

## Some Inscribed Plaques from Abusir\*

### بعض اللوحات المنقوشة من أبوصير

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#### ملخص

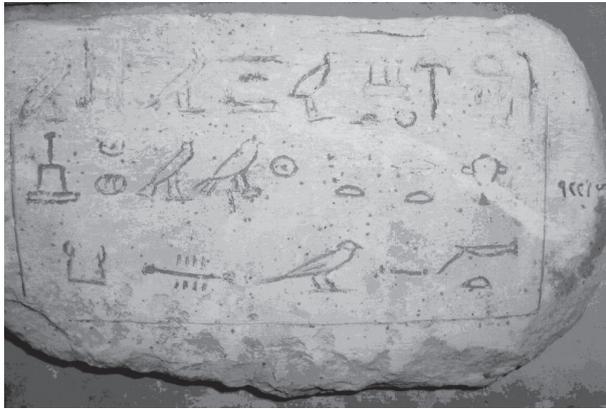
يناقش البحث حوالي ثلاث لوحات صغيرة من الحجر الجيري من الأسرة الخامسة، التي تم اكتشافها بمعبد الشمس للملك أوسركاف بأبوصير في أواخر خمسينيات القرن الماضي. كما توجد بقايا كتابات هيروغليفية على اللوحات بخط بسيط أظهر الكتابات المميزة لبعض العلامات. هذا بالإضافة إلى مناقشة شكل كتابة العلامات، ويناقش البحث بعض النقاط الخاصة بتنظيم القوة العمالية. وقد نُشرت أبحاث في الخمسينيات لتلك اللوحات بدون أن تكتب القيم الصوتية للعلامات أو التعليق التفصيلي الخاص بها.

Several inscribed limestone plaques were discovered in the sun temple of King Userkaf in Abusir near Giza. Herbert Ricke conducted excavations in the site between 1955-57 and he and Gerhard Haeny published their findings and studied the site between the mid 1950s and early 1960s. Miroslav Verner and the team of the Czech expedition conducted a systematic archaeological survey of the area that included the area between the pyramid of Sahure and the Sun Temple of Userkaf.<sup>1</sup> Only three plaques have actually survived to the present time and are presently kept in the Sakkara museum storage area by the Imhotep Museum.<sup>2</sup> A fourth plaque was copied in the excavator's field notes but is not presently with the other pieces.<sup>3</sup> The pieces are from the Fifth Dynasty, and were probably inscribed by one or more scribes of the workers working on the temple of King Userkaf. They were meant to record progress and keep track of the organizational groups of workers. After examining the plaques it appears that the writing style is very similar and was probably done by the same person who may have been a scribe of the workforce. The plaques appear to be periodic short reports stating the work conducted in the sun temple of Userkaf within a

certain time around Year five of King Userkaf's reign. The inscriptions seem to have been executed with a sharp object to make the incisions, which were later filled or lined with black.

Apparently work in the sun temple of Userkaf underwent up to four major consecutive transformations. Userkaf's successors Neferirkare and Niuserre were responsible for the later stages of the work since Userkaf's of seven years was not long enough. The upper temple was almost totally destroyed and much of the temple was later used to quarry stone. Parts of the granite obelisk were found in the upper section. The presence of an upper structure corresponds to what is mentioned in plaque A.<sup>4</sup>

The writing on the plaques all start with a date including a month date. In three cases (B, C, D) we have numbers of units which are probably workers. Two include a place of work. All the dates on worker writings indicate the seasons of *Peret* and *Shemu* which means the work was probably carried out in one of those two months.<sup>5</sup> A particular sign appears throughout the plaques. It is the sign for *s3* or phyle. From the middle of the First Dynasty to the end of the Fifth Dynasty, we know of the existence



(Fig. 1) Plaque A, photographed by author.

of these *s3w* or phyles of workers. Bilingual texts from the Greco-Roman Period translated the word *s3* as the Greek word *phyle* which would indicate tribes. The plural *s3w* are probably subdivisions of gangs of workers.<sup>6</sup> Phyles were organizational units which divided workers into groups. They were used for royal and non-royal cults and construction crews. They may also have been used for palace workers and priests. Stone masons' graffiti similar to that of the workers in Menkaure's upper pyramid temple, indicate signs after the hieroglyph for *s3* which might indicate smaller divisions of workers. Lehner believes these words for the lower divisions of the labour force stand for words like 'strong, first, noble and rising'. The graffiti from the Menkaure temple indicates at least four subdivisions in *s3w*.

