



NATIONAL ENDOWMENT FOR THE HUMANITIES

DIVISION OF RESEARCH PROGRAMS

Narrative Section of a Successful Application

The attached document contains the grant narrative of a previously funded grant application, which conforms to a past set of grant guidelines. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the application guidelines for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Research Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Oriental Institute Nubian Expedition Publication Project

Institution: University of Chicago

Project Director: Christopher Woods

Grant Program: Collaborative Research

STATEMENT OF SIGNIFICANCE AND IMPACT
The Oriental Institute Project at the Fourth Cataract

In 2007 and 2008, the Oriental Institute Nubian Expedition excavated and surveyed sites in the reservoir area of the almost-finished Merowe Dam, now flooded. Co-directed by Geoff Emberling and Bruce Williams, the project was funded by the National Geographic Society and the Packard Humanities Institute.

The sites and areas explored included Hosh el-Geruf, a major gold processing center that is the largest found to date on the Nile, and uniquely dated to the period 1850-1550 BCE; al-Widay is the only completely excavated large cemetery from the same period; and survey and excavations on the island of Umm Gebir. The latter included a remarkable cemetery of a local culture dating to Egypt's New Kingdom, that is, after 1550 BCE, a phase otherwise almost unknown in the region.

Working in previously unexplored sites, the Oriental Institute salvage project uncovered significant findings. The first was proof that highly organized and industrial-scale gold processing was under way in Upper Nubia in the period before 1550 BCE. Such processing was previously attributed to Egypt and dated to the New Kingdom at the earliest. The large cemetery at al-Widay chronologically defines and orders three successive cultural phases, while relating the Fourth Cataract cultures not just to those nearby along the Nile, but as far north as Egypt and to the southeast in the Eastern Desert near Ethiopia.

Field records for both objects and pottery as well as survey data for the sites are housed in the Oriental Institute. Potsherds, lithics, and samples, mostly osteological and geological have been loaned to the Oriental Institute for ten years, while human remains have received a complete report and are now housed at New York University.

Full publication is now particularly critical since, while numerous expeditions participated in the salvage efforts, almost no final reports have been completed and published to date. We are now initiating a project to undertake a systematic publication in two or three volumes. The primary scholars working on the project are Bruce B. Williams and Lisa A. Heidorn, whose knowledge of the pottery and excavation of the sites will be supplemented by the expertise of Aaron de Souza (pottery), James Harrell (geology), Carol Meyer (gold-mining technology), Jacek Kabaciński (lithics), Sasha Rohret (animal bones), and Adrian Chlebowski (mapping and plans). Chris Woods (Director of the Oriental Institute) will oversee the progress of the grant over the three-year period.

The publications will expand our knowledge of the history of cultural contacts between the Fourth Cataract region and the rest of Northeast Africa from the Mesolithic Period down through the second and first millennia BCE. They will be made available to the public free of cost as electronic publications, in addition to print versions.

NARRATIVE

SUBSTANCE AND CONTEXT

The greatest threat to heritage and habitat on the Nile, whether cultural, environmental, or human, has come from dams. Since the erection of the Aswan dam early in the last century, successive raisings and finally the great High Dam, closed in 1965, destroyed some 250 kilometers of valley and adjacent desert with water. The Oriental Institute participated in the rescue campaign as part of a massive international effort to salvage as much archaeology and as many monuments as possible, but the losses were massive nonetheless.

Between 1996 and 2008, salvage was carried out for another major project occasioned by the building of the largest hydropower project to date, the Merowe Dam at the Fourth Cataract. The Oriental Institute participated in this effort in 2007 and 2008, under the direction of Geoff Emberling and Bruce Williams, and funded by grants from National Geographic and the Packard Humanities Institute (Figure 1). One of the main research goals of all expeditions participating in this campaign was to discover the history of a previously poorly known region, and for the Oriental Institute team there was a special interest to discover the extent of the Kushite kingdom's southern boundaries in the second millennium BCE. What was the power and reach of the Kermans, a kingdom contemporaneous with Egyptian pyramid building further north in Nubia? Was Kush, with its abundance of gold resources, extending its realm to gain the advantages that gold resources would give it over the Egyptians?

