

## A DEMOTIC INSCRIBED ICOSAHEDRON FROM DAKHLEH OASIS\*

By MARTINA MINAS-NERPEL

A unique icosahedron was found at Qaret el-Muzzawaqa in the 1980s and is now housed in the New Valley Museum at Kharga. It probably dates to the first century AD. In contrast to other icosahedra known from Graeco-Roman Egypt, this one is not inscribed with Greek or Latin letters or numbers, but with 20 Egyptian divine names in Demotic, thus adapting Egyptian concepts to a Greek form. The piece provides striking evidence for the mixing of cultural traditions in Dakhleh Oasis in the Roman Period. The polyhedron was presumably used in an oracular procedure intended to establish which deity would provide help to the petitioner.

THE object discussed here is a limestone icosahedron—that is, a regular polyhedron formed by 20 equilateral triangles<sup>1</sup>—with 20 divine names written in Demotic on its sides. It was found in the 1980s at Qaret el-Muzzawaqa at the western end of the Dakhleh Oasis and is now housed in the New Valley Museum at Kharga (fig. 1).<sup>2</sup> No further information on the find circumstances is available.

During the Graeco-Roman Period, numerous tombs were excavated in the necropolis of Qaret el-Muzzawaqa, ‘the decorated hill’, about 2.5 km from the temple of Amun at Deir el-Haggar. Only two with intact decoration have been discovered so far, the tombs of Petosiris and Petubastis, both dating to the first century AD. Two artistic styles can be recognized in them, Egyptian and Hellenistic-Roman. The religious scenes in the paintings were executed in a more or less traditional Egyptian style, but the tomb owners themselves evidently wished to be depicted according to Roman style. Helen Whitehouse summarized this distinction aptly in 1998 in the title of her article, ‘Roman in Life, Egyptian in Death’, describing one of the tombs as follows:<sup>3</sup>

\* This article is based on a paper presented at the fifth Demotische Sommerschule, 27–30 August 2006, held at the Freie Universität Berlin. I thank the participants for their helpful remarks. I am most grateful to John Baines and Sven P. Vleeming for their advice and for reading a draft of the article.

<sup>1</sup> The icosahedron is one of the five ‘Platonic solids’. The names of the tetrahedron, the hexahedron, the octahedron, the dodecahedron, and the icosahedron derive from the number of faces on each, which are 4, 6, 8, 12, and 20. They are the only regular polyhedra and were named by Plato, who claimed that the classical elements were constructed from regular solids. See P. Cromwell, *Polyhedra* (Cambridge, 1999), 51–94, ‘Rules and Regularity’. For a mathematical discussion see P. Basieux, *Die Top Ten der schönsten mathematischen Sätze* (3rd edn, Reinbek bei Hamburg, 2001), 31–8, ‘Vom antiken Schönheitsideal zur Polyederformel’.

<sup>2</sup> Inv. no. 843; excavation no. 309/1. The icosahedron is 5 cm high and 6 cm wide. I am grateful to Mr Mahmoud Youssef, Director of the New Valley Museums in Kharga, for permission to publish the icosahedron and to take photographs in December 2005 (figs 2–12 and pl. iv).

<sup>3</sup> H. Whitehouse, ‘Roman in Life, Egyptian in Death: The Painted Tomb of Petosiris in the Dakhleh Oasis’, in O. E. Kaper (ed.), *Life on the Fringe: Living in the Southern Egyptian Deserts during the Roman and Early-Byzantine Periods. Proceedings of a Colloquium held on the Occasion of the 25th Anniversary of the Netherlands Institute for Archaeology and Arabic Studies in Cairo, 9–12 December 1996* (CNWS 71 = CNVIC 2; Leiden, 1998), 253.

Of the Graeco-Roman tombs so far discovered in Egypt, that of Petosiris offers probably the most vivid evidence for the mixing of cultural and religious tradition which in recent years has become a focus of interest in the study of post-pharaonic Egypt.

This icosahedron was influenced by exactly the same mixing of cultural and religious traditions, anchored by its form to the Graeco-Roman background, and by the names of the gods and the demotic script to the Egyptian tradition.





FIG. 1. Icosahedron from Qaret el-Muzzawaqa (facsimile by M. Minas-Nerpel).


The Muzzawaqa icosahedron is made imperfectly, and most faces are uneven. This might be due to the fact that it was produced by a person unaccustomed to making regular polyhedra, perhaps by an Egyptian, who might not have had much practice in shaping this sophisticated Greek form.

