The initial season of the Southern Dongola Reach Survey (SDRS)\(^1\) was conducted on the right bank of the Nile between Old Dongola and Khor Makhafour near Ez-Zuma in January-March 1998. (It was preluded by a short reconnaissance in February 1991, carried out in the desert east of the Istabel fortress.\(^2\)

The 1998 season of the SDRS had to comply with some prerequisites. In accordance with NCAM suggestions, the entire concession area was inspected on a low-intensity survey basis, the vulnerability of the sites was examined and rescue operations initiated where necessary. The architectural chef-d’œuvres of the Southern Dongola Reach, the Christian strongholds of Bakhit, Deiga and Istabel, were photographed from the air and their condition carefully documented. All activities were introductory in character. A high-intensity survey will begin in the next season, starting from the southern end of the abandoned village of Old Dongola and continuing upriver to Diffar.

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1. The SDRS is a joint mission of the Research Center for Mediterranean Archaeology of the Polish Academy of Sciences, National Corporation of Antiquities and Museums (NCAM), Polish Center of Archaeology of Warsaw University, Poznań Archaeological Museum, and Faculty of Mediterranean Archaeology of Jagiellonian University.

   Expedition staff comprised the following: Dr. Bogdan Żurawski, archaeologist, director; Prof. Krzysztof Ciałowicz, archaeologist; Dr. Jackie Phillips, ceramologist; Dr. Mahmoud El-Tayeb, archaeologist. The NCAM was represented by senior inspector Miss Amel Awad Mokhtar. Six students of archaeology from Warsaw University were attached to the surveying team as volunteers (and performed beyond all expectations under the harsh conditions of the survey): Misses Joanna Bogdańska, Anna Błaszczyk, Beata Kołodziejek and Paulina Terendy, Messrs Kazimierz Kotlewski and Paweł Rurka). The progress of the survey was patiently documented on celluloid tape by Mr. Piotr Paradowski.

Despite the above-said limitations, the survey so far has recorded over 50 sites and sub-sites, ranging in date from the Middle Paleolithic through the Islamic periods, and in scale from small sherd or lithic scatters to major jebel fortress sites. Artifact collection and study, in addition to site recording, has already provided some initial conclusions regarding the development of environmental and human exploitation patterns and changes in settlement pattern throughout this period of time. Whilst a number of major sites have long been known and occasionally reported by early Classical and later Arabic authors and more recently by European travelers in the past three centuries, surprisingly little has actually been recorded even for the most prominent man-made features. Of the presently surveyed sites, the majority was previously unknown. Most of them cluster in two areas of the concession: a 10 km stretch south (i.e., upriver) of Old Dongola between the abandoned village and the area of Banganarti, and some 50 km farther upstream around the Soniyat temple and the Istabel fortress. Thus, the survey has the potential to fill a major gap in our knowledge for a region vital to most links between the Mediterranean world and the African interior on the one hand and between the Red Sea ports and African central Africa on the other.

A prominent feature of the concession area are the dunes, constantly drifting southwards to be trapped in the so-called Debbia Bend of the Nile. The result is a constantly changing riverbed as the Nile continues to cut through the altered landscape. Many sites and features are visible only from the river itself, and the survey team has been obliged to explore the concession from both land and river. Major changes in the riverbed can be inferred once a thorough high-intensity survey is made and the sites are mapped according to their occupation date.

The first site to be visited and documented (air photography included) was the enormous fortress site of Helleila, located half way between the villages of Bakhit and Magal [Fig. 1].

Helleila constitutes an important link in the chain of right-bank Christian strongholds linking the majestic stronghold in El Kab with Old Dongola via Deiga, Differ, Abkur, and possibly Selib (?) and Sinada (?). All reveal many affinities in general layout and construction features. The use of undressed stone bonded in mud mortar is predominant, as are rounded, elongated towers. The affinity of general layout and structural features (e.g. gates) between Helleila and the Byzantine stronghold at Pelusium (Tell Al Farama) is striking.

The ceramics found on the surface within, the girdle walls suggest that Helleila was settled at the very onset of the Christian period. A few Meroitic potsherds hint

3 This technique has already been demonstrated by the Northern Dongola Reach Survey (NDRS) project (directed by Dr. Derek A. Welsby) almost immediately to the north where, for example, the abundance of Kerma-period sites and the almost total lack of Christian period occupation is in stark contrast to the situation in the SDRS concession, and where the existence of Nile "paleo-channels" has been amply demonstrated by period/site plotting on present-day maps. It is possible that the SDRS Kerma sites lie under the present dune-covered areas of the concession or near the present riverbank where even a low intensity survey has not been conducted yet.