The objects and practices found at the three sites worked during the Oriental Institute salvage campaign revealed deviations from those documented at Kerma, from

where cultural norms were expected to spread. However, the flooding of the regions has inhibited the attribution of peripheral sites to either a purely Kerma influence or to distinct local cultures (Paner and Borcowski 2005). But the materials from the OI's excavations at al-Widay I may help to bolster the claim of an independent population that was highly influenced by not only the Kerma kingdom, but the Pan Grave population in the Eastern Desert, and the people living in the Bayuda, just to the south and east of the river.

The Oriental Institute is applying for a grant to mitigate the dearth of knowledge of this region by publishing their results of the 2007 and 2008 excavations and survey. This material will definitely complete a chronological and cultural framework for one important historical period in this region, that of a population that was contemporary with Kerma in the second millennium BCE, and it will make major contributions to several other chronological phases in Nubia that also show influence from farther beyond. The description of work at the following sites will provide the substance of our work in the field.

The excavation found no remains of structures at Hosh el-Geruf, although there were plentiful remains indicating a multi-period gold-mining site (Figure 2). Most of the team then transferred to al-Widay I, where a large cemetery of a type known elsewhere in the region had been noted (e.g., Paner and Borcowski 2005) (Figure 3). The team selected various areas to sample, documenting selected tombs. Archaeologists uncovered and documented the objects, but left the skeletal remains to be cleaned and lifted by the bioarchaeologist. A very much smaller, very eroded, and quite poor cemetery contemporary with al-Widay I was also partly excavated in this season.

By 2008 we were well aware of the date of al-Widay I, because of parallel material elsewhere in Nubia and from the Egyptian imports. Cemeteries of this date were being discovered by other expeditions, but they were essentially only sampling them (Kołosowska, el- Tayeb, and Paner 2003). With the recommendation of Dr. Klimaszewska-Drabot and Mahmud Suleiman, we decided to excavate the relatively well-preserved cemetery completely. This we did, clearing around a large group of superstructures, documenting them by overhead beam photography, then excavating as before. Altogether 111 burials yielded about ninety coherent remains of bodies.

In 2008, while excavating at al-Widay I, we also began the second major planned operation, a survey of the island of Umm Gebir immediately to the south of al-Widay, where the Gdańsk team had located some sites and excavated in two of them, as well as having studied rock art on a ridge near the center of the southern area. This was carried out primarily in late afternoon when light enhanced the visibility of sites.

Having completed the survey, and after the excavation at al-Widay I, in the last weeks of the season, we divided the team into five groups and undertook excavations at selected sites on Umm Gebir. While one team worked at organizing and documenting finds, four teams excavated various sites. Near the west end of the island, large clusters of boulders had been used as cemeteries for what is known locally as dome graves, oblong structures of fieldstone built with an open space inside to house a burial (Figure 4). One cluster of four was excavated.

Nearby, we excavated a small Neolithic settlement with hut circles backed up against a boulder. East of the central ridge of the island was a tumulus cemetery where we found evidence that it dated to the Egyptian New Kingdom, in the Fifteenth Century BCE. We

wanted to completely excavate this cemetery, but the dam closed, flooding the area, and only a few tombs were excavated. Finally, near the eastern tip of the island, the Gdańsk team had uncovered a remarkable pavement-structure with a sub-rectangular and a circular platform (Figure 5). They could not continue, so they invited us to undertake some work there to clarify the context, and we found similar structures nearby along with Napatan pottery dating to ca. 750-600 BCE.

Findings

First, the first industrial production of gold that has heretofore been assigned to Egypt and dated to the New Kingdom, after 1550 BCE, will be dated earlier in Nubia (*contra* Klemm and Klemm 2013: 609-611). At Hosh el-Geruf, the largest gold processing site in the Nile Valley, the evidence clearly appeared in Old Kush II-III or Kerma times (1850-1550 BCE), and was probably operated at least partly by the state of Kush. This would entail a major change in the history of mining and technology in Northeast Africa.

