



# THE INVESTIGATIONS OF BURIAL CRYPTS IN THE MAUSOLEUM OF PRINCESS TATAR AL-ḤIĠĀZIYYA IN CAIRO <sup>(1)</sup>

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In April 1982, on the invitation of German Archaeological Institute in Cairo (Deutsches Archäologisches Institut Kairo) we investigated the burial crypts in the Mausoleum of Princess Tatar al-Ḥiġāziyya <sup>(2)</sup>.

The mausoleum and madrasa constitute a common architectonic complex situated in 'Atfat al-Qaffāṣīn on Old Cairo in the district al-Ġamāliyya (Fig. 1, 2). This complex is one of the more valuable monuments from the period of reign of Bahri Mamelukes (the period : 648-784 AH, 1250-1383 AD).

Princess Tatar Ḥatūn was the oldest daughter of Sultan Al-Nāṣir Muḥammad Ibn Qalāwūn and the sister of Sulṭan Ḥassan who ruled later. During the life of her father she was married to Emir Malaktamur al-Ḥeġāzī and took his name.

The mausoleum as the oldest element of the complex was raised in 748 AH - 1347 AD on the occasion of transferring the body of Emir Malaktamur killed a few years earlier in Alexandria.

The madrasa dates back to the second phase of the construction which is proved by the date 761 AH - 1369 AD on its northern portal <sup>(3)</sup>.

<sup>(1)</sup> The authors want to express their thanks to Philips Speiser, an architect of the German Archaeological Institute in Cairo and the Egyptian Organization of Antiquities for allowing the use of facilities and sketches of burial crypts. We hope that our research, especially anthropological and paleopathological investigations, will supplement the research of Dr Michael Meinecke and Philip Speiser, M.S., whose publications helped to a great extent to prepare the introductory part of this paper.

<sup>(2)</sup> Index to Mohammedan Monuments in Cairo — Cairo 1951, Map of Cairo Showing Mohammedan Monuments, 2nd section — 1 :

5000 — Cairo 1950, No. of the monument : 36 (the monument included in the program of restoration and sanitation of the district Darb Qirmiz by the German Archaeological Institute in Cairo — Deutsches Archäologisches Institut Kairo).

<sup>(3)</sup> Meinecke M., *Die Restaurierung der Madrasa des Amirs Sabiq ad-Din Mitqal al-Anuki und die Sanierung des Darb Qirmiz in Kairo*, Mainz, 1980, p. 102.

Speiser Ph., « *Restaurierungsarbeiten in der islamischen Altstadt Kairos* », *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo*, Band 38, Mainz 1982, p. 368.

## (Legends of fig. 1)

## Symbols :

- |  |   |
|--|---|
| – streets : A – Darb Qirmiz,<br>B – ‘Atfat al-Qaffāşin,<br>C – Šāri‘ al-Mu‘izz li-Dīn Illāh,<br>D – Šāri‘ Ḥabs al-Raḥba, | E – Šāri‘ al-Ġamāliyya,<br>F – Šāri‘ al-Tumbakšiyya,<br>G – Maydān Bayt al-Qādi,<br>H – Šāri‘ Bayt al-Qādi. |
|--|---|

## – historical buildings :

- |   |   |
|---|---|
| 1. Madrasa and mausoleum of<br>Tatar al-Ḥiġāziyya,<br>2. Madrasa Miṭqāl al-Anukī,<br>3. Zāwiya Šayḥ Sinān,<br>4. Palace Beštak al-Nāşiri,<br>5. Sabil-Kuttāb ‘Abd al-Raḥmān<br>Kathūdā,<br>6. Wakāla Bazar‘a,<br>7. Madrasa Ġamāl al-Dīn Yūsuf<br>al-Ustadār, | 8. Wakāla al-Naqadi,<br>9. Wakāla al-Awand,<br>10. Wakāla Ġulšāniyya,<br>11. Sabil Muḥammad ‘Alī,<br>12. Qā‘a Muḥammad Muḥibb al-Dīn,<br>13. Madrasa al-Zāhir Baybars,<br>14. Maq‘ad Mamay. |
|---|---|