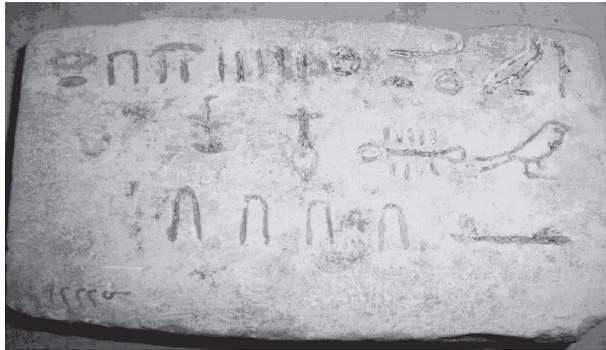
The plaques have one phyle name each, followed by what we believe to be a sub-division of a phyle. They also all indicate directions such as west (*imy wr* in B), north (*mht* or *mhtt* in A and C) and possibly south (*rsy* in D). Unlike Middle Kingdom phyles which tended to have numbers, Old Kingdom phyles usually had names instead of numbers.<sup>7</sup> The five names of phyles were: *wr*, *st*, *w3dt*, *nds*, *imy-nfrt*. These were the ones operating on a monthly rotation. The plaques from Userkaf's sun temple in Abusir show the names of several similar phyles: *wr* (D for sure, A



(Fig. 2) Plaque C, photographed by author.

and C appear to be *nds* not *wr*), *imy-wrt* in B line 2 (here B is missing), *imy-wrt* does not have a *s3* sign after it like the others. Moreover, the other plaques all mention one phyle only and have a subdivision following the sign for *s3*. Edel reads this sign as *phyle imy-wrt*, while Roth translates it as *west*.<sup>8</sup> In B line 3, *imy-nfrt* is not so clear, and possibly *nds* in A and C.<sup>9</sup>

The organization of workers appears to be as follows. First there was a *pr* or gang which was above a phyle.<sup>10</sup> Smaller divisions were probably tens or sometimes 'shabtis'. Dr. Zahi Hawass discussed the pyramid workers in Giza and their organization. The community of workmen located south of the Wall of the Crow in Giza had around 18,000 people and around 10,000 workers.<sup>11</sup> It was established by King Khufu (Cheops) and continued to serve as a village or settlement for the other pyramid workers. Apparently there were crews of around 2000 workers headed by a leader. These were then divided into two groups of one-thousand each, which may be called gangs. Royal gangs of workers often carried names associated with the names of kings such as 'Friends or Companions of Khufu' or 'Drunkards of Menkaure'.<sup>12</sup> The next division was into phyles or Φύλη, a Greek word meaning tribe or clan or brotherhood and having around 200 workers each.<sup>13</sup> The names of the



(Fig. 3) Plaque D, photographed by author.

phyles also strongly indicate their nautical origins due to their meanings. In fact, according to C. Eyre 'the organisation of a boat was the archetype for the organization of any body of men'.<sup>14</sup> The word *grat* or *wr* could mean either the great or starboard/front. *sty* meant the Asiatic<sup>15</sup> or port (*t3 wr* being the word for port).<sup>16</sup> *w3dt*<sup>17</sup> was the green one or prow/starboard or rear, *nds* meant little or the stern/port rear, and *imy nfrt* meant good phyle and may have referred to the helmsmen position on the ship/steerage.<sup>18</sup> The word *s3* or phyle itself probably means 'watch' and the system may have evolved out of organizing crews on ships where they had to have rotating watches.<sup>19</sup> From the plaques at Abusir, it appears that the phyles also had smaller sub-divisions which carried names such as *k3* 𓀀 (A and C), *dd* 𓄳 (B), *nfr* 𓏏 (D) and *rsy* 𓏏 (D), although *nfr rsy* 𓏏𓏏 on *d* may also be read as southern *nfr* and as such may be indicative of one sub-group not two. These would probably have contained around ten divisions of about twenty men each since the plaques indicate a number of 22 individuals in (B), 23 in (C), and 40<sup>20</sup> probably for the two sub-divisions of *nfr* and *rsy* in (D).<sup>21</sup>

Regarding phyle membership and organization, in the Old Kingdom there is enough to indicate a rotating system where the phyle names appeared the same for many years and probably had a fixed approximate number of members but their members were changed over the years.<sup>22</sup> According to Z. Hawass's



(Fig. 4) Separate plaque, *wr* phyle 2, photographed by author.

