



# An analysis of ancient Egyptian chordophones and their use

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Presented in fulfilment of the requirements for the degree of  
Master of Arts in Language and Area Studies: Ancient Near East: Egypt

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2014-2015

- An analysis of ancient Egyptian chordophones and their use -

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## **Dutch abstract: 'Een analyse van Oudegyptische chordofonen en hun gebruik'.**

Ondanks de hoge ouderdom zijn een groot aantal Oudegyptische muziekinstrumenten bewaard gebleven. Deze instrumenten geven onderzoekers de mogelijkheid om de muziek die ermee gespeeld kon worden ten dele te reconstrueren. Van alle faraonische muziekinstrumenten lijken snaarinstrumenten, of 'chordofonen', een belangrijke positie te hebben bekleed in het muzikale ensemble. Bijgevolg kan een studie van de groep, die harpen, lieren en luiten behelst, tot betere inzichten in de Oudegyptische muziek leiden. Desalniettemin werden chordofonen – en muziekinstrumenten in het algemeen – niet exhaustief aangewend in voorgaand muziek-archeologisch onderzoek. Studies in het thema beperkten zich grotendeels tot de iconografische en tekstuele bronnen. Deze paper gaat bijgevolg enkele interpretatieve mogelijkheden na die bewaarde faraonische snaarinstrumenten te bieden hebben. Hiermee wordt er getracht om een beter beeld te krijgen van de objecten en Oudegyptische muziek in het algemeen.

Van verschillende Oudegyptische chordofonen is de opgravingscontext bekend. Deze contexten – die geplaatst kunnen worden in een periode van het Middenrijk tot en met de Late Periode – bevinden zich uitsluitend binnen de funeraire sfeer. Verder stammen een groot aantal van de instrumenten met gekende locatie en datering uit de stad Thebe in de late zeventiende en vroege achttiende dynastie. De funeraire context van de snaarinstrumenten leidt tot de vraag of de bewaarde muziekinstrumenten werkelijk als dusdanig werden gebruikt, of enkel symbolische representaties van hun werkelijk equivalent waren. Om deze vraag te benaderen wordt er een specifieke instrumentenanalyse aangewend. Deze evalueert de functionaliteit van Oudegyptische snaarinstrumenten via snaarsporen en indicaties voor reparaties en modificaties. 'Modelinstrumenten' of symbolische equivalenten van muziekinstrumenten worden aangetoond via hun morfologische, decoratieve en gebruiker-obstructieve eigenschappen. Vervolgens kunnen de functionele en symbolische categorieën geduid worden via de inscriptie op een lier uit het Rijksmuseum van Oudheden in Leiden en een harp van het Louvre in Parijs.

De morfologie van de bewaarde Oudegyptische chordofonen geeft aanwijzingen over de muzikale mogelijkheden en beperkingen van de instrumenten. Om een vergelijking mogelijk te maken worden de instrumenten in een typologisch kader geplaatst. Tussen en binnen de groepen van harpen, lieren en luiten leidt een grote morfologische variatie van bepaalde types en subtypes tot een significant verschillend muzikaal gebruik. Verschillende groepen van snaarinstrumenten krijgen bijgevolg een specifieke of variabele rol in het muzikale ensemble. Ten slotte kunnen de chordofonen teruggekoppeld worden aan hun contexten en functionele eigenschappen. Aldus kunnen we komen tot een beter begrip van de instrumentengroep en Oudegyptische muziek in het algemeen.

Het onderzoek wordt aangevuld met een digitale database, die de specifieke eigenschappen van de studieobjecten weergeeft. Verder rijken de bijlagen geïllustreerde informatie over hun locatie, afmetingen en typologische indeling aan. Tot slot wordt de reconstructie van een Oudegyptische harp besproken.



## **Acknowledgements**

All research is partially built on the shoulders of others, and this work is no exception. First and foremost, I want to express my gratitude towards professor Dr. Harco Willems, my supervisor, whose support, advice and adjustments were invaluable for the study. Secondly, professor Dr. Alexandra von Lieven, the co-supervisor of this paper, deserves praise for guiding me through the interdisciplinary field of Egyptian music archaeology.

An important part of the research comprised a specific analysis on extant ancient Egyptian stringed musical instruments. Therefore, I especially want to thank the staff of the museums with whom I collaborated for making this study possible. Here I am especially indebted to Mrs. Nesma Ismail and Sara Al-Ashmawi of the *Egyptian Museum* in Cairo, Dr. John H. Taylor of the *British Museum* and Dr. Alice Stevenson of the *Petrie Museum* in London, Dr. Maarten J. Raven of the *Rijksmuseum van Oudheden* in Leiden and Joris De Valck of the *Muziekinstrumentenmuseum* in Brussels. Their help made it possible to study at length the remarkable chordophones in the mentioned museums' collections. I also want to acknowledge the most helpful contributions of the staff of museums which I was not able to visit myself. Notable assistance was provided by Niv Allon of the *Metropolitan Museum of Arts*, Jacklyn Lacey of the *American Museum of Natural History* and Kathy Zurek-Doule of the *Brooklyn Museum* in New York, Dr. Kiersten Neumann of the *Oriental Institute* in Chicago, Dr. Ashley Cooke of the *World Museum* in Liverpool and Maria Cristina Guidotti of the *Museo Egizio* in Florence. They provided me with important information and photographic documentation which contributed to the inclusiveness of this work. Here, I particularly want to thank Dr. Klaus-Peter Brenner of the *Musikinstrumentensammlung* in Göttingen, who not only supplied me with an extensive photographic documentation of the Egyptian musical instruments in his collection, but also held a fruitful discussion about the possible stringing methods of ancient Egyptian harps.

Naturally, the interpretations and conclusions of a study need to be projected onto paper at some point. Except for my supervisor, I am grateful to Kylie Cortebeek and Robin Bonn  – who also gracefully lend their digital equipment for my work – and Mieke Cosemans to proofread parts of the work. They ensured that the arguments of the final version were better funded and structured. Special thanks, however, should be directed towards Carolyn Patrick, whose eloquent alterations to my modest English writing style at least made the thesis partially readable. Except for Kylie, Robin and Carolyn, I want to acknowledge the patience of my other friends and family members for kindly listening to and even discuss ancient Egyptian music with me over and over again.

Last, but not at all least, I am indebted to Dr. Richard J. Dumbrill and my father, Stefan Sykora, for their contributions to the reconstruction of an ancient Egyptian harp which was coupled to this research. My father's vast experience in woodworking and his meticulous carving ensured that the reconstruction closely approximates the original instrument. The detailed advice of Dr. Dumbrill furthermore made it possible to fit the wooden frame with handcrafted natural gut strings. As such, they made ancient Egyptian music somewhat less abstract.

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## **An analysis of ancient Egyptian chordophones and their use**

### **Introduction**

Music seems to have played an important role in ancient Egypt. This is suggested by the substantial representation of music-related subjects in Egyptological sources. A better understanding of the theme's significance could therefore offer a valuable addition to our knowledge of the pharaonic culture and its people. Unfortunately, music is one of the study topics which we can only approach indirectly, as the last syllable of the ancient chanters' voice, and the last note of the long flute have long finished their melody. We are therefore fortunate that the indirect sources are sufficiently abundant to make possible at least a partial reconstruction of ancient Egyptian music and its significance. Two potential guides for our quest are provided by the multitude of iconographic and textual evidence. Many singers and musicians are represented on the walls of temples and tombs, often with parts of the very lyrics of the songs which they sang or accompanied. However, the information which can be derived from both sources is highly dependent on the accuracy and precision of the sculptors, painters and writers who produced them. A more direct source appears in the extant musical instruments themselves. As these archaeological sources lie closest to the music which could have been produced on them, they form the main study material of this work. By analysing them, this study intends to reconstruct their use. In doing so, it aims to present an example of the interpretative possibilities the material has to offer.

Within the large group of extant ancient Egyptian musical instruments, (plucked) stringed instruments or chordophones have been chosen for this examination. Depictions show that they often formed the core of ancient Egyptian ensembles, which illustrates their importance. Three ancient Egyptian stringed instrument categories can be observed in the different sources: harps, lyres and lutes. Belonging to these groups, at least 46 complete instruments and 38 chordophone parts can be identified in museums from Egypt to Europe and North America.<sup>1</sup> The general morphological information of these objects is included in the digital database of this work.<sup>2</sup> The database forms an integral part of the study, as it lists specific information for every relevant object. It should be mentioned that the aim of this paper is not to provide the reader with a complete description of the instruments. Instead, the focus is placed on the evaluation of their original use. Datable pharaonic chordophones comprise a period from the Middle Kingdom until the Late Period. However, instruments without a clear temporal designation could span the wider chronological range of stringed instruments – from the fourth dynasty until the Graeco-Roman Period – which is attested in the iconographic record. Geographically, the study includes all stringed musical instruments from the Egyptian Nile valley. More specifically, the location of instruments with provenance is confined to the region between Thebes and Memphis.

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<sup>1</sup> The list of extant musical instruments (see Addendum I) was mostly derived from: Manniche, *Ancient Egyptian Musical Instruments*, 101-106. See also note 38.

<sup>2</sup> The digital database can be consulted with the CD, which is attached to this work.

Considering the abundance of sources, ancient Egyptian organology has surprisingly often been neglected in both musicology and Egyptology. The few researchers that addressed the topic have barely begun to explore the full scale of interpretative possibilities of the material. In many of the existing studies, many uncontested problems still remain, making further research into the theme relevant. The merits of and issues with both the musicological and the Egyptological studies on ancient Egyptian music are discussed in the first chapter. In the second chapter, the original context of the instruments under study are explored and compared. Information regarding these contexts is exclusively derived from published excavation information. As all documented ancient Egyptian chordophone discoveries stem from funerary contexts, their functionality in musical practice can be questioned. Therefore, chapter three evaluates the issue of whether the instruments could actually have been played. For this purpose, a specific musical instrument analysis is undertaken. This analysis is derived both from published information and the museum study which was coupled with this examination. More specifically, the primary attention is directed to the occurrence and specificities of string marks and traces of repairs or adjustments on individual musical instruments. Thereafter, remaining inscriptions on the group under study and indications for unplayability of the musical instruments are examined. The analysis is broadened in chapter four, where specific chordophones are placed within a typological framework. Instrument types and subtypes are then morphologically compared to ascertain how they were likely employed as solo-instruments or in a musical ensemble. This leads to the fifth chapter, which presents a synthesis of the foregoing observations, and places them in a chronological comparison. By doing so, it will be attempted to gain a better understanding into the studied instrument group, and ancient Egyptian music in general.

## 1. Researching ancient Egyptian music: where do we stand?

Considering the abundance of the sources, ancient Egyptian music has surprisingly often been neglected in both musicology and Egyptology. Fortunately, the combined efforts of the few researchers that did tackle the theme have produced interesting and useful results. However, they did not nearly explore the full interpretative scope the material has to offer, and therefore much of the current opinions concerning ancient Egyptian music remain both unconfirmed and uncontested. This chapter examines the most notable studies that have been conducted so far on the subject, with an emphasis on specific research on Egyptian chordophones.

### 1.1 Exploring new horizons: early academic interest in ancient Egyptian music

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Although a number of authors as early as the seventeenth and eighteenth centuries touched upon the subject of ancient Egyptian music<sup>3</sup>, it was only during the second half of the nineteenth century that the first systematic study of the topic was undertaken by the musicologist **Carl Engel**.<sup>4</sup> The author presented the first overview of the musical instruments which were in use in ancient Egypt, and discussed their properties. He also offered an interesting overview of the most notable ancient Greek and seventeenth – nineteenth century authors writing about the subject. Engel's publication is not only noteworthy as a pioneering work, but also because some of his interpretations remain valid today, even though they are too often overlooked by modern scholars. Furthermore, the musicologist offers the only description of some unique nineteenth century finds which are now untraceable. Intriguing among these is his description of a harp which was apparently found in 1823 in a Theban tomb and "*was mounted with twenty strings of catgut, which still emitted sound when made to vibrate*"<sup>5</sup>. On the other hand, Engel's observations should be treated with caution, as he based his interpretations solely on, sometimes inaccurate, drawings and sketches of iconographic material. He hardly paid any attention to diachronic and geographic variation. This is most problematic in his interpretation of arched harps, which is almost completely based on the two large harps depicted in KV 11, the tomb of Ramesses III.<sup>6</sup> The instruments form a poor basis for generalization, as they are unique in context, dating, decoration and type. However, the importance of Engel's study should by no means be underrated, as it laid the foundation for the study of pharaonic music.

Despite – or perhaps because of – the promising start for research on Egyptian music, it was only half a century later that the topic would be reinvestigated in detail. Discussions concerning Egyptian musical instruments would now often be linked directly to the extant instruments in relevant excavation reports and museum catalogues. The first notable elaborations on ancient Egyptian musical instruments were presented by the musicologist

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<sup>3</sup> Most notably: C. Burney, *General History of Music*, 166-191; J. N. Forkel, *Allgemeine Geschichte der Musik*, 72-99; G. A. Villoteau, *Description de l'Égypte* 6, 181-206.

<sup>4</sup> C. Engel, *The Music of the most ancient nations*, 180-276. An evaluation of this work was presented in: S. Emerit, in A. A. Both (ed.), *Carl Engel*, 41-50.

<sup>5</sup> C. Engel, *The Music of the most ancient nations*, 196.

<sup>6</sup> C. Engel, *The Music of the most ancient nations*, 183-193. For the tomb number, see: B. Porter and R. L. B. Moss, *Topographical bibliography* I.2, 518-527.

**Curt Sachs.** This was most extensively done in the catalogue of the Ägyptisches Museum in Berlin,<sup>7</sup> but also in separate works.<sup>8</sup> The important collection of this museum served as a starting point for Sachs to explore the musical capacities of ancient Egyptian instruments. With these instruments as a starting point, he set off to create the first chordophone typology, which would serve as a reference frame for later interpretations and descriptions. To incorporate all types, and not only those present in Berlin, Sachs used the iconographic record as the main reference for his study. This led him to a typology which was based on the position of the instruments, while they were being played, with the types of 'Standharfe,' 'Stützhharfe' and 'Schulterharfe'.<sup>9</sup> Such a typology poses a range of problems, giving rise to later criticism.<sup>10</sup> Most notably it groups morphologically very different instruments together and separates almost identical groups of chordophones.<sup>11</sup> On the other hand, the general division of chordophones into lyres, lutes and arched and angular harps is still considered the most practical. As a musicologist, Curt Sachs was primarily interested in the musical properties of the instruments and their diachronic relationship, which he discussed at considerable length. It is especially in this area that the author's contribution is most notable, as many of his interpretations exerted great influence on later research on the topic. Surprisingly, considering the substantial collection of instruments from the Ägyptisches Museum at his disposal, Sachs' hypotheses were again mainly based on iconographic information,<sup>12</sup> and therefore, they should be read as such. As an iconographic study, Curt Sachs' work served as a starting point for much of the following research, and his museum catalogue would inspire similar catalogues of Egyptian musical instruments throughout the twentieth century.

In the following decades, Egyptologists and archaeologists would also turn to the subject of ancient Egyptian music. Sections of excavation reports or museum studies were dedicated to specific instruments and their significance. Among these, Bernard Bruyère's 1934-1935 excavation record of Deir el-Medina<sup>13</sup> should be mentioned, as it still remains one of the few publications which investigates the meaning of extant chordophones in their original contexts. The discovered musical instruments are discussed in relation to the inhabitants of Deir el-Medina, and their function in the funerary context is explored. Also of interest is Hayes' overview of the harps and lyre in the Metropolitan Museum of Arts,<sup>14</sup> which offers a useful description of the chordophones in the museum.

The earliest academic research in ancient Egyptian music left much room for improvement, not the least because of the limited number of objects or depictions under study and the almost exclusively musicological topics which were addressed. Nonetheless, this

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<sup>7</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 45-71.

<sup>8</sup> C. Sachs, *Altägyptische Musikinstrumente*; C. Sachs, *The History of Musical Instruments*, 86-104.

<sup>9</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 60-67.

<sup>10</sup> H. Hickmann, *BIE* 35, 311-314, 416; K. Krah, *Die Harfe im pharaonischen Ägypten*, 44-46.

<sup>11</sup> For instance, some Middle Kingdom harps on a stand would be categorized as 'Stützhharfen' together with the many stringed large sound box, New Kingdom harps on a stand, and not with their otherwise identical predecessors without stand.

<sup>12</sup> C. Sachs, *Altägyptische Musikinstrumente*, 10-15; C. Sachs, *The History of Musical Instruments*, 86-104.

<sup>13</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, 110-119.

<sup>14</sup> W. C. Hayes, *The Scepter of Egypt I*, 248; W. C. Hayes, *The Scepter of Egypt II*, 23-25, 197-198.

research would generate interesting hypotheses and thus spark the interest of later scholars, giving rise to the new study topic of music archaeology.

### 1.2 Toward a new standard: Hans Hickmann's contribution

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After the publication of Sachs' research, it took 27 years until another comprehensive study would be undertaken by another German musicologist, Hans Hickmann. Yet again, the starting point would be a specific catalogue of a large collection of ancient Egyptian musical instruments, this time in the Cairo Museum.<sup>15</sup> This comprehensive and most useful catalogue marked the start of Hickmann's productive research into ancient Egyptian music, which would take up much of the 1950s. Hickmann primarily directed his attention to depictions of musicians and musical instruments. Coupled with the study of extant instruments, these gave him the possibility to interpret their original use in music. For chordophones, this resulted in an improved classification and new hypotheses concerning the tuning, stringing and playing techniques of ancient Egyptian harps, lyres and lutes.<sup>16</sup> While the iconographic record was extensively used in the author's studies, interest for the archaeological material remained mostly limited to a descriptive overview of the instrument's properties. Musicologically important observations like string traces, which were in no regard indistinct, are often not even mentioned, and rarely discussed any further.<sup>17</sup> The body of ancient Egyptian chordophones that he used, hardly ever extended beyond the published collections in Cairo and Berlin, thus ignoring an important proportion of the existing material.<sup>18</sup> Even more problematic, in interpreting the use of an object, Hickmann did not incorporate the original excavation context, which could have clarified its original function. Despite this incompleteness, Hickmann often came up with credible new interpretations of ancient musical methods, and created a more or less encompassing typological framework for Egyptian musical instruments. This would remain vital for later research.

Hickmann took his study a step further by attempting to reconstruct the used chords and scales in ancient Egyptian music. As the length of a string is inversely proportional to the frequency of its produced musical pitch, chordophones proved to be vital in such reconstructions. Surprisingly, instead of measuring the string lengths of existing stringed instruments, Hickmann's reconstructions were exclusively based on measurements on depicted chordophones. In order to do so, he placed great confidence in the accurate representation of musical scenes and instruments in ancient Egypt. While a certain degree of correctness – on the scale of instrument types, the gender of musician, and perhaps even the number of strings – can be expected, any further reliance on the scenes is problematic. Hickmann's extreme dependence on the accuracy of the artist leads him to define a musical

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<sup>15</sup> H. Hickmann, *Instruments de musique*.

<sup>16</sup> H. Hickmann, *ASAE* 48b, 646-661; H. Hickmann, *Kongress-Bericht*, 233-235; H. Hickmann, *BIE* 35, 322-339; H. Hickmann, *ASAE* 54, 226-230.

<sup>17</sup> H. Hickmann, *Instruments de musique*, 154-179.

<sup>18</sup> Hereby virtually ignoring the large collections of Egyptian musical instruments in the British Museum, the Louvre and the Metropolitan Museum of Arts, the last of which was even published.

scale on the basis of frets<sup>19</sup> of depicted lutes<sup>20</sup> and chords on the fingers' position of painted harpists. He even deduced partial musical scores on the combination of multiple musicians' poses in certain scenes.<sup>21</sup> It will be clear to the reader that we cannot expect the painter or sculptor to have made such a detailed observation of the musicians in order to provide us with a 'photographic-like' image. This lack of accuracy is underscored by the many inconsistencies in the depictions of musicians in Egyptian iconography.<sup>22</sup> Hickmann's conclusions, postulating a chromatic scale, polyphony and the use of chords<sup>23</sup> therefore can be called into question and should be re-evaluated.

Hans Hickmann's research did not end here, as he was resolved to not only reconstruct the properties of musical instruments, but also samples of the ancient music itself. As no single ancient Egyptian score had been identified during the lifetime of Hickmann,<sup>24</sup> this proved to be an even more complicated matter. The musicologist did, however, think that "*Il semble incroyable que l'Égypte n'ait joué aucun rôle dans la lente évolution qui a finalement abouti à notre notation musicale*",<sup>25</sup> and was determined to find these ancient Egyptian precursors of musical notation. Hickmann identified several possible musical indications in texts and iconography from the Middle Kingdom to the Graeco-Roman period. These ranged from the repetitive signs – *h*, *i* and *n* – as indications of sustained notes to signs for repeated passages – *sp 2* –, and words for strophe endings – *ḥw.t* and *ʿ* – to punctuation marks. In the Graeco-Roman period, he recognized the use of Greek musical notation in Egypt, the use of *z*, *i* and *w* as equivalents of Greek vowels<sup>26</sup> and the papyrus scroll on the lap of an erotic figurine as a rhythmic score.<sup>27</sup> It has been observed before<sup>28</sup> that most of these examples can either be explained grammatically or do not offer significant added value to the reconstruction of Egyptian music. The most telling musical indication, according to Hickmann, appeared in the Old Kingdom. In tombs from this period, most musical scenes include non-instrumentalists who make various gestures with both their arms. The author designated these as 'chironomists,' musicians similar to modern conductors, who indicated with specific signs the

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<sup>19</sup> 'Frets' are indications on necks of lutes, guitars or related instruments that mark specific finger's positions to reach certain notes.

<sup>20</sup> H. Hickmann, *ASAE* 52, 161-183.

<sup>21</sup> H. Hickmann, *ASAE* 54, 231-236, fig. 15.

<sup>22</sup> For instance, the most important musical scene Hickmann uses to prove the ancient notion of polyphony, in the tomb of Idu, clearly shows anatomically impossible postures for the depicted harpists (Hickmann, *ASAE* 54, Plate XII)

<sup>23</sup> The 'chromatic scale' consists of 12 half tones, contrarily to the western heptatonic five whole and two half tone scale; 'Polyphony' refers to multiple simultaneous lines of melody, either performed by one or multiple musicians; 'Chords' are several notes which are played simultaneously. Hickmann's argumentation for the existence of these elements in ancient Egyptian music can be found in: H. Hickmann, *BIE* 34, 230-244; H. Hickmann, *ASAE* 54, 228-237; H. Hickmann, *Musicologie pharaonique*, 97-112.

<sup>24</sup> Except for a possible rhythmic notation on an erotic statue from the Late Period (H. Hickmann, *Acta Musicologica* 33, 15-19). This largely remains the case today, but a possible Graeco-Roman score was identified by Alexandra von Lieven (A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIa, 497-499 see also p. 10), and a hypothetical New Kingdom line of notation is presented in this work (see 3.2.2, p. 40).

<sup>25</sup> H. Hickmann, *Musicologie pharaonique*, 48.

<sup>26</sup> H. Hickmann, *Musicologie pharaonique*, 50-89.

<sup>27</sup> H. Hickmann, *Acta Musicologica* 33, 15-19.

<sup>28</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIa, 500-502.

pitch and rhythm of the music the musician sitting opposite had to play (Fig 1).<sup>29</sup> By simply tracing the signs of the chironomists, scholars could reconstruct the music that was being played in these scenes. To make sense of the range of gestures, Hickmann observed traditional Indian chironomists, and traced their signs through Coptic traditions all the way back four millennia to Egypt's Old Kingdom.<sup>30</sup> While this would be questionable on its own, it furthermore

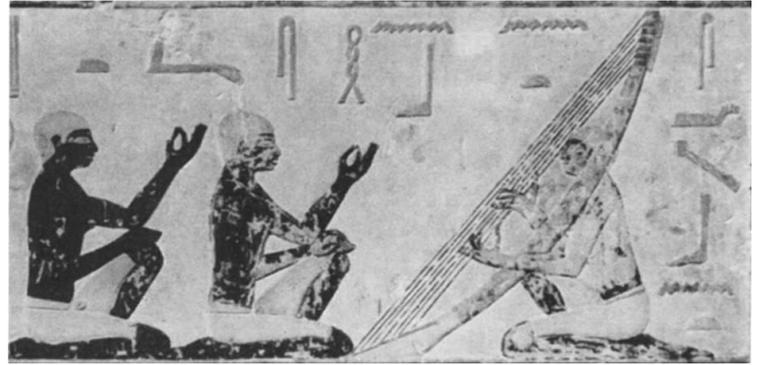


Fig 1: A harpist with two 'chironomists' in the fifth dynasty tomb of Neneftka. Source: H. Hickmann, *Musikgeschichte in Bildern, Abb. 4*, p. 25

leaves the chironomy-less gap from the Middle Kingdom to the Graeco-Roman period unexplained. It seems therefore more likely to designate the signs of Hickmann's 'chironomists' as clapping, finger clicking and singing gestures of musicians or bystanders.<sup>31</sup> The seemingly standardized poses can easily be explained by the uniformity of the Old Kingdom decoration canon. While a considerable portion of the Hickmann's propositions for ancient Egyptian musical writing can be questioned, his quest remains important as it directed the attention to the topic. Because Hickmann did not master the ancient Egyptian language,<sup>32</sup> Egyptologists could take up the track he had started and search for further musical indications in ancient texts.

The importance of the contribution of the musicologist Hans Hickmann to the knowledge of ancient Egyptian music can hardly be overestimated. He set the standard for similar research to come, and vastly improved specific knowledge of Egyptian musical instruments and ensembles.<sup>33</sup> While many of his more far-reaching conclusions can be questioned, his study still remains a useful reference work for any critical reader.

### 1.3 Broadening the scope: the last four decades of musicarchaeological research

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During the three decades following Hans Hickmann's main research period, his work remained virtually uncontested. It was only in the last quarter of the twentieth century that new notable publications concerning ancient Egyptian musical instruments appeared. In these, Hickmann's conclusions were largely accepted, but the studied material was

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<sup>29</sup> The concept of Egyptian chironomy was mainly explored in: H. Hickmann, *ZÄS* 83, 97-127, but already appeared from early on in Hickmann's work: H. Hickmann, *ASAE* 49, 417-427; H. Hickmann, *BIE* 34, 241-244; H. Hickmann, *Kongress-Bericht Utrecht*, 236-240; H. Hickmann, *Musicologie pharaonique*, 48-50.

<sup>30</sup> H. Hickmann, *ASAE* 49, 417-419, note 1; H. Hickmann, *ZÄS* 83, 96-97.

<sup>31</sup> Similar signs are also known from the New Kingdom: O. Kaper, *Ta-mery* 1, 2-12.

<sup>32</sup> This sometimes leads to problematic interpretations, because free translations are sometimes taken as literal renderings, as is illustrated by the example: *hpr t3 hr c=k* which is translated as 'Les homes te chantent avec la main'. Moreover, this is used by Hickmann to illustrate the importance of his chironomic concept (Hickmann, *ZÄS* 83, 96-97).

<sup>33</sup> In this study, the term 'musical ensemble' is used for a group of more than one ancient Egyptian musician or singer during their musical practice. The term does not imply any conformity with more recent musical ensembles.

significantly expanded. Among the more notable works, the Louvre<sup>34</sup> and the British Museum<sup>35</sup> each published a specific catalogue of musical instruments in their collections. On top of a detailed description, these books presented good photographs, and in the case of the British Museum, accurate drawings of the objects under study. With these publications, the five largest collections of extant ancient Egyptian musical instruments were readily available,<sup>36</sup> facilitating further research of the material.

Immediately preceding these catalogues, **Lise Manniche**, the first Egyptologist to study the subject at considerable length, presented her overview of ancient Egyptian musical instruments in 1975.<sup>37</sup> In this work, she compiled a survey of a large portion of the extant ancient Egyptian musical instruments, and all of their iconographic and sculptural representations. Not only published depictions and objects are represented in the book, but all unpublished representations which were known to the author were also included. This newly-compiled corpus still offers the only reference list for future studies on the subject. However, Manniche did not use this treasure of material to its full extent, because most interpretations of the instruments were directly, and without much criticism, taken over from Hickmann. For instance, the reliability on iconographic accuracy is again accepted without ado, and little attention is given to the inconsistencies between observations made on actual instruments and their iconographic renderings. Moreover, only little information is listed for every item, and the list is far from complete.<sup>38</sup> As such, it is useful as a starting point, but not as a complete guide. Besides this, however, Manniche also elaborates upon important new themes.<sup>39</sup> She does not only focus on the music and its instruments themselves,<sup>40</sup> but also on the social position of music and musicians, and on the apparent strong erotic connotation of music in ancient Egypt.<sup>41</sup> Moreover, the chronological evolution of music is discussed more extensively with the previously-gathered material.<sup>42</sup> As the author's research covers such a wide range of topics, many of the aspects which were touched upon inevitably remained largely underexplored. With this first step, the road to a new range of music-Egyptological potential was however opened for later researchers. Manniche's work clearly illustrates the

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<sup>34</sup> C. Ziegler, *Catalogue des instruments de musique égyptiens*.

<sup>35</sup> R. D. Anderson, *Musical instruments*.

<sup>36</sup> Four museums possess a specific catalogue of musical instruments (Ägyptisches Museum, Berlin: C. Sachs, *Die Musikinstrumente des Alten Ägyptens*; Egyptian Museum, Cairo: H. Hickmann, *Instruments de musique*; British Museum, London: R. D. Anderson, *Musical Instruments*; Louvre, Paris: C. Ziegler, *Catalogue des instruments de musique égyptiens*); the stringed instruments of the Metropolitan Museum of Arts were included in its general publications (W. C. Hayes, *The Scepter of Egypt* I and II)

<sup>37</sup> L. Manniche, *Ancient Egyptian musical instruments*.

<sup>38</sup> In the preparation for this study, for instance, several chordophones were encountered which were not listed in Manniche's book: *Harp RMAH01*, *Lyre BM07*, *Lyre ÄM08*, *Harp AMNH01*, *Harp MMA03* and *lutes L12 - 13*. *Harp MIS01* was wrongly placed in Hickmann's personal collection, while it had already been transferred to the Musikinstrumentensammlung of Moeck at that point.

<sup>39</sup> L. Manniche, *Music and Musicians in Ancient Egypt*.

<sup>40</sup> L. Manniche, *Musical instruments from the tomb of Tut'ankhamūn*; Manniche and Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie* V, 129-142.

<sup>41</sup> L. Manniche, *Music and Musicians in Ancient Egypt*, 108-127.

<sup>42</sup> L. Manniche, *Music and Musicians in Ancient Egypt*, 24-56, 84-96; L. Manniche, in E. Hickmann, I. Laufs and R. Eichmann (eds), *Studien zur Musikarchäologie* II, 233-238.

possibilities and value of Egyptological research of ancient Egyptian music, but she leaves a wide range of its facets underexplored.

When discussing ancient Egyptian chordophones, **Karen Krah's** publication<sup>43</sup> on the ancient Egyptian harp also deserves mention. In this work, she evaluates different aspects of this instrument, ranging from stringing and tuning methods to its playing techniques, use in ensembles, and classification. While Krah sets out to critically review and compare earlier works on the subject, only few original interpretations are given, leaving the reader with a confusing overview. It is praiseworthy that the scholar used both iconographic and archaeological sources, of which a sizable catalogue<sup>44</sup> is added to the publication.<sup>45</sup> A chapter is also dedicated to ancient texts, a source too often overlooked by earlier researchers. Few attempts are, however, made to integrate the catalogue in the main argumentation of the book, leaving us with a useful outline of the sources and interpretations, but no comprehensive conclusions. A comprehensive study of the ancient Egyptian harp has, therefore, yet to emerge.

The last decade has seen a revival of academic interest in ancient Egyptian music. Almost 50 years after Hickmann's work, new studies would call some of his interpretations into question, and would analyse the available material anew. One of the researchers who restudied the iconographic, archaeological and textual material was **Rafael Pérez Arroyo**. This musicologist set out on the ambitious project of completely documenting evidence concerning Pharaonic music and dance. Only the first volume, which focusses on the music and dance of the Predynastic Period and the Old Kingdom, has appeared to date.<sup>46</sup> While this work offers very useful photographs and drawings of Egyptian musical scenes, it hardly offers new material of significant scientific value. Although some of Arroyo's criticism is justified, and sometimes both inventive and even credible solutions are offered, most of his interpretations are taken directly from Hickmann. As has been observed by other authors,<sup>47</sup> his other sources are often doubtful and badly referenced. Even more problematic is Arroyo's tendency to accept his own unproven assumptions<sup>48</sup> as confirmed facts without any further references. This is made clear in the groundless statement: *'further example of this symbolic import is the representation of the curved harps with their string planes inclined, frequently making an angle of 52° with the ground - the same angle as that of the pyramid of Khufu and of other royal pyramids.'*<sup>49</sup> Many other examples could, however, be cited. As Arroyo is not an Egyptologist, it is not to be expected that he masters the Old Egyptian language, but his doubtful interpretations of the translations used are no welcome addition to his already questionable study.<sup>50</sup> On top of these observations, one might add the anachronistic aspect

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<sup>43</sup> K. Krah, *Die Harfe im pharaonischen Ägypten*.

<sup>44</sup> This catalogue is incomplete, as a full overview was beyond the scope of the author.

<sup>45</sup> K. Krah, *Die Harfe im pharaonischen Ägypten*, 59-197.

<sup>46</sup> R. P. Arroyo, *Egypt: Music in the age of the pyramids*.

<sup>47</sup> A. von Lieven, *WdO* 35, 209-212.

<sup>48</sup> The shovel shaped harp is, for instance, called the 'Memphite harp' or the 'Papyriform harp' (R. P. Arroyo, *Egypt: Music in the age of the pyramids*, 193, 195-196), although no connection between this harp type and either Memphis or the papyrus shape can with any credibility be argued.

<sup>49</sup> R. P. Arroyo, *Music in the age of the pyramids*, 194.

<sup>50</sup> A. von Lieven, *WdO* 35, 211.

of many of the author's interpretations. As no stringed instruments of the Old Kingdom are at present known to exist, much later examples are simply projected to the period, as if no evolution has taken place.<sup>51</sup> Arroyo includes in his book recordings of his reconstructions of Egyptian music from the Old Kingdom. Except for the used instruments, these are not based on actual evidence, and probably have more connection to Medieval Western-European than to ancient music. While Arroyo's study project could have been most promising, his interpretations remain very doubtful and must be accessed with caution.

As we have noted before, the study of ancient Egyptian music finally reached Egyptological ground with the work of Lise Manniche. Following her example, the twenty-first century would generate new Egyptologists in this field of research. Notable among these is **Alexandra von Lieven**, who investigated themes which had previously been barely explored. She finally emphasizes the importance of the original contexts for a study on musical instruments.<sup>52</sup> Only by encompassing their provenance can we fully understand their significance. Von Lieven also stresses the danger of using certain types of sources in the wrong manner,<sup>53</sup> thus criticizing the strong reliance on iconography in many studies of the previous century. This important point had not been earnestly argued since Engel's remarks,<sup>54</sup> a century and a half earlier. She also pays attention to the previously often neglected textual sources. In doing so, she discovered what could be the first known musical notation in Egypt, which occurs on papyrus Carlsberg 589 from the Roman period.<sup>55</sup> While the identification of red dots and crosses in the text as 'musical punctuation' signs is far from certain, an analysis of similar evidence on other documents would be most promising. Von Lieven further explored the social standing of musicians in ancient Egypt,<sup>56</sup> and ethnical properties of Egyptian music,<sup>57</sup> accordingly exemplifying another area of relevant text-based research. As the author's interest is mainly textual, she conducted little research into iconography and the remaining Egyptian instruments themselves. Von Lieven's studies again point us to the scarcity but relevance of research on both the contexts and textual sources. If coupled with an analysis of the extant music-related objects and their iconographic depictions, a vast amount of information could be gained.

Among the most recent work dealing with pharaonic musicians and their art is the work of Egyptologist **Sibylle Emerit**. While paying some attention to the iconographic record,<sup>58</sup> Emerit's academic interest is currently focused on textual sources and their possibilities. She studied aspects of the ancient Egyptian musicians' identities – their status, social context and

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<sup>51</sup> R. P. Arroyo, *Music in the age of the pyramids*, 200, 208. Although Arroyo clearly designates these harps as New Kingdom instruments, an earlier dating seems more probable (see p. 23). Because some of the objects could even date all the way back to the Old Kingdom, the instruments might in fact coincidentally not be misplaced in a discussion of the harps in this period after all.

<sup>52</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 527-538.

<sup>53</sup> A. von Lieven, in E. Hickmann and R. Eichmann (eds), *Studien zur Musikarchäologie* IV, 99-106.

<sup>54</sup> C. Engel, *The Music of the most ancient Nations*, 181-183.

<sup>55</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIa, 497-499.

<sup>56</sup> A. von Lieven, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie* V, 355-460.

<sup>57</sup> A. von Lieven, in A. A. Both, R. Eichmann, E. Hickmann and L.-C. Koch (eds), *Studien zur Musikarchäologie* VI, 155-162.

<sup>58</sup> S. Emerit, in L. Gabolde (ed.), *Hommages à Jean-Claude Goyon*, 127-137.

connections.<sup>59</sup> While doing so, she presented a study of Egyptian musical terminology,<sup>60</sup> an important, but still poorly-studied area of interest. Hopefully, this will ultimately lead to a comprehensive study of this subject, which would significantly improve our understanding of ancient Egyptian music and related practices. Emerit also shows considerable interest in the research possibilities of extant musical instruments.<sup>61</sup> While she published nothing on this subject so far, more work can be expected in the future.

The last four decades of research into ancient Egyptian music greatly expanded the scope of this field of study. Egyptologists took their place next to musicologists, bringing with them a broad range of new research subjects and perspectives. Most important among these is the broadened interest into textual sources and original provenance, and, resulting from these sources, the interest in the identities of ancient musicians. While the study has come a long way from its beginnings in the nineteenth century, an overall understanding of the theme is far from complete. Particularly, the archaeological material has not been studied satisfactorily, and leaves a wide range of possibilities virtually unexplored. The remainder of this work will evaluate these sources and present a survey of some of their possibilities, advocating the value of similar research.

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<sup>59</sup> S. Emerit, in M. H. Delavaud-Roux (ed.), *Musiques et danses dans l'Antiquité*, 45-65; S. Emerit, in S. Emerit (ed.), *Le statut du musicien*, 87-124.

<sup>60</sup> S. Emerit, in A. A. Both, R. Eichmann and E. Hickmann (eds), *Studien zur Musikarchäologie VI*, 429-438.

<sup>61</sup> On the 1st of October 2013, Emerit held a lecture in the Deutsches Archäologisches Institut in Cairo about three newly discovered harps in the excavations of the DAIK mission in Dra Abu el-Naga (currently unpublished).

## 2. The contexts of chordophones and their significance

A surprisingly large portion of ancient Egyptian stringed musical instruments, which are almost exclusively made from organic material, has survived due to Egypt's dry climate.<sup>62</sup> This gives Egyptian music archaeology a clear advantage over its Ancient Near Eastern counterparts, where organic chordophones are rarely preserved. The preserved ancient Egyptian chordophones can give us some clues regarding their original functions. These can, however, only be understood fully when they are regarded in relation to the material with which they were deposited. When considering the contexts of ancient Egyptian stringed musical instruments, some features become apparent. As a first consideration, one could note that all known assemblages originate from funerary contexts. While the occurrence of what we could call 'daily life objects' in funerary groups is seemingly strange, the multitude of depictions of musicians on tomb walls makes clear that musical instruments were strongly connected to the afterlife. The lack of chordophone finds in non-funerary sites – for instance temples or settlements – can, firstly, be explained from the dynamics of these places. In active contexts like these, objects are often relocated and taken with their owners when they abandoned the site. Chordophones especially would probably not have been left behind, since the investment in material and labour suggests they must have represented a considerable value. Most likely, only severely damaged instruments would be abandoned, but their remaining fragments would not easily be identified as such, and could easily be overlooked by excavators. Secondly, the lack of chordophones in non-funerary contexts is caused by the preservation properties of the material. As the instruments are almost exclusively made out of organic material – wood, skin and gut – they would rarely survive in exposed contexts. The preservation of objects in closed tombs is often significantly better, where even organic material is in many cases well preserved. Thirdly, the number of excavated tombs in Egypt is significantly higher than the amount of other contexts under study, with the exception of temple sites. While these factors all account for the lack of chordophone discoveries in non-funerary contexts, they do not explain why the instruments occur in tombs in the first place. In order to analyse the function of the instruments within these specific conditions, it is important to turn to the contexts themselves.

### 2.1 Egypt's music archaeological treasury: Thebes

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The Theban necropolis offers a treasure of information concerning ancient Egyptian music. Many of the decorated tombs show detailed paintings or reliefs of singers and musicians. It is therefore not surprising that the greatest number of extant ancient Egyptian chordophones with known provenance comes from this region.<sup>63</sup> Although musical instruments were discovered in most of the grave fields on the west bank of Thebes, they were most numerous recorded in excavations at el-Birabi<sup>64</sup> and the eastern cemetery of Deir

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<sup>62</sup> A list of all discussed musical instrument scan be found on in Addendum I. Basic information of the objects can be consulted in the digital database, which on the CD which is attached to this paper.

<sup>63</sup> A map of all documented chordophone discoveries in Egypt can be found on Plate 2.

<sup>64</sup> This region is also called 'Dra Abu el-Naga South' or often included in the Asasif. Here, the topographic designation of the Theban necropolis of G. Miniaci (*Rishi coffins*, 51-54) is adopted. The locations of the necropolises and the location of the chordophones' discoveries can be found on Plate 3.

el-Medina. Some well documented discoveries of chordophones at these locations allow for a detailed analysis of their original contexts.

