* 160–161.

smaller quantity using a marl-like clay.³⁰ To these is added a family of pots comprising thin-walled and ribbed cooking vessels made of a fine kaolinitic, iron-rich, brittle fabric,³¹ sometimes called “Christian Brittle Ware” and characteristic of fourth-century contexts.³² They are largely attested in Dakhla at Ismant el-Kharab, ‘Ain el-Gedida, and Amheida.³³ On the other hand, in Kharga, kaolinite clays dominate the production for the same periods, flanked by productions in calcareous fabrics.³⁴ Especially the kaolinite clays were used to produce

³⁰ M. A. J. Eccleston, *Technological and Social Aspects of High-Temperature Industries in Dakhleh Oasis, Egypt, during the Ptolemaic and Roman Periods* (diss. Monash 2006) 93; C. Caputo, *Amheida V The House of Serenos Part I: The Pottery*, with contributions by J. Marchand and I. Soto Marín (New York 2020) 8–14.

³¹ No sources of the clay used for this fabric have yet been identified in the Dakhla oasis. However, the presence of this fabric exclusively in Dakhla and not in the Kharga oasis would seem to support the hypothesis of local production.

³² At Amheida, this family of cooking and related vessels is not attested among the materials and contexts dated, thanks to the presence of ostraka, to the first half of the fourth century, such as the levelled dump below Serenos’ house (B1) and in house B10, where the assemblages are quite homogeneously dated not later than 335, see R. S. Bagnall, C. Caputo, R. Casagrande-Kim, and I. Soto, “New Evidence from Ostraca for the Dating of 4th Century CE Ceramic Assemblages,” *Bulletin de liaison de la céramique égyptienne* 27 (2017) 195–211; Caputo, *Amheida V*; P. Davoli, *Amheida VI The House of Serenos Part 2: Archaeological Report* (New York forthcoming).

³³ C. A. Hope, “Dakhleh Oasis Project: Report on the Study of the Pottery and Kilns,” *Journal of the Society for the Study of Egyptian Antiquities* 9 (1979) 187–201, at 195–196, pl. XXI; D. Dixneuf, “La céramique d’ ‘Ain el-Gedida,” in N. Aravecchia, *‘Ain el-Gedida 2006–2008. Excavations of a Late Antique Site in Egypt’s Western Desert* (New York 2018) 285–446, at 302–308. See also Caputo, *Amheida V* 30, with further references for other contemporary sites in Dakhla.

³⁴ On the kilns producing marl clay ceramics attested at ‘Izbat Muhammad Tulayb/Ain Tuleib see Ballet, in *Life on the Fringe* 35–36; C. Rossi et al. (eds.), *North Kharga Oasis Survey. Explorations in Egypt’s Western Desert* (Leuven 2018) 131–157, esp. 146–147; A. L. Gascoigne, S. Ikram, T. Herbich, and

table wares and common ceramics, but the most significant part of their production is the “late yellow slip group” consisting of double-handled bottles/flasks and open shapes, attested from the late third century A.D. to the fifth and likely produced in the north of Kharga oasis.³⁵ It should be noted that while the “Christian Brittle Ware” made of the local kaolinite from Dakhla does not seem to be widespread in the assemblages of Kharga, the vessels of the late yellow slip group are in contrast quite common among the fourth-century ceramic materials in Dakhla.

Although the clear majority of the ceramics recorded in the oases are represented by the common wares described above, both in Dakhla and Kharga, from the end of the third through the fourth and fifth centuries, these productions are accompanied by fine ceramics, termed by M. Rodziewicz “Kharga Red Slip Ware”³⁶ and “Oasis Red Slip Ware” by C. A. Hope, in Dakhla.³⁷ The vessels grouped in this family are characterized by shiny red-slipped surfaces that imitate the production in North African Terra Sigillata (“African Red Slip Ware”).³⁸

C. Rossi, “Pottery from the Production Site of Muhammad Tulayb, North Kharga” (in preparation).

³⁵ Ballet, in *Life on the Fringe* 35–36, fig. 2, and “Jalons pour une histoire de la céramique romaine au sud de Kharga. Douch 1985–1990,” in M. Reddé (ed.), *Douch III* (Cairo 2004) 209–240, at 210–211.

³⁶ M. Rodziewicz, “Introduction à la céramique engobe rouge de Kharga (Kharga Red Slip Ware),” *Cahiers de la Céramique Égyptienne I* (Cairo 1987) 123–136.

