

# CHAPTER 1: INTRODUCTION

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## 1.1 THE SITE

Sai Island is a prominent archaeological site located approximately halfway between the Second and Third Cataracts in Upper Nubia (Pl. 1).<sup>1</sup> The large Nile island (12 x 5.5km, Fig. 1) provided good conditions for settlement and cultivation and is located in a position of strategic value at the southern end of the Batn el-Haggar. Its history of occupation extends from prehistory to Ottoman and modern times, including the period of the Egyptian New Kingdom.<sup>2</sup> Sai can be regarded as one of the key sites to understanding the settlement policy of New Kingdom Egypt in Upper Nubia, being a “bridge head”<sup>3</sup> into the realm of Kerma. Its significant role derives from a strong Kerma presence on the island prior to the New Kingdom<sup>4</sup> and from the possibility to investigate both the town and cemetery of the 18<sup>th</sup> Dynasty.<sup>5</sup>

Sai is located in a typical border region, being situated close to the Second Cataract area which has been the spotlight of various and changing interactions between ancient Egypt and Kush since Predynastic times.<sup>6</sup> Mutual influences across cultures are attested for the region of Nubia throughout the ages.<sup>7</sup> The two ruling powers of the areas in the Second Millennium BC were Pharaonic Egypt on the one hand and the Kingdom of Kush, based at the town of Kerma, on the other hand. Before the 18<sup>th</sup> Dynasty, the territory of Upper Nubia (Kush), in which Sai Island is located, had been ruled by the kings of Kush.<sup>8</sup> The Egyptian ‘colonisation’ of the region began with the reign of Ahmose Nebpehtyra, introducing major changes for the local population as they were confronted with Egyptian culture and representatives of Pharaonic administration.<sup>9</sup>

Sai Island was the focus of the European Research Council project AcrossBorders from 2013 to 2017.<sup>10</sup> The project aimed to provide new insights on the lifestyle and the living conditions in New Kingdom Nubia based on new fieldwork and multi-layered research on the island. The New Kingdom town, located at the eastern side of the island, was the emphasis of the project, being complemented by research on the contemporaneous pyramid cemetery on the island and also a comparative approach with sites outside of Sudan (Elephantine and Abydos, see below). Work of the project could strongly build upon research conducted by the French Sai Island Archaeological Mission (SIAM) from 2008 to 2012.<sup>11</sup> One of the research questions of the fieldwork undertaken by this mission was directed towards establishing a firm date for the foundation of the town (see also below, Chapter 1.2).<sup>12</sup>

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<sup>1</sup> Vercoutter 1986; Geus 2004a; Doyen 2009; Budka 2017a, 15; Budka 2017b, 45–47.

<sup>2</sup> See, e.g., Vercoutter 1986, 11–16; Geus 1994a; Geus 2004a; Budka 2017b, 48–59.

<sup>3</sup> Davies 2005, 51. See also Budka 2015a, 40.

<sup>4</sup> See Arkell 1950, 33–34; Gratien 1986, *passim*; Vercoutter 1986, 12.

<sup>5</sup> Budka 2015a; Budka 2017c, 71.

<sup>6</sup> Cf. O’Connor 1993, 585; Smith 2003a; see also Bonnet 2017.

<sup>7</sup> These were traditionally addressed from an Egyptocentric perspective, resulting in several shortcomings in reconstructing the Egyptian-Nubian relations; see Edwards 2004, 7 and below, Chapter 8.1.

<sup>8</sup> Török 2009, 280 with references. See also Zibelius-Chen 2013, 135–137.

<sup>9</sup> Smith 2003a, 56–96; see also Budka 2015a; Spencer et al. 2017.

<sup>10</sup> ERC Grant agreement no. 313668.

<sup>11</sup> Doyen 2009; Budka and Doyen 2013; Doyen 2014.

<sup>12</sup> Doyen 2009; Doyen 2014. See also Budka and Doyen 2013.

According to epigraphic evidence, the Egyptian name for Sai Island, respectively the region, is well-attested as  $\text{S}^{\text{3}}\text{c}^{\text{t}}$  (see Chapter 2.4).<sup>13</sup> References to the Egyptian kings of the 18<sup>th</sup> Dynasty have also survived in considerable quantity from the site, in particular for the rulers Ahmose Nebpehtyra, Amenhotep I and Thutmose III, but also for Thutmose I, Amenhotep II and Amenhotep III.<sup>14</sup> Viceroys and other high officials of the Egyptian administration are well-attested as well (see Chapter 6).<sup>15</sup> Among the textual sources from Sai Island for king Ahmose, the founder of the 18<sup>th</sup> Dynasty, the most prominent object is a sandstone statue of the king (Khartoum SNM 3828 and 63/4/4).<sup>16</sup> This monument has been used as key evidence for the assumption that Ahmose founded the Egyptian town on the island.<sup>17</sup> However, the iconography and style of the seated statue in a heb-sed cloak have inspired some scholars to the alternative interpretation of its posthumous dedication by Amenhotep I in honour of his father.<sup>18</sup> Amenhotep I had dedicated a similar seated statue of his own on Sai (Khartoum 63/4/5).<sup>19</sup> Due to the uncertainties deriving from the state of knowledge in 2010 and the range of possible interpretations of the epigraphical sources, the founding of the town on Sai Island by Ahmose was not generally accepted. Important fresh data were unearthed in this respect by SIAM in sector SAV1 North in the New Kingdom town. These new records were assessed and published within the AcrossBorders project and provide firm evidence of a very early 18<sup>th</sup> Dynasty presence at Sai.<sup>20</sup> Nevertheless, the precise identification of the founder of Sai remains hypothetical; based on the ceramic evidence, king Ahmose seems indeed very likely.<sup>21</sup>

Like the other major Egyptian settlements in Upper Nubia, the town on Sai falls into the category of the so-called Nubian temple towns – fortified towns built in the New Kingdom with an enclosure wall and a sandstone temple.<sup>22</sup> Temples as key elements of Egyptian towns are especially prominent in the Abri-Delgo Reach (Sesebi, Soleb, Tombos and Sai) from Thutmose times onwards and seem to be connected with the character of the area as a rich gold ore region (see also Chapter 7).<sup>23</sup> A common feature for the specific urban layout of temple towns is the limited domestic space, with much of the room instead occupied by storage facilities and magazines, putting these sites into direct connection with the Egyptian administration of Kush.<sup>24</sup> Until recently, most studies on these temple towns have therefore focused on the temples and their economic aspects from a broad perspective, leaving aside the specific microhistories of the individual sites. Essential questions like the character and density of occupation still remain unclear.<sup>25</sup> Current excavations have rich potential to answer some of these open questions as will be highlighted within this volume, especially because recent work is carried out in combination with landscape archaeology and includes various applications of archaeometry and material sciences.<sup>26</sup>

<sup>13</sup> Vercoutter 1956, 73; Posener 1958, 58–60; Vercoutter 1958; Devauchelle and Doyen 2009; see also Rilly 2007 for Meroitic references (the Meroitic name of Sai was first noted by Griffith 1912, 9).

