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# Miniature and model stone vessels of the Old Kingdom – From typology to social and political background

(Miniatury a modely kamenných nádob doby Staré říše – Od typologie k sociálnímu a politickému pozadí)

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Stone vessels have always been luxurious objects. They involved much effort not only in their production process, but also in acquisition of the raw material. In this respect, there were two aspects of value that originate in these two facts. One of them was the material, which could have been abundant in Egypt on one hand or rare on the other. It could be acquired close to the valley, or it required long-distance expeditions. It could be quite soft and easy to be worked, or it was hard and difficult to be extracted from the mother rock and later worked in the workshop. Therefore, the more hardly accessible, rarer in resources and harder on Mohs scale the material was, the more luxurious and prestigious the final products were. The other feature of prestige was the size of vessel, as well as its final treatment. All these aspects were considered in the process of production and distribution of stone vessels in Ancient Egypt. In this respect, these aspects play an important role in the interpretation of not only the stone vessels themselves, but also the archaeological contexts, in which they were found. The broader research in stone vessels can thus offer a specific view of the Old Kingdom society and its historical and social development.

The main focus of the present thesis are stone model and miniature vessels of the Old Kingdom. The author started to deal with this kind of material culture in the course of excavations in the late Fifth Dynasty tombs at Abusir. When working on the documentation of the complete or almost complete assemblages, she realised that there are specific rules and interesting features worth studying in detail. However, the available publications on the target material were insufficient and mostly regarded the model vessels as individual pieces, neglecting their general meaning as an assemblage with a concrete purpose (Hassan 1948: 27–31; Reisner 1931: 130–201; Reisner – Smith 1955: 90–102), or there was a general explanation presented without any detailed analysis (Junker 1929: 108–112).

The assemblages of model stone vessels should be treated as a group with a specific function. In this respect, they followed a particular pattern concerning the typology of individual vessels. The approach of the author of this thesis thus dwell in detailed study of the typology of the vessels and their material with regard to their purpose. If one keeps in mind that they were always considered as a set of vessels, which were substituting the large size vessels and were supposed to provide the deceased with all basic necessities for their well-being in the afterlife, the typology becomes much simpler than the one considered by previous researchers. At that point, one comes to the number of 10 basic classes represented by a handful of types that may vary substantially. But what is important, they still represent a particular vessel class.

Attention should be also paid to the material, which was used for the production of model stone vessels, since it leads to the conclusion that it played an important social role. Reisner saw the introduction of limestone as a symbol of "increasing poverty of the community" (Reisner – Smith 1955: 92). But a deep study of the burial equipment of the Old Kingdom tombs gives a different image. The material played a social role, but different than Reisner thought, and correlated more with chronology. When comparing the typology and material variations, one comes to an interesting historical development that in the end reflects political and social changes in the Old Kingdom Egypt. The new approach is thus a more systematic study following synchronic and diachronic patterns of production and distribution of the assemblages of model stone vessels.

The research is thus introduced by Chapter 2, which deals with the stone vessels excavated in the tombs from the time prior to the early Fourth Dynasty, more precisely the reign of Khufu. During the reign of this king, the first assemblages of model stone vessels appeared. In this respect, Chapter 2 discusses Pre- and Early Dynastic evidence, as well as the Third and early Fourth Dynasty stone vessels, with the emphasis on possible sources of inspiration, *i.e.* the small size and "dummy" vessel. The scope of research is not limited to the Memphite area, as the tradition was rather homogeneous throughout the whole country at that time.

The main corpus of the thesis deals with the assemblages of model stone vessels with their various aspects. Since these sets are specific feature of the Memphite cemeteries, the provinces are omitted in Chapters 4 to 6. The author worked with material coming from all the Old Kingdom royal cemeteries from Abu Rawash in the north to Dahshur in the south. All of the discussed assemblages were presented with basic structured data in the catalogues, which are added at the end of the thesis as appendixes. Most of the data were taken from publications presenting archaeological excavations of the Old Kingdom tombs. Much of the so far unpublished material is to be found on some web sites. For instance, evidence on the Giza finds can be acquired through Digital Giza, a web site, which was prepared by Harvard University (http://giza.fas.harvard.edu/). Similar database is provided by Giza Project with finds stored mostly in German and Austrian museums, such as Roemer- und Pelizaeus Museum Hildesheim, Museum of Universität Leipzig and Kunsthistorisches Museum in Vienna (http://www.giza-projekt.org/). These are both valuable tools, which provided the author of the thesis with many details including sizes of vessels, their drawings and photographs. They likewise enabled her to study the finds in contexts, which was often

important for dating, especially in cases, when there were only a few pieces of model stone vessels found.