Second, al-Widay I, three phases in the development of culture in Nubia are demonstrated, clearly ordered by their distribution in the cemetery, an effective and cogent chronological method used for large cemeteries of single-burial tombs in Nubia (Bietak 1968). The earliest materials included pottery of types also found in contexts associated with Egyptian Middle Kingdom fortresses (ca. 1850-1750 BCE) farther north; the second phase had vessels directly related to those of the famous Pan Grave Culture; and the third phase is that of the Kerma Culture in its Classic Phase (ca. 1600-1550 BCE) (Figure 6). These three periods appear in a direct chronological succession that can be applied as far north as Egypt. It also establishes connections not just with the north, but with the Eastern Desert or Atbai, the latter a region that extends towards the Ethiopian borderland. It also shows that the carriers of

this culture had distinct local customs, notably in burial practices, also types of pottery and objects, such as cosmetic implements.

Materials that date to the Egyptian New Kingdom are rare in this region, but a number of tombs from this period were excavated on Umm Gebir. In contrast to most New Kingdom sites downstream, which show a strong, and even dominant Egyptian character, these tombs were of entirely Nubian tradition, but which contained rare diagnostic pottery imported from Egypt.

While the Fourth Cataract region has often been viewed as isolated, evidence from the work by expeditions in the area demonstrates major connections with areas far to the north and east in periods that are dateable. It also shows that the Fourth Cataract region, and Nubia more widely, played an innovative role in technology and its organization in the Second Millennium BCE.

HISTORY OF THE PROJECT AND ITS PRODUCTIVITY

Previous OINE publications from the work of the Aswan High Dam campaign of the 1960's will show the amount of work that has been published from previous salvage campaigns in which they participated (Exhibit 1). The Oriental Institute takes its obligation to publish the results of its salvage excavations very seriously.

The Oriental Institute's original concession on Shirri Island, obtained in 2005, was in an area whose inhabitants, the Manasir, were unhappy with their treatment by the authorities, their level of compensation, and their eventual displacement from their homes and fields. They forbade archaeological work to take place.

The work would have been cancelled had not Williams attended a Nubian Studies

Conference in Warsaw in 2006, where he met up with Henryk Paner and Zbigniew Borchowski of the Gdańsk Archaeological Museum. This museum was the first institution to respond positively, as early as 1996, to an appeal by the National Corporation of Antiquities and Museums in the Sudan to start rescue research in the Fourth Cataract region. Paner graciously offered part of the large concession held by the museum in Gdańsk to Emberling and Williams. Except for Gdańsk, most of the participating institutions started work only in the 2000s, when the building of the dam was assured, and this included the Oriental Institute's work in 2007 and 2008. The rescue operation, which ended in 2009 when the reservoir was flooded, resulted in several conferences, museum exhibitions, and many preliminary reports about the new discoveries concerning the history of the area. However, as mentioned above, very few final reports of work undertaken have been published.

Field operations of the Oriental Institute Nubian Expedition began in January 2007 with a team of ten persons directed by Emberling and Williams. Apart from the directors, this included a geologist experienced in Sudan, Dr. James Harrell, a bioarchaeologist, (now) Dr. Megan Ingvaldstad, an archaeologist with a special interest in mining, Dr. Carol Meyer, an archaeologist with both a special interest and field experience in Nubia, Dr. Lisa Heidorn, and six graduate students. The inspector was (now) Dr. Mahmud Suleiman el-Beshir. In the field, we engaged some 15-20 workmen.

For the second season, the personnel included the directors, the geologist, the bioarchaeologist, now with an assistant, and the graduate students, with the addition of Dr. Edita Klimaszewska-Drabot of Warsaw, who acted as senior archaeologist and drafter, and Margaret Wilson to study plant remains. Mahmud Suleiman continued as inspector. By then end of the season, local workmen numbered about thirty-five.