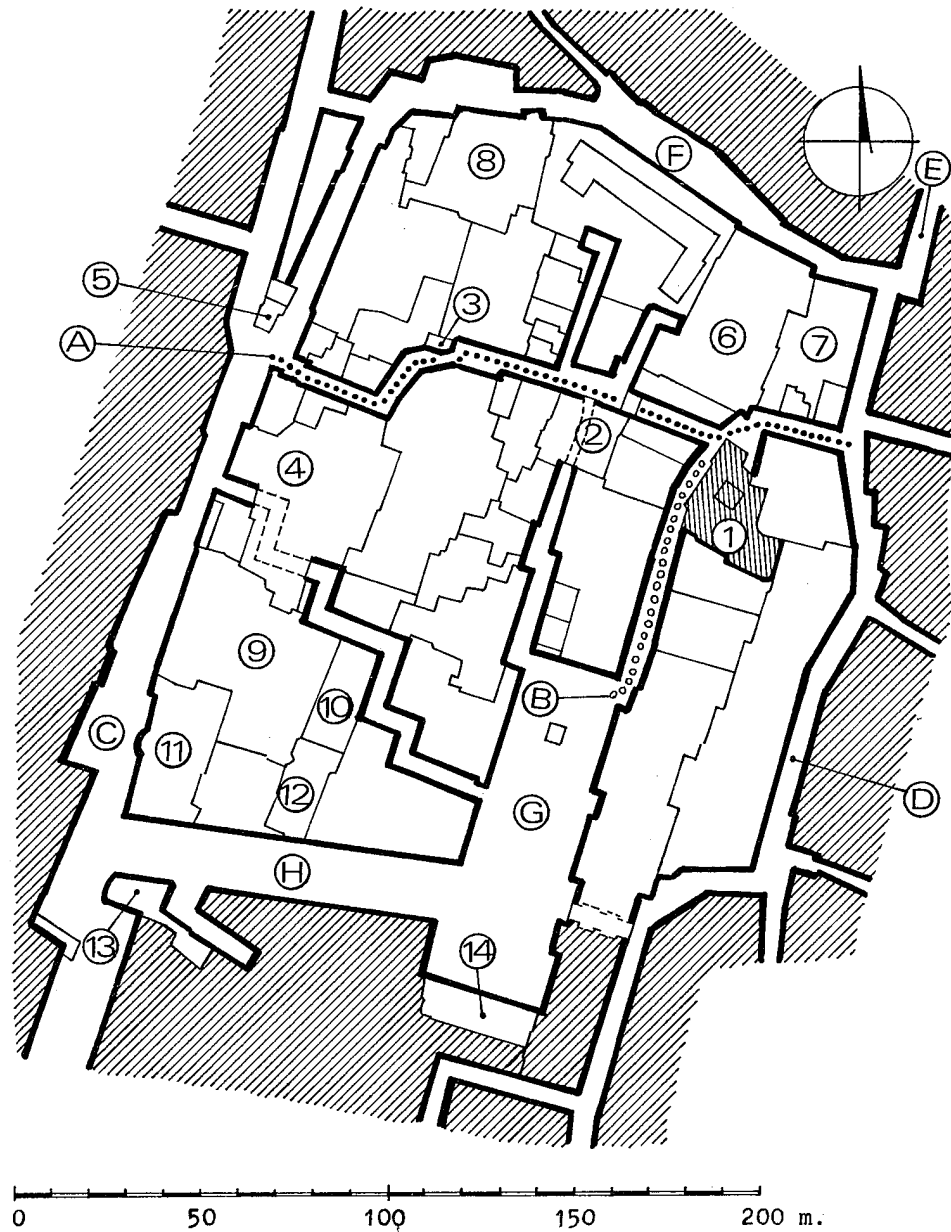


Fig. 1. — Situational plan of the madrasa and mausoleum of Princess Tatar al-Ḥiġāziyya.