<sup>14</sup> See Vercoutter 1956; Vercoutter 1973; Minault-Gout 2007; Gabolde 2012.

<sup>15</sup> Gabolde 2012; Davies 2017a. See also Budka 2017d, 35–39.

<sup>16</sup> Davies 2004, 103, fig. 79; Minault-Gout 2007, 280–281, fig. 1b; Gabolde 2012.

<sup>17</sup> Vercoutter 1973; Davies 2004, 103; Valbelle 2004, 94; Török 2009, 159. See also the summaries by Budka and Doyen 2013; Budka 2017b.

<sup>18</sup> Lindblad 1984, 21; Gabolde 2012.

<sup>19</sup> Lindblad 1984, 27–28, pl. 12d; Davies 2004, 102–103; Minault-Gout 2007, 282, fig. 1c.

<sup>20</sup> Budka 2017a, 18–21.

<sup>21</sup> Budka 2015a; Budka 2016a.

<sup>22</sup> Kemp 1972, 651–656; Morris 2005, 5; Budka 2018a, 251–252; Vieth 2018.

<sup>23</sup> See Klemm and Klemm 2013, 9 and *passim*.

<sup>24</sup> Budka 2017b, 45.

<sup>25</sup> Budka 2015a, 41.

<sup>26</sup> E.g. Spencer et al. 2012; Budka 2015a; Spataro et al. 2015; Woodward et al. 2015; Budka 2017c. See also as an excellent overview of the current state of research: Spencer et al. 2017.

## 1.2 HISTORY OF RESEARCH

Being a prominent landmark along the Nile, Sai Island has been regularly visited by travellers and archaeologists since the 19<sup>th</sup> century AD.<sup>27</sup> Furthermore, an early account about Sai comes from the Turkish traveller Evilya Çelebi who visited the site and here in particular the Ottoman fortress in 1672/1673.<sup>28</sup> This fortress, Qalat Sai, was the southernmost of the fortresses built by the Ottoman empire, being erected in 1560/1585<sup>29</sup> and still in use when Çelebi came by, lasting most probably until 1798 as garrison and beyond 1820 as living quarter.<sup>30</sup> The fortress was built directly above the southern part of the New Kingdom town, being responsible for the good state of preservation of the Egyptian ruins in this sector (Fig. 2).<sup>31</sup>

### 1.2.1 Research prior to the French excavations

Table 1 provides a summary of research on Sai in the 19<sup>th</sup> century and the first half of the 20<sup>th</sup> century AD.<sup>32</sup> Comments on the Pharaonic remains were at the beginning quite scarce<sup>33</sup> and in some respects also confusing.<sup>34</sup> Most important are descriptions and comments by the Egyptologists Carl Richard Lepsius,<sup>35</sup> Ernest A. Wallis Budge<sup>36</sup> and Frederick William Green<sup>37</sup> whose visits to Sai date between 1844 and 1906.

The observations of the early researchers are especially important regarding the temples of Sai, as was already highlighted by Jean Vercoutter.<sup>38</sup> Some scholars reported that parts of a Pharaonic temple were visible not only north of the Ottoman fortress on the sandstone cliff, but also within the fortress, raising the question whether another stone temple existed besides Temple A, which is located outside the northern wall of Qalat Sai (see Fig. 2).<sup>39</sup> Vercoutter discussed descriptions of doorjambs with hieroglyphic texts from the interior of the fortress which had been interpreted by Joseph Bonomi, Frédéric Cailliaud,<sup>40</sup> Louis M. A. Linant de Bellefonds and Carl Richard Lepsius as the standing remains of an Egyptian temple.<sup>41</sup>

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Especially remarkable is the report by Lepsius, because he was “a trained epigraphist”:<sup>42</sup> “Auf dem Felsen stehen die Rundmauern des Tempels. Oben drüber, mitten in der Burg, lag ein Tempel, von wel-

<sup>27</sup> For an overview, including early visits in the 18<sup>th</sup> century, see Vercoutter 1986, 7–8.

<sup>28</sup> In the translation by Prokosch 1994, 115–120.

<sup>29</sup> For the fortress, its history and importance, see Alexander 1997.

<sup>30</sup> For the historical events connected with Bonaparte in 1798 and Mohamed Ali Pasha in 1820, see Alexander 1997, 19; relevant for the continuous use of the fortress as living quarter is the drawing by Linant de Bellefonds from 1822, showing it largely intact, see Vercoutter 1958, pl. XLIII and Alexander 1997, 19, pl. 2; Alexander 1997, 19 recorded in 1997 “local oral traditions” that Qalat Sai was occupied by “farming families” until the Mahdist offense in 1889.

<sup>31</sup> See Azim 1975.

<sup>32</sup> This overview could build upon data kindly collected by Jördis Vieth as part of her employment for AcrossBorders in 2014; Table 1 was created by Julia Budka and finalised by Veronica Hinterhuber in 2018.

<sup>33</sup> According to Hoskins 1835, 257 the island “contains no remains of Egyptian antiquities”; see Budge 1907, 463. On George Alexander Hoskins’ travels to Egypt, northern Sudan and Kharga, see most recently Morkot 2013a.

<sup>34</sup> See the overview by Vercoutter 1958.

<sup>35</sup> LD II, 149a; LD III, 59b–c; LD, fünfter Textband; Lepsius 1853; see Naville 1913, 226–228.

<sup>36</sup> Budge 1907.

<sup>37</sup> For Green’s unpublished notes and diaries, see Davies 2014a.

<sup>38</sup> Vercoutter 1958, 162–164.

<sup>39</sup> Vercoutter 1958, 162–163. For this question, see most lately Adenstedt 2016, 44; Budka 2018a, 258–259.