In 2010, Emberling left his employment at the Oriental Institute to do research at the Kelsey Museum at the University of Michigan and to direct excavation and conservation projects in Sudan. Williams became available for research work almost full time, but had to devote it to preparing publications from earlier work of the Oriental Institute in Nubia, as was the case for Heidorn. In the meantime, the University of Chicago was negotiating with the United States Office of Foreign Assets Control about the status of antiquities from the project that might be brought to the US for study. This was resolved in 2015, and Williams, with the help of the director general of NCAM Dr. Abd el-Rahman Ali Mohamed, arranged to have the sherds and samples brought to the Oriental Institute on long-term loan. This was largely completed then with the shipment of 30 boxes, but some sample materials were not located, a problem that was only solved in early 2018 with the location and shipment of three more metal boxes, which coincided with the completion of the prior publication project.

While progress can, and has been made, for example, in organizing records, a very substantial professional effort needs to be invested in order to make these excavations available to the scholarly and general public. As Nubian Studies is a small part of the wider academic enterprise, we will need the collaboration of experts and scholars from different parts of the world, in this case Australia and Poland in addition to the participation of the National Corporation for Antiquities and Museums in Sudan.

To date, the results of work at the Fourth Cataract have been published in a number of preliminary reports that sketch the campaign history and offer some preliminary conclusions (Emberling and Williams 2010, Meyer 2010, Harrell 2010, Emberling, Williams, Ingvoldstad, and James 2014).

COLLABORATORS

Chris Woods is the Director of the Oriental Institute at the University of Chicago, and he will be the Primary Investigator and Co-Director for the project. Although his expertise is in ancient Mesopotamia and its early language, he has experience overseeing the progress of Oriental Institute grant funding and ensuring that requirements are met.

Bruce Williams, Research Associate Polish Center of Mediterranean Archaeology, the University of Warsaw and Associate, the Oriental Institute of the University of Chicago. He is one of two lead investigators for the project. He has written or edited eleven published OINE books, assisted in editing another, and published numerous articles and reviews. Two more of his OINE volumes are scheduled for publication in the near future. He has done fieldwork in Turkey, Egypt, and Sudan, including directing two seasons of the Oriental Institute Nubian Expedition to the Fourth Cataract. He will be Co-Director of the project and will contribute the equivalent of at least 80% full-time effort to the project, supervising work, pottery dating, writing of chapters, and finalizing for publication.

Lisa Heidorn, Research Associate Polish Center of Mediterranean Archaeology, the University of Warsaw and Associate, the Oriental Institute of the University of Chicago. She is the secondary investigator for the project. She wrote one volume for the OINE series, in press at the moment, and has published on the history and archaeology of the Napatan period. She has participated in archaeological fieldwork in numerous countries, including one season with the Oriental Institute project at the Fourth Cataract. She also worked for six years drafting illustrations and preparing final copy for Williams' OINE publications. She will be Co-Director of the project. Her Project Manager position will be funded at the 50% full-time equivalent to focus on organizing the records, illustrating and classifying objects and pottery,

and the research and writing of chapters for the publication.

Adrian Chlebowski has worked for many years in archaeology in Europe, Egypt, and Sudan. Using his knowledge of Geoinformation systems and OINE records, he will identify and present cultural features of the sites on plans. He will be able to work on this project in Poland, devoting the equivalent of about one year of full-time work.

Geoff Emberling was a co-director of the Oriental Institute's Fourth Cataract project. He has worked on numerous excavations and directed the University of Cambridge excavation at Tell Brak in northeastern Syria from 1998-2004. He is currently working at the site of el-Kurru, the location of the royal cemetery of the Kushite kings of the eighth through fourth centuries BCE. He is a lecturer in the Department of Middle East Studies at the University of Michigan, Ann Arbor, and is a Research Scientist at the Kelsey Museum. Emberling will act as an uncompensated part-time researcher, writer, and consultant on the project.

James Harrell is a geologist whose expertise focuses on the quarries of Egypt and the Sudan, but also elsewhere in the Middle East. He is currently Professor Emeritus at the University of Toledo, Ohio. In his role of archaeologist-geologist he has been responsible for finding new quarries, sources of gemstones, veins of gold, and ancient sites associated with the extraction of these resources in both Egypt and the Sudan. He joined the Oriental Institute team at the Fourth Cataract to study the geology of the area. He will contribute about two months (uncompensated) analyzing the geological samples now in the Oriental Institute and finalizing his report on the geology around Hosh el-Geruf, and we have requested funding to support one month of his effort on site at the Oriental Institute.