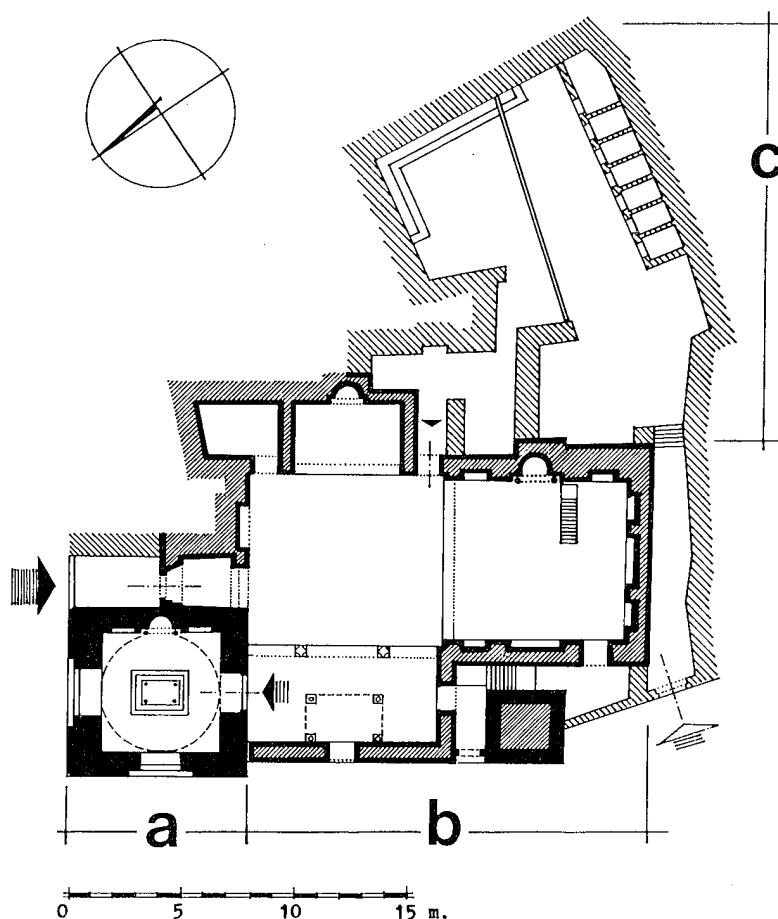


Fig. 2. — The view of the ground floor of the madrasa and mausoleum of Tatar al-Ḥiğāziyya (acc. to the drawing by Ġalāl Maḥmūd 'Alī — 1950, worked out by Jerzy Kania).

Symbols :

- a) mausoleum,
- b) madrasa,
- c) present court of ablutions.

The northern corner element of the complex is the mausoleum covered with one of the earliest stone domes in Cairo. The external surface of the dome is plastered in the form of a ribbed ornament as it used to be the common practice in the earlier period in the case of brick domes. At the base of the dome, there is a Koranic inscription carved in the stucco in « *nashī* » lettering on the band of the drum.

The other traditional element dominating over the complex is a minaret located in the western part of the madrasa. The minaret lacks the last tier which tradition explains as a case of never actually completed due to several disasters. The main entrance to the madrasa is located in its north-western wall and through a small vestibule leads to an open « sahn » of three-liwān madrasa. There is a simple, undecorated « mihrāb » without minbar in a small « qibla-liwān ». South-western « liwān » is the biggest in terms of the surface and has a deep mihrāb, richly decorated with multicolour marble with columns and minbar of a wooden construction. It is assumed that this side « liwān » showing the riches of madrasa decoration was originally an isolated part designed for the founder of the building and separated from the « sahn » with a screen in the form of « mašrabiyya ».

The entrance to the mausoleum is from northern « liwān » equipped with « dikka » — a gallery of light construction supported by four wooden pillars.

The interior of the mausoleum built on a plan of a square with the internal side of about 5 m is taken by centrally situated « cenotaf » covered with marble plates. On the two-step base there is the main body of the cenotaf crowned in the corners with four built-in pillars with stylized forms of pomegranates. In the south-eastern wall, there is an undecorated, deep niche of the mihrāb flanked with two marble columns. On both sides of the niche there are two wooden built-in cupboards. Cenotaf shows numerous traces of repairs with accidentally used marble elements (Pl. XXII). The corner pillars and crowning elements are strongly corroded. The first step of the cenotaf base is covered with multicolour marble plates. The inscription identifying the burial of Emir Malaktamur can be found on the western crowning side of the cenotaf body. Between the cenotaf and the north-eastern wall, there are two openings covered with marble plates leading to separate crypts (Fig. 3).