excavations in the Giza plateau on Fourth Dynasty workers, peasants from surrounding villages probably did rotating service in organized groups of workers. There was a general system of using five groups which worked in monthly rotations. In some cases, the crews rotated on a ten month basis. Skilled builders and construction workers probably worked year round on pyramid sites. The Abusir Papyri also seem to indicate a system of rotation and serving periodically. There is nothing to indicate that membership in phyles was open to women. In the Old Kingdom, most references to women in the labor force were in association with domestic and personal services with some weaving and some field work. There is one instance of women in the labor force which is probably more of an

exception.<sup>23</sup> We know from references in the Deir el Medina community of royal tomb workers in the New Kingdom that women in the village were mainly family members of tomb workers, or servants or slave girls who handled things like cleaning, cooking, washing, grinding grain and generally performed support services in the houses of the workers. The wages of these female servants or slaves were paid as part of the wages of the workers.<sup>24</sup> Although the plaques were from the Old Kingdom and the Deir el Medina materials is mostly from the New Kingdom, it is probable that the system remained the same since the old days. Moreover, Z. Hawass made a rough comparison between the workers' community in Giza and Deir el Medina and found they had several things in common with settlements for workers in tombs in ancient Egypt.<sup>25</sup> This may even bring us again to the nautical references and probable origin of phyles since sailors are very superstitious people and until recently it was considered unlucky to have a female on board a ship, let alone as a member of the crew. It is also believed that geographical origins and skills played a main role in determining the names of worker groups. At first there was a belief that these phyles of workers were mainly an aspect of labor organization in the Memphite necropolis; particularly around Saqqara, Abusir and Giza.<sup>26</sup> They were employed in building tombs and in post-mortuary cults. Some of the priests who served in temples also did so as part-time priests or members in phyles.<sup>27</sup> They would work for a few months in a priestly job while their phyle served there, then work on another non-priestly job in other parts of the country for the remainder of the year.<sup>28</sup> Most priesthoods, especially in the Old Kingdom, were made out of *h̄mw n̄tr*, *w<sup>c</sup>bw* and *h̄ntyw-s<sup>c</sup>*. The priesthoods were divided into five basic groups or phyles organized using nautical names. It has been suggested that around 40 priests would constitute a group.<sup>29</sup> Edel has also demonstrated that expeditions

of workers left from and returned to Memphis.<sup>30</sup> It may have been that crews were organized and recruited in Memphis in the main administration, then dispatched to different parts of the country. However, titles of Overseer of Phyles of Upper Egypt and Overseer of Phyles of the Nome, indicate otherwise. Several inscribed items belonging to workmen have also been found as far away as Nubia and Syria, although that may be unrelated to work.<sup>31</sup>

Regarding the free will of the workers, it is not certain how they worked exactly. According to W.R. Paterson, 'The ramparts of every fighting city, the walls of Babylon and Nineveh, and the massed monuments of Egyptian Thebes, the Palace of Cnossus, and the Palace at Khorasabad, the Parthenon and the Pantheon, The Colosseum and the great Roman Baths were built because millions of workmen without an indenture, were compelled to build them'.<sup>32</sup> However, recent evidence suggests that the workers of the pharaohs were paid in kind. However, it may be more difficult to ascertain how much the workers were able to 'live free of manipulation by others, to pursue a life of their own choosing'.<sup>33</sup>

There is a remote possibility that circumcision was practiced as a rite of initiation into becoming an active member of a phyle. The connection between circumcision and initiation into phyles is a result of several instances. A ceremony which may be construed as circumcision or grooming by trimming or removing the pubic hair, is shown in the tombs of Khentika and Ankhmahor in scenes which mention team sports.<sup>34</sup> Phyles are mentioned as teams in the tomb of Mereruka. In Coffin Texts Spell 397, the verb *s<sup>c</sup>bt*  to circumcise, is used in connection with ship-building and searching for a ship that has been taken to pieces (*s<sup>c</sup>bt* or literally circumcised) in the dockyard and he orders its reconstruction.<sup>35</sup> Another scene identifies four rows of men who were from the phyle *n h̄st* and were bringing cloth to a festival of circumcision.<sup>36</sup> Ritual

cleaning by removing excess pubic hair may also be considered an important ritual. The age of the workers who seem to undergo this operation seems to be an advanced age since they are shown as adults and not in a smaller size or with any of the identifying marks of childhood such as nudity, a hand in the mouth or a side lock of hair. However, this point is uncertain first because the scene in the tomb of Ankhmahor may indicate grooming rather than circumcision, and second because there is no direct reference to it in texts to indicate it was used as a membership rite in organizational units of workers (Fig. 5).