<sup>40</sup> Cailliaud 1826, 366: “Au sud, est une grande construction en terre, reste d’une ancienne forteresse. J’y vis les ruines d’un très-petit temple égyptien, où l’on remarque encore les deux montants d’une porte, ornés de quelques hiéroglyphes, et deux fragments de colonnes. Il serait difficile de deviner quelle était la distribution d’un bâtiment totalement détruit: On trouve épars quelques morceaux de pierres de taille, couverts aussi d’hiéroglyphes.”

<sup>41</sup> Vercoutter 1958, 163.

<sup>42</sup> Vercoutter 1958, 163.

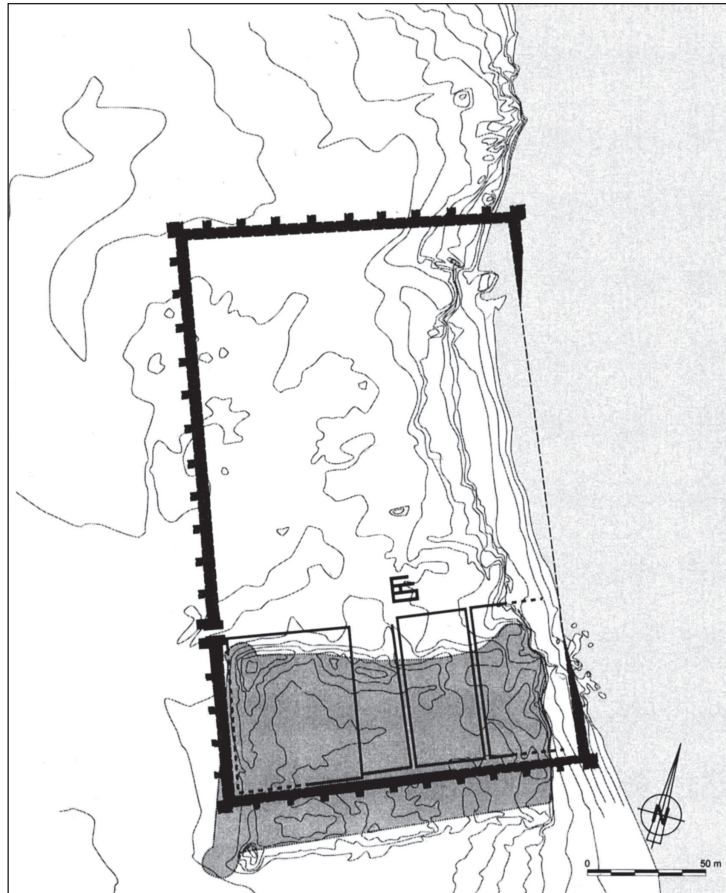


Fig. 2 Reconstruction by Azim of the New Kingdom town with shaded area of the Ottoman fortress overlying its southern part

chem noch zwei Säulenfragmente stehen, andere liegen am Boden. Sie sind rund und waren mit Skulptur bedeckt; neben den Säulen stehen noch zwei Türpfeiler mit den Schildern von Thutmosis III. An der Innenseite steht [...], Inschrift.”<sup>43</sup> Based on this in situ description, Vercoutter concluded as a summary of all the early descriptions: “It seems, therefore, that from 1820 to 1844 at least small parts of the original temple were still in existence and that they were dismantled later on as a result of marog digging.”<sup>44</sup>

Among the early archaeologists visiting Sai, the notes by Anthony John Arkell and Ernest A. Wallis Budge are significant for the history of research of the Egyptian remains on the island because they believed the fortress dated to the Middle Kingdom.<sup>45</sup> In the words of Budge: “I believe it [Sai] was first fortified by Usertsen III., a king of the XII<sup>th</sup> Dynasty. Under the XVIII<sup>th</sup> Dynasty it was occupied by troops under the command of Egyptian officers, and a very strong fort was built there. Within the fort was a temple, built as we have seen by Amen-hotep III.”<sup>46</sup> It is clear that here Budge is referring to the blocks inscribed by Amenhotep III which were found within the Ottoman fortress. From this statement by Budge, the date of the fortress of Sai as Senwosret III also entered the Porter-Moss bibliography.<sup>47</sup>

<sup>43</sup> LD, fünfter Textband; quoted after Naville 1913, 226–227.

<sup>44</sup> Vercoutter 1958, 163. “Marog” digging corresponds to “sebbakh” digging in Egypt.

<sup>45</sup> Arkell 1940, 10; Budge 1907, 462; see Vercoutter 1958, 153.

<sup>46</sup> Budge 1907, 462.

<sup>47</sup> PM VII, 164; see also Vercoutter 1986, 11.

Name	Publication (and page number/s on Sai)	Year	At Sai on site	Reason/ background	References	Comments
Burckhardt, Johann Ludwig	Travels in Nubia; 55	1819	no	Travels	Vercoutter 1958	
Waddington, George & Hanbury, Barnard	Journal of a Visit to Some Parts of Ethiopia	1822	no	Travels	Vercoutter 1958	
Caillaud, Frédéric	Voyage à Méroé, au Fleuve Blanc etc.; 366	1826	1821	Travels	Vercoutter 1958	see also Chauvet 1989; Dewachter 1994
Linant de Bellefonds, Louis M. A.	Journal d'un voyage à Méroé dans les années 1821 et 1822; 191	1958	1821	Travels	Vercoutter 1958	
Bonomi, Joseph	unpublished diary, entry of 14 December 1829	unpublished	1829	Travels	Vercoutter 1958	diary entry, unpublished
Finati, Giovanni	Narrative of Life and Adventure, II; 422	1830	1829	Travels	Vercoutter 1958	
Hoskins, George Alexander	Travels in Ethiopia; 257	1835	1833	Travels	Vercoutter 1958	see also Morkot 2013a
Lepsius, Carl Richard	Denkmaeler aus Aegypten und Aethiopien, Bd 5 (Text): 226–228 [Naville 1913]; Bd 3: 59b–c und Bd 4 (Tafeln)	1849	1844	Archaeology	PM VII	
Lepsius, Carl Richard	Letters from Egypt, Ethiopia, etc; 237	1853	1844	Archaeology	Vercoutter 1958	
Wilkinson, John Gardner	unpublished		1848	Archaeology	Vercoutter 1986	
Clarke, Somers	Christian Antiquities in the Nile Valley; 45	1912	1909	Archaeology	Vercoutter 1958	was 1894–95 and 1898–99 in Sudan
Budge, Ernest A. Wallis	The Egyptian Sūdān. Its History and Monuments. Vol. 1, 461–464	1907	1905	(Archaeology)	Vercoutter 1958	accompanied by J. W. Crowfoot; see Vercoutter 1986
Green, Frederick William	diaries and notes (volume on second journey with Sai studied by Vivan Davies)	unpublished	1906	Archaeology	Davies 2014	two diaries, was 1906 and 1909–1910 in Sudan; see also Welsby Sjöström 1999
Breasted, James H.	Second Preliminary Report of the Egyptian Expedition; 98–100	1908	1907	Archaeology	Vercoutter 1958	
Bates, Oric & Dows Dunham	Excavations at Gemmai; 117	1927	1915	(Archaeology)	Vercoutter 1958	