If possible, other unpublished material was searched for on the official web sites of individual museums housing ancient Egyptian collections, or it was studied by the author of the thesis there (*e.g.* Kunsthistorisches Museum in Vienna and Museum of Universität Leipzig, or National Museum in Prague). Since the author participates in the excavations of the Czech Institute of Egyptology at Abusir on regular basis and is responsible for documentation and publication of stone vessels, she also included all of the finds from Abusir cemeteries, which she could study herself in hand. Starting with the data from Abusir, she created a database of model stone vessels in the Old Kingdom. This database became an essential source of evidence for the research presented in this dissertation thesis.

The present thesis attempts to describe the model and miniature stone vessels not only from typologically, but a great part of the work is devoted to the sociological study. The assemblages of model stone vessels are examined in detail from various points of view. Chapter 4 is devoted to the material and technologies used during their production. Chapter 5 focuses on the typology and chronology of the vessels. The similarities and differences concerning the model vessels made of stone, pottery and copper are discussed in Chapter 6. Besides these, there are chapters on general historical development of stone vessels either in Memphis (Chapter 2 and 3) or in the provinces (Chapter 7). Stone vessels disappeared from remote areas soon in the Fourth Dynasty and they are detected again there from the end of the Fifth Dynasty. Due to this re-occurrence in the time, when Memphite burial customs were still bound by strong tradition of assemblages of model stone vessels, it is tempting to search for parallels and ways of transfer of ideas and forms at that time. The provincial stone vessels and their burial contexts are listed and then interpreted in correlation with the central administration and its development. The research led to tracing particular modes of production and distribution of stone vessels in the Sixth Dynasty, the time of decline of assemblages of model stone vessels and new rise of full-size functional types in Memphis.

Aside the assemblages of model stone vessels, there are particular sets of a different kind of model stone vessels, which belonged to the Opening of the Mouth ritual. For they are specific in material, as well as in morphology, they are treated separately. Moreover, these vessels had another meaning and function than those from the large assemblages, which are the main target of the thesis. The material used for the production of the vessels belonging to the Opening of the Mouth ritual sets is included in Chapter 4, but they have their own catalogue (Appendix 2). Their nature and purpose are discussed in Chapter 8.

The primary research is in the end followed by conclusions involving several interpretative chapters. Chapter 9.1 concentrates only on the model vessels, their general meaning, usage, political implications, as well as their possible employment as social and dating criterium. Chapters 9.2 attempts to give a general overview of the development of stone vessel production and distribution in the Old Kingdom. It divides the period into several phases, which are separated by particular turning points that mostly correlate with the political and social changes. The conclusions are then shortly summed up in Chapter 9.3.

The thesis starts with the survey of the Early Dynastic and early Old Kingdom tombs. It focuses on the nature of stone vessels either in Memphis, or in the provinces, and attempts to find out roots of the later tradition of the assemblages of model stone vessels. And indeed, the research in available material has proven that the model vessels without proper drilling of their cavities had history. The so-called "dummy" vessels represented the first step towards economisation of burial practice that was later perfectly expressed by the appearance of assemblages of small size "dummy" jars and bowls. The Early Dynastic and early Old Kingdom "dummy" jars were still of large size, but they were modelled only from outside, being usually made from limestone or travertine (two materials typical for later assemblages). The first examples appeared already in the Early Dynastic Period, even in the royal tombs, and became a common part of most of the middle- and lower-class officials' tombs along the whole Nile valley (e.g. Garstang 1902: Pls. XXII, XXVII; Garstang 1904: 25, Pl. 7; Quibell 1923: 21; Reisner 1932: 194, 205, Figs. 62, 99; Bonnet 1928: Tafel 10; Reisner 1931: 153–154; Dunham 1978: Pl. XXIII; Hendrickx – Eyckerman 2009: 321–323, 456; Köhler 2014: 155, 223, 240).