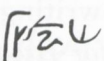
On each of the 20 faces, a divine name is written in demotic. Black ink was used for the script and the outline surrounding each side. The following 20 gods are denoted (fig. 1 and figs 2–12; see also pl. IV):



1.  *Imn*: Amun (fig. 2)

2.  *P3-Rc*: Pre (fig. 2)

3.  *Pth*: Ptah (fig. 3)

4.  *Dhwtj*: Thoth (fig. 3)

5.  *Itm*: Atum (fig. 4)


Atum is written with two determinatives,  and the -sign. The former is unusual and represents a ligature of *t*, egg, and the snake used for Isis (no. 10), Bastet (no. 11), and Neith (no. 16) on this icosahedron. As it also occurs with Khonsu (no. 19), it can be used exceptionally for a male deity.

6.  *Hprj*: Khepri (fig. 5)

This is an unparalleled demotic writing of the god Khepri. The first group is to be read as *hpr*. The following group might simply consist of *p* and *r*, complemented by a stroke, but a reading as *p.t* 'sky' seems more likely. So far as I know, the sky-determinative is otherwise not attested for the name of the god Khepri, neither in hieroglyphic nor demotic sources. However, since Khepri is a cosmic deity who rises up to the sky, the sky-determinative is quite fitting, especially since he is also called 'Lord of the sky'.<sup>4</sup>


The name of the beetle god is rarely attested in Demotic sources, where the scarab is usually called *mhrr* instead of *hprj* or *hprrr*.<sup>5</sup> It is therefore difficult to say whether Khepri's name would have been complemented by *p* and *r* or defined by a sky-determinative.


7.  *Gb*: Geb (fig. 6)


The falcon before the -determinative is quite unusual for the name of Geb, but except for the very first sign, the goose, the entire writing reminds one of *bjk*. This might have been the word the scribe was thinking of while actually writing Geb. A comparable writing of Geb can be found in the examples of the name *Pa-Gb*; see *DemNb* I, 418 (26).


<sup>4</sup> M. Minas-Nerpel, *Der Gott Chepri: Untersuchungen zu Schriftzeugnissen und ikonographischen Quellen vom Alten Reich bis in griechisch-römische Zeit* (OLA 154; Leuven, 2006), 148, 149, 366, 376, 382.

<sup>5</sup> Minas-Nerpel, *Der Gott Chepri*, 122, 229–30, 416, 461–2 (for *mhrr*); D. Devauchelle, 'L'homme surnommé «Scarabée»', in C. Cannuyer and A. Schoors (eds), *La langue dans tous ses états: Michel Malaise in honorem* (AOB 18; Brussels, 2005), 270 n. 2.

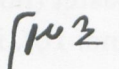
8.  Wsjr: Osiris (fig. 7)


9.  Hr: Horus (fig. 7)

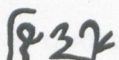
With the presence of the -determinative (and the lack of a short oblique stroke) this is a rather rare writing of the god's name. According to *DemNb* I, 787 (28) and 796 (4), it is attested for the Ptolemaic Period and, according to W. Erichsen, *Demotisches Glossar* (Copenhagen, 1954), 316, for the Roman Period. For a comparable writing, see M. Smith, *Papyrus Harkness* (*MMA* 31.9.7) (Oxford, 2005), 362.


10.  3s.t: Isis (fig. 8)

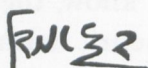
Once again, a ligature of *t*, egg, and snake serves as a determinative, quite typical for late Demotic. For this writing see D. Devauchelle and G. Wagner, *Les graffites du Gebel Teir: Textes démotiques et grecs* (RAPH 22; Cairo, 1984), 4, pl. vii (I, 13) = E. Cruz-Urbe, *The Hibis Temple Project, II: The Demotic Graffiti of Gebel Teir* (San Antonio, 1995), 15 (36), 16–7 (41), 41 (100), 46 (110). For comparable writings, see Smith, *Papyrus Harkness*, 360; id., *The Liturgy of Opening the Mouth for Breathing* (Oxford, 1993), 123. See also *DemNb* I, 291 (55), 808 (55), 835 (51).



11.  B3s.t: Bastet (fig. 9)

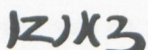
Once again, a ligature of *t*, egg, and snake serves as a determinative, this time complemented by a -determinative.

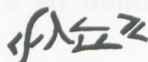
12.  H'pj: Hapy (fig. 10)

The canal-sign and the -determinative complement the writing of Hapy.

13.  T3-Rpy(.t): Triphis (fig. 10)

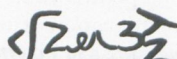
Common writing of the goddess Triphis in the Ptolemaic and especially the Roman periods, with two determinatives, the goddess  and . See *DemNb* I, 1216–17 (4, 12–15), 1223 (7); Erichsen, *Demotisches Glossar*, 245.