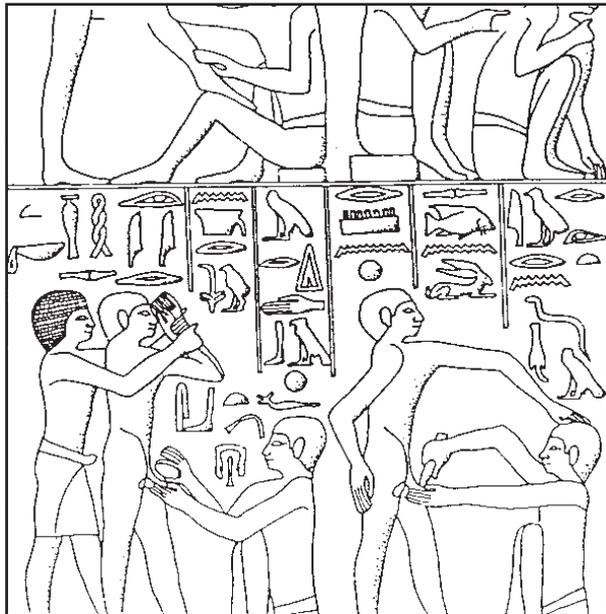
Following is a translation of the four plaques mentioned above:

A) *Number:* S/9221 (also referred to in Edel as US 4)<sup>37</sup>

*Dimensions:* (9.3x16.5), l: 22 cm, w: 12.2 cm, th: 4 cm

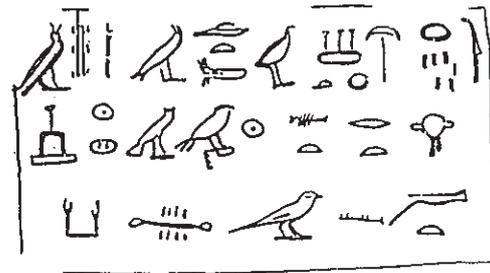
*Provenance:* Sun Temple of King Userkaf, Abusir

*Date:* Fifth Dynasty, Reign of King Userkaf, (ca. 2498-2345 BCE), 5<sup>th</sup> year of his reign.



(Fig. 5) Tomb of Ankhmahor, Saqqara, Old Kingdom. Circumcision and/or grooming. A.M. Roth, *Egyptian Phyles in the Old Kingdom*, SAOC, no. 48 (1991), 67.

*Description:* Limestone plaque inscribed on one side. Sunken relief with black filling. Text consists of three rows of hieroglyphic text enclosed in a rectangular frame. (Fig. 1) Writing is from right to left.<sup>38</sup>



A

*Rnpt ḥsbt* or *ḥ3t sp 5 (diw) 3bd 1 (w<sup>c</sup>) 3ḥt wdt m ḳd m ḥrt nt R<sup>c</sup> m Nḥn - R<sup>c</sup> mḥt n nḏs s3 k3*

*Translation:* Regnal year five, first month of Akhet. Beginning of work in building the upper part<sup>40</sup> of Ra in (the Sun Temple) Nekhen Ra, on the north side, the phyle Nedjes, lower division Ka.<sup>41</sup>

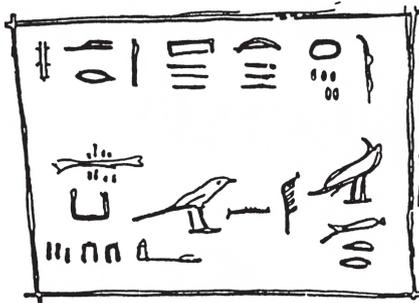
Remarks: The Sun Temple of King Userkaf was called Nekehn-Re or ‘Stronghold of Re’ according to Verner.<sup>42</sup> Petrie however read that circular sign as *sp* rather than *nxn* and therefore translated the name as ‘Occasion of Re.’<sup>43</sup> The first part of the name *nxn* follows the ancient name of Hierakonpolis. This temple is the earliest known of the two surviving sun temples of this period, although six temples were named. As Userkaf reigned for around seven years (2465-c.2458 BCE), he did not have time to complete the Sun Temple and it was finished under his successors Neferirkare and Niuserre. Mark Lehner suggests that the upper temple of Userkaf may have followed the main plan in Hierakonpolis or ancient Nekhen with a rectangular enclosure wall and a central mound.<sup>44</sup> He believes the hieroglyphic rendering of the temple resembles a mast projecting from a mound which may



*Provenance:* Sun Temple of King Userkaf, Abusir

*Date:* Fifth Dynasty, reign of King Userkaf, (2498 ca. 2345 BCE), 5<sup>th</sup> year of his reign.

*Description:* Limestone plaque inscribed with three lines of text in sunken relief with black filling. Writing is from right to left.



C

*Rnpt ḥsbt qr ḥ3t sp 5 (diw) 3bd 3 (ḥmt) šmw kdt 54 m mḥtt in nds s3 k3 mḥ 23.* (Fig. 2)

*Translation:* Regnal year five, third month of Shemu, construction of the northern part (of Nekhen Ra) by the phyle Nedjes, lower division (or sub-division) Ka, consisting of twenty-three (23).