Tab. 1 Overview of research on Sai Island prior to the French excavation

Name	Publication (and page number/s on Sai)	Year	At Sai on site	Reason/ background	References	Comments
Monneret de Villard, Ugo	La Nubia Mediaovale; 328	1935	c. 1930	(Archaeo- logy)	Vercoutter 1958	between 1923 and 1934
Kirwan, Laurence P.	Oxford University Excavations at Firka; 2–29	1939	c. 1934	(Archaeo- logy)	Vercoutter 1958	was 1929–1934 and 1934–1937 in Sudan
Apted, Michael R.	[-]		1937	(Archaeo- logy)	Vercoutter 1958	visited Blackman (Sesebi) and removed Middle Kingdom statue (Kerma) to Khartoum
Blackman, Aylward M.	unpublished inspection notes in the Archives of the Sudan Antiquities Service	unpub- lished	1937	(Archaeo- logy)	Vercoutter 1958	report is dated 28/2/1937
Arkell, Anthony J.	Report for the year 1939 of the Antiquities Service in Anglo-Egyptian Sudan	1940	1937	Archaeology	Vercoutter 1958; PM VII	was 1939–1945 in Sudan; on Sai with Kirwan
Arkell, Anthony J.	JEA 36, Varia Sudamica; 24–40	1950	1937	Archaeology	Vercoutter 1958	stresses the importance of the Kerma cemetery
Arkell, Anthony J.	unpublished inspection notes in the Archives of the Sudan Antiquities Service	unpub- lished	1937	Archaeology	Vercoutter 1958	for the cache of statues brought to Khartoum under Arkell see Davies 2017a
Fairman, Herbert W.	JEA 25; Preliminary Report on the Excavations at ‘Amārah West, 1938–9; 142	1939	1939	Archaeology	Vercoutter 1958	
Fairman, Herbert W.	unpublished inspection notes in the Archives of the Sudan Antiquities Service	unpub- lished	1939	Archaeology	Vercoutter 1958	
Thabit, Hassan Thabit	Preliminary Report of an Archaeological Survey of Sai Island, SAS Archives	unpub- lished	1954	Archaeo- logy/ Fieldwork	Vercoutter 1958	

Tab. 1 *continued* Overview of research on Sai Island prior to the French excavation



Also notable for the history of research on the New Kingdom site of Sai is Aylward Blackman's idea, elaborated in an unpublished report from 1937, that the fort is actually New Kingdom in date.<sup>48</sup> Already in 1908 James Henry Breasted expanded on the New Kingdom history of the site, mentioning a now lost inscription by Thutmose I as the oldest record from the site.<sup>49</sup> Furthermore, Breasted attributed the small Egyptian temple to Thutmose III because he had discovered its building inscription by viceroy Nehy (pillar S.1, see below and Chapter 6, Doc. 5) within the Ottoman fortress.<sup>50</sup> Soon after, more evidence for Pharaonic activity on Sai came up – Herbert Walter Fairman, working at the neighbouring site Amara-West, reported in 1937 a seated statue of king Ahmose Nebpehtyra.<sup>51</sup> More than a decade later, its head was found by locals in the surroundings of the small sandstone temple on Sai, Temple A.<sup>52</sup> As mentioned above, this statue of Ahmose (Khartoum SNM 3828 & 63/4/4), and a similar representation of his son Amenhotep I (Khartoum 63/4/5), resulted in the hypothesis that either Ahmose<sup>53</sup> or Amenhotep I founded the Egyptian town at the site (see above).<sup>54</sup>

Similar to the head of the Ahmose statue, a substantial cache of Egyptian statues was also discovered by accident on Sai in 1939. These statues of elite officials, comprising several important pieces of viceroy Usersatet (Amenhotep II), were brought to Khartoum under the charge of Arkell.<sup>55</sup> The significance of these deliberately broken statues from the 18<sup>th</sup> Dynasty was recently recognized by William Vivian Davies who conducted and published a detailed study (see also Chapter 6).<sup>56</sup>

### 1.2.2 French excavations

Scientific excavations on Sai started under the directorship of Vercoutter in 1954.<sup>57</sup> One of the tasks within the area of the New Kingdom town was to understand the comments by earlier researchers regarding the existence of one temple or two temples. To check the suggestion by Thabit Hassan Thabit that all Pharaonic stone blocks were brought to the fortress from the Egyptian temple outside, Vercoutter undertook a first cleaning of Temple A located just outside the northern enclosure wall of Qalat Sai.<sup>58</sup> He then raised the question whether the Egyptian blocks of this temple could have been re-used at much later times, maybe during the Meroitic period.<sup>59</sup> Vercoutter thus first believed the temple to belong to Post-Pharaonic times, presumably the Meroitic period.<sup>60</sup> Thanks to the discovery of foundation deposits,<sup>61</sup> Temple A could later be confirmed to be of 18<sup>th</sup> Dynasty date with a cella built by Thutmose III,<sup>62</sup> by now, its evolution is well-established thanks to the work of Michel Azim and Jean-François Carlotti.<sup>63</sup>

<sup>48</sup> Vercoutter 1958, 153.

<sup>49</sup> Breasted 1908, 100: “The oldest document on Sai is to be found on a huge piece of the cliff which had fallen out of the east face of the rocks north of the fortress, and now lies close to the river on the east shore of the island. Having turned over in its fall the inscription is now up-side down. It is so badly weathered that it was some time before I discovered that it is upside down, not at first thinking that so large a rock (thirty feet square and fifteen or twenty feet high) could have turned over since the making of such an inscription. However, I at last made out, ‘Year 2 under the majesty of the King of Upper and Lower Egypt, Okheperkere (Thutmose I).’ It was therefore placed here by Thutmose I on the march for his Dongola campaign. A second line is so weathered that I gave it over.” See also Budka and Doyen 2013, 168, note 24 with further references.