The exploration of the crypts was done through the opening closer to the « qibla » wall. A vertical small shaft with two steps lined with limestone blocks reaches the level of about 1.8 m below the mausoleum floor where, in the north-western wall, there is a triangly roofed opening of 1 m high usually closed with the vertically placed limestone plate which is carefully worked on both sides. This opening forms a direct entrance to the burial crypt, made easier by the supporting stone step, just below the treshold of the mentioned opening. About 0.5 m below the top of the supporting step, 0.30 m layer of clean yellow sand maked the surface of the crypt where human body was buried. The crypt has an arched vault of 2.5 m in width. Both the vault and vertical walls of the crypt form a typical feature of that period, i.e. limestone blocks of 33-34 cm high with plastered joints. A detailed examination of the two existing crypts allow to believe that both crypts have, from the point of the construction, a common vault divided with a wall made of

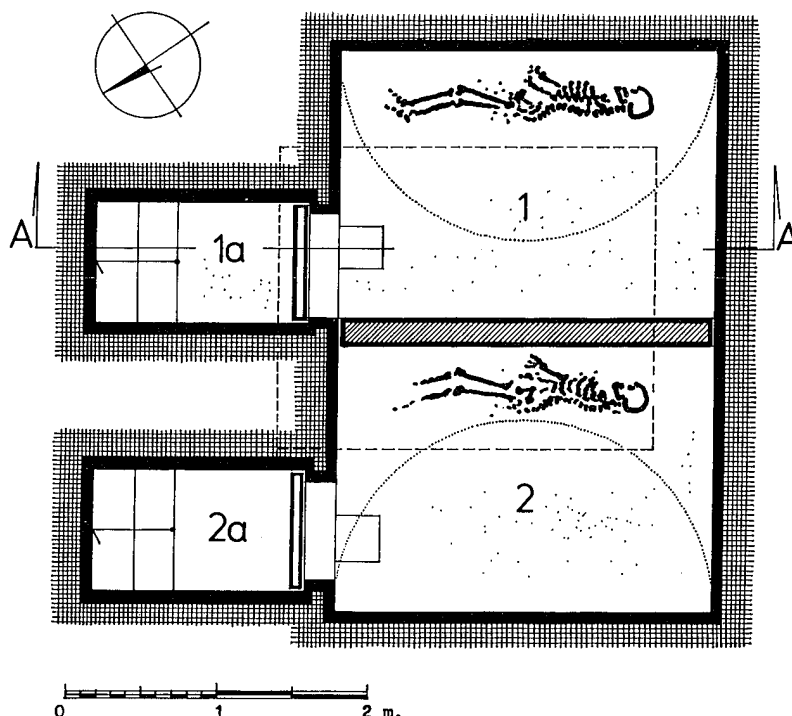


Fig. 3. — The plan of underground crypts in the mausoleum (acc. to the measuring sketches by Philip Speiser, worked out by Jerzy Kania).

Symbols :

1. — Burial crypt with the skeleton of Emir Malaktamur.
- 1 a. — Vertical shaft leading to the crypt through which the exploration of the skeletons was done.
2. — Burial crypt with the skeleton of Princess Tatar al-Ḥiğāziyya.
- 2 a. — Vertical shaft leading to the crypt No. 2.

bricks plastered of both sides with a layer of about 1 cm of gypsum mortar (Fig. 4). The state of construction of the vault and vertical walls — as well as external walls — did not show any destruction but numerous traces of salt accumulation from the joints of the limestone blocks were observed. A film of about 2 mm of crystallized salt was also found on the plastered surface of the dividing wall.

