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## ECHOES OF ANTIQUITY: THE ANCIENT EGYPTIAN STONE HANDICRAFT HERITAGE FROM LUXOR'S WEST BANK

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### ABSTRACT

*In Luxor's West Bank, stone handicrafts represent an ancient Egyptian intangible cultural heritage, serving as both a local economic asset and a defining feature of the contemporary cityscape. This study investigates the enduring legacy of these crafts by analyzing their materials, techniques, production stages, and final products. Utilizing an analytical descriptive methodology, it explores their evolution across time, comparing ancient Egyptian practices with modern approaches. Through an interdisciplinary framework integrating archaeological findings, cultural analyses, and artisanal insights, the research provides certain perspectives on the persistence of this ancient craft in a modern milieu. By examining the production stages of stone handicrafts, the study illuminates the enduring traditions and innovations that have shaped this craft over time.*

**KEYWORDS:** Stone handicrafts - Ancient Egypt - Luxor's West Bank - Intangible cultural heritage.

### I- INTRODUCTION

The West Bank of Luxor, Egypt, stands as a testament to the magnificence and sophistication of ancient Egyptian civilization. Among its many archaeological treasures, the stone crafts from this area hold great importance, showcasing the artistic skill and cultural depth of ancient Egyptians. This introduction defines the historical and cultural importance of stone handicrafts in Luxor's West Bank, examining their depiction in ancient scenes and their enduring legacy within modern communities.

The stone handcrafts of Luxor's West Bank hold profound historical significance, reflecting the ingenuity and craftsmanship of ancient Egyptian artisans. From monumental statues to complex reliefs, these artifacts adorned temples, tombs, and palaces, serving both practical and symbolic purposes. Depictions in ancient scenes reveal the centrality of stone handcrafts in religious rituals, royal iconography, and everyday life, underscoring their integral role in ancient Egyptian society.<sup>1</sup>

The artistic representation of stone handcrafts in Luxor's West Bank is a testament to the meticulous skill and aesthetic sensibility of ancient Egyptian artists. Scenes carved on temple walls and tomb reliefs depict craftsmen at work, shaping stone into intricate forms and designs. These depictions provide invaluable insights into ancient techniques, tools, and materials used in stone carving, offering a glimpse into the artistic processes of antiquity.<sup>2</sup>

Beyond their aesthetic appeal, stone handcrafts held profound symbolic and functional importance in ancient Egypt. Royal statues and divine statues conveyed divine power and authority, while utilitarian objects like vessels and tools served practical purposes in daily life. The enduring durability of stone ensured the longevity of these artifacts, preserving them for future generations to admire and study.<sup>3</sup>

The stone handcrafts of Luxor's West Bank represent an integral aspect of Egypt's cultural heritage, embodying centuries of artistic tradition and cultural identity. Their preservation and study contribute to the understanding of ancient Egyptian society, religion, and craftsmanship. Today, they serve as symbols of national pride and cultural continuity, inspiring contemporary artisans and fostering a sense of connection to Egypt's illustrious past.<sup>4</sup>

Despite the passage of millennia, the legacy of stone handcrafts persists within modern communities surrounding Luxor's West Bank. Skilled artisans continue to practice traditional techniques passed down through generations, ensuring the preservation of ancient craftsmanship. Moreover, initiatives aimed at cultural preservation and tourism development seek to

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<sup>1</sup> <https://arce.org/luxors-west-bank> (accessed on April 15, 2024).

<sup>2</sup> Wilkinson, R. H. (2003). *The Complete Temples of Ancient Egypt*. Thames & Hudson.p.352-360.

<sup>3</sup> Shaw, I., & Nicholson, P. (2008). *The British Museum Dictionary of Ancient Egypt*. British Museum Pres. P.70-80.

<sup>4</sup> Dodson, A., & Hilton, D. (2004). *The Complete Royal Families of Ancient Egypt*. Thames & Hudson.p. 295-300.

promote awareness and appreciation of Egypt's rich heritage, fostering sustainable practices and community engagement.<sup>5</sup>

## **OBJECTIVES OF THE STUDY**

The study aims at the followings:

- Documenting the enduring heritage of stone handicrafts from ancient Egypt in Luxor's West Bank.
- Investigating the materials, techniques, and final products of modern and ancient Egyptian stone handicrafts.
- Shedding light on the evolution of stone handicrafts from ancient times to the present day.
- Comparing the production stages of ancient Egyptian stone handicrafts with modern techniques.
- Highlighting the cultural significance and economic importance of stone handicrafts to the modern community in Luxor's West Bank.

## **METHODOLOGY**

- The researcher's goal is a descriptive study of stone crafts, ancient and modern.
- The researcher aims to analyze the changes that have occurred in ancient and modern stone industries, including the steps and tools used.

**II- STONES USED IN HANDICRAFTS IN ANCIENT AND MODERN EGYPTIAN TIMES:** There are many types of stones that were used in the past and are still used until our time, for example<sup>6</sup>:

**1-Calcite “Egyptian Alabaster”:** The ancient Egyptians favored alabaster for its natural beauty and ease of carving due to its low hardness. While commonly associated with calcium sulphate, the alabaster extensively used by ancient Egyptians is chemically distinct, primarily comprising calcium carbonate, known geologically as calcite or onyx marble.<sup>7</sup> Sometime a

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<sup>5</sup> Hawass, Z. (2013). *Egyptology at the Dawn of the Twenty-first Century: Archaeology*. American University in Cairo Press. P 461.

<sup>6</sup>Klemm, R., & Klemm, D. (2008). *Stones and quarries in ancient Egypt*. London: British Museum Press.p.59-73.

<sup>7</sup> CF. Harris, J. R. (1961). *Lexicographical Studies in Ancient Egyptian Minerals*, Berlin, p. 77-78; Jequier, G., "Matériaux pour servir à l'établissement d'un dictionnaire d'archéologie égyptienne", *BIFAO* 19, Cairo, 1922, p. 92-102.

confusion could happen between calcite (Egyptian alabaster) and another material similar in composition but different in its crystalline form its gravity which is aragonite.<sup>8</sup>

Alabaster stone, predominantly calcite, was extensively used in ancient Egypt for diverse purposes, including carving and plaster production. Referred to as "šs"<sup>9</sup> from the 4<sup>th</sup> Dynasty, it was also known as "bit"<sup>10</sup> in the oldest graffiti at Hatnub quarries (Hatnub, positioned about 65 km (40 miles) southeast of el Amarna and near el Minya, was where Egyptian alabaster quarries and a seasonal workers' camp were located in the Eastern Desert)<sup>11</sup>. Its utilization extended to funerary objects such as vases, jars, and ritual items, as well as larger artifacts like statues and sarcophagi, notably produced at Hatnub during the Middle Kingdom.<sup>12</sup> In ancient Egypt, alabaster was mined primarily in the Hatnub quarry, though smaller sources near Helwan and Asyut were also utilized.<sup>13</sup> The quarries spanned from Minia to south of Asyut, with evidence of continuous operation from the 4<sup>th</sup> Dynasty to the New Kingdom.<sup>14</sup> Near El Amarna, inscriptions from the 19<sup>th</sup> Dynasty mark a small alabaster quarry, possibly with Roman reliefs. Another quarry, active since the 18<sup>th</sup> Dynasty and reopened by Mohamed Ali, lies south near Wadi Asyut<sup>15</sup>. Alabaster is also found in Sinai and

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<sup>8</sup> Lucas, A., (1962) *Ancient Egyptian Materials and Industries*, London.

<sup>9</sup> Wb. IV. 540.10f.

<sup>10</sup> Wb. I. 433.1.

<sup>11</sup> Köhler, E. Christian. "Hatnub Quarries and Ancient Egyptian Hard Stone Quarrying." In "Proceedings of the 10th International Congress of Egyptologists," edited by Zahi Hawass, p1275-1284. American University in Cairo Press, 2008.