³⁷ C. A. Hope, “Dakhleh Oasis Project: Report on the Study of the Pottery and Kilns,” *Journal of the Society for the Study of Egyptian Antiquities* 10 (1980) 283–313, at pl. XXIV (g–k), and in *Reports from the Survey* 235–236, pl. 14.35.

³⁸ This imitation process is noticeable perhaps in the late third century and grows during fourth and fifth centuries, see P. Ballet, M. Bonifay, and S. Marchand, “Africa vs Aegyptus: routes, rythmes et adaptations de la céramique africaine en Égypte,” in S. Guédon (ed.), *Entre Afrique et Égypte*:

Examples belonging to this family were found in Kharga at Douch, Shams El-Din, the Temple of Hibis, and El-Deir, as well as in some of the sites surveyed in the northern part of the oasis, such as ‘Ain Gib, Qasr al-Sumayra, Two Houses, Umm al-Qusur, Qasr al-Lebekha, and Umm al-Dabadib.³⁹ The same shapes and fabric have been identified in Dakhla at ‘Ain el-Gedida, Ismant el-Kharab, Mut el-Kharab, and Amheida.⁴⁰ So far, the production centers have not been identified in either oasis.

Up to now, the figures for imports into the Great Oasis for the Late Antique period are generally quite modest compared with those of the local productions,⁴¹ and they show that the Great Oasis mainly faced east (i.e., to the Nile valley) rather than west.⁴² Egyptian “Late Roman Amphora 7” (LRA 7) is the best-attested import in the oases, testifying to a quite regular (if modest in scale) trade in wine originating in the valley,⁴³ coexisting with the much larger production of wine in the oases, which was traded using kegs⁴⁴ and flasks. The presence

relations et échanges entre les espaces au sud de la Méditerranée à l'époque romaine (Bordeaux 2012) 87–117, at 108.

³⁹ See the sections about ceramics for each of these sites in *North Kharga Oasis Survey*.

⁴⁰ See Caputo, *Amheida* V 23–24, with further references on other contemporary sites in Dakhla.

⁴¹ D. Dixneuf, *Amphores égyptiennes: production, typologie, contenu et diffusion (III^e siècle avant J.-C. – IX^e siècle après J.-C.)* (Alexandria 2011) 227–229.

⁴² R. S. Bagnall, “Dakhla and the West in Late Antiquity: Framing the Problem,” in *Entre Afrique et Égypte* 39–44; Ballet, Bonifay, and Marchand, in *Entre Afrique et Égypte* 99.

⁴³ On the center of production of LRA 7 see Dixneuf, *Amphores égyptiennes* 157–163.

⁴⁴ This is the best-attested transport container and one of the main ceramic products of the Great Oasis, and in general of the Western Desert. This kind of container is typical of the region and has been produced in large quantities from the Third Intermediate Period down to the present,

of LRA 7, together with a small number of common wares made of Nile silt fabric, is frequent on most of the sites located at the start of the main tracks connecting the oases with the valley, the fortresses and their surroundings, as well as among the ceramic assemblages documented in the interior settlements dated to this period. Although LRA 7 was produced in many variants from the second half of the fourth century until the beginning of the Islamic period,⁴⁵ the morphological characteristics of the LRA 7 identified so far in the sites of the Great Oasis seem to be almost homogeneous everywhere, thus allowing us to associate this shape with the first, or one of the first, variants known for this production and generally dated to the end of the fourth to the mid-fifth century.⁴⁶ However, the presence of this type of LRA 7 amphora in the well-dated occupational layers of Serenos' house (B1),⁴⁷ thanks to the association with ostraka and coins found together with it and dated to 360–375,⁴⁸ suggest that it was already in use in the

see I. Soto Marín, “Kegs from Amheida,” in *The Great Oasis of Egypt* 192–200, with further references.

⁴⁵ Dixneuf, *Amphores égyptiennes* 154–155.

⁴⁶ These are amphorae of small size, characterized by a simple band or rounded rim on a medium-tall narrow cylindrical neck, handles attached from the middle of the neck to the top of the round-shaped shoulder, ovoid body with ridges gently corrugated from the shoulder to the base, and small tip. See Dixneuf, *Amphores égyptiennes* 154–173; J. Marchand and D. Pieri, “Les amphores égyptiennes romaines et proto-byzantines d’Antinooupolis,” in R. Pintaudi (ed.), *Antinooupolis III* (Florence 2017) 1–44, at 14, 35 (pl. 11.23–25).