14.  Šy: Shai (fig. 11)

15.  Nb.t-H.t: Nephthys (fig. 9)


16.  Nj.t: Neith (fig. 12)


Calligraphically exuberant writing of the *nj.t*-sign with a loop, quite comparable to the *y* in Shepshit (no. 17). Once again, a ligature of *t*, egg, and snake serves as a determinative. For a comparable writing, see Smith, *Papyrus Harkness*, 362. See also *DemNb* I, 627–8; Erichsen, *Demotisches Glossar*, 206.


17.  (T3-)Špšy.t: Shepshit (fig. 12)

Consonantal writing of the goddess Shepshit with two determinatives, the goddess and the -determinative, and a final *t*. According to Jan Quaegebeur, the goddess is the Egyptian equivalent of Agathe Tyche. Since Shai (no. 14) was equated with the


Agathos Daimon, Shai and Shepshit could be considered a pair.<sup>6</sup> The core meaning of (*T*₃-)Špšy.t is 'the noble lady' or 'the noble one', often following (*P*-)Šy, but it can also be used separately as an epithet of Isis or any other goddess.<sup>7</sup> J. D. Ray renders *t*₃špšy 'the uraeus-goddess' where it is used in the Archive of Hor as an epithet of Isis;<sup>8</sup> J. Quack translates the epithet as 'Edeldame'.<sup>9</sup>


18.  *Mn*: Min (fig. 12)

19.  *Hnsw*: Khonsu (fig. 12)

Once again, a ligature of *t*, egg, and snake serves as a determinative for a male deity, followed by a -determinative. For a rather similar group see Atum (no. 5).

The same writing of Khonsu is known from the name *P*₃-tj-*Hnsw* in the Kharga Oasis: See *DemNb* I, 337 (51). See also Devauchelle and Wagner, *Les graffites du Gebel Teir*, 4, pl. vii (I, 13: time of Augustus) = Cruz-Uribe, *The Demotic Graffiti of Gebel Teir*, 16–17 (41).

20.  *Mw.t*: Mut (fig. 12)

Once again, a ligature of *t*, egg, and snake serves as a determinative, complemented by a -determinative and a final *t*.

### Palaeography and orthography

The general *ductus* and the way signs are formed is suited to the first or second century AD. The signs are comparatively broadly written on such a tiny, relatively crude object. The palaeography can therefore be only a rough indicator, but certain orthographical aspects shed light on this matter. A ligature of *t*, egg, and snake, quite typical for late demotic, serves not only as a determinative for several goddesses (Isis, Bastet, Neith, and Mut), but also for Atum and Khonsu. For the latter it is attested elsewhere in a late demotic writing in the Kharga Oasis. Evidently, in late demotic, the ligature developed into a more general divine determinative, regardless of the sex of the deity.

The rare writing of Horus is otherwise known for the Ptolemaic and Roman periods. The unparalleled writing of Khepri does not serve as a palaeographic indicator, but underlines the fact that certain writings on this unique object are quite exceptional.

<sup>6</sup> J. Quaegebeur, *Le dieu égyptien Shai dans la religion et l'ononastique* (OLA 2; Leuven, 1975), 171.

<sup>7</sup> Erichsen, *Demotisches Glossar*, 503–4. See also F. Ll. Griffith, *Catalogue of the Demotic Graffiti of the Dodecaschoenus* (Oxford, 1937), I, 12.

<sup>8</sup> J. D. Ray, *The Archive of Hor* (EES TEM 2; London, 1976), 46–7 (text 10, rto 8), 157 (appendix § 1d: *Titles of Isis*); see also text 3, rto 4. Ray translates *špšy* as 'fortune' (p. 25) and interprets it as a personification of the Agathos Daimon of the King (p. 26 n. c). M. Lichtheim, *Ancient Egyptian Literature*, III: *The Late Period* (Berkeley, 1980), 190 renders *špšy* as 'good fortune' (P. Insinger 8, 19) and p. 192 as 'respect' (P. Insinger 8, 13).

<sup>9</sup> J. Quack, 'Zu einer angeblich apokalyptischen Passage in den Ostraka des Hor', in A. Blasius and B. Schipper (eds), *Apokalyptik und Ägypten: Eine kritische Analyse der relevanten Texte aus dem griechisch-römischen Ägypten* (OLA 107; Leuven 2002), 245.



FIG. 2. Faces 1-2: Amun and Pre.



FIG. 3. Faces 3-4: Ptah and Thoth.



FIG. 4. Face 5: Atum.

