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Telling Tells Apart: Assumptions about Hills

Abstract: This article discusses some aspects of the history of depicting and interpreting tells of Egypt, based on examples in the northwestern Nile Delta. The question addressed is a graphic and an epistemological one: how does knowledge of tells and their formation effect visual representations, and vice versa, how do images of tells influence our assumptions about their formation? The first section provides a detailed discussion of the earliest map showing tells along the Rosetta branch of the Nile, from the 16th century *Kitab-i Bahriye* by Piri Reis. Identifications for the depicted sites with archaeological tells are suggested. The second section discusses as case study the two small tells of Shabas ᶜUmayyir in the northwest delta. A series of late 19th and early 20th century maps of the tell provides an archive for the archaeological site, presumed to have been diminished over the course of time. The assumption that this tell, used as a modern cemetery, was entirely ancient, was tested by auger coring. The shifting borders of tells are viewed as part of the transformation of tells due to both natural processes and modern uses.

1 Introduction

Tells, or koms, as they are also called in Egypt, are the accumulated remains of ancient settlements, which can grow to substantial heights. They manifest themselves as hills in the landscape, which is what the terms in Arabic mean.[1] From a distance or upon first superficial glance, they often cannot be distinguished from natural elevations. Many ancient tells are overbuilt by modern towns and/or cemeteries; others, in particular in the northwestern Nile Delta, lacking any structures or ancient monuments, possess a mud-coloured surface occasionally overgrown with shrubbery and inhabited by colonies of birds. In other words, they look natural. The histories of these hills are revealed only upon closer inspection when tells display indicators of their composition, such as ancient pottery sherds, fragments of glass and pieces of hard stones, found on, and below, the surface. How they are perceived from a distance is profoundly determined by our assumptions about tells.

This article will discuss the perception and documentation of tells. The focus lies hereby on two case studies. Both cases share a location in the region of the northwestern Nile Delta. Both also address assumptions about tells inherent in their observation and reflected in their documentation and interpretation. The case studies are separated by almost 500 years. In the first case, we are dealing with a historic map of the 16th century created by Piri Reis. The second case is from recent field work by the author, conducted in the course of a project initiated by Stephan Seidlmayer, to whom I wish to dedicate this contribution.[2]

The large time gap between these studies is bridged by a brief overview on issues raised by depictions of tells in late 19th and early 20th century-maps of Egypt. What also separates the two case studies: In the first case, we have only the illustrated documentation of the author's observations. We are thus assuming his assumptions. The second case presents my own assumptions about a tell, which, upon closer investigation by auger coring, were revealed as false. Consequently, the interpretation was able to be corrected.

1 Wright 1974; Rosenstock 2009, 14; Wehr 1980, 846, sg. heap, pile, hill; pl. *akwam* or *kiman*, esp. garbage piles, refuse dump.

2 Stephan Seidlmayer, as director of the Cairo branch of the German Archaeological Institute, in 2010 initiated this project in the northwestern delta, in the region surrounding the long-standing project of the German Archaeological Institute in Buto/Tell el-Faraᶜin. The funding for the initial phase was generously provided by the Thyssen Stiftung. I have been conducting the field work there since. I am truly grateful for the opportunities he has provided me, for his unwavering intellectual, and practical, support. I am also very grateful for the support received by the Egyptian authorities, both in Cairo and locally, at Kafr esh-Sheikh and at Buto (Tell el-Farᶜin). In the season discussed here, without the unfailing support of Dr. Mohammed Abd el-Rafaa Fadl, director of Antiquities in Kafr esh-Sheikh, our inspector Madame Smah Shaker Zayed, and my collaborator Anne Golke, the work would not have been possible.

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2 An Early Depiction of Tells in the Western Nile Delta

For Egyptologists and archaeologists working in Egypt, the relevant history of map making tends to start with the maps produced by the Napoleonic expedition and published in the atlas of the *Description de l'Égypte*, at a scale of 1:100.000.[3] These maps provide a new level of detail and accuracy and they remain highly informative and useful even today, both for the fields of archaeology and for landscape archaeology. This remarkable accomplishment has, however, overshadowed earlier map making traditions.[4]

A remarkable pre-*Description* map is that made by Piri Reis (1465/70–1554), an Ottoman admiral and cartographer.[5] He is mainly known for two works, a world map, famous for its first depiction of America, and a portolan map of the Mediterranean, *Kitab-i Bahriye*, the latter being of interest for this study. It has to date not been discussed from an archaeological point of view. The initial version of the *Kitab-i Bahriye* was published in 1521, and in 1526, a second, improved and expanded edition was produced. Some manuscripts combine elements of both. The atlas

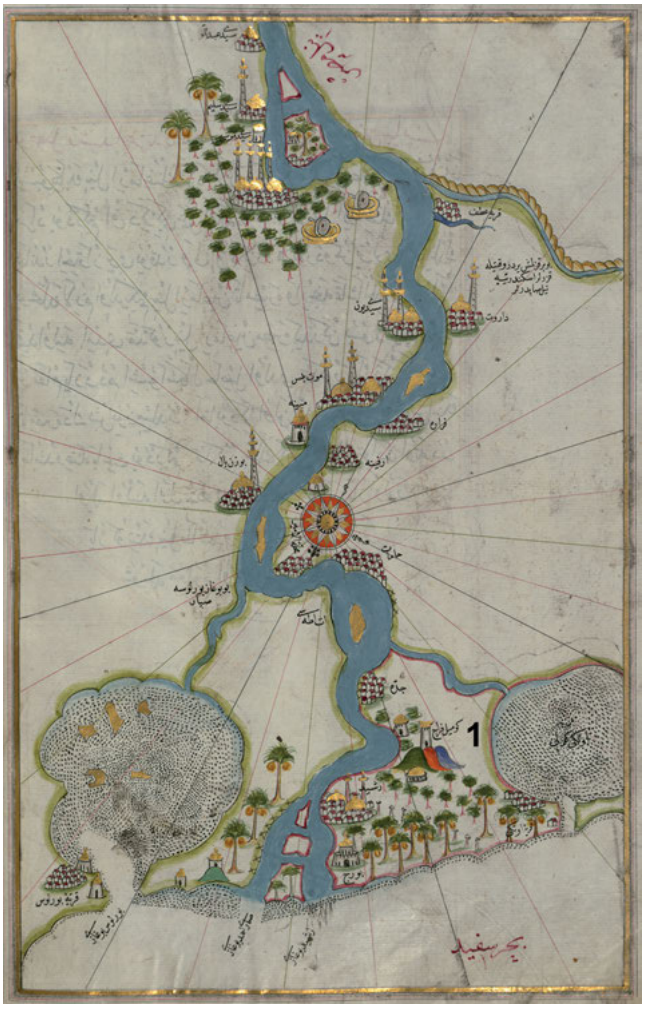

Fig. 1: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658, fol. 304b. The Nile branch of Rosetta, from the Mediterranean coast to Fuwa. Additions by the author. Site no. 1. Note: North is at bottom.

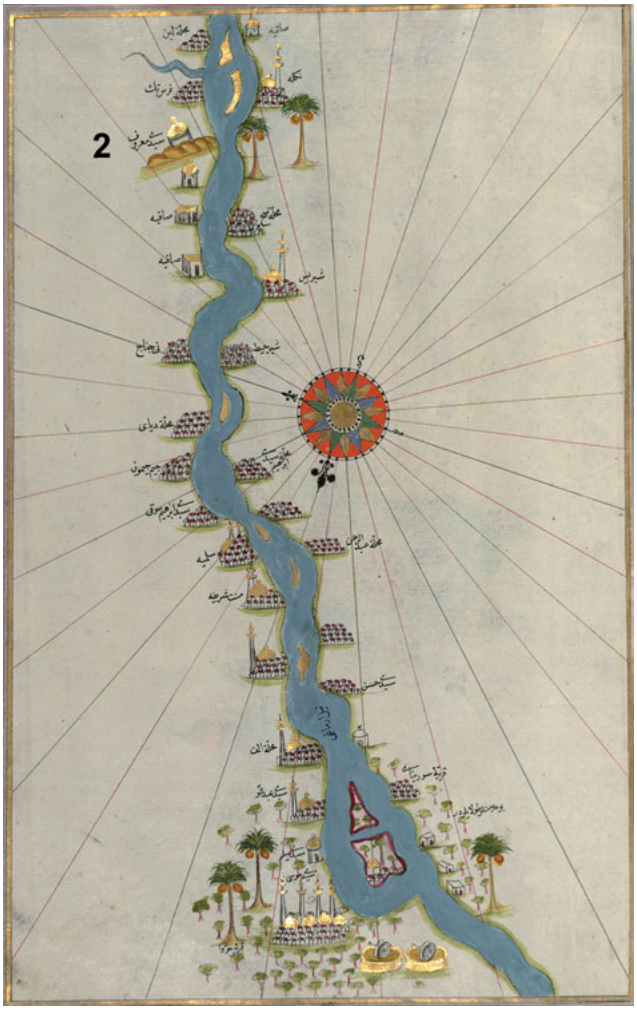

Fig. 2: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658, fol. 310a. The Nile branch of Rosetta, from Fuwa to Farastak. Additions by the author. Site no. 2. Note: North is at bottom.