On the south-eastern wall of the crypt No. 1, there is a flat polychrome miḥrāb painted directly on the stone face (Pl. XXIII and Fig. 5). The composition of the miḥrāb is symmetrical. There are two basic colours : red and green. The design and main internal

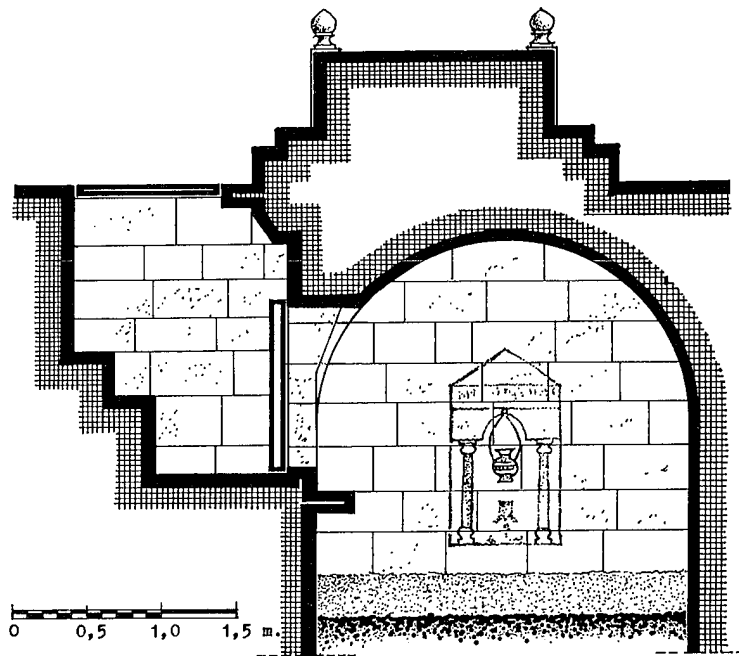


Fig. 4. — Vertical profile A-A through the crypt No. 1 containing the skeleton of Emir Malaktamur and polychromed flat mihrāb.

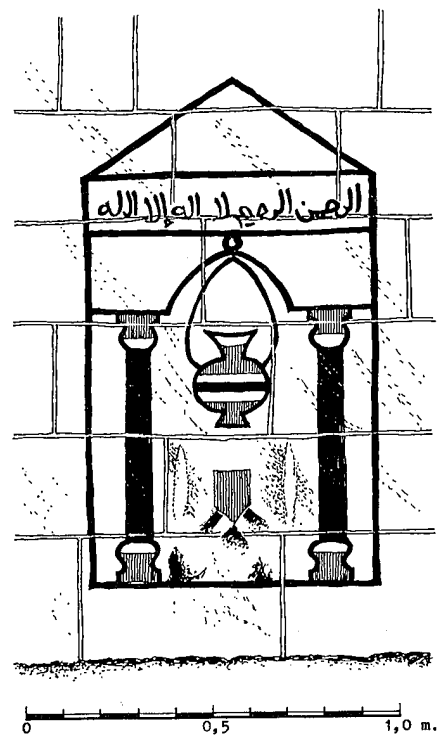


Fig. 5. — The details of the mihrāb with the inscription (black line denotes red colour in original, lined surfaces denote green colour in original).

divisions of this composition are linear painted in red while some fillings of these linear forms are painted in green. Under the triangle crowning of the mihrāb there is an inscription in the style of « nashī » lettering saying : « Al-Raḥmān al-Raḥīm lā ilāh illā Allāh »<sup>(1)</sup>. Under the inscription in the rectangular form, there is an arched line of a typical mihrāb supported on both sides with two columns of identical shapes of bases and capitals characteristic for the Islamic architecture in Egypt. On the axle of the mihrāb, a typical form of a glass ampla — a lamp with the shade screening the light from the bottom — hangs from the top of the arch. Under the ampla, there is an unidentified element of partly deteriorated form. It can be assumed that there was a painted vessel to burn herbs to spread fragrance. Also in the case of lighter colours observed on the wall symmetrically on the inside of the small columns one can assume that they were stylized forms of way candles in the holders. The state of the painting of the mihrāb is partly deteriorated although its general form is still quite clear. The main factor causing the gradual process of damage and deterioration of the polychromy is the salt accumulated from the joints between the limestone blocks.

Resulting from the exploration of both crypts the traces of the burials of two people, each in a separate crypt, were discovered.

#### CRYPT 1 (MALAKTAMUR AL-ḤIĠĀZĪ).

Close to the wall there was a skeleton in anatomical position (Pl. XXIV). The face was primarily directed to the mihrāb (Mecca) but the preserved skeleton is incomplete and it had been moved in the past. In the neighbourhood neither the objects of burial equipment nor the rest of tissues were found.