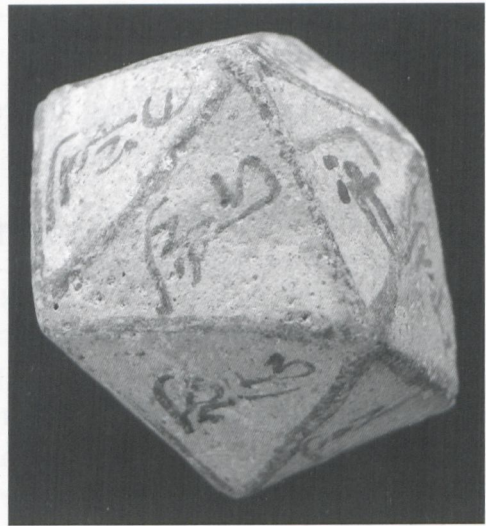


FIG. 5. Face 6: Khepri.

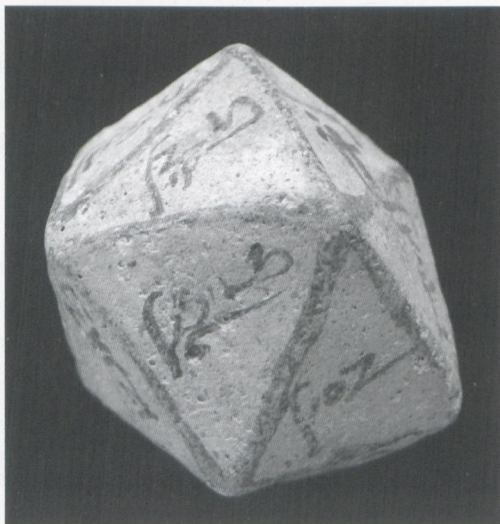


FIG. 6. Face 7: Geb.

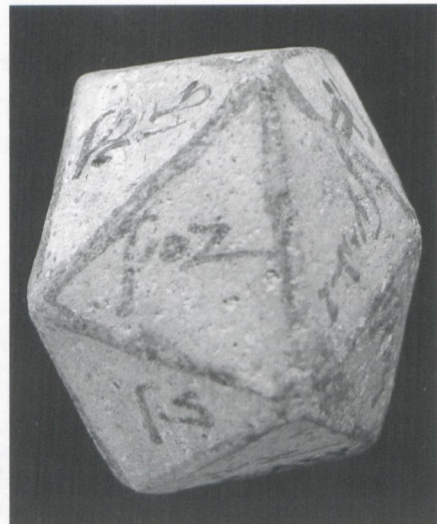


FIG. 7. Faces 8-9: Osiris and Horus.

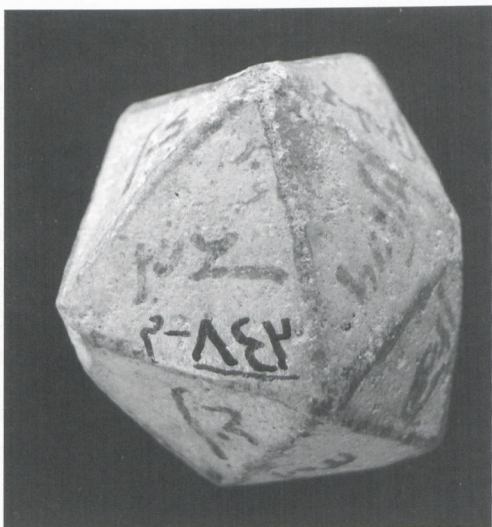


FIG. 8. Face 10: Isis.



FIG. 9. Faces 11, 15: Bastet and Nephthys.

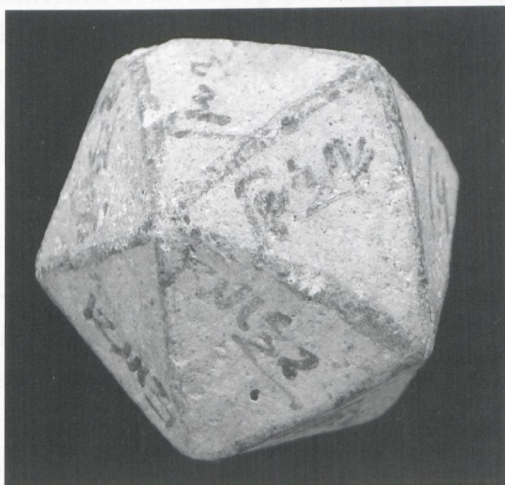


FIG. 10. Faces 12-13: Hapy and Triphis.



FIG. 11. Face 14: Shai.



FIG. 12. Faces 16-20: Neith, Shepshit, Min, Khonsu, Mut.