4 M. Abd El-Maksoud, M. El-Taba'i, P. Grossmann The Late Roman army castrum at Pelusium (Tell al-Farama), CRIPEL 16 (1994), pp. 95-103.
at earlier occupation. However, the girdle walls are certainly Christian. The fortress was designed to shelter the local populations (living mostly on the left bank) from nothing more than nomadic attack. With the riverside virtually unprotected, it was apparently not intended to withstand a regular siege laid by forces employing boats, siege machines etc. The vast interior of the fortress measuring 230 x 130m was completely ravaged by sebakhin. The only building to survive is the fortress church. It is a mud-brick structure preserved in places up to 4m high. Its eastern passage, apse and tripartite division of the western end are still visible, with fired vault bricks scattered about. Why had the church only been left alone by the sebbakh diggers? Had it been a Christian cult place long after the collapse of the Christian monarchy in Dongola? More plausibly, the sebbakhin knew that the kenisat were never inhabited and the mea-

Fig. 1. Bird’s eye view of Helleila fortress. Computer image composed of five low-altitude air photographs. (Photo B. Żurawski)
ger layer of natural fertilizer was not worth their effort.\(^5\)

The Christian cemetery of Helleila, built of huge well-baked bricks and located on hills overlooking the fortress, was totally dismantled in 1988. Soon after the catastrophic flood of that year, the local residents turned to the ancient structures for badly needed building material to reconstruct their homes.

Compared to the Helleila structure, the Magal church located nearby, right on the riverbank, looked quite grandiose. An embankment directly opposite the church had a set of stairs leading down to the water. When Lepsius visited it (on the same 7th of June), one of the six granite columns that today are scattered about the site was still standing.\(^6\) It was topped by a granite capital now half buried in the soil [Fig. 2].

The church was much destroyed by the sakia installed within its walls. Nothing can be said of the church layout and construction, but the sakia pit contains much red brick and lime plaster. Potsherds are scarce, as on other church sites. The date of the Magal church seems to correspond with the earliest ceramics from Helleila, that is, the 7th century.

The location pattern of the Middle Nile strongholds seems to be uniform. Whatever their present position with respect to the Nile, originally they had all stood close to the river. This is certainly true of the Deiga fortress, for example, as its lower section has been destroyed by flooding.

The ceramic dating of the Deiga fortress is much later than in the case of Helleila. In size (60x80 m) and general layout, it resembles the fortress of El Kab (situated 180 km upstream). The stronghold’s five meter thick outer walls, made of mud-bonded stone, are masterly executed and remarkably well preserved [Fig. 3].

Similarly to Helleila, the gates visible in the ruins are simple, unflanked openings in the walls (there is no trace of any entrance pillars, spur or shield walls etc.). However, the pace of modern deterioration is alarming. The mud-brick church, which Lepsius saw inside the fortress, has all but disappeared now, as have the fragments of granite capitals and columns.

The region around the fortress had been inhabited densely in Christian times. There is another church-site inland from the fortress. On top of the Jebel Deiga, there is the holy shrine of Sheikh Ibn Auf, a well known pilgrimage center, marked on the

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\(^5\) Lepsius visited Helleila on June 7, 1844. The heat was apparently responsible for an embarrassing mistake made by the Prussian measuring team. While the spans between the towers were exact to a centimeter, the length of the fortress extending along the Nile was estimated scores of meters short (Denkmäler aus Aegypten und Aethiopien, Text V (Leipzig 1913), p. 252 (Fol. IV.4 194° 195, the perfect rectangle published there is in reality a trapezium).

\(^6\) Denkmäler, op.cit., V, p. 251.
Sudan map Sheet 45-F with the annotation that it had been visited by pilgrims from Egypt.

The so-called Debb bend begins a few kilometers beyond Deiga. Throughout a 48 km reach of the river between the estuary of Wadi Moggadam and Wadi El Melik, the Nile flows in a latitudinal direction. In terms of geomorphology and early history, it is the most interesting area in the whole concession. The most important landscape-shaping factor is the southward shift of the huge dunes from the Nubian Desert. Basins like Affad were formed and duly sanded up, and the huge agricultural areas at Tergis are barely visible in modern aerial photographs.