### 2.1.1 The emergence of chordophones in Thebes: stringed instruments from the Asasif and Dra Abu el-Naga

Among the largest tombs in the Theban necropolis are the two *saff*-tombs from el-Birabi, which lie north of the mortuary temple of Ramesses IV.<sup>65</sup> The original owners of the tombs are unknown, but the fragmentary remains of their funerary equipment suggest that they likely died in the Middle Kingdom or early Second Intermediate Period. Over the course of this period and the succeeding early New Kingdom, the tombs would be reused by hundreds of people who were interred in the structures during this time. Their coffins and burial goods were entombed in the existing chambers, in newly carved corridors or in pits in the courtyard. Others were simply piled up in the hallways and shafts of the *saff*-tombs, probably to make place for the inclusion of new burials.<sup>66</sup>

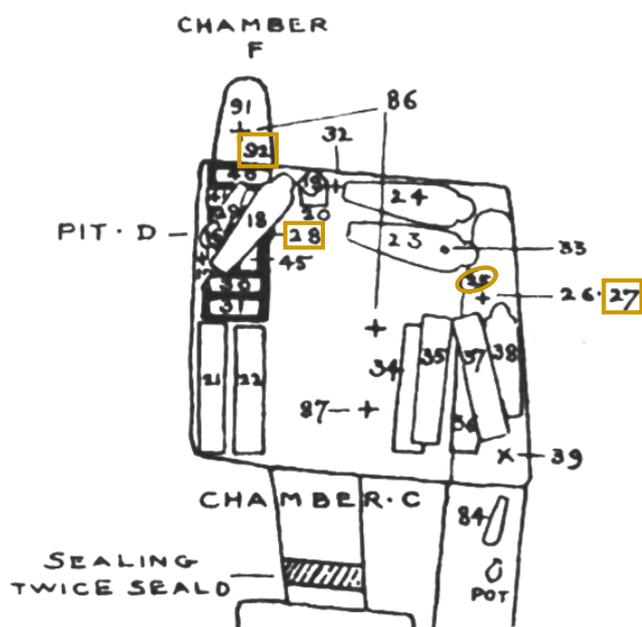


Fig 2: Plan of Chamber C, F and pit D of tomb C37 in el-Birabi. The discovered chordophones are indicated in brown. Source: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, Plate LV.

The first *saff*-tomb, C37, was excavated by Howard Carter and Lord Carnarvon from 1910 to 1911.<sup>67</sup> In the grave, a large number of musical instruments was found, ranging from six reed flutes<sup>68</sup> to two pairs of ivory castanets.<sup>69</sup> The most relevant discoveries for the current study, however, were made deeper inside the tomb. In **chamber C of C37** (Fig 2), Carter's workmen found no less than two harps and a lute among fourteen coffins and their associated equipment.<sup>70</sup> Because of the evident reburials in the room, we cannot assign the instruments to a specific burial with certainty. Nevertheless, some objects can be connected, which makes a partial reconstruction of the burial equipment possible.<sup>71</sup> Chamber C contained Middle Kingdom material,<sup>72</sup> which probably dates the initial tomb owner to this period. In a second phase, this material was put aside for the burial of Djehuty (*Djhw.ty*) and his wife Ahhotep Tanedjem

<sup>65</sup> A plan of both *saff*-tombs can be found on Plate 4.

<sup>66</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 51; G. Miniaci, *Rishi coffins*, 84-86.

<sup>67</sup> For the full excavation record of this tomb, see: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 51-93.

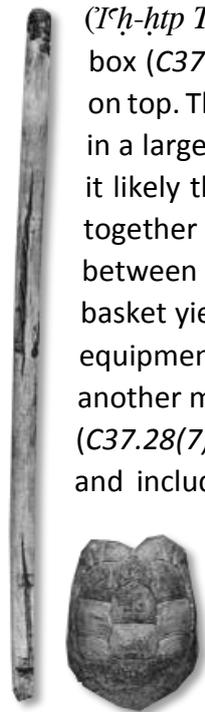
<sup>68</sup> Coffin C37.71, chamber A (G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 84)

<sup>69</sup> C37.82, transversal hall; C37.85, central passage (G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 86-87)

<sup>70</sup> A schematic overview of all tomb inventories which are discussed in this chapter can be found in Table 1.

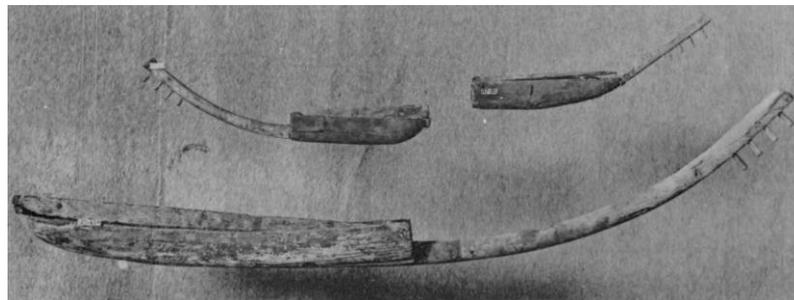
<sup>71</sup> The following exposition is largely based on: A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie IIIb*, 528-529.

<sup>72</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 87.



**Fig 3:** pieces of a model lute from chamber C in tomb C37. Source: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, Plate LXVI.

(*Iḥ-ḥtp T3-ndm*).<sup>73</sup> At the foot end of the latter's coffin (C37.24)<sup>74</sup>, her inscribed canopic box (C37.20) was found, with an uninscribed canopic box (C37.19), possibly Djehuty's, on top. The model lute (C37.25(6 & 15), Fig 3)<sup>75</sup> was deposited with other funerary goods in a large basket (C37.25) near the head end of Djehuty's coffin (C37.23, Fig 2), making it likely that both belonged together. A broken model harp (C37.27)<sup>76</sup> was discovered together with a writing tablet (C37.26) next to the basket with the lute. A connection between the writing tablet and the adjacent basket C37.25 could be argued, as the basket yielded a significant amount of writing equipment. If it belonged to the funerary equipment of Djehuty and Ahhotep, we can also link the third musical instrument, another model harp (C37.28(1), EM11, Fig 4), directly with this material. A writing tablet (C37.28(7)) in the vessel in which the harp lay was inscribed with the same handwriting and included the same names as tablet C37.26. The excavators encountered a third broken model harp (C37.92, EM10, Fig 4) when they emptied pit D, a shaft to the lower chamber E. Among the debris at the bottom of this pit was, besides the harp, a pottery vase with an inscription to Ahhotep (C37.54) and part of a bird trap<sup>77</sup> from vessel C37.28. These objects made clear that the material originally belonged in chamber C, and had been tossed down to make room for new burials.<sup>78</sup> Therefore, it does not seem too farfetched to associate this harp with the funerary equipment of Djehuty and Ahhotep. If this is correct, no less than four model chordophones were included in their burial equipment, an otherwise unparalleled number in ancient Egypt.



**Fig 4:** Three of the harps which were found in tomb C37: the two model harps EM11 and EM10 and the larger harp EM06 with its suspension rod (EM07). Source: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, Plate LXXI.2.

<sup>73</sup> Two child statues which mention their father Djehuty were found in the coffin of Ahhotep, thus indicating their relation.

<sup>74</sup> The presented numbering of objects is taken over from Carter (*Five years' explorations at Thebes*). Their position can be found in Fig 2.

<sup>75</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 527. The instrument was not identified by Carter as such and it currently seems to be lost.

<sup>76</sup> The "model five-stringed musical instrument" does not feature on Carter's photograph (Fig 4), and seems to be lost. According to its description, the harp could be a naviform, N3 harp (see p. 58), of which type only OI02's context is not known, but this remains mere speculation.

<sup>77</sup> This is not explicitly stated in the publication, but the statement "the wooden bow belonging to the trap was found sometime afterwards", coupled with the number 28A which appears at the bottom of pit D in Fig 5 makes it clear that an object from the same numbered basket was found here.

<sup>78</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 529

Instead, it is also possible that *harp EM10* belonged to the original Middle Kingdom or early Second Intermediate Period burial of the chamber. If so, it could similarly have been tossed down with other equipment of this period, or with objects from Djehuty and Ahhotep during one of the phases of reuse. This hypothesis, however, does not seem any more probable than that the harp belonged to the similar model harps of the second phase. It should be mentioned that the other harps in chamber C and F could also have belonged to one of the other coffins in the room (Fig 2). Because most of these were fragmented when part of the ceiling collapsed,<sup>79</sup> no further information could be deduced from them. When new coffins were added, the present material was clearly moved, which could have led to the material ending up next to Djehuty's coffin. Moreover, the inclusion of several musical instruments in the same burial equipment is far from unique in ancient Egypt.<sup>80</sup> Moreover, the fact that four model instruments were discovered in this room, and no others elsewhere in the complexes of el-Birabi, is itself an argument to assign them to the same burial. Djehuty's and Ahhotep's interment can be placed in the early New Kingdom.<sup>81</sup> This is suggested by a scarab with the name of Amenhotep I, which was found in a basket (C37.16), likely belonging to their burial goods.<sup>82</sup> Not long after the burial of Djehuty and Ahhotep, their equipment was moved – causing C37.54, C37.28A and C37.92 to be relocated to chamber F, at the bottom of pit D. In this third phase, new coffins were stacked inside chamber C and pit D. These last burials give an indication to date this third phase, as they included scarabs from the time of Thutmose I to Thutmose III.<sup>83</sup> Because they blocked the passage in which the vase of Ahhotep was found, they also give an approximate *terminus ante quem* for her burial.

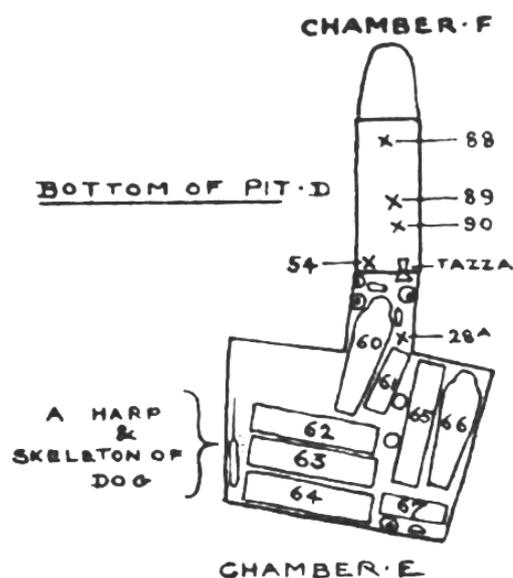


Fig 5: Plan of Chamber E of tomb C37 in el-Birabi. The chamber is connected with C through pit D (Fig 2). Source: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, Plate LV.

The previously-described instruments were, however, not the only stringed musical instruments which were found inside the complex. A complete harp (Fig 4, at the bottom) was among the funerary goods in **chamber E of C37** (Fig 5), which was blocked off when the coffins were stored in pit D. Before this was finished, eight coffins, containing twelve burials, were added to the room. These burials mostly contained a limited amount of funerary goods, which were stored in the coffins, except for some pottery and a large harp (C37.63A, EM06-7). The harp was lying at the south-western side of the room, next to the skeleton of a dog (Fig 5).<sup>84</sup> As the coffins in chamber E seem arranged in an orderly manner, it can be expected that little material was relocated. This makes it likely that the harp belonged to one of the six people inside the three adjacent rectangular coffins. Carter's number of the instrument seems to suggest that he coupled it with coffin C37.63, which

<sup>79</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 78.

<sup>80</sup> See, for instance, tomb 337 in Saqqara and the tomb inventory of Tadjia (see p. 27-29).

<sup>81</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 529-530.

<sup>82</sup> Carter noted the similarity between this basket and basket C37.25, and it was found close to vessel C37.28.

<sup>83</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 79-81, numbers 53 and 59.

<sup>84</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 82-83.

contained the mummies of a man and woman with their modest funerary goods. Because the author does not give any arguments to support this, coffin C37.62, which included two adults and a child, and coffin C37.64, which held the body of a man, seem equally likely candidates. No datable material was found inside the chamber, which makes the *terminus ante quem* from the filling of pit D in the early New Kingdom the only chronological clue.

After finishing complex C37, Carter and Lord Carnarvon started to excavate the neighbouring **saff-tomb C62**.<sup>85</sup> These excavations remain unpublished to this day.<sup>86</sup> The work would be continued in 1915 and 1916 by the Metropolitan Museum of Arts, which conducted excavations in the courtyard of the complex and the corridor tombs at its side. In tomb R2, one of the larger rock-cut tombs at the south-western side of the courtyard of C62, a harp<sup>87</sup> was discovered. The instrument was placed inside the coffin of a woman, together with two throw-sticks and a horn (Fig 6).<sup>88</sup> The excavators also found two asymmetrical lyres during the same mission. The first lyre (EM23)<sup>89</sup> was part of the funerary equipment of a person in chamber E of pit 3 in the courtyard of C62 (Fig 7). Among other 'daily life objects' in the chamber were an ivory game box, a two-handed bronze sword (Fig 17, p. 24) and an axe head.<sup>90</sup> These could – but do not necessarily – determine the tomb owner as a man. The deceased wore an elaborate *rishi*-mask in his or her rectangular coffin. Using the material in chamber E, and the associated rooms of the pit tomb, the burials can be dated in the late seventeenth to early eighteenth dynasties.<sup>91</sup> The second lyre from these excavations, a fragmented lyre (MMA06), was apparently discovered among the debris of pit 1 in the courtyard of the tomb.<sup>92</sup> The excavation report does not, however mention the instrument or give any details about the other finds in the pit.<sup>93</sup> This is not surprising, considering the fragmentary state the lyre would have been in, which could have obstructed an immediate identification. The catalogue of the Metropolitan Museum of Arts also mentions the sound box of a lute (MMA07) which was purportedly



Fig 6: The burial equipment of a lady in tomb R2. Source: A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA 12 (5)*, fig. 11, p. 14.

<sup>85</sup> For this tomb and the associated structures, see Plate 4.

<sup>86</sup> An overview of the most notable discoveries in these tombs was published by G. Miniaci (*Rishi coffins*, 92-101)

<sup>87</sup> The harp is very similar to *harp MMA02*, which was supposedly found in the Asasif, making an identification of the two tempting. Its record, however, states that it came from Carter's excavations, which, if true, rules out this possibility. The harp could also be in the collection of the Cairo Museum (possibly *EM05*) without reference to its original context.

<sup>88</sup> A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA 12 (5)*, 20 and fig. 11.

<sup>89</sup> Although the lyre was not identified in Hickmann's *instruments de musique* (156) with this lyre, but a comparison of the excavation photograph (A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA 12 (5)*, fig. 11) with *lyre EM23* confirms that they are indeed the same.

<sup>90</sup> A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA 12 (5)*, 24-26 and fig. 27.

<sup>91</sup> G. Miniaci, *Rishi coffins*, 100.

<sup>92</sup> MMA, *The Collection Online*, 16.10.504 <<http://www.metmuseum.org/collection/the-collection-online/search/546960>> accessed 31.07.2015.

<sup>93</sup> A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA 12 (5)*, 20.



Fig 7: The burial in chamber E of pit 3 upon its discovery. Source: A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA* 12 (5), fig. 16.

discovered in this region.<sup>94</sup> The lute's sound box was part of the finds in the excavations of Carter and Lord Carnarvon in C62, and a study of their unpublished excavation material could clarify its specific location. Finally, according to Hayes, harp *AMNH01* also comes from one of the excavations which was mentioned above.<sup>95</sup> Unfortunately, no further information is added and the harp does not feature in any other publication.

Four additional harps are recorded as having been found in the eastern part of the Theban necropolis. The first, harp *MMA01*, was discovered by Lansing during his excavation season of 1918-1919 in one of the rock tombs in the Asasif. Although its context seems clear, no more information is given than that it was discovered "among the coffins".<sup>96</sup> Similarly, harp *MMA03* can only be traced back to the 'priest cemetery' in Deir el-Bahri.<sup>97</sup> It is not even mentioned in the publication of the season in which

it was discovered.<sup>98</sup> Even less information is given for harp *OIO1*, which allegedly came from Dra Abu el-Naga.<sup>99</sup> A more precise localization or interpretation of its associated material is therefore unfeasible. The fourth, and better-documented harp *EMO3*, was unearthed in 1862 by Luigi Vassalli in tomb AV, f. 39r at Dra Abu el-Naga North.<sup>100</sup> The instrument was associated with a *rishi*-coffin of 'type D' and can consequently be dated in the late seventeenth dynasty.<sup>101</sup> Vassalli provides us with a drawing of both the harp and the coffin, on which even the string traces are visible (Fig 8). Interestingly, the excavator also copied the line of hieroglyphs at the front of the coffin which, although parts were clearly inaccurately represented, can be translated as follows:

<i>ḏd mdw in wsir nb</i>	Words spoken by Osiris, the lord:
<i>ḥtp di ns.wt</i>	An offering which the king gives,
<i>di-f ḥnk.t k3.w 3pd.w</i>	He gives beer, cattle and birds
<i>(n) k3 (n) ḏ(3)ḏ(3.wy) (?) Rns(s)nbw</i>	(to) the ka (of the) harpist (?) Rensenebu

Although the formula seems quite straightforward, some signs were evidently miscopied. The part after *nb* was likely omitted by the copyist, as it probably bore an epithet of Osiris (for instance *nb ḏḏw* or *nb 3bdw*). The writing of *ḥtp di ns.wt* itself seems to accord with a late

<sup>94</sup> MMA, *The Collection Online*, 12.181.294 <<http://www.metmuseum.org/collection/the-collection-online/search/554346>> accessed 31.07.2015.

<sup>95</sup> W. C. Hayes, *The Scepter of Egypt II*, 23.

<sup>96</sup> A. Lansing, *BMMA* 15 (7.2), 16.

<sup>97</sup> MMA, *The Collection Online*, 25.3.306 <<http://www.metmuseum.org/collection/the-collection-online/search/555866>> accessed on 31.07.2015.

<sup>98</sup> H. E. Winlock, *BMMA* 17 (12.2), 19-49.

<sup>99</sup> The Oriental Institute, *Museum Collection*, E 19474 <<http://oi-idb.uchicago.edu/#D/MC/19940/H/1438361614785>> accessed on 31.07.2015.

<sup>100</sup> F. Tiradritti, *The Second Intermediate Period*, 336 and plate 116.

<sup>101</sup> G. Miniaci, *Rishi coffins*, 315.

Second Intermediate Period or New Kingdom variant, with the *hṯp* at the end.<sup>102</sup> Again, the sign for *hṯp* itself seems to have been forgotten. The title of the owner of the harp could, interestingly, be read as *d(ṣ)d(ṣ).t*, ‘harpist’.<sup>103</sup> The hand copy is, however, far from clear, making other interpretations equally possible. Except for the name of the tomb owner, ‘Rensenebu’ – most likely the ‘s’ was wrongfully included a second time in Vassalli’s copy – nothing is known of the person or the other tomb’s equipment.

More recently, two complete harps and a fragmentary sound box of another were discovered on the main hill of Dra Abu el-Naga.<sup>104</sup> The objects were unearthed in the 2000’s during the excavations of the Deutsches Archäologisches Institut at this location. Although the material is yet to be published, the instruments must have belonged to one of the late Middle Kingdom to early New Kingdom shaft tombs in their excavation concession. It can be expected that these harps with documented context will vastly increase our understanding of the material.

The eastern Theban necropolises provide us with at least eleven burial assemblages in which one or more stringed musical instruments were discovered. Of these, the tomb inventory of five is currently – at least partially – published, which gives us an approximate idea of the types of burial goods which were found in combination with chordophones in this region. The burial assemblages with stringed instruments in Dra Abu el-Naga, el-Birabi and the Asasif all date from the late seventeenth to the beginning of the eighteenth dynasty. The only exception is *harp MMA01*, which can be placed in the thirteenth dynasty. Accordingly, the musical instruments from these regions are among the earliest discovered ancient Egyptian musical instruments with provenance. An interpretation of the assemblages is somewhat less straightforward. The titles and functions of none of the harp owners can easily be deduced, although Rensenebu could have been a harp-player. Similarly, only the gender of Djehuty and Ahhotep is certain, which reveals only a tiny piece of the instrument owner’s identities.

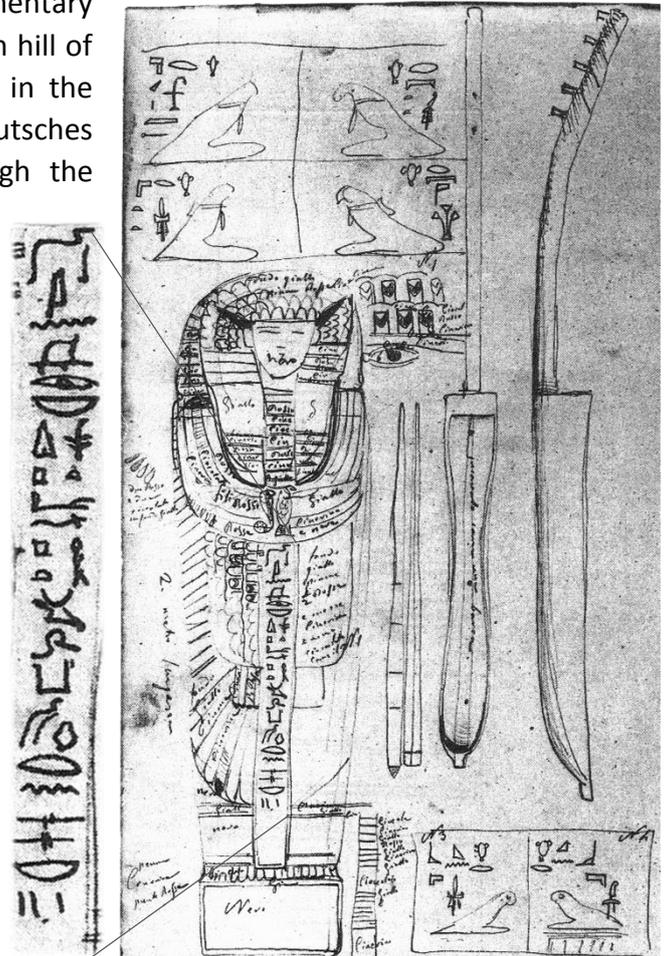


Fig 8: The rishi-coffin and harp from tomb AV, f. 39r. Source: F. Tiradritti, *The Second Intermediate Period*, Plate 116.

<sup>102</sup> A. Ilin-Tomich, ZÄS 138, 22.

<sup>103</sup> F. Tiradritti, *The Second Intermediate Period*, 336.

<sup>104</sup> The preliminary results of this discovery were presented by Sibylle Emerit on the first of October 2013 in the Deutsches Archäologisches Institut in Cairo (IFAO, *Chercheurs*, Sibylle Emerit < <http://www.ifao.egnet.net/ifao/recherche/chercheurs/semerit/> accessed 31.07.2015)

### 2.1.2 Theban instrument owners from the New Kingdom: chordophones from Deir el-Medina and Sheikh Abd el-Qurna

The first two decades of the twentieth century saw interesting finds of musical instruments in el-Birabi and the surrounding grave fields. Despite this, Thebes had yet to reveal some of its most interesting burial assemblages which included chordophones. Particularly prolific was the eastern necropolis of Deir el-Medina and, to a lesser extent, the hill of Sheikh Abd el-Qurna.<sup>105</sup> The well-documented excavations at these locations allow for a detailed analysis of the Theban funerary culture. As such, they add priceless information to the partially published or ambiguously assignable burial goods of the eastern Theban necropolises.

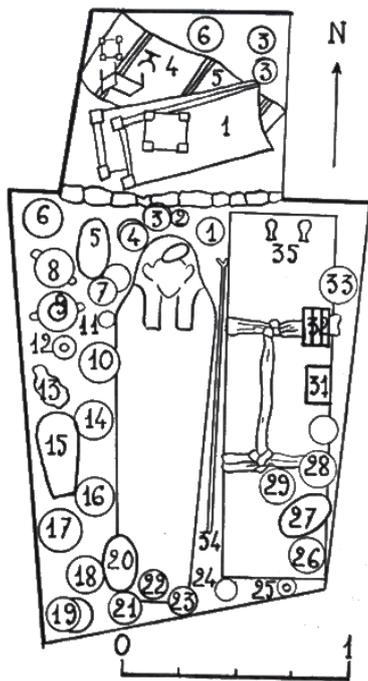


Fig 9: Plan of tomb 1370. Source: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, fig. 80.

Bernard Bruyère found a considerable number of musical instruments, mostly stringed, during his 1930's excavations in the graves of Deir el-Medina.<sup>106</sup> This frequent inclusion of musical instruments in the tombs is paralleled with their frequent iconographic representations in the village's sepulchres.<sup>107</sup> Two tombs are especially relevant for the topic at hand, as they contained not only complete stringed musical instruments, but also the entirety of the associated burial goods. The first of these, **Deir el-Medina, tomb 1370** (Fig 9) consisted of a modest – 1.65 by 2.05 metre at its largest – room and a 2.60 metre deep shaft. Two people, possibly husband and wife, were interred in the tomb. An anthropoid white coffin held the remains of an elderly woman who carried the name Medja (*Mdꜣ*). An elderly man was buried in an undecorated and uninscribed rectangular coffin. On and next to the coffins, the extensive burial equipment of the couple was placed in an orderly manner, making a later disturbance of the tomb unlikely. These funerary goods ranged from large quantities of

food – more than forty loaves of bread, fruits, *dum* nuts and poultry – to toiletries and furniture (Fig 10).<sup>108</sup> The lyre (*EM22*, Fig 13) was deposited at the feet of the man, in his coffin. The tomb can be dated to the mid-eighteenth dynasty, as the cartouche of Menkheperre Thutmose III adorned some of the objects and sealings.<sup>109</sup>



Fig 10: Tomb inventory of tomb 1370, the lyre can be seen in front of Medja's coffin. Source: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, fig. 81.

<sup>105</sup> See Plate 3.

<sup>106</sup> An overview of these is given in: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, 110-119.

<sup>107</sup> For a full list of Theban tombs with musical instruments, including those from Deir el-Medina, see: L. Manniche, *ancient Egyptian musical instruments*, 97-98.

<sup>108</sup> See also Table 1.

<sup>109</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, 150-158.

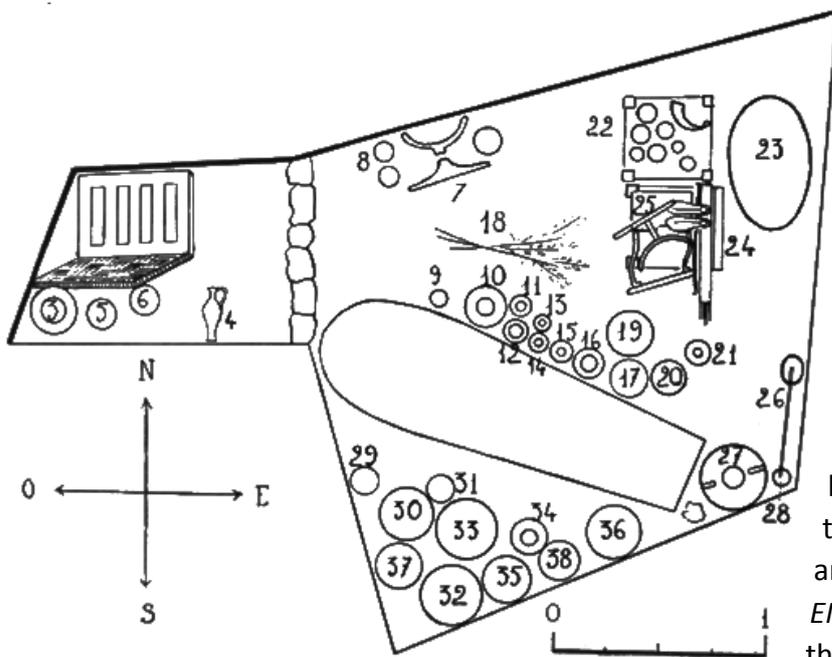


Fig 11: Plan of tomb 1389 which included a lyre (24, on the chair) and a lute (26). Source: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1934-1935), fig. 113.

Another lyre was part of the contents of **tomb 1389** (Fig 11) The shaft of the tomb, which was almost identical to the one in tomb 1370, ended in a two by 2.60 metre burial chamber. The tomb belonged to an elderly man, who was lying in an unscribed *rishi*-coffin. The coffin was surrounded by baskets and pottery vessels which held various food offerings (Fig 12). Two musical instruments were included in the tomb. A lyre (1389.24, L09, Fig 13) lay on a chair, together with a headrest, a pair of sandals and a bundle of sticks. A lute (1389.26, EM26) was situated at the eastern side of the chamber, against the wall.<sup>110</sup> Bruyère thought that the tomb originally also contained the coffin of a woman, which would have been removed at a later stage.

This was based on the occurrence of ‘feminine’ objects in the burial assemblage, which would have belonged to her equipment.<sup>111</sup> However, the three ‘feminine’ objects which Bruyère mentions: a toilet box (1389.31), a needle holder (1389.23) and the lyre, can hardly be defined as strictly feminine goods. On the contrary, similar artefacts are sometimes found inside coffins of men,<sup>112</sup> proving that they cannot be attributed to women exclusively. It seems therefore that the man was the only person who was interred in the grave, an observation which is reinforced by the undisturbed burial goods in the shaft. Because several objects in the tomb carried the cartouche of Thutmose III,<sup>113</sup> the assemblage can be dated to the same reign as the inventory of tomb 1370.



Fig 12: Tomb inventory of 1389, the lyre can be seen on the left. Source: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1934-1935), fig. 115.

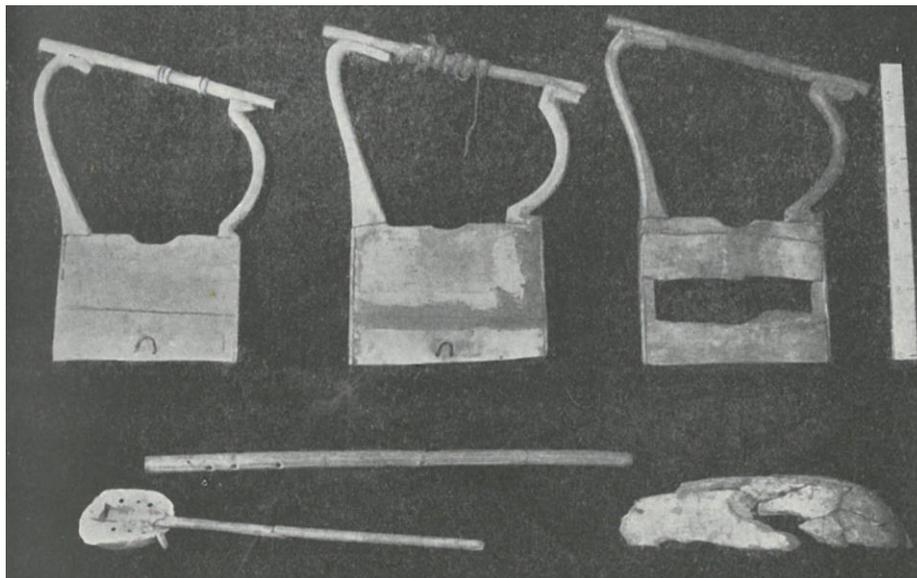
<sup>110</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1934-1935), 197-201. See also Fig 11.

<sup>111</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1934-1935), 201.

<sup>112</sup> Kohl pots, the content of Bruyère’s “coffret à bijoux”, are often found in male burials (for example coffin C37.64, see Table 1). Even more telling is the burial of the man in tomb 1370 (see above), which held both a lyre and a kohl pot in its coffin.

<sup>113</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh* (1934-1935), 198, 201.

Although tombs 1370 and 1389 were the most complete funerary ensembles of Deir el-Medina in which a chordophone was found, the necropolis of the village yielded more stringed instruments. Among those were pieces of a third lyre (L10, Fig 13), which the excavators discovered among the debris in **tomb 1267**. In this grave, the skeletal remains of at least four people were lying amidst remnants of their coffins, which hints to the occupants of the tomb. These fragments apparently came from yellow coffins,<sup>114</sup> which date the burials at their earliest to the late eighteenth dynasty.<sup>115</sup> However, the large number of buried people could indicate that some of the instruments were inserted at a later stage in the tomb. The devastated state of the tomb makes it impossible to link the lyre, or any of the other discovered burial equipment to a specific occupation phase of the tomb. That the other chordophone categories were also represented in Deir el-Medina is shown by objects of which the exact location is less well-known. The sound box of a harp (L03, Fig 13) and the tailpiece of a lute (EM28) appear amongst the other musical instruments in Bruyère's music archaeological overview of the eastern cemetery.<sup>116</sup> However, for these objects, no contextual information is given, which leaves the impression that their find spot was not recorded. The author further states that several pieces of leather and turtle shell<sup>117</sup> were discovered during the previous excavation seasons, which gives the impression that the necropolises originally contained additional lutes.



*Fig 13: Musical instruments from Deir el-Medina. From the left to the right: lyres L09, EM22 and L10; a flute, lute EM26 and harp L03. Source: B. Bruyère, Rapport sur les fouilles de Deir el Médineh (1934-1935), fig. 53.*

<sup>114</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1931-32)*, 15-16.

<sup>115</sup> J. H. Taylor, *Egyptian coffins*, 34.

<sup>116</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, fig. 53, p. 11.

<sup>117</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, 117; For instance the turtle shell which was discovered in the tomb of Neferhotep: B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1924-1925)*, 36.

One year after the discovery of EM22, L09 and EM26, a lute was found in *Shaykh Abd el-Qurna*. The lute (EM27) was uncovered in a gully in the forecourt of TT 71, the tomb chapel of Senenmut.<sup>118</sup>

It belonged to one of the three burials which lay among the limestone constructional debris of Senenmut's complex. This burial consisted of a white anthropoid coffin and its modest funerary equipment, which included a canopic box, two staves and a headrest (Fig 15).<sup>119</sup>

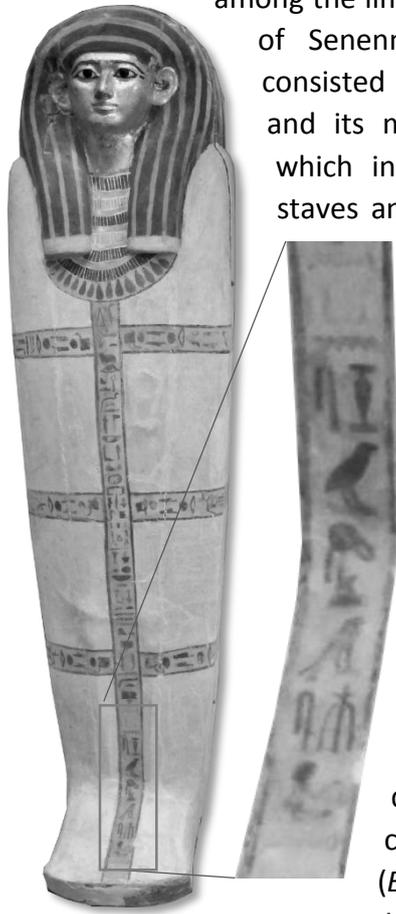


Fig 14: The reconstructed coffin of Harmose. Source: MMA, *The Collection Online*, Coffin of Harmose. Accessed 31.07.2015.

On the coffin (Fig 14) appears a *ḥtp-di-nṣ.wt* formula with a dedication to the god Osiris and the name of the deceased, Harmose (*Hr-ms*).<sup>120</sup> Interestingly, the title of Harmose, *ḥs.w* (Fig 14), designates him as a musician, a position which fits well with the lute in his possession. The stone rubble which covered Harmose's burial equipment can be used to date the ensemble, as it was created with the construction of TT 71.<sup>121</sup> This gives not only a *terminus ante quem* for the burial, but rather a specific date, because the material was found directly underneath the constructional debris. As it cannot be expected that Harmose's coffin was simply put out in the open, the burial must be synchronous with the construction of Senenmut's tomb chapel. This sets the assemblage in the early reign of Hatshepsut,<sup>122</sup> a dating which is corroborated by the white type of the coffin.<sup>123</sup> Another chordophone fragment, the transversal rod of a semi-symmetrical lyre (EM24), is also said to originate from Sheikh Abd el-Qurna. Allegedly, the piece was unearthed during the 1905-1906 fieldwork of Sir Robert Mond in the region.<sup>124</sup> A recent publication of parts of the field books from these excavations,<sup>125</sup> however, does not mention the object. Although its context could have been described in an unpublished report, it is not unlikely that the lyre fragment was not identified as such by Mond.



Fig 15: The burial goods of Harmose. His lute (EM27) is visible in front of the coffin. Source: Lansing and Hayes, *BMMA 32(1)*, fig. 11.

<sup>118</sup> For the designation of TT 71, see: B. Porter and R. L. B. Moss, *Topographical bibliography* I.1, 139-142.

<sup>119</sup> A. Lansing and W. C. Hayes, *BMMA 32 (1)*, 6-8 and fig. 10-11.

<sup>120</sup> MMA, *The Collection Online*, Coffin of Harmose <<http://www.metmuseum.org/collection/the-collection-online/search/549020>> accessed 31.07.2015.

<sup>121</sup> A. Lansing and W. C. Hayes, *BMMA 32 (1)*, 8.

<sup>122</sup> Construction on TT 71 was started in year seven of Thutmose III and Hatshepsut's joint reign (P. F. Dorman, *The tombs of Senenmut*, 161).

<sup>123</sup> J. H. Taylor, *Egyptian Coffins*, 32.

<sup>124</sup> H. Hickmann, *Instruments de musique*, 157.

<sup>125</sup> L. Collins, *JEA 62*, 18-40.

Except for the previously mentioned chordophones whose provenance is at least approximately known, some additional chordophones are said to have come from Thebes. Among these is the abundantly decorated harp *BM05*, which originally belonged to the burial goods from **the tomb of Ani**.<sup>126</sup> Although this tomb has not been identified, it was purportedly located in the Theban necropolis, and was of nineteenth dynasty date.<sup>127</sup> Nevertheless, the online catalogue of the British Museum lists other objects from the tomb, which make it possible to partially reconstruct its inventory. Among these is a folding stool with ivory inlay, a wooden toilet box (Fig 16), a pair of sandals, a wooden adze and two figurines with traces of gilding.<sup>128</sup> The tomb, however, is most famous for Ani's Book of the Dead<sup>129</sup> which mentions his titles of 'royal scribe' and 'overseer of the granaries'. Ani's wife, Tutu, is also mentioned, and her titles include 'lady of the house' and 'chantress of Amun'.<sup>130</sup> This last title is interesting, as it again couples one of the owners of a tomb which held a musical instrument to a musician's title.



Fig 16: Toilet box from the tomb of Ani. Source: BM, Collection online, Record EA24708.

Three more stringed musical instruments supposedly came from the Theban region. The first is lyre *ÄM05*, now in Berlin. Its catalogue lists it as possibly coming from a royal tomb in Biban el-Muluk.<sup>131</sup> Although the find of a musical instrument in a royal tomb would be unique,<sup>132</sup> it is not unthinkable that the lyre received this label to command to a higher selling price. Of harp *EM05* and harp neck *EM18*, only 'Thebes' is given as a contextual reference.<sup>133</sup> All six harps (*BM01-6*) from the British Museum are attributed in the Theban region.<sup>134</sup> However, since the provenance of none of these is known with certainty, this designation does not seem to rest on any firm ground. It can be hypothesised that the museum simply substituted the lost locational record with the most likely location where the harps would have been discovered. Consequently, the locations and dates of the instruments in the British Museum cannot simply be accepted as a given, although some evidences places *BM05* from the tomb of Ani in Thebes.

If we look at the Theban assemblage of ancient Egyptian stringed musical instruments, some features stand out. Firstly, the vast majority of datable instruments can be placed from the late seventeenth dynasty to the middle of the eighteenth dynasty. Although significantly different in number, the object types which occur in the associated funerary inventories are strikingly similar to each other. Except for a coffin, and sometimes a canopic box, the instrument owners mostly possessed cosmetic articles (kohl, galena, mirrors, razors, combs), clothing (mostly sandals) and food offerings (bread, various fruits, nuts, foliage and meat).<sup>135</sup>

<sup>126</sup> R. D. Anderson, *Musical Instruments*, 82.

<sup>127</sup> BM, *Collection online*, Record EA10470,26.

<sup>128</sup> BM, *Collection online*, Records EA22830; EA22834; EA22896-7, EA24708 and EA29284.

<sup>129</sup> BM, *Collection online*, Records EA10470.

<sup>130</sup> BM, *Collection online*, Record EA10470,26.

<sup>131</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 54.

<sup>132</sup> Not in the least because of the – except in KV 11 – lack of musician's representations in royal tombs.

<sup>133</sup> H. Hickmann, *Instruments de musique*, 167 and 178.

<sup>134</sup> R. D. Anderson, *Musical Instruments*, 72-81.

<sup>135</sup> See Table 1.

Furthermore, their tombs contained various types of implements, such as writing, measuring and sewing equipment. Single tomb inventories included other tools, like weapons (Fig 17), an adze, a bird trap (Fig 18) and a game box. These burial goods stand out because they all could have been used for specific activities during the life of the tomb owner. Therefore, they fit in the category of 'daily life objects'.<sup>136</sup> The actual instruments in these tombs are limited



Fig 17: A two-handed sword from chamber E of pit 3 in the courtyard of saff-tomb C62. Source: A. M. Lythgoe, A. Lansing and N. d. G. Davies, *BMMA* 12 (5), fig. 26.

to the types of naviform harps, asymmetrical lyres and oval lutes.<sup>137</sup> These types stand out because of their functionality: they bear no complex decoration and are playable musical instruments. As such, they fit well into the group of 'daily life

objects' and accord with the connected burial goods. A parallel with these 'actual instrument ensembles' can be seen in the funerary goods in chamber C of tomb C37, which possibly belonged to Djehuty and Ahhotep. No actual, but up to four model instruments, are part of the tomb owners' funerary goods, which is otherwise fairly consistent with the contemporary actual instrument inventories. This use of models is interestingly also reflected in a model bird (Fig 18) and a bull's head, which were found in the same basket (C37/28) as one of the harps. The early musical instruments in this group and their funerary inventories can serve as an argument against the 'Tradition & Wandel' hypothesis of Anne Seiler. This author projects the concept of 'magical sustenance' on the late Second Intermediate Period. In her interpretation, the funerary culture of this period consists mainly of ritual objects, in contrast to the 'daily life' objects of the preceding period.<sup>138</sup> A functional chordophone would not fit in such a concept, particularly not as it seems to follow a tradition which was started in the thirteenth dynasty. It is therefore advised that the conception of the funerary culture of the Second Intermediate Period, to which musical instruments are clearly linked, should be reconsidered.<sup>139</sup>

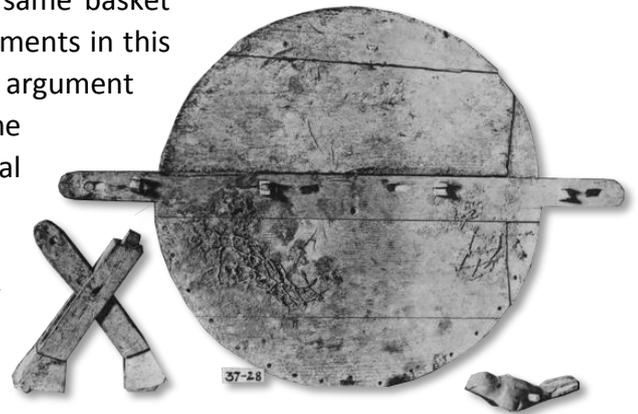


Fig 18: A bird trap and a model bird, which were found with harp EM11 in tomb C37. Source: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, Plate LXIV.