The word *kdt* appears with a slightly different writing in: Rainer Hannig and Petra Vomberg, *Wortschatz der Pharaonen in Sachgruppen, Series: Kulturgeschichte der Antiken Welt, Band 72* (Mainz, 1998): 506. The meaning is still almost certainly work or labour.

The word *s3 k3* appears on plaques A and C. In plaque C the lines are not very even and the writing style of the signs is slightly different from the *s3 k3* in plaque A. It looks like a bone in plaque C. This may be due to the small size of the plaque or because the writer was distracted and forgot to write the sign for *s3* before he wrote the *k3* sign, so he just wrote it above it. This would still not explain why the ‘m’ appears and the *mḥtt* sign is placed underneath the ‘m’. The only really straight line in plaque C appears to be the first one.

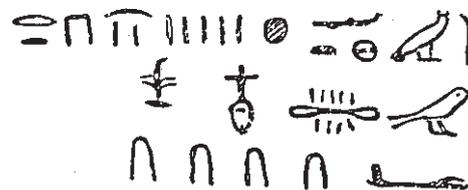
*D) Number:* S/9222 (US 81)

*Dimensions:* L: 18 cm, w: 10 cm, th.: 3.5 cm

*Provenance:* Sun Temple of King Userkaf, Abusir

*Date:* Fifth Dynasty, Reign of King Userkaf, (ca. 2498-2345 BCE), apparently after Year 5 of his reign

*Description:* Limestone plaque inscribed on one side. Sunken relief with black filling. Text consists of three rows of horizontal hieroglyphic text. Writing is from right to left. (Fig. 3)

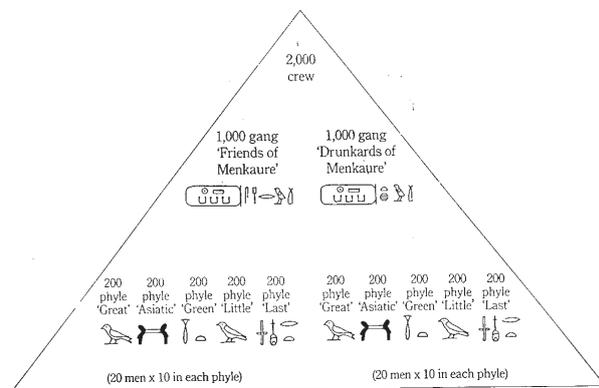


D

*Rnpt ḥsbt qr ḥ3t sp m ḥt 5 (diw) 3bd 2 (sn -nw) prt wr s3 nfr rsy mḥ 40*

*Translation:* Regnal year after five, month two of Peret, the phyle Wer, lower division (or sub-division) Nofer (and) Resy, consisting of forty in number.<sup>55</sup>

*Remarks:* The presence of two groups of Nofer and Resy would correspond more with the above given numbers of phyle members which ranged between 22 in B and 23 in C.



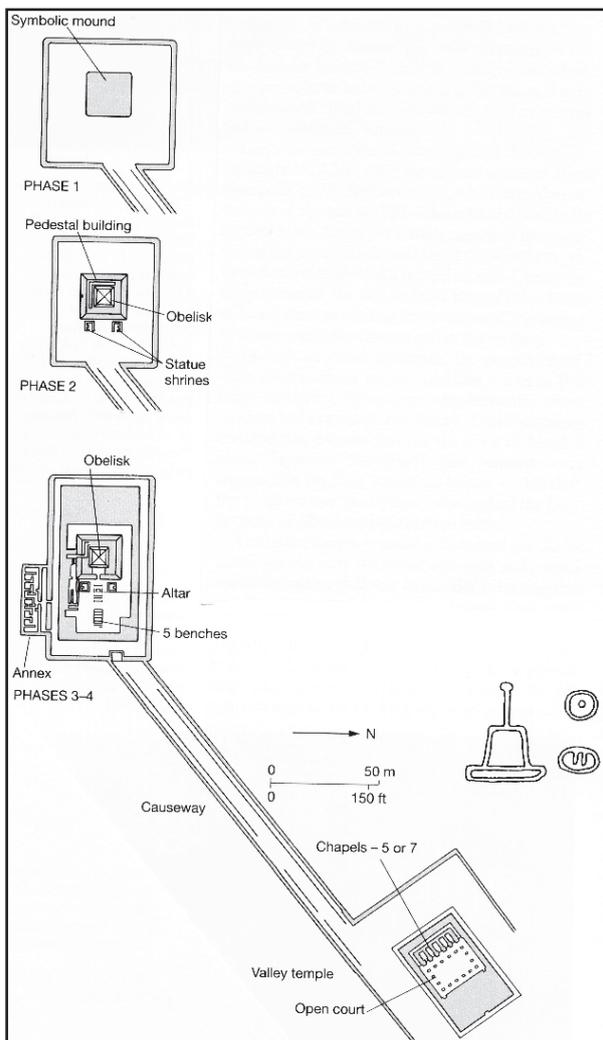
Suggested organization of Old Kingdom workforces. Lehner, *The Complete Pyramids* (London, 1997), 225.