A rather sudden change came during the time of Khufu, when the assemblages of model stone vessels were introduced. They soon replaced almost all the large size stone vessels and other copper and pottery vessels, the usual constituents of burial equipment. All the necessary components of burial equipment were transformed into their symbolic version that could provide its owner with all necessities. In this respect, the assemblages of model stone vessels involved cultic equipment used for purification and ointment, as well as food and liquid containers for the sustenance.

From the point of view of morphology, they were all inspired by the shapes of the large size functional vessels made either from stone, pottery, or copper. Therefore, the early beer and wine jars can be quite easily recognisable. The model stone beer jars have a ledge and groove under the rim, the wine jars have bodies decorated with an incised net pattern. They are often crafted either with rounded base or as set into a stand. Another piece of pottery

transformed into stone could have been water jars, which were made in the shape of shouldered jars with flat bases. But these could also stand for the containers of ointment as well as cylindrical jars and one-handled jugs. All these followed the most common shapes of large size oil jars made in stone. The copper vessels, which were copied in small size in stone were washing utensils, such as a basin and a spouted jar (ewer).

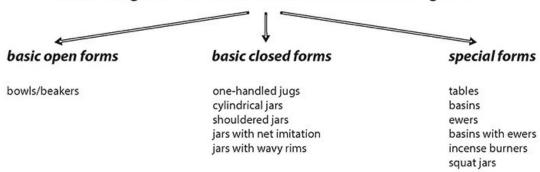
The early assemblages sometimes contained the so-called "Opening of the Mouth ritual sets", which became a typical part of the burial equipment from the end of the Fifth Dynasty. They had a specific form in the Fourth Dynasty and all the pieces were made of travertine, including the *psš-kf* knifes (http://giza.fas.harvard.edu/sites/1176/full/; http://giza.fas.harvard.edu/sites/1177/full/).

As the time went on especially the shapes of pottery jars changed, some of the model stone jars became more stylised. Based on the complete and well-preserved assemblages, it is clear that there was never an exact number of bowls and beakers. At the beginning, even the number of jars was not homogenous. It is from the middle of the Fifth Dynasty, when the number of individual vessels follows a particular pattern, excluding the bowls/beakers, which were still represented by a heterogenous number.

When applying functional typology, every assemblage was divided into three groups, each of them including several classes (see the graph below). The basic open and closed forms were commonly present in almost all assemblages, whereas the special forms are less common and include both the open and closed forms. The most numerous class are the bowls/beakers. In the Fourth Dynasty and early Fifth Dynasty, the shallow bowls and deep beakers can be easily distinguished and might be in the assemblage in the two forms on purpose. Later, their shapes did not play any role and it is often difficult to separate them into these two groups.

The basic closed forms consisted of ointment jars – cylindrical jars, one-handled jugs and probably also shouldered jars (later rather model canopic jars), wine jars – shouldered jars with a net pattern or band around their bodies and beer jars – shouldered jars with mostly wavy collar and rounded base or the base part imitating a circular stand.

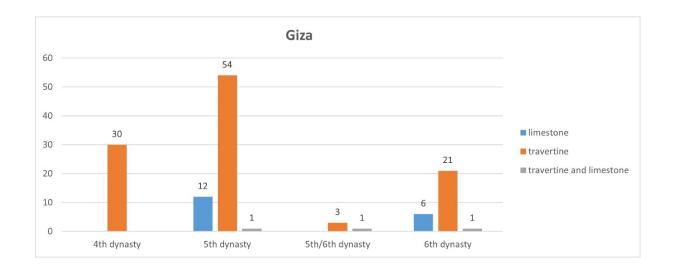
## assemblage of model stone vessels of the Old Kingdom

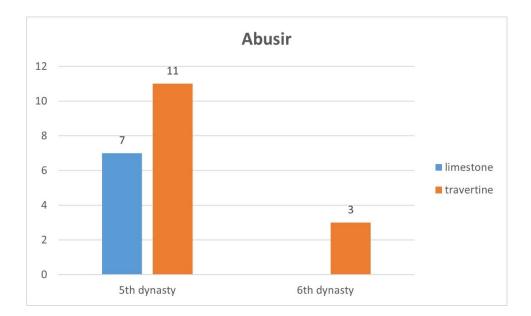


The special forms cover the class of circular *h3wt* tables, deep basins with ewers (either separate or crafted as a single piece), incense burners (just one context known so far) and squat jars with handles (probably for oils, appearing in the Sixth Dynasty).