A second observation of the Theban chordophone group is illustrated by *harp MMA01*. This instrument proves that music was not confined to a time frame consisting of the late Second Intermediate Period to New Kingdom, but that it was already part of the funerary culture in the early Second Intermediate Period. Furthermore, *harp BM05* from the tomb of Ani and the existence of possible later chordophone types like the semi-symmetrical lyre (*ÄM05* and *EM24*) and angular harp (*EM18*)<sup>140</sup> indicate that the practice did not cease after the mid-eighteenth dynasty. Thirdly, in the three cases where the title of one of the tomb owners could be ascertained,<sup>141</sup> it was directly linked to music. In other cases, the instrument was often

<sup>136</sup> For this concept, see: W. Grajetzki, *Burial customs in ancient Egypt*, 57-61; Miniaci, *Rishi coffins*, 2-4.

<sup>137</sup> For the types and their interpretation, see Chapter 4, p. 55, 68 and 74.

<sup>138</sup> A. Seiler, *Tradition & Wandel*, 161-184.

<sup>139</sup> T. Sykora, 'Tradition & Wandel?', 39-42.

<sup>140</sup> For these types, see p. 67 and 72.

<sup>141</sup> The burials of Rensenebu, Harmose and Ani's wife Tutu, although the first should be regarded with caution.

placed close to the deceased,<sup>142</sup> suggesting a strong link between the tomb owner and the chordophone. This leads to conjecture that most of the Theban chordophones were interred in the burials of people who, during life, had been directly connected to music. It seems therefore reasonable to assume that the instrument of a musician was not rarely included in his or her funerary goods. A final observation which can be made is that stringed musical instruments, contrary to previous assumptions,<sup>143</sup> occur in burials of both men and women. The instruments could never directly be linked to the burial of a child,<sup>144</sup> but this is – considering the often more limited burial goods of these – not very surprising. The Theban funerary culture provides us with the largest group of extant ancient Egyptian stringed musical instruments with provenance. It is nonetheless important to include the chordophones which were found in other locations, if a reliable interpretation of the full corpus is intended.

## 2.2 Music-archaeological outliers: stringed musical instruments from Middle Egypt to Memphis

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If we consider the high number of Egyptian chordophones from Thebes, the small amount of similar finds outside of this city are startling. These burial assemblages are not only exceptional in location, but also in date and in type. Because of this, their inclusion into a music archaeological study can help us to put the more monotone Theban group into perspective. The instruments all originate from locations between Thebes and Memphis, mainly in Middle Egypt and the Memphite area.<sup>145</sup> No chordophone finds have so far been recorded in the Nile delta, but this is hardly surprising, considering the high humidity of this region.

If we travel northwards from Thebes, the necropolis of **Abydos** is the first place we encounter where a possible fragment of a stringed musical instrument (Fig 19) was discovered. This fragment, *WM02*, was discovered on the brink of the twentieth century by Randall-Maclver and Mace in tomb 44. The tomb had thoroughly been plundered, but the excavators could attribute some remains to the original funerary equipment. Among these were a *shabti*-figure, two pieces of inscribed wood, an ivory penholder and the presumed harp fragment. The tomb was dated in the nineteenth dynasty, based on a cartouche of Ramesses II on the penholder.<sup>146</sup> However, the association of the three objects with the same burial assemblage can be called into question. All objects, except for the harp, were inscribed with different names, one of which – the name on the datable penholder – also appeared in a neighbouring tomb.<sup>147</sup> Although the occurrence of names different from those of the tomb owner is not



Fig 19: *WM02*, a possible harp fragment from tomb 44 in Abydos. Photograph and courtesy of the World Museum in Liverpool.

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<sup>142</sup> This is most clearly shown with *MMA02/EM05* and *EM22*, which laid inside the coffin of their owners.

<sup>143</sup> B. Bruyère, *Rapport sur les fouilles de Deir el Médineh (1934-1935)*, 201.

<sup>144</sup> As the musical instruments in C37 cannot unequivocally be associated with a specific coffin, they could theoretically belong to one of the children buried in the chambers; the harps from chamber C could belong to C37.29, 30, 31 and 40 and the harp from chamber E could have been possessed by the owner of C37.61, 88 or the child in C37.61.

<sup>145</sup> Plate 2.

<sup>146</sup> D. Randall-Maclver and A. C. Mace, *El Amrah and Abydos*, 77, 87.

<sup>147</sup> D. Randall-Maclver and A. C. Mace, *El Amrah and Abydos*, 77.

unheard of in ancient Egypt,<sup>148</sup> their allotment to the original inventory of tomb 44 seems at least doubtful. We could also question the identification of fragment *WM02* as a musical instrument. Although the wooden rod with ebony and ivory dowels could be part of the neck of a harp,<sup>149</sup> few arguments to support this can be brought forward. The piece is dissimilar to the necks of all other harps, and, additionally, the pegs are, with approximately one centimetre in between, too close to each other to allow for play. The badly weathered state of the wood makes it hard to determine the original function of the piece, but it could have been a decorated furniture fragment.

A more evident interpretation can be given for *EM01*, a fragment which is said to have come from a tomb in *Meir*.<sup>150</sup> The thin stick, which carries four notches, is slightly curved near the end. Although also unique in shape, it would fit very well as the suspension rod of a shovel-shaped harp.<sup>151</sup> This identification is corroborated by the – apparently twelfth dynasty – date of the instrument,<sup>152</sup> a period in which the shovel-shaped harp seems to have been the only chordophone category in use. Unfortunately, no more contextual information is known except for this general date and location of the instrument fragment. The conformity of date and type, and the unique provenance record, however, do advocate for its credibility. If the museum catalogue can be believed, the harp piece is currently the oldest datable chordophone fragment.

Better recorded is the discovery of *harp WMO01*. The instrument was unearthed during the 1902-4 excavations of Garstang in **tomb 287 of Beni Hasan**. Inside the tomb, two coffins were found – one of which apparently belonged to a woman named Senu-Atef – along with an extensive range of funerary goods. The tomb inventory stands, with its inclusion of tomb models and two model boats, in the tradition of the Middle Kingdom. This, coupled with the occurrence of thirteenth dynasty pottery, dates a portion of the funerary equipment to the early Second Intermediate Period.<sup>153</sup> Garstang, however, assumed that the tomb was reused in the early New Kingdom, as was evidenced by eighteenth dynasty pottery in the chamber.<sup>154</sup> If this was the case, it seems most likely that the harp belonged to the second occupation phase. It was positioned at the top of the burial goods in the chamber at its discovery (Fig 20), making it likely that it was among the latest interred objects. On the other hand, Garstang's interpretation can also be



*Fig 20: Tomb 287 in Beni Hasan when discovered. Harp WMO01 is visible between the two coffins. Source: J. Garstang, Burial customs, fig. 152.*

<sup>148</sup> A good example is the tomb of Hornakht, where no fewer than five names are attested in a tomb which bears no indications for reuse (F. Tiradritti, *The Second Intermediate Period*, 336-340).

<sup>149</sup> For specific terminology of the components of stringed musical instruments, see Plate 1.

<sup>150</sup> H. Hickmann, *Instruments de musique*, 173.

<sup>151</sup> For this type, see 4.1.1, p. 51; H. Hickmann, *Instruments de musique*, 170-173.

<sup>152</sup> H. Hickmann, *Instruments de musique*, 173.

<sup>153</sup> J. Garstang, *Burial customs*, 222.

<sup>154</sup> J. Garstang, *Burial customs*, 114-116, 222.

called into question, as it is largely based on the ceramic material. There still remains some difficulty in interpreting the diachronic evolution of Upper Egyptian pottery types during the Second Intermediate Period. It is possible that the excavator misinterpreted a ceramic assemblage which stood in the middle of the Middle and New Kingdom traditions as a combination of both. Because the ceramic material from tomb 287 has not been published to its full extent, a conclusive answer can only be reached when the original material, or at least the excavation records, are studied in detail. Either way, the large funerary inventory of the tomb is at least partially associated with *WMO01*, and provides us with rare contextual information from a musical instrument's find in Middle Egypt.

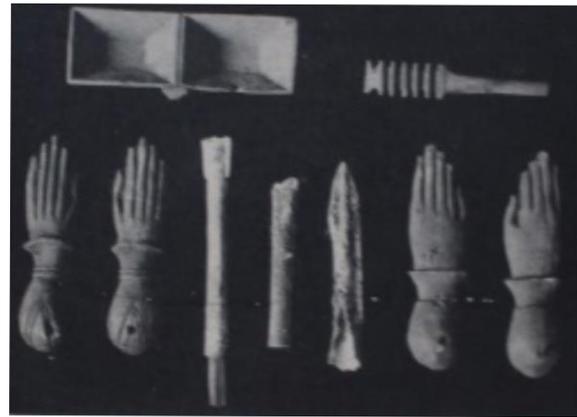
Although the finds from Abydos, Meir and Beni Hasan are more than noteworthy, two of the most exceptional discoveries of Egyptian stringed musical instruments were made in the Memphite area. Quibell uncovered the first instruments in **Saqqara, tomb 338** during the decade which preceded the First World War. Tomb 338 had a 9.5 metre deep shaft, in which fragments of later burials were found, together with the original tomb inventory. The shaft led to a double burial chamber, in which, amidst remains of later intrusive burials, part of the original funerary goods was lying (Fig 21). Most likely belonging to this was a shallow bowl, a double kohl pot, a bronze spearhead and a wooden spatula.<sup>155</sup> Interestingly, the tomb carried not one, but six musical instruments: four harps (*EM12-15, 17*, Fig 22)<sup>156</sup> and two pairs of wooden clappers (Fig 21). Although broken when discovered, the harps can mostly be reconstructed from their fragments, making it likely that they were deposited in the grave as complete harps. The strong resemblance to one another gives the impression that the chordophones belonged to the same, or at least to associated burials. As such, this tomb inventory with four harps is unparalleled in ancient Egypt – with the possible exception of the four model harps in tomb C37 at el-Birabi. It should be noted that the harps, although similar, were not simply duplicates, but displayed different sizes and numbers of strings. Accordingly, they could have produced different pitches, thus expanding the range of playable notes. Quibell dates the original inventory of the tomb in the nineteenth dynasty, based on the stratigraphic level in which the mouth of the shaft was located. For the reburials, no date is given except that they were “of the late type”.<sup>157</sup> The depth of the shaft and dimensions of the burial chambers – the first measures five by four metres – give the impression that the original burial was extensive. This impression is also provided by the few, but richly adorned, remains of the tomb's burial equipment. Therefore, it seems that the harps likely belonged to the original nineteenth dynasty burial and were tossed aside and fragmented when new burials were added. Tomb 338 is not only unique in the number of interred musical instruments and its location, but also unusual in the occurring chordophone type. Furthermore, it is among the few datable harp assemblages from the later New Kingdom.

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<sup>155</sup> J. E. Quibell, *Excavations at Saqqara*, 5-6 and plate 34.

<sup>156</sup> J. E. Quibell, *Excavations at Saqqara*, 78 and plate 33; Hickmann's, *Instruments de musique* only lists three sound boxes of the harps as coming from Quibell's excavations. From the excavation photograph (Fig 22), it is, however, clear that one neck should be identified with *EM17*, while another neck and the large sound box board bear a striking resemblance to the ones of *EM12*. *EM13* is fitted with the end of its neck on the photograph, but this piece seems to be lost. The missing neck could be *EM16, 18* or *19*, but as it is not featured on the photograph, this remains speculative.

<sup>157</sup> J. E. Quibell, *Excavations at Saqqara*, 5-6.



↑ Fig 21: A selection of finds from tomb 338 which included two pairs of hand-shaped castanets. Source: J. E. Quibell, *Excavations at Saqqara*, Plate XXXIV.

← Fig 22: Remains of four harps which came from tomb 338 in Saqqara. From the left to the right: necks EM12a and EM17; boards EM13b and EM12b and sound boxes EM13a, EM15 and in front EM14. Source: J. E. Quibell, *Excavations at Saqqara*, Plate XXXIII.

The last recorded excavation of an ancient Egyptian stringed musical instrument is not any less of interest. It was part of one of the most notable finds in the necropolis of **Abusir el-Meleq: the tomb inventory of Tadj**a. Otto Rubensohn discovered the funerary equipment of this girl during his campaigns of 1902 to 1905 in the region, but unfortunately, none of the material has been published so far.<sup>158</sup> Nevertheless, some information can be gathered, although it should be noted that this will be far from complete. Tadj

a, apparently a young woman, was buried in two coffins – an anthropomorphic and a rectangular – (Fig 23). A large number of burial goods accompanied her to the afterlife, among which were two complete lutes with a plectrum (ÄM09-11) and a lyre (ÄM08).<sup>159</sup> Although the lutes seem to have been fully functional, the small lyre displays clear evidence of being a model instrument. Tadj

a's burial equipment can be placed in the twenty-fifth or twenty-sixth dynasty,<sup>160</sup> whereby it offers the latest ancient Egyptian musical instruments with known provenance. Being the only ensemble which is dated to the Late Period, it is of pivotal importance for the interpretation of musical practice after the New Kingdom. It can only be hoped that, after more than a century, the material will soon be made available by publication.

Although a considerable portion of ancient Egyptian stringed musical instruments has a known provenance, the context of the majority is still unknown. Two instruments (the decorative head FM01 and the lyre ÄM06) still hint to their original place of deposition, as they are listed as coming from the Fayum.<sup>161</sup> The neck of a harp (AsM01) was also discovered in this region, in the necropolis of Sidmant. Petrie and Brunton record 336 as the tomb number, but no other

<sup>158</sup> SPEMB, *Otto Rubensohn in Ägypten* <<http://www.egyptian-museum-berlin.com/f05.php>> accessed 31.07.2015.

<sup>159</sup> C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 54, 58.

<sup>160</sup> SPEMB, *Otto Rubensohn in Ägypten* <<http://www.egyptian-museum-berlin.com/f05.php>> accessed 31.07.2015; C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 54, 58.

<sup>161</sup> L. Manniche, *Ancient Egyptian Musical Instruments*, 47, note 94; C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 54.

information, except that a chair of probable eighteenth dynasty date was found with it, is provided.<sup>162</sup> Another harp (*BAAM01*) is said to have come from the region of Minya, and could have been discovered in one of the grave fields in the region.<sup>163</sup> Of the remaining corpus of pharaonic chordophones, no information of their original location is known. As a consequence, they can only be interpreted within the framework of their instrument type.



*Fig 23: The coffin ensemble and a selection of the tomb inventory of Tadjia including lute ÄM10. Photograph by Jürgen Liepe; Source: SPEMB, Otto Rubensohn in Ägypten, accessed 31.07.2015*

The identifiable burial assemblages from Middle Egypt and Memphis are smaller in number, but more varied than those from Thebes. They include both the oldest and youngest of the tomb inventories and types which were not previously encountered. Notable also are the two tombs from the Memphite area, as they include not one, but three to six musical instruments. The owners of the tombs apparently deemed it desirable that a full musical ensemble – respectively consisting of four harps and two castanets and two lutes and a lyre – accompanied them to the afterlife. While all instruments from tomb 338 appear to have been functional, Tadjia possessed, additionally to two actual lutes, a model lyre. This unique case in which the two categories meet in the same ensemble could give more insight into their meaning. In order to do so, a more thorough study of the burial equipment is advised.

The small number of stringed instrument finds from Thebes, as compared with the rest of Egypt, has already been noted. Of the chordophones with recorded provenance, the number of Theban instruments is more than twice the number from all other cemeteries combined. Another remarkable feature can be deduced from the contexts: except for two examples, the datable Theban assemblages all stem from the late seventeenth to the mid-eighteenth dynasty. For all other dates, the material is more evenly divided across the necropolises of Egypt. This explosion of musical visibility in the Theban funerary culture during this time frame can be accounted for in different ways. Firstly, it could reflect an increased musical practice in the city during this time, which gave rise to its expanded inclusion in the, 'daily life'-based, burial equipment. However, such an interpretation would fail to explain the iconographic record, where musical scenes are also frequently depicted in other periods and regions. A more direct hypothesis could argue that not musical practice, but only its material reflection in the funerary culture expanded in late Second Intermediate Period and early New Kingdom Thebes. To consider this interpretation in greater depth, we turn to the instruments themselves. As such, a better understanding of the musical instruments and their funerary significance can be reached.

<sup>162</sup> F. Petrie and G. Brunton, *Sedment II*, Plate LXI, 57 and 58.

<sup>163</sup> BAAM, *Ancient Egyptian Antiquities*, Shoulder harp <<http://antiquities.bibalex.org/Collection/Detail.aspx?a=604&lang=en>> accessed 3/10/2015.

### 3. Models or real instruments?

Although the general morphology of an instrument can offer us a great deal of information concerning its musical capabilities, it leaves one very important question unanswered. In essence, we cannot simply assume that most of the recovered stringed instruments were actually used in musical performance in the first place, as is believed in virtually all previous studies. The exclusively funerary context in which chordophones were found could even suggest another, purely ritual or magical function. In such instance, it would be dangerous, and even methodologically erroneous, to relate the properties of the 'ritual instruments' directly to their counterparts which were actually used in music. Consequently, a more detailed exploration of the objects at hand is advisable if we wish to deduce any musical properties from them at all. This chapter therefore evaluates specific attributes of extant Egyptian stringed instruments which argue for or against their actual use in ancient Egyptian music.

#### 3.1 Tracing traces of use: specific instrument analyses

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A first and most straightforward possibility to assess the use of an ancient musical instrument, is to look at the functionality of the primary musical inducer of the object. In the case of chordophones, these are the strings, which set the sound in motion when made to vibrate. Unfortunately, except for one instance,<sup>164</sup> none of the remaining ancient Egyptian stringed instruments still carries pieces of its original cords. Moreover, in all clearly recorded discoveries of chordophones, their wooden frames were found empty, without remains of the very thing that defined the object.<sup>165</sup> The lack of strings can partly be explained by the faster decay rate of the – most likely organic<sup>166</sup> – string, compared to the – also organic, but possibly more robust – wooden parts of the instruments. However, the large number of well-preserved wooden instruments contrasts sharply with the single occurrence of preserved strings. Moreover, remnants of leather, rope and cloth on remaining instruments<sup>167</sup> illustrates that the preservation conditions of instruments would often have been sufficient for a piece of string to remain. Therefore, decay alone seems not to account for the particular disappearance of cords. Accordingly, another explanation for the lack of strings comes to mind, namely that most of the musical instruments were not strung when put into their former resting place. In such a case, instruments could have been stripped from their original wiring or never carried strings at all. The second event would be a clear indication that the objects were produced exclusively for the funerary cult, and that their real-life functionality was not of any importance. While this will eventually be explored further, a third possibility should also be considered. The preserved string pieces on lute *EM27* prove that at least in this

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<sup>164</sup> Four fragments of the original strings were preserved on *lute EM27*, see Fig 60, p. 73.

<sup>165</sup> No reference to string remains is made in the excavation reports, which are cited in chapter 2, p. 12-29, with even some explicit mentions of the lack of strings (Bruyère, *FIFAO* 15, 158, 198-199; A. M. Lythgoe, A. Lansing and N. d G. Davies, *BMMA* 12 (5), 20).

<sup>166</sup> See p. 73.

<sup>167</sup> Leather sound box covers are still present on *harps BM03, EM09, L05-6, RMO01* and *lutes BM08, EM26-27*; Rope and cloth pads on *lyres ÄM06-7, EM21-22* and 24.

instance, an instrument was buried with its strings. Furthermore, nineteenth century accounts indicate that such discoveries were far from rare in this era,<sup>168</sup> which implies that the absence of strings on preserved instruments could have another explanation. Although none of the nineteenth century stringed chordophone discoveries can at present be identified with a specific, still-existing instrument, it can be expected that at least some of these ended up in a known museum collection. The disappearance of strings therefore had to take place somewhere between the discovery and the display at the museum. Both the excavator and the museum conservator may have had their motives to remove the, for the standards of that time not very interesting, cords – it would have been a meticulous task for the excavator to collect the fragile remains, and the museum conservator preferred to display the chordophones with new wiring rather than their fragmented originals.<sup>169</sup> A clear example of such ‘cleaning’ of original parts of the instrument by the museum staff can be observed on *lyres* L09 and L10. Bruyère’s excavation photographs and documentation of the objects clearly show that they carried tuning pads,<sup>170</sup> which no longer remain with the instruments on display. Interestingly, *lyre* EM22 from the same excavations, but now in the Cairo Museum, still carries its string pads. In many cases, the loss of strings during excavation could have been purely accidental. While fragments could have remained adjacent to the instrument, they would most likely not have been identified as part of it, and consequently discarded. Certainly, if the object was not readily identified by the workmen, which must often have been the case, no attention would have been paid to the pieces of string lying around it. We can, therefore, explain the disappearance of strings partly by post-discovery processes. The documented stringless discoveries, on the other hand, can only be accounted for if one of the other previously mentioned factors are at play.

### 3.1.1 Forgotten remnants: string traces

Although the number of preserved strings is very low, their imprints in the wood of the instrument often remain, and can tell us a great deal about the instruments and their use. Curiously, this pivotal element in the study of chordophones is rarely mentioned in previous research,<sup>171</sup> and never incorporated into the study to its full extent. Nevertheless, string marks are key witnesses when trying to determine if the extant chordophones were played, only strung or left without cords entirely. Naturally, the last possibility can be ruled out if clear indications for original strings are left on the instrument. It should be taken into account, however, that the visible impact of the string is not only based on its applied pressure, but also on the hardness of the wood and the state of preservation of the instrument. Therefore, the lack of string marks does not necessarily imply that the object was never fitted with any cords.<sup>172</sup>

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<sup>168</sup> Except for the previously cited example of a fully strung harp (see p. 3), Engel (*The music of the most ancient nations*, 207) mentions several discoveries of instruments with strings preserved.

<sup>169</sup> This is not exclusively an obsolete practice, as many instruments on display still carry duplicate strings (*BM02-5*, *EM12*, *L02*, *5*, *MMA04* and *WM01*).

<sup>170</sup> B. Bruyère, *FIFAO* 10, 16; B. Bruyère, *FIFAO* 15, 198. See also Figs 12, p. 20 and 13 p. 21.

<sup>171</sup> Exceptions are: H. Hickmann, *Instruments de musique*; 165, 167; R. D. Anderson, *Musical instruments*, 80.

<sup>172</sup> See also Addendum II.

The occurrence and position of string marks naturally also depend on the tuning methods and string position of the instrument group. Traces are least evident on lutes, as the strings stood only in direct contact with the wood at the tailpiece and upper side of the neck. While the upper end piece is in almost all instances missing, the tailpiece offers little additional information.<sup>173</sup> Two tailpieces of lutes (*EM27-28*) carry three grooves to hold the strings, in which possible string marks cannot readily be identified. Lyres offer little more information, if they are not perfectly preserved. The lower contact point with the string reveals no or only few traces from the original wiring. The copper hook of asymmetrical lyres never shows string marks and the suspension boards of semi-symmetrical lyres<sup>174</sup> are only in one instance (*lyre ÄM05*) preserved. Again, the board is fitted with grooves, making any string negatives hard to identify. The transversal rod, on the other hand, does not touch the string directly. Therefore, string marks can only be observed on the tuning pads, if they remain. Indeed, we can see diagonal lined imprints on the cloth of *lyre EM21* (Fig 24). If these were caused by the strings, they not only prove the tuning method with pads, but also illustrate how the string was wound around the cloth of this instrument. It would be interesting to study the other remaining pads on lutes, to see whether similar traces occur. Fortunately, the strings of harps stood in more direct contact with the wood, often causing clear signatures of their presence. These string traces occur at the suspension rim or rod and are even more pronounced, at the upper neck of the instrument. The impression line usually starts from one side of the peg, where it winds diagonally a quarter turn around the neck to disappear toward the direction of the suspension rod (Fig 25). This is exactly the imprint which would be left if the string was wound around the peg with considerable tension. Most of the studied, or photographed, instruments display string marks, all of which all generally follow the pattern described above.<sup>175</sup> Interestingly, the traces could be identified on most of the studied harp types.<sup>176</sup> The string traces on harps, lyres, and the preserved string pieces on *lute EM27* prove that a large portion of the remaining ancient Egyptian musical instruments was originally stringed. The possibility that most instruments never carried strings, which would imply that they were never played, seems therefore refuted.

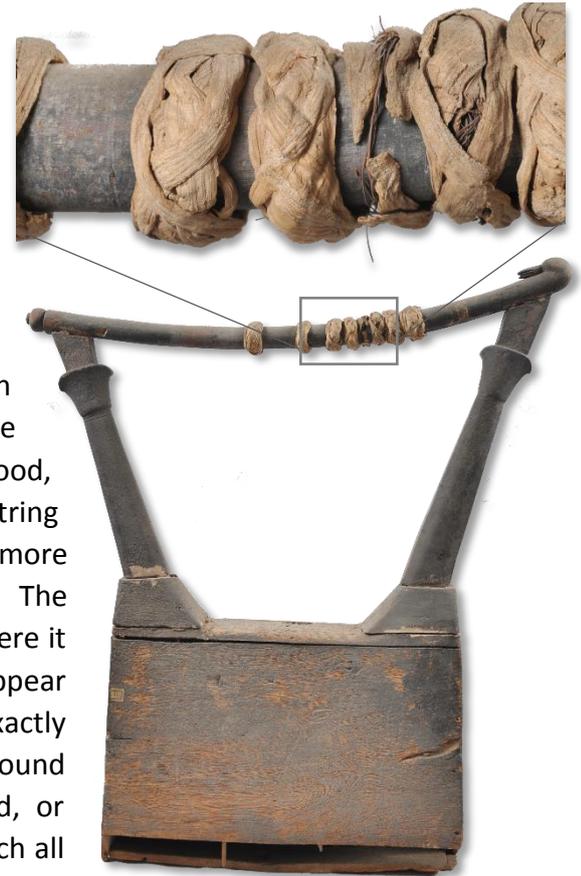


Fig 24: The tuning pads with string traces of lyre EM21. Photograph and courtesy of the Egyptian Museum in Cairo.

<sup>173</sup> For the terminology concerning the different components of chordophones, see Plate 1.

<sup>174</sup> For these types, see Chapter 4.3, p. 68 and 71.

<sup>175</sup> String marks were observed on *harps BM01, 6, EM06, 12, L02, MIS01, MMA05, PM02* and possibly on *RMAH01*; The necks of the other studied harps were in some cases obstructed by modern strings (*BM02, 4, MMA04*) but in others, string marks could not readily be identified (*BM05, EM09, MIS01* and *PM02*).

<sup>176</sup> With the exception of a few remaining examples, naviform N2 and N3, ladle-shaped and crescent-shaped harps were not directly analysed in this study. Subtype N4 (see p. 59) was otherwise the only type which did not show string marks.

The second possibility, where the chordophones would be produced and stringed exclusively for their funerary purpose, should, however, still be considered. Again, the remaining string marks can serve as our first guide to explore this case. One of the studied harps, *BM01*, showed the expected string traces, going from the peg in the direction of the – now missing – suspension rod (Fig 25). What was interesting in this case, is that the harp carried not one, but at least three cord negatives associated with every peg. In one clear case, a string line even started at the lower side of the peg, while three others started from the upper part of the same peg. Such a pattern of traces could only have been created if the strings were loosened or replaced and retuned several times. This implies that the



Fig 25: Multiple string traces on the neck of harp *BM01*. Photograph by T. Sykora, courtesy of the British Museum, London.

harp was restrung multiple times, and demonstrates that the instrument was indeed used for some time before it reached its final resting place. A similar arrangement can be seen on another harp (*MIS01*). In this case, the diagonal string trace from the peg is too weathered to expose multiple lines. A second range of multiple string traces, however, seems to wind around the neck, possibly forming a supporting loop for the adjustment at the peg. On the other hand, the traces might not have been the result of string pressure, but they could have been created by the pressure of ‘tuning rings’.<sup>177</sup> In this interpretation, the tuning pegs would only have supported the rings, which would have been turned to achieve the actual tuning of the strings. If so, this would be a clear indication that several tuning methods were used for harps. The shape of the traces, their slight inclination and the starting point of the diagonal string traces at the pegs does, however, suggest that the hypothesis of tuning rings cannot easily be maintained for this instrument.<sup>178</sup> An interpretation of the marks as string traces seems therefore more plausible, and forms another example of multiple cord marks. This proves that, at least in some cases, the extant chordophones were actually used as a musical instrument.

Except for the existence and position of the original strings, their negatives can offer us additional information. Although the exact string tension cannot be deduced directly from their depth because of the several variables in play – most importantly the state of preservation and the hardness of the wood – it can be assumed that these factors were similar on the same instrument. As such, string marks on the same neck can be compared with each other to ascertain the relative amount of applied string tension. While the string tension of four or five-stringed harps seems to have been comparable, some variation can be recognized on the necks of harps with a larger number of strings. The three observed examples of angular

<sup>177</sup> I want to thank Dr. Klaus-Peter Brenner from the Musikinstrumentensammlung in Göttingen for this observation.

<sup>178</sup> For the discussion concerning the tuning of harps, see p. 50.

harp necks<sup>179</sup> all demonstrated clear marks from the middle pegs, while those toward the sides of the neck were less pronounced, and sometimes not even visible (Fig 26). The most likely cause for this difference of the string traces is that the longest and shortest strings would have been fixed with less tension than the middle strings, which would give the shortest and longest strings a lower pitch, compared to the strings in the middle of the spectrum. As the only direct remnants of the defining feature of chordophones, string marks are important traces of their original use. Not only do they prove that the instruments carried strings, but also stand as clear indications that some of the harps were actually used as real musical instruments. Furthermore, important information concerning their tuning, and by consequence, their used musical scales, can be gained by analysing them.

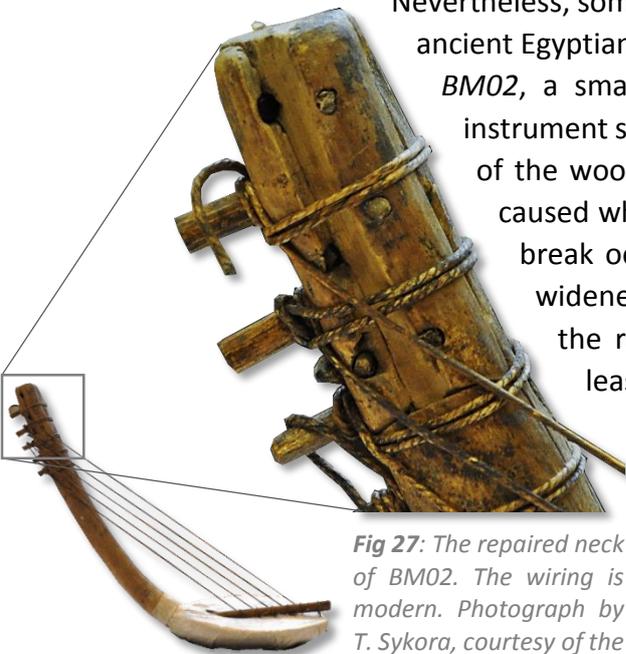


*Fig 26: Neck PM02, which shows clear string traces for the middle pegs, while those at the sides display no string marks at all. Photograph by T. Sykora, courtesy of the Petrie Museum, London.*

### 3.1.2 More clues for usage: repairs and adjustments

Apart from the string negatives, the ancient musician left other traces on the chordophone he or she used. With prolonged use of a musical instrument came the occasional need to repair or adjust it to the changing needs of the musician. Traces of such adjustments are therefore clear signifiers for the use of such objects. Regrettably, it is often hard to differentiate between the original design of a stringed instrument and its potential later adjustments.

Nevertheless, some cases of repair can be recognized in the corpus of extant ancient Egyptian stringed instruments. A first example can be seen on *harp BM02*, a small instrument with five strings. The upper neck of the instrument shows large fissures, as a result of which significant portions of the wood were ruptured (Fig 27). The fractures were most likely caused while the pegs were fitted in with some force, as the largest break occurs exactly in the line of those. This break would have widened when the pegs were pushed in further and further during the repeated tuning of the instrument, ultimately causing at least three pieces of the upper neck to break off. This left the peg holes half open and rendered the harp useless, which necessitated a repair. To this end, the pieces which had broken off were reattached to the remaining portion of the neck with six wooden dowels. Less extensive repairs can be observed in the harp neck *EM02*. A piece of wood at the side of one of the pegs apparently broke off at some point. The woodworker refitted the enlarged hole



*Fig 27: The repaired neck of BM02. The wiring is modern. Photograph by T. Sykora, courtesy of the British Museum.*

<sup>179</sup> EM12, MMA05 and PM02

with an adjusted peg, unknowingly making the string impossible to tune. This specific repair method might also have been intentional, which explains why the error was not resolved later on. If the harp was only meant to look and not function like a complete harp, the immovable peg would not have been a problem. In this case, the instrument would transform into a model instrument. While the exact nature of the second example can be discussed, the repair activities on *harp BM02* seem clear. As such, it offers another indication for the original use of the instrument.

Repairs are not, however, the only ancient Egyptian attestations of later modifications to chordophones. Another example is provided by *harp MMA01*. On the back of the neck of this instrument, there appear not only the five current, trumpet-shaped, pegs, but also three refilled holes between them (Fig 28). The holes seem to have comprised the original peg setup, which seemingly consisted of three or likely four pegs, if the current upper peg hole is to be counted. At some point, the musician required an additional string, for which

a new peg hole was created. At the same time, the new peg holes were placed further from each other, and the former peg holes were filled with wooden plugs to make this possible. This unique modification explains three things. Firstly, the harp was adjusted to meet the requirements of the musician, and clearly not ready-made and only used on one occasion. Secondly, the shift from four to five pegs indicates that the harpist needed an additional string at one point – perhaps, but not necessarily, because of a general increase in harp strings during the period of use of the harp – bringing its total number of strings to equal that of the other extant shovel-shaped harps.<sup>180</sup> The widening of space between the tuning pegs was presumably not established for this reason alone, as adding another peg below the existing ones would have sufficed. The act can likely be explained by the desire of the musician to further disperse the string length and consequently its musical pitch. By doing so, the harpist would have approached his or her aimed sequence, necessitating less variation in string tension. This illustrates that the musician had at least an approximate idea concerning the correlation between string length and musical pitch, knowledge which was possibly used in the initial designs of chordophones.

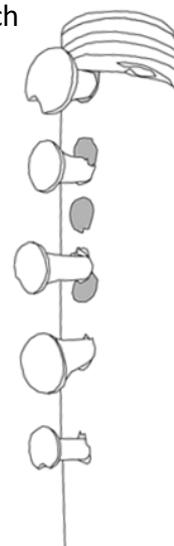


Fig 28: The double peg setup on *harp MMA01*, with the initial peg holes indicated in grey. Sketch by T. Sykora.

Finally, the adjustments of both *harps EM01* and *MMA01* indicate that in these cases, repairs and adjustments were chosen over the replacement of a musical instrument. While this is not very surprising from a financial point of view, it is an interesting testimony to the biography of the object, and reinforces the argument that these instruments were effectively played at some point in time.

As was illustrated above, evidence exists to justify the hypothesis that at least some of the ancient Egyptian musical instruments were actually employed as such. This adds weight to the previously unproven assumption that the objects are reliable as archaeological sources to assess musical practice in ancient Egypt. It should, however, be noted that all cited examples of demonstrably used musical instruments came from the category of shovel-

<sup>180</sup> For the type of shovel-shaped harps and its dating, see p. 51.

shaped harps, which stands chronologically apart from the other instrument types.<sup>181</sup> This can likely be explained by the lower quality of wood which was employed for the object category in the Old and Middle Kingdom, which left clearer string marks and more need for repair. The many string marks, pads, and even preserved string fragments on many of the extant harps, lyres and lutes of ancient Egypt moreover illustrates that a considerable portion of these instruments were functional. It can be expected that a more detailed study on this material would provide us with tenable arguments of use for other chordophone types from different periods.

### 3.2 'Speaking instruments': Textual evidence on extant chordophones

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Thus far we have not touched upon one source category for a study of ancient Egyptian music: the textual material. Nevertheless, literary evidence can greatly widen the attainable information on the subject, thus complementing the fragmentary information available from the archaeological and iconographic record. An extensive textual analysis falls outside the scope of the material study which is pursued here. However, both sources occasionally intertwine, providing us with an inscribed archaeological source. The full corpus of ancient Egyptian chordophones includes two instruments with exceptional inscriptions of considerable length. By combining the interpretative possibilities of both object and associated text, interesting insights can be gained. These serve as better documented examples within the larger group of undescribed ancient Egyptian stringed musical instruments, and help to create a more reliable interpretation of the group as a whole.

#### 3.2.1 A testimony of musical practice? The 'harper's song' on the Leiden lyre

A first inscribed, stringed instrument that deserves some attention here, is an inscribed lyre, *RMO02*, which is now in the Rijksmuseum van Oudheden in Leiden (Fig 29).<sup>182</sup> The instrument belongs to the typological category of asymmetrical lyres, of which five similar instruments remain. Although the lyre is undated and has no recorded contextual documentation, datable examples and representations of the same type assign it an approximate late seventeenth to eighteenth dynasty date.<sup>183</sup> The instrument is fairly consistent within its type, except for the large –  $\frac{2}{3}$  ratio – difference in the length of its arms, which stands out. This has given rise to the suggestion that the instrument was reassembled from parts of different, only partially preserved lyres.<sup>184</sup> An additional argument is given by an early nineteenth-century drawing by Hay, which shows the lyre with an almost horizontal transversal rod and a much longer short arm.<sup>185</sup> An alternate



Fig 29: Lyre RMO02. Photograph by T. Sykora, courtesy of the Rijksmuseum van Oudheden, Leiden.

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<sup>181</sup> For this harp type, see p. 51.

<sup>182</sup> The lyre was published with a translation and transcription of its inscription in: L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie* V, 129-141.

<sup>183</sup> For the type of asymmetrical lyres and its date, see p. 68.

<sup>184</sup> P. A. A. Boeser, *De monumenten van den tijd tusschen het Oude en het Middenrijk*, 7-8.

<sup>185</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie* V, 131.

hypothesis to account for the large difference in arm length was proposed. It assumes that the short arm of the instrument was broken and reattached without accounting for the missing part, thus shortening the arm.<sup>186</sup> However, the different segments of the lyre seem to fit seamlessly, and the difference in arm length is not insurmountable. Hay's drawing can hardly be used as a convincing argument, as it is clearly nothing more than a quick sketch. The statement that he "is usually a very accurate draughtsman, even in his sketches and hand-copies"<sup>187</sup>, clearly does not apply here, as not only the shape and proportions of the arms, but also the sound box are incorrectly drawn. Both parts appear as they can be seen today on a later drawing of the same author.<sup>188</sup> Furthermore, *lyre L10* in the Louvre, one of the four other asymmetrical lyres of which the arms can be measured,<sup>189</sup> approaches the arm ratio of *RMO02*.<sup>190</sup> As this lyre comes from the well-documented excavations in Deir el-Medina,<sup>191</sup> it can be ruled out that this instrument was also assembled from different parts. Although it seems perfectly possible that the pieces of the lyre belonged to one original instrument, some minor modern repairs were carried out. Besides this, no trace of the original strings or tuning pads remains, making an assessment of the original number of strings impossible. Otherwise, the lyre is well preserved, and among the better-conserved representatives of the type.

The most interesting feature of the Leiden lyre is, however, the inscription which covers a large portion of the back of the sound box of the instrument. It is written in hieratic with black ink and covers eight lines.<sup>192</sup> A translation of this text was provided by Jürgen Osing<sup>193</sup>:

[1] <i>n3 wrhy ibr</i>	[1] Oh ye, who are anointed with <i>ibr</i> -
[2] <i>wr hn̄ (̄)dd</i>	ointment, [2] great and young,
[3] <i>i. irw ̄3.y</i>	[3] Rejoice!
[4] <i>mi šms hrw m̄r</i>	[4] Come, follow a fortunate day!
<i>nn</i> [5] <i>š3w iw n ̄nh ̄n</i>	There is not [5] the fate of him who comes back and no living again.
[6] <i>sny r wr sp 2 sp 2 sp 2</i>	[6] Kiss greatly, again, again and again!
[7] <i>i. irw ̄3.y</i>	[7] Rejoice!
[8] <i>i. snty r wr sp 2 sp 2 sp 2</i>	[8] Kiss greatly, again, again and again!

<sup>186</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 131.

<sup>187</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 130.

<sup>188</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 131 and fig. 5 p. 138.

<sup>189</sup> Contrarily to *Lyre MMA06*, which was heavily reconstructed. This reconstruction was, moreover, based on *RMO02*. Therefore, it forms a poor standard for comparison.

<sup>190</sup> Although no individual measurements for the lyre's arms are given in the museum catalogue, the photograph of the instrument makes this clear: C. Ziegler, *Catalogue des instruments de musique égyptiens*, 118-121.

<sup>191</sup> B. Bruyère, *FIFAO X*, 16, fig. 14; See also p. 21.

<sup>192</sup> A photograph of the text can be found on Plate 5a, the hieroglyphic transcription is added on Plate 5b.

<sup>193</sup> This translation is taken over from him, with slight adjustments (L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 132).