### A hieroglyphic inscribed hexahedron (die) from Ptolemaic Egypt

I know of no other icosahedron inscribed in demotic or hieroglyphs. Looking for Egyptian inscribed polyhedra in general, the six-sided die published by John Tait in 1998 comes to mind.<sup>10</sup> This is 3.5 cm high and, like the icosahedron from Dakhleh, is made of limestone. On each of its faces, a divine name is inscribed in hieroglyphs: Isis, Osiris, Horus, Nephthys, Horus of Edfu, and Hathor. Male and female deities appear on opposite faces. The die dates to the Ptolemaic period,<sup>11</sup> but, as John Tait correctly points out, 'the piece is to be interpreted in terms of Egyptian traditions, and not as Graeco-Roman manipulation of Egyptian images'.<sup>12</sup>

Rather than cubic dice, throw-sticks and knucklebones were the standard Egyptian accessories for board games.<sup>13</sup> Joachim Quack has suggested that divination was the purpose of dice with Egyptian deities on them.<sup>14</sup> According to John Tait, it is difficult to see how a hexahedron could have been used for this purpose, since it could hardly have given positive/negative answers to everyday queries in the way that oracle questions did.<sup>15</sup> But, as Tait indicates, a 'throw of the die could have indicated to someone in distress which god could provide help or required propitiation'.<sup>16</sup> He has further mentioned the possibility that the six-sided die could have answered one question: the sex of an unborn child. 'The presentation of male and female deities on opposite sides of the die might lend some support to this idea'.<sup>17</sup>

### Greek and Roman inscribed icosahedra from Egypt

Although the demotic inscribed icosahedron is at present unparalleled, the form is well known from Graeco-Roman Egypt. Several icosahedra inscribed in Greek and Latin and made of various materials come from Egypt.<sup>18</sup> In 1927, Petrie published three

<sup>10</sup> W. J. Tait, 'Dicing with the Gods', in W. Clarysse, A. Schoors, and H. Willems (eds), *Egyptian Religion—The Last Thousand Years: Studies Dedicated to the Memory of Jan Quaegebeur* (OLA 84; Leuven, 1998), I, 257–64. The die is housed in the Petrie Museum of Egyptian Archaeology, University College London, registered as UC 38176; no provenance is known; length of the die's sides: 3.2–3.4 cm.

<sup>11</sup> W. M. F. Petrie, *Objects of Daily Use* (BSAE/ERA 42; London, 1927), 57, pl. xlix (no. 233) already dated the die to the Ptolemaic Period.

<sup>12</sup> Tait, in Clarysse et al. (eds), *Egyptian Religion*, 259.

<sup>13</sup> Some cubic dice are known from the New Kingdom onwards; see, for example, B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1930) (FIFAO 8/3; Cairo, 1933), 7 (fig. 2), a six-sided ebony die whose numbers are marked by tiny dots: 1 dot on each of two faces; 4, 6, 8, and 9 on the other four faces. In the Medelhavsmuseet in Stockholm there is a six-sided die that shows the numbers 1 to 6 (inv. no. MM 10148: date and provenance unknown). See also B. J. Peterson, 'Zum ägyptischen Brettspiel', *ZÄS* 96 (1969), 79, and E. B. Pusch, *Das Senet-Brettspiel im Alten Ägypten* (MÄS 50; Munich, 1979), I/1, 244, who refers to dice in the shape of a pyramid with one to four dots on their sides.

<sup>14</sup> J. F. Quack, review of M. A. Stadler, *Isis, das göttliche Kind und die Weltordnung* (MPER 28; Vienna, 2004), *AJP* 51/1 (2005), 175.

<sup>15</sup> Tait, in Clarysse et al. (eds), *Egyptian Religion*, 263. For demotic oracle questions to Osorapis, Khnum, Suchos, and other deities, see K.-Th. Zauzich, 'Die demotischen Orakelfragen—Eine Zwischenbilanz', in P. J. Frandsen and K. Ryholt (eds), *A Miscellany of Demotic Texts and Studies* (CP 3 = CNI 22; Copenhagen, 2000), 1–25.

<sup>16</sup> Tait, in Clarysse et al. (eds), *Egyptian Religion*, 263.