3 Jacotin/Jomard 1828.
4 Haguet 2018; see also Schneider 2010.
5 Kia 2017.

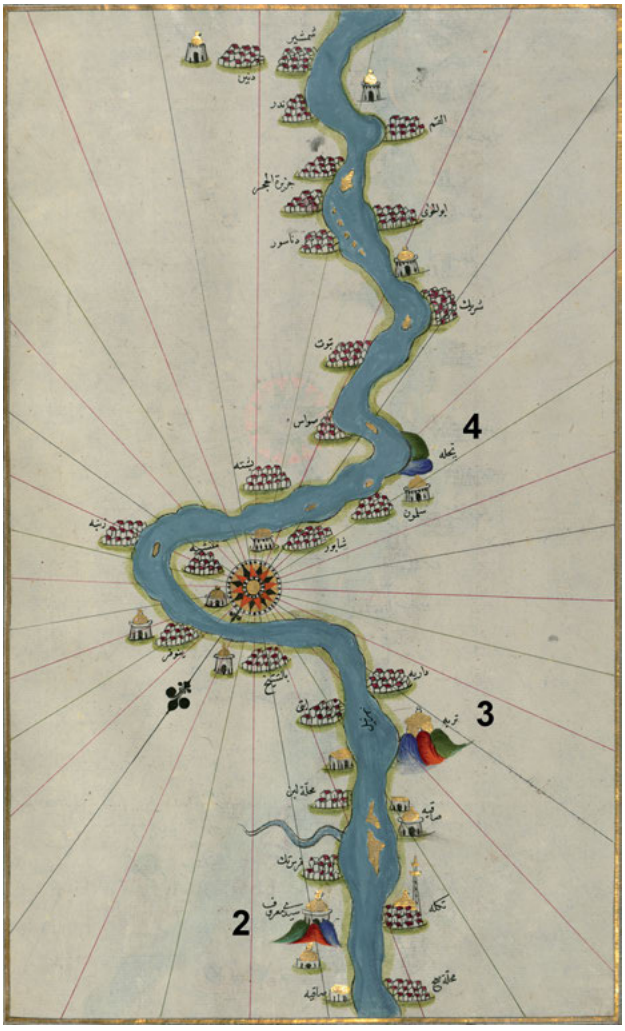

Fig. 3: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658, fol. 310b. The Nile branch of Rosetta, from Farastak to Shimshir. Additions by the author. Sites nos. 2, 3, 4. Note: North is at bottom.

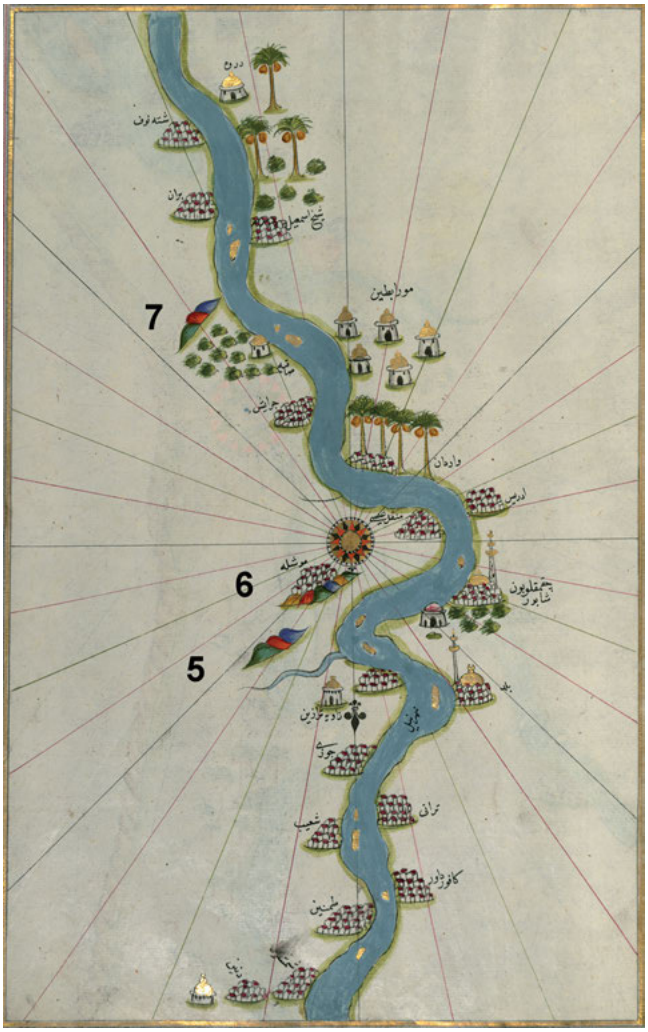

Fig. 4: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658, fol. 307a. The Nile branch of Rosetta from Shimshir to Shatanuf. Additions by the author. Sites nos. 5, 6, 7. Note: North is at bottom.

encompasses both maps and descriptive texts, in Ottoman Turkish.[6] It is in the second version that additional information on Egypt is provided, which goes beyond the coast line and its immediate hinterland. Piri Reis explains this in the second edition:

> The purpose of our recording the villages, islands and other features along or in the River Nile in this book has not been to enable [pilots] to navigate [with its help], as in the Mediterranean. Every part of the Nile is a port, and there are no danger spots present. However, we have described everything we saw in the Mediterranean, and [we have therefore thought it] desirable to show here everything we saw on the river, all the way to Cairo. So I recorded the Nile with a compass place by place, all the way to Cairo, and this chart is the result.[7]

Today over 40 manuscripts of the *Kitab-i Bahriye* are known, produced between the second half of the 16th and the 18th centuries, and they are spread over libraries across the world.[8] Many of these have been made digitally accessible and are thus available for easy study and comparison. The *Kitab-i Bahriye* manuscripts can be separated into

6 The textual descriptions will be dealt with in a separate article.
7 Soucek 1996, 151–152.
8 Özen 1998, 20–22.

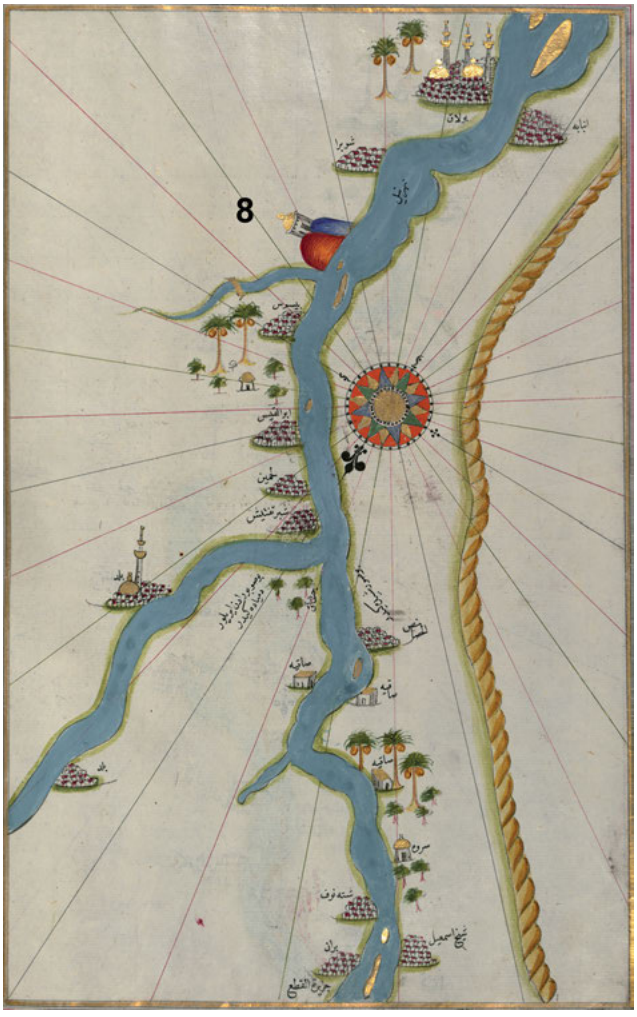

Fig. 5: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658, fol. 307b. The Nile branch of Rosetta, from the Gezira el-Qut to Bulak. Additions by the author. Site no. 8. Note: North is at bottom.

two groups: a simpler form, most likely to have been actually used for navigation, and a sumptuous luxury edition, prepared as royal gift. One of the most beautiful examples of the second group is the manuscript in the Walters Art Museum, Baltimore,[9] which is used here for illustrations (Figs. 1–5). The Baltimore manuscript is an opulent version dating to the late 17th century, with some early 18th century additions.[10] Its lavish coloring includes gold, and rich details are provided in the style of miniature paintings.

