



## **Quarrymen in the Roman quarries of the Egyptian eastern desert (types and social life)**

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### **Abstract:**

The Roman Empire heavily relied on stone quarries in the Eastern Desert of Egypt to provide building materials for its massive structures both within and outside of Egypt. The quarry workers, who toiled in these quarries, had a complex hierarchical structure with various ranks and roles. These ranks and roles within the Eastern Desert quarries were essential for organizing the quarrying operations.

The hierarchical structure of the workers included overseers who supervised the stone extraction process, determined extraction locations, and organized loading and transportation operations; they were at the top of the pyramid. Skilled workers specialized in cutting, shaping, and refining the stones were positioned below the overseers. At the bottom of the hierarchy were unskilled laborers who performed the most challenging and dangerous tasks such as dragging, lifting, and loading.

The daily life of quarry workers was challenging due to living conditions, dietary restrictions, and social interactions. They formed a diverse group originating from different regions. Despite the challenges they faced, quarry workers formed a strong and interconnected community.

This paper sheds light on the lives of quarry workers who worked in the Eastern Desert quarries during the Roman period, utilizing a combination of archaeological evidence, literary texts, and inscriptions. It also emphasizes the importance and role of these workers in constructing some of the most significant structures in the ancient world, some of which still stand to this day. Additionally, it explores the human and social aspects of these workers.

**Keywords:** Quarrymen; Roman period; Eastern desert; desert life; Roman settlements in the Eastern desert



## Introduction:

The Eastern Egyptian Desert is a vast region that stretches from the Nile River to the Red Sea and from the Mediterranean Sea in the north to Sudan in the south. It is characterized by rugged terrain, extreme temperatures, and harsh living conditions. Despite these challenges, the desert was a major source of high-quality stone, including granite, limestone, and sandstone. The stones were highly prized for their durability, beauty, and versatility, and were used in construction projects throughout the Roman Empire. Due to the importance of quarrying as a major industry in the region during the Roman period, the Eastern Egyptian Desert was tightly controlled by the Roman military. This was done to not only protect the quarries from raiders and competitors, but also to ensure a steady supply of high-quality stone for construction projects throughout the empire. The Roman military established permanent garrisons and outposts in strategic locations across the desert, and maintained a strong presence in the area for several centuries.

It is believed that quarrying in this area began in the pharaonic period, as during the pharaonic period the Egyptian kings sent expeditions to the Eastern Desert in order to exploit stones and minerals. These expeditions are known from inscriptions in many archaeological sites that constitute a network in the desert also from the discovered papyrus. However, it was only during the Roman period that quarrying operations in the eastern desert reached their peak.

The Roman authorities quickly recognized the potential of the eastern desert as a source of high-quality stone. The quarries in the eastern desert were worked extensively during the Roman period, with new quarries being opened up and existing quarries expanded.

The peak period of quarrying in the eastern desert during the Roman period was between the 1st and 3rd centuries CE. This was a time of great building activity in the Roman Empire, and the demand for high-quality stone was high. Quarrying continued in the 4<sup>th</sup> and 5<sup>th</sup> centuries but not as extensive as before.

Quarrying in the eastern desert continued into the Byzantine period and beyond, although the scale of operations declined over time. Today, the quarries in the eastern desert are a fascinating archaeological site, offering a glimpse into the ancient quarrying techniques used by the Romans and their predecessors.

The quarrying operations in the eastern desert were complex and required a large workforce. The workers were organized into a hierarchical system, with overseers and



managers overseeing the work of the laborers. Despite the difficult and dangerous nature of their work, quarrymen developed a strong sense of community and camaraderie.

The Quarrymen who worked in the eastern Egyptian desert were skilled laborers who specialized in extracting, dressing and transporting stone. They worked in teams, using a variety of tools and techniques to cut the stone from the bedrock and shape it into blocks or columns of various sizes. The work was physically demanding and often dangerous, as the quarrymen had to contend with falling rocks, shifting sand, extreme temperatures and many other threats. Those who worked in these quarries were organized into a complex hierarchy of different ranks and types. The various types and ranks of quarry men who labored in the Roman quarries of the eastern desert were essential in order to systematize the work operations in the quarries.

At the top of the hierarchy were the overseers and managers who oversaw the entire quarrying operation and then there were the skilled workers who specialized in cutting, shaping, and transporting the stones, at the bottom of the hierarchy were the unskilled laborers who performed the most grueling and dangerous work.

This paper also discusses the daily lives of the quarry men, including their living conditions, diet, and social interactions. The quarry men were a diverse group, hailing from different areas.

Through a combination of archaeological evidence, historical accounts, personal surveys, and visits to the settlements, this paper sheds light on the lives of the quarry men who worked in the Roman quarries of the eastern desert. It highlights the importance of these workers in the construction of some of the most iconic structures of the ancient world, while also exploring the human side of this often-overlooked aspect of Roman history.