<sup>12</sup> Abd El-Tawab, N., & Askalany, M. (2011). Study of Durability of Alabaster Used in the Temples of Luxor and Karnak and Laboratory Evaluation of Consolidation Treatment. *Egyptian Journal of Archaeological and Restoration Studies*, 1(2), 18.

<sup>13</sup> For more information about these quarries; see Nicholson, P. T., & Shaw, I. (Eds.). (2000). *Ancient Egyptian materials and technology*. Cambridge university press, p. 5 -77

<sup>14</sup> Anthes, R. (1928). "Die Felseninschriften von Hatnub" in *Untersuchungen Zu Goshichte und Alter Tumskunde Agypten*, VI, Leipzig; Petrie, W. M. F. (1924). *A History of Egypt During the XVIIth and XVIIIth Dynasties, 1896, with Additions to 1924* (Vol. 5). Methuen and Company, Limited. p. 45, 56, 114, 125, 161.

<sup>15</sup> Weigall, A. E. P., (1911), "Miscellaneous Notes, The Alabaster Quarries of Wady Assiout", *ASAE 11*, p. 176; Lepsius, R. 1853, *Discoveries in Egypt, Ethiopia, and the Peninsula of Sinai, in the years 1842-1845, during the Mission sent out by his Majesty Frederick William IV. Of Prussia ; Edited with notes by Kenneth R. H. Mackenzie*, London : Richard Bentley, p. 112-13.

sporadically in the desert east of the Nile, with small-scale vase production near Wadiyein, opposite Luxor, lacking ancient evidence.<sup>16</sup>

## 2- GRANITE

Granite, (*m3t*) integral to Egyptian architecture since the 1<sup>st</sup> Dynasty, saw major quarrying in the Old Kingdom and 18<sup>th</sup> and 19<sup>th</sup> dynasties.<sup>17</sup> Aswan Granite, esteemed after sandstone and limestone, shaped vases, statues, and buildings from the Early Dynastic Period.<sup>18</sup> In Egypt, "granite" is commonly used to describe various granitoid rocks, ranging from granitic to tonalitic compositions.<sup>19</sup> The commonly used Aswan red or pink granite is usually coarse-grained, sometimes exhibiting porphyritic and gneissic characteristics. "Black granite" tends to be granodioritic to tonalitic, with porphyritic features and a medium to coarse grain size. Another variety is reddish-gray and has a fine-grained texture<sup>20</sup>. Even though there are intermediate stone variations, "granite" is frequently employed as a straightforward term when discussing quarry activities.<sup>21</sup>

The ancient Egyptians gave different names to the granite stone according to its hardness or color; *m3t* was the general term used in all periods, hard red granite was *m3t-rwdt*, the black granodiorite and tonalite were called *inr km*, the granite from Elephantine was called *m3t 3bw*.<sup>22</sup> During the Old Kingdom, granite was extensively used, particularly for the Giza pyramid complexes of the 4<sup>th</sup> Dynasty, with additional utilization in the New Kingdom for obelisks and statues. Graeco-Roman times also

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<sup>16</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 77.

<sup>17</sup> Habachi, L. and Riad, H., (1959). *Aswan, the Town with a Glorious Past and a Promising future*, Cairo.p

<sup>18</sup> Arnold, D. (1991). *Building in Egypt: Pharaonic Stone Masonry Oxford University Press. New York*, p. 36.

<sup>19</sup> Brown, V. M. and Harrell, J.A. (1998) *Aswan granite and granodiorite. Göttinger Miszellen*, p. 164, 33–39; Harrell, J.A. and Storemyr, P. (2009) Ancient Egyptian quarries— an illustrated overview. In Abu-Jaber, N., Bloxam, E.G., Degryse, P. and Heldal, T. (eds.) *Quarry Scapes: Ancient Stone Quarry Landscapes in the Eastern Mediterranean, Geological Survey of Norway Special Publication*, 12, p. 7–50.

<sup>20</sup> Klemm, R. and Klemm, D.D. (2008) *Stones and Quarries in Ancient Egypt*, British Museum Press, London, p. 354.

<sup>21</sup> Kelany, A., Negem, M., Tohami, A., & Heldal, T. (2009). Granite quarry survey in the Aswan region, Egypt: shedding new light on ancient quarrying. *QuarryScapes: ancient stone quarry landscapes in the Eastern Mediterranean, Geological Survey of Norway Special Publication*, 12, p. 87-88.

<sup>22</sup> Kelany and others, *Granite quarry survey in the Aswan region*, p. 88.

witnessed significant granite usage, continuing into modern times with numerous companies exploiting its various forms.<sup>23</sup>

Granite is abundant in Egypt, with Aswan being the primary source, along with the eastern desert, Sinai, and to a lesser extent, the western desert. Aswan, particularly, boasts coarse-grained red granite commonly used in antiquity, supplemented by grey granite, albeit less frequently. Quarries are primarily located in Aswan, with smaller ones on Elephantine and Sehel islands and other locations like Ibhet, mentioned in ancient records.<sup>24</sup> Apart from Aswan, another ancient granite site is Wadi el Fawakhir, near Qena and Quseir, possibly utilized by the Romans. Additionally, it's speculated that the Romans extracted black and white granite at Moss Claidianus<sup>25</sup> in the eastern desert for export.<sup>26</sup> Granite's versatile applications in construction and utilitarian contexts have persisted since ancient times, making it a ubiquitous material throughout Egyptian history.

**3- LIMESTONE:** Limestone, known as *inr ḥd* ("white stone") in ancient Egypt,<sup>27</sup> is abundant along the Nile Valley, from Cairo to Esna, varying in quality and hardness. Composed mainly of calcium carbonate, it also contains silica, iron oxide, clay, and magnesium carbonate.<sup>28</sup> Used extensively in ancient Egyptian architecture, limestone served as a primary building material for tombs and temples until around the mid-18<sup>th</sup> Dynasty.<sup>29</sup> Ancient Egyptians quarried limestone near construction sites but favored high-quality sources like Tura,<sup>30</sup> Ma'sara,<sup>31</sup> and Gebelein<sup>32</sup>. Tura and

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<sup>23</sup> Kelany and others, *Granite quarry survey in the Aswan region*, p. 87.

<sup>24</sup> Ball, J., *The first of Aswan Cataract of the Nile*, London, 1964, p. 74.

<sup>25</sup> Mons Claudianus is in Egypt's Eastern Desert mountains, between the Red Sea and Qena, which is now in the Red Sea Governorate.

<sup>26</sup> Hume, W. f., *Geology of Egypt*, II, part II, Cairo, 1937, p. 380-5.

<sup>27</sup> Wb, I, p. 97.

<sup>28</sup> Aston, B. G. (1994). *Ancient Egyptian stone vessels: Materials and forms*, Heidelberg Orientverlag, p. 35.

<sup>29</sup> Aston, *Ancient Egyptian stone vessels*, p. 35- 36.

<sup>30</sup> Located approximately midway between present-day Cairo and Helwan, the ancient site of Tura known as Troyu or Royu held great significance as the main quarry for limestone during the ancient Egyptian times.

<sup>31</sup> It is a site where there is limestone quarries , near Cairo, supplied stone to the Old and Middle Kingdom pyramid complexes of the Memphite necropolis.

<sup>32</sup> It is located northwest of the city of Esna, about 55 kilometers from the city of Luxor.