Jacek Kabaciński is an archaeologist and lithics expert whose work has focused on

the Stone Age of northern Europe and the prehistory of northeastern Africa, in Egypt and the Sudan. He is currently an Associate Professor of Archaeology at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences in Poznań, Poland. He will be responsible for analyzing the lithics from the Oriental Institute's project at the Fourth Cataract, and we have requested funds for his travel to Chicago to spend about one month looking through the materials to prepare them for publication back in Poland.

Carol Meyer, Research Associate Polish Center of Mediterranean Archaeology, the University of Warsaw and Associate, the Oriental Institute of the University of Chicago. She directed excavations at the desert gold-mining site of Bir Umm Fawakhir in Egypt and has done archaeological work in Syria, Jordan, Egypt, and Sudan. She is a recognized expert on ancient mining, especially gold mining. In a contract position, Meyer will finish her report on the gold-mining complex at Hosh el-Geruf, including an analysis of the gold content of quartz samples loaned to the Oriental Institute by the Sudanese and serve as drafter for four months.

Sasha Rohret is a PhD Candidate in Egyptian Archaeology in the Department of Near Eastern Languages and Civilization at the University of Chicago, and specializes in faunal analysis. She has worked in this capacity on archaeological excavations in Turkey and Egypt, and as an excavator in Egypt, Israel, and Cyprus. We will contract with Sasha to analyze the animal bones from the Fourth Cataract project, spending two months of her time to study and prepare the results for publication.

Aaron de Souza is a specialist in Nubian pottery of the Kerma and Pan Grave cultures. He received his PhD from Macquarie University in Sydney. He has participated, mostly as a Nubian pottery specialist, on excavations in Egypt, and has studied the ceramic

collections of Pan Grave pottery at museums in Uppsala, London, and Varese (Italy). He has numerous publications focusing on Nubian pottery. He has already traveled to the Oriental Institute, where he spent some of his time focusing on the materials from Al-Widay I. He is expected to contribute his analyses of this pottery for the publication, though we have requested funding to support a short research trip to Chicago to finalize his report.

METHODS AND EXECUTION

The primary aim of the project is to produce excavation reports that will be used as research instruments for generations of scholars, as have so many of the Oriental Institute publications. We will accomplish this goal by presenting an individual analysis of the sites and their architectural remains, objects and pottery organized by type and by context, with technical discussions where needed, and analyses and conclusions where appropriate. A prototype for the publications is found in the existing volumes of the OINE series. Catalogues of each type of material will be included as well as each context, and this context-register will be the core of the publication effort. Small objects will be represented completely, both in photographs and drawings at a large scale, as will complete or restorable vessels and all vessels from closed contexts. In the discussion of contexts, diagnostic pottery will be represented by a range of pieces for each type, normally at a 2:5 scale in order to give the reader a clear idea of its variability. This focus on large-scale representation is increasingly important for research in fine-tuning chronological changes and assessing cultural variation. Planning will receive a special emphasis since we will use modern technological tools and the detailed field notes, records, and drawings to produce two-dimensional plans and sections.

Major research problems that must be addressed include inquiries into the nature of

contact between the regions of Nubia throughout the historical periods present at the Fourth Cataract. For instance, did the Kerma kingdom in the second millennium have a broader reach than previously thought? How closely related is our pottery to that found in the homeland of Kerma or to that of the Pan Grave people in the Eastern Desert, or to the materials from the Bayuda Desert just to the south and east (Lohwasser et al, eds. 2018)? After all, vestiges of Kerman and Middle Kingdom influence are found in the Atbai Region far to the southeast towards Ethiopia.

Another research focus is to re-examine the pottery from Hosh el-Geruf to verify our conclusion that its primary phase dates before the New Kingdom, a fact that would make a major change in the history of gold-mining technology and organization of production in northeastern Africa at an earlier date. And the cultural sequence in the cemeteries of al-Widay, while now clear, needs to be presented in detail to permit continuing research on the Fourth Cataract materials that were not part of the developments used for the chronology. Similarly, while we have noted in our previous publications the existence of a separate Fourth Cataract culture in the New Kingdom, we have not presented it in detail. Finally, all of the sites and materials excavated by the Oriental Institute need to be compared with previous and emerging information from adjacent regions, especially the materials coming from the Bayuda Desert, to the south of the Fourth Cataract. As is well known now, the Fourth Cataract region had significant relationships with the Bayuda in modern times and this was probably a continuation from the remote past as well.