<sup>50</sup> Breasted 1908, 98.

<sup>51</sup> Fairman 1939, 142, note 1.

<sup>52</sup> For details, see Gabolde 2012, 118, note 23.

<sup>53</sup> Davies 2004, 103; Valbelle 2004, 94; Török 2009, 159.

<sup>54</sup> See Gabolde 2012; Budka 2016a.

<sup>55</sup> Arkell 1940, 10–11; Arkell 1950, 34.

<sup>56</sup> Davies 2017a (see p. 133 with references to earlier studies on these statues).

<sup>57</sup> Vercoutter 1958, 144.

<sup>58</sup> Vercoutter 1958, 164.

<sup>59</sup> Vercoutter 1958, 164.

<sup>60</sup> Vercoutter 1974, 11–26. See also Francigny 2015, 202.

<sup>61</sup> See Thill 1997.

<sup>62</sup> Thill 1997, 105–117; Azim and Carlotti 2012, 39 and 45; Budka 2015d, 60; Adenstedt 2016, 34.

<sup>63</sup> Azim and Carlotti 2012.

Of particular importance for the building and its complex phases is the text (pillar S.1) dedicated by viceroy Nehy and dated to year 25 of Thutmose III (see also Chapter 2.4).<sup>64</sup> The question of the location of the Meroitic temple originally proposed by Vercoutter was recently re-assessed by Vincent Francigny.<sup>65</sup> Although its precise position cannot be confirmed at present, it is clear from Meroitic stone blocks and column drums that there once was a sanctuary during the Meroitic period within the general area of the New Kingdom town.<sup>66</sup> All in all, the question of the existence of a second temple from the 18<sup>th</sup> Dynasty overbuilt by the Ottoman fortress is until now still not completely answered,<sup>67</sup> but the main sanctuary was most likely located just north of the Ottoman fortification, labelled as Temple A by Vercoutter.<sup>68</sup>

Two fieldwork seasons in the mid-1950s, followed by five campaigns between 1969 and 1974 under the directorship of Vercoutter, were all conducted by the architect Azim as the field director.<sup>69</sup> The southern part of the ancient town, surrounded by a mud brick enclosure wall and labelled as SAV1, was exposed at that time. Within this area of still standing ruins six levels of occupation were recorded by Azim. These levels were only roughly dated and assigned to the Pharaonic, Meroitic and Post-Meroitic periods as well as to two phases within Medieval times and finally to the Islamic period (Ottoman fortress).<sup>70</sup> In the context of these early excavations, the Pharaonic level (Level A) corresponds to the Egyptian New Kingdom, first of all according to the epigraphic evidence from the town site attesting almost every king of the 18<sup>th</sup> Dynasty.<sup>71</sup>

Approximately 1km to the north of the New Kingdom town a domestic site, SAV2, was first tentatively identified by means of aerial photography and consequently investigated by fieldwork in 1969 and 1971. SAV2 was interpreted by Albert Hesse as a camp site of possibly Middle Kingdom or New Kingdom date featuring a ditch and being of roughly rectangular shape.<sup>72</sup> Nearby Christian remains and a mixture of the Pharaonic ceramics with pottery of Medieval date make a close assessment difficult at the present state. The site would definitely be worthy of additional fieldwork and requires more data for a full interpretation. In general, the question of Pharaonic settlement activities outside of the town enclosure of SAV1 has not yet been investigated in detail.<sup>73</sup>

Work of the French mission on Sai also focused on cemeteries and tombs of diverse periods.<sup>74</sup> Besides the substantial Kerma cemetery in the southern part of the island,<sup>75</sup> Egyptian cemeteries were investigated. The two main cemeteries of the New Kingdom are located south of the town and were labelled as SAC5 and SACP1.<sup>76</sup> Another Egyptian cemetery, SAC4, interestingly with strong links to the Kerma culture, is situated towards the north.<sup>77</sup> The largest New Kingdom cemetery is SAC5, which was discovered in 1971–1972 by Vercoutter. It was excavated in several seasons until 2004<sup>78</sup> and subsequently published as a substantial monograph in two volumes by Anne Minault-Gout and Florence Thill.<sup>79</sup>

<sup>64</sup> Vercoutter 1956, 74–75, doc. 13; see also Kirwan 1939, pls. VI.1–2; Geus 2004a, 115; Azim and Carlotti 2012; Davies 2014a, 7–8.

<sup>65</sup> Francigny 2015.

<sup>66</sup> Francigny 2015, 206.

<sup>67</sup> See Vercoutter 1986, 13; Adenstedt 2016, 44; Budka 2018a, 258–259.

<sup>68</sup> Vercoutter 1986, 13.

<sup>69</sup> Azim 1975.

<sup>70</sup> See Azim 1975, 93–95; Geus 2004a, 115.

<sup>71</sup> Vercoutter 1973; Vercoutter 1986; Geus 2004a, 115; Minault-Gout 2007; Gabolde 2012.

<sup>72</sup> See Hesse 1981; for the proposed Middle Kingdom date, see Vercoutter 1986, 11–12. See also Miellé 2012 for the problems connected with this dating.

<sup>73</sup> Cf. Kemp 1972, 653–654 for the little work dedicated as yet to extramural settlements of the Egyptian temple towns in Nubia.

<sup>74</sup> Cf., e.g., Geus 1994b; Geus 1996; Siguoirt 2012.

<sup>75</sup> See Gratien 1986.

<sup>76</sup> Vercoutter 1986, 14; Minault-Gout and Thill 2012.

<sup>77</sup> Gratien 1986; Gratien 2002.

<sup>78</sup> For the history of research, see Minault-Gout and Thill 2012, 1–4.

<sup>79</sup> Minault-Gout and Thill 2012; Thill 2017.