Nothing can be said at the moment of the layout of the huge Diffar fortress that now shelters a few houses. Diffar was visited and drawn by Linant de Bellefonds in

Fig. 3. Bird’s eye view of Deiga fortress. Computer image composed of seven low-altitude air photographs. (Photo B. Żurawski)
1821\(^7\) and by Baron von Muller in 1847.\(^8\) Compared to the present shape of the kom, the two drawings reveal rapid deterioration in the most recent times. Today the Diffar fortress is a shapeless mound of sand and stones, although a church site with some granite column bases still in situ can be seen among the ruins of the eastern, lowermost part. A granite column shaft lies nearby and a ferrocrete capital a hundred meters away. Another stone church was reported by Linant de Bellefonds opposite Diffar on Gigernarti Island.\(^9\)

Oral testimony collected in several places within the concession area (Abkur and Selib), indicates that within the past 200 years the Nile bed has been moving continuously southwards.

The hamlet of Soniyat (where in 1997 a Napatan temple was surveyed, drawn and

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\(^{7}\) Linant de Bellefonds, *Journal d’un Voyage a Méroé dans les Années 1821 at 1822 [=SASOP No.4] (Khartoum 1958)*, p. 38, Pl. IX.


\(^{9}\) Linant de Bellefonds, op.cit., p. 37.
photographed from the air) is situated 2250 m east (that is upstream) from Istabel fortress (the temple temenos is located some 600 m south of Soniyat). It was first observed and briefly mentioned by Lord Prudhoe in 1829. Then it must have been concealed by dunes, since it escaped the attention of other European travelers.

The temple lies opposite the Tamba-xnarti Island, some 1000 m or so north of the Nile. However, there is ample evidence to suggest that originally the main axis of the temple was square with the course of the Nile, which then ran significantly closer to it.

The temple sits within a temenos of which only the huge foundation stones of the gate remain. The stones in questions, set parallel to each other, measure respectively 277 x 110 cm and 354 x 110 cm. A test trench dug by K. Ciałowicz in February 1998 has revealed small fragments of the temenos wall contiguous to the gate [Figs 4-5].

The temple itself lies 95 m south of the temenos gate. It sits on an alluvial terrace covered by aeolian sand. The geological section exposed in the matara hole dug nearby produced an alluvium continuum going down at least 8 m. Abandoned fields some 900 m east of the temple were irrigated once by a rectilinear channel system seen on a Sudan Survey Department Air Photograph (taken in 1994). Nothing can

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10 Unpublished typewritten copy of Prudhoe's Journal kept at the Griffith Institute in Oxford. Access to the typescript was kindly granted by Dr. Jaromir Malek, director of the Griffith Institute.
be said at the moment about when these fields were deserted.

The surface potsherds include a conspicuous amount of Early Christian wares, some with scratched monograms. In the subsurface layers, Kushite wares strongly predominate.

Near the passageway linking the pronaos with the hypostyle, a total of over 140 bizarre-shaped stones were recovered (in 1997 and in 1998).

The hermeneutics of this extraordinary find are ambiguous. At first glance, the stones (together with the celt) resemble "rain stones" used in rain magic by the Nilotes of Southern Sudan. However, the more plausible reason for the gathering of these stones is the ease with which they could be tied with a string or rope. Most have one or more natural "waistings" to prevent a rope tied around it from slipping off. Thus, it seems logical to me that they are simply fishnet sinkers, the more so since some Soniyat stones imitate the Egyptian sinkers published by Oris Bates in Harvard African Studies I. At some unspecified time the temple ruin standing on the river bank started serving local fishermen as a place to store equipment (hence the deposit in question would be additional proof that the temple had once stood closer to the river).

Roofing at the southern end of the temple was supported mostly on columns, of which four have been located. The columns were raised on round flat bases placed directly on the mud-brick floor. The otherwise regular pattern of this flooring is disturbed in some places as a result of multiple repairs. (The paving was recorded in a test trench dug this year by Ciałowicz in the middle section of the hypostyle.)