From the middle of the Fifth Dynasty (the reign of Niuserre), the number of individual classes of closed forms settled on a specific pattern – 1 jug, 6 cylindrical jars, 4 shouldered jars, 2 wine jars and 4–5 beer jars.

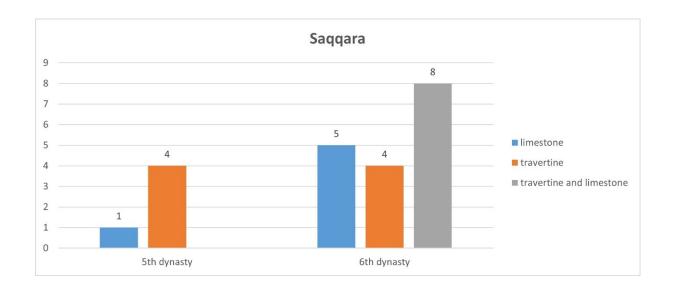
Even the material of the assemblages changed in time. The research showed that it reflected not only the time when they were created, but also the social position of its owner. From this point of view, they can be used both as a chronological marker and economic criterion. The earliest examples were made of travertine, which remained in use until the middle of the Fifth Dynasty. They are to be found mostly in the tomb of the members of the royal family, whereas the other tombs were equipped by assemblages of pottery miniature vessels. By the time of Niuserre, limestone assemblages started to penetrate the burial chambers of his officials. The high-ranking persons were still provided with the travertine sets, whereas the middle- and lower-class officials must have satisfied themselves with the limestone ones, which probably substituted the pottery pieces. Pottery miniatures abandoned burial chambers and remained to be used only in the cultic places in the above-ground areas of the tombs. The social role of material is evident; however, there is a difference between Giza and other Memphite cemeteries, as can be seen in the graphs below.



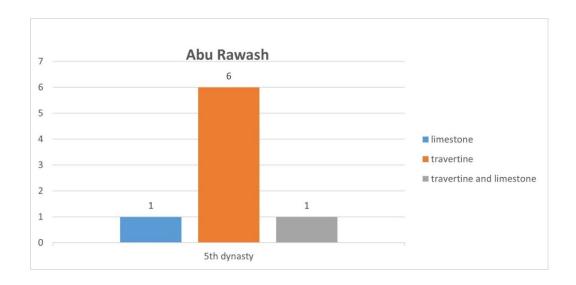


The 11 contexts with travertine assemblages from the Fifth Dynasty tombs at Abusir are almost all from the royal necropolis and belonged to the members of the royal family. Most of the officials buried at Abusir South were provided with limestone sets instead. Some of these were painted with yellow colour, probably imitating the more prestigious travertine.

By the end of the Fifth Dynasty, and mainly in the Sixth Dynasty, one can find a combination of both materials in a single burial chamber, especially at Saqqara, as it can be seen in the next graph below. It is a specific feature attested mainly in the wealthy tombs of Teti cemetery at Saqqara, where it cannot be perceived as means of economisation. It may point to the fading importance of stone model and miniature vessels in favour of pottery pieces.



Abu Rawash is a specific site. The tombs from Cemetery F, which contained assemblages of model stone vessels, can all be dated to the Fifth Dynasty. Only one burial chamber was equipped with limestone set (mastaba F 5) and one contained a combination of both materials – limestone and travertine (mastaba F 21). The limestone pieces from F 21 were painted with yellow colour, which was quite common from the latter part of the Fifth Dynasty until the end of the Sixth Dynasty. When treated this way, they imitated the more precious travertine.