The full name of the phyle written as *wr* on plaque D may have been *imy wrt*. In addition to appearing on a plaque from the Sun Temple of Userkaf, the name also appeared in the Abusir papyri.

### Conclusion

The plaques discovered in the Sun Temple of Userkaf (Fig. 6) offer insight on the organization of the work force in ancient Egypt. They reflect the presence of a specialized scribe, in addition to mentioning dates, areas or directions of work and names of divisions and sub-divisions of workers. The calligraphy is quite clear particularly with the

black incisions. The exact purpose of the plaques is unknown though. They might have been used for record keeping since we have names and dates. It is unlikely that their role was similar to the role of the commemorative scarabs of Amenhotep III. It would have been very helpful if we had longer records of names of workers since names offer insight into religion and habits and even the localities the workers may have come from. Regarding the role and position of women, although the evidence is sketchy, it appears they were not usually active members in groups of workers in major construction sites. Since these workers were employed in heavy labor work and probably lodged together, then they would have been mostly composed of men who appear to have competed together in sporting events or in work. It is also uncertain whether circumcision or special grooming were essential parts of a ceremony to become an active member of a phyle or group of workers. The organization of the work force in these major building operations of the Old Kingdom appears to have been based on the organization of crews of ships judging by the abundance of nautical terms.



(Fig. 6) Plan of the Sun Temple of King Userkaf. Mark Lehner, *The Complete Pyramids* (London, 1997), 150.

### Notes

\* Special thanks are due to Mr. Khaled Mahmoud, Director of the Museum Storage in Sakkara, Dr. Aisha Mahmoud Abdel-Aal at Ain Shams University, Miss Ghada El-Bahnasawy who helped with the hieroglyphs on Winglyph, Mrs. May Khairy who helped with the German texts, and Dr. Mark Lehner, Chicago, who suggested references and shared his information on workers in the Old Kingdom.

- 1 Miroslav Verner, 'Archaeological Survey of Abusir', *ZÄS* 119, (1992), 116-124.
- 2 According to the SCA staff, the plaques were discovered in the late 1950s and early 1960s and were with other pieces said to be from the work of the late archaeologist Zakaria Ghoneim.
- 3 E. Edel, 'Die Kalksteintäfelchen', *Beiträge zur Ägyptischen Bauforschung und Altertumskunde (BÄBA)*, Heft 8, Band II, (Wiesbaden, 1969), 2. Edel indicates the much earlier