The surviving columns (only the lowest drums preserved) have an average diameter of c. 70 cm (badly eroded surfaces have made measurement inadequate). The column base unearthed further south, which had been covered by a layer of sand mixed with Nile silt, survived in quite good shape. It preserved some interesting details, namely the graffiti which covered its upper surface. Multiple unintelligible designs resembling Meroitic script are dominated by a Meroitic hieroglyph repeated at least six times. The same sign was found painted on the shoulder of a fragmentary wheel-made jar from the Temple of Taharka at Kawa. It is worth noting that both graffiti and hieroglyphs were scratched on the base after the column shaft standing on it had been overturned. It provides strong grounds for thinking that the building had been damaged severely well in the Meroitic period. The Soniyat temenos is located at the north end of the Tergis mantiqa (the border between the mantiqas of Abkur and Tergis lies halfway between the temple and the Istabel fortress). The archaeological evidence gathered so far, augmented by the literary sources, strongly suggests that the Soniyat temenos is the religious nucleus of a bigger urban center located southwest of the Istabel fortress, west of the cultivable lands of Tergis and Affad basins and opposite the agricultural district on the left bank. The topographical situation of the Soniyat temenos leaves no doubt that it is part of

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11 O. Bates, Ancient Egyptian fishing, Varia Africana I (1917), Pl. XXII, nos 193-197, 202-204.

12 M.F.L. Macadam, The Temples of Kawa. II: History and Archaeology of the Site (London 1955), pp. 77, 73, 161 (fig. 53).
an agglomeration identifiable with Pliny's Tergedum, mentioned in the itinerary of the Neronian expedition to the sources of the Nile.\textsuperscript{13} The location of Tergedum in Tergis had already been suggested in 1971 by Karl-Heinz Priese,\textsuperscript{14} who calculated the distances comprised in Pliny's text.

Tergedum was situated most favorably on the right bank, opposite the highly cultivated stretch of the left bank and the islands. It probably was also a flourishing trade center, controlling the huge estuary of Wadi El Melik, which was a very important trade route for African products as it sits exactly opposite where the Wadi El Melik issues into the Nile. Since one of the determining factors in the Kushite settlement pattern was suitability for trade,\textsuperscript{15} Tergedum was in a most advantageous position. Since the Nile cargo boats could not sail northwards against the northern wind and the swift river current, Tergedum was the furthest upstream point that they could reach, lying as it does at the southernmost point of the Debba Bend (the river simply does not allow navigation further upstream).\textsuperscript{16} This brings to mind an "epigraphical episode" from the Psammetich II expedition to Nubia. The Greek graffiti in Doric dialect scratched on the left leg of the Ramses II statue at Abu Simbel suggests that Psammetich's armada reached a place beyond Kerkis, as far as the river allowed.

Is the place-name Kerkis to be identified with Tergis=Tergedum? I would welcome such an identification. However, further surveying in the region might bring to light other data. Of crucial importance seems to be the Argi "island", now part of the right bank but a true island as late as 1905.\textsuperscript{17} A.J. Arkell reported there a Napatan/New Kingdom cemetery lying 3 km east of the river.\textsuperscript{18} During the first season, the existence of a Napatan cemetery at Argi (N 18°07.92 E 30°49.28) was fully confirmed. The burial ground, robbed by the Bedouin, extends westwards (riverward) from the gubba of Wad Idris. It is marked on the surface by large quantities of crushed bones, stones and crude Napatan ceramics.

In the new topographical reality, one question should be asked: If Tergis = Tergedum lies at the southernmost reachable point of the Nile at the ultimate point achieved by Psammmetik's armada, why then not identify Tergedum with the place-name Trgb known from the Tanis stela as the southernmost point reached by Psammetik's army (FNM I 284)? The likeness of the two names is astonishing, as are the topographical realities. The archaeological, topographical and epigraphic data gathered so far implies that the place-names Krtn, Kerkis, Tergis and Tergedum denote one (or two) centers lying nearby. The royal residence of Kwr attested in the

\textsuperscript{15} D.A. Welsby, The Kingdom of Kush (London 1996), p. 139.
\textsuperscript{17} Gleichen, op. cit., p. 31.
\textsuperscript{18} A.J. Arkell, Varia Sudanica, JEA 36 (1950), pp. 35-36.
Irike-Amannote text and the Tanis stela could have found a perpetuation in the name Abkur, the locality nearest to Soniyat.

Since no Meroitic occupation is attested at Soniyat, all objects found on the site should be labeled indiscriminately as Napatan. The sistrum handle (from a well-defined context) in the shape of a nude girl with raised hands supporting a frieze topped by a squatting cat also should be designated as Napatan [Fig. 6].