Piri Reis had taken part in the Ottoman invasion of Egypt in 1516/17,[11] thus acquiring detailed knowledge of the country. Later he lived in Egypt, and died there, being put to death in Cairo in 1554. What Piri Reis means when he talks of 'the Nile' in the quote above is the Rosetta branch of the Nile between Rosetta and Cairo. This branch was depicted in great detail in five overlapping segments, with adjacent settlements on both sides shown and named (Figs. 1–5). The illustrations continue in the portolan mode, but inland, limiting the descriptions to what is along the river and leaving the hinterland essentially blank. While some settlements and features, however, are shown stuck to the river, others have a space between them and the river, presumably indicating a distance. While not using coordinates or providing a scale, the branch had been documented with great accuracy, as was recently proven when georeferencing it.[12] Thus, the earliest detailed – modern – map of a branch of the Nile was produced, almost 300 years prior to the atlas of the *Description de l'Égypte*. In doing so, also the earliest archaeological map of the

9 Baltimore, WAM Ms. W. 658.
10 Hepworth 2005, 73.
11 Kia 2017, 190.
12 Gullu/Narin 2019.

region was created: along the Nile branch, eight tells are represented. They are shown as clusters of hills, ranging from two to six mounds. The mounds are arranged in a staggered way, that is, only one hill is shown completely, and the others are partially obscured by it. In the luxurious Baltimore manuscript, the hills are coloured green, red, blue or yellow; In simpler versions, such as the Paris manuscript, only yellow and reddish brown[13] are used; or as in the case of the Berlin manuscript, only the contours of a hill are shown.[14] Of the eight tells, three sites, nos. 4, 5, 7, have no constructions shown on them (Figs. 6.5–6.7), three sites, nos. 2, 3 and 8, have individual domed constructions (*qubbas)* on top, most likely a sheikh's tomb or mausoleum[15] (Fig. 6.2–6.4, 6.8), one site, no. 6 (Fig. 6.6.), is shown overbuilt with a modern settlement and one site, no. 1 (Fig. 6.1), displays a tower on top. The first three categories – non-overbuilt, with a *qubba* on top, and overbuilt by a settlement – reflect a situation which remains typical today for this region. It also provides early evidence for these forms of tell re-uses. Most sites are provided with names, but some sites, such as nos. 5, 7 and 8, are not. In the following, the discussion of the eight sites along the Rosetta branch will proceed from north to south. The arrangement of the figures also follows this direction, with Fig. 1 being the most northerly, and Fig. 5 the most southerly section of the Rosetta branch; The plates themselves are, however, shown in their original orientation, that is with north at the bottom.

Of the eight tells, two, sites nos. 1 and 2, can be identified with certainty with archaeological sites. For the other six sites, two can be identified with modern villages, and for the remaining four suggestions are made. Site no. 1, just south of Rosetta, named Komyl-Farah,[16] Kummu'l Ferah,[17] or Kümbet ül-Ferah[18] can be identified with Kom el-Farah, also known as Tell Abu Mandur.[19] The site is marked by three hills, upon which a watchtower is depicted in the illustration (Fig. 6.1). The tell is possibly even a New Kingdom foundation,[20] making it one of the rare sites of the 2nd mill. BC in this region. The Ottoman name seems to make use of the term *kom*, albeit in an adulterated meaning. Kümbet ül-ferah is translated as *Tombeau de joie*, and described as the tomb of a saint, whereas the actual hill is described as being 'above this tomb' and equipped with a fort, presumably referring to the watchtower.[21] Site no. 2, on the east bank of the Nile, is shown twice, in the overlapping zones of fol. 301a and fol. 310b (Figs. 2, 3, 6.2–6.3). It is named as Sidi Maᶜaruf and based on its location can be identified with Sais (Sa el-Haggar), best known as the capital of Egypt during the 26th Dynasty. The town seems to have been abandoned in the Middle Ages[22] and here is shown as a large tell, with no active settlement. The style of showing the hills of the site differs between the two pages of the atlas: in one case, five staggered yellow-brown hills are shown (fol. 310a, Figs. 2, 6.2), whereas in the other case (fol. 310b) three hills in the colours green, red, and blue are depicted (Figs. 3, 6.3). The site is shown slightly east of the borders of the river branch, suggesting a similar location to today, where Sais is located about 1 km east of the Rosetta branch. This constitutes the earliest depiction of the tell of Sais on maps known to date. On the map, the site is located north of the village of Farastak, which today still carries this name, and southeast of the village Mahallat al-Sath, on the opposite side of the Nile, which today is called Mahallet Sa. The name Sa, notably, is applied to two places on the opposite eastern side of the Nile between Sidi Maᶜaruf and Minyet Ganag. On the Paris manuscript both places are named Sa (صا)[23] and on the Ayasofya manuscript in one case Sa and in one case Sa(da),[24] whereas on the Baltimore manuscript we find the places designated as Saqiah,[25] water wheel. The name Sa, which derives from ancient *Ỉw*,[26] was already used by earlier Arab writers discussing this site.[27] Modern descriptions of the area of the ancient site of Sais mention numerous monuments dedicated to locally venerated people,

13 Paris, BN Suppl. Turc 956, fol. 361v; 362.
14 Berlin, Stabi, Diez A fol. 57, fol. 24c.
15 El-Shohoumi 2004, 42–44.
16 Baltimore, WAM Ms. W. 658, fol. 303b and 304b.
17 Özükan 2013, 224.
18 Istanbul, Ayasofya 2612; Mantran 1981, 300, fig. 5.
19 Wilson/Grigoropoulos 2009, 168–170.
20 Wilson/Grigoropoulos 2009, 40.
21 Mantran 1981, 300, fig. 5.
22 Wilson 2006, 4–5.
23 Paris, BN Suppl. Turc 956, fol. 361v.
24 Ayasofya, Mantran 1981, fig. 6;
25 Baltimore, WAM Ms. W. 658, fol. 310a.
26 Wilson 2006, 1; Peust 2010, 77.
27 Quatremère 1811, I, 291.

qubbas or sheikhs' tombs,[28] but there is no evidence for the name Sidi Maᶜaruf among them. Site no. 3 (fol. 310b, Figs. 3, 6.4) is located on the west bank, northwest of Kafr el-Zayyat and north of Dahriya, which is also marked on the map. On the eastern side, just south of Farastak, the entry of a canal into the Rosetta branch is shown. This can most likely be identified with the Ibyar canal,[29] which branched off the Rosetta arm north of site 5, discussed below. Site no. 3 is depicted as a single domed construction on top of three hills, with *Türbe* (tomb) written next to it. No tell immediately lends itself to be identified with this place, but a suggestion is put forward here. On the opposite, eastern side of the Nile the village of Ibni[30]/Abti[31] is marked, possibly to be identified with Abgig on the map of the *Description de l'Égypte*,[32] and in later maps called Abbîg.[33] In the area of site no. 3 on the western side is a cluster of villages, of which the central one, Kufur el-Sowalem, is already shown on the *Description de l'Égypte* map, as Koufour Sowali.[34] North of it is El-Kafr el-Bahri, south El-Kafr el-Qibli and to its east Ashlima. Notably, the area of Koufour Sowali is shown as non-cultivated land on the *Description de l'Égypte* map, which may indicate a former tell area. In addition, Koufour Sowali is connected to the village of Dahriya in the south by an old canal, shown in the *Description de l'Égypte* map as a straight line of about 2 km length, with a levee on its eastern side. The traces of this canal are also mentioned by Lepsius,[35] who calls it the old Rosetta canal.[36] In short, the area of Kufur el-Sowalem is suggested as a former tell and the location for site no. 3. Site no. 4 (fol. 310b, Figs. 3, 6.5) is shown at the tip of a bend in the Nile, on the west bank, south of Salamun. It is represented as two hills, without any construction on top. On the manuscripts from Baltimore, Ayasofya,[37] and Paris[38] the name Nadjila is written next to the site. Today there is the town Nadjila in this area, which is already in evidence on the map of the *Description de l'Égypte*.[39] While no ancient tell is marked on any later maps, the center of Nadjila is distinctly elevated, based on google earth measurements, possibly indicating its location on top of an ancient tell. Sites nos. 5 and 6 are shown on the east bank, in proximity to each other, but at a slight distance from the Nile (Figs. 4, 6.6). They are located south of Zawyet Razzin and south of a canal branching off the Nile, which can most likely be identified with the Ibyar canal, mentioned above. Ibn Hawqal's location of this branch between Jirays and al-Tarrana, the ancient site of Terenuthis/Kom Abu Billo, fits this canal's position well.[40] This watercourse, of which today there are no traces left, may represent the vestiges of the Theremuthic branch of the Nile, first mentioned by Ptolemy in the mid 2nd c. AD. Of the two sites, the southern one, no. 6, can be located: It is shown with a large settlement on top of seven hills. The name provided on the Baltimore manuscript is Mishla, which is read as Muchla in the Ayasofya manuscript.[41] The village of Tahway, located today about 500 m from the Nile, is called Mishla on the *Survey of Egypt* map of 1923[42] and can be identified with our site. Notably, both on the *Description de l'Égypte* map and on the *Survey of Egypt* map of 1914, the name Tahway is used. No indication on either *Survey of Egypt* editions is given that this is a tell area, which may be explained by the fact that is has been overbuilt by a settlement for a such a long time. For the northern site, no. 5, no name is provided on the Piri Reis manuscript. It is depicted as three large hills, with no constructions on top. Two possible identifications with tells in the area can be proposed – both, admittedly, lying north of the Ibyar canal and thus not in the accurate location. One is Kom Manous (SCA No. 080102; EES 43),[43] just north of Zawyet Razzin, and the other is Kom Kalba (EES 48),[44] part of which lies under the modern town of Sidud,[45] which possibly could