### **The importance of research:**

The importance of research on the lives of quarrymen and their communities cannot be overstated. For centuries, this topic remained a mystery, with little information available about the experiences of these workers and the conditions they endured. However, recent excavations and studies in the Eastern Desert quarries have shed new light on this overlooked aspect of ancient Egyptian society, revealing a complex and organized system that sustained the production of stone for building and other purposes.

Through research, we can gain a deeper understanding of the lives of quarrymen and their families, their daily experiences, and their contributions to ancient society. This knowledge



can help us to challenge and revise existing assumptions about the past, leading to a more nuanced and accurate understanding of this period of history.

Moreover, the study of quarrymen and their communities can help us to appreciate the role of labor in ancient societies, and the ways in which workers contributed to the development and prosperity of their communities. By studying the organization and logistics of the quarries, we can gain insights into the economic and political systems of ancient quarrymen community and the role of the state in managing labor and resources.

Furthermore, research on the lives of quarrymen and their communities can have broader implications for our understanding of labor and social systems more generally. By examining the ways in which workers organized themselves and interacted with the state, we can gain insights into the dynamics of power, hierarchy, and social organization in different historical and cultural contexts.

In summary, research on the lives of quarrymen and their communities is important for gaining a deeper understanding of the past, challenging existing assumptions, and appreciating the role of labor in ancient societies. It can also have broader implications for our understanding of labor and social systems more generally, helping us to gain insights into the dynamics of power and social organization in different historical and cultural contexts.

### **Problems of research:**

There are several challenges and limitations associated with researching the ancient quarrymen community, including:

1. Limited availability of sources: One of the main challenges for researchers is the limited availability of sources. Most of the information that we have about ancient quarrymen comes from inscriptions, ostraca, and other archaeological evidence, which may be fragmentary and difficult to interpret.
2. Biased sources: Another problem is that the surviving sources may be biased or incomplete, reflecting the perspectives of the elite rather than the experiences of the workers themselves. This can make it challenging to gain a full and accurate understanding of the lives of quarrymen and their communities.
3. Fragmentary evidence: The archaeological evidence from the quarries may be fragmentary, making it difficult to reconstruct the social and economic structures of



the communities. Excavations may also be limited by the harsh environmental conditions of the Eastern Desert, which make it difficult to access and survey the sites.

4. Interpretation of evidence: Even when evidence is available, it can be challenging to interpret it correctly. This is especially true for inscriptions and other written sources, which may be difficult to decipher or interpret correctly. Moreover, the context of the evidence may be unclear, requiring researchers to make educated guesses about its meaning and significance.
5. Lack of comparative studies: Finally, there is a lack of comparative studies on ancient quarrymen communities. This makes it difficult to gain a broader understanding of the social and economic structures of these communities, and to compare them with other ancient societies and labor systems.

In summary, the study of ancient quarrymen communities is subject to several challenges and limitations, including limited availability of sources, biased evidence, fragmentary evidence, difficulties in interpretation, and a lack of comparative studies. Despite these challenges, however, ongoing research is shedding new light on this overlooked aspect of ancient Egyptian society, leading to a deeper and more nuanced understanding of the lives of quarrymen and their communities.

### **Quarrymen settlements:**

Although the quarries in the eastern desert of Egypt have been the subject of many studies, the archaeological exploration of these quarries only really began in the 1990s. This was due to several factors, including the remote location of the quarries and the lack of information about their exact locations. Many archaeological missions were initially sent to locate the hundreds of scattered Roman quarries in the area before beginning any excavation work.

The settlements located near most of the quarries were also ignored for some time. These settlements, where the quarry workers lived, have been reduced to ruins and debris. Due to the lack of significant archaeological finds, excavations in these settlements were not seen as attractive to archaeologists. However, with the development of archaeology as a science, more archaeological missions have been launched in the eastern desert.

Working in the eastern desert is a challenging and dangerous task for any archaeological mission due to the harsh environmental conditions. In addition, the missions face logistical



difficulties that require significant funding. Despite these challenges, the recent archaeological missions in the area have shed new light on the lives of the quarry workers. These missions are helping to fill the gaps in our knowledge of this important aspect of Roman history.

Regrettably, only a few of the largest quarries in the eastern desert have been partially excavated, while most of the other sites have remained largely untouched. However, by piecing together the available information, we can now form a better understanding of the daily lives of the quarry workers.

Despite the limited excavations, we can construct a picture of what life was like for these workers. Through historical accounts and archaeological evidence, we can see the hierarchy of laborers and the different types of work they performed. We can also learn about the living conditions in the temporary settlements near the quarries and the challenges they faced working in such a harsh and remote environment.