- discovery date of 1913 for this missing plaque which he called plaque B. Borchardt is mentioned in association with it. References such as Edel and Roth present the texts and comment on certain aspects, but they do not offer the transliteration which we offer in the text with minor variations in reading.
- 4 M. Lehner, *The Complete Pyramids*, (London, 1997), 150. Five low mud brick and stone benches were discovered in the temple. Ricke thought they may have been places to set out the offerings on low benches for the priests. However, the number five corresponds to the number of the five phyles. Moreover, a small stela was found imbedded in one of the benches bearing the label *wr*. No stelae were discovered in the following two and the others were left unopened.
  - 5 C.J. Eyre, 'Work and the Organisation of Work in the Old Kingdom', in M. Powell (ed.), *Labor in the Ancient Near East* (New Haven, 1987), *American Oriental Series*, Vol. 68, 17.
  - 6 M. Lehner and W. Wetterstrom, (ed.), *Giza Reports: The Giza Plateau Mapping Project*, vol. I (Boston, 2007), 191.
  - 7 A.M. Roth, *Egyptian Phyles in the Old Kingdom: The Evolution of a System of Social Organization*, *Studies in Ancient Oriental Civilizations* (SAOC) no. 48 (Chicago, 1991), 9.
  - 8 Roth, *Egyptian Phyles in the Old Kingdom*, 12; Edel, *Beiträge zur Ägyptischen Bauforschung und Altertumskunde*, 5.
  - 9 Roth, *Egyptian Phyles in the Old Kingdom*, 9.
  - 10 Rainer Hannig, *Die Sprache der Pharaonen: Grosses Handwörterbuch Ägyptisch-Deutsch* (2800-950 v. Chr.) (Mainz: 1995), 137. [meist pl aprw]. Schiffsmannschaft, Matrosen (eingeteilt in Phylen/Züge); Kompanie ≈ *wi3* Kapitän, ≈ *w nw* Crew der Flotte des Königs *hrp*. Leiter der Abteilungen *imy-r3* ≈ *w* Vorsteher der (Schiffs) mannschaften *imi-irti*. Kapitän/Löse der Marinebrigaden *sš*. Schreiber der Abteilungen, 2. Arbeitermannschaft (eingeteilt in Phylen, viell à 200 Mann).
  - 11 Z. Hawass, 'The Workmen's Community at Giza', in M. Bietak (ed.), *Haus und Palast im Alten Ägypten*, (Wien, 1996), 67.
  - 12 <http://www.guardians.net/hawass/buildtomb.htm>; F. Petrie, and Z. Hawass, *The Pyramids and Temples of Gizeh*, (London, 1883). Republished online with the participation of Z. Hawass at *The Pyramids and Temples of Gizeh* Online, R. Birdsall (ed.), (2003), <http://ronaldbirdsall.com/gizeh>.
  - 13 زاهي حواس، 'التجمع العمالي بعبانة الجيزة: اكتشاف مقابر العمال بناة الاهرام'، حوليات المجلس الاعلى للآثار، المجلد الثاني، (2005)، 123.
  - 14 Eyre, in Powell (ed.), *Labor in the Ancient Near East*, 11. They were divided into apr or crews named after the king for whom they worked such as 'Mycerinus excites love'. Crews were subdivided into *s3w* which is gangs or phyles.
  - 15 In this instance the sign probably means port since all these terms are related to nautical terms.
  - 16 Lehner, *The Complete Pyramids*, 225.
  - 17 stern or bow of ship. Dilwyn Jones, *A Glossary of Ancient Egyptian Nautical Titles and Terms*, (London and New York, 1988), 159. *t3 wr*, Jones, *A Glossary of Ancient Egyptian Nautical Titles and Terms*, 261, larboard side of ship or left side.
  - 18 Eyre, in Powell (ed.), *Labor in the Ancient Near East*, 12; A. Winston, 'The Labors of Pyramid Building', Website: <http://www.touregypt.net/featurestories/pyramidworkforce.htm>.
  - 19 Roth, *Egyptian Phyles in the Old Kingdom*, 9. Figures 22 and 23.
  - 20 Lehner and Wetterstrom, *Giza Reports*, vol. I, 190-191. Mark Lehner and his team discovered what are thought to be sleeping spaces in Giza in Gallery III.4 that fit 40 people with each 20 lying on one side. This would fit nicely with the numbers given on the plaques of subdivisions of 20 something. Those spaces discovered were thought to be barracks. Paule Posener-Kriéger suggests that the phyles or *s3w* were divided into halves of 20, and that a half phyle was in service at any given time. Paule Posener-Kriéger, *Les Archives du Temple Funéraire de Néferirkarê-Kakai* (Les Papyrus d'Abousir), *Bibliothèque d'Étude* 65, I and II, 1976 (31 A and B, 1, 31, 4, 63, A, etc.).
  - 21 Lehner, *The Complete Pyramids*, 225. Lehner suggests that the phyles had 10 subdivisions of 20 each or 20 subdivisions with 10 each.
  - 22 W. Helck, 'Phyle', *LÄ*, (Wiesbaden, 1984), 1044.
  - 23 Eyre, in Powell (ed.), *Labor in the Ancient Near East*, 38.
  - 24 J. Toivari-Viitala, *Women at Deir el-Medina: A Study of the Status and Roles of the Female Inhabitants in the Workmen's Community during the Ramesside Period* (Leiden, 2001), 5-6.
  - 25 Hawass, in Bietak (ed.), *Haus und Palast im Alten Ägypten*, 64.
  - 26 Z. Hawass believes that the workers came from the Memphite region and carried their bread and beer with