#### THE DESCRIPTION OF THE SKELETON

##### *The skull*

Only calva and separately a part of maxilla were preserved. The frontal squama slightly bent backwards. Supraorbital part crumbled in its right side. On the preserved bone there is visible the left massive arcus superciliaris, ended with the massive processus

<sup>(1)</sup> The analysis of the text of the inscription was done by the archaeologist of Islam, Medhat al-Minabbawi. The main difficulty in reading the inscription was an accumulation of salt from the horizontal joint of stone blocks in

the lower part of the line of Arabic letters.

Translating it into English the inscription reads : « There is no more merciful and compassionate god than Allah ».

zygomaticus ossis frontalis. Right temporal bone with large squama, massive processus mastoideus with broad incisura and large, deep fossa mandibularis. Both parietal bones — massive, without parietal tubers. Lineae temporales distinct. Occiput bulgy with the inlay (os Inca) on the suture on left side. On the border of squama and part basilaris — distinct osseous crista with triangular, flat protuberantia occipitalis externa in the middle.

All cranial flat bones are thick (thickness 7-11 mm). Cranial sutures not complicated. Coronal suture obliterating in its lateral parts. Sagittal and lambdoid suture open with described above inlay. Squamose suture — very simple. Parietomastoidea and occipito-mastoidea sutures — open.

Mandible very massive and large. Mandibular ramus set perpendicular to the corpus, very broad. Angulus rounded with big tubercles. Mentum — large, protuberantia mentalis — distinct, sharp lower border of mandibular corpus. Articular process set horizontally (the feature of the White Variety).

Teeth preserved in tooth-sockets of maxilla and mandible only slightly worn ( $M_3$ —absent). There were no traces of caries.

*Dimensions of skull :*

g - op	186 (?)	go - go	125
eu - eu	157 (?)	id - gn	36
ft - ft	100	co - go (right)	74
ms - ms	112		
Width of the mandibular ramus — right	...	40	
Width of the mandibular ramus — left	...	41	
Thickness of mandibular corpus	...	17	
Breadth — length index of skull	...	84.4 (brachycran)	

*Postcranial skeleton*

Of the bones of trunk only a few, massive vertebrae, sternum and some ribs and sacral bone were preserved. Sacrum rather flat, long, with canalis sacralis open on its whole length.

From the upper limb massive left scapula and very massive clavicles with overgrown ends. Very massive humeral bones, radial and ulnae bones. Few bones of hands. From the lower limb massive pelvic bones preserved with the thick crista and thickened tuber ischiadicum. Femurs very massive. Fragments of tibia and fibula, few bones of foot.

*Dimensions of postcranial skeleton :*

Columna vertebralis	— height of vertebral corps ... ..	21-31 mm
Sternum	— length of manubrium ... ..	50 mm
	— breadth of manubrium (min.) ... ..	30 mm
	— breadth of manubrium (max.) ... ..	74 mm
	— length of the corp ... ..	133 mm
Ribs	— average breadth ... ..	ab. 23 mm
	— average thickness ... ..	ab. 10 mm
Clavicula (right)	— length ... ..	163 mm
	— sagittal med. diameter... ..	18 mm
	— vertical med. diameter... ..	13 mm
Humerus (right)	— maximal length ... ..	343 mm
	— maximal diameter of head ... ..	51 mm
	— sagittal diameter of shaft ... ..	30 mm
	— transversal diameter of the middle of shaft ... ..	22 mm
	— trochlearis breadth ... ..	30 mm
	— breadth of fossa olecrani ... ..	22 mm
	— maximal epicondylar breadth ... ..	61 mm
Radius (right)	— maximal length ... ..	260 mm
	— maximal diameter of head ... ..	26 mm
Ulna (right)	— maximal length ... ..	273 mm
	— olecranon-coracoid diameter ... ..	30 mm
Femur (right)	— maximal length ... ..	468 mm
	— natural length ... ..	468 mm
	— maximal diameter of head ... ..	53 mm
	— sagittal diameter of collum ... ..	32 mm
	— vertical diameter of collum ... ..	37 mm
	— sagittal diameter of shaft ... ..	35 mm
	— transversal diameter of shaft ... ..	33 mm
Pelvis	— cavum medullare thickness ... ..	15 mm
	— maximal height (right) ... ..	240 mm
	— maximal height (left) ... ..	240 mm

[Other preserved bones are not measurable].