28 Wilson 2006; Stauth 2008, 124.
29 Cooper 2014, 70–72, fig. 4.7.
30 Ayasofya, Mantran 1981, fig. 6.
31 Baltimore, WAM Ms. W. 658, fol. 310b.
32 Jacotin/Jomard 1828, flle. 36.
33 *Survey of Egypt*, 1917, sheet Delta NW V-I, scale 1 : 50.000; *Survey of Egypt*, 1924, sheet 90/585, scale 1 : 25.000.
34 Jacotin/Jomard 1828, flle. 29.
35 *LD* Textband I, 4.
36 Cooper suggests this is part of a Mamluk-era canal leading to Alexandria (Cooper 2014, 63–68).
37 Istanbul, Ayasofya 2612; Mantran 1981, Fig. 6.
38 Paris, BN Suppl. Turc 956, fol. 361v.
39 Jacotin/Jomard 1828, flle. 29.
40 Cooper 2014, 70.
41 Istanbul, Ayasofya 2612; Mantran 1981, fig. 7.
42 sheet 89/585.
43 https://www.ees.ac.uk/manous43 (accessed on 21. 02. 2021), Daressy 1912, 192; Naville/Griffith 1890, 60.
44 Daressy 1912, 202–203.
45 J. Rowland, 'Kalba, Kom el-', EES Delta Survey, https://www.ees.ac.uk/kalba42 (accessed on 25. 10. 2020).

be identified with this place. Site no. 7 (fol. 307a, Figs. 4, 6.7) is located on the east bank of the Nile, between Jirays and Baran, which today is called El-Baranyyah. It is represented as three non-overbuilt hills, at a slight distance from the Nile, and not provided with a name. The identification with three sites in this area can be suggested: From north to south they are Kom Dohshe (EES 305),[46] also called Tell Kafri,[47] about 1 km north of the village of Abu Awali, Kom Usim/Ausim (EES 45),[48] about 2 km southeast of Ashmun, and Kom Ahmar,[49] about 1 km southwest of the village of Talya, and since the 1910s, at the latest, submerged under a small village called Ezbet Abd el-Rahman Bey Gadalla or Ezbet el Kom el-Ahmar.[50] If we take the placement of the site into account, which is closer to Baran (El-Baranyyah) – about two thirds the distance from Jirays – than the southernmost of the three sites discussed above, Kom Ahmar, is the most fitting candidate. The fact that Kom Ahmar is depicted as non-overbuilt on the map of the *Description de l'Égypte*, concurring with the illustration on the Piri Reis manuscript, may be cited as additional support. Site no. 8 (fol. 307, Figs. 5, 6.8),[51] on the east bank of the Nile, lies south of the delta apex, between the villages of Bisus and Shubra. It lies just south of a channel south of Bisus, which branches off to the east. This watercourse can be equated with the *Canal d'Aboû Meneggéh* on the *Description de l'Égypte*,[52] an identification which is confirmed by the bridge, built of stone, shown crossing this canal on both maps. Probably this is a predecessor of what today is called the Sharqawya Canal. The site no. 8 is shown as two hills, with a single construction on top. No name is provided in any of the Piri Reis manuscripts. Today, this area is submerged under modern Cairo and lies south of the Ring Road. No ancient site suggests itself, and neither the *Description de l'Égypte* map nor the *Survey of Egypt* editions of the early 20th century indicate any ancient site in this area.

Having addressed the sites that are listed, the following questions arise: Are any sites along the way – that we today know existed or still exist – not mentioned? Two larger sites missing can be noted, Kom Biltus (EES 730), northwest of Zawyet Razzin, is located only 200 m west of the Rosetta branch of the Nile. But while quite large, it is also low[53] and thus inconspicuous. A very tall site not mentioned is Kom Mutubis (SCA 090175, EES 234).[54] It lies 3 km east of the Nile and while it would have been visible, it may have been beyond the range of interest. Two sites adjacent to the Nile not shown are Kom Deibi/Dibi (EES 700),[55] on the west bank north of Idfina, and Kom Mazin (EES 33), on the east bank between Tunub and Amrus. Both are small sites, and the reason they were not shown was presumably their size. Good visibility from the Nile was most likely the key criterion for being included on the maps.

What did Piri Reis see when he saw these hills along the Rosetta branch of the Nile? Whether Piri Reis recognized them as ancient settlement tells or considered them naturally formed hills is not stated. In the Baltimore manuscript, the same graphic system is used for depictions of natural mountains, as shown all throughout the atlas, whether on Greek islands[56] or on the Italian mainland.[57] To express greater dimensions, hills can be depicted as larger, or more hills, or staggered rows of hills, are added. Piri Reis does, however, make frequent note of antiquities. They feature in the atlas in various ways and show that he was very aware of them. In his description of Mediterranean coasts and islands, ruins are mentioned, such as on Greek islands;[58] in addition, ruins are occasionally also depicted as an area of large irregular fragments, such as in Sidon, Byblos, and Tripolis in Lebanon or Tarsus in Turkey.[59] In Egypt we find the depiction of monuments, such as the pyramids of Giza, which are shown in all of the illustrations of

46 https://www.ees.ac.uk/dosha305 (accessed on 21. 02. 2021); Daressy 1912, 174–191.
47 *Survey of Egypt*, 1914, NW II-I, scale 1 : 50.000.
48 https://www.ees.ac.uk/usim45 (accessed on 21. 02. 2021), Daressy 1912, 191–192; *Survey of Egypt*, 1914, NW II-I, scale 1 : 50.000, *Survey of Egypt*, 1932, sheet 84/600, scale 1 : 25.000.
49 Jacotin/Jomard 1828, flle. 25.
50 *Survey of Egypt*, 1914, Delta NW II-I, Ashmun, 1 : 50.000; *Survey of Egypt*, 1931, sheet 83/600, 1 : 25.000.
51 The site is also shown in a similar style in the Paris manuscript, fol. 363, but is notably missing on the relevant page of the Berlin manuscript, Fol. 25 b.
52 Jacotin/Jomard 1828, flle. 24.
53 https://www.ees.ac.uk/ben-dabm (accessed on 21. 02. 2021).
54 Wilson 2015.
55 https://www.ees.ac.uk/dab-do (accessed on 21. 02. 2021).
56 Baltimore, WAM Ms. W. 658, fol. 99a.
57 Baltimore, WAM Ms. W. 658, fol. 236b.
58 *charab*, Kahle 1926–1927, II, VI; Herzog 1902.
59 Özükan 2013, 230, 232–233, 236.

1: Site no. 1, Kom el-Farah, fol. 304b, for location see fig. 1.

2: Site no. 2, Sidi Ma'aruf (Sais), fol. 310a, for location see fig. 2.

3: Site no. 2, Sidi Ma'aruf (Sais), fol. 310b, for location see fig. 3.

4: Site no. 3, Turba, fol. 301b, for location see fig. 3.

5: Site no. 4, Nadjila, fol. 310b, for location see fig. 3.

6: Sites nos.5 and 6, fol. 307a, for location see fig. 4.

7: Site no. 7, fol. 307a, for location see fig. 4.

8: Site no. 8, fol. 307b, for location see fig. 5.

9: Rubbish dumps of Fustat, fol. 305a.

10: Tells of Alexandria, fol. 302.

Fig. 6: Tells along the Rosetta branch of the Nile, in comparison. All: Piri Reis, *Kitāb-i baḥriye*, Baltimore WS 658.