Based on orthography and palaeography, Osing dates the initial writing of the text to the Graeco-Roman period.<sup>194</sup> The main argument for this is provided by the use and writing of the words *mrh*, *wr*, *ꜥꜣ.y* and *šꜣw*. Of these, *mrh* in line one and *ꜥꜣ.y* in lines three and seven are the least convincing, as the places where Osing reconstructs these signs are almost completely devoid of the original ink, and allow equally well for the New Kingdom variants of *wrh*<sup>195</sup> and *ꜥ(ꜣ).y*<sup>196</sup>. The sign for *šꜣw* is also not unlike the New Kingdom variant of the same word, without the snake determinative.<sup>197</sup> The writings of *wr* in line two and lines six and eight are, however, harder to place earlier than the Graeco-Roman period, and could be an indication that the inscription should be dated toward this time. Although the transcription and translation of various signs could be debated, the general content of the text seems clear. The addressee is urged to enjoy himself, followed by a ‘*memento mori*,’ or a reminder of his inevitable death. This serves to emphasize a second plea to ‘kiss’ and ‘rejoice’ as long as one can.<sup>198</sup> Overall, the outline of the verses, repeating lines, words and syllables are characteristic of Egyptian poetry, and more specifically, ancient Egyptian songs. When these elements are combined, the text fits into the category of ‘harper’s songs’ which are often found on tomb walls of the Middle and New Kingdom. They are frequently associated with depictions of harpists, giving rise to their designation as ‘harper’s songs’.<sup>199</sup> This term should, however, not be taken too strictly, as the category is not only linked to harps, but also to other types of chordophones.<sup>200</sup> That this very song was found on a stringed instrument itself is particularly interesting, as it links the text category directly with the chordophone.

If we now again turn our attention to the position of the text, one thing is striking. The lines are written from the right to the left, as can be expected. However, they are surprisingly not parallel to the base of the sound box, but aligned with the left side (Fig 29, Plate 5a). Consequently, the text could only be read if the lyre was tilted 90° to the left. This is exactly the position in which we see the instrument while it is being played in scenes on tomb walls (Fig 30), as opposed to the horizontal stance the lyre is in on the rare occasions on which it is depicted separately.<sup>201</sup> The inscription also appears on the unstrung back side of the lyre – which can be deduced from the position of the suspension hook at the other side of the sound box – which would be left free even if the instrument was fully operable. If we can trust the iconographic evidence,



Fig 30: A lyre player in the tomb of Djoserka-reseneb (TT 38). Note the vertical position of the instrument. Source: N. M. Davies, *Ancient Egyptian paintings*, Plate XXXVII.

<sup>194</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 133.

<sup>195</sup> Wb I 334,8.

<sup>196</sup> Without the lotus flower, Wb I 168,16.

<sup>197</sup> Möller, *Hieratische Paläographie II*, 274; Wb I 403,13.

<sup>198</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 133.

<sup>199</sup> M. Lichtheim, *JNES* 4; C. Moors, *Analyse van de Oud-Egyptische harpenaarsliederen*, 6-7.

<sup>200</sup> Especially with lutes: C. Moors, *Analyse van de Oud-Egyptische harpenaarsliederen*, 7, 36, 38-40, 46-47.

<sup>201</sup> For example, both a vertically played and four horizontally stored asymmetrical lyres are depicted above the gateway of Ay's tomb in Amarna (N. d. G. Davies, *Archaeological Survey of Egypt*, Pl. XXVIII)

this side of the lyre was presumably turned away from the audience, and toward the musician. When we couple this with the content of the text, it could be speculated that the inscription under study was originally a memory aid for the musician. As instrumentalists often combined their musical skill with singing,<sup>202</sup> the lyre player could have written the lyrics of the song he or she planned to sing – but possibly could not memorize – on the very instrument with which he or she accompanied it. If this interpretation is correct, we know not only that the instrument was played, but, moreover, we even have the very words which were sung above it. Intriguingly, this would also be a direct indication that harper's songs were really preformed, and not just a symbolic representation on tomb walls. Such performances would fit well at the funerary banquet, but could just as well have been sung during other festivities. The preserved text on *lyre RMO02* would thus become a unique frozen aspect of this interesting aspect of ancient Egypt.

One last facet of the Leiden lyre, its dating, remains to be discussed. Although it was attributed with a probable Graeco-Roman chronological position, based on its palaeographic and orthographic features, both the content of the text and typology of the object<sup>203</sup> rather point to an (early) New Kingdom date. If the palaeographic assessments – of which some arguments can be criticized, as was shown before – are correct, the instrument would be more than a millennium older than its inscription. It has been proposed that the lyre was dug up from its original resting place, presumably a tomb, in the Graeco-Roman Period, only to be reused and reburied at a later stage.<sup>204</sup> This would be a unique and fascinating case of reuse, especially considering that the lyres of this time (semi-symmetrical lyres) were significantly different in shape and scale.<sup>205</sup> If the lyre was reused, we cannot exclude the possibility that it was simply chosen by accident as a writing board for a seemingly unrelated text.<sup>206</sup> Nonetheless, the degree of coincidence that exactly this text was inked in the peculiar position on a stringed instrument would be incredible. It is, however, also possible that both text and instrument were created during the New Kingdom, and likely the eighteenth dynasty. The inscription is only fragmentarily preserved and could fit this date, if some signs receive an alternative reading. Because the original excavation context of the instrument seems to be lost, we may never fully know the answer. Either way, *lyre RMO02* is an exceptional instrument as it forms a testimony to a specific occasion on which it was used. As such, it complements the remaining traces on stringed instruments in our quest to ascertain their use in music of ancient Egyptian chordophones.

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<sup>202</sup> S. Emerit, in S. Emerit (ed.), *Le statut du musicien*, 89.

<sup>203</sup> See p. 68.

<sup>204</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 134.

<sup>205</sup> See 4.3.2, p. 71.

<sup>206</sup> L. Manniche and J. Osing, in E. Hickmann, A. A. Both and R. Eichmann (eds), *Studien zur Musikarchäologie V*, 134.

### 3.2.2 Glimpses of the oldest musical notation? Amenmes' harp<sup>207</sup>

A second, and considerably different inscription appears on another ancient Egyptian stringed musical instrument, the Louvre harp L01 (Fig 31). The harp is, with its 137.3 cm, one of the largest harps in existence,<sup>208</sup> but is otherwise fairly consistent within its type, having four pegs and a sound box which is comparable in length to its neck.<sup>209</sup> Although the strings and sound box cover have disappeared, the suspension rod still remains and some of the leather of the instrument is preserved at the lower side of the neck. The most interesting feature of the instrument, however, consists of four lines of finely carved hieroglyphs just above the cover remains.<sup>210</sup> They can be read as follows:

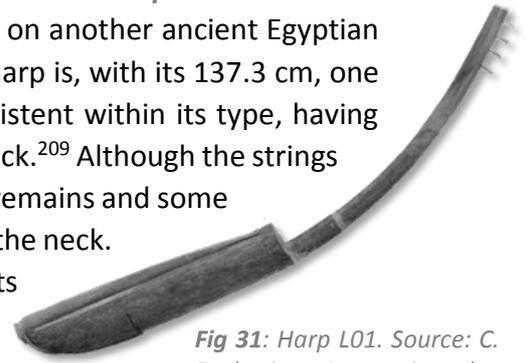


Fig 31: Harp L01. Source: C. Barbotin, *La voix des hiéroglyphes*, 66

#### Transliteration

[1] *ḥtp di nsw.t*  
*Imn-R<sup>c</sup>*  
*nb nsw.t t3.wy*  
*nb ʿnh*  
*didī mrw.t t3w=f ndm*  
*pri hnt[...]w=f*  
*nt(y) wnn tp-t3 m hrt-hrw nt R<sup>c</sup> nb*  
*n k3 n grw nfr bī3.t*  
*ḥsy Imn*  
*f3i=f ? n wr.t-hnr Imn-ms*

#### Translation

[1] An offering which the king gives,  
and Amun-Ra,<sup>(a)</sup>  
the lord of the thrones of the two lands,  
the lord of life,  
who gives love. Whose breath is sweet,  
which comes forth from his [...]<sup>(b)</sup>  
who exists on the earth daily,  
for the k3 of the silent of good  
character,<sup>(c)</sup> the musician of Amun,  
he who carries (the cup?)<sup>(d)</sup> of the great  
lady of the musicians<sup>(e)</sup>, Amenmes.

[2] *ḥn-n-dd r dd=f*  
*ndm t3w n di=k*  
*Imn p3 ndm t3w*

[2] Sing!<sup>(f)</sup> So that he may say:<sup>(g)</sup>  
“Sweet is the breeze of your giving,  
Amun, the one whose breath is sweet!”

[3] *wb3 n wr.t-hnr w<sup>c</sup>b ʿ.wy*

[3] The servant of the great lady of the  
musicians,<sup>(h)</sup> the clean-of-hands,  
Amenmes of Paiu(en)hut<sup>(i)</sup>,  
the musician of Amun-on-all-his-thrones,  
whom the lady of the house, Beku, true  
of voice, has borne.

*Imn-ms n p3-iw-(n)-ḥwt*  
*ḥsy Imn m st=f nb*  
*msi.n nb.t-pr bkw m3<sup>c</sup>-hrw*

[4] *dd n=f m tf bn.t=tn Imn*

[4] Say to him with (?)<sup>(j)</sup> and your harp of  
Amun:

*tk nḥt n by p3 nb tk by*

“tek-(nḥt)-n-by pa-neb-tek-by<sup>(k)</sup>”

<sup>207</sup> The harp is published with a hieroglyphic copy of its signs in: C. Ziegler, *Catalogue des instruments de musique*, 108.

<sup>208</sup> The only known larger harp is RMAH01, with 140 centimetres.

<sup>209</sup> For the type to which it belongs, naviform, subtype N1, see p. 55.

<sup>210</sup> An image and transcription of the inscription is given on Plate 6. Translations of this text were previously attempted by van Siclen (*GM* 85, 59-66), with later adjustments by Fischer-Elfert (*GM* 127, 38-40) and by Barbotin (*La voix des hiéroglyphes*, 66-67).

**Notes:**

- (a) For this reading of the *hṯp-di-nsw.t* formula, see: H. Willems, in: W. H. van Soldt, *Pap Uit Lemen Potten*, 99-107; Franke, D., *JEA* 89, 39-57.
- (b) The text is damaged at this point, making the sign in between of *hnt* and *f* illegible. There is however, a slight trace of three dots, accounting for a likely plural form.
- (c) This passage is difficult to read, as an unknown determinative appears after *grw*. Although it could be read ‘the silent,’ it is not unlikely that an otherwise unattested homonym of the word is used here. Van Siclen’s (*GM* 85, 61) understanding of the title as *hry bin.t*, ‘the harp-player’ necessitates changing four signs, and even then appears as a significantly different writing of *bin.t* from the one in the fourth line. Therefore, it seems more logical to interpret the second group as *nfr-biḏ.t*, a known epithet (*Wb* I, 441,16), as it is written.
- (d) The sign in between of *fḏi=f* and *n wr.t* is a hapax, only attested once in the Egyptological record. Therefore its meaning is uncertain. Its specific shape seems to designate it as a logogram. Van Siclen’s (*GM* 85, 61) interpretation as *fḏi bin.t* is more imaginative than realistic, as the symbol shows no resemblance to any known Egyptian harp types or depictions. I would propose to translate it as ‘cup,’ as it shows some resemblance to early New Kingdom lotus-shaped cups. Furthermore, another title of Amenmes, *wbḏ*, can be translated as ‘waiter’ (*Wb* I, 292,1), making a second title of ‘cupbearer’ not implausible.
- (e) Nord (*Studies in Ancient Egypt*, 137-145.) proposed to translate the term *hnr* as ‘musical performers’ in the Old and Middle Kingdom. A similar translation would not be misplaced in this context.
- (f) Although *hn* is nowhere else attested with *n dd*, *hn* is often, and in similar groupings associated with making music or singing (*Wb* III, 289,10-14). The *n dd* clearly implies the use of words, so *hn-n-dd* seems to be a certain type of song, in this case clearly religious. More freely, the beginning of the passage could be translated as: ‘A hymn:’
- (g) Van Siclen (*GM* 85, 62) omits the *f*. The passage can, however, also be read literally.
- (h) Yet again, van Siclen transcribes this as a harpist’s title *wbḏ bin.t*, but again, the literal reading of *wbḏ nt wr(t)-hnr* seems more plausible, especially considering the fact that a very similar title appears on the first line and on a staff of the same Amenmes (see below).
- (i) Literally: ‘the island of the domain,’ an unknown geographical designation.
- (j) The reading of *m*, *t* and *f* is uncertain. Van Siclen’s (*GM* 85, 62) *mw.t=f*, ‘his mother’ or a similar *m it=f*, ‘with his father,’ does not seem to fit the context and a translation of *m tf*, ‘with this,’ is not grammatically tenable. Although *m t=f*, ‘with your bread(offering),’ would be possible – the text would consequently instruct the addressee to play the harp while offering – it is not fully convincing. While the meaning of the whole sentence is unclear, the basic intention – the reader is asked to play a harp – seems feasible.
- (k) The last sentence of the fourth line does not seem to mean anything in conventional Middle or Late Egyptian. Van Siclen (*GM* 85, 61-62) translates the passage as “Amun is drawn near

the harp, the lord is drawn near the harp". In order to do so, he is forced to add, remove and relocate a substantial number of signs, coming to the transliteration: *'Imn tk(n) bin(.t) p3 nb tk(n) bi(n.t)*. Similarly, Fischer-Elfert (*GM* 127, 38) substitutes the existing signs with *'Imn tk(k) bin(.t) p3 nb tk(k) bi(n.t)*, "Amun, schlage die Harfe, O Herr, schlage die Harfe!". Intriguing as this translation may be, it seems strange that the god Amun is ordered to play the harp, and the passage of a harp-playing god in the Roman period which is mentioned by the author does little to counter this. The largest problem with both translations is, however, the degree of freedom in translation. *tk* with and without determinative is identified as respectively *tkn* or *tkk*, and, even more problematically, *n by* and *by* are changed into *bin.t* without much reservation. The 'errors' in the text are explained by the authors as a wrong copy from a hieratic draft, but this does not explain why the former part of the text contains so few flaws. Van Siclen interprets five different spellings – *bi.t*, logograph, *bn.t* with *hnr*-stick, *bn.t* with *ht*-stick and *by* – as *bin.t*, harp, resulting in the consistent misspelling of the very object on which the inscription was placed, while the text is otherwise well written. Furthermore, *bin.t* is written clearly just a few words before *by*, in the same sentence, making a recurrent mistaken spelling of the word unlikely. If we do not accept the interpretations of van Siclen and Fischer-Elfert, two repeating groups without a clear translation *tk* and *by* make the passage unreadable. This caused Barbotin to state that "la fin de la colonne est incompréhensible".<sup>211</sup> Another interpretation is offered below.



**Interpretation:** The first line on *harp* L01 commences with a traditional offering formula from the god Amun. Although a range of the god's epithets appear, the content of the offering itself is not clearly indicated. In the second part of the same line and in the third column, the other addressee of the formula, and likely the owner of the harp, Amenmes, son of Beku, from Paiu(en)hut, emerges. His titles indicate that Amenmes was a musician of Amun, further clarifying why this god was addressed on his harp. Although no clear specification occurs in the text, the association with the instrument illustrates that he was likely a harpist. Amenmes was also associated with an important lady, possibly as cupbearer or butler. The text includes no clear clues to date the object, and unfortunately all contextual information is lost, but typologically, the harp seems to fit into the late seventeenth to eighteenth dynasty.<sup>212</sup> Fortunately, a wooden staff from the Brooklyn museum (Fig 32)<sup>213</sup> can offer more information, as it mentions the same 'Amenmes of Paiuenhut'.<sup>214</sup> It can be translated as follows:

*wdn n wb3 'Imn*  
*n s3.t nsw.t bk.t-'Imn ʕnh.ti*  
*'Imn-ms n p3-ıw-n-ḥw.t*

A gift to the servant of Amun  
 from the king's daughter B(a)ketamun  
 – may she live –, Amenmes, of Paiuenhut.

Fig 32: The staff of Amenmes. Photograph and courtesy of the Brooklyn Museum in New York.

<sup>211</sup> C. Barbotin, *La voix des hiéroglyphes*, 66.

<sup>212</sup> See p. 55.

<sup>213</sup> Brooklyn 37.1830E, which was published in: T. G. H. James, *Corpus of hieroglyphic inscriptions*, 118-119, plate 10.

<sup>214</sup> van Siclen, *GM* 85, 63.

This is a much shorter, but similar text to the one on Amenmes' harp. It mentions a gift to Amenmes a princess or vice versa. The last person is of special interest, as she, most likely identical with the *wrt-hnr* on the harp, is mentioned here by name: 'B(a)ketamun'. This name is known from a faience fragment where it appears together with the cartouche of Thutmose III, which implies that the princess was somehow associated with the king.<sup>215</sup> This dates the inscription approximately in the middle of the eighteenth dynasty, a date which fits well with the instrument type.<sup>216</sup> Both texts are similar in content, but also in style, which suggests that they originally belonged to the same – most likely funerary – ensemble.

Although they are much shorter, lines 2 and 4 of the text on the harp are not of any less interest. The second line renders, as its opening and repeated signs suggests, the lyrics to a hymn for Amun. It probably served as an instruction for the offering bearer or a magical formula to ensure that the song would be repeated eternally, thus gaining the favour of the addressed god Amun. The challenging fourth line could be interpreted in the same light. This time, however, it does not seem to be the lyrics, but it could be instructions for its musical accompaniment with harp. The introduction states that something needs to be 'said with your harp,' possibly while offering bread. It seems therefore likely that the following section specifies exactly what had to be 'said,' mirroring the structure of line two. Interestingly, the very words we see in the mentioned part do not seem to carry a linguistic meaning, although their phonetic value seems easily readable. Some sign groups – *tk* and *by* – are repeated, making the possibility that the sentence is purely nonsensical somewhat less probable. When this is taken into consideration, it could be proposed that the second part of the fourth line directly communicates musical information. Although it cannot be definitely determined whether it signals melodic, rhythmic or technical musical information, the first seems very possible. In such an interpretation, *tk*, *by*, *p3* and *nb* could stand for individual strings or notes – strikingly, the harp carries four strings for the four syllables, but, admittedly, this could be purely coincidental – while the *nht*-arm sign could indicate a beat on the sound box. It would not be unbelievable that the 'score' would have been played on the very harp on which it was written while the second line was sung, but this remains mere speculation. A second interpretation is also possible, where the signs do not have a melodic meaning, but signify a purely vocalized continuation of the song on line two. '*tk-nht-n-by-p3-nb-tk-by*' would thus not communicate any linguistic content, but a nonsensical refrain, most likely accompanied with instruments. While both hypotheses are possible, the first seems the most likely, as it fits better with the introduction of the fourth line. Until more similar 'scores' can be identified, the hypothesis remains, however, purely speculative, but it would be interesting to see whether similar documents exist. If so, this would currently be among the oldest identified musical score in the world.<sup>217</sup>

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<sup>215</sup> S. D'Auria, *JEA* 69, 161-162.

<sup>216</sup> See p. 55.

<sup>217</sup> Together with the 'Hurrian hymns' from Ugarit, follow, however, shortly after (R. Dumbrill, *The archaeomusicology of the Ancient Near East*, 111-163).

If all of this is taken into consideration, we are again presented with a musical instrument on which a song appears, this time possibly with its accompanying harp score. The position of the inscription – on the neck, which would not have been visible during play – and its quality of execution – the hieroglyphic signs are clear, and were originally possibly inlaid with gold –<sup>218</sup> make it improbable, however, that the text on the harp was, similarly to *lyre RMO02*, used as the musician's memory aid. This is corroborated by the content of most of the text, which does not communicate any musical information, but rather gives us an offering formula to the god Amun and the owner of the harp, Amenmes. The fact that both elements were incorporated in the same inscription, indicates that their meaning was in all likelihood connected. Consequently, the musical passage could have been part of the offering ritual. In this hypothesis, the tomb owner, likely Amenmes himself, would have included the harp with its inscription in the tomb to magically ensure his eternal sustenance. This sustenance would not only have consisted of the traditional goods of nourishment, but also of a hymn with its instrumental embellishment to appease Amun. The inscribed *harp L01* offers a unique insight into the use of music in the offering ritual of the early New Kingdom. Although the emphasis of song in the funerary ritual might have been more generally employed, the musical titles of Amenmes associate it mainly, and perhaps exclusively, with musicians.

While superficially similar, the two remaining inscribed ancient Egyptian chordophones attest to two significantly different functions of musical instruments. *Lyre RMO02* carries a vestige of its original play in the form of a harper's song. *Harp L01*, however, displays a funerary offering formula which magically sustains the tomb owner in the afterlife. As such, the instruments illustrate the twofold function of the extant ancient Egyptian chordophones. On one hand, different marks imply that some examples were originally actually used for playing music. On the other hand, *harp L01* indicates that some instruments were adjusted, or even especially made, for the funerary cult, where they magically sustained the deceased.

### 3.3 Musical oddities: model chordophones

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Although the use in musical performance of some chordophones can positively be advocated,<sup>219</sup> this by no means implies that all ancient Egyptian stringed musical instruments were employed in the same manner. On the contrary, a group of instruments within the corpus argues for the opposite. Although these 'model instruments' are often morphologically similar to other instruments, some crucial distinctions necessitate that they be interpreted differently. In this study, 'Model musical instrument' are understood as chordophones which carry strong indications that they could not, or probably would not have been used to actually play music. Although a larger group of extant instruments could have accommodated the same property, they are not included if their non-playability cannot be demonstrated.

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<sup>218</sup> C. van Siclen, *GM* 85, 59.

<sup>219</sup> See 3.1, p. 30-36.



**Fig 33:** Model harp EM09. Photograph and courtesy of the Egyptian Museum in Cairo.

A first, and mostly employed,<sup>220</sup> method to identify model musical instruments consists of looking at their **morphological dissimilarities** with other instruments of their type.<sup>221</sup> This, however, can only be done when the type includes a significant number of extant instruments as comparative material. Such a comparison is possible with ‘naviform’ harps *ÄM03*, *EM09* and *MV01*.<sup>222</sup> These instruments do not carry the usual boat-shaped sound box, but instead include a sound box which is oval. The irregular neck of the instruments seems to maintain the original shape of the tree branch from which it was cut (Fig 33). This makes the group stand apart from the other naviform harps, and makes a new typological designation as ‘subtype N4’<sup>223</sup> useful. Another property of this instrument subtype is its small size which falls – with examples of 50, 49.5 and 33 centimetres – under a length of half a metre. Such a modest size does not allow for the same playing method and pitch as the larger examples of the naviform group. The discrepancy in size<sup>224</sup> is also visible in harp *BM04* and *EM11* which are, at respectively 43.1 and 51 centimetres, considerably smaller than their 0.9 to 1.4 metre typological counterparts. Harp *EM10* is of similar size, although the difference between its typological peers is less pronounced. Outside of this group of instruments, other unusually small chordophones can be recognised. A clear example is the tiny lyre *ÄM08*, which, with its 26.5 cm height, does not even reach half of the length of the next smallest lyre of its class (Fig 34). A similar example can be sought in the, now lost, 30 centimetres long lute from the Asasif.<sup>225</sup> It should be stressed that not only the absolute size, but especially the relative size compared to the type or subtype of an instrument should be observed when trying to identify a model instrument. Some shovel-shaped harps, for instance, also display modest total lengths,<sup>226</sup> but these are not strongly aberrant within the type.<sup>227</sup> Even when this is taken into account, a substantial difference in size or morphology of a stringed instrument does not decisively designate the object as a model chordophone. The unusual properties could equally well have been created to facilitate other musical possibilities, more specifically a higher pitch. It could also be proposed that the smaller instruments were ‘children’s instruments,’<sup>228</sup> which would explain their modest dimensions. Aberrant morphology and size does therefore not in itself hold a convincing argument in itself to designate a

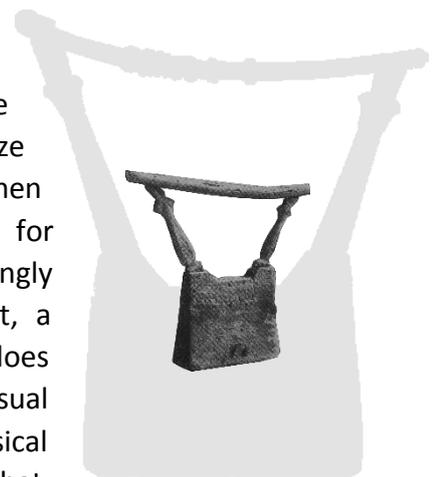


Fig 34: Model lyre *ÄM08*, as compared to *EM21*, the next smallest lyre of its type (scale: 1:10). Source: C. Sachs, *Altägyptische Musikinstrumente*, Abb. 18.

<sup>220</sup> Former identifications were almost exclusively based on small size, for example: G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 83.

<sup>221</sup> For the chordophone typology, see Plate 7.

<sup>222</sup> All ancient Egyptian chordophones which are interpreted here as model instruments are shown on Plate 8a.

<sup>223</sup> For this subtype, see also p. 59.

<sup>224</sup> For the basic measurements of the musical instruments, see Table 2 and Table 3a.

<sup>225</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 527.

<sup>226</sup> Harp *MIS01*, for instance measures 69.5 cm, harp *BM02* 60.2 cm and the sound box of *ÄM02* is only 16.5 cm long.

<sup>227</sup> See table 2.

<sup>228</sup> H. Hickmann, *ASAE* 48a, 639.

chordophone as a model instrument. Additional evidence therefore should be sought.

Model naviform harps	Range	Average
String amount	3 – 4	3.6
Total length (cm)	33 – 51	45.3
Length neck (cm)	21.5 – 28	24.9
Length sound box (cm)	12 – 27.5	20.6
Width sound box (cm)	4.4 – 8.5	10.3
Width/length sound box ratio	0.23 – 0.71	0.38

Table 3a: General measurements of the naviform model harps.<sup>229</sup>

Another possible indication for a model instrument is given by **impractical decoration**. While iconography often shows lavishly decorated musical instruments, the adornment of extant chordophones is mostly limited. An exception in this regard is *harp OI02*, which is decorated from top to bottom with a feather pattern. The most notable decorative feature of the instrument appears at the lower end of the neck. Here, a royal head with *wsh*-necklace, *nms*-headdress and *shm.ty*-crown is carved out of the wood. While the harp is only 39.3 cm high, no other examples of the type have survived to ascertain whether this is unusual. At any rate, the harp does not seem to be abnormal in size when compared with its depictions in iconography.<sup>230</sup> A similarly adorned harp, *BM05*, is at present in the British Museum (Fig 35). The harp is completely painted with red, green and blue on a yellow ground. At the front of this instrument, a royal head with floral collar and *shm.ty*-crown is depicted. The sound box of *BM05* is peculiar, as it carries no opening to increase its musical volume, consequently rendering the sound box markedly less useful.<sup>231</sup> Another musical difficulty is provided by its suspension rim, which is built into the sound box (Fig 35). Therefore, its string holes could only be accessed on one side, making the replacement of strings almost impossible. That the upper board of the sound box could not easily be removed is shown by its fragile pattern of inlaid ivory and semi-precious stones. Two other harps which stand out because of their decoration are the sound boxes of *ÄM02* and *MM01*. Both are decorated inside their sound box, which makes the existence of an original cover improbable. Interestingly, *ÄM02* is also the smallest sound box of all shovel-shaped harps ever recovered, rendering an interpretation as a model instrument tempting. *MM01*, however, is at the opposite side of the measurement range,



Fig 35: The lavishly decorated harp *BM05* with a detail of its suspension board. Photographs by T. Sykora, courtesy of the British Museum in London.

<sup>229</sup> This table was compiled from the measurements of *harps ÄM03; BM04; EM09-11 and MV01*. An overview of the measurements per instrument can be found in Table 2.

<sup>230</sup> L. Manniche, *Ancient Egyptian musical instruments*, 54-55. See also Fig 51, p. 62.

<sup>231</sup> All other ancient Egyptian chordophones carry openings in their sound boxes for this purpose, except for *harp OI02*, which does not have a sound box at all.

which rules out a consistent link with sound box decoration and small size. Until similar examples emerge, we can therefore not designate either harp as a model instrument with any certainty, but we must assume that the sound boxes were simply employed without a cover. The evidence to consider *OIO2* and *BM05* as such is, on the other hand, stronger. Their abundant decoration required very careful handling, and could in some cases – such as the decorative head on *harp OIO2* – even have obstructed the strings. Moreover, neither harp has an open sound box and both display an infeasible string mounting system.

Although the size and decoration of an instrument are often easiest to notice amongst potential indicators for model instruments, a better method is to look at the **musical limitations** of an instrument. Some specific properties of a chordophone limit it or render its use in music impossible. Examples were shown at the end of the previous paragraph, but other instruments could be analysed in the same manner. Here, *ÄM03*, *EM09* and *MV01* come again into consideration. A first important shortcoming of the instruments is that they do not have suspension rods, or holes to fix them into their sound boxes. Furthermore, the partially preserved covers of the instruments (*EM09* and *MV01*) leaves no room for the rod and illustrates that it never carried one (Fig 33, p. 44). Instead, it is supposed that the strings were wound around a protruding knob at the front of the sound box.<sup>232</sup> If strung in this manner, the pegs of *ÄM03* and *EM09* would be too low to allow for a free string, rendering it impossible to fit the instrument with cords. Finally, *harp EM09* additionally has immovable pegs and *MV01* only carries oblong holes, which makes the tuning of strings on these instrument



Fig 36: Top view of model harp *EM10*, which shows the separate neck and suspension rod. Source: H. Hickmann, *Instruments de musique*, Plate CIX.

unattainable. Three other harps, *AMNH01*, *EM10* and *WM01* offer other indications. While they clearly did carry suspension rods,<sup>233</sup> these were not attached directly to the sound box, but to a transversal stick at the front. The neck and sound box are also made from separate pieces (Fig 36), rendering the instrument's construction relatively unstable. To account for this problem, it has been proposed that the instrument would only achieve its optimal stability when strung.<sup>234</sup> While this could be argued for the stability of the suspension rod, prolonged tension on the neck could very well have caused it to collapse, as it only carried two pieces of string as counterweight to the total pressure. Although this could indicate that the harps were not used in music, it could equally well illustrate their experimental status. The smallest example of the group, *harp EM10*, however, tends more to the model side of the spectrum. Its suspension rod has no proper attachment to the neck (Fig 36), while the necks of the larger *AMNH01* and *WM01* include a hole for this purpose. One side of the sound box also gave way to the pressure of the suspension rod and fragmented. The two small *harps BM04* and *EM11*, are structurally almost identical to their larger counterparts. Therefore, only few indications point to a possible identification as model harps. Among those is the neck of *BM04*, which was

<sup>232</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 69. The knob is still preserved on *ÄM03*.

<sup>233</sup> The suspension rods are preserved on *AMNH01*, *EM10* and *WM01*.

<sup>234</sup> H. Hickmann, *ASAE* 48a, 644-645.

constructed from two pieces of wood, put together with a wooden dowel. After this repair, the tension of the strings would almost certainly have resulted in the collapse of the neck if the harp was properly tuned. A second argument is provided by the proximity of the strings of *BM04* and *EM11*. With such little space in between of the cords, it would be difficult to touch one string without causing interference from the adjacent one. A similar observation could be made with chordophones *ÄM03, 8* and *EM09-10*. For the instruments where the close strings are the only indication to identify them as model harps, it is theoretically still possible that they were played by someone with small fingers: for instance a child. Finally, none of the studied instruments which were described above carried any string marks. This is not surprising, as a single stringing of the chordophones would not have resulted in a clear or string mark, if any at all.

Although it is not always obvious, it can be shown that at least some ancient Egyptian instruments could not have been utilised in music. Most of these model instruments are distributed among the different types of naviform arched harps. Among these, *ÄM03* and *EM09* most clearly illustrate their role as purely representative harps, as they cannot effectively be strung or tuned. The fragile *harp EM10* and the small *harps BM04* and *EM11* were probably used in the same manner. Of the other types of arched harps, *BM05* and *OI02* could also be identified as model instruments, because of their obstructive decoration and untenable stringing methods. Model chordophones were not limited to the category of harps, as *ÄM08* and the Asasif lute prove their existence among respectively lyres and lutes. Accordingly, almost ten percent of the extant chordophones can, with some certainty, be identified as model instruments. These instruments can be dated from the New Kingdom to the Third Intermediate and Late Period, consequently spanning a large portion of Egypt's musical history, and demonstrating their continued use.

Model chordophones existed alongside their functional counterparts in the funerary culture of ancient Egypt, starting from at least the New Kingdom. It remains to be explained, however, why the real instruments were substituted by their non-playable representations. The most logical explanation is that the real functionality of the instruments was not of any significant importance. The symbolic equivalent of a harp, lyre or lute would produce the same sounds in the afterlife as the real instrument would have done. Consequently, the latter could easily be replaced by the former for economical – *ÄM03, 8, BM04, EM09-11* and the Asasif lute – or reasons of prestige – *BM05* and *OI02*. Although most other instrument were probably originally used in actual musical practice – as has been shown by string marks, repairs and adjustments and possibly by the textual traces on lyre *RMO02* – their ultimate function would become the same as that of the model instruments. This is illustrated by the offering inscription on harp *LO1*, which couples the functional instrument with an offering formula and a song, which was most likely related to the ritual. Both model and actual chordophones magically ensured the deceased's musical sustenance, but only the latter can effectively be used to reconstruct the musical use of the instruments.

#### 4. Retrieving the morphological capabilities and limitations of the chordophones

Ancient Egyptian stringed musical instruments can tell us a great deal about the musicians who played on them, and the music that was accordingly produced. Because of this, descriptions of extant instruments were included from the earliest works about ancient Egyptian music to studies of the present day. However, this object category has only rarely received the same interpretative attention as its iconographic counterpart. While the iconographic record offers some advantages – the musicians, their context, playing techniques and positions of the instruments are shown – it also carries certain obstacles. Primarily, the observer is entirely dependent on the, sometimes limited, accuracy and precision of the Egyptian painter or sculptor. Relying too strongly on the correctness of the drawings can lead to doubtful interpretations.<sup>235</sup> Secondly, it is often hard to reconstruct a three-dimensional instrument from a two-dimensional rendering, governed by the rules of Egyptian aspectivism,<sup>236</sup> and reconstructions of size are at most approximate. The extant musical instrument, on the other hand, stands closest to the music it produced, and therefore, much information can be gained by studying it. This chapter explores the properties of different types of preserved chordophones, and investigates their position within the musical ensemble.

In order to facilitate comparison of the different musical instruments, a categorization of the material at hand is desirable. By grouping the objects according to the similarity of their attributes, the differences between and within the groups become more apparent. The capabilities and limitations of chordophones are principally based on the shape of the instruments. Therefore, a morphological classification should be pursued as a necessary preliminary step to the definition of their use. Such a classification of ancient Egyptian musical instruments was undertaken for the first time by Sachs, and improved upon by Hickmann.<sup>237</sup> As was already pointed out above,<sup>238</sup> both classification systems involved serious problems, making a revision necessary. Such a revised typological framework was presented by Lise Manniche,<sup>239</sup> and her morphological categorization of harps, lyres and lutes is largely followed here. However, because large typological variation remains within Manniche's types, these

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<sup>235</sup> This was already observed by A. von Lieven (*Studien zur Musikarchäologie* IV, 101 – 102). See also Chapter 1, p. 3.

<sup>236</sup> This is most obvious in the depictions of the shovel-shaped harps, which are alternately shown with a sound box in profile or 'en face' (K. Krah, *Die Harfe im pharaonischen Ägypten*, 11).

<sup>237</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 45-71; H. Hickmann, *BIE* 35, 309 – 276

<sup>238</sup> See p. 4-5.

<sup>239</sup> L. Manniche, *Ancient Egyptian musical instruments*. Types are named according to the shape of their sound box (boat-shaped harps, oval- and pear-shaped lutes) or their overall form (shovel-shaped, ladle-shaped, arched, crescent-shaped and angular harps and asymmetrical and symmetrical lyres).

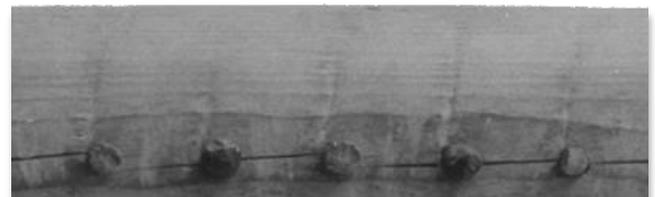
are subdivided further in this study.<sup>240</sup> This makes a more detailed assessment of their properties possible.

#### 4.1 Variety within similarity: the ancient Egyptian arched harp in its many forms

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The largest and typologically most diverse group of ancient Egyptian chordophones consists of harps. A harp is a stringed instrument with a single neck which is directly attached to a sound box, between which cords are strung.<sup>241</sup> The type can be subdivided further into 'arched harps,' where the transition from sound box to neck is curved, and 'angular harps,' which display a 90° or smaller angle between the elements. The long history and frequent inclusion of ancient Egyptian harps in musical scenes illustrates their importance in Egyptian music.<sup>242</sup>

There has been some discussion concerning the methods of tuning<sup>243</sup> of the different types of ancient Egyptian harps. Although it was originally assumed that the pegs at the end of the neck were used for this purpose, Hickmann, following a poorly argued suggestion by Sachs,<sup>244</sup> dismissed this with examples of immovable pegs. Such pegs could not be turned, and therefore not be employed to tune the string. Hickmann proposed a method in which the general tuning could be achieved by moving the suspension rim or rod of the harp. The pitch of the strings would then be corrected individually with a special knot at the attachment of the string.<sup>245</sup> Lawergren suggested another method, in which the strings would be wound around pads of cloth or rope at the neck, similar to the tuning of lyres.<sup>246</sup> This hypothesis was partly based on depictions of angular harps, which show a neck which is aligned with tassels (Fig 54, p. 65). Lawergren's suggestion can easily be dismissed, however, because the pegs would in such a system not only be superfluous, but even become obstructive. Furthermore, no evidence of tassels or tuning pads has ever been identified in the large group of extant harps or on their depictions, contrary to numerous remaining examples on the much smaller group of lyres. Hickmann's hypothesis can similarly be rejected, as his tuning system is cumbersome, and makes any reasonable



*Fig 37: Detail of the neck of MMA05, on which clear string imprints are preserved. The string marks are exactly as we would expect if the string were tuned with the pegs. Source: MMA, The Collection Online, 24.2.16, accessed 12.08.2015.*

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<sup>240</sup> Subtypes are referred to with a letter, which corresponds to the first letter of the type ('N' for 'naviform harps', 'A' for 'Angular harps', 'O' for 'oval lutes'), followed by the number of the subtype. The typological tree which is used in this study is represented on Plate 7.

<sup>241</sup> For the used terminology of the different components of chordophone types, see Plate I.

<sup>242</sup> For specific publications concerning the ancient Egyptian harp, see: H. Hickmann, *BIE* 35, 309 – 276 and K. Krah, *Die Harfe im pharaonischen Ägypten*.

<sup>243</sup> Changing the tension of a string to increase or decrease the pitch to a desired tone.

<sup>244</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 60.

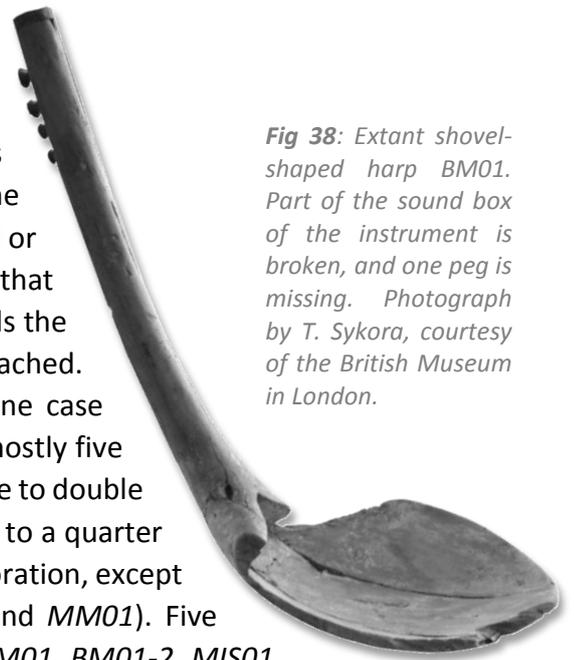
<sup>245</sup> H. Hickmann, *ASAE* 48, 646 – 648.

<sup>246</sup> B. Lawergren, *JEA* 66, 168.

individual cord tuning almost impossible.<sup>247</sup> Furthermore, Hickmann’s ‘suspension pegs,’ do not explain why most of these were clearly movable, which would be impractical if they simply served as a fixing point for one end of the string.<sup>248</sup> His arguments against tuning with pegs can easily be dismissed, because the examples of immovable pegs which he offers can be explained differently.<sup>249</sup> Moreover, string traces on extant instruments clearly show that the cords started from the pegs (Fig 37; Fig 25, p. 33), where they consequently must have been fastened. Finally, the reconstruction of *harp EM12*<sup>250</sup> not only proved that tuning with unpierced, slightly conical pegs is possible, but moreover, yields good results.

#### 4.1.1 The origin: Shovel-shaped harps

The shovel-shaped harp (Fig. 38) can be recognized by its shallow and semi-circular sound box – the width of which is consistently more than 3/4<sup>th</sup> of its length – which often displays a spade-like shape, giving the type its name. The upper part of the sound box is V-shaped or retains a hole to receive the curved suspension rod, a stick that holds one side of the strings. The slightly curved neck holds the pegs to which the opposite ends of the strings are attached. These pegs are in all (*ÄM01*; *BM02* and *MMA01*) but one case (*BM02*) made into the shape of a solid trumpet and are mostly five in number. Instruments of this type range from half a metre to double this size (Table 3b), with a sound box which covers a third to a quarter of this length. Shovel-shaped instruments mostly lack decoration, except for two cases where the sound box is painted (*ÄM02* and *MM01*). Five complete instruments of this type are preserved (*Harp ÄM01*, *BM01-2*, *MIS01* and *MMA01*), while two further sound boxes (*Harp ÄM02* and *MM01*) a suspension rim (*EM01*), and possibly the end of a neck (*PM01*) also belonged to harps of this type.<sup>251</sup>



**Fig 38:** Extant shovel-shaped harp *BM01*. Part of the sound box of the instrument is broken, and one peg is missing. Photograph by T. Sykora, courtesy of the British Museum in London.