<sup>17</sup> *Ibid.*

<sup>18</sup> J.-Cl. Grenier, 'Un icosàèdre alexandrin', *EAO* 6 (1997), 23, 'ces "dès" icosàèdres ne sont pas rares dans l'archéologie d'Égypte grecque ... dans les réserves des musées et les vitrines des collectionneurs...'. Grenier states that 'ces petits documents n'ont rien d'exaltant' (p. 23), but refers to an outstanding one made of bronze formerly in the collection of King Fouad, now in the Cairo Museum. This was published by P. Perdrizet, 'Le jeu alexandrin de l'icosàèdre', *BIFAO* 30 (1931), 1–16. Perdrizet referred to ten other icosahedra in the former Fouad collection, now in Cairo and in Paris.



icosahedra, made of steatite or faience, inscribed with Greek letters.<sup>19</sup> Four polyhedra from Egypt with Greek letters made of faience, serpentine, steatite, or calcite are housed in the British Museum.<sup>20</sup> In 2002, a faience icosahedron inscribed with Greek letters was sold on the art market; this too probably comes from Egypt.<sup>21</sup>

In the Louvre is a rock-crystal icosahedron inscribed with Latin letters and Roman numerals (fig. 13).<sup>22</sup> The ten lateral faces bear the letters A to K and the numbers 1 to 10, the upper five triangles the letters L to P and the numbers 11 to 15, the lower five the letters Q to V and the numbers 16 to 20. Thus, this piece was systematically inscribed in its sequence of numbers and letters.

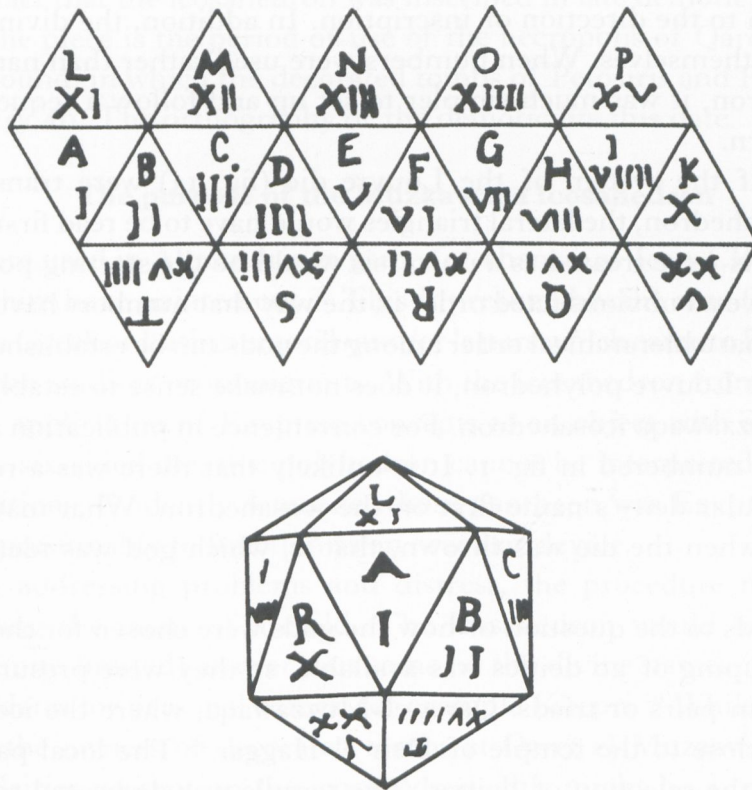


FIG. 13. Louvre icosahedron (Fittá, *Spiele und Spielzeug*, 115 fig. 196).

<sup>19</sup> Petrie, *Objects of Daily Use*, 57, pl. xlix (nos 288–90), probably all of Roman date. Nos 288 and 290 are made of steatite and well preserved; no. 289 is made of blue faience and very fragmentary. All three are in the Petrie Museum of Egyptian Archaeology, University College London: 288 = UC 59254; 289 = UC 59255; 290 = UC 44999. I am very grateful to Stephen Quirke for kindly providing me with information about them. No. 290 (5.4 cm high, 4.9 cm wide) has also been published by H. Willems and W. Clarysse (eds), *Les empereurs du Nil* (Leuven, 2000), 293 (no. 228). Two further polyhedra are housed in the Petrie Museum: UC 59255, a limestone 24-sided die with a Greek letter on each face in ink, and UC 44998, a steatite pentagonal dodecahedron with Greek numerals on its triangular faces, both dated to the Roman Period.

<sup>20</sup> British Museum, reg. no. 1930,0308.4 (faience: 4.43 cm wide); reg. no. 1897,0511.134 (serpentine: 4.19 cm wide); reg. no. 1911,0617.40 (steatite: 6 cm wide); reg. no. 1930,0308.5 (calcite: 5.44 cm wide). I am very grateful to Richard Parkinson for kindly providing me with information about them. See M. Fittá, *Spiele und Spielzeug in der Antike: Unterhaltung und Vergnügen im Altertum* (Darmstadt, 1998), 113 (fig. 191).

<sup>21</sup> Auction catalogue, *Kunstwerke der Antike: Jean-David Cahn AG* (Basel), Auktion 3, 18 October 2002, 36, pl. xlv (no. 102), called a dodecahedron; height: 6.5 cm.

<sup>22</sup> Fittá, *Spiele und Spielzeug*, 115 (fig. 196).