One of the most interesting problems is that of interrelations posed by the materials from the cemetery at al-Widay, the site of Umm Gebir UGS 101, and comparable contexts in the Fourth Cataract. While some of the objects and practices found in our concession are

unique to the region, such as the curious stone polygonal palette, other types definitely relate to cultures from elsewhere in Nubia, such as that around Kerma (Kush) and the Pan Grave or Medjay groups in the Eastern Desert. While successive cultural change has been traced farther north with the C-Group people (Bietak 1968; Williams 2018), the changes in cultural orientation in the current case is particularly puzzling and will require detailed comparisons with other materials found in contexts along the Nile between Egypt and Khartoum, but also with sites and surveys in the Bayuda and Eastern Deserts.

The study will encompass the sites, artifacts, and skeletal materials found during the Oriental Institute excavations and survey. Skeletal material was studied by the expedition bioarchaeologist, Ingvoldstad, and the resulting thorough report will be incorporated into the publications, as will studies of the geology of the area by Harrell and the gold-working materials by Meyer.¹ Rohret will analyze the animal remains at al-Widay, and will travel from Atlanta to Chicago. Kabaciński will travel from Poland to study the lithics, a process that should take one month in Chicago. Williams, de Souza, and Heidorn will investigate the pottery from all three sites, with only de Souza needing to travel to Chicago to study the Nubian handmade pottery. Emberling is undertaking the report on the Umm Gebir survey and its results, and will not need to travel to Chicago for this task. Chlebowski will not need to travel to Chicago to prepare plans or use the records, since all the materials are digitized. The planned volumes and chapters are outlined below in the FINAL PRODUCT AND DISSEMINATION.

Excavation areas and individual contexts, such as tombs, were mapped using a total

¹ Previously published in preliminary reports by Harrell 2010, Meyer 2010, and Ingvoldstad in Emberling, Williams, Ingvoldstad and James 2014. A more detailed manuscript was prepared to include in the publication; see Ingvoldstad, “Human Skeletal Remains: Report from Al-Widay I, Al-Widay II, and Umm Gebir Island Cemeteries, Sudan” (2008, unpublished).

station, while sites in the Umm Gebir survey were mapped by GPS. We plan to use this survey data to geo-rectify photographs, especially aerial photographs, in order to give us more precise information. Details of tumuli and burials as well as other structures also need to be professionally drawn from sketches and survey points. These will also be placed on the larger site maps to give a complete impression of the area.

For each of the major phases – the Neolithic, Old Kush-Kerma, New Kingdom, and Napatan Periods – the pottery requires special analysis since it is plentiful enough to be representative of the range of types in each period and some of the types reflect social, cultural, or trade relations from different directions. Preliminary classifications were done in the field, but no detailed examination of the fabrics or search for parallels was made. The vessels will be studied and classified according to fabric, shape, and surface decoration to develop regional- cultural classes for the Fourth Cataract for presentation. Imported vessels from the Middle Kingdom and the Napatan era are not numerous and will be compared with pottery from Egypt and northern Nubia, where these types are more plentiful. We will draw all whole and restorable vessels, and a complete range of sherds, at 1:1 presenting maximum details of manufacturing that changed the surface, including nuances of shape and decoration that may provide cultural information.

A substantial amount of chipped stone, including both manufactured tools and debitage were collected in the field. This material has not yet been studied professionally and needs sorting and proper analysis by Jacek Kabacinski, a specialist in lithic production. Some of it is tools and debitage, but other broken pieces may relate to gold processing or the development of raw material, for example, for beads.