From 2008–2012, fieldwork was conducted by the Sai Island Archaeological Mission (SIAM) of Lille 3 under the directorship of Didier Devauchelle and the field director Florence Doyen at a site named SAV1 North, along the northern enclosure wall of the New Kingdom town, unearthing remains dating back to the early 18<sup>th</sup> Dynasty.<sup>80</sup> Nine 10m squares were excavated in SAV1 North; sections of the northern town wall (Enclosure Wall N4) as well as several mud brick structures of Egyptian type were exposed and documented.<sup>81</sup> Another major advance in understanding the layout of the New Kingdom town was achieved by the SIAM by means of a geophysics survey, conducted in 2011 by Sophie Hay and Nicolas Crabb, British School at Rome and the University of Southampton.<sup>82</sup>

With the kind permission of the SIAM, the AcrossBorders project was carried out from 2012–2017 with new excavations on-site (see Chapter 3 and *passim*). Since 2017, new excavations as follow-up of the SIAM mission are conducted in the northern part of the New Kingdom town by SFDAS, directed by Francigny, the present concession holder of Sai Island.<sup>83</sup>

### 1.3 METHODS BY THE ACROSSBORDERS PROJECT

The AcrossBorders project has undertaken five seasons of archaeological fieldwork on Sai from 2013 to 2017.<sup>84</sup> Three new excavation areas within the town were opened (SAV1 East, SAV1 West and SAV1 Northeast) and added important knowledge concerning the general layout of the town, its evolution and changing character which will be highlighted below (Chapter 3). The archaeological excavations were complemented with kite aerial photography,<sup>85</sup> Structure from Motion approaches, terrestrial 3D laser scans, geoarchaeological surveys, micromorphological soil sampling and various archaeometric analyses of diverse materials, which allow some new insights on the layout and function of the site as well as on processes and activities.<sup>86</sup> Of particular relevance was the geophysical survey picture from 2011 which, with the kind permission of the SIAM, could be used for the preparation of the AcrossBorders fieldwork.

Since 2014, AcrossBorders applied a single-surface-documentation during excavation using 3D techniques. Structure from Motion (SfM) approaches were developed to a site-specific application based on a model established in Austria (see Chapter 3.1.3).<sup>87</sup> The aim of the documentation of the stratigraphical *single-surface*-excavation<sup>88</sup> was to gain a complete volumetric 3D model of the excavated areas which could be processed further within the GIS project.

In 2014, the complete documentation of the New Kingdom town with the help of a 3D terrestrial laser scanner was realised. Robert Kalasek from the Vienna University of Technology, Department of Spatial Development, Infrastructure and Environmental Planning was responsible for the scanning process; Ingrid Adenstedt processed and published the data.<sup>89</sup> An Image Laser Scanner Riegl VZ-1000 was used for the scanning and a Nikon D800 camera with a 14mm lens was mounted on the scanner in order to record the texture. The complete scan of the remains of the New Kingdom town required 155 different scan positions. The point clouds in a local coordinate system as results of each scan were then joined

<sup>80</sup> Doyen 2009, 17–20; Budka and Doyen 2013, 168–171; Doyen 2014, 367–375; Doyen 2017.

<sup>81</sup> See the detailed publication by Doyen 2017.

<sup>82</sup> Crabb and Hay 2011.

<sup>83</sup> The first season in winter 2017 continued directly at SAV1 North, building upon the published results by Budka and Doyen (Budka 2017e) and yielded new evidence concerning the town enclosure, later phases and the question of an “extra-mural” settlement. All of these new results will soon be published by the excavators and could not be considered throughout this volume.

<sup>84</sup> Budka 2014a; Budka 2015a; Budka 2017c; Budka 2018b.

<sup>85</sup> Aerial photography by kite had already been conducted by the French mission, in particular for Holocene sites, see Hesse and Chagny 1994; Hesse 1996; Garcea 2007, 107–108.

<sup>86</sup> Adenstedt 2016; Budka 2017d; see also Fera and Geiger 2018.

<sup>87</sup> Fera and Budka 2016.

<sup>88</sup> Cf. Tassie 2015.

<sup>89</sup> See Adenstedt 2016, 15–17 and *passim*. These works were financed by Julia Budka’s FWF START project Y615-G19.

with other scans in a next step with the help of a multitude of reflector points distributed throughout the ruins. These reflector points were additionally measured with a total station so that the registered scans could be placed into a georeferenced net.<sup>90</sup> The 3D laser scan focused on the standing remains of SAV1, the southern part of the New Kingdom town. SAV1 North, the area excavated from 2008 to 2012,<sup>91</sup> and the AcrossBorders' trenches SAV1 East and SAV1 West were also scanned and georeferenced.<sup>92</sup> In order to collect data for the topographic understanding of the surroundings of the town, four long-range scans (range of 1.2km) from elevated points were undertaken as well (Pl. 2). From these, together with an aerial photograph, a digital terrain model was compiled by Kalasek.<sup>93</sup>

As a follow up of the 3D laser scan, aerial photography of the environment of the New Kingdom town was conducted for topographical landscape recording in form of high resolution orthophotographs and digital elevation models (DEM) from 2015 to 2017. In total, an area of 44ha along the east coast of the island (3.7km north-south expansion) was photographed by kite aerial photography (KAP). More than 80 ground control points were taken to calculate a DEM from several thousand photographs. For the New Kingdom town, a surface resolution of 7cm could be achieved, both for the surface model as well as for the orthophotographs (see Fig. 3).<sup>94</sup>

Geoarchaeological surveys and geological sampling was conducted on Sai Island between 2014 and 2016, in order to place the New Kingdom town in its environment (see Chapter 2). A micromorphological sampling programme was implemented in 2015 to explore aspects of social practice within the community on Sai from a multifaceted perspective (see Chapter 3.6).<sup>95</sup> The application of soil micromorphology is a technique that takes intact block samples of sediment and analyses them in thin section under a petrological microscope. A detailed understanding of site formation processes and a contextualised knowledge of the material culture can be achieved through careful and systematic observation of the changing facies.<sup>96</sup>

The wide range of archaeometric analyses conducted by the AcrossBorders project on material from Sai will be presented elsewhere – this includes first of all a large set of data from pottery<sup>97</sup>, but also pigments.<sup>98</sup>

### 1.3.1 Work tasks of the AcrossBorders project

The AcrossBorders project was organised in six individual work tasks with strong overlaps, exchange and interconnections (Tab. 2). Work task 1 focused on the analysis of domestic architecture in the New Kingdom town of Sai.<sup>99</sup> The relevant material was analysed by means of a contextual study, i.e. the prominent consideration of the location, date and associated finds for the archaeological data (see Chapter 3). Spatial patterns of the town were primarily addressed with a micro-spatial approach, at the level of the individual houses and units, but also including the meso-spatial sphere (Sai as settlement) and the macro-spatial analysis (Sai within Upper Nubia).<sup>100</sup>

Work task 2 was dedicated to the reconstruction of life on Sai according to the material evidence, taking the complete set of archaeological material into account. Pottery, small finds, tools and various equipment were assessed in detail and in relation to their associated finds, architecture and past human

<sup>90</sup> Adenstedt 2016, 15.