Ma'sara, situated 6 km south of Cairo, were primary quarries, along with those from Beni Hasan to Sheikh 'Abada in Minia.<sup>33</sup>

The Tura quarry saw use from the 4<sup>th</sup> Dynasty, with inscriptions dating from the 11<sup>th</sup> to the 13<sup>th</sup> Dynasty, while Giza's usage dates back to the 4<sup>th</sup> Dynasty.<sup>34</sup> At Ma'sara, inscriptions span from the 18<sup>th</sup> Dynasty to the Late Ptolemaic Period, with ongoing quarry productivity.<sup>35</sup> Gebelein's inscriptions, dating from the 19<sup>th</sup> Dynasty to the Roman Period, contrast with its current non-exploitative status. On Thebes' west bank, small quarries exist near the Valley of the Kings,<sup>36</sup> including the Qurna "Hatshepsut quarry," known for low-grade limestone used solely during the New Kingdom.<sup>37</sup> Despite abundant limestone near Thebes, much is poor quality, except for Gebelein and Elwat el Debban, where better-quality stone was worked. Predynastic use of limestone contrasts with later periods favoring travertine, with unique black limestone from the Predynastic era. Fine-grained grey to black limestone found wide application from the Predynastic to the 3<sup>rd</sup> Dynasty and the Second Intermediate Period to the 18<sup>th</sup> Dynasty, while plain yellow or white limestone dominated stone vessel usage from the Predynastic to the Third Intermediate Period, and indurated yellow limestone persisted from the Predynastic to the Middle Kingdom.<sup>38</sup>

**4- SANDSTONE:** Sandstone was called as *rwḏt*, primarily comprising quartz sand bound by clay, calcium carbonate, or iron oxide, was a prominent building material in ancient Egypt, particularly from Esna to Gebel Barkal. Quarries near Aswan, Kalabsha, and Wadi Halfa were significant sources, with Gebel Silsila being renowned.<sup>39</sup> Despite early usage in Hierakonpolis<sup>40</sup> during the Archaic Period, widespread utilization did not occur until the

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<sup>33</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 66.

<sup>34</sup> Petrie, W. M. F. (1924). *A History of Egypt During the XVIIth and XVIIIth Dynasties, 1896, with Additions to 1924* (Vol. II). Methuen and Company, Limited, p. 36.

<sup>35</sup> Daressy, G., "Plaque emiale de Medinet- Habou", *ASAE* 11, 1911, p. 257- 68; Spiegelberg, W., *ASAE* 6, 1905, p. 219-33.

<sup>36</sup> Kurz, M. (1977), *Graffiti de la montagne thébaine. Volume II. 6., Cairo*, plan 215, 'Vallee des carriers'.

<sup>37</sup> Karlshausen, C., & De Putter, T. (2020). From Limestone to Sandstone—Building Stone of Theban Architecture during the Reigns of Hatshepsut and Thutmose III. *The Journal of Egyptian Archaeology*, 106 (1-2), p. 215.

<sup>38</sup> Aston, *Ancient Egyptian stone vessels*, p. 39.

<sup>39</sup> Ball, *The first of Aswan Cataract of the Nile*, p. 47-77.

<sup>40</sup> Hierakonpolis, also called the "City of the Hawk," is the Greek name for the present-day city of Kom el-Ahmar. Its ancient inhabitants knew it as Nekhen. This site, a significant predynastic and later settlement, is situated approximately 70 miles (113 km)

middle of the 18<sup>th</sup> Dynasty. By the 11<sup>th</sup> and 12<sup>th</sup> Dynasties, sandstone was employed for various structures, including temples and pillars.<sup>41</sup> Its extensive use continued into the middle of the 18<sup>th</sup> Dynasty, becoming the primary material for temples in Upper Egypt, a tradition upheld into the Graeco-Roman era, seen notably in temples like Luxor, Kamak, and Philae.<sup>42</sup> The most utilized sandstone quarries, notably at Silsila, located 40 miles north of Aswan, feature inscriptions dating from the 18<sup>th</sup> Dynasty to Greek and Roman eras. Other significant quarries include Gebel Serag, 30 kilometers south of Edfu, and Qirtas in Nubia, worked from the 30<sup>th</sup> Dynasty to Roman times.<sup>43</sup>

**5- BASALT:**<sup>44</sup> Basalt *bhn*, a black, heavy, compact rock,<sup>45</sup> is abundant in Egypt, found at various locations including Abu Za'bal, Giza, the Cairo-Suez desert,<sup>46</sup> Fayum, Aswan, Baharia Oasis, the eastern desert, and Sinai.<sup>47</sup> Its significant usage in the Old Kingdom is evidenced by pavements<sup>48</sup> at Saqqara's step pyramid and adjacent tomb, as well as in monuments like Khufu's pyramid temple at Giza and mortuary temples at Saqqara and Abusir from the 3<sup>rd</sup> to 5<sup>th</sup> Dynasties.<sup>49</sup>

During the Old Kingdom, basalt employed in such large quantity in the necropolis stretching from Giza to Saqqara was probably local and all the available evidence points to the Fayum as the source. Thus, in Fayum, within easy reach of this necropolis, there is a basalt quarry approached by a made road, and, therefore, manifestly worked on a large scale and, near the quarry, is a small temple probably of Old Kingdom date and there is no evidence of the ancient quarrying of basalt near Cairo, except in the Fayum, the present

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north of Aswan, along a 1.5 km (.9 mi) stretch on the west bank of the Nile River in Upper Egypt.

<sup>41</sup> Clarke, S., & Engelbach, R. (1999). *Ancient Egyptian masonry: the building craft*. Book Tree, p. 13-14.

<sup>42</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 55.

<sup>43</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 72.

<sup>44</sup> C. F. Lucas, A. (1930). Egyptian Predynastic stone vessels. *The Journal of Egyptian Archaeology*, 16(1), p. 204-206.

<sup>45</sup> Arnold, *Building in Egypt*, p 25.

<sup>46</sup> Barron, T., (1907). *The Topography and Geology of the District between Cairo and Suez*, Cairo.

<sup>47</sup> Hume, W. F., (1940). *Explain Notes to the Geological Map of Egypt*, Cairo.

<sup>48</sup> Firth, C. M., Lauer, J. P., & Quibell, J. E. (1935). *The step pyramid*, Institut français d'archéologie orientale, p. 62, 93.

<sup>49</sup> Firth, C. M. (1929). "Excavations of Department of Antiquities at Saqqara (October 1928 to March 1929)", *ASAE* 29, p. 65, 78.



quarry at Abu Za'bal being entirely modern. Moreover, the basalt employed in the Old Kingdom is found to be more nearly like that from the Fayum than that from Abu Za'bal.<sup>50</sup>

In this stage, the blocks of stones are quarried and cut in the quarries with different tools and methods that can be traced in the many ancient Egyptian quarries. In today's quarrying to different stone, it is evident that there are new methods and technologies were added for quarrying as it is seen in the use of electrical machines for instance. This development helps to get better results in a quick time and with a smaller number of quarry workers.

## **II- THE STAGES OF STONE HANDICRAFTS: COMPARING ANCIENT EGYPTIAN AND MODERN TECHNIQUES**

### **II- 1. QUARRYING AND TRANSPORTING METHODS OF STONES IN ANCIENT EGYPT AND MODERN TIMES**

#### **II. 1. 1. QUARRYING IN THE ANCIENT EGYPTIAN TIMES**

In ancient Egypt, stone extraction and transportation methods remain partially understood, prompting ongoing research. Stones are broadly classified into hard (e.g., basalt, granite) and soft (e.g., sandstone, limestone), each requiring distinct quarrying techniques.<sup>51</sup> Initially, stones were sourced from cliffs, boulders in dry riverbeds, and riverbanks, primarily for building and crafting vessels and objects, often using copper tools. Granite, a hard stone, may have been obtained from boulders.<sup>52</sup> From prehistory to the Roman Period, Egypt's quarries saw varied use, influenced by deposit characteristics. Debates persist regarding the use of metal tools, with evidence suggesting copper and bronze chisels were employed, particularly in sandstone quarries. Stone tools, possibly supplemented by fire, were used in ornamental stone production from the Old Kingdom to the Ptolemaic Period, notably in Aswan's granite quarries and Gebel el-Asr (Khafre's Quarry).<sup>53</sup>

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<sup>50</sup> Caton- Thompson G., and Gardner, E. W. (1934), *The Desert Fayum*, 2 vols., London, p. 5, 136-138.