Shovel-shaped harps	Range	Average
String number	4 – 5	4.9
Total length (cm)	60.2 – 95.6	76.7
Length neck (cm)	37.6 – 54.6	47.1
Length sound box (cm)	16.5 - 43	27.6

<sup>247</sup> Lawergren (*JEA* 66, 167-168) further argued that a good sound is only reached when the suspension rod is at a specific position in regard to the cover. If the rod had to be moved for tuning, this advantageous position setup would be lost.

<sup>248</sup> This was already observed by Arroyo (*Egypt: Music in the age of the pyramids*, 202), who explains the immovable pegs as ‘ritually fixed’, to preserve a perfect tuning for eternity.

<sup>249</sup> Hickmann’s main argumentation (H. Hickmann, *ASAE* 48, note 2 p. 646) was based on *harp EM09*, which is most likely a model harp (see p. 45), and consequently a bad example for comparison. He further provided the example of one immovable peg on the already unusual neck *EM02*, which is, however, more likely due to a later repair (see p. 34-35).

<sup>250</sup> See Addendum II.

<sup>251</sup> Examples of the shovel-shaped harp type are shown on Plate 8b.

Width sound box (cm)	14 - 30	23.2
Width/length sound box ratio	0.77 – 0.88	0.83

Table 3b: Basic measurements of the remaining shovel-shaped harps.<sup>252</sup>

Only two datable shovel-shaped harps are known, *EM01*, which is said to be from the twelfth dynasty, and *harp MMA01*, which was apparently discovered in a thirteenth dynasty context.<sup>253</sup> Two harps from London are listed as ‘probable New Kingdom instruments’<sup>254</sup>, but this date can be questioned.<sup>255</sup> The chronological occurrence range of the instrument can be deduced further from iconographic evidence. In depictions of groups of musicians on tomb walls from the Old to Middle Kingdom, the shovel-shaped harp is the only attested stringed musical instrument. Its occurrence can be traced to the period between the fourth and the twelfth dynasty, when it disappears from the iconographic sources.<sup>256</sup> While no clear Second Intermediate Period depictions have been found, this is not surprising, considering the overall lack of decorated tombs in this period. Moreover, the thirteenth dynasty *harp MMA01* proves that it remained in use for at least a short period after the Middle Kingdom. The archaeological and iconographic evidence accordingly places the shovel-shaped harp in a time range spanning the period between the Old Kingdom to the early Second Intermediate Period. The diachronic variation within this time frame, however, is poorly understood. As none of the shovel-shaped harps is clearly datable, a comparative iconographic study, ideally coupled



Fig 39: One of the earliest depictions of ancient Egyptian harps in the tomb of Debehen (G 8090) in Giza. MFAB, The Giza archives, Photo A6623\_NS, accessed 12.08.2015.

with radiocarbon dating on the objects themselves, would vastly improve our understanding of the type.

While it has been argued that the first shovel-shaped harps evolved from simple hunting bows, to which additional strings were added,<sup>257</sup> evidence to support this hypothesis is currently lacking. The first depictions of harps, from the fourth dynasty,

<sup>252</sup> Data from nine instruments of this type (*Harp*s *ÄM01-2*; *BM01-2*; *EM01*; *MIS01*; *MM01*; *MMA01* and *PM01*) was included in this table. An overview of the used measurements can be found in Table 2.

<sup>253</sup> For these dates, see respectively p. 26 and p. 18.

<sup>254</sup> R. D. Anderson, *Musical Instruments*, 72, 75.

<sup>255</sup> See p. 23

<sup>256</sup> In this study, the lists of iconographic attestations by Lise Manniche (*Ancient Egyptian Musical Instruments*) are used. Based on the lists of archaeological objects from the same publication (See note 38, p. 8), these are most likely also incomplete and erroneous at some points. Therefore, the presented iconographic dates should by no means be treated as absolute facts.

<sup>257</sup> C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 59; H. Hickmann, *Miscelánea de estudios*, 832 after : A. Matchinsky, *A propos de la gamme musicale égyptienne*, 9.

show instruments which already have fully developed sound boxes (Fig. 39).<sup>258</sup> It is generally assumed that the upper side of this sound box was originally covered with fabric or leather to increase the sound volume which could be produced by the instrument.<sup>259</sup> However, two shovel-shaped sound boxes (*Harp ÄM02* and *MM01*)<sup>260</sup> are clearly painted inside the area which would then be concealed. Although the severed sound boxes could have been reused and painted for a different purpose later on, this seems somewhat unlikely as the floral patterns on both sound boxes are similar to the decoration on the sound boxes of later ladle-shaped harps. Therefore, it could be argued that at least some of the harps of this type did not have a cover, which would decrease their sound volume. Interestingly, the sound box was in almost every case<sup>261</sup> assembled from three pieces. This significantly reduced the needed amount of wood, and thus lowered the costs. Such a frugality in wood is furthermore shown by the modest size and traces of repair<sup>262</sup> on shovel-shaped harps.<sup>263</sup>

When looking at the surviving shovel-shaped harps, additional observations can be made. Most obvious is the large variation within the instrument type. Firstly, the instruments range in size from almost one metre to half that size, with a representation of every decade in between, even in our small sample.<sup>264</sup> This would result in a considerable difference in pitch

and playable notes on the instruments. Secondly, the sound boxes display a wide range of shapes, from almost circular or oval to chestnut or U-shaped (Fig 40). Combined with the difference in size (Table 3b), and the possibly inconsistent use of covers,<sup>265</sup> this would create a significant variation in the volume of sound produced. As the objects under study could cover a wide chronological range, it is tempting to explain these differences in terms of diachronic variation. While this is probably the case in most instances, another possibility should be considered. As the shovel-shaped harp was in the Old and Middle Kingdom the only harp included in the musical ensemble, variations of the instruments could as well have been employed to increase the possibilities of the music. And indeed, we often see several harps, sometimes different in size and in string number,



**Fig 40:** The U-shaped sound box of shovel-shaped harp MIS01. Photograph and courtesy of the Musikinstrumentensammlung in Göttingen.

<sup>258</sup> H. Hickmann, *Musikgeschichte in Bildern*, 20-21, Abb. 2; H. Hickmann, *BIE* 35, 321.

<sup>259</sup> C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 59, 68; W. C. Hayes, *The Scepter of Egypt I*, 248; R. D. Anderson, *Musical Instruments*, 76; and others.

<sup>260</sup> For the numbering system of the mentioned specific chordophones, see Addendum I and the digital database.

<sup>261</sup> Except harp MMA01, which could be, if we trust the catalogue's dating, one of the latest instruments of this type.

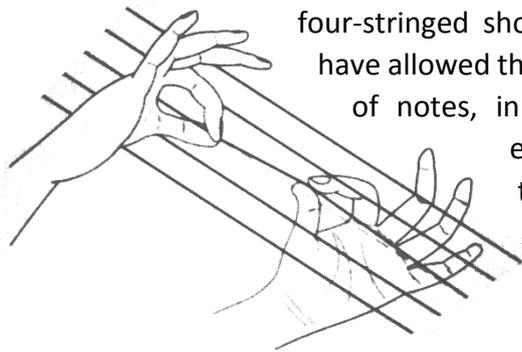
<sup>262</sup> See Table 3b and p. 34.

<sup>263</sup> Especially angular harps and the preserved arched types from the New Kingdom require significantly larger pieces of wood, and display a higher quality both in terms of workmanship and materials.

<sup>264</sup> For a basic measurement comparison of the instruments, see table 3b.

<sup>265</sup> See above, p. 52.

appearing in depictions of musical ensembles.<sup>266</sup> The number of strings on extant shovel-shaped harps, on the other hand, shows considerably less variation, as the harps consistently display five pegs.<sup>267</sup> This quantity was one of the clues which made earlier researchers propose a pentatonic scale for the music of this period.<sup>268</sup> However, the use of five cords could equally well reflect the number of fingers on the harpist's hand. Interestingly, the sole remaining



**Fig 41:** The 'pinching technique': playing a string with one hand while shortening it with the other. Source: R. P. Arroyo, *Egypt, music in the age of the pyramids*, illustration 29.

suspension rod only carries four incisions for the strings, proving the existence of four-stringed shovel-shaped harps. This limited quantity of strings must have allowed the shovel-shaped harp to produce only a restricted number of notes, in contrast to many of the wind instruments<sup>269</sup> in the ensemble. For this reason, earlier researchers assumed that the range of notes would be expanded by using the 'pinching technique,' (Fig 41)<sup>270</sup> shortening the string with one hand, and elevating the pitch, while playing with the other. Although the technique could have been employed,<sup>271</sup> it can hardly have been standard practice, because the produced note on a shortened string sounds considerably different from a note on a naked string. The discrepancy between the playable notes on shovel-shaped harps and other instruments in the same scenes illustrates that it is unlikely that all instruments in an ensemble would double the same melodic line. Rather, the harp would accompany or counteract the main melody of the voice or the wind instrument. Intriguingly, the shovel-shaped harp possesses up to fifteen – but more generally five to twelve – strings in tomb depictions.<sup>272</sup> While this large number of depicted cords could be an artistic liberty, we must consider the possibility that the smaller, less expensive, instruments were more likely to end up in a tomb,<sup>273</sup> leaving us with a non-representative sample. However, the upper part of a broken neck in the Cairo Museum (*Harp EMO2*) could have belonged to a shovel-shaped harp with more than five strings. The instrument carries nine trumpet-shaped pegs,<sup>274</sup> which are otherwise only attested on harps of this type.<sup>275</sup> The many-stringed shovel-shaped harp would have a much wider range of possibilities, but would probably have been employed in a

<sup>266</sup> Ensembles of two, three, four, five and even seven harpists have been identified on tomb walls: L. Manniche, *Ancient Egyptian musical instruments*, 38-46.

<sup>267</sup> In the case of *Harp MIS1*, the exact number of peg holes is hard to ascertain, and it could theoretically have been four. The destroyed upper part of the neck, however, leaves room for another peg.

<sup>268</sup> C. Engel, *The music of the most ancient nations*, 192; C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, 52, H. Hickmann, *BIE* 34, 241-242; R. P. Arroyo, *Egypt: music in the age of the pyramids*, 108.

<sup>269</sup> H. Hickmann, *Instruments de musique*, 119-121; L. Manniche, *Ancient Egyptian musical instruments*, 12-16.

<sup>270</sup> H. Hickmann, *ASAE* 54, 228-229; L. Manniche, *Music and musicians in ancient Egypt*, 27; K. Krah, *Die Harfe im pharaonischen Ägypten*, 32; Arroyo, *Egypt: music in the age of the pyramids*, 204.

<sup>271</sup> Contrarily to modern harps, where the strings are tighter and the only way to shorten the string is by playing a 'flageolet', a technique whereby the string is shortened and played with the same hand.

<sup>272</sup> L. Manniche, *Ancient Egyptian musical instruments*, 38-46.

<sup>273</sup> In later periods, this does not seem to be the case (see p. 83), but the possibility cannot be excluded.

<sup>274</sup> This type of pegs is represented in Figs 38-39, p. 50-51.

<sup>275</sup> See the previous note; See also p. 61 for another identification of this fragment.

similar manner, as its volume would not supersede the volume of wind or percussion instruments.<sup>276</sup> The shovel-shaped harp shows considerable morphological variation, indicating that it might have been employed both as an accompanying and as a melodic instrument. This variation would give rise to the wide range of new harp types in the New Kingdom.

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<sup>276</sup> The sound box on depictions is still considerably smaller than the sound boxes of later harp types like the ladle-shaped harp.

#### 4.1.2 Specialization: Naviform arched harps

At the end of the Second Intermediate Period we suddenly see a drastic change in the employed chordophone types. Among these emerged the ‘boat-shaped harp,’ ‘shoulder harp’ or ‘naviform harp,’<sup>277</sup> the best represented ancient Egyptian chordophone in the archaeological record. This term again stems from the shape of the sound box, which is now elongated with a prow-like front. The coarse interior of these sound boxes,<sup>278</sup> coupled with some examples where the canvas is preserved,<sup>279</sup> illustrate that the sound boxes were originally covered. Through this cover, a long suspension rod was placed, holding one side of the strings.



**Fig 42:** A flutist, lute player and harpist with a ‘large boat-shaped harp’ in the 18<sup>th</sup> dynasty tomb of Nakht (TT 52). Source: *The Yorck Project: 10.000 Meisterwerke der Malerei*.

The neck of a naviform harp differs only little from that of that of the shovel-shaped harps, but the pegs it holds are exclusively cylindrical. In Manniche’s typology, boat-shaped harps are further divided into “portable (small) boat-shaped” and “large boat-shaped harps”.<sup>280</sup> The second category, which is based solely on the iconographic record, includes larger harps with more strings (Figs 42, 54 p. 65). While the border of the subdivision is vague at best, the classification assigns a similarly-shaped sound box to both types. This is a doubtful observation, as it is hard to deduce the form of the larger type solely from two-dimensional representations.<sup>281</sup> Furthermore, as is shown by *Harp MMA04* – both the smallest naviform harp and the instrument with the largest number of strings – size and quantity of strings do not always go hand in hand. Accordingly, each type should be categorized separately, and the term ‘naviform harps’ should be reserved for the category of instruments discussed below.

Within the category of (portable) naviform harps, significant morphological variation can be recognized. A further subdivision seems therefore appropriate. By far the largest group (**naviform harps, subtype N1**, Fig 43) stands out because of its great length. While the smallest harps (*EM04* and *OI01*) were originally approximately 90 cm long,<sup>282</sup> most harps exceeded one metre, with a continuous scale up to 1.40 metre (*RMAH01*). The sound box resembles the shape of a boat, and is, with an average width/length ratio lower than twenty percent, the most elongated sound box of all extant ancient Egyptian arched harps. The moderately curved

<sup>277</sup> C. Sachs (*Die Musikinstrumente des alten Ägyptens*, 65) introduced the term ‘Schülterharfe’. Hickmann (*Instruments de musique*, 164) preferred a purely morphological description of ‘harpe naviforme’. Both properties of the instruments were combined in Manniche’s (*Ancient Egyptian musical instruments*, 55) ‘portable boat-shaped harps’.

<sup>278</sup> This was observed in the current study on *harps BM04* and *RMAH01*.

<sup>279</sup> *Harps BM03* and *EM09*.

<sup>280</sup> L. Manniche, *Ancient Egyptian musical instruments*, 55, 58.

<sup>281</sup> The straight lower side of the sound boxes of ‘large boat-shaped harps’ even seems to contradict such a similarity (Fig 42)

<sup>282</sup> For all measurements of naviform N1 harps, see table 2 and table 3c. The lower part of *OI01* is broken off, making any exact assessment of its original length impossible.

neck of subtype N1, which is only slightly longer than the sound box, leads to the tuning pegs. These are in all but two cases (*EM03* and *EM08*) four in number and are consistently cylindrical, in contrast to the trumpet-shaped pegs of the shovel-shaped harp. Except for possible ornaments on the sound box covers of naviform N1 harps (*BM03*), decoration in most cases is not present.<sup>283</sup> Of this subtype, fifteen complete instruments (*Harps BAAM01, BM03-4, EM03-6, EM11, L01-2, MMA02-3, MV01, OI01 and RMAH01*), two suspension rods (*EM07-8*), a neck (*AsM01*) and a sound box (*L03*) are preserved.<sup>284</sup>

Naviform, N1	Range	Average
String number	4 – 5	4.2
Total length (cm)	83+ – 140	115.6
Length neck (cm)	48 – 76	63.3
Length sound box (cm)	40.5 - 73	55.5
Width sound box (cm)	7.5 – 17.5	10.3
Width/length sound box ratio	0.15 – 0.26-	0.18-

Table 3c: Basic measurements of the remaining naviform harps of subtype N1.<sup>285</sup>

Well datable N1 naviform harps (*EM03, 6-7, 11* and *MMA02*) can be placed from the late seventeenth dynasty to the early eighteenth dynasty. The subtype can be traced further via iconographic representations from the beginning of the eighteenth dynasty to the Amarna period.<sup>286</sup> Both an earlier and later occurrence cannot be excluded, however.

As naviform harps of subtype N1 constitute the largest group of extant instruments, most information can be deduced from them. Within the proposed classification, instruments in this group are strikingly similar. A first property of the harps is the great length and depth of the sound box, as compared to its limited width (table 3c). This shape allowed for an increased volume of capacity and produced sound, while its robustness was also increased.<sup>287</sup> Coupled with the

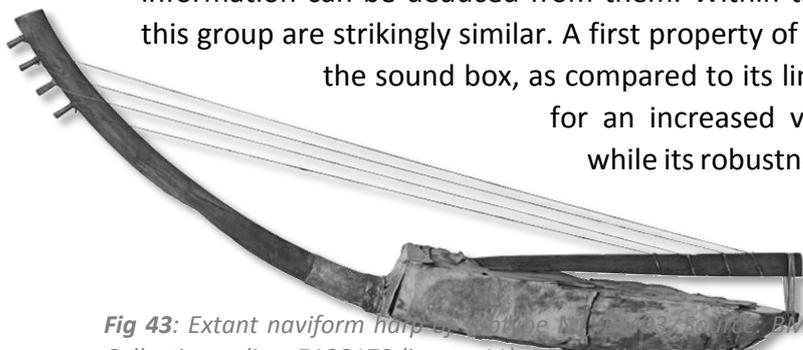


Fig 43: Extant naviform harp, *BM03*, *EM03*, *EM06*, *EM07*, *EM08*, *EM11*, *MMA02*, *AsM01*, *BAAM01*, *BM03*, *EM03-8*, *L01-3*, *MMA02-3*, *OI01* and *RMAH01*, which can be found in Table 2.

longer sound box is the overall increase in length of the instrument. The growth of the naviform harp, as compared with the shovel-shaped group, was coupled

<sup>283</sup> Exceptions are *L01*, where the neck carries four lines of hieroglyphs (although it served most likely a more functional than decorative purpose) and the decorated sound box of one of the harps which was discovered by the DAI-mission in Dra Abu el-Naga (see p. 18).

<sup>284</sup> For examples of this type, see Plate 8c; A complete harp and part of a sound box of a naviform harp were discovered in the DAIK excavations at the late Middle Kingdom – early New Kingdom cemetery at Dra Abu el-Naga, but at present, they are still unpublished.

<sup>285</sup> The information for this table was retrieved from *harps AsM01, BAAM01, BM03, EM03-8, L01-3, MMA02-3, OI01* and *RMAH01*, which can be found in Table 2.

<sup>286</sup> For the datable contexts, see p. 15-18; for the iconographic evidence, see: L. Manniche, *Ancient Egyptian musical instruments*.61-62.

<sup>287</sup> With wood of the same thickness, naviform harps can be made out of one piece while the sound box of a ladle-shaped harp require three.

with an increase in its string's length. The longer cords produced notes of considerably lower frequencies, a first clue to its employment in the musical ensemble. While the size of N1 naviform harps clearly expanded from the Middle Kingdom harp, the number of strings remained the same or even decreased. The harps bore four – sometimes five (*EMO3* and *EMO8*) – pegs, consequently limiting the number of playable tones.<sup>288</sup> In contrast to the shovel-shaped harp, this low number of strings is also consistently reproduced in depictions of this chordophone type,<sup>289</sup> a further illustration that the type and string number were intrinsically linked. If the few playable notes on the harp of subtype N1 are considered in association with their low frequencies, it seems plausible to assign this category of harps a supporting role in the musical ensemble. With a repeating or alternating range of bass-notes, the harp could accompany the melody of a voice, wind instrument, and possibly other types of stringed instruments. Finally, N1 (and N2) naviform harps stand out because of their workmanship. Most of the instruments are carved from a single piece of fair quality wood, in contrast to most examples of the shovel-shaped harp. This quality of wood and the few used pieces gave the instrument the required sturdiness and endurance. Such stability would have increased the mobility of the instrument, and depictions on tomb walls indeed show the instrument being held on one shoulder while being played (Fig 44). Overall, the N1 harp seems to have been a practical accompanying bass instrument, as one of the successors to the larger examples of shovel-shaped harps from the Middle Kingdom.



Fig 44: A musician, playing a naviform N1 harp in the 18<sup>th</sup> dynasty tomb of Ahmose (TT 241). Source: H. Hickmann, *Musikgeschichte in Bildern*, Abb. 85.



*Harp MMA04* (Fig 45),<sup>290</sup> the only example of '**naviform harps, subtype N2**,' seems, with its similar sound box shape, typologically very similar to subtype N1. However, its morphological differences must have affected the way the instrument would have been used, making a separate category desirable. The subtype stands, with an overall length of only 82

centimetres (table 3d), at the lower end of the N1-size-spectrum. Oddly enough, this smaller size is coupled with a vastly increased – the four strings of N1 harps are quadrupled – number of strings. To allow for such a large number of pegs, the neck is curved more sharply to the front of the harp. At the higher end of this neck, a human head is carved out, which suggests that the subtype received somewhat more decoration than its N1 counterpart.

Naviform, N2	Range
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<sup>288</sup> If comparing the number of strings again to the musician's fingers, it could be assumed that on these four-stringed instruments, the weaker little finger was not used, as is the case with modern harpists.

<sup>289</sup> L. Manniche, *Ancient Egyptian musical instruments*, 61-62. See also Fig 44.

<sup>290</sup> See also Plate 8d.

String number	16
Total length (cm)	82
Length sound box (cm)	36

Table 3d: Basic measurements of the MMA04, the only naviform harp of subtype N2.

As no depictions of the subtype have been identified, and *harp MMA04* itself is undatable, the chronological position of the instrument category is unclear. The similarity of the sound box shape with those of subtype N1 could suggest that it should similarly be placed in the seventeenth or eighteenth dynasty.

In contrast to its abundantly attested sister, subtype N2 carries strings which approximate the length of those of some shovel-shaped harps, increasing their pitch. Secondly, the number of strings is vastly increased to sixteen. With such a cord number, more complex melodies could be played, rendering this type more comparable to ladle-shaped or small angular harps.<sup>291</sup> With this large number of strings, it would have been very difficult for a harpist to play with the instrument in a horizontal position on one shoulder. Therefore, it seems more likely that the harp was tilted to the front, thus giving the musician a full view of the strings. If played like this, only one hand could be used, giving rise to the possibility that the instrument was played while the harpist was seated. *Harp MMA04* seems to have been an attempt to emulate the properties of the ladle-shaped harp on the boat-shaped harp, which was more mobile and required less wood. That only one example, and not a single representation, of the instrument is preserved could indicate that it was quickly substituted by the angular harp, which had similar properties, but a greater range of possibilities. The timing of the 'N2 experiment' is uncertain, as the 'late eighteenth dynasty' designation of the Metropolitan Museum of Arts for *MMA04*<sup>292</sup> is little more than a guess. If this dating is correct, however, the harp type could very well have been one of the last attempts to bring the naviform harp back into favour. In any case, *Harp MMA04* is clearly different in use from the naviform N1 harps, as a bass accompaniment of the latter is replaced by a more variant and higher pitched, possibly melodic, line.

A third category, **naviform harps, subtype N3** (Fig 46), can be recognized by its substantially different sound box, which is open at the front and holds a T-shaped suspension rod. The sound box and neck of this subtype are made from different types of wood and bound together with pieces of string. Five cylindrical pegs are fitted in the neck (with the exception of *EM10*, which carries only four), which is, in contrast to the necks of N1 and N2 harps, always shorter than the sound box. Three instruments can be placed in the naviform subtype N3 (*Harps AMNH01*, *EM10* and *WM01*)<sup>293</sup> and none of them carries any traces of decoration.

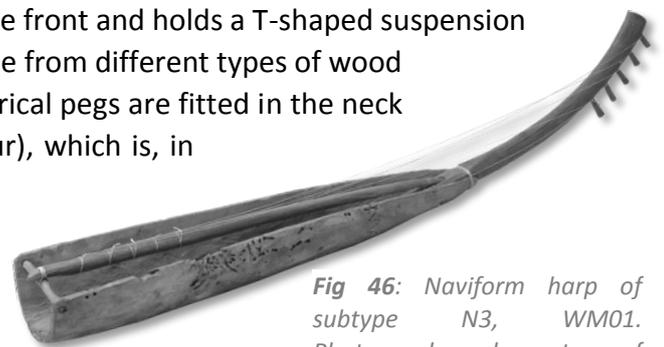


Fig 46: Naviform harp of subtype N3, WM01. Photograph and courtesy of the World Museum, Liverpool.

<sup>291</sup> For these types, see: p. 60 and p. 64.

<sup>292</sup> MMA, *The Collection Online*, Arched harp (shoulder harp) 43.2.1

<sup>293</sup> Remaining examples of this type are shown on Plate 8d.

Naviform, N3	Range
String number	5
Total length (cm)	87
Width sound box (cm)	12.2

Table 3e: Basic measurements of the WM01, a naviform harp of subtype N3.

While previous studies assumed that WM01 dates back to the early Second Intermediate Period,<sup>294</sup> a late Second Intermediate Period or early New Kingdom date seems equally likely.<sup>295</sup> Either way, examples of this type are among the earliest datable examples of naviform harps<sup>296</sup>, and could have played a bridging role in the evolution from shovel-shaped to naviform harps.

Of the naviform N3 harps, none can unequivocally be interpreted as an instrument which could actually have been played. While a fair number of arguments can be used to interpret harp EM10 as a model instrument,<sup>297</sup> the case for AMNH01 and WM01 is less clear. If the harps were actually employed, their use would not have differed much from that of the shovel-shaped harps, as they are similar in size (tables 3b and 3e), and also carried five strings. As a consequence, it would be the most likely candidate to follow directly upon the disappearance of the latter instrument, repeating its properties in a more cost-effective, and voluminous way.<sup>298</sup> Another observation that could be made regarding this type of harp is that, while the neck and suspension rod are made from sturdy material, the sound box is constructed with low-quality wood. This could form a second indication that the type was employed to effectively reduce the production costs of the instrument and contrasts it with the, at least partially, contemporary subtype N1. Naviform N3 harps are, if not simply model representations of their used counterparts – similar to subtype N2 – a testimony to the experimentation which was undertaken in the evolution of ancient Egyptian chordophones. The type forms a bridging instrument with the general properties of its predecessor and the shape of its successor.<sup>299</sup>

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<sup>294</sup> L. Manniche, *Ancient Egyptian musical instruments*, 58. This interpretation is still possible, however, and an intensive study on the original contexts could clarify the case.

<sup>295</sup> See p. 15 and 27.

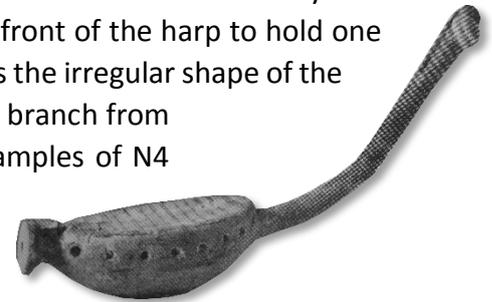
<sup>296</sup> Harp EM11 bears a similar dating, harp EM06 is possibly slightly earlier.

<sup>297</sup> See p. 45, 47.

<sup>298</sup> The depth, length and volume of the sound box is significantly increased.

<sup>299</sup> Type D harps are discussed with the other model harps on p. 45.

A final category, **subtype N4** (Figs 47, 33, p. 44), can be perceived within the type of naviform harps. Instruments in this group can be identified by the oval shape of their sound box. This sound box is, with an average width/length ratio of 0.47, the widest, relative to its length, within the naviform type. The sound box also stands out because it is the only one which lacks a suspension rod. Instead, a knob is placed at the front of the harp to hold one end of the strings. Another distinctive feature of the category is the irregular shape of the neck, which appears to maintain the original shape of the tree branch from which it was carved (ÄM03 and EM09). The three extant examples of N4 harps (ÄM03, EM09 and MV01) range from 50 to only 33 centimetres in length (table 3f) and carry three pegs, if any at all.<sup>300</sup>



Because none of the preserved examples in this category is datable, and no depictions of the instrument group are known, the chronological placement of subtype N4 remains unknown.

**Fig 47:** Naviform harp of subtype N4, MV01. Source: H. Hickmann, *45 siècles de musique*, Plate CIII.b.

Naviform, N4	Range	Average
String number	3 or none	3
Total length (cm)	33 – 50	44,2
Length neck (cm)	28	
Length sound box (cm)	12 – 21.5	18
Width sound box (cm)	7.3 – 8.5	7.8
Width/length sound box ratio	0.34 – 0.71	0.47

**Table 3f:** Basic measurements of extant naviform harps of subtype N4.<sup>301</sup>

The only known examples of the last type of naviform harps, '**subtype N4**' (ÄM03, EM09 and MV01) were most likely employed as model harps. These and other naviform model harps (Harp ÄM03, BM04, EM09-11 and MV01) are discussed in chapter 3.3, as a direct comparison with their regular counterparts would be misleading. The morphological difference in subtypes of naviform harps results in different methods of use. It could, therefore, be dangerous to analyse the model instruments under the same banner.

<sup>300</sup> For the strings of the instruments, see p. 47.

<sup>301</sup> This table was based on measurements of ÄM03, EM09 and MV01, which can be found in Table 2.

#### 4.1.3 The archaeologically clouded part of the spectrum: Ladle-shaped, curved and crescent-shaped harps



Fig 48: The depiction of a harpist with his ladle-shaped harp in the early New Kingdom Theban tomb of Djehuty (TT 11). Source: H. Hickmann, *Musikgeschichte in Bildern*, Abb. 92.

Apart from the naviform harp, the New Kingdom saw the emergence of other new types of arched harps.<sup>302</sup> The many shapes and sizes of these new chordophones increased their possibilities and variation in Egyptian music. Every instrument would have specific abilities, which could, if such an instrument were available, be complemented by a harp of another type. A first example of the newly emerging stringed instruments is the



**ladle-shaped harp**, an instrument with a hemispherical sound box which was connected with a strong curve to an almost straight neck (Fig 48). The instrument is attested from the reign of Amenhotep I until the early twentieth dynasty.<sup>303</sup> While no complete instruments of this type have been discovered so far,<sup>304</sup> some fragments may have belonged to one. Among these are two neck parts with trumpet-shaped pegs (*Harps PM01* and *EM02*), which have been discussed

earlier in relation to the shovel-shaped harps.<sup>305</sup> While shovel-shaped harps are the only extant instruments that carried these kind of pegs, similar pegs can be seen on representations of ladle-shaped harps.<sup>306</sup> The similarity between the position of the pegs of *PM01* and those on the necks of shovel-shaped harps gives the impression that the object should be placed among those. *EM02* (Fig 49) bears, however, little resemblance to the former category, and its thickness and nine pegs would better fit the ladle-shaped harp. Depictions of this harp type show that it carried seven to ten strings, that it was placed on a stand and that it was usually decorated elegantly. Two wooden heads (*Harps FM01* and *L04*, Fig 49) could have originally belonged to this type of harp or its stand, although their precise placement is altogether unclear. The ladle-shaped harp was the second successor to the shovel-shaped harp, inheriting its semi-circular sound box and the greater number of strings from the larger

<sup>302</sup> Harp fragments which likely belong to these types, or can otherwise not clearly be assigned to another harp type are shown on Plate 8f.

<sup>303</sup> L. Manniche, *Ancient Egyptian musical instruments*, 47-50.

<sup>304</sup> With the exception of a ladle-shaped harp which was discovered by the DAIK mission in Dra Abu el-Naga (currently unpublished).

<sup>305</sup> See p. 51 and 54.

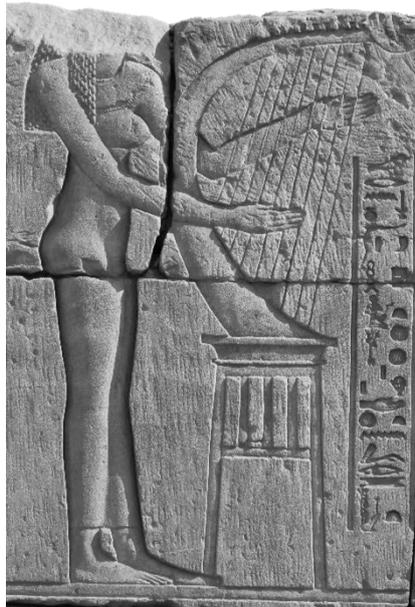
<sup>306</sup> See Fig 48.

examples of this type. Before examples of the instrument are discovered and published, any further conclusions should be considered with caution.

	Ladle-sh.	Curved	Crescent-sh.
String number	9	8 – 17	6?

Table 3g: String amounts of extant ladle-shaped, curved

and crescent-shaped harps.<sup>307</sup>



Manniche includes a fourth category of New Kingdom harps in her catalogue, which is confusingly called, ‘arched harps,’ and contains the arched harps which the author could not place in any of the former New Kingdom categories.<sup>308</sup> The sound boxes of these harps either have a straight or a slightly curved underside, and the neck displays a clear curve. For the sake of convenience, these instruments, which are attested from the eighteenth dynasty to the end of the New Kingdom,<sup>309</sup> are referred to here as ‘**curved harps**’.

Fig 49: Possible fragments of ladle-shaped harps: two decorative heads (L04 and FM01) and a neck (EM02). Sources: C. Ziegler, *Catalogue des instruments de musique égyptiens*, IDM121 (L04); L. Manniche, *Ancient Egyptian musical instruments*, Fig. 33 (FM01); H. Hickmann, *Instruments de musique*, Plate CXIV (EM02).

The end of the neck of a harp in the British Museum (*Harp BM06*, Fig 50) likely belonged to



Fig 50: BM06, likely the neck of a curved harp. Photograph by T. Sykora, courtesy of the British Museum in London.

this category, as it carries a major curve at its broken end. The neck is not cylindrical, like those of all other identified arched harps, but it is relatively thin. The only known instrument fragment with a comparable shape is yet another harp neck (*Harp ÄM04*) in the Ägyptologisches Museum in Berlin. While both could accordingly have belonged to a ‘curved harp,’ they do not communicate much more information than their original string quantity of respectively eight and seventeen. As the fragments are broken off just underneath the pegs, it is impossible to ascertain the shape of their original sound box, making any further interpretations on the material inaccurate. Manniche labels another instrument, the heavily decorated *harp BM05*, as an ‘arched’ harp.<sup>310</sup> The harp, however, does not show any clear resemblance to the other fragments or the depictions within this category. It should be questioned whether this harp can easily be classified among the types of extant chordophones, and does not compromise its own category.<sup>311</sup> Because only fragments of curved harps remain, a more detailed iconographic

<sup>307</sup> These are derived from the peg numbers of EM02 for the ladle-shaped harp, BM06 and ÄM04 for the curved, and OI02 for the crescent-shaped harp type.

<sup>308</sup> L. Manniche, *Ancient Egyptian musical instruments*, 50-53, see also note 142, p. 50.

<sup>309</sup> L. Manniche, *Ancient Egyptian musical instruments*, 50-53.

<sup>310</sup> L. Manniche, *Ancient Egyptian musical instruments*, 50.

<sup>311</sup> *Harp BM05* was discussed more extensively in Chapter 3.3, p. 46.

study of the type could better define its boundaries and properties. Such research is, however, beyond the scope of this work.

In the Graeco-Roman period, the last harp type, the '*crescent-shaped harp*,'<sup>312</sup> appears. As the name suggests, this harp is curved evenly in the form of a crescent, and is always depicted while being played on a high stool (Fig 51). Originally, this type was dismissed as an artistic liberty, but the realisation that a harp in Chicago, *harp O102* (Fig 52), represents this type, has proven that instruments of the category actually did exist.<sup>313</sup> The evenly curved harp is completely decorated and carries holes on both sides, possibly to receive the, now lost, pegs. Puzzlingly, the lower side of the crescent is pierced with 13 holes while the top only carries six. It is likely that the immovable upper pegs received two strings each, which could individually be tuned at the bottom. As *harp O102* is probably a model harp,<sup>314</sup> it remains

*Fig 51: Depiction of a musician with the crescent-shaped harp at the temple of Mut in Karnak. Photograph by T. Sykora, courtesy of the Brooklyn Museum Expedition to the Precinct of Mut at South Karnak.*

uncertain how and whether crescent-shaped harps were really used.

The large typological variation of ancient Egyptian arched harps reflects the versatile capacity of the instrument.

Different types seem to have been employed in different manners, thus enhancing the possibilities of musicians to bring variation in their music. While an abundance of remaining shovel-shaped and naviform harps makes it possible to determine their use in ancient music at least to some extent, the other types of harps are vastly underrepresented, making it virtually impossible to ascertain their purpose on the basis of the archaeological material alone. The few remaining examples of these harps, which are often iconographically represented, remains to be explained. Even more so because they stand in stark contrast to the multitude of other discovered chordophone categories.



*Fig. 52: Crescent-shaped harp O102. Source: H. Hickmann, Acta musicologica 26, 127-128.*

<sup>312</sup> The harp was described in some detail by Hickmann (*Acta Musicologica* 26, 127-128).

<sup>313</sup> H. Hickmann, *Acta Musicologica* 26, 128.

<sup>314</sup> See p. 46.

#### 4.2 Combining properties: the ancient Egyptian angular harp

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Together with the naviform, large arched, ladle-shaped and curved harps, another type of harp, the ‘angular harp,’ appeared in the New Kingdom.<sup>315</sup> Unlike its arched sisters, this instrument does not seem to be a direct descendant of the shovel-shaped harp. Some researchers have deduced from this that the harp derived from Mesopotamia,<sup>316</sup> where similar examples had already existed for a long time.<sup>317</sup> Angular harps consist of a vertical, elongated, hollow sound box with a solid base, through which a horizontal cylindrical neck is placed. Sound box and neck form a near-straight angle, from which the harp derives its name. The cords were originally strung from pegs on the neck to a suspension rim at the front of the sound box.

When reviewing the number of tuning pegs on the neck and holes in the suspension rim of the sound box, a clear discrepancy becomes apparent. Several harps display more string holes than tuning pegs, making a reconstruction of the number of strings and their position difficult.<sup>318</sup> While it has been argued that the instruments were wrongly reconstructed from pieces off different harps,<sup>319</sup> this discrepancy is not an isolated example. Except for the smaller *harp MAN01*, which bears ten pegs and twelve holes, the peg number is, with 15 to 21 (*EM12, 15-19*), consistently lower than the number of holes, counting from 22 to 29 (*EM12-15*). Moreover, of the different angular harp pieces that were found in the same tomb (*EM12-15, 17*), and therefore most likely belong together,<sup>320</sup> the number of pegs of necks are smaller in all cases than the holes on the suspension rims. This problem can be tied in to the discussion concerning the discrepancy between the number of tuning pegs and strings in iconographic renderings. More than half of the representations show a number of pegs which exceeds the number of strings.<sup>321</sup> While part of this inconsistency can no doubt be related to the inaccuracy of the representations,<sup>322</sup> the high number of occurrences stands out. Hickmann’s proposal to account for the discrepancy, in which the pegs were selected by the musician according to the desired string lengths,<sup>323</sup> seems to be the most likely option. He suggested a system of differential tuning, where a string would be strung to a higher peg if a song necessitated a lower note, and vice versa for a higher pitch. While such a method of restringing could not

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<sup>315</sup> L. Manniche, *JEA* 92, 248.

<sup>316</sup> C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 69; H. Hickmann, *BIE* 35, 332-334; R. D. Anderson, *Musical instruments*, 72. See also: A. von Lieven, in A. A. Both, R. Eichmann, E. Hickmann and L.-C. Koch (eds), *Studien zur Musikarchäologie* VI, 155-162.

<sup>317</sup> A unique extant example is the third millennium harp of queen Pu Abi: R. J. Dumbrill, *The archeomusicology of the Ancient Near East*, 222.

<sup>318</sup> Exceptions are *harp L05*, which has 21 string holes and pegs, and *harp MMA05*. Although the latter harp carries four additional holes in the suspension rim, these are probably meant to suspend the rim to the sound box. Interestingly, these are both angular harps of subtype A2 (see below).

<sup>319</sup> Specifically, this was argued for *MAN01* (H. Panum, *The Stringed Instruments of the Middle Ages*, 72).

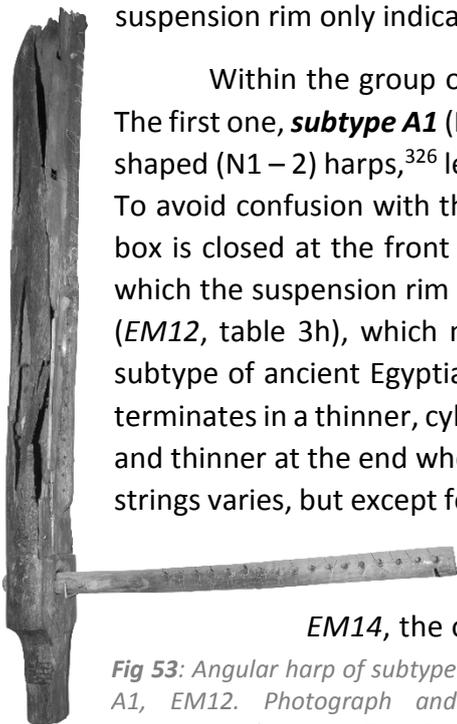
<sup>320</sup> See p. 27.

<sup>321</sup> K. Krah, *Die Harfe im alten Ägypten*, 18.

<sup>322</sup> A quarter of the depictions exhibits more strings than tuning pegs (K. Krah, *Die Harfe im alten Ägypten*, 18), in which case tuning would be impossible.

<sup>323</sup> H. Hickmann, *ASAE* 54, 230.

have been employed regularly,<sup>324</sup> as Hickmann seems to suggest, it could have occurred in certain instances. One of these occasions would have been the first time the harp was strung. The instrument builder made a flexible, rather than a fixed, frame on which the musician could easily choose the desired string lengths. The larger number of string holes compared to the number of pegs could have created a second advantage. By leaving a small gap between two strings at regular instances, the cords could be distinguished more easily. This would have aided the musician, who otherwise could have lost count of the large number of strings on the angular harp.<sup>325</sup> Regardless the meaning of the string hole and peg divergence, the string number cannot have superseded the number of pegs. Otherwise, it would have been impossible to tune the strings individually. Therefore, the exact number of strings on extant angular harps should always be deduced from the number of pegs. The number of holes in the suspension rim only indicates the maximum, and often an elevated, figure.