Registered small objects were drawn and photographed in the field. Currently the

objects cannot be located in Sudan, but enough photographic and descriptive documentation remains for analysis and comparison. From al-Widay I came bone tools and beads of both local ostrich egg shell, imported faience, and some locally made beads/amulets/pendants of gold. Small trapezoidal palettes of a purple stone are of special interest, not being documented in the region or elsewhere. A few scarabs are of special interest and name a certain *šmsw* (captain) of the *rmn-tp* (First Battalion), named Neb-Sumenu (Lord of Sumenu, or Sobek), a town in Upper Egypt that furnished many settlers to Nubia in the Thirteenth Dynasty and Second Intermediate Period, exactly the time of the tomb in which it was found (Figure 7).

For an example of our method, we will begin with the study of al-Widay I and II by classifying the different tomb structures, followed by the burial customs, including posture, direction of alignment, types of objects included, and their location within and outside of the tomb. It would then proceed by describing the pottery, by class, indicating the number and date of each type in a table, and illustrated by a corpus. Small objects would receive a similar treatment. The study would conclude with a register of the details of each context or tomb, with a table showing the different classes of tombs, and with headings for superstructure, shaft, burial and objects by location, each numbered and either described or indicated by its position in the corpus, with its registration number and illustration citation. Each preserved structure would be shown in drawing and in photographs, showing the superstructure and the shaft with the burial. Drawings and photographs will illustrate the superstructure, burial, objects, and pottery.

The study of Hosh el-Geruf will begin with a general plan of the site, the areas surveyed and excavated, and the locations of large grinding mills, hammer stones, and

grinding stones noted. There will be special studies of the processing equipment and the local geology, already partly accomplished by Carol Meyer and James Harrell. Materials from the Old Kush-Kerma period would be studied in conjunction with the analysis of the contemporary material from al- Widay I. The Mesolithic, Neolithic, and Napatan Period assemblages would be studied using comparable material from elsewhere in the Fourth Cataract region, but also from the Dongola Reach, Lower Nubia, and Khartoum.

The study of Umm Gebir is more complex, as the numerous sites varied in date, function, and preservation. Simple sites and sherd scatters will be briefly described and located on a map, with illustrations of any diagnostic material. Work on the island was shared with the team from the Gdańsk Archaeological Museum, who studied the rock art in detail and removed some of it. Except for unique discoveries by the OINE, rock art will generally not be presented in this study since the Polish team will publish it.

For occupation sites on Umm Gebir, we expect to use overhead photographs and drawings for structures. When pottery dates to periods also found at Hosh el-Geruf and al-Widay, the classifications from those sites will be used. Otherwise we will present a substantial selection of diagnostics and comparative material. The Oriental Institute excavated a group of dome graves on a hill on the island. Their study will present overhead photographs as well as drawings, although no burials were found. The dome graves are a famous Fourth Cataract type of the early First Millennium BCE, but they are a cultural enigma also found elsewhere and have not been precisely dated. Typically, they contain only two-handled pilgrim flasks aside from the burial, and a systematic study of these flasks – which will use parallels from Nubia and Egypt – will be undertaken to help refine a seriation of late second and early first millennia BCE flasks found in these regions.

WORK PLAN

This project requires a three-year program, with an initial stage to systematically organize the field records, plans, drawings, and photographs, and then to create new documentation as needed. Comparative research to determine the chronological and cultural background of the archaeological remains will begin from the outset and continue on throughout Years 1-2. The work would commence by the beginning of October, 2019, and be finished three years later.

In the first year, we plan to complete the reorganization of the records and to work with Chlebowski to create overall site plans and geo-rectify aerial images. We plan to begin detailed examination of all the contexts, and to establish a formal pottery classification. This will allow us to establish a completed drawing and photography program for fragmentary sherd material. Drawing can include inking vessels that were not completed and the drawing of any that were not done in the field.

In the second year, we plan to generate plans for each context in the cemeteries at al-Widay and for the sites on Umm Gebir. Drawing and photography of sherds should be completed. We plan to complete typological corpora for each class of object and structure and use these corpora as the basis for a site-by-site context-by-context register. We plan to begin writing the volumes according to the outlines presented in the following section, beginning with general considerations. With the completion of corpora, the database design can begin.