<sup>51</sup> Aston, B., Harrel, A., & Shaw, I. (2000). Stone. In *Ancient Egyptian Materials and Technology*. Cambridge Univ. Press, Cambridge, p. 8 - 16.

<sup>52</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 63.

<sup>53</sup> Heldal, T. & Storemyr, P. (2007). The quarries at the Aswan west bank. In *Characterisation of complex quarry landscapes: An example from the west bank quarries, Aswan*, QuarryScapes report, ed. Elizabeth Bloxam, Tom Heldal, and Per Storemyr, pp. 69 - 140. Trondheim: Geological Survey of Norway, p. 104 - 116; Hledal, T., Kelany, A.,

In ancient Egypt, extracting granite blocks involved intricate processes. Initially, the granite bedrock's surface was purified with fire and water, and then a separation trench was dug around the block. Workers operated within designated quadrants, using stone tools to extract the granite. For large monuments like obelisks, deeper trenches were dug, and massive levers were used to separate the blocks.<sup>54</sup> Once extracted, wooden beams likely facilitated their transportation.<sup>55</sup>

Objects were often finished within quarries, especially if they were close to the Nile, to streamline production and minimize transport challenges. Notable examples include the "unfinished obelisk" and statues of Ramses II, which remained partially completed in quarries to reduce transport weight. These practices reflect the meticulous craftsmanship and strategic planning employed by ancient Egyptians in their quarrying and stone-working endeavors.<sup>56</sup>

**II. 1. 2. QUARRYING IN MODERN TIMES:** in the earliest stone quarries, workers used just simple manual tools, chisels, hammers and picks as well as vast amounts of brute force to drag the blocks of stones out of the quarry as previously mentioned. Today, much of the hard work is done by a wide range of advanced equipment for blasting, drilling and cutting the stone before transporting it away to where it will be used in the stone industries. From this, workers can create and shape stone in many different ways, including block stone.<sup>57</sup>

Modern quarrying operations in Egypt involve the extraction of various raw materials like limestone, sandstone, alabaster, and granite using large and powerful machinery. Mechanical tools and blasting equipment significantly reduce the manual labor required, enhancing efficiency and productivity.

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Storemyr, P., & Bloxam, E. (2005). The geology and archaeology of the ancient silicified sandstone quarries at Gebel Gulab and Gebel Tingar, Aswan (Egypt). *The Geology and Archaeology of the Ancient Silicified Sandstone Quarries at Gebel Gulab and Gebel Tingar, Aswan (Egypt)*, p. 15 – 21.

<sup>54</sup>Arnold, *Building in Egypt*, p. 38.

<sup>55</sup>Arnold, *Building in Egypt*, p. 33 - 36

<sup>56</sup> Bloxam, E. (2003). The Organisation, Transportation and Logistics of Hard Stone Quarrying in the Egyptian Old Kingdom: a Comparative Study (Unpublished PhD dissertation). *Institute of Archaeology, University College London*; Harrell, J. A. (2002). Pharaonic stone quarries in the Egyptian deserts. *Egypt and Nubia: gifts of the desert*, 232-43.

<sup>57</sup> <https://www.stamfordstone.co.uk/natural-stone-quarry/> . (accessed on October 15, 2022).

Specialized drilling equipment equipped with diamond-tipped points and blasting tools are used to cut through hard rock surfaces and obtain the necessary materials.<sup>58</sup>

Key equipment such as crawler tractors, rock trucks, and wheel loaders play crucial roles in stripping, drilling, and transporting materials within the quarry. Crawler tractors with ripper arms efficiently remove surface obstructions, while blasting tools facilitate material extraction by causing significant shifts in the ground. Rock trucks, with hauling capacities of up to 3,600 tons, swiftly transport overburden and recovered material, contributing to increased productivity. Wheel loaders handle material loading tasks and transport mined material to processing facilities. Additionally, crushers break down large boulders into smaller stones, which are then transported for further processing and use in various industries, demonstrating the streamlined and efficient nature of modern quarrying operations.

## **II. 2. TRANSPORTATION STAGE IN ANCIENT EGYPT AND MODERN TIMES**

**II. 2. 1. TRANSPORTING STAGE DURING THE ANCIENT EGYPTIAN TIMES:** the ancient Egyptians used different means of transportation; Nile transportation by using boats and ships and the transportation by land by using men<sup>59</sup> and animals as donkeys and oxen (Fig. 1). From the iconographical evidence, the means of transportations were varied as the ancient Egyptians used carts, chariots and sledges for transporting different objects including the stone statues or blocks of stones from the quarry to the place of production or the place in which the object will be put.<sup>60</sup>

During ancient Egyptian times, transporting stones from quarries required an extensive infrastructure of loading docks, roadways, and quays, sometimes utilizing specialized vehicles. Although exact transportation methods are challenging to reconstruct, archaeological evidence, such as scenes from the temple of Hatshepsut, depict the use of boats to transport obelisks,<sup>61</sup> while sledges and manpower were employed for hauling large

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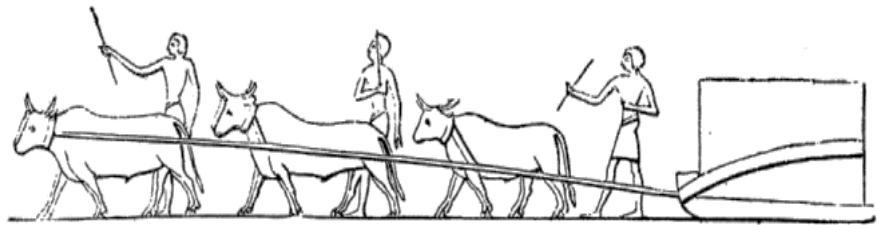
<sup>58</sup> <https://www.rusticstone.net> (accessed on October 13, 2022).

<sup>59</sup> Newberry, Percy E. *El Bersheh I: The Tomb of Tehuti-Hetep*; ASE 3, London: Egypt Exploration Fund, [1894], pl. XII.

<sup>60</sup> Vinson, S. (2013). Transportation. In Willeke Wendrich (ed), *UCLA Encyclopedia of Egyptology*, Los Angeles.

<sup>61</sup> Landström, B. (1970). *Egyptiska skep*. International book production. Stockholm.

statues, as seen in the tomb of Djehutihotep.<sup>62</sup> Additionally, a bas-relief depictions from one of the stelae of Ahmes, at Tura limestone quarries during the 18th Dynasty (Fig. 1), show oxen pulling sledges carrying stone blocks indicating the use of animals for traction.<sup>63</sup> It is evident that Egyptians shaped large objects in quarries to reduce weight, as depicted in scenes showing transportation and the possibility of cutting large blocks into smaller pieces for various uses.



**Fig. 1. Transportation of a quarried block on a sledge drawn by oxen, from Bas-relief from a stelae of Ahmes, at Tura, Eighteenth Dynasty.**

<https://www.gutenberg.org/> (accessed on October 12, 2023).

## **II. 2. 2. TRANSPORTATION OF STONES DURING THE MODERN TIMES:**

In modern Luxor, stone craftsmen no longer rely on ancient transportation methods. Instead, trucks and heavy vehicles are used to transport stone blocks from quarries. These trucks, capable of carrying large loads, are the primary mode of transportation, offering versatility and efficiency. They can navigate various terrains and handle a wide range of weights and sizes. Front loaders, another essential equipment in quarries, are used to load raw materials onto trucks, facilitating the production process by moving materials efficiently. These loaders have significant capacity and are crucial for transporting large chunks of stone.<sup>64</sup>

## **II. 3. MANUFACTURING STAGE OF STONE HANDCRAFTS OF THE ANCIENT EGYPTIAN TIMES AND MODERN TIMES:**

In this section, the study will document the traditional and contemporary techniques used in crafting stone objects, focusing on Luxor's west bank.