*Fig 53: Angular harp of subtype A1, EM12. Photograph and courtesy of the Egyptian Museum in Cairo.*

Within the group of extant angular harps, two main categories can be distinguished. The first one, **subtype A1** (Fig 53), has a sound box which is similar in shape to that of the boat-shaped (N1 – 2) harps,<sup>326</sup> leading some authors to call this type the ‘naviform angular harp’.<sup>327</sup> To avoid confusion with the arched harp, this term will not be used here. The hollow sound box is closed at the front with a wooden board – in which square sound holes are cut – to which the suspension rim is attached. This sound box can reach lengths of up to 1.32 metres (EM12, table 3h), which makes it, together with the N1 naviform harp, the largest extant subtype of ancient Egyptian chordophones. The lower part of the sound box of the subtype terminates in a thinner, cylindrical section. Surviving necks from A1 instruments are cylindrical and thinner at the end where they fit in the solid lower part of the sound box. The number of strings varies, but except for *harp MAN01*, which carried ten cords, their number ranged from fifteen to 21. Angular harps of subtype A1 rarely carry decoration. With the exception of a papyrus plant on the sound box board of EM14, the only ornament of this group consists of parallel horizontal lines on the lower section of the sound box (EM12-15).<sup>328</sup> Only two complete examples of the type remain (*Harps EM12* and *MAN01*), but three additional sound boxes (EM13 – 15), and four necks (EM 16 – 19) supplement the available material.

Angular, A1	Range	Average
String number	10 – 21	16.2
Length neck (cm)	58.5+ – 77.5	68.9+
Length sound box (cm)	74.5+ – 132	97.4+
Width sound box (cm)	11.5 – 27.8	17.4

<sup>324</sup> After a cord is strung, the knotted ends are degraded, making the string unfit for a longer position.

<sup>325</sup> On modern harps, the same result is achieved by colouring the C-string red and the F-string blue. On keyboard instruments, the groups of two and three black keys have the same – though secondary – purpose.

<sup>326</sup> Examples of this type are shown on Plate 8e.

<sup>327</sup> H. Hickmann, *Instruments de musique*, 73-79.

<sup>328</sup> However, this could also have a strictly functional purpose, as the lines could avoid slippage of the harp while it was held.

Width/length sound box ratio	0.13 – 0.21-	0.16-
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Table 3h: Basic measurements of angular harps of the subtype A1.<sup>329</sup>

The angular harp appears rarely in representations from the New Kingdom, and only during the reigns of Amenhotep II (Fig 54) and Akhenaten.<sup>330</sup> These depictions show a rather small harp<sup>331</sup> which is carried while being played, but offer few further details concerning their construction and to which subtype they belong. Four angular 'A1' harp fragments from the Cairo Museum can be placed in the nineteenth dynasty,<sup>332</sup> proving the continued New Kingdom use of the instruments after the eighteenth dynasty. A wooden fragment with ivory and ebony pegs (*MM02*) from another nineteenth dynasty tomb<sup>333</sup> was possibly originally part of the neck of an angular harp. As the wood is much decayed, and the pegs show no resemblance to those on any known harp necks, the piece remains difficult to interpret.



Fig 54: four musicians and three dancing girls in the Theban tomb of Paser (TT 367). From the left to the right, musicians with an angular harp, an asymmetrical lyre, a 'large boat-shaped' harp and an oval lute can be seen. Source: H. Hickmann, *Musikgeschichte in Bildern*, Abb. 8.

Angular harps carry the largest sound boxes within the group of ancient Egyptian chordophones. This size not only results in an increased sound volume of the instruments – the sound boxes are considerably larger than those of shovel-shaped and naviform harps – but also in longer strings. The greatest advantage of angular harps, as compared with arched chordophones, lies in the vastly increased number of strings that could be realised on its triangular frame. Remaining examples show up to 21 strings, which significantly increased the melodic possibilities of the instrument. Coupled with the great length of the longest strings, the instrument effectively combined the advantages of both the naviform and ladle-shaped

<sup>329</sup> The measurements in this table were derived from *harps* EM12-19 and MAN01 (Table 2).

<sup>330</sup> L. Manniche, *JEA* 92, 248-249.

<sup>331</sup> Based on this, the smaller 10-stringed *harp* MAN01 could be an early example of the type, but this is far from certain.

<sup>332</sup> EM13-15 and EM17. For their contexts, see p. 27.

<sup>333</sup> See Fig 19, p. 25.

harps. If we take this into account, the emergence and comparably large number of surviving angular instruments is not surprising. As the many-stringed naviform harp *MMA04* shows, attempts were made to increase the number of strings on naviform harps. Because the angular harp coupled the properties of the naviform harp with a large number of strings, it rendered the latter instrument obsolete. This also explains the disappearance of naviform harps from the iconographic record in the Amarna period, when the angular harp had just appeared on the musical stage. Another indication that the evolution of the angular harp was greatly influenced by the naviform harp is the similar shape of their sound boxes. The few depictions of New Kingdom angular harps show the instruments while they are being played by walking harpists (Fig 54). The remaining instruments indeed show a thinner stump at the bottom of the sound box, which could very well have served as a handle for the harp. Alternatively, the harp could have been played while the harpist was seated, thus freeing both hands for play. The flexibility of the angular harp, both on practical and musical level, would have made it an ideal instrument for the professional musician. As such, the musician would only need one harp with which he or she could play a bassline, chords or complex melodies, both in processions and while being seated. Lastly, it should be mentioned that a considerable amount of wood was needed to carve a sound box and neck of this size. Combined with the high number of strings, it seems unlikely that every musician could afford the instrument, therefore limiting its use to a small group. Angular harps of subtype A1 incorporated the movability and long strings of the naviform harp with the large number of strings on ladle-shaped and curved harps, creating a multifunctional instrument.

A second group of angular harps, **subtype A2** (Fig 55), superficially resembles subtype A1. However, clear morphological differences are apparent. A first unique feature of the category is the shape of its sound box, which does not display the form of a boat, but rather a rectangular or pentagonal outline. The front of the sound box, contrary to that of A1 harps, is open, and the complete sound box was enclosed with a leather cover.<sup>334</sup> This cover was often decorated with designs ranging from a simple band (*RMO01*) to a lavish pattern (top of sound box harps *L05-6*). Necks of A2 angular harps consist of a clearly defined thicker and thinner section.<sup>335</sup> The first receives the pegs, which are mostly 21 in number, while the latter is fitted into the lower part of the neck. The dimensions of the sound boxes and necks of A2 harps are similar to those of A1 instruments (tables 3h and 3g). To the subtype A2 of angular harps belong three complete examples

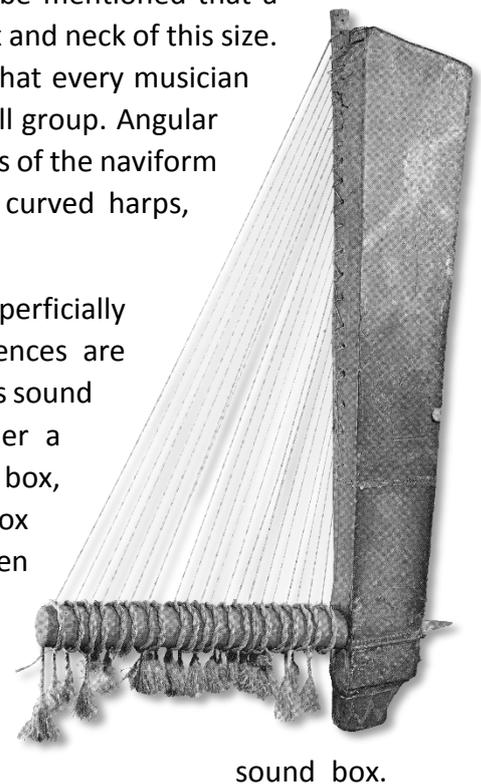


Fig 55: Angular harp of subtype A2, *L05*. Source: C. Ziegler, *Catalogue des instruments de musique égyptiens*, second frontal image.

<sup>334</sup> The leather cover is preserved on *L05* and *RMO01*, but traces of it can still be seen on *HFM01* (C. Sachs, *Zaes* 69, 68)

<sup>335</sup> This can be seen on all complete examples *HFM01*, *L05* and *MMA05*, which makes it likely that *L07* and *PM02* also belong to this category.

(harps *HFM01*, *L05* and *MMA05*), two necks (*L06* and *PM02*), two pieces of leather covers for the sound box (*L06* and *RMO01*) and possibly two suspension rims (*EM20* and *L08*)<sup>336, 337</sup>

Angular, A2	Range	Average
String number	20 – 24-	21.3-
Length neck (cm)	53.9 – 88	71.0
Length sound box (cm)	110 – 126.5	117.6
Width sound box (cm)	16 – 21.5	19.3
Width/length sound box ratio	0.13 – 0.20	0.16

Table 3i: Basic measurements of angular harps of the subtype A2.<sup>338</sup>

As none of the preserved instruments came from a known context, their chronological position can only be deduced from the iconographic evidence. Here, the A2 angular harp appears on representations from the Late to the Graeco-Roman period.<sup>339</sup> As none of the instruments of this category is clearly datable, examples could very well date back to the Third Intermediate Period or to the late New Kingdom.

In the era during which it is iconographically attested – the Late and Graeco-Roman Periods – the A2 angular harp seems to have been the only harp which was still used in the musical ensemble.<sup>340</sup> Extant instances of the A2 angular harp of this era reveal some notable morphological changes, while its musical properties remained similar to those of its A1 predecessor. The difference between both types seems to be primarily created by the diachronic distance between the categories. When the shift from subtype A1 to A2 occurred remains uncertain, as, similarly to the Second Intermediate Period, the Third Intermediate Period offers no datable contexts or representations of harps.<sup>341</sup> In the A2 subtype, some improvements were made. Firstly, the wooden board at the front of the sound box was substituted by a leather cover, which improved the sound quality of the instrument. A second improvement concerned the neck, which was now provided with ridges or square ends to fit perfectly into the sound box socket. Using this system, the neck would have less space to shift, and therefore, it would less strongly affect the tuning of the strings. Another possible

<sup>336</sup> Suspension rims of subtype A1 are imbedded in the front board of the sound box.

<sup>337</sup> See Plate 8g.

<sup>338</sup> This table combines information from harps *EM20*; *HFM01*; *L05-8*; *MMA05*; *PM02* and *RMO01*, the measurements of which can be found in Table 2.

<sup>339</sup> L. Manniche, *Ancient Egyptian musical instruments*, 64-66.

<sup>340</sup> L. Manniche, *Music and musicians*, 53. The contemporary crescent-shaped harp seems to have been employed singly as a solo-instrument (H. Hickmann, *Acta Musicologica* 26, 128)

<sup>341</sup> Interestingly, this is not the case in the First Intermediate Period, where we find two painted harps in the tomb of Akhtify (V. Vasiljevic, *SAK* 24, 313-326).

illustration of an innovation is presented by the neck of *harp L07*, which is hollowed out, consequently creating a small second sound box for the instrument. Subtype A2 angular harps also display less variation in size, and consistently carry 21 tuning pegs<sup>342</sup> for a likely equal number of strings. This could be an indication that the harp, and possibly musical practice as a whole became more standardized at this point. As the successor to subtype A1, A2 angular harps continued to use the advantages of the instrument. Examples show a stronger uniformity, although deviations still remained.

Ancient Egyptian angular harps form the second largest group of extant ancient Egyptian chordophones. Their two types stand in sharp contrast to the far greater typological variety of arched harps. This difference can easily be explained by the multi-functionality of angular harps, versus the musical specificity of their arched counterparts. Because of this, the angular harp would dispel the variability of stringed instruments during the New Kingdom, only leaving room for the crescent-shaped harp.

#### 4.3 Expanding the stringed gamut: the ancient Egyptian lyre

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With the increased popularity of stringed instruments at the beginning of the New Kingdom, two entirely new chordophone groups, the Egyptian lyre and lute, were introduced onto the Egyptian musical stage. The first of these, the lyre, can be recognized by its specific shape, which consists of a closed wooden framework between which the strings were suspended.<sup>343</sup> One side of the lyre contains the flat sound box, on top of which two arms support the transversal or suspension rod at the top. As the arms, transversal rod and sound box form a closed frame, the lyre allows for a greater tension of the strings than the half open Egyptian harp. The second distinction between the two instruments is the position and shape of the sound box – while semi-perpendicular to the strings on harps, it is almost parallel to the plane of cords on a lyre. Within the group of chordophones, the lyre has been the least-studied instrument category. This is not because the instrument holds fewer interpretative possibilities, but likely because it has no direct counterpart in Western music, unlike the harp and the lute. Nevertheless, the lyre was frequently depicted by ancient Egyptians,<sup>344</sup> illustrating its importance in their music.

A unique property of the ancient Egyptian lyre is its method of tuning. The strings were attached at a fixed point on the lower part of the sound box of the instrument, making it impossible to tune it there. At the other side, the wooden frame only shows a cylindrical rod, with no indications of tuning pegs, holes or any other attachment methods. Fortunately, a considerable number of well-preserved lyres (*Lyres ÄM06- 7, EM21-22, 24*) offer the solution to the problem, as their transversal rods still hold ‘cushions’ or ‘pads’ (See Fig 24, p. 32). These

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<sup>342</sup> An exception to this is presented by *PM02*, on which 18 or 20 tuning pegs were originally present.

<sup>343</sup> For the different components of the lyre, see Plate I.

<sup>344</sup> With at least 56 attestations: L. Manniche, *Ancient Egyptian musical instruments*, 71-76.

were made from cloth or rope, and still show the string marks winding around them.<sup>345</sup> By adjusting the strings to the pads and turning these individually, the tension of each string changes, and the instrument can effectively be tuned.<sup>346</sup>

#### 4.3.1 Asymmetrical lyres

Extant ancient Egyptian lyres can be divided into two main types: asymmetrical<sup>347</sup> and semi-symmetrical lyres. As the names suggest, the main difference between the two groups is defined by the degree of symmetry of the lyres. This is created by the uneven arms, and consequently tilted transversal rod. The length ratio between the longest and shortest arm of 'asymmetrical lyres' is consistently lower than 0.85, while all extant 'semi-symmetrical lyres' show a higher arm length ratio (tables 3j and 3k).

Apart from the larger difference in the length of arms, the asymmetrical lyre (Fig 56) can be identified by its thin, rectangular sound box. This sound box is open at the bottom – to ameliorate the sound – and carries a metal hook which originally held the lower ends of the strings. Even more recognizable is the distinct shape of the arms of asymmetrical lyres, which approximate our numbers '5' and '7'. These supported the tilted, but not curved, cylindrical transversal rod, which held the tuning pads and upper end of the cords. Asymmetrical lyres are, with a maximum height of 52 centimetres (table 3j), the smallest non-model extant chordophones from ancient Egypt. None of the known examples of this type carries any indications of decoration.<sup>348</sup> Six extant complete lyres (*Lyres EM21 – 22, L09 – 10, RMO02* and, the only fragmentarily preserved *lyre MMA06*)<sup>349</sup> of this type exist, while no fragments can be related to the instrument group.



Fig 56: Asymmetrical lyre L09. Source: C. Ziegler, *Catalogue des instruments de musique égyptiens*, IDM126.

Asymmetrical lyre	Range	Average
String number	5+ – 8+	6.3+
Total height (cm)	42.6 – 52	48.1
Height sound box (cm)	17 – 22	19.4
width sound box (cm)	22.3 – 29.7	26.4
length ratio arms	0.64 – 0.84	0.76

Table 3j: Basic measurements of asymmetrical lyres.<sup>350</sup>

<sup>345</sup> This was observed in this study on *lyre EM21*.

<sup>346</sup> C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 46; H. Hickmann, *ASAE* 48, 648-649.

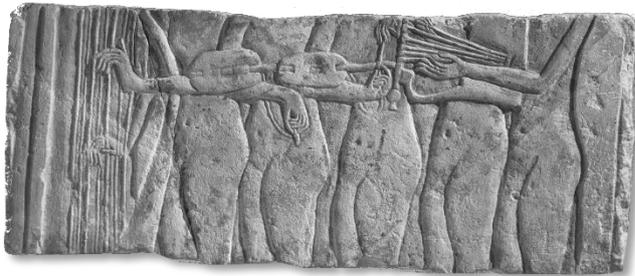
<sup>347</sup> It should be noted that in the typology of Lise Manniche (*Ancient Egyptian musical instruments*, 81-83), this term is not only used for the instrument group which is described here, but for extant lyres in general.

<sup>348</sup> *Lyre RMO02* carries some lines of text, but this is should most likely be interpreted as a purely functional addition (see 3.2.1, p. 36).

<sup>349</sup> The extant instruments of this type are shown in Plate 8h.

<sup>350</sup> The measurements were derived from *lyres EM22-23; L09-10; MMA06* and *RMO02*, the measurements of which can be found in Table 2.

Five of the six extant asymmetrical lyres are datable (all except *RMO02*). Their contexts indicate that the type was in use from the late seventeenth dynasty to at least the reign of Thutmose III.<sup>351</sup> Iconographic evidence further indicates that the type was used at least until the Amarna period,<sup>352</sup> consequently spanning a similar chronological range to the naviform harps of subtype N1.



*Fig 57: A limestone block from the Amarna-period with four chordophone players who carry a 'large boat-shaped harp', two O1 oval lutes and an asymmetrical lyre. Source: MMA, The Collection online, 1985.328.12. Accessed 3.08.2015.*

The earliest attestation of a lyre in Egypt occurs in the twelfth dynasty tomb of Khnumhotep in Beni Hasan.<sup>353</sup> Because the instrument is carried by a member of a group of Asian travellers, led by a *'ḥꜥꜣ ḥꜣs.wt,'* it could be argued that the emergence of Egyptian lyres was at some level linked to their ancient Near Eastern counterparts, and likely introduced during the Hyksos-period. We can indeed discern the first Egyptian lyres at the end of this era, in the late seventeenth dynasty. The lyres of this period, show, however, significant differences from the Middle Kingdom example from Beni Hasan or their near eastern predecessors. This makes it dangerous to designate the emergence of the lyre in Egypt as a purely foreign introduction. Asymmetrical lyres are morphologically very much alike. As the instruments, with overall heights of 42.6 to 52 cm,<sup>354</sup> were rather small, the sound volume which could be produced with these thin sound boxes would have been limited, compared with the much larger volume of the sound boxes from harps and lutes. On the other hand, this small size rendered this type of lyre portable, in which case the '5'-curve of one of the arms could be explained as a handle. Representations indeed show that the harp is being played while standing (Figs 30 p 38; 54 p 65 and 57 p 69), illustrating the main use of the arm.

If we now turn our attention to the original stringing, some additional observations can be made. Although the cords started from the same point – the metal hook in the sound box, the tilted suspension rod ensured that they were different in length. The resulting ascending scale could have been tuned similarly to the strings of the harps, but resulted in a higher pitch, as the overall length of the strings remained short. Interestingly, the difference in string length is limited if we assume that the lyres carried more than a few cords. Although we cannot determine the original number of strings, the two asymmetrical lyres with preserved tuning pads (*EM22* and *LO9-10*) show that in their case at least five, six and eight strings were used. If we accept such a high number of strings, these would have been similar in length and would

<sup>351</sup> See p. 16, 19-21.

<sup>352</sup> An example is provided by a relief (1985.328.12) from the reign of Akhenaten in the Metropolitan Museum of Arts, which depicts female musicians (Fig. 57): MMA, *Collection Online*, 1985.328.12, <<http://www.metmuseum.org/collection/the-collection-online/search/548507>> accessed 3.08.2015.

<sup>353</sup> P. E. Newberry, *Beni Hasan I*, 69 and Plate 31.

<sup>354</sup> See Table 3j.

therefore have produced notes that would be very close in pitch. Based on this observation, Hickmann proposed a playing technique whereby all strings would be struck in a glissando<sup>355</sup>, while blocking single notes off with the other hand for slight variations.<sup>356</sup> The lyre transforms in this way almost into a percussion instrument and loses its melodic value. While this interpretation is theoretically possible, other solutions should also be considered. For instance, the lyres could also illustrate the large number of proximate tones that were employed in ancient Egyptian music. Another playing technique that has been proposed<sup>357</sup> is that the strings were struck with a plectrum<sup>358</sup> instead of with the bare finger. Plectrums certainly existed in New Kingdom, but they can hardly have been the main playing technique for lyres, because they are only rarely represented and have never been found in proximity to lyres.<sup>359</sup> The total lack of decoration on asymmetrical lyres – even the shape of the arms was probably practical rather than decorative (see above) – and the similar build indicates that the functionality of the instruments held priority in their construction.<sup>360</sup> This supposed practicality of the asymmetrical lyre makes its apparent disappearance after the eighteenth dynasty especially remarkable. It may be suspected that their musical purpose was taken over by another instrument, most likely the semi-symmetrical lyre.

#### 4.3.2 Semi-symmetrical lyres

The second extant type of ancient Egyptian lyres, the semi-symmetrical lyre (Fig 58), is significantly distinct from its asymmetrical congener. In this type, the sound box is slightly trapezoidal and closed at the bottom. At the front of the instrument, instead of a hook, a 'suspension box' is added to which the lower side of the strings was attached. In this type, the arms are straight and topped with papyrus plants (*ÄM08* and *EM21*) or horse heads (*ÄM05-6* and *BM07*). These end in the, almost horizontal, but in some cases slightly curved (*ÄM05*; *EM21* and *EM24*), transversal rod, to which the strings are fixed with pads.<sup>361</sup> One of the most outstanding features of the semi-symmetrical lyre is its abundant decoration. Except for the already mentioned decoration on the arms, the extremities of the transversal rod are also decorated (*ÄM05-7*; *EM21*, *24-25* and *L11*). Examples of the type are, with heights from 62 to 73 centimetres (table 3k), considerably larger than asymmetrical lyres. Only four complete examples of these semi-symmetrical lyres have survived (*lyres ÄM05 – 6*, *EM21* and the model *lyre ÄM08*), but by including a similar arm (*BM07*) and fragments of transversal rods of

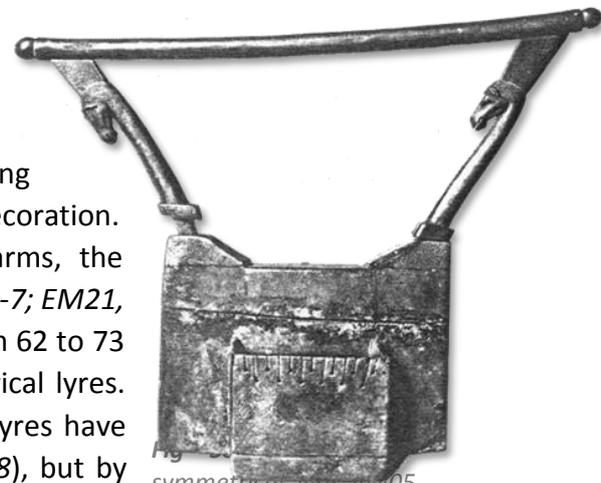


Fig. 58. Semi-symmetrical lyre *ÄM05*.  
Source: C. Sachs, *Taf. 8*.

<sup>355</sup> Gliding with the finger over a range of strings, creating a downward or upward scale.

<sup>356</sup> H. Hickmann, *ASAE* 54, 218.

<sup>357</sup> C. Sachs, *Die Musikinstrumente des alten Ägyptens*, 47.

<sup>358</sup> A thin implement, mostly made of wood or bone, which is used to touch individual strings.

<sup>359</sup> This stands in sharp contrast to the lutes, which were in most cases discovered in relation to a plectrum.

<sup>360</sup> The only possible exception is the inscription on lyre *RMO02*, which could, however, also be explained as a practical addition (see 3.2.1, p. 36).

<sup>361</sup> These are preserved on *ÄM06-7*; *EM21* and *EM24*.

the instrument group (*ÄM07*, *EM24 – 25* and *L11*), the extant quantity is comparable to that of the previous type.<sup>362</sup>

Semi-symmetrical lyre	Range	Average
String number	4+ – 13+	9.2+
Total height (cm)	62 – 73	65.8
Height sound box (cm)	24.5 – 43	31.8
width sound box (cm)	35	
length ratio arms	0.90	

Table 3k: Basic measurements of semi-symmetrical lyres.<sup>363</sup>

None of the extant instruments or fragments can be dated with any certainty,<sup>364</sup> therefore its chronological placement is entirely dependent on the iconographic record. Here, the semi-symmetrical lyre is attested for an extended length of time: from the New Kingdom to the Ptolemaic Period. The chronological connection between asymmetrical and semi-symmetrical lyres remains unclear, although a detailed iconographic study could clarify the mystery.

Semi-symmetrical lyres are consistently larger than the asymmetrical type in height, width and in depth.<sup>365</sup> Consequently, they could produce a greater sound volume, at the price of their reduced mobility. That they were accordingly played seated or on a stand is shown by lyres *ÄM06* and *ÄM05* which respectively carry legs or the remnants thereof. Lyres of this category substituted the copper hook of the asymmetrical group with a small open wooden

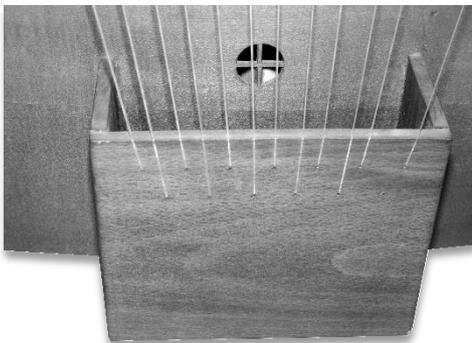


Fig 59: Reconstruction of the suspension box of lyre *ÄM05* (K.-P. Brenner, *Bestandskatalog, Inv.-Nr. 700*). Photograph and courtesy of the *Musikinstrumentensammlung in Göttingen*.

box at the front of the sound box. As the only completely preserved example on *ÄM05* shows, the strings were fixed to holes at the top of the frontal board of this suspension box (Fig 59). These holes are placed alternately higher and lower, creating two lines. Pads on the transversal rod, which is now almost horizontal, held the other side of the strings. The minimum string number ranges from eight to thirteen, judging from those lyres which had some of their pads preserved. The (semi-)horizontal transversal rod causes the middle strings to reach the highest notes – as they are almost vertical and therefore the shortest – while the outer strings were longer and therefore produced

slightly lower notes. The position of the sound holes, on the other hand, made consecutive strings alternately lower or higher. In such a system, two sequential strings could produce a small interval,<sup>366</sup> which would be followed with the same interval on a slightly higher note until the shortest string was reached, after which the sequence would be reversed. Other possibilities can, however, also be considered. Firstly, the string traces on the lower side of

<sup>362</sup> See also Plate 8i.

<sup>363</sup> The measurements were derived from lyres *ÄM05-7*; *BM07*; *EM21* and *24* (table 2).

<sup>364</sup> With the exception of model lyre *ÄM08*, on which it is dangerous to base a chronology.

<sup>365</sup> For the measurements of the instruments, see tables 3j p. 69 and 3k p. 72.

<sup>366</sup> An interval describes the difference in frequency between the pitch of two tones.

lyre *ÄM05* are almost horizontal, while the marks on the other side of the suspension box are more diagonal. Secondly, the consecutive sound holes are only a short distance apart, and the resulting small difference in string length could easily be resolved with a different string tension or thickness. If these were similarly employed to overcome the semi-horizontal transversal rod, a descending scale, comparable with the one produced on asymmetrical lyres, could be achieved. However, while the alternating sound holes could be explained as they would facilitate fixing the strings, the position of the transversal rod would be odd in such a scenario. The asymmetrical lyres clearly showed that the Egyptians understood the advantages of a tilted transversal rod when trying to achieve a descending scale. It would be counterintuitive to leave this useful design if a similar outcome was pursued. Another factor which sets the semi-symmetrical lyres apart from their asymmetrical equivalent is their decoration. Where the latter type bore no ornaments, the preserved arms and extremities of transversal rods of the former carry elegantly carved geometrical motifs, papyrus plants or horse, duck or gazelle heads. This shows that the aesthetics of the lyres also mattered. The iconographic representations and preserved pads and string marks on extant lyres, however, indicate that an exclusively aesthetic role should not be argued. What the exact musical abilities the instrument were remains, unfortunately, ambiguous.

With its different suspension method from that of the harp and the small – though increasing in size – sound box, the lyre brought a new musical timbre to the stringed gamut of Egyptian musical instruments. It probably embellished the main melodic instrument(s) with a range of relatively high-pitched glissandos, chords or single notes, further enriching the New Kingdom to Graeco-Roman Period music. With this unique property, it would be one of the instruments to survive until the end of the pharaonic era.

#### 4.4 Finalizing the range of pharaonic plucked instruments: the ancient Egyptian lute



The third and final stringed instrument that was introduced into Egyptian music was the lute. Like the arched harp, this instrument consists of a sound box and a neck, which continues upward from the body. The main difference between the two instruments lies in the shape of this neck, which is arched for harps, but straight for lutes, bringing the strings close to the sound box and neck.<sup>367</sup> This gives the instrument its main advantage, as the string can easily be shortened to achieve a wide range of musical pitches on just one string. In contrast to the harp and lyre, this could be done without a significant difference in musical timbre. To correctly locate the

<sup>367</sup> Among notable publications concerning the ancient Egyptian lute are: H. Hickmann, *ASAE* 52, 161-183 and R. Eichmann, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IVb, 363-371. See also Plate I for the different components of the ancient Egyptian lute.

position of the dampening hand,<sup>368</sup> more recent lutes and guitars carry stripes or frets on the neck. While similar lines have been identified in the iconographic record,<sup>369</sup> no indications have been found on surviving instruments.<sup>370</sup> It could therefore be hypothesized that not all instruments carried frets, requiring a skilled musician to play the instrument. Considering the lute's frequent inclusion in musical scenes throughout the New Kingdom,<sup>371</sup> it is surprising to see the instrument so poorly represented in the archaeological record, with only five remaining complete examples.

Fortunately one of these preserved that it gives us but also into its use of the lute (Fig 60). Coptic lutes with pharaonic period – pegs. Instead, the strings a knot of rope. The different strands of the



instruments, *Lute EM27*, is so well not only an insight into its tuning system, strings, as fragments thereof still remain on. Contrary to most later lutes – including the concave sides which emerged after the ancient Egyptian lutes did not carry tuning pegs. Instead, the strings were entangled near the end of the neck in individual strings were first suspended by rope, which were wound around the cylindrical neck. The extremities of the string and rope were then bound together in a knot or tassel of cloth.<sup>372</sup> By pulling the

**Fig 60:** The suspension system with ropes and three remaining string pieces of lute EM27. Photograph and courtesy of the Egyptian Museum in Cairo.

knot or slightly loosening the rope, the string was then brought to the right tension. Every string had its own coil of rope and tuning tassel, making individual tuning possible. This tuning method of lutes required a considerable amount of empty space on the neck, which explains why it was never employed with the greater number of strings on harps or lyres.

<sup>368</sup> By placing the finger of one hand on the string of a lute, it is shortened, which lowers the pitch which can be produced by plucking the string with the other hand. By moving the first hand shorter and further away from the first, the desired pitch can be reached.

<sup>369</sup> H. Hickmann, *ASAE* 52, 161-165.

<sup>370</sup> Eichmann argues for remaining fret traces on the neck of *lute EM26* (R. Eichmann, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur musikarchäologie* IVa, 555-558). This could, however, not be verified in the current study.

<sup>371</sup> L. Manniche, *Ancient Egyptian musical instruments*, 71-76.

<sup>372</sup> H. Hickmann, *ASAE* 48, 649-656.

#### 4.4.1 Expanding the soundscape: Oval lutes

The first type of ancient Egyptian lutes contained an oval sound box. Based on the relative length of this sound box, the type can be subdivided into subtype O1, where the sound box is almost circular, and subtype O2, where the length of the sound box is more than double the size of its width. Although few examples of both subtypes remain, they display a range of morphological differences, which makes a separate description advisable.

**Oval lutes of subtype O1** (Fig 61) have a sound box which is constructed from a tortoiseshell, to which a cover is added.<sup>373</sup> This cover also encloses the straight wooden neck of the instrument to which the strings would have been fastened. At the lower part of the neck, a small triangular tailpiece (which is only remaining on *EM26*) held one end of the strings. The upper attachment has in all cases disappeared. The last clear property of the O2 oval lute is its small size, which ranges from 62 centimetres on the only completely preserved example (table 3l) to thirty centimetres on the el-Birabi model lute.<sup>374</sup> The subtype is only preserved in one complete example (*Lute EM26*),<sup>375</sup> and in a sound box (*BM08*). Two small pierced discs in the Cairo Museum (*EM29*), which are described as plectra, can most likely be dismissed as such, since they do not bear any resemblance to any known examples of this object.<sup>376</sup>

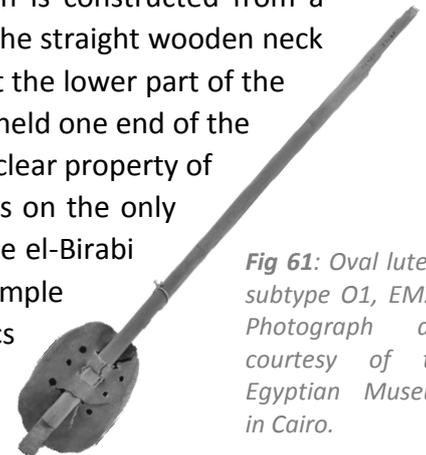


Fig 61: Oval lute of subtype O1, EM26. Photograph and courtesy of the Egyptian Museum in Cairo.

Oval, O1	Range
Total length (cm)	62
Length sound box (cm)	10
width sound box (cm)	8.4 – 10
Width/length sound box ratio	0.80

Table 3l: Basic measurements of *EM26* and *BM08*, oval lutes of subtype O1.

*EM26* can be dated to the reign of Thutmose III.<sup>377</sup> However, the model lute from el-Birabi proves that the instrument was already known at the latest from the beginning of the New Kingdom.<sup>378</sup> Iconographic evidence further suggests that the oval lute remained popular until at least the end of the New Kingdom, when it disappears from our sources.<sup>379</sup>

<sup>373</sup> This can be seen in the two extant sound boxes (*EM26* and *BM08*), but also in the, now lost, model lute from tomb C37 in el-Birabi (see p. 14 and note 75).

<sup>374</sup> A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, 527.

<sup>375</sup> Another complete instrument of this type, which was discovered by Lord Carnarvon and Carter in the Asasif (G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 76, Object 6 and 15; See also note 75, p. 14) is currently lost, but was reconstructed from the excavation documentation (A. von Lieven, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur Musikarchäologie* IIIb, Abb. 1, p. 534).

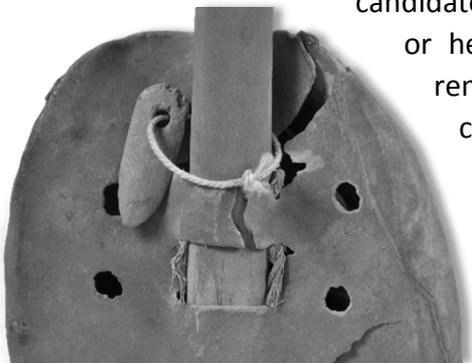
<sup>376</sup> H. Hickmann, *Instruments de musique*, 162. See also Fig 62.

<sup>377</sup> See p. 20.

<sup>378</sup> See p. 14.

<sup>379</sup> L. Manniche, *Ancient Egyptian musical instrument*, 76.

As with angular harps and lyres, the origin of the Egyptian lute is traced back to ancient Mesopotamia, where the instrument existed already from at least the third millennium.<sup>380</sup> Because only few lutes remain, a study of them is perforce limited, and should be viewed with caution, as the extant instruments could very well have exceptional attributes. Such analyses should therefore be treated as interpretations of an example within the larger ensemble, rather than as an archetype for the whole group. The first outstanding property of the remaining examples of oval lutes of subtype O1, *EM26* and *BM08*, is their small size, as compared with the other surviving instruments. The 62 cm of *EM26*, and – considering its smaller sound box – and the probably even smaller length of *BM08*, would only have allowed for a higher frequencies. The tortoiseshell sound box was covered with skin, as is still visible on both remaining examples. In this cover, sound holes were made to improve the sound of the small sound box. While no traces of the original strings remain, it can be assumed that the tuning system at the top of the neck was similar to that of the contemporary ‘O2 lute’ *EM27*. On the lower side of the lute, a triangular tailpiece ensured that the strings rose above the neck of the instrument. As no traces of the strings are present on the tailpiece of *EM26*, it can only be estimated how many strings the instrument originally carried, but it could not have been a large number, considering the narrow width of the lute’s neck. Fascinatingly, the original plectrum of the instrument was still attached to it when found (Fig 62), illustrating that the strings were played with this implement. The small size, coupled with the relatively coarse workmanship, small number of strings and inexpensive materials suggests that oval lutes of subtype O1 were not expensive. On one hand, the instrument would form the ideal candidate for the less-wealthy musician who still wanted to show off his or her musical skills. On the other, it could be argued that the remaining examples of this type were purely made for the funerary cult, and consequently not good reference material. Although this could very well be the case, the lutes would have been perfectly operable, and the inclusion of the plectrum indicates that, if the latter hypothesis is true, at least considerable effort was made to make the instrument as realistic as possible.

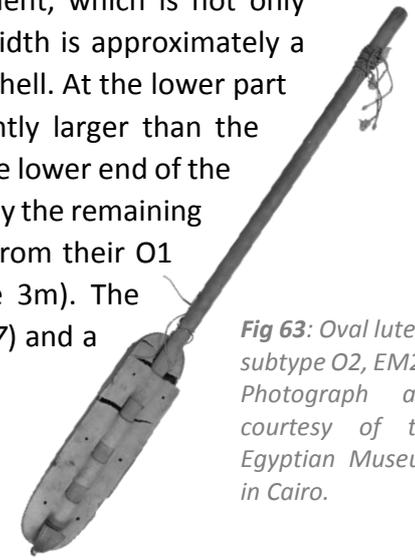


*Fig 62: The upper sound box of EM26 with its plectrum. Photograph and courtesy of the Egyptian Museum in Cairo.*

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<sup>380</sup> R. Eichmann, in E. Hickmann and R. Eichmann (eds), *Studien zur Musikarchäologie* I, 36; R. Dumbrill, *The archeomusicology of the Ancient Near East*, 321. See also: A. von Lieven, in A. A. Both, R. Eichmann, E. Hickmann and L.-C. Koch (eds), *Studien zur Musikarchäologie* VI, 155-162.

The second category of oval lutes, **subtype O2** (Fig 63), is distinct from the O1 variant. The difference primarily stems from the sound box of the instrument, which is not only elongated – in the preserved examples (*EM27* and *MMA07*) their width is approximately a quarter of their length – but also made of wood instead of a tortoiseshell. At the lower part of the covered sound box, a hooked tailpiece – which is significantly larger than the tailpiece of O1 lutes – with three grooves is implemented to anchor the lower end of the strings. The upper end is suspended by a rope system, as is evidenced by the remaining string fragments on *lute EM27*. Lastly, O2 lutes clearly stand apart from their O1 oval counterparts by their great – almost doubled – length (table 3m). The subtype is known from one instrument (*EM27*), a sound box (*MMA07*) and a tailpiece (*EM28*).<sup>381</sup>



**Fig 63:** Oval lute of subtype O2, EM27. Photograph and courtesy of the Egyptian Museum in Cairo.

Oval, O2	Range
String number	3
Total length (cm)	119.5
Length sound box (cm)	34.5+ – 44
width sound box (cm)	8.2 – 11.5
Width/length sound box ratio	0.24 – 0.26

**Table 3m:** Basic measurements of EM27-28 and MMA07, oval lutes of subtype O2.

*Lutes MMA07* and *EM27* can be assigned to respectively the late seventeenth to early eighteenth dynasty and the reign of Thutmose III.<sup>382</sup> Although the specific context of *EM28* is unclear, its alleged discovery in the eastern necropolis of Deir el-Medina<sup>383</sup> could assign it a similar date. While this connects the instrument to the eighteenth dynasty, its existence can iconographically be traced to the late New Kingdom.<sup>384</sup> Therefore, it covers the same chronological range as the first subtype of oval lutes, which is also illustrated by the occurrence of both subtypes in the same depicted musical ensembles.

The remaining oval lutes of subtype O2 are markedly longer than those of their rounded correlates. The only complete example totals 119.5 cm, and the two fragments approach their respective counterparts on the complete lute. This would have given the instrument a lowest note which was similar to the lowest notes on A1 angular, and medium-sized A1 naviform harps. By using the second hand as a shortening implement, more than the full scale of notes that were present on angular harps could be played on a more easily manageable instrument. While the lute's sound box was certainly smaller than those of harps, sound boxes of O2 lutes approached the volume of those of smaller naviform harps, thereby significantly increasing the volume of the O1 oval sound boxes. Furthermore, although *EM27* of subtype O2 is better built than *EM26* of subtype O1, the required amount of wood and strings was substantially

<sup>381</sup> Instruments of these categories appear on Plate 8j.  
<sup>382</sup> See and p. 16-17 and 22.  
<sup>383</sup> See p. 21.  
<sup>384</sup> L. Manniche, *Ancient Egyptian musical instrument*, 76.

less than the material which would be needed to build a complete angular, ladle-shaped or ‘large naviform’ harp. The two O2 tailpieces carry three grooves where the strings originally sat. While these assured that the strings started at the same point, it seems that these three strings were fastened at different lengths near the end of the neck. Accordingly, they would have been tuned differently, further increasing the possibilities of the lute, and paving the way for the playing of chords. Hickmann suggested that two strings would have been tuned in unison<sup>385</sup>, while a third formed a bass note,<sup>386</sup> but this cannot be confirmed with the available material. The preserved plectrum of EM27 further shows that, similarly to oval lutes of subtype O1, the plectrum was also used here, which is no cause for surprise, considering the proximity of the strings. Playing with a plectrum renders the produced sound sharper, and notably different from the timbre which is produced with the naked finger. This explains why the lute never replaced the more cumbersome angular harp, although it might have assisted in the disappearance of the many harp types after the New Kingdom.