When compared, Giza and Abu Rawash in the north and Saqqara to the south seem to follow a similar trend of more prestigious travertine sets even in the tombs of the middle-class officials. Contrary, officials, who were buried at Abusir South were mostly provided with limestone assemblages in the Fifth Dynasty period.

The research in typology and material variability, as well as the modes of distribution of assemblages of model stone vessels led to a definition of several turning points. When

compared with the political history of the Old Kingdom, one can see that these points can be connected with major changes in social and administrative sphere. The author of the thesis defined five phases in the history of production and distribution of stone vessels:

Phase 1	Third to early Fourth Dynasty	Netjerikhet – Snofru
Phase 2	Fourth to middle Fifth Dynasty	Khufu – Neferirkare
Phase 3	Late Fifth Dynasty	Niuserre – Venis
Phase 4	Early Sixth Dynasty	Teti – Pepy I
Phase 5	Late Sixth Dynasty	Merenre I – Pepy II

Phase 1 is the time of large size functional stone vessels, which generally follow the trends of Early Dynastic Period. However, the first steps towards the traditional model stone vessels can be traced at that time. These are the "dummy" cylindrical jars – rather roughly made either of limestone or travertine, without any drilling inside, having only a symbolic depression in the area of the orifice. They are evidently the first step in process of economisation of the burial equipment, which culminated by the beginning of the Fourth Dynasty.

Phase 2 is characterised by the introduction of assemblages of model stone vessels made of travertine, which found their way mainly to the burial chambers of the members of the royal family. Such a sudden change can be perceived as a part of economisation process in the area of burial and mortuary practice. The growth of state administration probably caused necessity of lowering of costs, for the tradition of filling the burial apartments with tens or even hundreds of stone vessels became unsustainable. Some large size functional vessels were still deposited in the burial chambers of high-ranking persons, but their number dramatically decreased. Pottery miniatures substituted the stone pieces in the burial chambers of the people of non-royal origin. This lasted until the middle of the Fifth Dynasty.

Phase 3 started approximately by the reign of Niuserre, who is known to introduce many changes either in administrative or social and cultural sphere (Bárta 2005; Dulíková 2016). The introduction of limestone as a new kind of material, was probably connected with further growth of state administration. Travertine remained an exclusive material for the high-and middle-ranking officials, whereas limestone became appropriate for the middle- and lower-class officials. In fact, it substituted the assemblages of pottery miniatures, which left burial chambers (except for a few contexts) and started to dominate the cultic places of the superstructures. One can also find a strong sense of organisation in the burial practice

involving well-defined contents of the whole burial equipment. Side by side with the assemblages, one can usually find in the burial chambers some pottery jars (either Nile-mud beer jars or marl-clay wine jars) and bowls (mostly bent-sided and spouted for mummification process or fine carinated bowls for nourishment), canopic jars and model copper instruments. Even the assemblages of model stone vessels are no longer heterogenous clusters, but follow a particular pattern, which was described above.

Phase 4 brought important changes that can be perceived as a kind of mess in the existing habits. The typological pattern of the previous phase was abandoned, the numbers of individual classes became random and squat jars with handles were introduced. Concerning the material, many tombs combined both limestone and travertine in one context. However, the most important change was a massive growth of copper miniature vessels. They appeared in the burial chambers of the members of the royal family already in the latter part of the Fifth Dynasty. From the beginning of the Sixth Dynasty, they started to take over the role of the model stone vessels even in non-royal contexts. One can see all this as a relative independence of high-ranking officials on their king, whose power was less strong than in the previous phase.

Phase 5 witnesses a return to the functional vessels, no matter if made of pottery, stone or copper. The tradition of assemblages of model stone vessels was fading and burial chambers started to be filled once again with the large size functional vessels – stone jars for ointment, pottery jars for beverages and bowls for solid food, copper basins and ewers for cleansing by water, incense burners for fumigation and bowls for solid food. The research of burial contexts of the Fifth and Sixth Dynasty tombs, which are situated in the provinces, showed that this turn was partly influenced by the administrative changes performed by Pepy I (Kanawati 1992: 87). The centralisation of provincial officials probably caused transfer of provincial tradition of functional stone vessels of particular forms into the cemeteries of Memphis. Their shapes were inspired by those of model stone vessels and therefore, they are perceived as a new corpus.