## PATHOLOGICAL AND GENERAL CONDITIONS

Well preserved are mostly the bones of the right side. These were laid in dry sand, since the deceased was put to the tomb on his right side.

The skeleton upon the whole has not pathological changes. The articular surfaces are not overgrown — only articular surface of the preserved fragment of left incisura

ulnaris is slightly overgrown —. The vertebrae without pathological changes. The teeth without caries with normally worn off crowns.

Only open canalis sacralis of the sacral bone can be considered as a pathological condition. It is open on its whole length, but such structure of the canalis could be unnoticed the whole life.

These bones belong to the male of massive morphological structure in good state of health, most probably of the White Variety, 173 cm tall. His age at death was 35-40 years.

### CRYPT 2 (TATAR AL-ḤIĠĀZIYYA).

Close to the wall separating the two crypts there was a dark brown, human skeleton in anatomical position. The skeleton was incomplete, partly decayed and buried in sand to a considerable extent. Its skull was preserved only in 6 fragments (Pl. XXV).

Similarly as in the other case neither the burial equipment nor the remnants of the shroud were found.

#### THE DESCRIPTION OF THE SKELETON

##### *The skull*

Left part of the smooth squama of os frontale connected with the left part of os parietale with a fragment of tuber parietale. The frontoparietal suture obliterated and hardly visible. On the preserved fragment of os occipitale, at the site of protuberantia occipitalis externa — a slight triangular convexity with vertical line leading to planum nuchae. Separately left temporal bone with broken off squama and quite deep fossa mandibularis. Porus acusticus externus — small, and narrow and also small processus mastoideus with a wide incisure.

There was also preserved a decayed fragment of typically female ramus mandibulae with articular surface of the head placed horizontally (White Variety) and the beginning of curved angulus.

These few bones of the skull are of delicate, small structure. The thickness of the cranial vault is from 4 to 8 mm.

##### *Postcranial skeleton*

There are only few bones, very fragile. There are : a fragment of the body of vertebra lumbaris with thinned articular surface of the body with overgrowths and bony « flounces ».

Inferior epiphyses of both humeri — small and delicate.

Right radius (long. max. 183) is well preserved with the maximum capitulum radii of 16 mm.

Preserved superior epiphyses of both small ulnae.

Inferior epiphysis of right femoral bone with strongly overgrown knee surface framed with bony ledge. Small right patella (35×35 mm) with overgrown articulation surface with external « icycles ».

#### PATHOLOGICAL AND GENERAL CONDITIONS

Similarly as in the skeleton from crypt 1, the bones of the right side were better preserved what suggests that the body was primarily put on the right side.

Delicate structure and relief of all preserved fragments, especially the skull, allow the statement that it is a female skeleton of a short and fragile woman most likely belonging to White Variety of Arabic type. Cranial bone sutures, articular overgrowths (« flounces » and « icycles ») allow to determine her age at the time of death as about 65-70 years.

#### CONCLUSIONS

The examinations of the skeletons of Emir Malaktamur al-Ḥiğāzī and Princess Tatar al-Ḥiğāziyya enlarge the knowledge of those well known historical notorieties.

Both, most likely, belonged to the Arabic type of White Variety — which made up most of the aristocracy at that time —.

Malaktamur was killed at the age of about 35-40 years. Princess Tatar outlived him by about 30 years. These determinations of their origin and age at the time of death verify written historical documents.

Their grave, most likely, was not penetrated, a fact which is proved by anatomical position of the skeletons put on their right sides facing Mecca — better preserved bones of the right side —. On the other hand, the loss of numerous bones, especially in the skeleton of the Princess, the lack of any remnants of shrouds which undoubtedly covered the bodies are the proofs of the activities of small rodents (rats, mice) and insects in the graves.