Cairo and environs; in Alexandria an obelisk is represented in the Berlin manuscript,[60] whereas in the Baltimore manuscript[61] and in the Istanbul Rare books manuscript,[62] the column of Diocletian, the so-called Pompey's pillar, is shown (Fig. 6.10). Egyptian antiquities are also depicted in European cartography of the 16th century, such as on the famous Ortelius map. There they are mostly added as decorative illustrations adjacent to the map, or as framing. Ortelius had never been to Egypt and used coins and antiques in European collections as models.[63] What sets Piri Reis apart is not only that he depicted monuments which he had seen with his own eyes in the correct place, but that he documented destroyed monuments and non-monumental traces of antiquity as well. He had a distinct awareness for tells. Within the city walls of Alexandria, two mounds, coloured green, are shown (Fig. 6.9), one in the east, one in the west, reflecting the archaeological situation prior to modern levelling.[64] On top of the eastern mound a wind-mill is described, and shown in some manuscripts,[65] on the western mound a tower and a flag are shown. Inside the mound is written in the Baltimore manuscript '*küllük depesi*', 'hills of heaps of ash',[66] referencing, most likely, modern depositional practises, where the tells were used as garbage dumps. The antiquity of Alexandria is addressed in the text, interestingly describing the city accurately as a *re*-foundation by Alexander the Great.[67] In the Baltimore manuscript, the city of Alexandria has been 'cleaned up', with the tells rising from a sea of houses. In two Istanbul manuscripts and the Paris manuscript, the city is shown differently: The area south of the tells,[68] and the bases of the tells themselves,[69] are shown as a jumble of broken fragments lying about, of which some can be identified as shafts of columns. Two tells are also shown south of Cairo, in the area of Fustat (Fig. 6.9), where prominent tells survived into the 20th century.[70] A description is added in the Khalil Portolan atlas, '*These are rubbish heaps piled up in olden times*',[71] while in the Istanbul Ayasofya manuscript is written: '*Ce sont des montagnes d'immondices versées depuis les temps anciens*'[72] and the Baltimore manuscript (Fig. 6.10) provides a succinct version: '*These are rubbish heaps*'.[73] All are apt descriptions of tell formation, displaying an understanding of the process. The landscape of the western delta through which Piri Reis travelled in the 16th century was a hilly one and it is depicted as such. This perception was shared by later travellers passing through this region in the 19th and early 20th centuries.[74] Whether Piri Reis recognized the hills adjacent to the Nile as sites formed through ancient settlement activity or considered them natural elevations is unclear. But the fact that he noted how the mounds of Fustat and Alexandria had formed and graphically separated their depiction from that of the other hills discussed may be an indication that he considered the hills along the Nile as something different, that is, natural elevations.

3 Depicting Tells – Defining Borders

Jumping forward into the late 19th century, we enter a period rich in maps of Egypt. This map production coincides with a period of rapid development of the delta for agricultural purposes and thus also a period of rapidly vanishing tells, which were both physical obstacles for expanding fields and also used as fertilizer, *sebakh*, 'the stuff that tells are made of', spread on fields.[75] While these maps were not made for the expressive purpose of documenting tells,

60 Berlin, Stabi, Diez A fol. 57, fol. 24d.
61 Baltimore, WAM Ms. W. 658, fol. 302a.
62 Istanbul Univ. Rare Books collection T. 6605; Özükan 2013, 216.
63 Meganck 2017.
64 McKenzie 2007, fig. 20.
65 Istanbul, Ayasofya 2612; Alpagut/Kurtoğlu 1935, 704–705; Mantran 1981, fig. 3.
66 I thank Michael Greil, Vienna, for his translation.
67 Özükan 2013, 216.
68 Istanbul, Ayasofya 2612; Alpagut/Kurtoğlu 1935, 704–705; Mantran 1981, fig. 3; Paris BN Suppl. Turc. 956, fol. 398.
69 Istanbul Univ. Rare Books Collection T. 6605; Özükan 2013, 216.
70 Casanova 1919, pl. I; Scanlon 1968, 188.
71 Ms. 722, mid-17th century, most likely produced in Venice, Soucek 1996, 153.
72 Ayasofya 2612, Mantran 1981, fig. 9.
73 I thank Michael Greil, Vienna, for this translation.
74 Nibbi 2003.
75 Bailey 1999.

they today serve as an invaluable archive for lost, or shrunk, archaeological sites. The material history of tells does not end with the abandonment of the ancient settlement. Various forms of re-use of tells are already displayed on the maps of Piri Reis and have been addressed in the section above.

One such common re-use of tells is as modern cemetery. This will be showcased in the study of the tell of Shabas ᶜUmayyir, in the following. The site of Shabas ᶜUmayyir was chosen based on the information provided by a range of historic maps. It thus seems appropriate, prior to the discussion of the case study, to provide a brief overview of the way tells are presented, and conceptualized, on some maps of the late 19th and early 20th centuries.

The remarkable late 19th century map by the Egyptian scholar Mahmoud El-Falaki deserves wider recognition. It is reproduced by scholars in the early 20th century,[76] but then seems to fall into oblivion and today is very difficult to access.[77] This section from the colour edition of the 1911 reprint of his 1871 northwest delta map (Fig. 7) shows the region between Buto (Tell el-Faraᶜin) in the north, marked as no. 2 on the map, and Shabas ‘Umayyir, marked as no. 1, in the south. The map provides a new visual differentiation of specific categories of sites: active settlements on elevated land are shown in red, surrounded by the indication of a schematic hill (e.g. no. 1, Shabas ‘Umayyir), while ancient tells without modern settlements are shown as brown hills (e.g. no. 2, Tell el-Faraᶜin (Buto)). A new category of place has sprung up in this region since the publication of the map of the *Description de l’Égypte*, namely

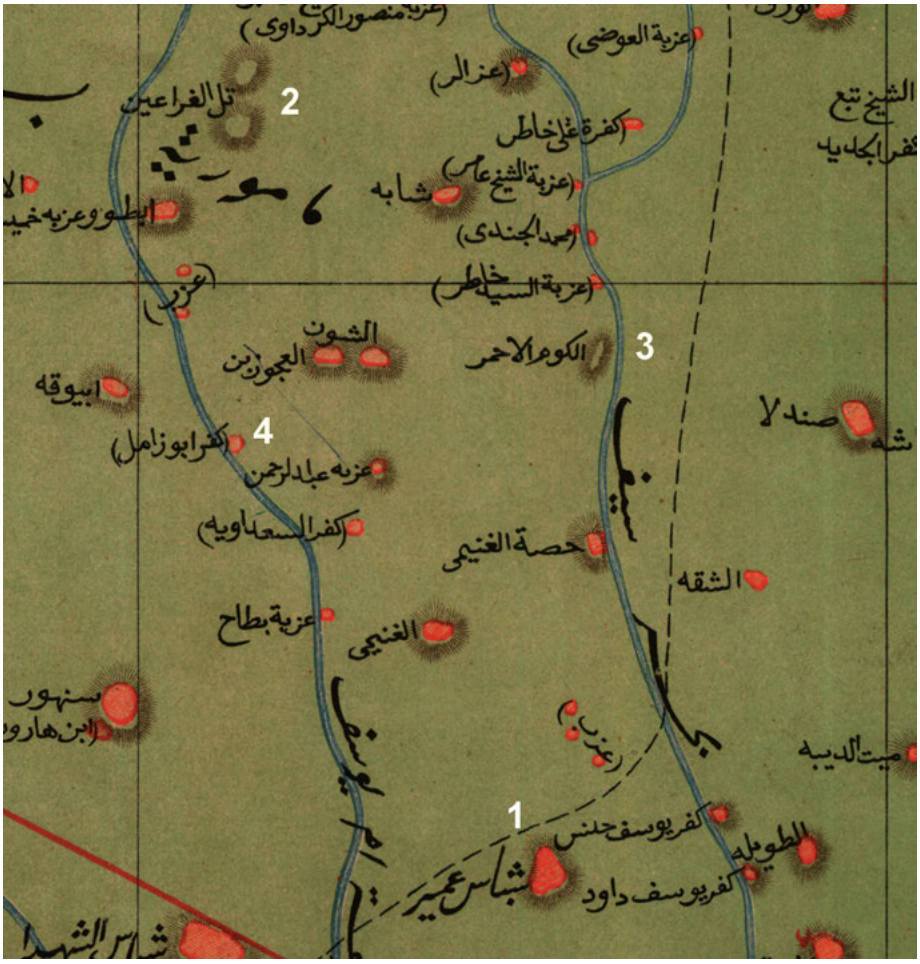

Fig. 7: Part of map of northwest delta by M. El-Falaki, 1911 edition, reprint of 1871 map, original scale 1:100.000. Additions by the author. No. 1: Shabas ᶜUmayyir, no. 2: Tell el-Faraᶜin (Buto), no. 3: El-Kom el-Ahmar, and no. 4: Kafr Abu Zamel.

76 E.g. Edgar 1911; map described as ‘*District of Bouto according to the Arabic map of 1871*’, and shown on an unnumbered figure following plate V.