⁴⁷ C. Caputo, J. Marchand, and I. Soto, “Pottery from the 4th-century House of Serenos in Trimithis/Amheida (Dakhla Oasis),” in D. Dixneuf (ed.), *LRCW 5, Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean* (Alexandria 2017) 1011–1026; Caputo, *Amheida V* 115–163 and 183–202.

⁴⁸ *O. Trim.* I and II. See R. Ast and P. Davoli, “Ostraka and Stratigraphy at Amheida (Dakhla Oasis, Egypt): A Methodological Issue,” in *Proceedings of the 27th Intern. Congr. of Papyrology* (Warsaw 2016) 1447–1471.

third quarter of the fourth century.

Less numerous seem to be the imports from other parts of Egypt for this period, such as, for example, the region of Aswan, of which only a very few attestations are preserved for the Late Roman period in Kharga, at El-Deir,⁴⁹ and at Douch.⁵⁰

Generally, in the same period, the LRA 7 amphorae appear associated in other Egyptian sites with imports from abroad, more precisely oriental amphorae such as the “Late Roman Amphora 1” (LRA 1) produced in Cilicia, the region of Antioch, or Cyprus,⁵¹ and the “Late Roman Amphora 4” (LRA 4) manufactured at Gaza, Ashkelon, and Ashdod, dated from the fourth to the beginning of the seventh century.⁵² However, both typologies are poorly represented in the ceramic assemblages of the Great Oasis. Individual rim fragments of LRA 1 and LRA 4 are attested in Kharga at ‘Ain Gib, Two-Houses, Maghatta area, Umm el-Dabadib, Watermelon Settlement,⁵³ El-Deir,⁵⁴ and Douch.⁵⁵ A few sherds are also present in Dakhla, at Mut el-Kharab, Amheida, and Ismant el-Kharab.⁵⁶

⁴⁹ Y. Chevalier, “El-Deir as a Switching Point,” in *The Great Oasis of Egypt* 201–215, at 208.

⁵⁰ Ballet, in *Douch* III 226, fig. 222 (nos. 56–58).

⁵¹ D. Pieri, *Le commerce du vin oriental à l'époque byzantine (V^e–VII^e siècle): Le témoignage des amphores en Gaule* (Beirut 2005) 60–85; A. Opaït, “On the Local Production and Imports of Wine in the Pontic and Lower Danube Regions (1st century BC to 7th century AD). An Overview,” in *LRCW* 5 579–612, at 595–597.

⁵² Pieri, *Le commerce du vin* 109–110; A. Sazanov, “Les amphores LRA 4. Problèmes de typologie et de chronologie,” in *LRCW* 5 629–650.

⁵³ See the sections about ceramics for each site in *North Kharga Oasis Survey*.

⁵⁴ Chevalier, in *The Great Oasis of Egypt* 210–211, fig. 12.5 (a–c).

⁵⁵ Ballet, in *Douch* III 227–228, fig. 223 (no. 63); P. Ballet, “Les amphores de Kysis/Douch (1985–1990). Oasis de Kharga,” in S. Marchand et al., *Amphores d'Égypte de la basse époque à l'époque arabe* (Cairo 2007) 481–487, at 484–485, 487 (figs. 5 and 8).

⁵⁶ C. A. Hope and A. Ross, “Imported Amphorae from Dakhleh Oasis,”

These examples mostly belong to the early version of these types of containers (LRA 1A and LRA 4-form 2 or form 3), dated to the second half of the fourth through the early sixth century. It is worth noting the other occasional attestations of eastern Mediterranean imported amphorae, such as two examples of “Late Roman Amphora 3” (LRA 3) from Asia Minor (Ephesus, Sardis, Halicarnassus)⁵⁷ found in the contexts of the fortified settlement at Douch,⁵⁸ dated to the fifth century; one rim fragment of an amphora “S. Lorenzo 7” from Amheida,⁵⁹ produced in the region around Phocaea or Marmara and dated third to fifth century; and one Aegean amphora “Kapitän II” from Ismant el-Kharab,⁶⁰ dated to the late second to fourth century.