The survey of contexts with assemblages of model stone vessels have shown that they were limited to the Memphite cemeteries. There is so far no attestation of this kind of material culture in the provinces. Stone vessel repertory in the provincial tombs follows the pattern of that of the centre during the Third to early Fourth Dynasty. The name of Snofru is quite well attested there, but later, the large size mastabas ceased to be built in the remote areas, and the connection with the centre was probably weakened. It seems that the king, who was "present" in the provinces via his officials, who might have been of local origin, started to manage his

large country only from the centre. Evidence points to the particular mode of management, when the officials, responsible for the maintenance of individual nomes were sent there only for a limited time on purpose. After fulfilling the task, they returned back and worked at the court again. Such a habit started to change in the Fifth Dynasty. One of the first signs of change is the burial of a royal Princess Ifi in a rock-cut tomb (A2) at Hammamiya with her husband Kakhenet (Mackay – Harding – Petrie 1929; El-Khouli – Kanawati 1990). As he was of non-royal and provincial origin, being a son of Kakhenet, who was also buried at Hammamiya (tomb no. A3), it is a very rare example of an early marriage of a royal daughter. Dating of the tomb is problematic, ranging between the beginning and middle of the Fifth Dynasty. Even the father of Princess Ifi is not known. However, taking into consideration the marriage of Ptahsephses from Saggara (tom no. C1) to the daughter of Userkaf, Princess Khamat, one can think of the same father for Ifi. Kakhnet held titles of the early nomarchs, who usually administered the provinces from the centre (Martinet 2011: 29–30). The rise of royal officials, who returned to the provinces to be buried there instead of the royal cemetery at Memphis, came with the end of Fifth Dynasty, and most of them can be dated to the Sixth Dynasty.

The stone vessels deposited in the burial chambers of these officials follow the local habit of large size functional vessels. However, it is combined with the morphology of model stone vessels. In this respect, one can find in the provincial tombs from the Sixth Dynasty jars which look like the tall, shouldered jars with necks, or small drop-shaped jars with wavy rims, slender jars with pointed bases and flaring neck or wavy rim and of cause cylindrical jars, which are funnel-shaped, often having a splayed foot. The open forms are usually represented by spouted bowls. All these vessels are known to occur both in large and small sizes and they are mostly made of travertine.

All these forms of functional, drilled stone vessels started to appear in the Memphite cemeteries during the reign of Pepy I. It seems that the transfer originated in the administrative reform of Pepy I, who attempted to gather his provincial officials in the centre, where many of them were once again buried (Kanawati 1992: 87). One can thus follow the two ways of inspiration. The first one was from the centre to the provinces, where officials headed from the royal court, where they were probably brought up as young boys. The king sent them later as adult and experienced men to serve him in the provinces. They probably brought with them the models of burial equipment, which was common in the centre. However, the local tradition did not find reason for production of model vessels, and let the craftsmen to produce functional jars, only inspired by the Memphite shapes. Later on, when

Pepy I called his nomarchs back to Memphis, they must have brought back the new repertory of shapes of stone vessels, which were produced in the provinces. Since the tradition of model stone vessels was already fading in the centre and their role was taken over by copper miniature vessels in many contexts, even the Memphite craftsmen started to produce functional ointment jars and remained loyal to the classes and shapes they knew. By the time of Pepy II, the scale of stone vessel shapes is exactly the same either in the centre or in the provinces including distant Balat in the Western Desert.

Summing up, the research in the model and miniature stone vessels provided new evidence not only for the area of material culture, but also for the general social and political history of the Old Kingdom. The subtitle "From typology to social and political background" was chosen on purpose to explain the nature of rather complex research, which was presented in this thesis. Typology was only its first part, which enabled a detailed study of the composition and meaning of the assemblages of model and miniature stone vessels. The history of production and distribution of these assemblages in the context of the Old Kingdom stone vessel production led to another perspective of the research. It marked out several breakpoints and studied them in relation to the social and political history of the Old Kingdom to find out the reasons for the substantial changes. In this respect, the present dissertation thesis widens our general knowledge of the target period and its transformation in time.

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