### The gods on the Muzzawaqa icosahedron

For the six-sided hieroglyphic die UC 38176, John Tait has pointed out that male and female deities appear on opposite faces. A systematic distribution of this sort is not present on the Muzzawaqa icosahedron, but such a system is more easily applied to a six-sided die than to a twenty-sided one. The Egyptian pantheon provides no obvious pattern for distributing twenty divine names over such an object. The lateral faces nos 1 to 10 are inscribed in one direction, but that does not hold for either the upper side (nos 11 to 15) or the lower side (nos 16 to 20). The scribe seems to have written on the lateral sides first, moving the icosahedron triangle by triangle. For the upper and lower side, where it was much more difficult to follow a pattern, he evidently did not pay attention to the direction of inscription. In addition, the divine names were asymmetrical in themselves. When numbers were used rather than names, as on the Louvre polyhedron, it was much simpler to set up and follow a sequence or even a systematic pattern.

Nonetheless, if the system of the Louvre die (fig. 13) were transferred to the Muzzawaqa icosahedron, the lateral triangles would have to be read first. If the group Isis–Horus–Osiris were treated as a unit, Isis would be the starting point. However, deities do not have an obvious fixed order in the way that numbers have, and it seems rather unlikely that a hierarchical order among the gods can be established. Therefore, in contrast to the Louvre polyhedron, it does not make sense to establish a starting-point for the Muzzawaqa icosahedron. For convenience in publication and reference, the triangles are numbered in fig. 1. It is unlikely that there was a requirement to inscribe a particular deity's name first on the icosahedron. What mattered was the result obtained when the die was thrown, that is, which god was identified by that process.

This point leads to the question of how the gods were chosen for the icosahedron. No obvious grouping of 20 deities was available, so they were presumably selected individually, or in pairs or triads. Qaret el-Muzzawaqa, where the icosahedron was found, is quite close to the temple of Deir el-Haggat.<sup>23</sup> The local pantheon might have influenced the selection of deities. The temple was dedicated to Amun, Mut, and Khonsu (the Theban Triad), who are all present on the polyhedron (nos 1, 19, 20). Shai (Agathos Daimon) and Shepshit (Agathe Tyche) are obvious choices for a die to be thrown while looking for answers: as Jan Quaegebeur noted, Shai is both 'notion de destin et dieu de destin'.<sup>24</sup>

It is not evident why the other deities were selected. The universal and creator gods Pre and Ptah had an important role in addition to the creator gods Atum and Khepri, while Osiris, Isis, Nephthys, and Horus<sup>25</sup> were leading deities throughout Egypt. For the Late Period, one could say the same for Geb, also a universal and cosmic deity, and for Neith, Bastet, and Min.

<sup>23</sup> For the gods of Deir el-Haggat, see O. E. Kaper, 'Temples and Gods in Roman Dakhleh: Studies in the Indigenous Cults of an Egyptian Oasis', PhD thesis, University of Groningen, Groningen, 1997, 46–54.

<sup>24</sup> Quaegebeur, *Le dieu égyptien Shai*, 33.

<sup>25</sup> For Osiris, Isis, Nephthys, and Harsiese in Dakhleh, see Kaper, 'Temples and Gods in Roman Dakhleh', 44–5.

To find Hapy among the gods of the icosahedron, if it were produced in Dakhleh Oasis far away from the Nile, could be a bit surprising, especially since Tutu, a major god of the western oases, is not included. Hapy, however, appears on gaming boards. Therefore, he might have some association with chance.<sup>26</sup>

It seems impossible to say why some of these gods were chosen. One might even think of the selection as a generic set. Triphis and Min could point to the Akhmim (Panopolis) region as a point of origin. The Great Oasis, formed by Kharga and Dakhleh, was linked to the Nile Valley by several roads. The most important of these connected the north of Kharga to Lykopolis (Asyut), but almost as important was a road that reached the valley in the northern Panopolite nome.<sup>27</sup>

Beside the fact that the icosahedron was inscribed in late demotic, the only pointer to a date for the piece is the period of use of the necropolis of Qaret el-Muzzawaqa where it was found, in which the decorated tombs of Petosiris and Petubastis date to the first century AD. The orthography of the demotic fits this date.

### The purpose of the Muzzawaqa icosahedron

Icosahedra were used in Alexandria in games of chance, as Jean-Claude Grenier and others before him have pointed out.<sup>28</sup> This is presumably the case for the polyhedra decorated with Greek or Latin numerals and/or letters which came to Egypt with Greek and later Roman soldiers or immigrants. With the icosahedron from Muzzawaqa we encounter the application of Egyptian concepts to an object with a Greek form. In contrast to the six-sided die, this polyhedron cannot be interpreted just in terms of Egyptian traditions. Evidently someone whose pantheon was Egyptian adopted this foreign form, presumably to function as an oracular device.