Bronze objects are abundant at Soniyat. The chemical composition of the alloy in general complies with results obtained from the Kawan bronzes. Analyses made at the Central Laboratory of the Institute of Archaeology and Ethnology, Polish Academy of Sciences in Warsaw, reveal the following. The sistrum handle is cast of a bronze with 12% tin and a considerable, practically 3% content of lead. A similar composition is revealed by the Osiris figure (SDRS 36/98). The other bronze objects tested are cast in bronze having a much lower percentage of tin, less than 6%, down to 1.94%. Gold is low, less than 0.4%, same as arsenic which reaches a maximum level of 0.65% in the small Osiris figure (SDRS 41/98).¹⁹

Fig. 6. Sistrum handle (SDRS 46/98) 
(Drawing P. Terendy)

¹⁹ The analyses (Nos CL 11767 to 11772) were carried out by Mrs. E. Pawlicka in an EDS spectrometer.
The numerous fragments of animal figures found in the temple were made of stone-hard terracotta burned to dark brown and then gilded. The terracotta face (SDRS 19/98, Fig. 7) was hand-modeled in drying clay. After firing, it was painted with a green paint resembling copper verdigris. Its present yellowish appearance is the result of a thick yellow wash with which it was covered when in use, perhaps as wall decoration. The face reveals some portrait features, especially in the apparent lack of symmetry. The hole in the forehead was made on purpose before firing. At the back, the aperture is very small and it is hardly possible to pass a thread through it. Rather than a suspension hole, the aperture seems to be a socket for fixing a decorative or symbolic element made of a material other than clay.

Two kilometers to the west of Istabel fortress (Jebel El Gren), along the road from Abkur to Argi and further north, there is a huge post-Meroitic tumuli field (it is one of the biggest post-Meroitic cemeteries between the Third and Fourth cataracts).

The tumuli field continues for a kilometer or so. Most of the mounds have the crater-like depressions on top which are suggestive of robbing in the past. No pre-Christian remains have been found at the Istabel fortress or anywhere in its nearest vicinity. The granite capital and granite column lying on the southern (riverine) slope of the fortress hill are the earliest architectural remains in Abkur and its surroundings.

A few kilometers downstream from Istabel fortress, the Nile turns sharply right and continues northward until Selib, the site of another fortified Christian-period settlement. The locals in Selib tell the same story as the inhabitants of Abkur, namely that the Nile once had passed close by the enclosure,
but had duly turned south a century or so ago.

The banks of the wadis giving to the Nile at its right bank between Abkur and Old Dongola were densely populated from the Middle Paleolithic to post-Meroitic times. In the wadi estuaries, the quantity of lithics washed away from sites located further in the desert is enormous. During rescue operations on the post-Meroitic tumulus 1 in Hamur more than three hundred lithic artifacts were found.

On some prehistoric sites, shelter post-holes were found. One of the most promising and most complex prehistoric sites was found on top of the Jebel Abu Elem rising high in the flat desert (N: 18°04′24.5″, E: 31°14′20.6″).

The most schematic settlement pattern in a wadi was found in Khor Jerf Al Mardi leading to the Nile at Hamur: Middle Paleolithic sites inside a 3-6 km perimeter from the river, a Neolithic site within 2-4 km, a post-Meroitic tumuli field at a distance of 1-2 km and a Christian settlement guarded by a fortified enclosure at the wadi’s estuary.

Some of the right-bank sites were accessible only from the river due to the encroaching dunes which reached to the river bank itself. There is an interesting fortified site guarding a granite ridge crossing the river halfway between Ed Debb'a and Old Dongola. Judging by the ceramics, it was settled in the Early Christian Period and abandoned before the characteristic Late Christian wares had appeared.

Apart from Girra, Euros and Tangasi, the Nile islands were generally not visited during the first season. A lack of time and diving equipment prevented us from closer investigation of the most mysterious structure in the Middle Nile Region. Two huge pillars rising from the river between Euros Island and the left bank were first noticed by Edmond Combes in 1834. They are built of fired bricks bonded by hard lime mortar. There are many plausible explanations for the Euros pillars enigma, but the final verdict should be postponed until the next season, when a professional diver will test the surrounding river bed.

The historic process of a southward shift of the Nile bed is observable today in Tangasi-Hamur. Both islands have merged into one and were incorporated into the right bank, after blocking the right Nile channel. It is only the final episode of a long process. Within living memory, the right bank mantiq of Bangaarti was an island, as both name and local oral tradition suggest. The fortress of Sinada, recognizable by the rounded towers and three-meter thick outer wall, once sat on the river bank at the mouth of a wadi, and is still partly submerged during a high Nile flood. The Hamur Abbasiya village lies astride the wadi. The SDRS concession area ends at the southern border of the so-called Abandoned Village of Old Dongola that lies within the limits of the Polish archaeological concession.