Rare examples of late fourth-century imported amphorae from the central and western Mediterranean (Italy and Spain)⁶¹ as well as from North Africa are also attested in Dakhla, at

in *Amphores d'Égypte* 463–480, at 471–473, 480 (fig. 4); C. Caputo, “Egyptian and Imported Amphorae at Amheida,” in *The Great Oasis of Egypt* 168–191, at 186–187, fig. 10.10, s.

⁵⁷ Several examples were imported into Egypt, mainly between the end of the fourth into the sixth century. They are attested on numerous sites in Lower Egypt (i.e., Alexandria) and in the north of Sinai, at Tell el-Herr, Tell el-Makhzan, and Tell el-Farama, more sporadically along the Nile valley, see Dixneuf, *Amphores égyptiennes* 155. A considerable number of these single-handled tapered LRA 3 amphorae, together with LRA 1, have been found during the excavations of a waste context just outside the Isis Temple at Berenike (Red Sea Coast, Egypt), see S. E. Sidebotham et al., “Berenike 2019: Report on the Excavations,” *Thetis* 25 (2020) 11–22, Taf. I–XXV.

⁵⁸ Ballet, in *Douch* III 227, fig. 223 (no. 64), and in *Amphores d'Égypte* 484, 487 (figs. 6–7).

⁵⁹ Caputo, in *The Great Oasis of Egypt* 184–185, fig. 10.10, r.

⁶⁰ Hope and Ross, in *Amphores d'Égypte* 465–466.

⁶¹ Hope and Ross, in *Amphores d'Égypte* 465 (Italy), 466–468 (Spain), 477–478 (figs. 1–2); Caputo, in *The Great Oasis of Egypt* 188, fig. 10.10, u.

Amheida, Mut, and Ismant el-Kharab,⁶² and in Kharga, at Douch.⁶³ Also from North Africa are some types of Sigillata from Tunisia and Libya at Douch,⁶⁴ Ismant el-Kharab,⁶⁵ and Amheida,⁶⁶ dated between the late third and early fifth century.

Despite the common characteristics of the two parts of the Great Oasis, the building activity, both military but above all domestic, shows in Dakhla and Kharga a substantial difference in terms of perception, use, as well as exploitation and organization, of the spaces. Indeed, in Kharga, fortified structures surrounded by settlements make up a large part of the remains;⁶⁷ the evidence of forts in Dakhla is weaker.⁶⁸ As for the housing structures, in Kharga these are mostly quite simple buildings, characterized by spaces probably intended for storage, often without private baths or internal courtyards,⁶⁹

⁶² Hope and Ross, in *Amphores d'Égypte* 468–471, 479 (fig. 3); Caputo, in *The Great Oasis of Egypt* 187–188, fig. 10.10, t.

⁶³ Ballet, in *Douch* III 227, fig. 223 (no. 62).

⁶⁴ Ballet, in *Douch* III 226–227, nos. 59–61.

⁶⁵ C. A. Hope, “Dakhleh Oasis Project: Report on the 1987 Excavations at Ismant el-Gharab,” *Journal of the Society for the Study of Egyptian Antiquities* 16 (1986) 74–91, at 87; Hope and Ross, *Amphores d'Égypte* 474.

⁶⁶ Caputo, *Amheida* V 129.

⁶⁷ M. Reddé, “Sites militaires romains de l'oasis de Kharga,” *BIFAO* 99 (1999) 377–396; C. Rossi, “Controlling the Borders of the Empire: The Distribution of Late Roman ‘Forts’ in the Kharga Oasis,” in R. S. Bagnall et al. (eds.), *The Oasis Papers 6* (Oxford 2012) 331–336; C. Rossi, “The Architecture of the Forts,” in *North Kharga Oasis Survey* 429–451.

⁶⁸ R. Ast and R. S. Bagnall, “New Evidence for the Roman Garrison of Trimithis,” *Tyche* 30 (2015) 1–4, Tafeln 1–3; P. N. Kucera, “Al-Qasr: The Roman Castrum of Dakhleh Oasis,” in *The Oasis Papers 6* 305–316.