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<sup>62</sup> The tomb of Djehutyhotep, who was the Great Chief of the Hare Nome, stands out as the most crucial and well-preserved among the tombs at the el-Bersheh site.

<sup>63</sup> Baines, J. (2000). Stone and other materials in ancient Egypt – Usages and values. In C. Karlshausen & T. De Putter (Eds.), *Pierres Égyptiennes – Chefs-d’Oeuvre pour l’Éternité* (pp. 29–41). Mons: Faculté Polytechnique de Mons.

<sup>64</sup><https://www.rusticstone.net/>. (accessed on November 12, 2022).

While the core steps remain consistent for items like vases and vessels, modern artisans in Luxor now utilize electric tools for efficiency. Our examination will center on everyday objects and tourist souvenirs, as monumental pieces like statues are less common due to their size. Instead, they're reserved for decorative purposes in public spaces or large residences.

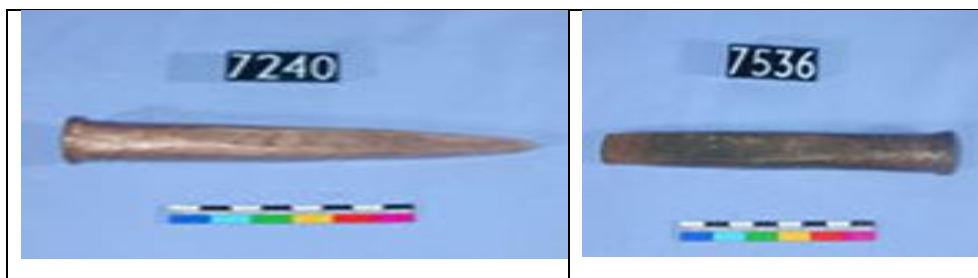
**IN ANCIENT EGYPT:** It is possible to deduce the method of making stones after cutting them from the quarries from the traces left by the machines on the manufactured piece, especially the statues of which a great number were found that had not yet been made, and from the illustrations that were found painted on some tombs.<sup>65</sup> Different kind of tools were used from early times made of stone and copper. Some flint tools<sup>66</sup> were used in the manufacture of stone from predynastic times. During the step of shaping the objects chisels were held in the hand and struck with a wooden mallet. The following displayed chisels (Figs. 2, 3 and 4) must have had different functions, such as wood or stone working tools. There are two main types used for dressing stone. The flat mortise chisels (Figs. 2 and 4) were for cutting into a surface, while the round bar chisels were for flattening the surface.



**Fig. 2 . Copper alloy, flat mortise chisel, 2nd Dynasty (After Petrie 1917: 20, pl. XXII, no. 69, no. 47, no. 71**

<sup>65</sup> Petrie, W. F. (1884). On the mechanical methods of the ancient Egyptians. *Journal of Anthropological Institute of Great Britain and Ireland*, p. 69– 82.

<sup>66</sup>El-Khouli, A.,E. *Egyptian Stone vessels predynastic period to Dynasty III*, Mainz, 1978, vol. 3, pl. 144.



**Fig. 3 . Round bar chisel, M.K. from Lahun**



**Fig 4. Flat mortise chisel, from Lahun (Amenhotep III), (After Petrie 1917: pl. XXII, no. 86, no. 72, no. 85, no. 67 & no. 59)**

There is no text or scene explain fully the steps related to the manufacture of stones in ancient Egypt, however the steps can be concluded from the representations in some private tombs such as the Old Kingdom Memphite tombs and New Kingdom Theban private tombs TT39, TT65, TT100 and others.<sup>67</sup> Some other evidence come from some of the unfinished objects and the marks of the tools traced on them.<sup>68</sup>The steps of making soft stone vases or vessels after being quarried and transported to the place of production can be concluded as following:<sup>69</sup>

**First Step:** the craftsmen start to roughly shape and smooth the object with stone tools. This is happening by striking the stone, and it is possible that this was found represented in the tomb of “Ty” in Saqqara (Fig. 5).

<sup>67</sup> For more see; Zain el abdeen M. A. (2013). *Scenes Depicting Manufacturing of Stone and Metal Work at the Private Theban Tombs of the New Kingdom*, unpublished thesis, p. 150-151.

<sup>68</sup> Lucas, *Ancient Egyptian Materials and Industries*, p. 65, 66.

<sup>69</sup> Nicholson, & Shaw, *Ancient Egyptian materials and technology*, p. 64.



**Figure 5 (Sculpturing a number of statues and vases in the 5<sup>th</sup> Dynasty tomb of Ty at Saqqara, after <https://www.osirisnet.net/> accessed on April 25, 2024).**

**Second Step:** scrubbing with a stone in the hand with crumbled powder. Evidence come from the tomb of Wepemnofret.<sup>70</sup>

**Third Step:** publishing with a copper saw with crumbled powder, as it can be seen TT100.

**4<sup>th</sup> Step:** piercing with a tubular-shaped auger, with crumbled powder, and this auger is a hollow tube of copper that is used to run it between the hands or a bowstring, or a movable fist. The perforator was used to hollow out pots made of stone, especially cylindrical pots that were made of hard stones such as basalt and diorite. Piercing with copper, or a pointed stone with crumbled powder. Three tombs from the 18<sup>th</sup> Dynasty were seen in Thebes<sup>71</sup> drills run by strings to pierce beads, and in a 4<sup>th</sup> tomb for piercing something unknown.

**5<sup>th</sup> Step:** polishing of the object from inside and outside by using a piece of a copper or a crumbled powder quartz sandstone. The fragile parts as lugs, handles and lips of the objects were worked with different tools such fine copper chisels.<sup>72</sup> Carving hard stones like granite, basalt, quartzite, and schist includes pounding with a stone and rubbing the object with a stone which was maybe accompanied by the use of an abrasive powder sawing by a copper blade, boring by a tubular drill and

<sup>70</sup> Hassan, S. (1941). *Excavations at Gîza. Vol. III, 1931-1932, by Selim Hassan, with the Collaboration of Banoub Habashi. Published by the Faculty of Arts, Fouad I University. Government Press, p. 195*

<sup>71</sup> Newberry, P. E. (1900). *The life of Rekhmara: vezîr of upper Egypt under Thothmes III and Amenhetep II (circa BC 1471-1448)*. A. Constable, pl. XIII ; Davies, N. de Garis, (1925). *The Tomb of the Two Sculptors at Thebes*, New York, pl. XI ; Davies, N. D. G., & Davies, N. M. (1923). *The tombs of two officials of Thutmosis the Fourth:(nos. 75 and 90)*, pl. X ; Davies, N. de Garis. *The Tombs of Menkheperasonb, Amenmose, and Another (nos. 86, 112, 42, 226)*, London, 1933, p. 25, pl. XXX.

<sup>72</sup>Nicholson, & Shaw, *Ancient Egyptian materials and technology*, p. 65.

an abrasive powder. There are some examples of stone tools used for carving stones found from the predynastic time. A scene depicting a workshop for various industries, including manufacture of stone can be found in the 6<sup>th</sup> Dynasty tomb of Ankh-Mahur in Saqqara (Fig. 6).