77 This copy was acquired with kind support of the library of the *National Geographic Society of Egypt*, Cairo.

Fig. 8a: Part of map of *Survey of Egypt*, 1909, sheet VII-I/NW (original scale 1 : 50.000), with additions by the author.

small new settlements on flat land, which are shown as red without hills (e.g. no. 4, Kafr Abu Zamel). Founding settlements on flat land was possible due to new measures which had in the meantime been undertaken to regulate the Nile flood, such as the delta barrages and a range of new canals. Notable is the greater level in detail in the region, despite the same scale as the map of the *Description de l'Égypte*. Some ancient tells, such as no. 3, El-Kom el-Ahmar, are shown here for the first, and last, time. This tell has since been entirely overbuilt by the modern village of Shabasia and was never again shown on later maps.[78]

With the next generation of maps, the editions of the *Survey of Egypt* from the early 20th century, an edition of 1 : 50.000 (1900s–10s) and a later edition of 1 : 25.000 (1920s–30s), a new level of detail is achieved. With this greater accuracy, new issues arise, such as defining the borders of tells. Today, the transformation of the northern fringes of the delta for agricultural purposes and fish farms have reduced those tells that remain to small islands in an intensely used landscape. For this discussion, I leave aside the iceberg-effect of tells in the alluvial landscape, that is, the phenomenon that tells in the delta are often submerged in alluvial depositions with only a part visible above ground and a larger part below ground.[79] While recent studies have indicated potential tools for detecting submerged tell material surrounding standing tells by remote sensing,[80] this issue is not addressed by historic maps. They deal with tells visible above ground, and here, too, defining the borders is at times challenging. Tells are characterised not only by elevation but also by their typical surface consisting of fine, powdery dust. Early map makers in the northern delta were confronted with a particular landscape in which tells and natural elevations, such as levees, are embedded in a barren landscape, the surface of which is remarkably similar to that of tells. The question simply put is where does a tell end and the natural landscape begin? Looking at Corona satellite imagery from the northern fringes of the delta in 1968,[81] one is still able to comprehend the dilemma of visually separating tells from the surrounding barren landscape. In the *Survey of Egypt* map edition from the 1910s, tells are plotted as red, cloud like features. Fig. 8a shows a group of verified tells, namely Kom el-Gir (no. 1), El-Kom el-Asfar (no. 2), Kom Saleh (no. 3), Kom Abu Heitan (no. 4) and Tell el-Dabᶜa-Shaba (no. 5), depicted in this way. However, the same designation is used for elevated features, such as the cluster of small features, just northeast of Buto (Tell el-Faraᶜin) marked as no. 6 and the feature marked as no. 7, which, upon closer investigation, appear not to have been tells.

Today both areas are levelled and converted to fields. Auger cores were placed in the area of the small features of no. 6; however, they provided no evidence of any settlement activity.[82] Most likely they were the remains of material from an excavated canal. The area marked as no. 7, while today also entirely flattened and used as fields, when investigated in the 2010s was still characterized by the presence of typical powdery fine "tell"-surface material. Notably, the areas of the fields dominated by this type of soil seemed less fertile. Some pottery was found on the surface in this area, but based on the widely practiced spreading of *sebakh* as fertilizer on fields, and thus spreading the pottery contained therein, the presence of pottery alone is not sufficient to designate a place as an ancient site.[83] It remains unclear what the originally marked area represented, but a tell seems unlikely, and it also does not seem

78 Schiestl 2012a, 20.
79 Ginau et al. 2017, fig. 2.
80 Ullmann et al. 2020.
81 https://corona.cast.uark.edu/atlas (accessed on 21. 02. 2021).
82 Schiestl 2015, 12–13, fig. 4–5.
83 Schiestl 2012b.

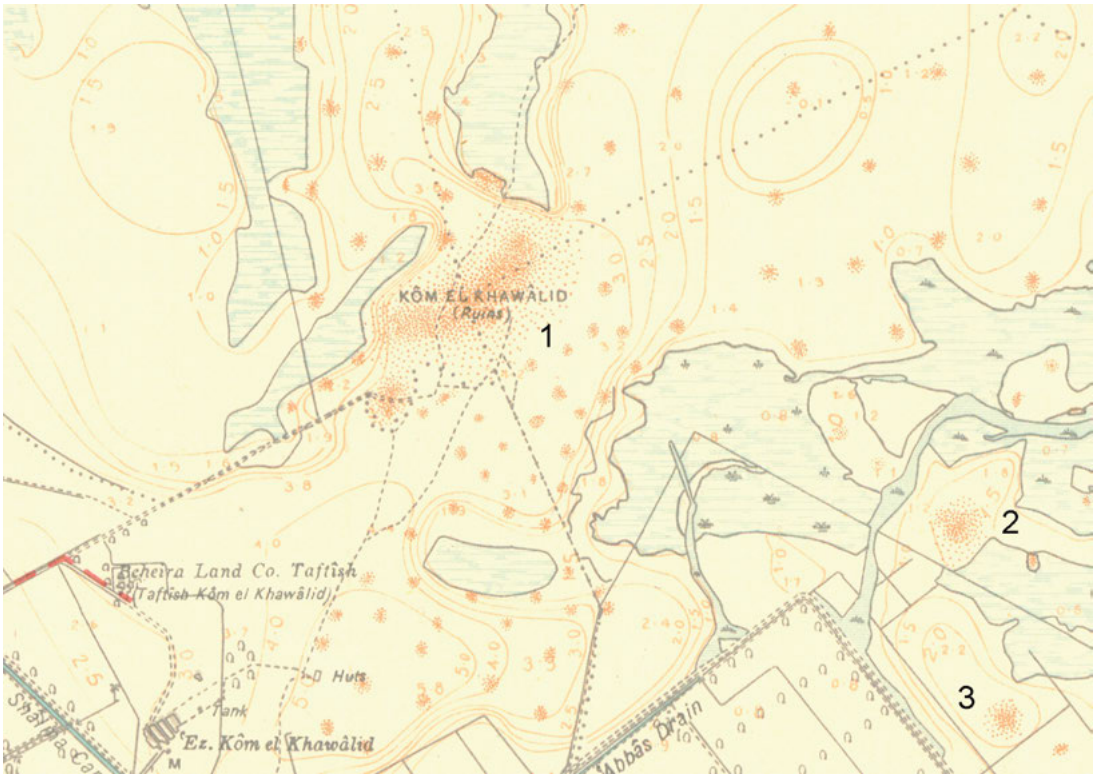

Fig. 8b: Part of map of *Survey of Egypt*, 1936, sheet 95/600 (original scale 1 : 25.000), with additions by the author.

to be have been part of the system of levees reconstructed for this area.[84] It may, again, represent earth excavated for a canal, for which one could also cite the long narrow shape, possibly aligned to a former canal, as support. The reason why it was shown in the same way as a tell area on the map is, most likely, the combination of elevation and powdery surface material. The challenges of defining the borders of tells in this region is apparent in the *Survey of Egypt* series of the 1920/30s, which were published at an original scale of 1 : 25.000. A system of red dots is employed as a graphic sign, indicating both the powdery surface of tells and the surface found on barren land in the northern delta. As an example, Kom el-Khawalid (SCA 090122/EES 272),[85] northeast of Sidi Salem, is shown (Fig. 8b, no. 1), where the tell, but also its surrounding land, is illustrated in this way. Note that the borders of the site were not sharply drawn – the tell's edges are suggested only by the decreasing density of red dots. The whole area north, east and south of Kom el-Khawalid is shown covered with small clusters of red dots, presumably indicating similar surface material as cover of the entire area. Two clusters of red dots southeast of Kom el-Khawalid, marked as nos. 2 and 3 on Fig. 8b, are shown larger and denser, yet no name or designation as a tell is given. As this map edition also provides topographic information in the form of contour lines, it is apparent that these two zones are somewhat elevated. Were they small tells or natural elevations, such as levees? We will most likely never know, as they were never investigated and now are gone, having been levelled by 1968, based on the Corona satellite imagery. Recent analysis of a Digital Elevation Model has shown that Kom el-Khawalid lies on a levee, which was part of a convoluted network of smaller Nile branches.[86] The sites marked nos. 2 and 3 also lie on a levee – or are a levee – north and south of a branch connecting Kom el-Khawalid and Tell el-Ineizi in the east.

84 Ginau et al. 2019, fig. 5.
85 Wilson/Grigoropoulos 2009, 245–248; https://www.ees.ac.uk/khawalid272 (accessed on 17. 03. 2021); Billing et al. 2008.
86 Ginau et al. 2019, fig. 5.

3.1 Shifting Borders of Tells: Case Study Shabas ᶜUmayyir

Shabas ᶜUmayyir[87] (also spelled Chabbâs Amer, Chabas Amir, Shabâs ᶜEmeir, or Shabâs ᶜImeir) lies about 11 km southwest of Buto (Tell el-Faraᶜin) and 8 km east of the Rosette branch of the Nile in the northwestern delta (Fig. 7). The village lies just outside the scope of the map of Piri Reis. The site is briefly mentioned by Vivant Denon in 1803,[88] when traveling east from Disuk via Senhur el-Medina. He had been told he would find many antiquities at 'Schaabas-Ammers', however, en route, near Kafr-Schaabas, an armed battle ensued, and in the following no further information on the site or on antiquities is provided. Since then only a brief scientific investigation of the site has taken place.[89] Today, two tall tells are located north of the town of Shabas ᶜUmayyir. A larger, northerly tell A, of roughly 2.1 ha in size, and a smaller southern tell B, about 0.9 ha large (Fig. 9).