### **Inhabitants of the quarry settlements:**

The settlements located near the quarries in the eastern desert were home to both soldiers and civilians, with the majority being civilians who worked as quarrymen. While it was previously believed that these areas were inhabited only by men, modern studies have shown evidence of the presence of women and children as well.<sup>1</sup> While there were also soldiers stationed in some of these settlements, they likely played a minor role in the quarrying operations.

The quarrymen in the eastern desert were divided into two groups: free men and forced labor. The forced laborers were a mix of war prisoners, slaves, and individuals who were punished with hard labor (*damnati ad metalla*)<sup>2</sup> due to their religious beliefs, such as Christians and Jews who were sentenced to work in the quarries as a form of punishment.<sup>3</sup> However, there is little archaeological evidence of the presence of forced laborers in the settlements near the quarries, as our knowledge on this subject mostly comes from literary sources.

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<sup>1</sup> Hamouda, 2018, 4.

<sup>2</sup> This was a practice in ancient Rome where individuals who held religious beliefs that were deemed unacceptable or heretical were sent to work in the quarries and mines as a form of punishment under severe conditions. This practice was common during the Roman period.

<sup>3</sup> Gustafson, 1994, 421-422.



Around 70 AD, the Jewish historian Josephus wrote that some Jewish prisoners were sent to the quarries in the eastern desert as a form of punishment.<sup>4</sup> Later, in 142 AD, the Greek historian Aelius Aristides wrote that some prisoners were sent to the porphyrites quarries.<sup>5</sup> Eusebius of Caesarea, writing in the 3rd century AD, mentioned that 97 prisoners were present in the porphyrites quarries in the eastern desert during the reign of Diocletian.<sup>6</sup> In the 4th century AD, Athanasius of Alexandria also wrote about the punishment of 357 Christian prisoners who were sent to the quarries in the eastern desert.<sup>7</sup> Although Athanasius did not mention the name of the quarry, it is likely that he omitted it because it was already well known.

Recent excavations at the Mons Porphyrites site, in particular, have not yielded any evidence supporting the presence of forced labor. There are no traces of prisons or detention areas, and no archaeological finds that would support such a claim. This situation is also observed in other quarry settlements in the eastern desert. While the absence of such evidence does not necessarily disprove the claim of forced labor, it does cast doubt on its validity. It is also unclear whether any prisoners who may have been present in the quarries were exclusively men or if there was a mix of genders.

The archaeological evidences from the quarry settlements refer to the presence of women and children in the settlements.<sup>8</sup> There are clear archaeological remains indicating the presence of women in the settlements of Mons Porphyrites and Mons Claudianus. For example, hairpins were found, which were commonly used by women, as well as types of earrings that were exclusively used by women,<sup>9</sup> such as hoop earrings, and boxes for cosmetic powders made from hooves.<sup>10</sup> Among the archaeological remains, there is also a part of a leather sandal that is suitable for children's feet, indicating the presence of children at the site.<sup>11</sup> The most definitive evidence of this is that the mission that worked there examined some of the existing tombs and found bones of women and children.<sup>12</sup> It is important to acknowledge that in quarry settlements, women and children were also employed to perform various tasks such as moving small stones and waste generated from

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<sup>4</sup> Josephus, BJ 6, 418.

<sup>5</sup> *Aegyptios* 67, 5-12.

<sup>6</sup> *De Martyribus Palaestinae*, 8.1, 26.

<sup>7</sup> *Historia Arianorum*, 72.

<sup>8</sup> Macklin 2001, 35.

<sup>9</sup> Peacock, 2007, 429.

<sup>10</sup> Macklin 2001, 35..

<sup>11</sup> Peacock, 2007, 429.

<sup>12</sup> Peacock, 2007, 429.



the dressing process, so they worked as quarry workers,<sup>13</sup> not only so but textual evidences show that children were paid for their work too.<sup>14</sup> In addition to this, they were also engaged in other professions such as baking and domestic work like cleaning and performing other household tasks.

### Quarrymen types:

The workers came from the regions of Arsinoe, Alexandria, Memphis, and Aswan, and they were diverse in their occupations, including ordinary laborers, stonemasons, blacksmiths, and those responsible for carrying and delivering water.<sup>15</sup> It is believed that some skilled workers came from the red granite quarries in Aswan known as the *Sklerourgoi*. There were also workers who performed the final finishing of the stones from Alexandria. Another type of labor was called *pagani*, which were unskilled workers who were used for heavy lifting and works that needs no skill but power. There is also *ergatai*, who can move the stones, shift and maneuver and other tasks. All of these laborers were overseen by supervisors known as *architekton*.<sup>16</sup>