**Fig. 6. A scene depicting a workshop for various industries, including manufacture of stone, tomb of Ankh-Mahur in Saqqara, 6<sup>th</sup> Dynasty. (After Kanawaiti, N., and Hassan, A., (1997). *The Cemetery at Saqqara, vol. 2, The Mastabas of Ankh-Ma-Hor*, London, pl. 40)**

**IN MODERN LUXOR:** In the workshops of the west bank, the blocks are brought by some known stone suppliers who bring big and small blocks of one of the demanded types of stones such as: alabaster, granite, basalt or other kinds that will be used in the workshop. Each type of stone come from different place on a special truck. Before discharging the load of stones, the chief of team of workers the *Rais* (Fig. 7) would verify firstly the quality and then the quantity of the blocks of stone that will be used for the production of objects during a certain period. Some members of team examine the chosen stone blocks carefully to make sure that there are no cracks or defects that disable using them later. Then, these blocks were gathered in a specific place (Fig. 8) where they are visible to the craftsmen who will work on them one by one. The chief of craftsmen is the responsible for the choice of the number and the form of objects that will be produced according to the demand of the costumers and tourists.





**Fig. 7. The Rais of workers while choosing the blocks of stone. (Photo Taken By the researcher on September 15, 2021).**



**Fig. 8. Blocks of stone before manufacturing different objects. (Photo Taken By the researcher on September 22, 2021).**

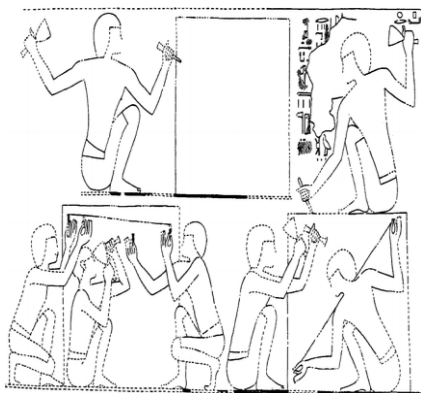
In this stage, the craftsmen start the initial phases of manufacturing the object. The block of stone was firstly chosen for being splitting to one or more piece for making one or more object. The chosen piece of stone was shaped and smoothed with stone tools according to the needed form and size as it was made in ancient Egypt.<sup>73</sup> Firstly, the stone blocks are cut according to the required shape, whether large, small, or medium by metal hammer. There are a group of traditional tools (Fig. 9) that must be in any workshop or in any house of any craftsman working at his home including saw, chisels, hammer and other tools.



**Fig. 9. A, B. Traditional tools for manufacturing of stones from a workshop in the west bank (taken by the researcher October 2022)**

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<sup>73</sup> Nicholson, & Shaw, *Ancient Egyptian materials and technology*, p. 64.



**Fig. 10. Stonecutters shown in the tomb of Rekhmire at Thebes, 18<sup>th</sup> Dynasty. (After Davies, II, 1943, pl. 62).**

**Fig. 11. Craftsman using Chisels and metal Hammer to cut stone now in west bank of Thebes (photo taken by the researcher, September 15,2022).**

This phase of shaping and forming the stone to the needed object, the workmen use sometimes the same technique as in ancient Egypt by using hammer, chisel, and saws. However, new developed tools such as the electric stone cutters for cutting and shaping the object. In ancient Egypt, the workers used copper chisels, driven with wooden mallets as it is shown in the tomb of Rekhmire (Fig. 10) which is the same as what happen now in the workshops of the west bank (Fig. 11). For more precise shaping the workers use different kinds of hummers (Fig. 12). In the last ten years, craftsman started to use some electrical machines (Fig. 13) to cut stone. This new technology is used mostly for the big objects and not for the small ones.



**Fig. 12. Craftsman using hammer to cut stone for making the shape of vase (photo taken by the researcher, September 2021). Fig. 13. Craftsman using electrical machines to cut stone (photo taken by the researcher, September 25, 2021).**

The point chisel or punch is the workhorse of the chisels (Fig. 14). It is used for roughing out and removing material quickly. On soft stone, the point chisel can leave a 'stone bruise', or white mark, when it has gone deeper into the stone than your intended surface. Care must be taken not to 'bury' the chisel into the stone. These unintended white marks will show up when the stone is polished. These bruises can only be removed by carving or filing down into the stone past the depth of the bruise. The tooth chisel is used after the point chisel has roughed out the basic shape. It further refines the forms and removes the peaks and valleys left by the point chisel. The flat and rondel chisels also come into play for smoothing out the texture left by the tooth chisel and prepares the stone for finishing. Any stone bruises left by the point or tooth chisels can be removed with a flat chisel. Hand tools for harder stones, like granite or sandstone, must be carbide tipped. The three tools on the left are point chisels. The two on the right are flats.



**Fig. 14. Different chisels in use of the workshops of the west bank of Luxor. (Photo Taken By the researcher on September 20, 2022).**

The craftsman in these workshops works side by side in different objects with small sizes. Each one of them can work in a vase, statue, obelisk, or other piece. The fragment of stone is roughly shaped and smoothed with stone tools by the hummers (Fig. 15).



**Fig. 15. Crafts men making vases using by metal hammer in work shop in west bank of Thebes (photo by the researcher, September 19, 2021).**

A wide range of hammers is available (Fig. 16), varying in shape, size, and weight. The different styles reflect different uses. The form of these hammer heads has not changed much over the years although some modern materials are now used in both the head and handle. Historically, handles were crafted from wood and secured via a bored aperture in the hammerhead, facilitating convenient replacement when necessary. Hammers are available in diverse weight categories tailored for specific tasks. The small hammer is used for carving small details. The medium weigh hammer is good for general carving. The hammer for use on granite and has a hardened steel head. It is used with chisels with untempered ends and will cause the chisel to mushroom over. Striking too hard with this combination could cause metal fragments to fly off the end of the chisel like shrapnel. The 3-pound hammer is heavy enough to effectively use a pointed chisel or pitching tool to remove big pieces of stone. The 'rock buster' on the right has a carbide edge that works like a pitching tool. You can place it on the stone's edge and hit it with another hammer to break off large chunks of stone.



**Fig. 16. Hammer in workshop in west bank of Thebes (photo taken by the researcher, September 21, 2021).**

The grinder machine (Fig. 17) is one of the new tools that is used in the manufacturing of stone in the west bank workshops. It is a very helpful tool for carving stones in an easier way to the craftsmen. Cheap carbide masonry cutting and grinding discs can be utilized on the softer stones. For the harder stones, such granite, diamond blades are necessary, although they can also be used on the softer stones. The tool's versatility is increased with a flush mount adaptor; however, it must be operated without a safety guard. The worker should cut in a perfectly straight line with these blades. Any torque could cause the blade to bind and kick back or damage the blade. An effective way to remove stone quickly is to make a series of parallel cuts

about an inch apart, then break them off with a hammer and chisel. The diamond cup wheel is very effective at smoothing rough surfaces on granite before polishing.

A die grinder can be useful when carving softer stones like soapstone and alabaster. Equipped with diamond-coated burs, it can make the job of carving small details or getting into holes and crevices much easier. When carving softer stones like soapstone and alabaster, a die grinder might be helpful. With this machine, it can greatly simplify the task of carving fine details or fitting into cracks and crevices



**Fig. 17. a & b. Grinder machine in workshop in west bank of Thebes (photos taken by the researcher, September 15, 2021).**

The craftsman after finishing the exterior shaping, he passes to the step of boring the inside of the object (Fig. 18) if it is needed as in the case of a vase, vessel, or a plate. An interior tubular drilling and stone boring is made. This is exactly what was happened in ancient Egypt. Some scenes from different periods show this step such as in the tombs of Puyemre (TT39) and Rekhmire (TT100) (Fig. 19). During this step, the workers use the rasps and rifflers (Fig. 20) as in ancient Egypt for the final shaping of the softer stones that can be done with rasps. Power tools for finishing can sometimes be hard to control and give a mechanical look. The use of rasps provides a more natural, flowing finish. The rasp's scratch marks can be left as a textural element or removed with sandpaper.