- them. They walked to the pyramids or used the Nile route. Hawass, in Bietak (ed.), *Haus und Palast im Alten Ägypten*, 67.
- 27 H. Kees, 'Die Phylen und ihre Vorsteher im Dienst der Tempel und Totenstiftungen (Untersuchungen zur Struktur der ägyptischen Priesterschaft im Alten und Mittleren Reich)', *Orientalia N.S.*, vol. 17 (1948), 71-90.
- 28 A.M. Roth, 'A Preliminary Report on a Study of the System of Phyles in the Old Kingdom', *Newsletter of the American Research Center in Egypt (NARCE)* 124, (1983), 30.
- 29 M. Verner, *Forgotten Pharaohs, Lost Pyramids, Abusir* (Praha, 1994), 164.
- 30 E. Edel, 'Inschriften des Alten Reiches V. Die Reiseberichte des *hrw-Dhwjff*', in Otto Firchow (ed.), *Ägyptologische Studien* [Hermann Grapow zum 70 Geburtstag gewidmet], *Veröffentlichung (Deutsche Akademie der Wissenschaften zu Berlin)* 29 (Berlin, 1955), 62-64; Roth, *NARCE* 124, 73.
- 31 Roth, *Egyptian Phyles in the Old Kingdom*, 73, n. 38.
- 32 W. Romaine Paterson, 'The Wonder Workers of the Ancient World', in J.A. Hammerton (ed.), *Wonders of the Past*, vol. II, part 9, 417.
- 33 Barbara S. Lesko, 'Rank, Roles, and Rights', in H. Leonard (ed.) Lesko, *Pharaoh's Workers: The Villagers of Deir El Medina*, (Ithaca and London, 1994), 15.
- 34 Roth, *Egyptian Phyles in the Old Kingdom*, 66.
- 35 Roth, *Egyptian Phyles in the Old Kingdom*, 72; The verb is mentioned in Dilwyn Jones, *A Glossary of Ancient Egyptian Nautical Titles and Terms*, 220 meaning 'take to pieces of boat'. In the Wb, IV, 43 'I. Beim Schiffsbau 10. II. (Stiere) verschneiden, kastrieren II'. In Coptic: **ĀBE**, B. **ĀBEI**, F. **ĀBEI**. Hannig, *Grosses Handwörterbuch Ägyptisch-Deutsch* (2800-950 v. Chr), 669, 1. zerlegen (im Schiffsbau), 2. kastrieren, verschneiden (Stier), 3. beschneiden. Raymond Faulkner, *A Dictionary of Middle Egyptian*, 24, 'saw out? timbers of ship'.
- 36 Roth, *NARCE* 124 (1983), 34.
- 37 E. Edel, *BĀBA*, Heft 8, Band II (Wiesbaden, 1969), 1-22. Plate of 'A' published in Herbert Ricke, 'Erster Grabungsbericht über das Sonnenheiligtum des Königs Userkaf bei Abusir,' *ASAE* 54 (1957): opposite p. 82, Pl. I (b).
- 38 Line drawings of plaques from Edel, *BĀBA*, Heft 8, Band II, 2-3.
- 39 The sign resembling a circle with two horizontal lines inside used in the name of the sun temple in plaque A
- end of line 2, is the character used in the word Nekhen which was the ancient name of El Kab in Upper Egypt. Gardiner O47. The name of the temple is in the Wörterbuch vol. 2, 310 no. 7.
- 40 Compare with other monuments of king Userkaf such as upper temple in the pyramid of the king in Sakkara. See: J.-P. Lauer, 'Le Temple Haut de la pyramide du roi Ouserkaf à Saqqarah', *ASAE* 53, (1956), 119-33.
- 41 Ricke, *ASAE* 54 (1957), 77. Ricke believes the hieroglyphs indicate the name of the sun temple of king Userkaf, Nekhen Ra'ou.
- 42 M. Verner, *Abusir: Realm of Osiris* (Cairo, New York, 2002), 71. (An earlier version of the book was published in the Czech Republic in 1994 under the title *Forgotten Pharaohs, Lost Pyramids/Abusir*).
- 43 W.M.F. Petrie, *A History of Egypt*, (1989), 81.
- 44 Lehner, *The Complete Pyramids*, 150.
- 45 Lehner, *The Complete Pyramids*, 150.
- 46 R. H. Wilkinson, *The Complete Temples of Ancient Egypt* (London, 2000), 121.
- 47 M. F. Mahmoud, 'Pictorial Reproductions of some Old Kingdom Buildings within the Ancient Egyptian Texts', *Fifth Fayoum Conference*, 2-4 April 2005: The Nile and Water Sources in Egypt), part 2, 31.
- 48 M. Mahmoud, 'Pictorial Reproductions of some Old Kingdom Buildings,' 33.
- 49 This writing indicates the name of Userkaf's sun temple with a disk on top. The sun disk is attached to the tip of the obelisk, but could not be executed with the aid of the computer program Winglyph.
- 50 M. Mahmoud, 'Pictorial Reproductions of some Old Kingdom Buildings,' 33.
- 51 M. Mahmoud, 'Pictorial Reproductions of some Old Kingdom Buildings,' 31.
- 52 H. Kees, *Orientalia N.S.* 17 (1948), 73. Mentions it as 'Backbord' (Rechts, Westseite). Wb I, 73, I. Die Steuerbordsite des Schiffes, II. Bez. einer Phyle der Totenpriesterschaft (Eigtl. Steuerbordwache des Schiffes?).
- 53 Wb. I, 74, Name einer Phyle der Totenpriesterschaft 8 A.R.
- 54 The sign for wall in *kd* end of line 1 is probably Gardiner sign list O36.
- 55 Edel, *BĀBA*, Heft 8, Band II. 5.