Apart from addressing problems and distress, the procedure might have been used in selecting the name of a child. The icosahedron would have provided an easy (though quite limited) answer, but some of the divine names it bears are quite unlikely candidates for personal names, for example Khepri.<sup>29</sup> While both Petubastis and Petosiris, the owners of decorated tombs at Qaret el-Muzzawaqa, have names formed with deities present on the icosahedron, this might be a matter of chance, since both names were common in the Graeco-Roman period.

The deity identified by throwing a die could be a possible solution to the problem. The icosahedron from Muzzawaqa could perhaps be linked with the 'oracular spells' in the Greek and Demotic magical papyri, although they are later in date than the assumed first century AD date for the icosahedron.<sup>30</sup> In these an array of different gods are called upon to assist the practitioner. One could imagine the icosahedron to have

<sup>26</sup> On Hapy, see J. Baines, *Fecundity Figures: Egyptian Personification and the Iconography of a Genre* (Warminster, 1985), 180: On *sn.t* gaming boards the fourth of the five inscribed squares normally shows water, but in several cases the water is replaced by a fecundity figure. Cf. Pusch, *Das Senet-Brettspiel*, nos 61, 63, 68B (Hapy).

<sup>27</sup> R. S. Bagnall and D. W. Rathbone, *Egypt from Alexander to the Copts: An Archaeological and Historical Guide* (London, 2004), 249–50, 255, 257.

<sup>28</sup> Grenier, *EAO* 6, 27. See also Perdrizet, *BIFAO* 30, 1–16.

<sup>29</sup> The only known personal name formed with Khepri is Ramses-son-of-Khepri, a son of Ramses II, see Minas-Nerpel, *Der Gott Chepri*, 332; H. Ranke, *Die ägyptischen Personennamen*, I (Glückstadt, 1935), 219 (no. 9).

<sup>30</sup> D. Frankfurter, *Religion in Roman Egypt: Assimilation and Resistance* (Princeton, 1998), 179–84 (with further references).

been used to decide which deity or which spell might be used. Throwing a die was certainly not an oracle as sophisticated as the *Sortes Astrampsychi*, a popular Greek oracle book that spread throughout the Roman Empire and contains instructions for throwing lots, the results of which would be used to look up ready-prepared questions and responses by means of a numerical index. The book was probably composed in Egypt in the second or third century AD.<sup>31</sup>

Divination, however, seems to have been the most likely purpose of this icosahedron,<sup>32</sup> but we should pose the question whether it could have been used as a mnemonic device. An Egyptian might have taken a liking to the Greek form and found it useful to write 20 divine names on it in order to memorize this particular set of deities. While praying he might have moved the die in his hand, rather as is done with a rosary.<sup>33</sup> If this were the die's purpose, it would never have been thrown at all. This is supported by the fact that the icosahedron does not look particularly worn, so it might not have been thrown very often. But then again, it might not look worn since it was only thrown onto quite a soft surface, such as sand. Because its faces are uneven and non-equilateral, some deities would—in practice—never have been selected by a throw of the die. However, one could well make a die imperfectly but still think of it as something that was thrown to produce a more or less random result in an oracular context.

In the icosahedron from Muzzawaqa we encounter Egyptian ideas in an object of Greek origin. It was presumably used by living people who lived under the influence of both Graeco-Roman and Egyptian culture, conceivably even by the Petosiris or Petubastis whose tombs we know and who participated in both those worlds. The polyhedron could have come to a tomb at Qaret el-Muzzawaqa as an offering to accompany the dead in the netherworld, perhaps given by a priest from a nearby temple, or even donated as a gift by a visitor, perhaps from the Akhmim region. It might have been a relatively humble object. For us, however, it offers a most valuable insight into the multi-cultural society of the western oases and possibly Upper Egypt in the first century AD.

<sup>31</sup> W. M. Brashear, 'New Greek Magical and Divinatory Texts in Berlin', in M. Meyer and P. Mirecki (eds), *Ancient Magic and Ritual Power* (RGRW 129; Leiden, 1995), 221–33 (with extensive bibliography). See also Frankfurter, *Religion in Roman Egypt*, 179–84.

<sup>32</sup> See J. F. Quack, 'A Black Cat from the Right, and a Scarab on your Head', in K. Szpakowska (ed.), *Through a Glass Darkly: Magic, Dreams and Prophecy in Ancient Egypt* (Swansea, 2006), 183–4.

<sup>33</sup> I thank Kasia Szpakowska for pointing this out to me.