In quarries, the number of *pagani* was often high, comprising approximately one quarter of the total site population. This was due to the fact that many tasks did not require specialized skills, such as carrying water skins, transporting goods, and loading and unloading donkeys, camels, and carts. However, the most important task assigned to the *pagani* was pulling the blocks. While animals were also used to help with pulling, it is believed that the primary force for moving the blocks was provided by the human workers.<sup>17</sup>

The use of soldiers as quarrymen is an important and sensitive issue. However, it should be noted that the Romans commonly used soldiers to extract building materials for military buildings throughout the empire, and this practice can be traced back to the reign of Trajan in Britain, some fifty to sixty years after the initial invasion. Inscriptions record this work at the legionary bases at Caerleon and York during the first half of Trajan's reign. Although the use of stone continued throughout the province, new forts were still often constructed of timber, including the new legionary base at Carpow on the Tay, which was probably built during the reign of Septimius Severus. While the main buildings were made of stone,

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<sup>13</sup>Gero, 1996, 172.

<sup>14</sup> Cuvigny, 1996, 143.

<sup>15</sup> Bülow-Jacobsen, 1996, 726; Covugny, 1996, 139.

<sup>16</sup> Bingen, 2016, 13.

<sup>17</sup> Cuvigny, 2005, 332-334.



the barrack-blocks were still constructed of timber.<sup>18</sup> The discovery of a lead ingot in St. Valéry sur Somme with a mold mark suggest that it was produced by a Roman legion gives more indications that not only quarrying but also mining was included in the roman soldiers tasks.<sup>19</sup> There are indications that this may have also happened in Egypt but only concerning stone quarrying. The only known evidence of this is graffiti in the Wadi al-Hammamat area, where a soldier named Gaius Aurelius Demos refers to himself as a "soldier quarryman of water wells".<sup>20</sup> While soldiers working in quarries during Roman times were primarily there for military purposes, it is worth noting their involvement in quarrying, even though they may not be considered a distinct type of quarryman.

### **Water distribution and consumption:**

In the desert, water is the most valuable and precious resource. In the eastern desert water was carried from wells guarded by Roman military to the quarry settlements, and as mentioned earlier there is a job called a water carrier.<sup>21</sup> In arid settlements like quarry settlements in the eastern desert, the distribution of water was strictly regulated, with the military being responsible for its supply and distribution due to its crucial role as a life-sustaining element. An ostracoon containing fascinating text has provided valuable insights into the water distribution system in the settlement of Mons Claudianus. The most notable aspect of this text is the revelation of the amount of water allocated to individuals, which ranged from 6.5 liters for those in the highest ranks, as this was the highest recorded amount, 5.4 liters for the simple soldiers (both foot and cavalry), 3.25 liters for stonemasons and blacksmiths or skilled workers, and 2.16 liters for unskilled laborers.<sup>22</sup> Although these amounts may seem surprisingly low by modern standards, they are consistent with the rationing of water to British forces in North Africa during World War II, which amounted 1.136 liters per man per day in fighting units.<sup>23</sup>

### **The food diet:**

Researchers participating in the archaeological missions in Mons Porphyrites and Mons Claudianus conducted studies and analyses of the remaining plant remains found at the sites using archaeobotany. The purpose of the study was to gain a comprehensive understanding of the dietary habits of the workers and the factors that influenced the nature

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<sup>18</sup> Breeze, 2016, 113-115.

<sup>19</sup> Roman Inscriptions of Britain II 2404.24; Hirt, 2016, 198.

<sup>20</sup> Cuvigny, 2005, 336.

<sup>21</sup> Bülow-Jacobsen, 1996, 726.

<sup>22</sup> Cuvigny, 2005, 348-349.

<sup>23</sup> Fennell 2011, 132



of their diet. The results were shocking somehow as they changed our understanding on this point.

Previously, scholars held the belief that the food diet of quarry settlements situated in the eastern desert was limited to dry food items such as legumes, seeds, and dried fruit, reflecting the harsh conditions of the arid region. However, recent findings have revealed that the situation was more intricate than previously thought. The results showed that the diet of the quarry settlements in the eastern desert was not as harsh as previously believed. It included coarse wheat and barley, as well as various types of legumes such as fava beans, beans, and lentils. Additionally, remains of vegetables such as artichokes, onions, garlic, turnips, and cucumbers were also found. The results also indicated the presence of a considerable amount of oilseed plants, such as sunflower seeds, sesame seeds, and flax seeds. Nut seeds, including hazelnuts, almonds, walnuts, and pine nuts were also discovered, suggesting a good standard of living, as they were considered luxuries and imported from outside Egypt.<sup>24</sup> The environment in Egypt was not suitable for growing such nut varieties. Interestingly, several types of spices were also found, including coriander, dill, cumin, black cumin, basil, mint, fennel, and anise. Vegetables, such as onions, garlic, turnips, spinach, cabbage, lettuce, and dandelion, were also present. Additionally, various fruits such as figs, dates, grapes, pomegranates, and watermelons were discovered.<sup>25</sup> Seeds of peaches were discovered in the Mons Porphyrites area.<sup>26</sup> Peach is originally from China, and the presence of this fruit is an indicator of active trade during the Roman period and suggests a luxurious lifestyle in the quarry settlements. Remains of a rare fruit known as *Cordia myxa*, or the Assyrian plum, were discovered at the site of Mons Claudianus. This fruit is a rare type that was cultivated in the Western Desert and near the Sudanese border. It is about the size of a cherry, and its flesh is edible and can also be used to make wine.<sup>27</sup> In total more than 51 kind of plant was consumed as food by the quarrymen in the areas of Mons Porphyrites and Mon Claudianus.