⁶⁹ In Kharga, the only group of houses that seem to have yielded more noteworthy material are in ‘Ain el-Turba, part of ancient Hibis. These are well-built vaulted mudbrick houses, with plastered walls, decorated with polychrome paintings, evidently intended for prosperous people, see N. Warner, “Living in Roman Kharga: An Analysis of Domestic Architectural

and whose material assemblages do not show anything that can be defined as luxurious, in contrast to the private residential compounds with painted walls in Roman style and banquet halls widely attested in Dakhla at Amheida,⁷⁰ and Ismant el-Kharab.⁷¹ This might suggest that, at least from the end of

Remains,” in *North Kharga Oasis Survey* 453–466. From notes and sketches of the excavations carried out by Winlock in 1908–1910, it appears that the ceramic finds consist of material certainly dated to the fourth century, very similar to that found in the fourth-century houses at Amheida and Kellis, consisting of tableware (bowls and single-handled filter jugs), cooking ware and vessels for the preparation and storage of food, as well as a significant quantity of kegs. In the sketches, LRA 7 (or amphorae, in general) seem to be completely absent, or perhaps not recognizable. To the ceramics are added other luxury objects, in ivory, leather, glass jewelry, glass vessels, a coin hoard dated to Diocletian, terracotta oil lamps, wooden tablets in Greek and ostraka, see B. Ratliff and R. Schimke, *Guide to Records of the Metropolitan Museum of Art’s Excavations of the Late Roman and Early Byzantine Sites in the Kharga Oasis* (New York 2015) 4–6; Bagnall and Tallet, *ζPE* 149 (2015) 177–182; Warner 454–455, fig. 392. An additional four houses are described in Douch/Kysis, so far, with painted walls in Roman style (third century) and ceramic materials of the fourth-fifth century. Ceramic materials seem to be more varied, in terms of Egyptian and local productions, as well as a few imports from the eastern Mediterranean, see *Douch III*; B. Gehad, M. Wuttmann, H. Whitehouse, M. Foad, and S. Marchand, “Wall-Paintings in a Roman House of Ancient Kysis, Kharga Oasis,” *BIFAO* 113 (2013) 157–182.

⁷⁰ P. Davoli, “A New Public Bath in Trimithis (Amheida, Dakhla Oasis),” in B. Redon (ed.), *Collective Baths in Egypt 2: New Discoveries and Perspectives* (Cairo 2017) 193–220, “Trimithis: A Case Study of Proto-Byzantine Urbanism,” in *The Great Oasis of Egypt* 46–80, and *Amheida VI*; S. Alfarano, “Architettura dei riti conviviali nell’Egitto Tardoantico,” in M. Livadiotti et al. (eds.), *Theatroideis. L’immagine della città, la città delle immagini* (Rome 2018) 469–487, *Il banchetto in ambito domestico e pubblico: testimonianze testuali e archeologiche nell’Egitto Tardoantico* (diss. Univ. del Salento/Univ. Wien 2019) 261–268, and “Lo spazio del banchetto nell’Egitto Tardoantico: Stibadia e Convivia in contesti pubblici, privati e rituali. Continuità e trasformazione delle tipologie architettoniche,” *SEP* 17 (2020) 9–40.

⁷¹ C. A. Hope, “The Roman-period Houses of Kellis in Egypt’s Dakhleh Oasis,” in A. A. di Castro et al. (eds.), *Housing and Habitat in the Mediterranean*

the third century through the fourth, the two oases played different roles as part of the Roman Imperial system. Probably Kharga was the control and strategic pole, hosting frontier posts designed to control the southern *limes* and the caravan routes that crossed the Western Desert east-west from the valley toward Farafra and north-south between the valley and Sudan.⁷² Dakhla represented the political and residential pole, where the landowners had their larger estates and administered most of the production of the Great Oasis.⁷³

Most of the sites of the Great Oasis have yielded ceramic material dating mainly from the Ptolemaic period into the third century A.D., generally from around the temples,⁷⁴ the several necropoleis,⁷⁵ the private quarters, as well as the forts and the ecclesiastical complexes.⁷⁶ However, it should be noted that the

World: Responses to Different Environments (Leuven 2015) 199–229, with further references.

⁷² C. Rossi and S. Ikram, “Evidence of Desert Routes across Northern Kharga: Egypt’s Western Desert,” in F. Förster et al. (eds.), *Desert Road Archaeology in Ancient Egypt and Beyond* (Cologne 2013) 265–282; P. N. Kucera, “An Oasis Border in the Fourth Century CE: The Evidence from Dakhleh,” in A. R. Warfe et al. (eds.), *Dust, Demons and Pots. Studies in Honour of Colin A. Hope* (Leuven 2020) 425–436.