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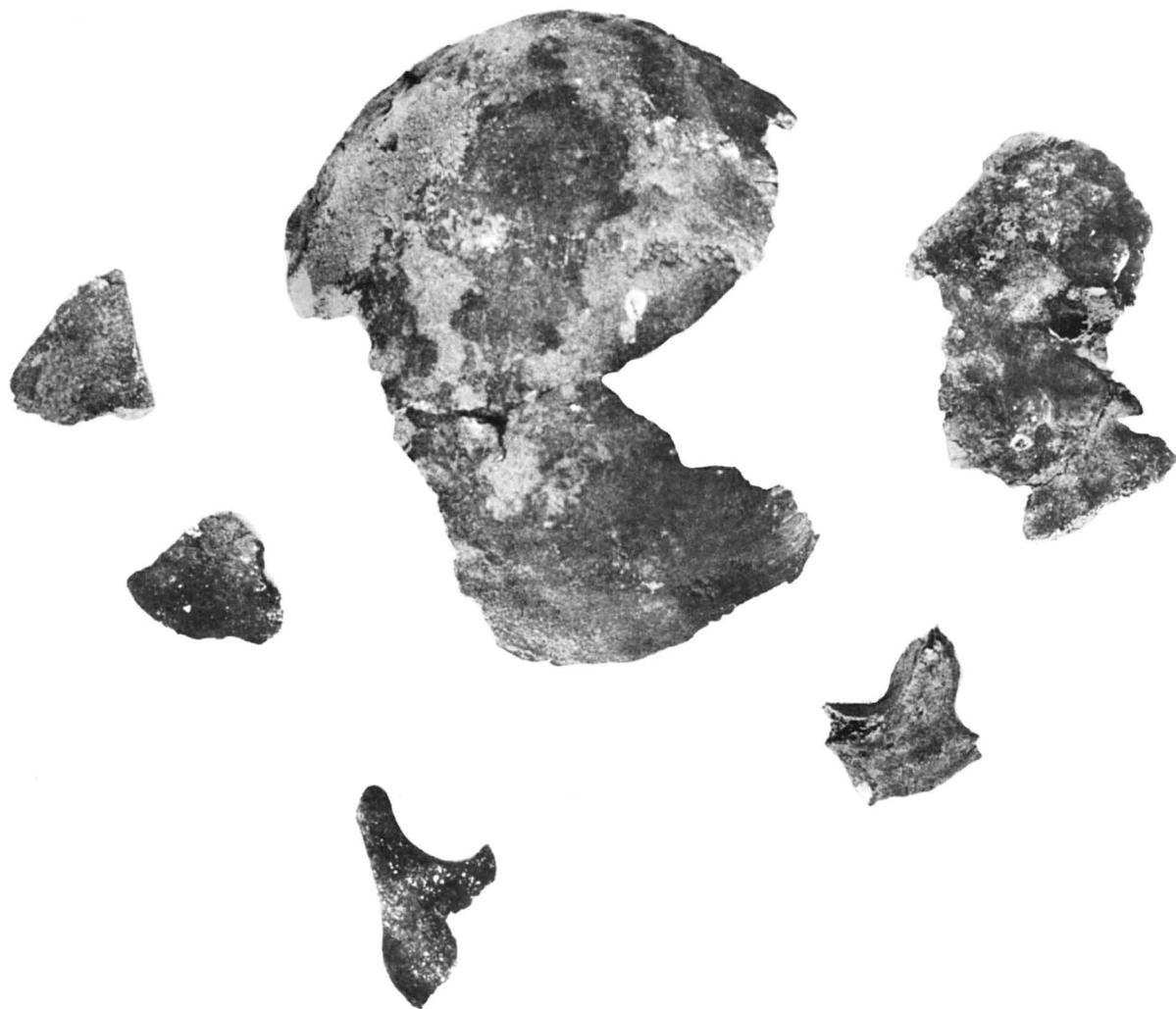
The view of the cenotaf from the North side (photo by Zbigniew Dolński — 1982).



The state of preservation of the mihrāb polychromy.



The skeleton of Emir Malaktamur in the crypt No. 1 — the state after the exploration of the crypt (photo by Zbigniew Dolinski — 1982).



The remnants of the skull bones of Princess Tatar al-Ḥiġāziyya (photo by Zbigniew Doliński — 1982).