It is worth noting that grains were regularly sent the quarries, and some evidence supports this, such as a set of documents dating back to 214-215 AD.<sup>28</sup> These documents contain reports on the arrival of grain quantities to the workers in the Mons Porphyrites quarries. They were written on papyrus and sent from the Faiyum region to Behnasa in Al-Minya.<sup>29</sup>

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<sup>24</sup> Van der Veen, 2007, 95.

<sup>25</sup> Van der Veen, 2001, 182.

<sup>26</sup> Van der Veen, 2007, 88.

<sup>27</sup> Van der Veen, 2001, 193.

<sup>28</sup> P.Oxy. 45 3243. 13-14.

<sup>29</sup> Sheridan, 1992, 119.



It is also known that a portion of the grain taxes collected in Egypt was sent to the soldiers stationed on the frontiers, while another portion was allocated for the quarrymen.<sup>30</sup>

Regarding meat consumption, bones of horses, sheep, goats, pigs, camels, buffaloes, dogs, and some rodents were discovered with cutting marks indicating human consumption. The discovered equids bones indicate that the meat of horses and donkeys was regularly consumed by the quarrymen. The bones also suggest that the animals were around 3 years old, with some exceptions.<sup>31</sup> Regularly, camels, horses, and donkeys were sent to the eastern desert for their use as draft animals, but it was also they were consumed as a source of food in the roman period.<sup>32</sup>

The most frequently consumed meat by the quarrymen was pork. Many pig bones were discovered in the settlements with cutting marks, which corresponds to the fact that during the Graeco-Roman period in Egypt.<sup>33</sup> Pork was the most popular meat due to its affordability and high nutritional value. Remarkably, most of the pig bones found belonged to young pigs, indicating that they were brought to the settlements at a young age and raised until they reached an appropriate size for slaughter. This suggests the possibility of nurseries in the settlements, although evidence supporting this theory is limited.<sup>34</sup> Further archaeological investigations are needed to confirm this.

Birds were present in the diet of the quarrymen. Analysis of bone samples collected revealed the presence of domestic chickens, geese, and wild sandgrouse.<sup>35</sup> The presence of the sandgrouse is an indication to hunting activities as this bird is not a domestic one. Despite the small sample size relative to the other bone samples, this finding demonstrates that poultry had a place in the dietary habits of the quarrymen, and suggests the presence of poultry breeding operations in the settlements. Poultry, such as ducks, chickens, and pigeons, were present in the Egyptian diet during the Roman period, and remnants of dovecotes have been found in areas such as Faiyum and various locations on the outskirts of ancient Egyptian villages.<sup>36</sup>

Fish were also present in the settlements, as a large number of fish bones were found, indicating that fish were part of the dietary habits of the workers in the settlements. It is

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<sup>30</sup> Erdkamp, 2005, 231.

<sup>31</sup> Hamilton-Dyer, 2007, 145-146.

<sup>32</sup> King, 1999, 24.

<sup>33</sup> Römer, 2019.

<sup>34</sup> Hamilton-Dyer, 2007, 146-147.

<sup>35</sup> Hamilton-Dyer, 2007, 149.

<sup>36</sup> Römer, 2019.



worth noting that the majority of the bones belonged to saltwater fish rather than freshwater fish, suggesting a close connection to the Red Sea coast. Nile fish bones were also found, but in smaller quantities compared to saltwater fish. Additionally, bones of some large fish such as parrotfish and grouper (which are Red Sea species)<sup>37</sup> with cutting marks were discovered, as these fish are too large to be consumed whole and must be cut for ease of preparation (as is done in modern times).<sup>38</sup> One great ostrakon from the area of Mons Claudianus tell us about fresh fish came from the red sea coast and resold from there to other places around the Mons Claudianus area, which means that this area was maybe a commercial center for the fish at least.<sup>39</sup> The delivery of fish likely reached many other areas in the Eastern Desert, particularly the quarry settlements such as Barud, the nearby quarry of Mons Claudianus, Semna, and the Mons Ophis.<sup>40</sup> All of these quarry settlements were operational at the same time, so it is reasonable to assume that the practices observed in Mons Claudianus were likely similar to those in the other quarry settlements.