⁷³ C. Rossi, “Water Systems,” in *North Kharga Oasis Survey* 505–521; Ast, in *The Great Oasis of Egypt* 105–121.

⁷⁴ O. E. Kaper, “Temple Building in the Egyptian Desert during the Roman Period,” in *Life on the Fringe* 139–158; S. Ikram, “Temples of North Kharga,” in *North Kharga Oasis Survey* 467–477.

⁷⁵ A. Fakhry, *The Necropolis of El-Bagawat in Kharga Oasis* (Cairo 1951); G. E. Bowen, “The Church of Deir Abu Metta and a Christian Cemetery in Dakhleh Oasis: A Brief Report,” *Bull. Austr. Cent. Egyptol.* 19 (2008) 7–16, at 11–15; S. Ikram, “The Ways of Death in North Kharga,” in *North Kharga Oasis Survey* 495–503. On the funerary practices in the Great Oasis in Late Antiquity see Fr. Dunand and F. Letellier-Willemin, “Funerary Practices in the Great Oasis during Antiquity,” in *The Great Oasis of Egypt* 237–268.

⁷⁶ N. Aravecchia, T. L. Dupras, D. Dzierzicka, and L. Williams, “The Church at Amheida (Ancient Trimithis) in the Dakhleh Oasis, Egypt. A

late pottery, represented mainly by vessels produced from the second half of the fourth century into but, apparently, not beyond the first half of the fifth, are attested in Kharga almost exclusively around the fort settlements and 'Ain el-Turba, whereas in Dakhla they appear at the main settlements. This evidence, together with the information deriving from the texts, suggests that the flourishing early-fourth-century activity may have been followed by a decrease late in the fourth century and a steep decline in the number of sites at the turn of the fourth to fifth centuries, although the oases were never completely abandoned.

After this, while the local productions (i.e., Oasis Red Slipped Wares) seem to continue at least until the end of the fifth century, the imports (amphorae and fine wares), whether from the valley, Africa, or the wider Mediterranean area, seem to be sporadic or almost absent, especially in most of the fortified settlements mentioned above,⁷⁷ and would not seem to indicate a stable presence where they are present, but rather a weak later frequentation of the sites.

It will be evident that the chronology of the ceramic evidence is not by itself sufficiently exact to provide a precise date for the

Bioarchaeological Perspective on an Early Christian Mortuary Complex,” *Bioarchaeology of the Near East* 9 (2015) 21–43; Aravecchia, *Ain el-Gedida 2006–2008*, and “The Changing Sacred Landscape of Egypt’s Western Desert in Late Antiquity: The Case of ‘Ain el-Gedida,” *AJA* 124 (2020) 301–320; G. E. Bowen, “The Small Church at Ismant el-Kharab,” in *The Oasis Papers* 3 (Oxford 2003) 153–165, and *Bull.Austr.Cent.Egyptol.* 19 (2008) 7–16; N. Warner, “Christian Architecture in North Kharga,” in *North Kharga Oasis Survey* 479–493.

⁷⁷ This is the case of El-Deir, see S. Brones and Ch. Duvette, “Le fort d’El-Deir, oasis de Kharga. ‘État des lieux’ architectural et archéologique,” *BIFAO* 107 (2007) 17–21. But we must mention the site of El-Bagawat, one of the main cemeteries of the city of Hibis, whose use for burial purposes is limited to a period from the end of the third century until the beginning of the sixth, see Fakhry, *The Necropolis of El-Bagawat*.

abandonment of sites; more seriously, the quantification and stratigraphic contextualization of the evidence cannot give us any detailed sense of the pace of decline. It is impossible to say at what stage either oasis was in 368. On the other hand, it is clear that the pottery belongs almost entirely to types already known in the Great Oasis by the 360s, and very little of it must be later than the third quarter of the fourth century. Moreover, what pottery we do have in Kharga that belongs to the latest horizon comes largely not from village or city sites but from the fortified settlements that guarded the road system of the desert. Even if the pottery cannot fully confirm the picture provided by the Leipzig papyrus, therefore, neither does it contradict it. Moreover, the character and dating of the pottery finds are consistent with the relative economic positions of Dakhla and Kharga suggested by the papyrus. The combined evidence offers an important challenge for students of the oasis.

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