#### 4.4.2 Continuation: Pear-shaped lutes

Another ancient Egyptian type of lute, the ‘pear-shaped lute’ (Fig 64) can be recognized for the pharaonic period.<sup>387</sup> As its name suggests, the sound box of examples of this type is drop- or pear-shaped, giving the category its main distinctive feature. These pear-shaped sound boxes are hollow and include two bars, which must have supported the – in no case preserved – cover. That part of the neck was also covered in some cases is evidenced by L13, where such a cover partially remains. With lengths of 77.6 and 102 centimetres, the pear-shaped lute stands between the shorter O1 and the longer O2 lute. This type of lute is only marginally better represented than those with an oval sound box, with two complete lutes (*Lutes* ÄM09 – 10),<sup>388</sup> a sound box (L12), a neck (L13) and a plectrum (ÄM11) in existence.<sup>389</sup>

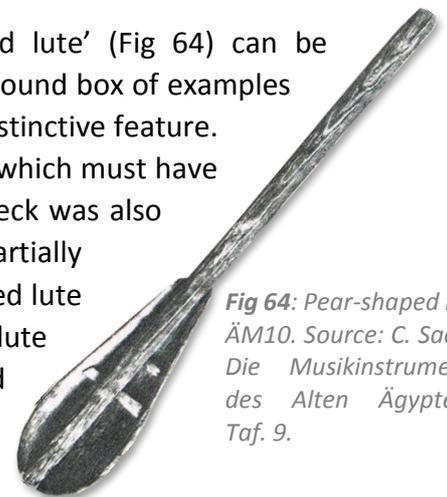


Fig 64: Pear-shaped lute ÄM10. Source: C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, Taf. 9.

Pear-shaped lute	Range	Average
Total length (cm)	77.6 – 102	87.1
Length sound box (cm)	35 – 48.5	43.4
width sound box (cm)	12.6 – 19.5	16.6
Width/length sound box ratio	0.36 – 0.42	0.38

Table 3n: Basic measurements of pear-shaped lutes.<sup>390</sup>

<sup>385</sup> With the same pitch or frequency.

<sup>386</sup> H. Hickmann, *ASAE* 48, 655-656.

<sup>387</sup> A third type, with convex sides to the sound box, dates to the Coptic period, and is therefore beyond the extent of this study. For this type, see: Eichmann, *Koptische Lauten*.

<sup>388</sup> R. Eichmann, *Jahrbuch der Berliner Museen*, 7-36.

<sup>389</sup> For these instruments, see Plate 8k.

<sup>390</sup> The presented numbers were measured on *lutes* ÄM09-10 and L12-13 (Table 2).

The two complete pear-shaped lutes are dated to the end of the Third Intermediate Period,<sup>391</sup> but the type was probably also used into the Graeco-Roman Period.<sup>392</sup>

Little information can be gained from extant pear-shaped lutes, as no traces of their original cover, tailpiece or strings remain.<sup>393</sup> In general, the lute seems to have been a reworked, medium-sized version of both oval lute subtypes. With its new shape, greater depth and length relative to its neck, the sound box has now increased in volume. The neck is somewhat smaller than the one of *EM27*, but it can still reach up to one metre (*ÄM09*).<sup>394</sup> Otherwise, there is no reason to assume that the playing technique differed much from the one in the New Kingdom. Accompanying the two complete lutes, an apparent plectrum – with a groove for the original attachment to the lute – was found. Although the interpretation of *ÄM11* as a plectrum is not entirely certain – it is much more elongated than its predecessors – the width of the neck does not allow for much more space between the strings, making the use of a plectrum appropriate.

The lute introduced a new and distinct sound to the stringed music of the New Kingdom. Due to its flexible nature, this sound could be employed in different ways, giving the lute the opportunity to either accompany a melody with base notes and likely chords, or to generate the melody itself. Although the instrument required some level of skill from the musician, its convenient and uncomplicated construction ensured its popularity for the remainder of ancient Egyptian history.

The exceptionally large number of preserved ancient Egyptian chordophones can offer a treasure of information for any musicologist, Egyptologist or archaeologist with an interest in the subject of pharaonic music. The previously offered survey of extant stringed instruments serves as an example of the observations and interpretations which can be made by simply analysing the morphological properties of the instruments. The offered typological framework should, however, be approached with the utmost caution, as it is doubtlessly incomplete. A more detailed study of the extant chordophones, and indeed the other ancient Egyptian instruments, would vastly improve our knowledge. If it would be coupled with a comprehensive examination of the iconographic sources, it could provide us with a more trustworthy overview. Within this framework, specific instruments have interesting properties that must be taken into consideration, if any reliable conclusions are to follow. With this in mind, it is possible to determine the limitations and potentialities of different instrument groups to some extent. Consequently, a general outline of the position of chordophones within the ancient Egyptian musical ensemble can be proposed, as follows: In the Old and Middle Kingdom, the shovel-shaped harp entirely occupied the field of stringed instruments. With a limited number of strings, it accompanied the main melodic line of the voice or wind instrument. The multi-stringed example would be more flexible, but such an instrument is yet

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<sup>391</sup> See p. 28-29.

<sup>392</sup> As iconographic evidence suggests: L. Manniche, *Ancient Egyptian musical instruments*, 77.

<sup>393</sup> With the exception of a piece of leather on *L13*, which reveals, unfortunately, very little.

<sup>394</sup> See table 3n.

to be discovered. At the end of the Second Intermediate Period, the veil is lifted to reveal a true explosion of stringed variation. The music of the shovel-shaped harp was substituted by the melodies of the ladle-shaped harp and the bass-line of the naviform harp, possibly assisted by its, archaeologically invisible, large counterpart. At the same time, two completely new instruments, the lyre and the lute, bring respectively a high-pitched and different, sharper, colour to the Egyptian orchestra. In the latter part of the eighteenth dynasty, the already large stringed ensemble would be extended further with the multi-stringed, and consequently multifunctional, angular and curved harps. These would render the naviform harp, after a short multi-stringed experiment, obsolete. By the Late Period, the angular harp had overtaken its congeners, singly leading the melodies and accompaniments on the musical stage until the Graeco-Roman period, only assisted by new variants of the lute and lyre. The arched harp would, however, live on as a solo instrument in the curious crescent-shaped harp.

## 5. Music for the afterlife: The changing role of ancient Egyptian chordophones in the funerary practice

Considerable changes occurred in the ancient Egyptian group of stringed musical instruments during the long period of their existence. Their inclusion in the tomb can be traced for at least a millennium – from the Middle Kingdom to the Late Period – of ancient Egypt's history. During this time, not only the instrument evolved, but the burial assemblage in which it was included also transformed. In the following overview, a partial reconstruction of the chronological changes which occurred within the object group is presented. In this survey, the chordophones are reviewed in their contexts, while their typological properties and notable specific features are taken into consideration. Accordingly, a partial reconstruction of their evolving meaning can be attempted. It should be mentioned that this study by no means aims to give an encompassing interpretation of the evolving funerary culture of the discussed time frame. Instead, only an assessment of the chordophones within it is attempted. This overview remains largely hypothetical, and is very much open for discussion and adjustment.

Although the ancient Egyptian shovel-shaped harp is known from tomb depictions since the fourth dynasty, the instrument itself can only be perceived with some certainty during the **Middle Kingdom and early Second Intermediate Period**. At least two examples – *EMO1* and *MMAO1* – indicate that the shovel-shaped harp sporadically belonged to the tomb inventory of the twelfth and thirteenth dynasties. Presumably most other examples of this harp type (*BMO1-2*, *ÄMO1-2*, *MISO1* and *MMO1* and possibly *PMO1*) should also be assigned to this period, although some examples could be even earlier in date.<sup>395</sup> In the Middle Kingdom, harps also appear for the first time on object friezes of rectangular coffins.<sup>396</sup> It is tempting to see the appearance of stringed instruments in the tombs as a related practice to their inclusion in the object frieze. As such, the instrument on its own seems to receive the significance that the musician with its instrument possessed on tomb reliefs at an earlier date. While it seems clear from these examples that the shovel-shaped harp occasionally appeared in the burial equipment of the Middle Kingdom, no such burial assemblage has been identified thus far. Nevertheless, the instruments themselves can offer us some clues regarding their use. Many of the shovel-shaped harps show multiple string marks, repairs or adjustments, which illustrates that they were employed in musical practice. At the endpoint of its worldly use, the instrument was interred in the tomb. Although no context allows an identification of the tomb owner, it would not be unlikely that it ended up amongst the burial goods of the musician who used it during his or her life. The precise significance of the instruments in this second phase of their biography is hard to ascertain. However, Middle Kingdom tomb models can offer us some insights in their meaning. A telling example from the tomb of Karenen (*CG 39 130*, Fig 65) shows the tomb owner with his wife as they listen to a trio of girl-singers with the accompaniment of two harpists.<sup>397</sup> If we can project this on the instruments themselves, it

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<sup>395</sup> See p. 52.

<sup>396</sup> M. G. Jéquier, *Les Frises d'objets des sarcophages du Moyen Empire*, 259-260. I want to thank Frans Sanders for this insight.

<sup>397</sup> J. E. Quibell, *Excavations at Saqqara*, 6 and Plate XVI .

seems that their main function was to ensure the musical enjoyment of their tomb owner. As such, the harp would retain its former function in the tomb, and would be a welcome addition to the tomb inventory of every music-loving person.



*Fig 65: A model from the Middle Kingdom tomb of Karenen which includes two musicians who play the shovel-shaped harp. Source: Quibell, Excavations at Saqqara (1906-1907), Plate XVI.*

The **later thirteenth and early seventeenth dynasties** offer us no clear information regarding the musical instruments from this period. Nonetheless, some of the most radical changes to the chordophone types and their use now took shape. This is shown by the subsequent period, when the shovel-shaped harp was replaced by the naviform harp, lyre and lute. A type which could be unique to this period is the naviform harp of subtype N3. If the two instruments with a known provenance of this group (*WM01* and *EM10*) do belong to the earlier occupation phases of their tombs, they would be the predecessor of the later N1-subtype. As they fit equally well, and perhaps in the case of *EM10* even better, with a later date, only a detailed study of the excavation material of *AMNH01* could clarify the matter.

After this period, which is largely archaeologically invisible, a veritable boom in deposited musical instruments can be detected in the **late seventeenth and early eighteenth dynasties**. No less than seventeen stringed musical instruments of this time (*EM03*, 5-7, 11, 22-23, 26-28; *L03*, 9-10; *MMA02-3*, 6-7 and *O101*) can be placed in at least an approximate context. Remarkably, these all stem from necropolises in the city of Thebes and are morphologically alike. The stringed instrument spectrum now widened to include N1 naviform harps, asymmetrical lyres and oval (O1 and O2) lutes. These are represented with considerable numbers in tomb inventories of the period. It can be expected that many of the instruments from these types with unknown provenance (*BM03-4*, 8; *EM04*, 8-9; *L01-2*; *MMA04*; *RMAH01* and *RMO02*) also derived from Thebes. Archaeologically less visible are the ladle-shaped (possibly *EM02*, *FM01* and *L04*), arched (possibly *BM06* and *ÄM04*) and 'large boat-shaped' harp types. The iconographic record, however, proves that these instrument types were also introduced to the musical stage at this point in time.

Well-documented contexts enable us to look at the associated burial goods of this group. All chordophones which are associated with eighteenth dynasty burials contain largely similar funerary goods. These consist mostly of coffins, sometimes supplemented with a canopic box, funerary furniture, clothing, and pottery and basketry containers. In these receptacles, food

offerings, cosmetic products, jewelry, clothing, staves, sewing or writing equipment, scarabs and seals were deposited.<sup>398</sup> Most of these burial goods can be placed in the category of 'daily life objects', as they consist of objects types that would be used during the tomb owners' lives. We can interpret the majority of the chordophones among the funerary equipment similarly. Their morphology is suited for a musical instrument, and string traces, tuning pads and in one case even preserved strings, show that they were in all likelihood fully functional. This functionality is illustrated further by lyre *RMO02*, which probably carries the lyrics to a song which was sung with it.

The recorded contexts and instruments even give us indications as to why they specifically were included in the funerary inventories in which they occurred. If a chordophone of this group could be associated with a titled person, he carried a music-related title – *ḥs.w* for Harmose (*EM27*), possibly *ḏ(ḏ)ḏ(ḏ.wy)* for Rensenebu (*EM03*) and *ḥs.y Ḳmn* for Amenmes (*L01*). Further examples show the close association of the instrument with the body of the deceased (*MMA02/EM05* and *EM22*), which could imply a close connection between the instrument and its owner. If this is taken into consideration, it seems that stringed musical instruments in the Theban tombs of the late Second Intermediate Period and early New Kingdom are mostly associated with former musicians. If we combine this with the observation that most of the instruments were fully functional, it is not unreasonable to assume that they could have been the very instruments on which the musicians played during their lifetime.<sup>399</sup> By taking the harp, lyre or lute with him or her in the tomb, the musician would be able to continue playing on it in the afterlife. A more nuanced, but not exclusive, interpretation of the instruments can be derived from the inscription of *harp L01*. The text seems to associate offering rituals with a song, and possibly an accompaniment on the harp. As such, the instrument magically assists the eternal sustenance of the deceased, and thereby carries more than a purely leisure function. If the inscription should indeed be read like this, it is hard to determine how widespread this practice would have been. No similar inscriptions on extant musical instruments exist to assist us in this quest. If the relationship of music and the offering ritual was somehow linked to the funerary culture of the capital city during this period, this would explain the instrument occurrences in this group. Consequently, it could explain the explosion in the number of musical instruments which were deposited in Theban tombs of this period.

Superficially quite distinct, but probably similar in function are the model instruments, which also only emerge clearly in the late seventeenth and early eighteenth dynasties (*EM09, 11*). While they had no function prior to their inclusion in the burial assemblage, they could have symbolized the actual instruments in such contexts. The model wooden bull's head and more tellingly the wooden bird which were found with *EM11* illustrate this belief. Next to the bird, a bird's trap was found,<sup>400</sup> illustrating the ancient Egyptian faith that models would be

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<sup>398</sup> See Table 1.

<sup>399</sup> As such, musical instruments would fit very well in Smith's (*MDAIK* 48, 208-209) category of 'professional equipment' as he proposed.

<sup>400</sup> G. H. Carnarvon and H. Carter, *Five years' explorations at Thebes*, 77-78.

transformed to their real-life counterparts in the afterlife. Consequently, the model harps and lute would have displayed properties similar to the larger examples of their types. If such models could be employed instead of the more expensive, life-size musical instruments, it is surprising that so few examples have been found. This could imply that the actual chordophones were somehow preferred to their model counterpart. In the burial of musicians, this can easily be explained, as they could readily have incorporated the instruments which they already possessed in their tombs. Such an instance can be seen in the tomb equipment of Harmose, which, although it includes few objects, contained a large oval lute.

After this period, in the **later New Kingdom**, the occurrence of musical instruments with known context significantly decreased again. From this period date the burials of Ani (*BM05*), the unknown original owner of tomb 338 in Saqqara (*EM12-15, 17*), and possibly the person who was buried in tomb 44 in Abydos (*WM02*). Although our knowledge of the tomb inventories of these burials is largely incomplete, they seem to have been considerably rich. This is also evident on the instruments themselves, which are either lavishly decorated (*BM05*), include expensive materials (*WM02*) or require a significant amount of wood (*EM12-15, 17*). Although the small sample is not representative for the period, the stringed musical instruments from nineteenth dynasty tombs contrast against the more practical, less decorated extant harps and lyres from the preceding time. Further, it can be observed that both model and actual instruments are apparently included in the tomb inventories of this group. The latter are attested with no less than four harps – which are now of the angular ‘A1’ type – and two clappers in the same tomb. This inclusion of a large instrument group in one burial ensemble is, at first glance, hard to grasp. However, the varying sizes of the harps could indicate that they would have supplemented each other, thus amounting to a real orchestra, with even percussion accompaniment. Whether the tomb owner was a musician or simply someone who wanted to add the musical delights of a stringed orchestra to his afterlife cannot be ascertained, due to the poor state of preservation of the instruments and lacking biographical information. Although datable examples of nineteenth or twentieth dynasty stringed musical instruments are scarce, a significant portion of the undated examples possibly stem from this or the succeeding period (*ÄM05-7; BM06-7; EM16, 18-19, 21, 24-25; L11* and *MAN01*). With none of these chordophones securely placed in the time frame, the later New Kingdom is left with only two or possibly three contexts.

From the **Third Intermediate Period and Late Period**, even less information is available. Although a significant number of instruments typologically fit into this period, only one datable context has, at present, been identified. Similarly to the preceding period, we see both the existence of model and actual instruments and a multi-instrumental assemblage in this context, the tomb of Tadjá (*ÄM08-11*). Although the funerary equipment of the girl could reveal a great deal about the inclusion of musical instruments in the funerary culture of these periods, its few published items leaves us riddled. After the twenty-fifth or twenty-sixth dynasty, when Tadjá’s tomb was closed, no tomb inventory which includes a chordophone can be recognized for the remainder of pharaonic history. Most likely also belonging to this, or the

succeeding Graeco-Roman Period, are fragments of pear-shaped lutes (*L12-13*), angular harps of subtype A2 (*EM20; HFM01; L05-8; MMA05; PM02* and *RMO01*) and the crescent-shaped harp *O102*. However, none of these instruments can be dated with any certainty. Consequently, we are again left with a paucity of information, which renders any interpretation speculative. It can only be hoped that a more detailed and accurate dating of instruments without provenance could fill some of the current chronological gaps in our knowledge, making a more encompassing synthesis of the material possible.

The foregoing observations are highly dependent on the dates of the context under study, and the detail and accuracy of the excavation reports. Furthermore, it has been remarked on several occasions that many periods, locations and instrument types are largely under- or overrepresented in the archaeological record. This hinders a comparative study of the material, and is inconvenient when an encompassing overview is attempted. The observations made above constitute only interpretations of a fraction of the original material, and they should be regarded as such.

## Conclusion

The large group of extant ancient Egyptian chordophones carries great research potential. Therefore, it is remarkable that only few studies have yet been conducted on these objects. As Egyptologists have rarely researched the instruments themselves, the only comprehensive material studies have been initiated by musicologists, and more specifically by Hans Hickmann. His observations are useful, but they, nonetheless, do not nearly approach the full scale of interpretative possibilities of the chordophones. Studies of the original find contexts of the instruments are especially scarce, although they can tell us a great deal about the objects and their owners. For instance, the late Second Intermediate Period and early New Kingdom show burial assemblages in which musical instruments are frequently strongly connected with their owner, who is sometimes a musician. Consequently, we can interpret some of the chordophones in burial assemblages as professional instruments, which were interred in the tomb of their former owner. If we turn to the musical instruments themselves, we can indeed see that most of them could have been perfectly functional. Moreover, multiple string marks, traces of repair and adjustments show that at least a portion of the group were actually used before they were buried. Such use is possibly illustrated in the song on lyre *RM002*, which could have been a memory aid for the musician. On the other hand, the category of 'model' instruments clearly shows that some chordophones were especially created for their funerary function. This is proven by their morphology, which in some cases even rules out the possibility that the instruments would actually be played. Ancient Egyptian funerary culture thus provides us with, on one hand, a group of musical instruments which were actually used in musical practice. Therefore, they can effectively be used in reliable reconstructions of ancient Egyptian music. On the other, it presents us with a category of 'model chordophones', with a strongly different morphology. As any musical deductions from this group would be misleading, caution is advised when studying the material.

When analysing the group of non-model ancient Egyptian stringed musical instruments, considerable information can be gained. By combining information from objects with provenance with morphologically similar musical instruments without context, the category can be better understood. Chordophones of distinct types display different capabilities and limitations, which makes a partial reconstruction of their original use possible. With seven types and six subtypes,<sup>401</sup> harps are morphologically the most diverse instrument group. Within the category, most information can be gained from shovel-shaped, naviform harps of subtype N1 and angular harps of subtypes A1 and A2. This is mainly due to the large number of preserved examples of these categories. The shovel-shaped harps and N1 naviform harps clearly stand apart. Where the first displays a large range of variation, harps of the second group are more uniform. This is not surprising, as the shovel-shaped harp, the only chordophone type in the Old and Middle Kingdom, had to fill in every stringed musical function. The early New Kingdom naviform harp of subtype N1, on the other hand, occupied a specialized role in the, by then much enlarged, group of musical instruments. A1 and A2

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<sup>401</sup> See Plate 7.

angular harps, which existed respectively in the New Kingdom and Late to Graeco-Roman Period, were again more multifunctional. The early New Kingdom also saw the first Egyptian lyres and lutes, which brought their own specific timbre to the music of the remaining part of the pharaonic era.

This study aims to serve as a survey of the reconstructive possibilities which ancient Egyptian musical instruments, and more particularly chordophones, can offer. It by no means offers an all-inclusive synthesis of the archaeological objects under study, but rather an example of the amount of information which can be gained in such research. It is to be hoped that additional research on the same or similar topics – for instance other groups of musical instruments – can lead to a better understanding of ancient Egyptian music, and ancient Egyptian society as a whole. Ideally, a more encompassing examination would incorporate the informational treasure of iconographic and textual evidence to reach a more complete understanding of the object category. Scientific analyses could also teach us more about the age and materials of the instruments, which would vastly improve our knowledge of the group.



## List, Plates and Tables

### I. List of extant ancient Egyptian chordophones

This overview lists all extant ancient Egyptian chordophones and chordophone fragments which were included in this study, with their catalogue number in the digital database, which can be found on the included CD. In this database, more information concerning the objects can be found. The list was mostly compiled from the list of ancient Egyptian musical instruments which appears in: L. Manniche, *Ancient Egyptian musical instruments*, 101-106.

*Harp ÄM01 (Ägyptologisches Museum Berlin; 7101)*: Shovel-shaped harp (digital Catalogue, form 'Harps' entry 1)

*Harp ÄM02 (Berlin; 9586)*: Sound box shovel-shaped harp (Cat. Harps 2)

*Harp ÄM03 (Berlin; 14 349)*: Model naviform harp, subtype N4 (Cat. Harps 3)

*Harp ÄM04 (Berlin; 10 734)*: Upper part neck harp, possibly from a curved harp (Cat. Harps 4)

*Lyre ÄM05 (Berlin; 7100)*: Semi-symmetrical lyre (digital Catalogue, form 'Lyres' entry 1)

*Lyre ÄM06 (Berlin; 10 247)*: Semi-symmetrical lyre (Cat. Lyres 2)

*Lyre ÄM07 (Berlin; 13 161)*: Transversal Semi-symmetrical lyre (Cat. Lyres 3)

*Lyre ÄM08 (Berlin; 17 007)*: Model Semi-symmetrical lyre (Cat. Lyres 4)

*Lute ÄM09 (Berlin; 17 008)*: Pear-shaped lute (digital Catalogue, form 'Lutes', entry 1)

*Lute ÄM10 (Berlin; 17 009)*: Pear-shaped lute (Cat. Lutes 2)

*Lute ÄM11 (Berlin; 17 013)*: Plectrum (Cat. Lutes 3)

*Harp AMNH01 (American Museum of Natural History, New York; 95/2228a, b)*: Naviform harp, subtype N3 (Cat. Harps 5)

*Harp AsM01 (Ashmolean Museum, Oxford; unnumbered)*: Naviform harp, subtype N1 (Cat. Harps 6)

*Harp BAAM01 (Bibliotheca Alexandrina, Antiquities Museum, Alexandria; BAAM 0604)*: Naviform harp, subtype N1 (Cat. Harps 60)

*Harp BM01 (British Museum, London; EA 6381)*: Shovel-shaped harp (Cat. Harps 7)

*Harp BM02 (London; EA 6382)*: Shovel-shaped harp (Cat. Harps 8)

*Harp BM03 (London; EA 38 170, former 6384)*: Naviform harp, subtype N1 (Cat. Harps 9)

*Harp BM04 (London; EA 20 755)*: Model naviform harp, subtype N1 (Cat. Harps 10)

*Harp BM05 (London; EA 24 564)*: Model harp (Cat. Harps 11)

- Harp BM06* (London; *EA 6383*): Upper part neck curved harp (Cat. Harps 12)
- Lyre BM7* (London; *EA 74 901*): Arm Semi-symmetrical lyre (Cat. Lyres 5)
- Lute BM08* (London; *EA 38 171*, formerly 6834a): Sound box oval lute, subtype O1 (Cat. Lutes 4)
- Harp EM01* (**Egyptian Museum, Cairo**; *CG 69 431*): Suspension rod shovel-shaped harp (Cat. Harps 13)
- Harp EM02* (Cairo; *CG 69 414*): Upper part neck, possibly from a ladle-shaped harp (Cat. Harps 14)
- Harp EM03* (Cairo; *CG 69 401*): Naviform harp, subtype N1 (Cat. Harps 15)
- Harp EM04* (Cairo; *CG 69 402*): Naviform harp, subtype N1 (Cat. Harps 16)
- Harp EM05* (Cairo; *CG 69 423*, *JE 45 700*): Naviform harp, subtype N1 (Cat. Harps 17)
- Harp EM06* (Cairo; *CG 69 424*, *JE 43 161*): Naviform harp, subtype N1 (Cat. Harps 18)
- Harp EM07* (Cairo; *CG 69 425*): Suspension rod naviform harp, subtype N1 (Cat. Harps 19)
- Harp EM08* (Cairo; *CG 69 428*): Suspension rod naviform harp, subtype N1 (Cat. Harps 20)
- Harp EM09* (Cairo; *CG 69 403*, *JE 29 306*): Model naviform harp, subtype N4 (Cat. Harps 21)
- Harp EM10* (Cairo; *CG 69 426*): Model naviform harp, subtype N3 (Cat. Harps 22)
- Harp EM11* (Cairo; *CG 69 427*, *JE 43 163*): Model naviform harp, subtype N1 (Cat. Harps 23)
- Harp EM12* (Cairo; *CG 69 407*): Angular harp, subtype A1 (Cat. Harps 24)
- Harp EM13* (Cairo; *CG 69 408*): Sound box angular harp, subtype A1 (Cat. Harps 25)
- Harp EM14* (Cairo; *CG 69 409*): Sound box angular harp, subtype A1 (Cat. Harps 26)
- Harp EM15* (Cairo; *CG 69 410*): Sound box angular harp, subtype A1 (Cat. Harps 27)
- Harp EM16* (Cairo; *CG 69 411*): Neck angular harp, subtype A1 (Cat. Harps 28)
- Harp EM17* (Cairo; *CG 69 412*): Neck angular harp, subtype A1 (Cat. Harps 29)
- Harp EM18* (Cairo; *CG 69 413*, *JE 25 964*): Neck angular harp, subtype A1 (Cat. Harps 30)
- Harp EM19* (Cairo; *CG 69 416*): Neck angular harp, subtype A1 (Cat. Harps 31)
- Harp EM20* (Cairo; *CG 69 429*): Suspension rim angular harp, subtype A2 (Cat. Harps 32)
- Lyre EM21* (Cairo; *CG 69 404*): Semi-symmetrical lyre (Cat. Lyres 6)
- Lyre EM22* (Cairo; *CG 69 417*): Asymmetrical lyre (Cat. Lyres 7)
- Lyre EM23* (Cairo; *CG 69 418*): Asymmetrical lyre (Cat. Lyres 8)

- Lyre EM24* (Cairo; *CG 69 415, JE 37 686*): Transversal rod semi-symmetrical lyre (Cat. Lyres 9)
- Lyre EM25* (Cairo; *CG 69 406, JE 28 315*): Decorative birdhead semi-symmetrical lyre (Cat. Lyres 10)
- Lute EM26* (Cairo; *CG 69 420, JE 63 746*): Oval lute, subtype O1 (Cat. Lutes 5)
- Lute EM27* (Cairo; *CG 69 421, JE 66 248*): Oval lute, subtype O2 (Cat. Lutes 6)
- Lute EM28* (Cairo; *CG 69 430, JE 63 729*) : Tailpiece oval lute, subtype O2 (Cat. Lutes 7)
- Lute EM29* (Cairo; *CG 69 422a-b, JE 63 747 (1, 2)*) : Plectrums (?) (Cat. Lutes 8)
- Harp FM01* (***Fitzwilliam Museum, Cambridge***; *E.G.A. 4295-1943*): Decorative head, possibly from a ladle-shaped harp (Cat. Harps 33)
- Harp HFM01* (***Staatliche Hochschule für Musik, Berlin***; *unnumbered*): Angular harp, subtype A2 (Cat. Harps 34)
- Harp L01* (***Louvre, Paris***; *N 1440a, IDM 118*): Naviform harp, subtype N1 (Cat. Harps 35)
- Harp L02* (Paris; *N 1440b, IDM 119*): Naviform harp, subtype N1 (Cat. Harps 36)
- Harp L03* (Paris; *N 14 472, IDM 120*): Sound box naviform harp, subtype N1 (Cat. Harps 37)
- Harp L04* (Paris; *E 14 255, IDM 121*): Decorative head, possibly from ladle-shaped harp (Cat. Harps 38)
- Harp L05* (Paris; *N 1441, IDM 122*): Angular harp, subtype A2 (Cat. Harps 39)
- Harp L06* (Paris; *AF 6899, IDM 123*): Leather lower side sound box angular harp, subtype A2 (Cat. Harps 40)
- Harp L07* (Paris; *E 14 214a-b, IDM 125*): Neck angular harp, subtype A2 (Cat. Harps 41)
- Harp L08* (Paris; *AF 6917, IDM 124*): Suspension rim angular harp, subtype A2 (Cat. Harps 42)
- Lyre L09* (Paris; *E 14 470, IDM 126*): asymmetrical lyre (Cat. Lyres 11)
- Lyre L10* (Paris; *E 14 471, IDM 127*): asymmetrical lyre (Cat. Lyres 12)
- Lyre L11* (Paris; *N 875g-h, IDM 128*): Fragments transversal rod semi-symmetrical lyre (Cat. Lyres 13)
- Lute L12* (Paris; *N 1443, IDM 129*): Sound box pear-shaped lute (Cat. Lutes 9)
- Lute L13* (Paris; *N 1528, IDM 130*): Neck pear-shaped lute (Cat. Lutes 10)
- Harp MAN01* (***Museo Archeologico Nazionale, Florence***; *2685*): Angular harp, subtype A1 (Cat. Harps 43)
- Harp MAN02* (*Florence*; *unknown*): Naviform harp, subtype N1 (Cat. Harps 61)

- Harp MIS01 (Musikinstrumentensammlung, Göttingen; 796):* Shovel-shaped harp (Cat. Harps 44)
- Harp MM01 (Medelhavsmuseet, Stockholm; MM 19 860):* Sound box shovel-shaped harp (Cat. Harps 45)
- Harp MMA01 (Metropolitan Museum of Arts, New York; 19.3.17):* Shovel-shaped harp (Cat. Harps 46)
- Harp MMA02 (New York; 14.10.6):* Naviform harp, subtype N1 (Cat. Harps 47)
- Harp MMA03 (New York; 25.3.306a, b):* Naviform harp, subtype N1 (Cat. Harps 48)
- Harp MMA04 (New York; 43.2.1):* Naviform harp, subtype N2 (Cat. Harps 49)
- Harp MMA05 (New York; 24.2.16):* Angular harp, subtype A2 (Cat. Harps 50)
- Lyre MMA6 (New York; 16.10.504):* asymmetrical lyre (Cat. Lyres 14)
- Lute MMA07 (New York; 12.181.294):* Sound box oval lute, subtype O2 (Cat. Lutes 11)
- Harp MV01 (Museum für Volkerkunde, Hamburg; unnumbered):* Naviform harp, subtype N4 (Cat. Harps 51)
- Harp OI01 (Oriental Institute, Chicago; E 19 474):* Naviform harp, subtype N1 (Cat. Harps 52)
- Harp OI02 (Chicago; E 13 642):* Crescent-shaped harp (Cat. Harps 53)
- Harp PM01 (Petrie Museum, London; UC 33 271):* Upper part neck, possibly from shovel-shaped harp (Cat. Harps 54)
- Harp PM02 (London; UC 35 804):* Neck angular harp, subtype A2 (Cat. Harps 55)
- Harp RMAH01 (Royal Museum of Art and History, Brussels; E 6194):* Naviform harp, subtype N1 (Cat. Harps 56)
- Harp RMO01 (Rijksmuseum van Oudheden, Leiden; J 469 64):* Leather sound box angular harp, subtype A2 (Cat. Harps 57)
- Lyre RMO2 (Leiden; AH 218):* asymmetrical lyre (Cat. Lyres 15)
- Harp WM01 (World Museum, Liverpool; 35 467-55.82.8):* Naviform harp, subtype N3 (Cat. Harps 58)
- Harp WM02 (Liverpool; 41 771-24.9.00.86):* Possibly neck angular harp (Cat. Harps 59)

## II. Exploring ancient sounds: a reconstruction of angular A1 harp EM12

Extant ancient Egyptian musical instruments are a valuable source when trying to determine their use in music. However, many of the instruments are currently fragmented and those who were discovered complete, only rarely retained fragments of their covers and strings. Therefore, a reconstruction of an ancient instrument, where different methods of stringing can be attempted, can offer a researcher the possibility to test their utility. However, in doing so, it is important that the highest attainable degree of accuracy is reached in the reconstruction, if any credible information is to be gained from it. Such proximity to the original instrument can be obtained if the same measurements and material than those of the authentic object are used. Furthermore, it is important that the initial tuning system, as far as it can be traced, is taken into account.<sup>402</sup> During the course of Egyptian music archaeology, several reconstructions of ancient Egyptian musical instruments were undertaken,<sup>403</sup> but these never included the Egyptian angular harp.

As a supplement for this study, the reconstruction of angular harp EM12 (Plate 9A) was undertaken, as it is the most complete datable chordophone with more than eight strings. With such a high number of cords, a better understanding of the initial use of the instrument can be reached. Harp EM12 is an angular harp of subtype A1, and with its sound box of 132 centimetres the largest extant example of its category. It was discovered by Quibell in the nineteenth dynasty tomb 338 in Saqqara, among three other similar harps, which are now in the Cairo Museum.<sup>404</sup> Although the neck and sound box of the harp were not attached when discovered, it can be deduced from their dimensions that they belonged together. Namely, both were by far respectively the largest neck and sound box which were discovered in the tomb. The reconstructed instrument (Plate 9A) was carved from cedar wood<sup>405</sup> and retained the measurements and shape of its exemplar.<sup>406</sup> Although the strings of the instrument were not preserved, the only instance where they have,<sup>407</sup> proves that at least some chordophones possessed natural gut strings in the New Kingdom. Therefore, it was chosen to fit the reconstruction with cords from animal guts. The guts were hand-twisted and dried<sup>408</sup> to

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<sup>402</sup> R. Eichmann, in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur musikarchäologie* IVa, 363.

<sup>403</sup> Lawergren (*JEA* 66, 165-168 and Plate XXIII) reconstructed BM03, a naviform N1 harp, while the reconstruction of an oval lute of subtype O1 (EM26) was undertaken by Eichmann (in E. Hickmann, A. D. Kilmer and R. Eichmann (eds), *Studien zur musikarchäologie* IVb, 551-568). Hans Hickmann reconstructed several ancient Egyptian musical instruments – the shovel-shaped harp MIS01, a naviform N1 harp (EM05), and an asymmetrical (EM22) and semi-symmetrical (ÄM05) lyre which are now on display in the Musikinstrumentensammlung in Göttingen (K.-P. Brenner, *Bestandskatalog*, 464-465).

<sup>404</sup> See p. 27 and Fig 22 p. 28.

<sup>405</sup> The harp was carved by hand by my father, Stefan Sykora. In the reconstruction, *Juniperus virginiana* was used, as the original *Cedrus libani* (H. Hickmann, *Instruments de musique*, 175) could not be obtained.

<sup>406</sup> These measurements were obtained from: H. Hickmann, *Instruments de musique*, 173-175, and a museum study of EM12 for the current research.

<sup>407</sup> Pieces of the original strings are still present on EM27. In the museum study of this instrument, these could be recognized as having been made from natural gut.

<sup>408</sup> I would like to acknowledge the invaluable advice of Dr. Dumbrill regarding the production techniques of gut strings, without which the endeavour would not have been successful.

bypass the high degree of modern treatment methods which are used to produce present-day gut strings.

With a reconstructed instruments, some insights can be gained which are unobtainable on the original instrument. Firstly, the reconstructed instrument showed that a tuning method in which the pegs are turned to elevate or lower the strings pitch is perfectly feasible. Moreover, by using certain knot types,<sup>409</sup> the absence of a hole in the peg through which the string would be held into place could easily be overcome. Secondly, the string traces were hardly discernible after the strings were tuned once, which gives the impression that clear string traces could only have been created by repeated tuning. However, as the depth of the string trace also depends on the amount of applied pressure and the hardness of the wood, this observation should be approached with caution. Thirdly, the finished instrument was, with just over two kilogrammes, quite light, considering the large dimensions of the object. This signifies that the harp could easily have been held with one hand while being played with the other, as it is represented in the iconographic record. The lower stump of the angular harp could also effectively be used as a handle while the musician was standing, or a foot in front of a sitting harpist. Fourthly, as ancient Egyptian harps included no frontal supporting beam, the neck still bends if the tension of a string is adjusted. That this considerably effected the angle of the neck can be seen on some of the remaining A1 necks (*EM16* and *EM19*), which still maintain the resulting slight curve. As such, it took different rounds of tuning before even an approximate tuned setup could be reached. This makes a recurrent method of differential tuning unlikely (see p. 63), as every time a string was removed, the harp had to be retuned completely.

Based on measurements of the original string lengths, the longest twelve strings were tuned half a note apart on the reconstruction. Consequently, the harp displays a chromatic scale for the first octave. The shortest five strings approached the difference in frequency of a full tone. However, by adjusting the string tensions or thicknesses, they could be fitted in the same scale. Nevertheless, this does by no means prove that the chromatic tuning system was employed in Egypt's New Kingdom, or even on the original harp *EM12*. Many factors – most notably the tension<sup>410</sup> and thickness of the strings, but also their setup on the 29 string holes of the suspension rim – could result in a considerably different musical scale. Therefore, the reconstructed pitches on the harp should be regarded with the uttermost prudence. However, the sound box volume, employed material and likely string type closely approach this of the exemplar *EM12*. Consequently, it can be expected that the musical timbre of the reconstruction strongly approximates the timbre of the ancient Egyptian instrument on which it was based.

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<sup>409</sup> In the reconstructed setup, the knot which yielded the best results was a double clove hitch, but other methods are also possible.

<sup>410</sup> Differences in tension of the middle and outer strings are even suggested by the string traces (see p. 33-34 and Fig 26), which would bring the initial tuning closer to a heptatonic or seven-note scale.

### III. Tables

Table 1		<i>el-Birabi</i>							<i>Deir el-Medina</i>			<i>S. Abd el-Qurna, Harmose</i>		<i>tomb Ani</i>		<i>Abydos, tomb 44</i>		<i>Beni Hasan, tomb 287</i>		<i>Saqqara, tomb 338</i>		<i>Sidmant, tomb 336</i>	
		C37, Ch. C basket 25	C37, Ch. C harp 27	C37, Ch. C vessel 28	C37, Ch. F, harp 92	C37, Ch. E, harp 63A	C62, R2	C62, pit 3, Ch. E	<i>Dra Abu el-Naga, AV, f. 39r</i>	Tomb 1267	Tomb 1370	Tomb 1389											
Musical instruments	Harp		M (lost)	M (EM11)	M (EM10)	1 (EM06-7)	1 (MMA02)	1 (EM03)					M (BM05)	? (WMM02)	1 (WMM01)	4 (EM12-17)	1 (AsM01)						
	Lyre						1 (EM23)		1 (L10)	1 (EM22)	1 (L09)												
	Lute	M (lost)									1 (EM26)	1 (EM27)											
	Clappers															2							
Coffins	Rectangul.		?	?	?	?	1			1								2					
	<i>Rishi</i>							1			1												
	White	2	?	?	?					1			1										
	Yellow								?								?						
Funerar	Mask							1															
	Canopic box	2											1										
	Book Death												1										
Furniture	Headrest					?							1			3	x						
	Bed										2					1							
	Mat									1	1												
	Chair	?										4	1		1						1		
	Stool	?									2												
	Table								1	1	2												
	Lamp									3													
Containers	Basketry	x		x						x	x							x					
	Boxes	x							1	x	x		x	?	x								
	Bags	x								x	x				x								
	Pottery	M		x		?			x	x	x	x	x										
	Horn						1				1	1											

		C37, Ch. C basket 25	C37, Ch. C harp 27	C37, Ch. C vessel 28	C37, Ch. F, harp 92	C37, Ch. E, harp 63A	C62, R2	C62, pit 3, Ch. E	AV, f. 39r	Tomb 1267	Tomb 1370	Tomb 1389	Tomb Harmose	tomb Ani	Abydos, tomb 44	Beni Hasan 287	Saqqara, tomb 338	Sidmant, tomb 336
Toiletries	razor	1			?					1	1							
	forceps	4																
	Mirror	1									2							
	Comb				?						2			1				
	kohl	x		x	?					x	x			x		x	x	
	Unguent	x									x			x				
	Galena										x	x						
Attire	Clothing				?								x					
	Sandals	1								1	2	2		1				
	Staff	1			?					3		5	2			1	3	
	Jewellery				?						x					x		
Cloth, skin	Linen	x									x	x						
	Leather	x																
	Sewing										x	x						
Professional	Measuring	x									x							
	Agricultural				?												x	
	Carpentry				?													
Hunting, weaponry	Bird trap			1														
	Bow, arrows				?													
	Throw-sticks						2										2	
	Sword							1										
	Axe							1										
	Spearhead																	1
Writing equipment	Reed pens	x														1		
	Writing tabl.	1	1	1											?			
	Papyrus	x																
	Ostrakon									1			?					
Leisure	Gaming box							1										
	Knuckle bones	M						x										
Figurine	Statues	2																
	Figurines	1												2	?			
	Models															4		
Amulets	Amulets	1																
	Scarabs	5			?						4	2				2		



(sub)type	Instrument number	strings	Total length	Width sb	Length sb	Width neck	Length neck	sb ratio	
Shovel-shaped harps	Harp ÄM01	5	77	26,5	30	4,7	49	0,88	
	Harp ÄM02	/	/	14	16,5	/	/	0,85	
	Harp BM01	5	95,6	26,2	32,2	6,3	54,6	0,81	
	Harp BM02	5	60,2	16,2	21,1	3,6	37,6	0,77	
	Harp EM01	4	/	/	43	/	/	/	
	Harp MIS01	5	69,5		22,5	3,3			
	Harp MM01	/	/	30		/	/		
	Harp MMA01	5	81,4	26,4					
	Harp PM01	5(+)	/	/	/	4,4	30,9+	/	
Naviform harps	Subtype N1	Harp AsM01	4	/	/	/		/	
		Harp BAAM01	4	112					
		Harp BM03	4	113,6	9,7	49,1	4,1	57,8	0,20
		Harp EM03	5		10	57,5+	5	65,5	0,17-
		Harp EM04	4		7,5	45,15	3,2	48	0,17
		Harp EM05	4	110	9,4	51,8	3,8	60,8	0,18
		Harp EM06	4	137	11	68,1	4	76	0,16
		Harp EM07	4	/	/	66,8	/	/	/
		Harp EM08	5	/	/	67	/		/
		Harp LO1	4	137,3	10,3	65,8	5,3	71,5	0,16
		Harp LO2	4	101,5	7,5	48,5	3,8	55,5	0,15
		Harp LO3	/	/	10,5	40,5+	/	/	0,26-
		Harp MMA02	4	110					
		Harp MMA03		120	17,5				
		Harp OI01	4	83+	8				
		Harp RMAH01	4	140	12,1	73	4,3	71,6	0,17
		Harp BM04	4	43,1	4,4	17,5	2,3	21,5	0,25
	Harp EM11	4	51		24,4				
	2	Harp MMA04	16	82		36			
	N3	Harp AMNH01	5						
		Harp WM01	5	87	12,5				
		Harp EM10	4		6,5	27,5	2	25,3	0,24
	N4	Harp ÄM03	3	50	7,7	20,6		28	0,37
		Harp EM09	3	49,5	7,3	21,5			0,34
		Harp MV01	3	33	8,5	12			0,71
Uncertain harp types	Harp EM02 <sup>411</sup>	9	/	/	/	6,3	47,4+	/	
	Harp ÄM04 <sup>412</sup>	8	/	/	/		26,5	/	
	Harp BM06	17	/	/	/	6,2	58,4+	/	
	Harp OI02 <sup>413</sup>	6?	39,3	/	/			/	
	Harp BM05	5	97,2	12,5	39,5	3,2	41,9	0,32	
Harp WM02	18(+)	/	/	/	5,6	29+	/		

Table 2a: General measurements of published ancient Egyptian arched harps, arranged by type and subtype. Model harps are indicated in grey.