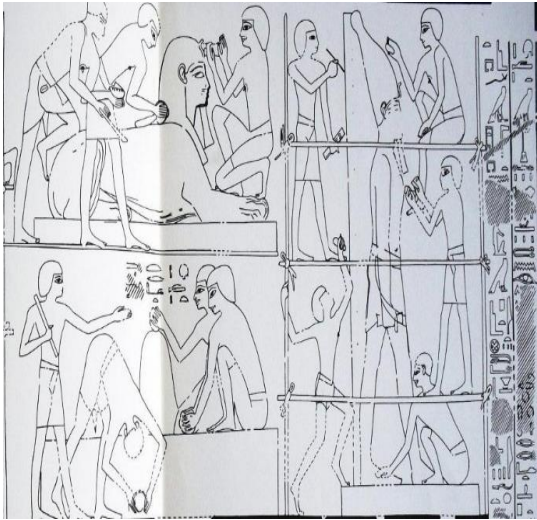


**Fig. 18.** Stoneworker using a drill with a special crank to hollow out a stone vessel (photo taken by the researcher, October 10, 2021).



**Fig. 19.** stoneworker using a drill with a special crank to hollow out a stone vessel. (After Davies, II, 1943, pl. LII).

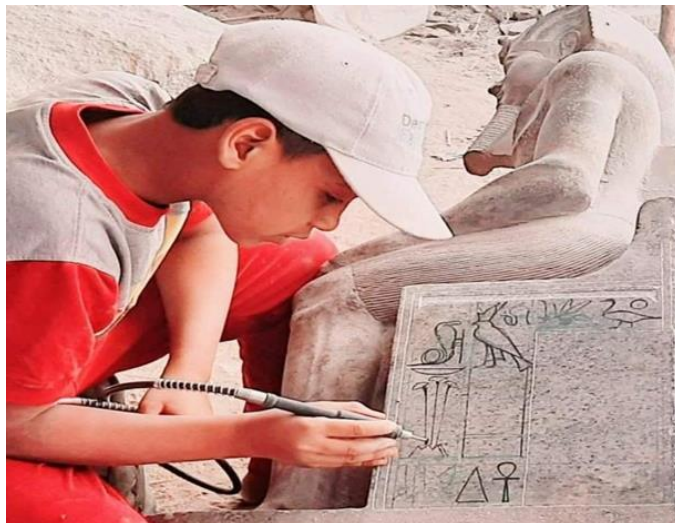
The final stages of the ancient production process consisted of smoothing and polishing vessels or vase both inside and outside, which took place largely with the use of stones and quartz sand. This step was occurred in the manufacture of stones in ancient Egypt as in the tomb of Rekhmire (Fig. 20) which depicts the craftsmen while polishing statues with stones and engraving inscriptions. In the workshops of the west bank, there is the same way of polishing the objects (Fig. 21). In the process, the more delicate parts of the vessels, such as lugs, handles and lips, would have been worked with fine copper chisels. Some pieces are decorated and coloured with different inscription in hieroglyphic inscriptions. In all the steps, even the final ones training for the children (Fig. 22) is practiced in these workshops.



**Fig. 20.** Scene representing sculpturing of stone statues in TT100, at Thebes, 18<sup>th</sup> Dynasty. (After Davies, II, 1943, Pl. LX). used sandstone for polishing statues.



**Fig 21.** Craftsman using sandstone for polishing vase (photo taken by the researcher, September 15, 2021).



**Fig. 22.** Training a child on the stone handcraft in the west bank. (Photo taken by the researcher, September 18, 2021).

### **III. FINAL PRODUCT OF STONE HANDICRAFTS OF THE ANCIENT EGYPTIAN TIMES AND MODERN TIMES**

By comparing the final products of stone handicrafts, the continuity of artistic expression throughout history becomes evident. Artisans today strive to capture the essence of ancient Egyptian craftsmanship by meticulously replicating the forms and sizes of objects found in archaeological discoveries (Figs. 23 and 24). This commitment to emulation serves as a testament to the enduring influence of the ancient Egyptians' artistic legacy. Through the preservation of these traditional techniques, handicrafts play a vital role in connecting present-day communities with their rich heritage and cultural roots.

However, despite the similarities in appearance, the purpose behind contemporary stone handicrafts often differs from their ancient counterparts. While ancient Egyptian artifacts had specific functions, serving utilitarian or ritualistic purposes, the focus of modern stone handicrafts lies predominantly in their decorative value. These new creations are designed to adorn living spaces, act as conversation pieces, or serve as aesthetic expressions of individual style. This shift in functionality reflects the changing needs and priorities of society, as well as the evolution of craftsmanship from a practical necessity to an art form that celebrates beauty and creativity.

In conclusion, the heritage of handicrafts and the art of stone handicrafts in particular provide a bridge between the past and the present. Through careful observation, one can identify the strong resemblance between the final products of contemporary artisans and ancient Egyptian artifacts. This continuity not only showcases the enduring influence of the ancient Egyptians on artistic expression but also serves as a reminder of the rich cultural heritage that shapes modern communities. While the function of these objects may have transformed over time, the preservation of traditional techniques and the appreciation of beauty remain central to the role of handicrafts in society.





**Fig. 23.** A pear-shaped vase with a wide flat lip, a tapering neck and a flat bottom (After <http://www.globalegyptianmuseum.org> accessed on April 22, 2022)



**Fig. 24.** Many kinds of vases made by crafts men in workshop in west bank of Thebes (photo by the researcher, September 8, 2021)

## CONCLUSION

The use of stones in ancient and modern Egyptian handicrafts reflects a rich cultural heritage and artistic tradition. From prized calcite to enduring granite, limestone, sandstone, and basalt, each stone embodies millennia of craftsmanship and ingenuity. Despite technological advancements, the essence of stone handicrafts remains deeply rooted in Egyptian culture. Artisans today honor their ancestors' legacy by replicating ancient techniques, preserving antiquity's beauty for future generations. The continued use of these stones underscores their enduring significance in modern Egyptian society, serving as a bridge between the past and present. The quarrying and transportation methods of stones in ancient Egypt and modern times exhibit remarkable parallels and contrasts, highlighting the evolution of craftsmanship over millennia. Ancient Egyptians employed sophisticated yet labor-intensive techniques to extract and transport stones, utilizing manual tools and intricate processes. From quarrying granite to shaping monumental objects like obelisks, their craftsmanship was marked by meticulous attention to detail and strategic planning.

In contrast, modern quarrying operations in Egypt benefit from advanced machinery and technology, streamlining the extraction and transportation process. Heavy equipment such as drills, explosives, and crushers enhance efficiency, reducing the reliance on manual labor and increasing

productivity. Specialized vehicles like rock trucks and wheel loaders play crucial roles in stripping, drilling, and transporting materials within the quarry, contributing to the streamlined nature of modern operations.

The transportation stage, both in ancient and modern times, reflects the ingenuity and adaptability of craftsmen. While ancient Egyptians relied on boats, sledges, and manpower to transport stones, modern craftsmen utilize trucks and heavy vehicles for efficiency and versatility. Front loaders facilitate the loading process, ensuring materials are transported swiftly and effectively, further underscoring the advancements in transportation technology.

In comparing ancient Egyptian stonecraft to modern practices in Luxor's west bank, we find that while tools and techniques have evolved, the essence of craftsmanship endures. This continuity pays homage to the skill of ancient artisans and ensures that stone handicrafts remain integral to Egypt's cultural identity.

Ancient Egyptian stonecraft involved a meticulous process of shaping, smoothing, and polishing, using tools made from stone, copper, and other materials. Evidence from tomb illustrations and unfinished objects offers insights into the techniques employed, including chiseling, sawing, and drilling. The craftsmanship of monumental statues and everyday objects like vases and vessels reflected the sophisticated skills of ancient artisans.

In modern Luxor, while the core steps of stonecraft remain consistent, artisans now integrate electric tools for efficiency. Stone blocks are carefully selected and shaped using a combination of traditional tools and modern equipment, such as electric stone cutters. The craftsmanship continues to honor ancient techniques, with craftsmen working side by side to shape stones into various objects, including vases, statues, and obelisks.