Bread was a crucial component of the diet for the quarry workers, and numerous ovens have been discovered in settlements such as Mons Porphyrites and Mons Claudianus.<sup>41</sup> Ostraca found in these settlements provide insight into the distribution of bread, with some even detailing the number of loaves and areas of distribution. This suggests the presence of centralized bread production within the settlements.<sup>42</sup> It is known that workers were often paid with a portion of wheat as part of their salary. Some ostraca indicate that bread was regularly sent from the workers' families in the Nile Valley to the quarry site, with wives baking the bread in the Nile Valley and sending it ready for consumption across the desert to their husbands in Mons Claudianus settlement.<sup>43</sup>

### **Wages:**

It is evidently that the workers who extracted the stones were mostly free men, working there as skilled and trained craftsmen. Quarrymen wages varied, as different wages for different ranks. Workers wage was called *opsonion*.<sup>44</sup> The skilled workers employed in the Mons Claudianus quarries earned a monthly salary of 47 dirhams and a

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<sup>37</sup> Van der Veen, 1999, 177.

<sup>38</sup> Hamilton-Dyer, 2007, 149-150.

<sup>39</sup> O. Claud. I 157; O. Claud. II 227, 241 - 242.

<sup>40</sup> Bülow-Jacobsen, 1996, 727.

<sup>41</sup> Maxfield, 2001, 18, 223;

<sup>42</sup> Van Rengen, 2007, 409-410; SB 20 14331.

<sup>43</sup> Maxfield, 2001, 452.

<sup>44</sup> Covugny, 1996, 139.



quantity of wheat plus a wine ration,<sup>45</sup> which was twice the salary of what a regular worker in the Nile Valley would earn.<sup>46</sup> Based on the information provided, it is reasonable to assume that wages in the remote quarry areas were higher than wages in the Nile Valley. This is likely due to the harsh working conditions and remote location of the quarries, which would have required higher wages to attract workers

The salary for the Mons Claudianus quarrymen as an example was paid in the Nile Valley,<sup>47</sup> and each month, one worker or more were chosen to go down, possibly to Qena, to collect all the money and make various payments on behalf of the workers. Additionally, the worker would distribute the allotted amount of grain to each worker's wife, sister, or mother, who would use it to make bread. The bread was then transported to Mons Claudianus for each individual worker and was marked with his name. Each worker wrote for him, an ostrakon every month with instructions on what to do with his salary and other related matters.<sup>48</sup>

### **Social activities**

One of the primary activities in the quarry settlements was bathing. Bathing was an important social and cultural activity in the Roman world. Roman baths were not only places to cleanse oneself but also served as social centers where people could relax, socialize, and engage in various leisure activities. Bathing was considered a public activity, and people from all walks of life could participate. Bathing was not only a hygienic practice but also had important social and cultural significance.

We can identify many baths in the eastern desert, many of them were found in quarry settlements. In Mons porphyrites the bath lies just few meters away from the main fort in Wadi Abu Ma'amel.<sup>49</sup> In Mons Claudianus the bath also just few meters away from the main fort.<sup>50</sup> The fact that baths were present in the quarry settlements, despite the logistical burden of supplying water in these arid areas, highlights the importance of bathing as a significant activity.

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<sup>45</sup> Bülow-Jacobsen, 1996, 726; Covugny, 1996, 139.

<sup>46</sup> Sidebotham, 2008, 88.

<sup>47</sup> It is more likely that the payment was done in one of the governmental offices as the quarries of Mons Claudianus were owned and quarried by the state. Qena was the closest city to the quarries of Mons Claudianus, so most likely the payment was given there.

<sup>48</sup> Bülow-Jacobsen, 1996, 726.

<sup>49</sup> Meredith, 1952, 100; Hirt, 2010, 20; Maxfield, 2001, 19.

<sup>50</sup> Bingen, 2016, 10; Wilkinson, 1832, 54; Peacock, 1997, 118.



Quarrymen also engaged in hunting during their free time, as evidenced by the discovery of bones from wild animals and birds in quarry settlements.<sup>51</sup> Hunting must have happened in the area surrounding the settlements and not far from it. It was a popular leisure activity, permitted during free time and outside of service time.<sup>52</sup> Similar to soldiers, it is reasonable to assume that quarrymen also required permission to hunt. It is also must have been practiced individually or in groups.