<sup>91</sup> For SAV1 North, see Doyen 2017.

<sup>92</sup> Adenstedt 2016, 15.

<sup>93</sup> Adenstedt 2016, pl. 52.2.

<sup>94</sup> Fera and Geiger 2018, 132–133, fig. 5.

<sup>95</sup> Budka 2017f, 173–174.

<sup>96</sup> See, e.g., Dalton 2017.

<sup>97</sup> Analysis by Giulia D'Ercole.

<sup>98</sup> Analysis by Kate Fulcher.

<sup>99</sup> As one of the major outcomes of this work task the assessment of the architecture of sector SAV1 North was already published: Doyen 2017.

<sup>100</sup> For this approach, see Trigger 1967; Koltsida 2007, 2.

Work task 1: <b>Analysis of domestic architecture in the New Kingdom town of Sai</b>	Work task 2: <b>Reconstruction of life on Sai according to the material evidence</b>	Work task 3: <b>Microarchaeology on Sai Island – signatures of human activities in the New Kingdom town</b>
Work task 4: <b>The world of the living and the world of the dead – the occupants of Sai Island</b>	Work task 5: <b>Contextualising cultic installations in the New Kingdom town of Sai</b>	Work task 6: <b>Landscape archaeology and environmental remains at Sai</b>

Tab. 2 The structure of the AcrossBorders project reflected in this volume

actions (see Chapter 4).<sup>101</sup> The functional, economic and social significance of these finds have been discussed in order to answer questions about Nubian vs. Egyptian lifestyle (Chapter 8). Whether a clear distinction of objects within certain areas allows the reconstruction of the division of work, of working processes or gender-related household activities and/or identities associated with specific actions like cooking were of interest within this work task.<sup>102</sup> Scientific analyses of materials and micromorphological techniques contributed to the archaeological classification and interpretation of the finds and thus strongly overlapped with work task 3.

Work task 3 applied microarchaeology for tracing signatures of human activities in the New Kingdom town of Sai. Micromorphology and geochemistry were conducted to investigate formation processes and cultural activities within the town site of Sai. Both anthropogenic activities and natural processes were investigated by chemical analyses, petrographical studies and thin sections of archaeological deposits. Most challenging was to distinguish primary activities, when the New Kingdom town was occupied, from secondary activities, after it was deserted (Chapter 3.6). New information about the life history of individual buildings therefore contributed to the analysis of the domestic architecture (work task 1) – boundaries that are often blurred in the functional interpretation of structures (as houses, as workshops etc.) can become more well-defined with additional information on the use lives of buildings derived from scientific analyses.<sup>103</sup>

Work task 4 focused on the world of the living and the world of the dead – the occupants of Sai Island. One of the main goals of the project was to improve our understanding of the population on the island and to explore the nature of the coexistence of Egyptians and Nubians.<sup>104</sup> Traditional Egyptological methods like epigraphical studies and textual analyses of inscribed finds were applied for the New Kingdom town at Sai (Chapter 6). In addition, the mortuary evidence was considered – the excavation of Tomb 26 yielded important new data about the occupants of Sai which can be understood as complementary to the data from the New Kingdom town.<sup>105</sup>

Work task 5 aimed at contextualising cultic installations in the New Kingdom town of Sai. The goal was to obtain as much information as possible on religious beliefs and cultic activities associated with Temple A and other cultic installations within the town area.<sup>106</sup> Following lines of research conducted at Amarna,<sup>107</sup> all possible sources for the evidence of “domestic religion” at Sai were investigated.<sup>108</sup>

<sup>101</sup> This approach follows Kemp and Stevens 2010a and b.

<sup>102</sup> See Smith 2003b.

<sup>103</sup> Cf. Budka 2017f, 173–175.

<sup>104</sup> See Budka 2017g; for close parallels from Tombos and the phenomenon of “biological entanglement”, see Smith and Buzon 2014; Smith and Buzon 2017.

<sup>105</sup> Tomb 26 will be published as another monograph; see Budka forthcoming c.

<sup>106</sup> Budka 2015b; Budka 2017d.

<sup>107</sup> Stevens 2006.

<sup>108</sup> Budka 2017g, 438–440; Budka 2018c.

Possibilities to establish frontiers between ‘Nubian’ and ‘Egyptian’ religion were in the foreground, both at the level of materiality and at the conceptual level as created by customs, self-representation and projected images of identities (cf. Chapter 8).<sup>109</sup>

Work task 6 focused on landscape archaeology and environmental remains at Sai: environmental settings and changes were investigated by geoarchaeological methods including surveying, aerial photos, drilling and test pits (Chapter 2). Petrographical, mineralogical and chemical analyses of pelitic and pottery samples were conducted to relocate production sites for ceramics and mud bricks.<sup>110</sup> The analyses of the wood fuel burnt in the town, of botanical samples and zooarchaeological remains all contribute to a much closer reconstruction of real living conditions in the past (see Chapter 5).<sup>111</sup>

#### 1.4 HYPOTHESIS BY THE ACROSSBORDERS PROJECT

Previously, settlement sites in northern Sudan were primarily touched upon within studies of urbanism and colonialism.<sup>112</sup> Egyptian towns in Nubia were thus mostly addressed from a macro perspective, concentrating on the general organisation and Egyptian administration of the region which are quite well-understood.<sup>113</sup> Sites like Sai and Sesebi were studied on the basis of textual references and were interpreted within the administrative matrix (which was again reconstructed by means of texts and inscribed records). This approach from the macro perspective allowed assessments within the larger historical picture but had clear shortcomings on the micro-level of individual sites.<sup>114</sup> These shortcomings have been addressed by the recent boom of settlement archaeology in Northern Sudan. Thanks to new fieldwork with a bottom-up approach, detailed information on selected sites is now available and their analysis is still ongoing.<sup>115</sup> Sai may serve as a case study, illustrating how much information can be added with detailed excavation records in combination with the analysis of the material culture, textual records and architecture.<sup>116</sup>

Prior to the AcrossBorders project, Sai was mainly addressed as an Egyptian foundation and centre of the Egyptian administration in Upper Nubia, leaving aside living conditions and the occupants of this town. Within the AcrossBorders project, a bottom-up approach to the investigation of the society at Sai as a New Kingdom temple town was applied. At the micro-spatial level, “standards of living” for Sai according to the material culture and architecture were evaluated and compared systematically with data from two authentic Egyptian sites, the New Kingdom town of Elephantine and the Ahmosidian site at South Abydos, both located within the boundaries of New Kingdom Egypt (see Chapter 8.2). This comparative assessment aimed at achieving a more complete understanding of the New Kingdom town of Sai in both its regional setting and its historical context. This new detailed data-based understanding of life can be understood as a representative case study and thus be assigned – with certain *caveats* – to general living conditions in the New Kingdom.