Throughout history, the final stages of stonecraft, including smoothing and polishing, have remained essential for achieving a refined finish. Whether in ancient Egypt or modern workshops, the dedication to quality craftsmanship endures, ensuring the preservation of this rich cultural heritage for generations to come.

In comparing the final products of stone handicrafts, it becomes clear that the thread of artistic expression runs unbroken through the tapestry of history. Today's artisans painstakingly replicate the forms and sizes of ancient Egyptian artifacts, honoring the timeless legacy of their craft. This dedication serves as a powerful reminder of the profound influence of ancient Egypt's artistic heritage. Yet, despite their striking resemblance, contemporary stone handicrafts often serve different purposes than their ancient counterparts. While ancient artifacts were primarily utilitarian or

ritualistic, modern creations tend to prioritize decorative value, adorning spaces and reflecting individual tastes and styles. This shift underscores the evolving nature of craftsmanship, from a practical necessity to an expression of beauty and creativity.

In essence, the heritage of handcrafts, particularly in stone, serves as a bridge between past and present. Through careful examination, one can discern the strong parallels between contemporary works and ancient artifacts, highlighting the enduring impact of ancient Egyptian artistry. This continuity not only celebrates cultural heritage but also underscores the timeless appeal of traditional techniques and the enduring appreciation of beauty in society.

## REFERENCES

- Abd El-Tawab, N., & Askalany, M. (2011). Study of Durability of Alabaster Used in the Temples of Luxor and Karnak and Laboratory Evaluation of Consolidation Treatment. *Egyptian Journal of Archaeological and Restoration Studies*, 1(2), 18.
- Anthes, R. (1928). "Die Felseninschriften von Hatnub" in *Untersuchungen Zu Goshichte und Alter Tumskunde Agypten*, VI, Leipzig; Petrie, W. M. F. (1924). *A History of Egypt During the XVIIth and XVIIIth Dynasties, 1896, with Additions to 1924* (Vol. 5). Methuen and Company, Limited. p. 45, 56, 114, 125, 161.
- Arnold, D. (1991). *Building in Egypt: Pharaonic Stone Masonry* Oxford University Press. New York, p. 36.
- Aston, B. G. (1994). *Ancient Egyptian stone vessels: Materials and forms*, Heidelberger Orient Verlag, p35-39.
- Baines, J. (2000). Stone and other materials in ancient Egypt – Usages and values. In C. Karlshausen & T. De Putter (Eds.), *Pierres Égyptiennes – Chefs-d'Oeuvre pour l'Éternité* (p. 29–41). Mons: Faculté Polytechnique de Mons.
- Ball, J., *The first of Aswan Cataract of the Nile*, London, 1964, p. 74.
- Ball, *The first of Aswan Cataract of the Nile*, p. 47-77.
- Barron, T., (1907). *The Topography and Geology of the District between Cairo and Suez*, Cairo.
- Bloxam, E. (2003). *The Organisation, Transportation and Logistics of Hard Stone Quarrying in the Egyptian Old Kingdom: a Comparative Study* (Unpublished PhD dissertation). Institute of Archaeology, University College London.

- Brown, V. M. and Harrell, J.A. (1998) Aswan granite and granodiorite. *Göttinger Miszellen*, p. 164, 33–39; Harrell, J.A. and Storemyr, P. (2009) Ancient Egyptian quarries—an illustrated overview.
- Caton-Thompson, G., and Gardner, E. W. (1934), *The Desert Fayum*, 2 vols., London, p. 5, 136-138.
- CF. Harris, J. R. (1961). *Lexicographical Studies in Ancient Egyptian Minerals*, Berlin, p. 77-78; Jequier, G., " Matériaux pour servir à l'établissement d'un dictionnaire d'archéologie égyptienne", BIFAO 19, Cairo, 1922, p. 92-102.
- Clarke, S., & Engelbach, R. (1999). *Ancient Egyptian masonry: the building craft*. Book Tree, p. 13-14.
- Daressy, G., "Plaque-émis de Médinet-Habou", ASAE-11, 1911, p. 257--68; Spiegelberg, W., ASAE-6, 1905, p. 219-33.
- Dodson, A., & Hilton, D. (2004). *The Complete Royal Families of Ancient Egypt*. Thames & Hudson.
- El-Khouli, A., E. (1978). *Egyptian Stone vessels predynastic period to Dynasty III*, Mainz, vol. 3, p. 144.
- Firth, C. M., Lauer, J. P., & Quibell, J. E. (1935). *The step pyramid*, Institut français d'archéologie orientale.
- Habachi, L. and Riad, H., (1959). *Aswan, the Town with a Glorious Past and a Promising future*, Cairo.
- Hawass, Z. (2013). *Egyptology at the Dawn of the Twenty-first Century: Archaeology*. American University in Cairo Press.
- Heldal, T., & Storemyr, P. (2007). The quarries at the Aswan west bank. In *Characterisation of complex quarry landscapes: An example from the west bank quarries, Aswan, QuarryScapes report*, ed. Elizabeth Bloxam, Tom Heldal, and Per Storemyr, pp. 69---140.
- Heldal, T., Kelany, A., Storemyr, P., & Bloxam, E. (2005). The geology and archaeology of the ancient silicified sandstone quarries at Gebel Gulab and Gebel Tingar, Aswan (Egypt), p. 15-21.
- Hume, W. f. (1962). *Geology of Egypt, II, part II*, Cairo, p. 380-5.
- Karlshausen, C., & De Putter, T. (2020). From Limestone to Sandstone—Building Stone of Theban Architecture during the Reigns of Hatshepsut and Thutmose III. *The Journal of Egyptian Archaeology*, 106(1-2), p. 215.
- Kelany, A., Negem, M., Tohami, A., & Heldal, T. (2009). Granite-quarry-survey-in-the-Aswan-region,-Egypt:-shedding-new-light-on-ancient-quarrying. *QuarryScapes: ancient stone quarry landscapes in the Eastern Mediterranean*, Geological Survey of Norway Special Publication, 12, p. 87-88.

- Kelany and others, Granite-quarry-survey-in-the-Aswan-region, p. 87,88.
- Köhler, E. Christian. "Hatnub Quarries and Ancient Egyptian Hard Stone Quarrying." In "Proceedings of the 10th International Congress of Egyptologists," edited by Zahi Hawass, p. 1275-1284. American University in Cairo Press, 2008.
- Kurz, M. (1977), Graffiti-de-la-montagne-thébaine.-Volume-II.-6., Cairo, plan 215, 'Vallee-des-carriers'.
- Landström, B. (1970). Egyptiska-skep.-International-book-production.-Stockholm.
- Lucas, A., (1962) Ancient Egyptian Materials and Industries, London. p 65-77.
- Nicholson, P. T., & Shaw, I. (Eds.). (2000). Ancient Egyptian materials and technology. Cambridge university press, p: 5 -77.
- Newberry, Percy E. (1900). "The life of Rekhmara: vezîr of upper Egypt under Thothmes III and Amenhetep II (circa BC 1471-1448)." A. Constable, pl. XIII.

#### **WEB SITES**

- ARCE (The American Research Center in Egypt). (n.d.). Luxor's West Bank. Retrieved from <https://arce.org/luxors-west-bank>
- Facts and Details. (n.d.). [Website]. Retrieved from <https://factsanddetails.com>
- Global Egyptian Museum. (n.d.). [Website]. Retrieved from <http://www.globalegyptianmuseum.org>
- OsirisNet. (n.d.). [Website]. Retrieved from <https://www.osirisnet.net>
- Rustic Stone. (n.d.). [Website]. Retrieved from <https://www.rusticstone.net>
- Stamford Stone. (n.d.). [Website]. Retrieved from <https://www.stamfordstone.co.uk>