The tells stand about 30 m apart, separated by an area occupied by a field and a grove. Possibly they originally formed one joint tell, as is depicted on a cadastre map of 1884,[90] but its lack of detail restricts its reliability. By 1913, on a *Survey of Egypt* map (sheet VI-1 NW), the tells are shown as separate and both used as modern Muslim cemeteries, with a *qubba* marked on each tell. This remains the case to this day (Figs. 9–10).

The site was investigated briefly in the course of the Regional Survey around Buto (Tell el-Faraᶜin) in the autumn of 2010 by fieldwalking and auger coring.[91] While in 2010, there still were fields to the east of tell A (Fig. 12), today this area has been built up (Fig. 9). The tells rise to a maximum height of about 5 m above the surrounding ground, with mostly steep edges (Fig. 13). Surrounding fields, here shown at the eastern edge of tell A (Fig. 12), abut the tell directly. In some sections, the adjacent fields had been expanded somewhat by pushing further into the tell. This phenomenon of 'tell-trimming' is frequently encountered in delta sites surrounded by agricultural land. While mostly done incrementally, over time this can lead to substantial reductions of the ancient sites.[92] It also can create something akin to a section at the tell's edge showing layers and exposing ancient artifacts. Fieldwalking along the eastern edge of the tell provided pottery much of which had tumbled from the exposed layers in the sections. Late Roman pottery (4th–7th c AD) predominated, with some earlier Roman and some later Medieval (Mamluk) pieces.[93] Ancient pottery was at times included in the construction of modern tombs, such as a ribbed neck of a Roman Nile fabric amphora (type AE 3), see Fig. 11, which may have been found in the course of excavating the tomb pit. Other edges of the site had been prepared for better access to the cemetery on top by building stairs (Fig. 13).

The hypothesis was that the two tells contained the remains of an ancient settlement dating, based on the surface pottery, from at least early Roman to Late Roman and possibly Medieval times.[94] Older phases may be encountered at a deeper level. The assumption was also that this settlement had originally been larger than the tells in existence today, because they had been reduced in size by modern activities, such as those described above. The two questions move, spatially, in two different directions: vertical, in order to gauge the depth and thus age of the site, and horizontal, in order to address the size of the site. Correspondingly, two methodological routes were chosen: for the vertical investigation, in order to determine earlier layers of occupation and possibly the foundation of the site, the depth of the layers of settlement and the underlying ground that the settlement was built on, auger coring was done. For the reconstruction of the horizontal expanse, the contours of the site from historic maps and satellite imagery were assembled in a *Geographic Information System* and placed over the modern tells, see Fig. 9. Two auger cores were undertaken at the western edges of the tells A and B: Auger core no. 31 on the southern tell B (Fig. 14, 16a), and auger core no. 32 on northern tell A (Fig. 15, 16b). When investigating tells under modern cemeteries by augering, a practice was established of placing the auger cores at the edges of the tells in order to avoid disturbing tombs. Auger core 31 was located on the steep slope of the tell (B), about 3 m above the level of the surrounding fields (Fig. 14).

87 The spelling follows here the conventions of the map of the *Egyptian Geographic Service* 1996, map NH 36-M2b, 1 : 50.000; Schiestl 2012a, 19–20.

88 Denon 1803, I, 243.

89 Wilson 2009.

90 Map of district of Kafr el-Zayat, 1 : 40.000; Schiestl 2012a, 18.

91 Schiestl 2012b.

92 Schiestl 2012b; Schiestl 2016.

93 The material will be published in the final report on the Survey, in preparation.

94 for Mamluk evidence for the site, see also Halm 1982, 565.

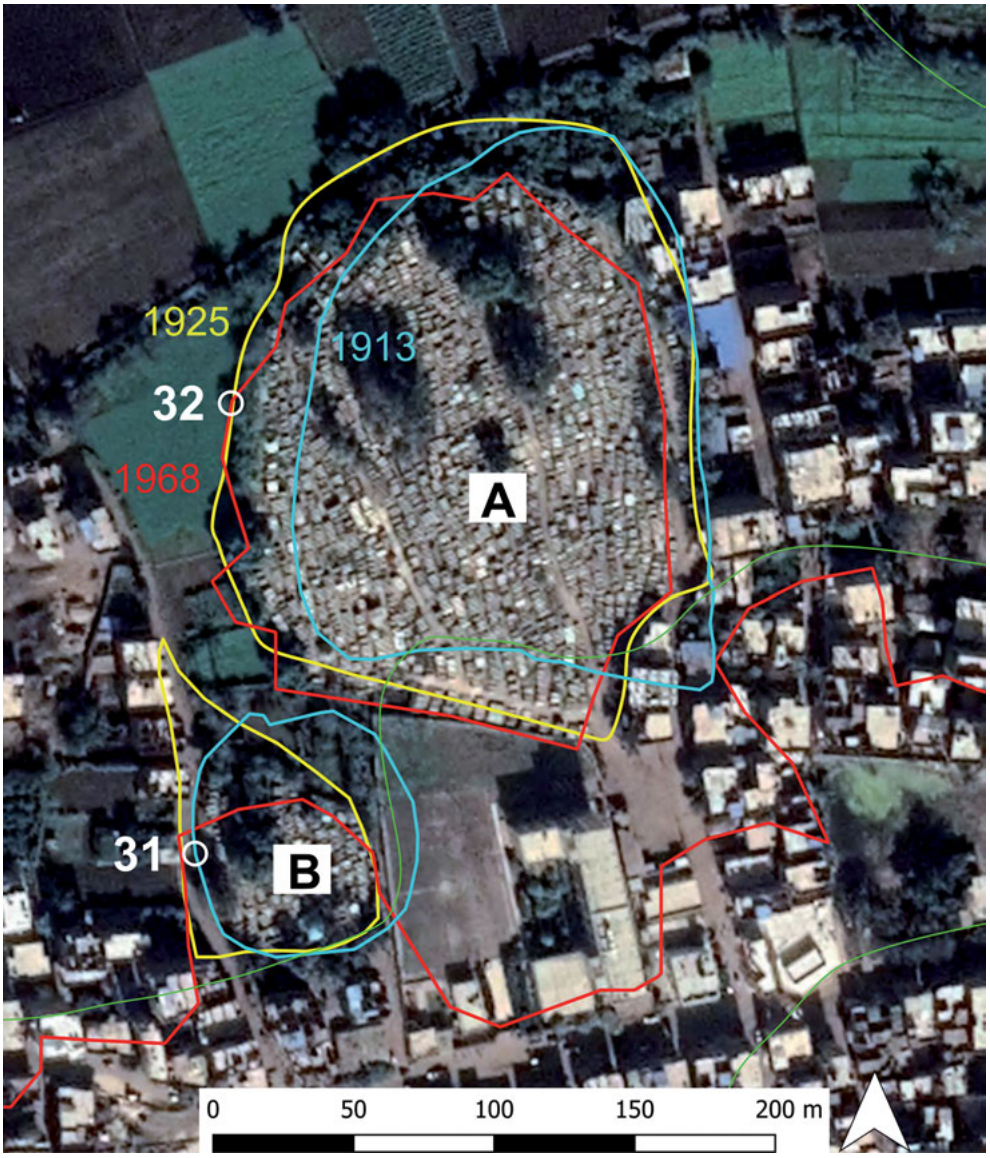

Fig. 9: Shabas ᶜUmayyir, basis: Satellite image google earth. The lines from historic maps and satellite images are: light blue, tell based on *Survey of Egypt* map, 1913 (sheet VI-I NW, original scale 1 : 50.000), yellow, tell, and light green, elevation contour lines, based on *Survey of Egypt* map, 1925 (sheet 83/585; original scale 1 : 25.000), red, tell and settlement, based on Corona Satellite image November 1968 (https://corona.cast.uark.edu/atlas). White circles mark the two auger cores, 31 and 32, placed in 2010.

Auger core no. 32, tell A, was placed about 3.5 m above the level of the surrounding fields, and about 25 m east of the north south running road. It was located about 1.5 m to the west of the closest tomb (Fig. 15).