The main hypothesis tested by AcrossBorders was whether the settlement on Sai Island can be evaluated as an Egyptian microcosm, despite its location outside of Egypt and its specific topographical, environmental and cultural situation. To investigate Sai as an Egyptian microcosm,<sup>117</sup> various methods, including analytical approaches of archaeometry, were conducted as outlined above. Prior to the start of the project, little was known about the setting of New Kingdom Sai within the landscape, of its evolution

<sup>109</sup> See Smith 2003a, 188–206; cf. Budka 2017g, 444.

<sup>110</sup> Cf. Muntoni et al. 2011.

<sup>111</sup> Cf. Kemp and Stevens 2010a and b.

<sup>112</sup> See, e.g., O’Connor 1993 and Budka 2018b with more examples and references.

<sup>113</sup> Müller 2013.

<sup>114</sup> See as a summary Budka 2018b.

<sup>115</sup> See Spencer et al. 2017; Budka 2018b.

<sup>116</sup> Budka 2017f; Budka 2017g.

<sup>117</sup> This builds upon the seminal work undertaken by Kemp on Amarna, cf. chapter “Egypt in microcosm: the city of El-Amarna” in Kemp 2002, 261–317; see also Kemp 1977.

and history, its internal structure and occupants. Considering this lack of knowledge, the topographical, environmental and cultural situation of Sai and its occupants during the New Kingdom were the key questions. These research questions were tackled not only by fieldwork on Sai, but also by a close comparison with the contemporaneous town of Elephantine in Egypt. In cooperation with the Swiss Institute for Architectural and Archaeological Research on Ancient Egypt, Cairo, directed by Cornelius von Pilgrim, AcrossBorders has studied the material culture from 18<sup>th</sup> Dynasty buildings on this important site at the southern border of Egypt.<sup>118</sup> Of particular interest was the common appearance of both Nubian and Egyptian cooking wares, providing very close parallels for the situation on Sai Island.<sup>119</sup>

Such a comparative approach has already been applied successfully for other sites within Egypt<sup>120</sup> and promised also in our case new data for assessing aspects of the function and especially the social fabric of an exemplary Nubian temple town. In respect to AcrossBorders' major aim to reconstruct "standards of living" on Sai, a special focus was placed on the material culture and here on the question of the lifestyle. Whether objects refer to the cultural identities of their users or reflect more complicated processes was investigated by several lines of actions and from various perspectives, as will be illustrated throughout this volume.<sup>121</sup>

## 1.5 RECENT OUTCOME

This volume brings together the most significant results from the work tasks carried out by the interdisciplinary AcrossBorders project. The environmental conditions of the New Kingdom town at Sai will be presented. Excavations and architecture are discussed, with a focus on the question of an Egyptian character of the remains of the temple town. In line with this, the material remains from the sectors excavated by AcrossBorders were analysed. The examination of pottery, tools and small finds was complemented by an assessment of the environmental remains. Evidence for people on New Kingdom Sai is also discussed and allows placing the town within the New Kingdom macrocosm. Answers to the basic hypothesis of Sai as an Egyptian microcosm in Nubia will be sought and debated. Once more, it must be stressed that the focus of the AcrossBorders project and also of this volume is the period of the New Kingdom. As Sai is not a single-period site, this era is embedded within the archaeological remains of various other periods which are not discussed in detail here but have always been considered. Not included in this volume is also a detailed analysis of the pottery because there will be another monograph focusing on ceramics from Sai only.<sup>122</sup> Also forthcoming is a detailed examination of cellars and storage facilities in SAVI East, first of all of Feature 15 – this volume will also include the faunal remains, the fish bones and small finds like clay sealings from the mid-18<sup>th</sup> Dynasty cellar.<sup>123</sup>

One important outcome of AcrossBorders' research is that Sai Island can serve as a case study for the fruitful combination of archaeological investigations on both the micro- and the macro-level. For example, the new fieldwork allowed confirming the building phases within the New Kingdom town.<sup>124</sup> It is now proven that the phase with the erection of the town wall, the stone temple and administrative buildings clearly mirrors the installation of a permanent Egyptian administration, traceable in ceramics, small finds and architecture. As temple town, the layout of Sai was planned, but the excavations in several town sectors have revealed evidence of dynamic sides and local features regarding both architecture and material culture – aspects which are also well observable in New Kingdom towns in Egypt proper, but have often been overlooked because of a macro-scale approach.<sup>125</sup>

<sup>118</sup> Cf. von Pilgrim 2015; von Pilgrim 2016; von Pilgrim 2017.

<sup>119</sup> See Budka 2018c.

<sup>120</sup> See Shaw 1998; cf. also Moeller and Marouard 2018.

<sup>121</sup> Cf. Budka 2017g, 440–444.

<sup>122</sup> Budka forthcoming a.

<sup>123</sup> Budka forthcoming b.

<sup>124</sup> Budka 2015a; Budka 2017c.

<sup>125</sup> Cf. Spencer 2015, 201–202; Budka 2017f; Budka 2017h, 17.



To conclude, the complex whereabouts of New Kingdom sites in Nubia must be further assessed from a micro and also a macro perspective, the latter in particular with considering the corresponding historical and political situation and the relationship and networks of the individual sites with other sites. For Sai, much new information about the town's role in the Egyptian 're-conquest' was gained by a joint analysis of archaeological and textual sources in the last years<sup>126</sup> as well as the combination of evidence from the town and the contemporaneous cemetery.<sup>127</sup> It goes without saying that more work has to be done at this significant site in order to unearth additional data and to address further questions which were still left open.

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<sup>126</sup> Budka 2014a; Doyen and Gabolde 2017, 149–150; Budka 2018d.

<sup>127</sup> Budka 2018e.