The third year (2022) will be devoted first to making organized illustrations and the completion of manuscripts that can be submitted for publication. We expect to complete design for a database, populate it with data from the publications and make it available online. Finally,

we would expect to submit the completed manuscripts.

The post-grant period would see the manuscripts read by peer-reviewers, followed by their recommendations and our modifications and responses. At that point editing and publication would proceed. We expect to have a continuing program of photography to add to the database.

FINAL PRODUCT AND DISSEMINATION

The first and most important product of the project will be major archaeological reports published in hard copy, and available for free download online as volumes in the Oriental Institute Nubian Expedition series. There are eleven volumes now, with three more volumes soon to be published (see, again, Exhibit 1). We will also produce a searchable, online database of plans and archaeological materials. The current project will separate the sites into three volumes.

Systematic, organized final reports remain a primary resource for scholars working in the archaeology of the wider ancient world and for a wider public interested in the archaeology of this region. The latter will benefit because it will combine introductory information and the consideration of all aspects of the sites, and not deal with just specialized topical discussions.

The following parts, and their primary authors, are discussed in the following.

Printed and Online Publications

Each book will include extensive bibliographic information, figures, and plates. Appendices will include registration lists, most likely in tabular format, that describe the locus details and the objects found. For example, in the volume on the cemetery at al-Widay, the

listing will include the tomb type, including its superstructure and substructure, burial orientation and pose of the skeleton(s), skeletal age, sex, informative characteristics of each skeleton, any deposits left outside the tombs, and the objects found within and outside the structure. Heidorn and Williams will prepare the registration lists. The planned outline of the OINE volumes is outlined below.

Part 1: The Old Kush Cemeteries at Al Widay I and II

- Chapter 1: Introduction to the site, the tombs, and basis for chronology (Emberling, Williams)
- Chapter 2. The Tombs (Williams)
- Chapter 3. Pottery (de Sousa, Williams)
- Chapter 4. Objects (Heidorn)
- Chapter 5. Human Remains (Ingvoldstad)
- Chapter 6. Animal Remains (Sasha Rohret)
- Chapter 7. Conclusion: significance and consequences for chronology of the cemetery and the broader context of cultural relations (Heidorn, Williams)

Part 2: The Gold Processing Center at Hosh el Geruf

- Chapter 1. Introduction to the site and the presentation of excavations and sample areas (Heidorn, Williams)
- Chapter 2. Evidence for gold processing technology (Meyer)
- Chapter 3. Geology of the site (Harrell)
- Chapter 4. Mesolithic and Neolithic pottery (Heidorn)
- Chapter 5. Old Kush pottery (de Sousa and Williams)
- Chapter 6. Napatan pottery (Heidorn)
- Chapter 7. Objects (Heidorn)
- Chapter 8. Lithics (Kabaciński)
- Chapter 9. Conclusion: Hosh el Geruf and the history of mining in Nubia and the Eastern Desert (Emberling, Williams)

Part 3: Survey on Umm Gebir Island

- Chapter 1. The general nature of the sites, survey and results (Emberling)
- Chapter 2. Site gazetteer with discussion of finds by survey site (Emberling and Williams)
- Chapter 3. Umm Gebir Neolithic Habitation site, description of site and features (Heidorn)
- Chapter 4: Umm Gebir New Kingdom Cemetery, description of site, tombs, pottery, objects, and chronology (Williams)
- Chapter 5. Description of the Umm Gebir dome graves, their cultural antecedent and their chronology (Williams).
- Chapter 7. The pilgrim flasks and their chronology (Heidorn)
- Chapter 8. Umm Gebir Napatan habitation or work site description (Williams)
- Chapter 9. Pottery and objects from the Napatan habitation or work site (Heidorn)

Chapter 10. Conclusion of the survey sites, architectural features, and burials on the island
(Heidorn, Williams)

Database

In addition to the archaeological reports, published in hard copy and available online for free download, we plan to create an online database to give access to materials in a manner that allows researchers to build their own queries to organize the data. We intend to build the essential format and add data that will exist in the publications, but also, over time extending beyond the current project to add numbers of sherds and even the field notes not included in normal publications.