One of the pastimes was engaging in sexual activity. Prostitution was one of the most popular activities in the quarry settlements and in the eastern desert as all. The ostraca discovered at Didymoi<sup>53</sup> for example provide a unique and detailed insight into a particular aspect of daily life prostitution. Although it was already known that prostitution existed in eastern desert settlements, the ostraca provide unprecedented detail on the subject. Spending long months in the Eastern desert caused many men to experience intense sexual desire, which could be satisfied through the prostitution industry.<sup>54</sup> According to several ostraca, prostitutes would tour the settlements and stations, accompanied by a woman (maybe a procurer) who would take them to their "workplaces" where they would be eagerly awaited. The act of these young women serving one man after the other was referred to as "κυκλεύειν", meaning to move around in circles.<sup>55</sup> It is known that there were pimps operating in the eastern desert, such as a man named Philokles. One ostrakon written by him complains that his profits amounted to only 11 staters and a didrachm.<sup>56</sup> Also soldiers were the most prominent to have sex with prostitutes looking on their financial situation which is better than the quarrymen, but we cannot exclude that quarrymen were also engaged in such activity. It is important to note that the evidence for prostitution in the quarries is limited, and further research is needed to fully understand the nature and extent of this phenomenon.

## Results:

Working in the quarries was undoubtedly a challenging and unpleasant job, and placing these quarries in the middle of the Eastern Desert only added to the hardship. However, the previously discussed issues demonstrate that the Eastern Desert during the Roman period was a flourishing region full of life. Many quarries were opened during this

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<sup>51</sup> Hamilton-Dyer, 2007, 149; Hamilton-Dyer, 2001, 277.

<sup>52</sup> Davies, 1989, 66, 187, 191.

<sup>53</sup> It is a military station located along the road between Koptos (modern day Qift) and Berenike.

<sup>54</sup> Cuvigny 2003, 374–375, 388–395.

<sup>55</sup> Cuvigny 2010, 162.

<sup>56</sup> O.Did. 390.



period and connected by a network of roads that covered hundreds of kilometers, linking them to the Nile Valley and the Red Sea.

Logistics was a major challenge for the state, but during the roman period, the government utilized all its resources and gathered all its forces to sustain life and keep the work going in the quarries. Providing the quarrymen and the soldiers in the quarry settlements with food, water, and other necessities was a challenging operation that required daily attention. Nevertheless, the system was one of the most efficient in the ancient world and lasted for many centuries.

Working in the quarries was not a private enterprise, but rather a state-run operation. The Roman government managed the work in the quarries and issued precise orders that the quarrymen were obliged to fulfill. The wages were paid on a monthly basis, likely in the nearby city of Qena, as most of the quarries in the Eastern Desert were connected to the main road leading to Qena. The wages were comparatively good compared to other workers in the Nile Valley. The existence of documents proving the existence of wages suggests that many of the workers were free, including men, women, and children.

Water was the most vital element in the desert and the main life supporter. It was distributed efficiently on a daily basis to every worker according to their rank, with distribution supervised by the military soldiers to maintain order and ensure the efficiency of the system. Comparing the water distribution for the workers to that of the British Army during World War II, it is clear that the situation in the Roman period was even better.

Food was delivered on a regular basis from different destinations, including the Nile Valley and the Red Sea. More than 51 types of plants and tens of types of meat were consumed by the quarrymen in the settlements, indicating the good connections and efficiency of logistics in the Eastern Desert. It also indicates the diverse and nutritious diet that the quarrymen had access to.

The quarrymen were divided into different types and ranks, which affected their water and food rations and salaries. It may have also affected their place of stay or accommodation. The quarrymen came from various areas in Egypt, and it is possible that some of them were foreigners. Craftsmanship was highly valued and necessary, as evidenced by the impressive products of these quarries, which were used to build many buildings in and outside of Egypt.

Quarrymen also engaged in other activities in their settlements in the Eastern Desert, such as hunting, bathing, and sexual activities. These activities were important for maintaining



morale and relieving tension, helping the workers to survive and be more productive in the harsh environment.

### **Conclusion:**

It is now evident that life in the quarry settlements was not as bad as previously thought. Contrary to popular belief, it was highly organized and characterized by a serious hierarchy that was respected by all members of the quarrymen community. The connections between the quarry settlements and the Nile Valley were strong and stable, and the bond between the quarrymen and their families was also strong, as evidenced by the existence of ostraca documenting the sending of money to quarrymen's families and the receipt of baked bread from them. This connection likely occurred at least once a month. Families of quarrymen were divided into two groups, with some staying in the nearby city of Qena and others moving into the quarry settlements, further strengthening the bond between quarrymen and their families.

Most of the information that we currently have about quarries and quarrymen in the Roman period comes from excavations and studies conducted in the two largest quarries in the Eastern Desert, Mons Prophyrites and Mons Claudianus. The findings from these works have challenged and expanded our understanding of quarrying and quarrymen during the roman period. However, they have also raised many questions that still require further investigation, highlighting the need for additional surveys, excavations, and studies in this field.