<sup>411</sup> EM02 is probably part of the neck of a ladle-shaped harp.

<sup>412</sup> ÄM04 and BM06 are likely remnants of curved harps.

<sup>413</sup> OI02 is presumably a crescent-shaped harp.

(sub)type		Instrument number	strings	Total length	Width sound box	Length sound box	Width neck	Length neck	sound box ratio
Angular harps	A1	Harp EM12	17	132	27,8	132	4	77,5	0,21
		Harp EM13	22-	95	13	95	/	/	0,14
		Harp EM14	/	74,5+		74,5+	/	/	
		Harp EM15	/	88+	11,5	88	/	/	0,13-
		Harp EM16	16	/	/	/	5	68	/
		Harp EM17	18	/	/	/	4	67,5	/
		Harp EM18	21	/	/	/		73+	/
		Harp EM19	15	/	/	/	4,2	58,5	/
		Harp MAN01	10						
	A2	Harp EM20	20+	64,6+	/	64,6+	/	/	/
		Harp HFM01	21	121	16	121			0,13
		Harp L05	21	110	21,5	110			0,20
		Harp L07	21	/	/	/			
		Harp L08	24-	100,5+	/	100,5+	/	/	/
		harp MMA05	21	113		113		88	
		Harp PM02	18-20	/	/	/	5,8	53,9	/
Harp RMO01		/	126,5	20,5	126,5	/	/	0,16	

Table 2b: General measurements of published ancient Egyptian angular harps, arranged by subtype.

(sub)type		Instrument number	strings	Total height	Width sound box	Height sound box	Length long arm	Length short arm	length trans. rod	arm ratio
Asymmetrical lyres	Lyre EM22	6+	52	20,5	29,7	31,5	26,5	41,3	0,84	
	Lyre EM23	/	44	17	26,7	27	21,5	31	0,80	
	Lyre L09	5+	49,7	19,2	27,5			38		
	Lyre L10	8+	52	22	27,5			31,3		
	Lyre MMA06	/	/	/	22,3	27	/		/	
	Lyre RMO02	/	42,6	18,2	24,8	26,1	16,6	28,7	0,64	
Semi-symmetrical lyres	Lyre ÄM05	13	62,5	27,8				80		
	Lyre ÄM06	8+	73	43				93,5		
	Lyre ÄM07	4+	/	/	/	/	/	34,5	/	
	Lyre ÄM08	/	26,5		14			28,5		
	Lyre BM07	/	/	/	/	38,2	/	/	/	
	Lyre EM21	8+	62	24,5	35	34,5	31	55,5	0,90	
	Lyre EM24	13+	/	/	/	/	/	70+	/	

Table 2c: General measurements of published ancient Egyptian lyres, arranged by type.

(sub)type		Instrument number	strings	Total length	Width neck	Length neck	Width sound box	Length sound box	sound box ratio
Oval lutes	01	Lute BM08	/	/	/	/	10,5	8,4	0,80
		Lute EM26	/	62	62	1,8		10	
	02	Lute EM27	3	119,5	119,5	2,9	44	11,5	0,26
		Lute EM28	3	/	/	/	/	/	/
		Lute MMA07	/	/	/	/	34,5	8,2	0,24
Pear-shaped lutes	Lute ÄM09	/	102	102	3,6	48,5	17,7	0,36	
	Lute ÄM10	/	82	81,6	3,5	35	12,6	0,36	
	Lute L12	/	/	/	/	46,8	19,5	0,42	
	Lute L13	/	77,6	77,6	4,4	/	/	/	

Table 2d: General measurements of published ancient Egyptian lutes, arranged by type.<sup>414</sup>

<sup>414</sup> The measurements which are presented in Tables IIa-d were derived from: C. Sachs, *die Musikinstrumente des Alten Ägyptens*, 53-54, 58, 68-69 (ÄM01-10); BAAM, *Egyptian Antiquities* (BAAM01); R. D. Anderson, *Musical Instruments*, 70-86 (BM01-8); H. Hickmann, *Instruments de musique*, 154-179 (EM01-28); C. Sachs, *Zaen* 69, 68-70 (HFM01); C. Ziegler, *Catalogue des instruments de musique égyptiens*, 108-124 (L01-13); Brenner, *Bestandskatalog*, 466 (MIS01); Medelhavsmuseet, *Databasen för museisamlingar*, MM 19860 (MM01); MMA, *The Collection Online* (MMA01-7); The Oriental Institute, *Museum Collection* (OI01-2); Manniche, *Ancient Egyptian musical instruments*, 58, 63 (WM01-2) and from the museum study which was coupled with the current research (BM01-2, 4-8; EM09, 12, 21, 23, 26-27; PM01-2; RMAH01 and RMO01-2). Specific reference information can be found in the digital database.

IV. Plates

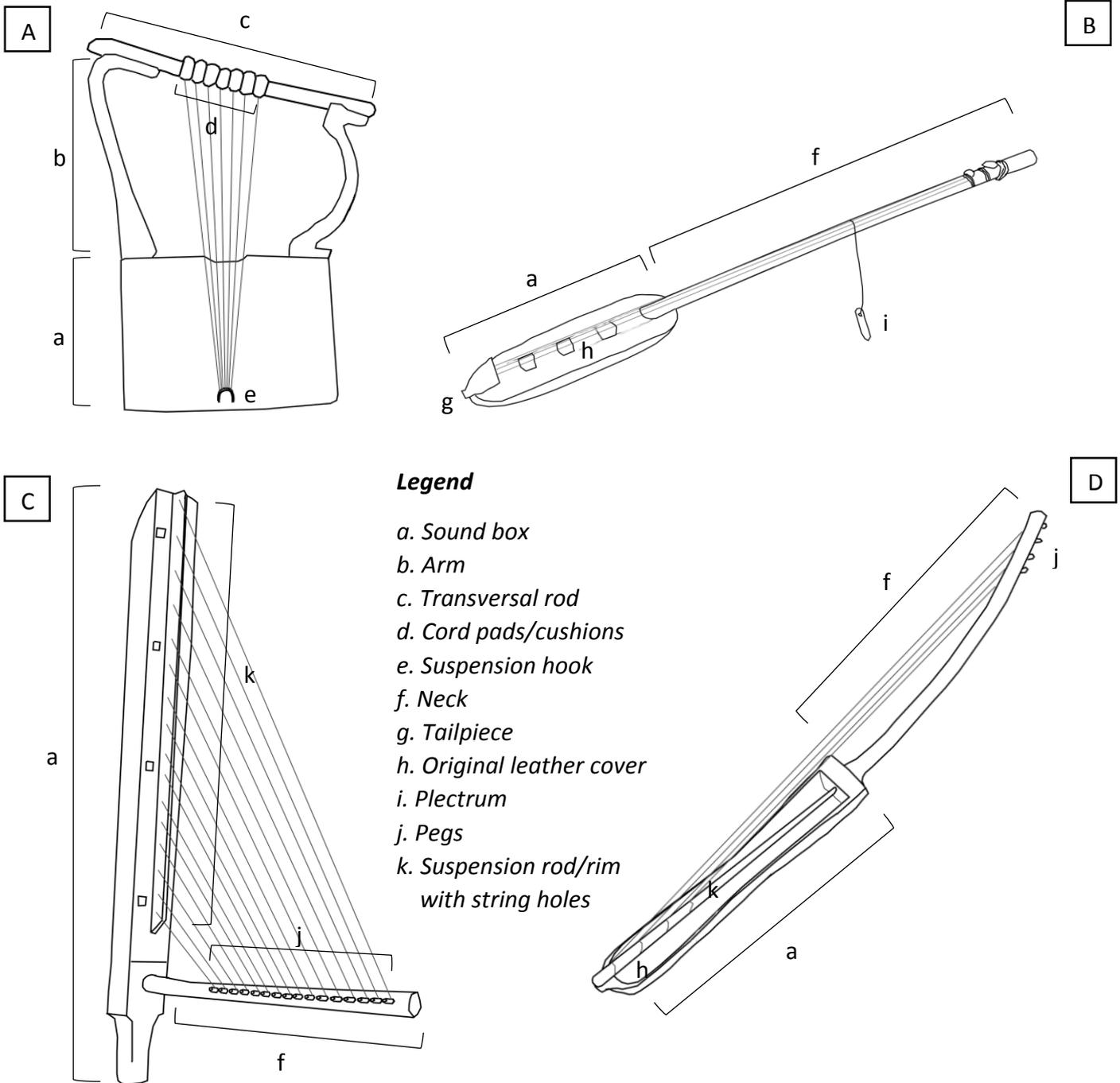


Plate 1. The main components of ancient Egyptians lyres (A), lutes (B), angular harps (C) and arched harps (D). Sketches by T. Sykora, based on lyre EM22, lute EM27, harp EM12 and harp EM06.

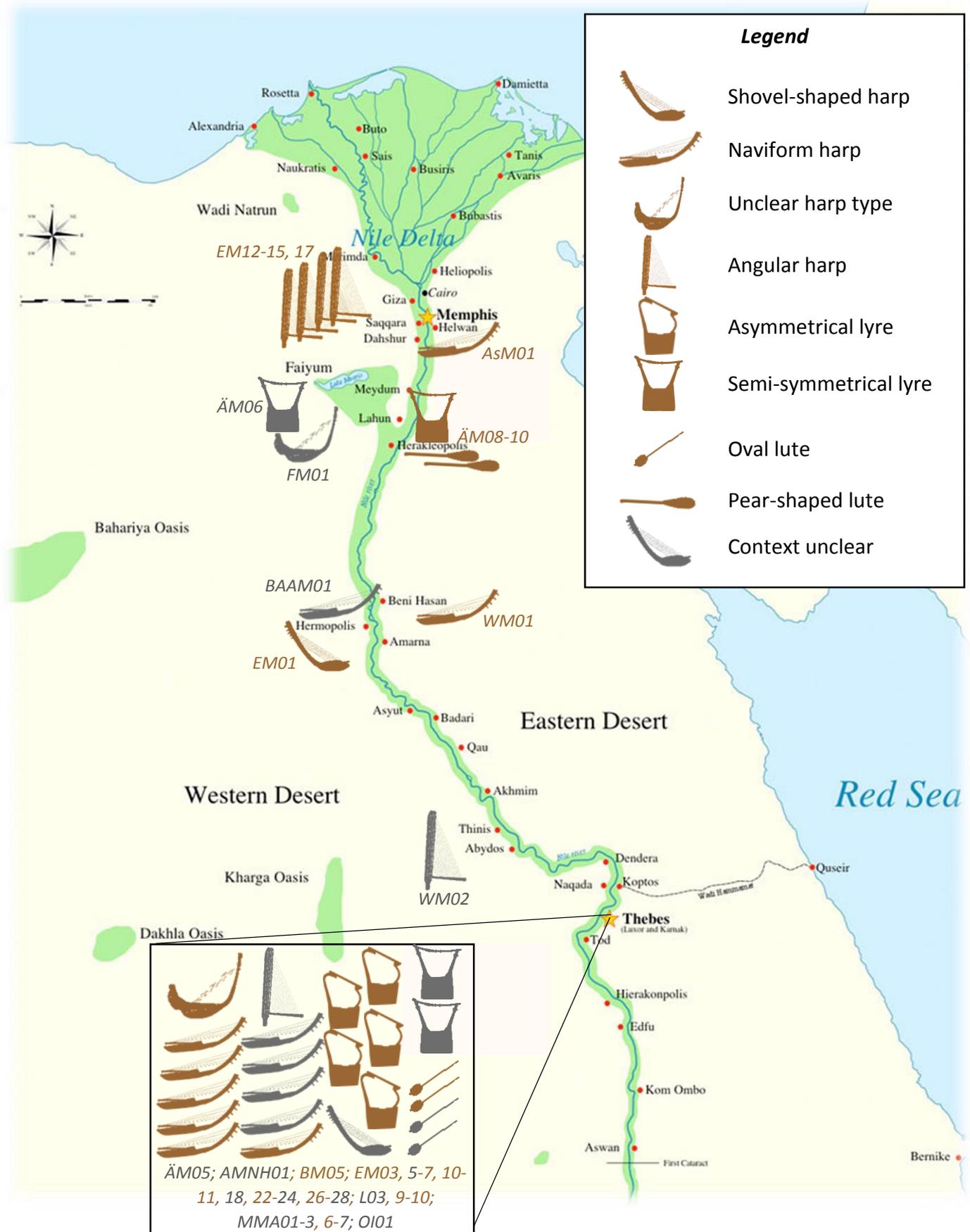


Plate 2. A map of Egypt, which shows the recorded finds of ancient Egyptian chordophones.

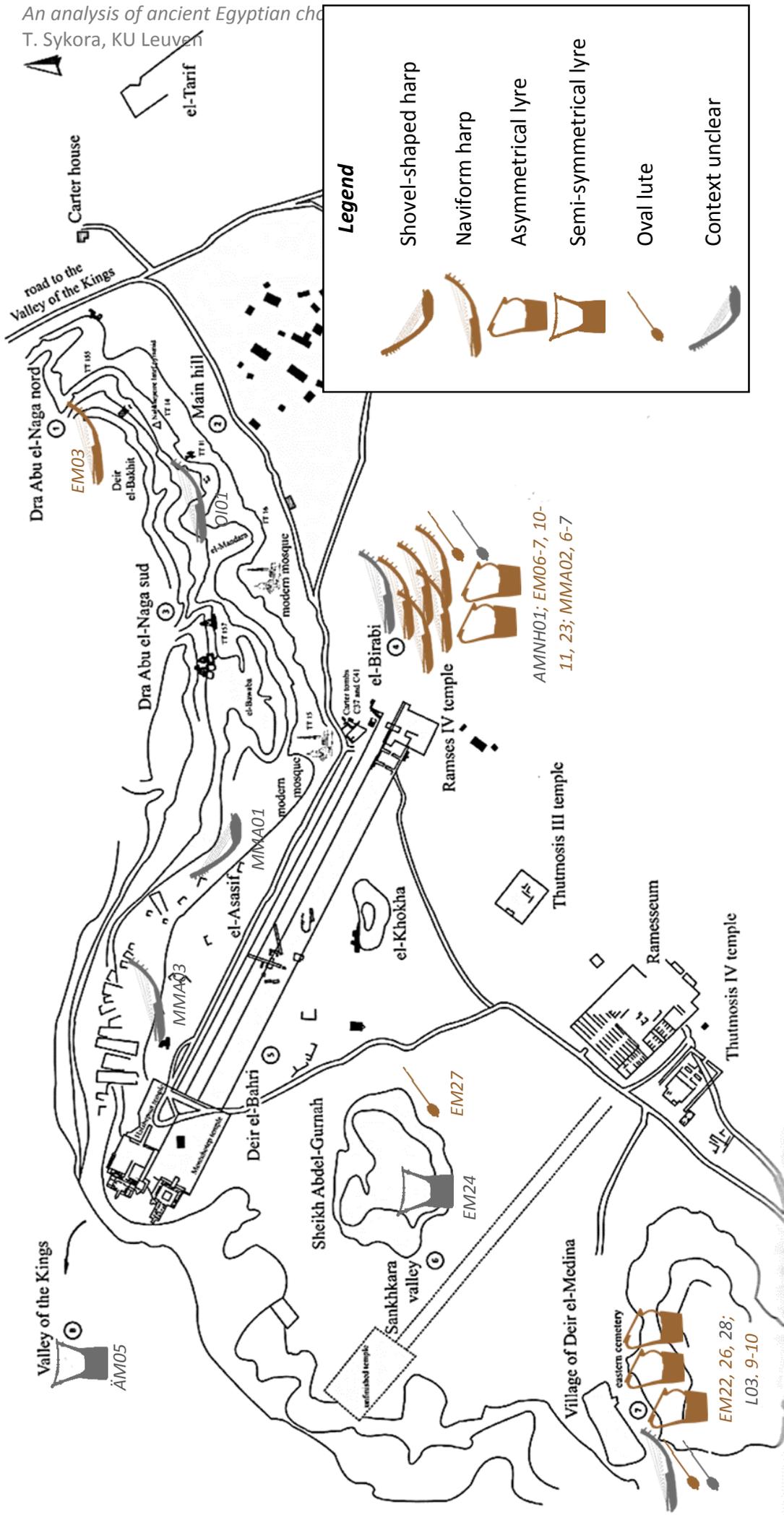


Plate 3. A map of the west bank of Thebes, which shows the recorded finds of ancient Egyptian chordophones in the region. Instruments with an After: G. Miniaci, *Rishi coffins*, fig. 46, p. 50

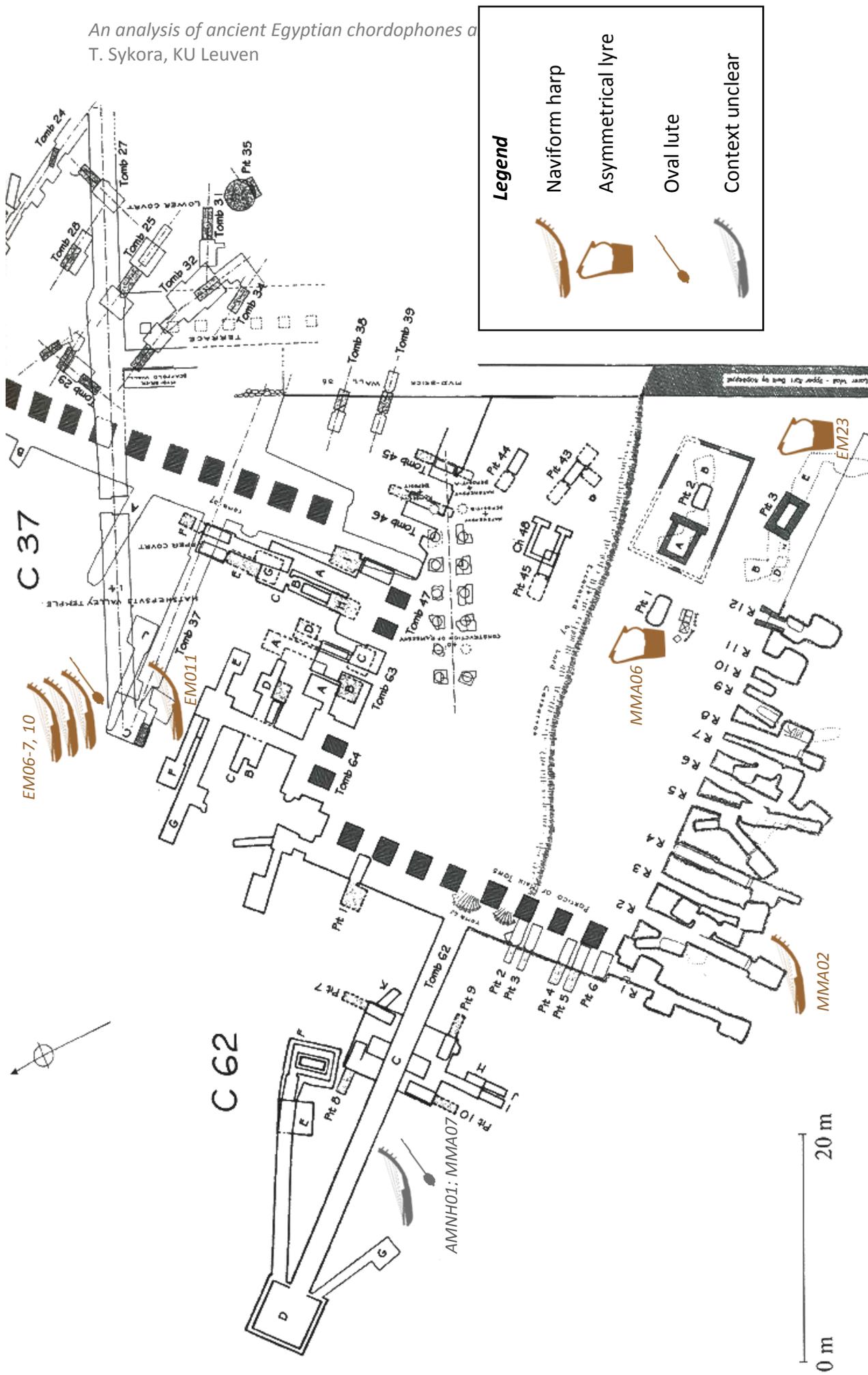


Plate 4. A map of saff-tombs C37 and C62 in el-Birabi, which shows the recorded finds of ancient Egyptian chordophones in the area. After: G. Minciari, *Rishi coffins*, fig. 79, p. 85; From: Carnarvon and Carter, *Five years' explorations at Thebes*, pl. 30; Lythgoe, Lansing and Davies, *The Egyptian Expedition*, fig. 7



Plate 5a: An hieratic inscription on the sound box of lyre RMO02. Photograph by T. Sykora, courtesy of the Rijksmuseum van Oudheden, Leiden.



Plate 5b: Hieroglyphic transcription of the inscription on lyre RMO02. Source: J. Osing in: L. Manniche and J. Osing, *Studien zur Musikarchäologie V*, fig. 10, p. 141.



**Plate 6:** The inscription and its transcription on *harp L01*. Source: C. Barbotin, *La voix des hiéroglyphes*, 66-67.

**Legend**

Number of attestations

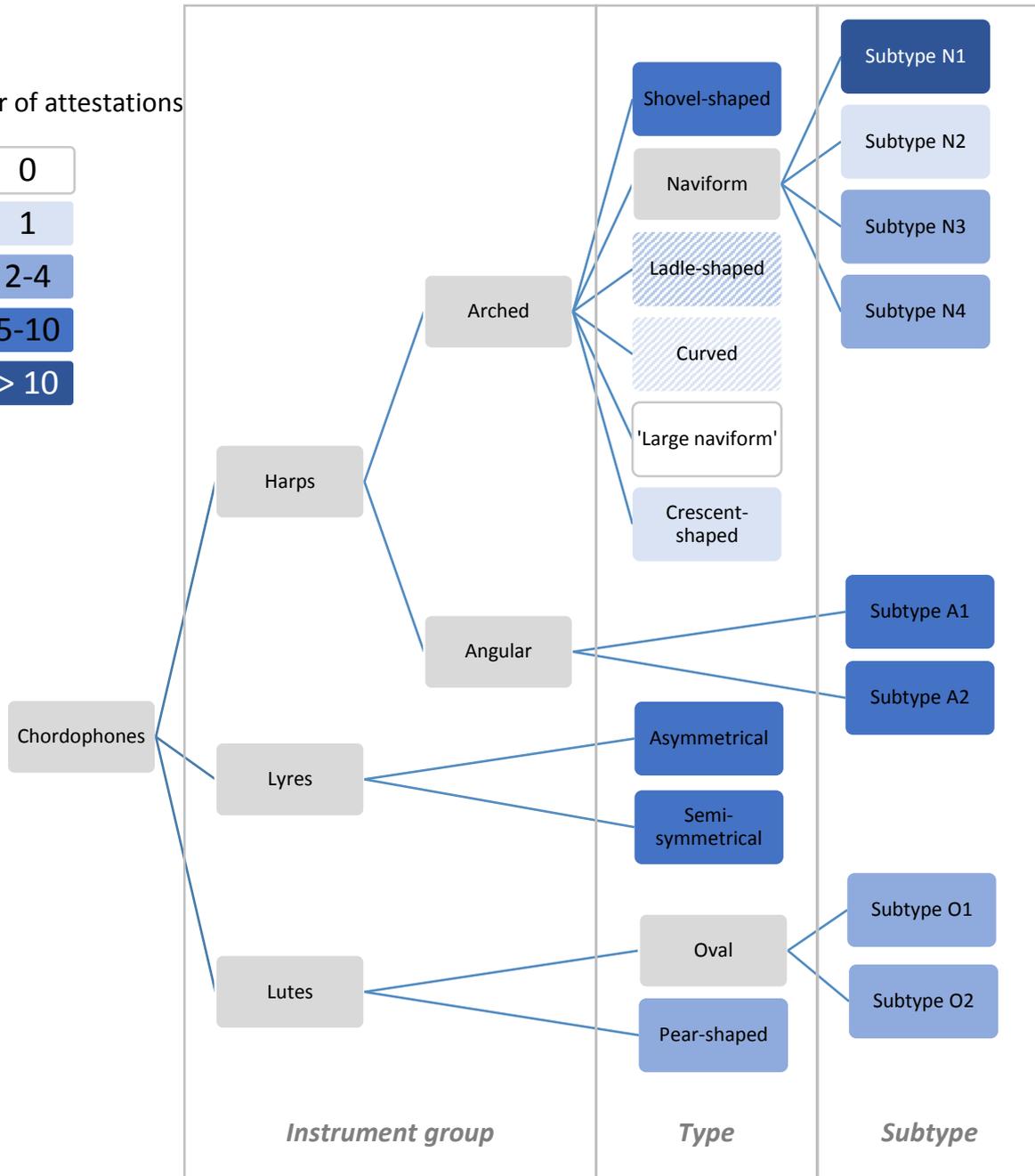
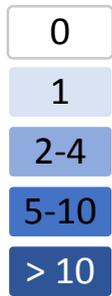


Plate 7: Typological tree of extant ancient Egyptian chordophones. The colours indicate the number of instruments in which the type is attested (least possible count).



*Plate 8a.* An overview of all extant ancient Egyptian model chordophones (Scale 1:10). The source of all used photographs in Plates 8a-k is indicated on p. XXV.



*Plate 8b.* An overview of all extant ancient Egyptian shovel-shaped harps (Scale 1:10).



Plate 8c. An overview of all extant ancient Egyptian naviform harps of subtype N1. Model harps of this type are shown on Plate 8a (Scale 1:10).



Plate 8d. An overview of all extant ancient Egyptian naviform harps of subtypes N2 and N3. Model harps of this type are shown on Plate 8a (Scale 1:10).



Plate 8e. An overview of all extant ancient Egyptian angular harps of subtype A1 (Scale 1:10, except for harp MAN01, the dimensions of which are unpublished).

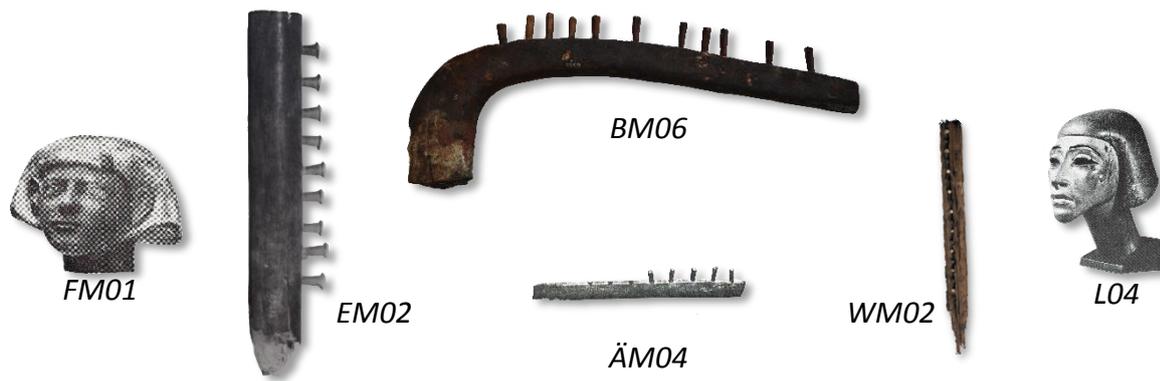


Plate 8f. An overview of all extant ancient Egyptian harps of unclear typological attribution. Of these, ÄM04 and BM06 are likely necks of curved harps and EM02, FM01 and L04 probably belonged to ladle-shaped harps (Scale 1:10, except for *harp FM01*, the dimensions of which are unpublished).

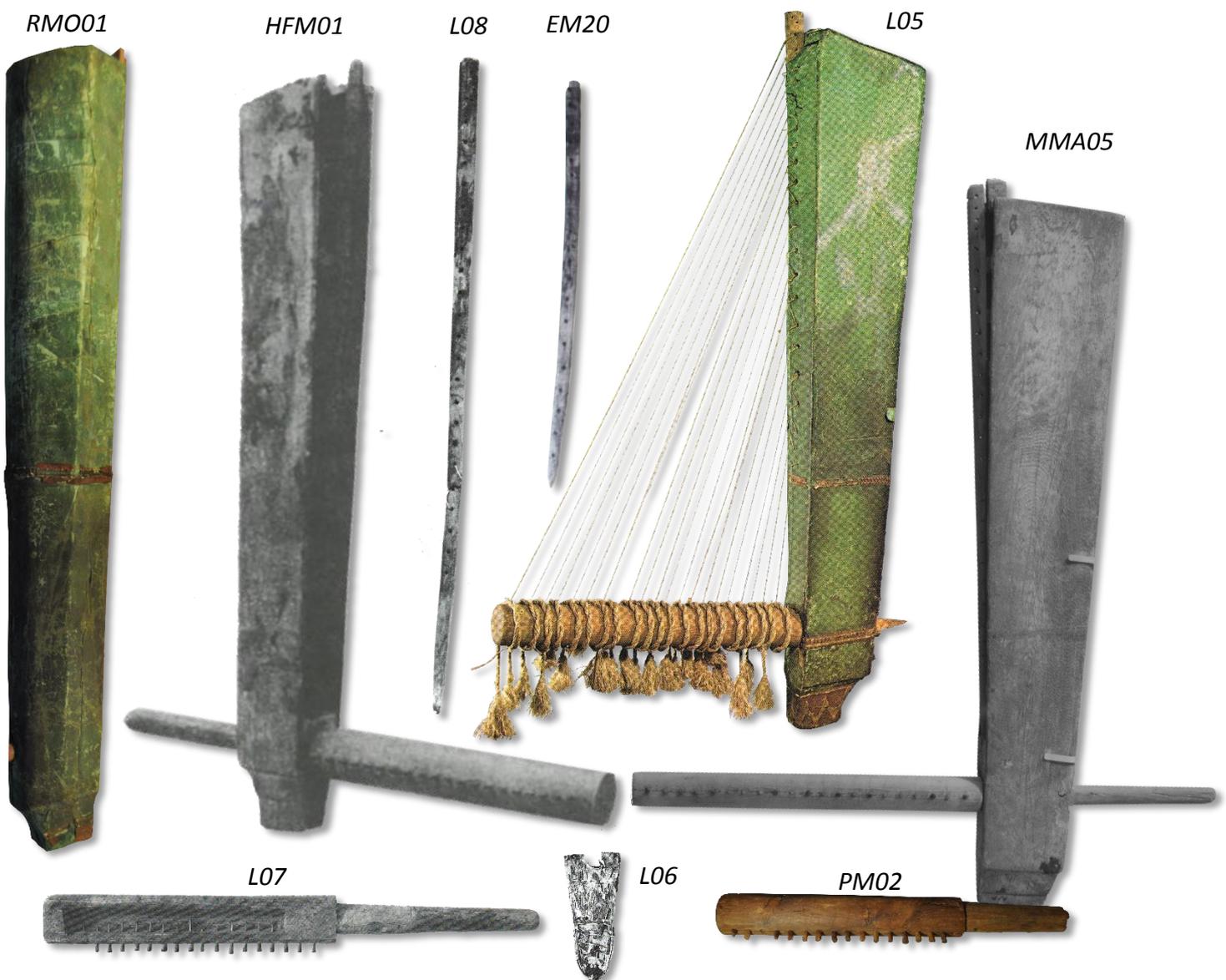


Plate 8g. An overview of all extant ancient Egyptian angular harps of subtype A2 (Scale 1:10).



Plate 8h. An overview of all extant ancient Egyptian asymmetrical lyres (Scale 1:10).

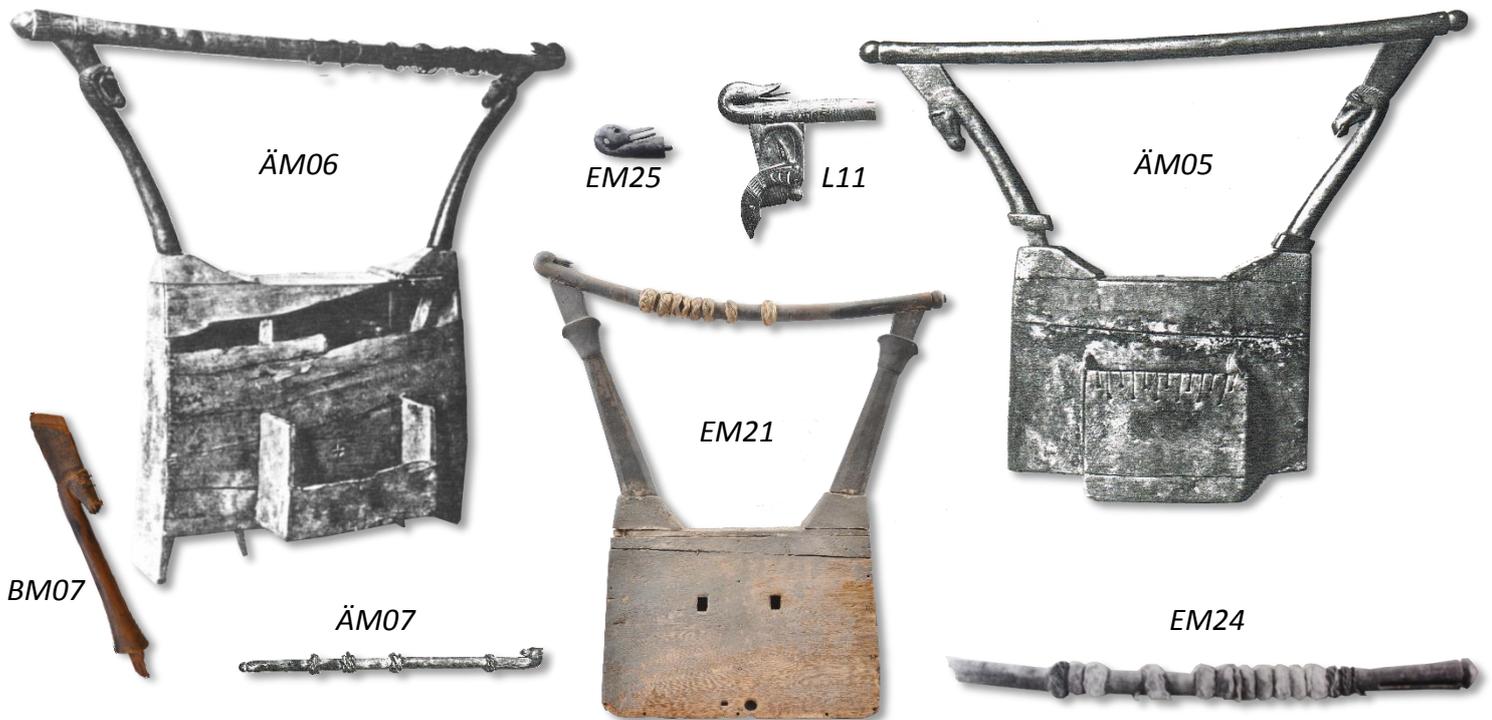


Plate 8i. An overview of all extant ancient Egyptian semi-symmetrical lyres (Scale 1:10).

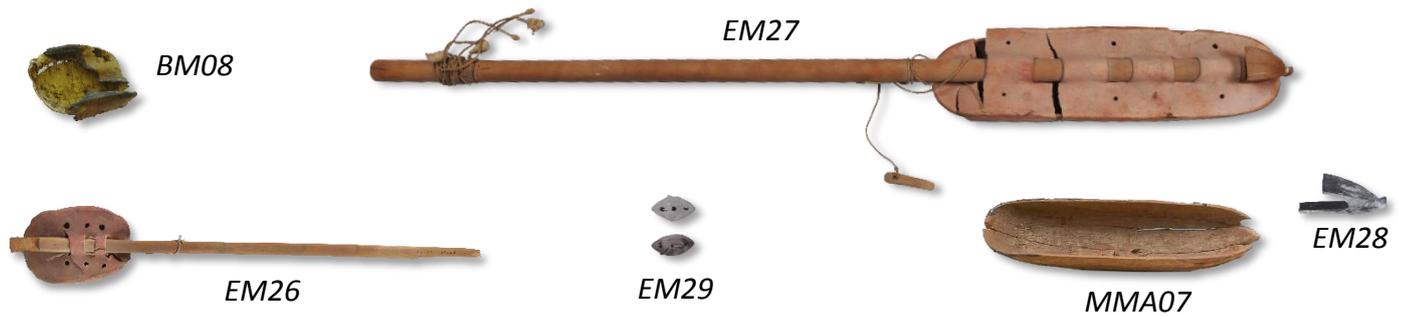


Plate 8j. An overview of all extant ancient Egyptian oval lutes of subtypes O1 (left) and O2 (right) (Scale 1:10).

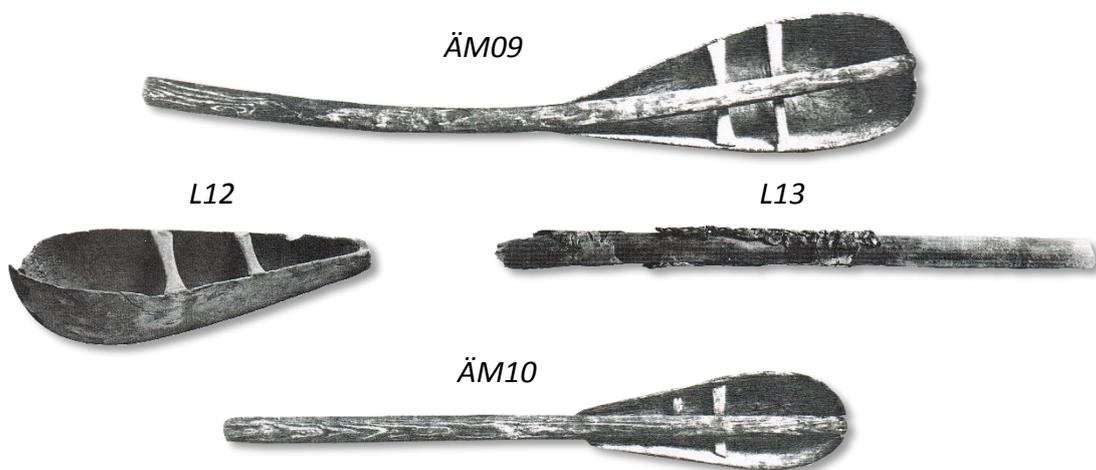


Plate 8k. An overview of all extant ancient Egyptian pear-shaped lutes (Scale 1:10).

References to Plates 8a-k: W. C. Hayes, *The Scepter of Egypt* II, fig. 9 (MMA03); H. Hickmann, *Instruments de musique*, Plates XCIII-CXVI (EM01-8, 10-11, 13-20, 22, 24-25, 28-29); H. Hickmann, *Acta Musicologica* 26, Plate I (O102); H. Hickmann, *45 siècles de musique*, Plate CIII.b (MV01); L. Manniche, *Ancient Egyptian Musical Instruments*, Fig. 33 (FM01); C. Sachs, *Die Musikinstrumente des Alten Ägyptens*, Tafs. 6-10 (ÄM01-10); C. Sachs, *ZAes* 69 (HFM01); C. Ziegler, *Catalogue des instruments de musique égyptiens*, IDM118-130 (L01-13); BAAM, *Egyptian Antiquities*, photograph by C. Gerigk (BAAM01); BM, *Collection online* (BM03); Medelhavet, *Databasen för museisamlingar* (MM01); MMA, *The Collection Online* (MMA01-2, 4-7); OI, *Museum Collection* (O101); photograph and courtesy of the American Museum of Natural History in New York (AMNH1); photograph and courtesy of the Egyptian Museum in Cairo (EM09, 12, 21, 23, 26-27); photograph and courtesy of the Museo Egizio in Florence (MAN01); photograph and courtesy of the Musikinstrumentensammlung in Göttingen (MISO1); photograph and courtesy of the World Museum in Liverpool (WM01-2); photograph by T. Sykora, courtesy of the British Museum in London (BM01-2, 4-8); courtesy of the Petrie Museum in London (PM01-2), courtesy of the Rijksmuseum van Oudheden in Leiden (RMO01-2); courtesy of the Royal Museum of Art and History in Brussels (RMAH01).



Plate 9. The reconstruction of harp EM12 (A) next to the original instrument (B). Photograph by T. Sykora (1);  
Photograph and courtesy of the Egyptian Museum in Cairo (B).

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