With auger core 31, a depth of 4.65 m (Fig. 16a) was reached. The layers encountered are summarized in the following: In its uppermost sandy-loamy layer (1) of 0.86 m some pottery fragments were found, ranging from early to late Roman (e.g. Late Roman amphora 7). The following two layers (2) and (3), of a combined thickness of 1.13 m, consisted of sandy clay and contained very small pieces of worn pottery, some mortar, charcoal, and small pebbles. Below this, at a depth between 2.04 and 2.8 m below the surface level, there was a thick settlement layer, levels (4), (5) and (6), with a combined thickness of 76 cm, containing much charcoal and many pottery fragments, and some mortar pieces. The upper 30 cm of this layer (4) was black, due to the amount of charcoal and burnt pottery, and contained a fragment of a most likely early Roman amphora. Beneath this layer, the material got sandier, fewer and very worn pottery fragments were found, as well as many small molluscs, (7) and (8). One fragment can possibly be identified as a Ptolemaic or early Roman amphora, suggesting that the site was a foundation from this period. These

Fig. 10: Shabas ᶜUmayyir; view of the tell with a *qubba*, 2010.

Fig. 11: Shabas ᶜUmayyir, tomb with the neck of Roman amphora (AE 3) integrated into the construction, 2010.

Fig. 12: Shabas ᶜUmayyir, view of eastern edge of tell A and fields, 2010.

results are generally as to be expected, with clear evidence of an ancient settlement located about 2 m below the surface.

Auger core 32 reached a depth of 3.74 m below the surface (Fig. 16b). The material encountered started with a meter of fine sandy loam (1), followed by 1.38 m of medium sand with clay (2), and a layer of 80 cm of clay, with medium and fine sand (3). There was distinctly less pottery than in auger core 31, and apart from some single larger fragments, most were tiny and very worn. It was only at a depth of 3.45 m below the surface that some charcoal and stone fragments were encountered (4) and (5). The upper three layers were generally quite 'clean' and contained some individual snails and molluscs. Its character was distinctly different from that encountered in auger core 31 or other tell-augerings. The explanation was provided by a villager who visited the site while we were working: We were drilling into a recent deposition of earth, which had been dumped at the edges of the tell in an attempt to enlarge it. The tell's function as a cemetery had created the need to expand it. The tell's shape proved to be dynamic, shrinking and expanding, due to modern expansion on the one side and removal at the edge of the tell on the other side. A schematic reconstruction of this dynamic scenario is provided on Fig. 17, which shows the tell trimming in the east (right) and artificial tell enlargement by dumping in the west (left). Looking at the border area of tell A on Fig. 9, the placement of the auger core 32 lies outside the border of the tell of 1913 (light blue line), but at the very edge of the tell of 1925 (yellow line) and 1968 (red line). The earlier (1913) tell was distinctly smaller on the west and south than the tell of 1925 and 1968, yet about the same size in the north and east as the 1925 tell. By 1968, in the north and east, the tell had distinctly shrunk, yet on the other sides it seemed to have expanded. Some of the shifting in borders may on Fig. 9 be explained by lack of precision and graphic distortions, due to the large scale of the original maps, but the evidence from the auger coring suggests another possibility as well, namely, artificial tell enlargement. Whether the area of the recent enlargement had previously been ancient tell, which had then been trimmed, is speculative. What we can state clearly is, however, that the tell was expanded. What emerges is that the assumption that tells only shrink is not always correct. Tells can also grow. Even vertical growth, that is, growth in height, has been observed as a natural process, by Foucart and Spencer at delta sites, via aeolian redeposition of

Fig. 13: Shabas ᶜUmayyir, view of steps on edge of tell B, 2010.

Fig. 14: Shabas ᶜUmayyir, tell B, placement of auger core 31, 2010.

dust on tells.[95] Mostly, however, the opposite effect takes place: The erosion of tells by wind and rain generally leads to a reduction in height. Concomitantly, tell colluvium spreads out, creating a larger tell footprint than the original site. This was also observed when drilling at the edges of the Kom el-Gir, where the settlement material encountered in the drillings was most likely not in situ, but from tell colluvium.[96] Only excavations will, however, ultimately confirm this hypothesis.

4 Telling Tells Apart

In the first case, it is argued, the assumption by Piri Reis was that ancient tells were natural hills. In the second case, the assumption was that a mound was entirely ancient. In both cases the wrong assumption was made. Telling tells apart, that is, differentiating between natural hills and man-made tells seems, for this region of the ancient world, is no longer an issue. Approaching the study of hills in the Nile delta today, we can build on much experience gained in the last decades by the cooperation of archaeologists and geo-scientists; we also have new tools at our disposal, such as the analysis of remote sensing data, which allow us to document the tells and their changing shape over time with new precision. We today understand two fundamental issues about settlement foundations and the

95 Foucart 1901, 81; Spencer 1996, 13.
96 Ginau et al. 2019, 62, fig. 8, T2.

Fig. 15: Shabas ᶜUmayyir, tell A, placement of auger core 32, 2010.

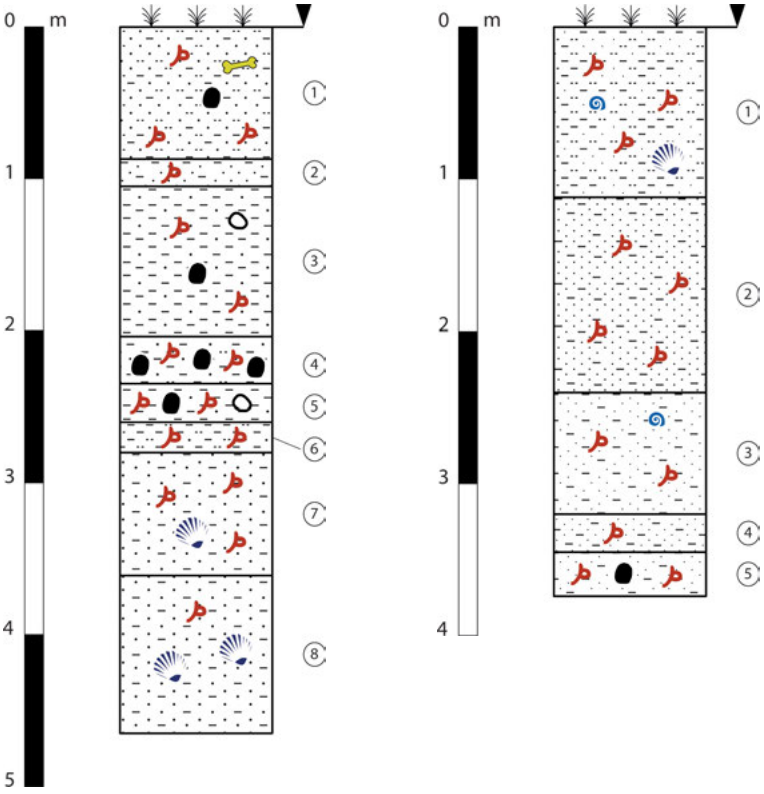

Fig. 16: Shabas ᶜUmayyir;
16a (left): auger core profile 31 and
16b (right): auger core profile 32.

Fig. 17: Schematic section through Shabas ᶜUmayyir, tell B, showing location of auger core 32 and reconstruction of tell formation.

physical landscape in the Nile delta: firstly, there never existed any major natural elevations in the Nile delta, secondly, and seemingly in contradiction to the first statement, the delta was not entirely flat.[97] Today's appearance of the delta as a plane is primarily the result of modern levelling activities in order to create arable land. The elevated areas that have been levelled were both tells, in the sense of ancient settlements, and natural elevations as they existed, namely alluvial levees and *geziras*, naturally formed sandy hills. It is these two types of natural elevations, generally only a few meters high, which are also found at the base of tells in the delta. Founding a settlement on elevated land was a prerequisite in order for the site not to be flooded by the annual Nile flood. This is information which has been gained from looking inside tells, be it by excavation or auger coring. While of fundamental interest for the archaeologist and historian, for Piri Reis the tell was of interest for entirely different reasons: Mounds are crucial both for navigation, as landmarks for orientation, and for warfare, as points from which one has a good view. Both were fields of activity of Piri Reis and may have been the main reason for paying attention to these features. In some comments, this connection is made explicit when ruins are described as landmarks: '*One should know that when approaching Rashid by sea, its landmark is this: first appears Kummu'l Ferah, which is the tomb of a saint. Above the tomb is a hillock on top of which is a tower. This tower and hillock are what one sees first., ...On the northeastern side of Sari Ahmed channel there are some ruined buildings that are visible from a distance*'.[98] Thus, I argue, this first archaeological map was created inadvertently. Subsequent maps of the region were created with greater details and more information available, but, again, not with archaeological purposes in mind. The archaeologist generally views the taphonomic processes,[99] that is, the processes that shape the tell after the abandonment of the ancient settlement, mostly as progressions of decay and destruction. Tells continue, however, to have functions in local communities – be it as a playground for children, a place to visit, a space to dry the harvest or as a cemetery to bury the dead. These uses physically transform tells, in at times surprising and rarely investigated ways. They also preserve, and occasionally, expand tells.

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97 Butzer 1976; Wunderlich 1989.

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LD = Lepsius 1849.

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