Although the results of the studies conducted in Mons Prophyrites and Mons Claudianus cannot be generalized to all other quarry settlements in the Eastern Desert, as each one may have had its unique features and conditions, they do provide a solid foundation for further research in this area. By conducting more research, we can gain a better understanding of the lives of quarrymen and their families during the Roman period and shed light on this overlooked aspect of quarrymen society.



## Bibliography:

- Bingen, J. (2016). "The Imperial Roman Site of the Mons Claudianus (Eastern Desert of Egypt)." *Diogenes*, vol. 61, no. 1, pp. 7-17.
- Breeze, David. (2016). *The Roman Army*. Bloomsbury, London.
- Bülow-Jacobsen, A. (1996). "Archaeology and Philology on Mons Claudianus 1987-1993." *Topoi*, vol. 6/2, pp. 721-730.
- Bülow-Jacobsen, A. (2018). "Quarries with Subtitles." In Jean-Pierre Brun, Thomas Faucher, Bérangère Redon and Steven Sidebotham (eds.), *The Eastern Desert of Egypt during the Graeco-Roman Period: Archaeological Reports*.
- Cuvigny, H. (1996). "The Amount of Wages Paid to the Quarry-Workers at Mons Claudianus." *The Journal of Roman Studies*, vol. 86, pp. 139-145.
- Cuvigny, H. (ed.). (2003). *La route de Myos Hormos, L'armée romaine dans le desert Oriental d'Egypte. Praesidia du desert de Berenice I-II (IFAO 48/1-2)*. Cairo.
- Cuvigny, H. (2005). "L'organigramme du personnel d'une carrière impériale d'après un ostracon du Mons Claudianus". *CHIRON* 35, pp. 309-353.
- Cuvigny, H. (2010). "Femmes tournantes: remarques sur la prostitution dans les garnisons romaines du désert de Bérénice." *Zeitschrift für Papyrologie und Epigraphik*, vol. 172, pp. 159-166.
- Davies, R. (1989). *Service in the Roman Army*. Edinburgh University Press.
- Erdkamp, P. (2005). *The Grain Market in the Roman Empire*. Cambridge University Press, Cambridge.
- Fennell, J. (2011). *Combat and Morale in the North African Campaign. The Eighth Army and the Path to El Alamein*. Cambridge University Press.
- Gero, J.M. & Conkey, M.W. (eds). (1994). *Engendering Archaeology: Women and Prehistory*. Oxford.
- Gustafson, M. (1994). "Condemnation to the Mines in the Later Roman Empire." *The Harvard Theological Review*, vol. 87, no. 4, pp. 421-433.
- Hamilton-Dyer, S. (2007). "Food, Fodder and Fuel at Mons Prophyrites: The Botanical Evidence." In Peacock, D & Maxfield, V (eds.), *The Roman Imperial Quarries – Survey and Excavation at Mons Prophyrites*, Egypt Exploration Society, London, pp. 83-139.
- Hamouda, F. (2018). *Communication and the Circulation of Letters in the Eastern Desert of Egypt during the Roman Period*. Unpublished PhD Thesis, University of Heidelberg.



- Hirt, A. (2010). *Imperial Mines and Quarries in the Roman World*. Oxford University Press, Oxford.
- King, T. (1999). "Diet in the Roman world: A regional inter-site comparison of the mammal bones." *Journal of Roman Archaeology*, vol. 12, pp. 168-202.
- Macklin, A. (2001). Skeletal remains. In Maxfield, V. & Peacock, D. (2001). *The Roman Imperial Quarries Survey and Excavation at Mons Prophyrites - Volume 1: Topography and Quarries*, Egypt Exploration Society, London, pp. 30-36.
- Maxfield, V. & Peacock, D. (2001). *The Roman Imperial Quarries Survey and Excavations at Mons Prophyrites 1994-1998 - vol. 1: Topography and Quarries*. Egypt Exploration Society, London.
- Meredith, D. (1952). "The Roman Remains in the Eastern Desert of Egypt." *The Journal of Egyptian Archaeology*, vol. 38, pp. 94-111.
- Peacock, D. & Maxfield, V. (2007). *The Roman Imperial Quarries Survey and Excavations at Mons Prophyrites 1994-1998 - vol. 2: The Excavation*. Egypt Exploration Society, London.
- Peacock, D. & Maxfield, V. (1997). *Survey and Excavation Mons Claudianus – 1987-1993 - vol. 1 – Topography and Quarries*. Institut Francais D’Archeologie Orientale, Cairo.
- Römer, C. (2019). "A Turning Point: Food and drink in the Graeco-Roman Period 332 BCE to 614 CE." *Rawi*, no. 10.
- Sheridan, J. & Roth, J. (1992). "Greek Ostraka From Mons Prophyrites (Gebel ‘Abu Dukhan)". *The Bulletin of The American Society of Papyrologists*, vol. 29, no. 3/4, pp. 117-126.
- Sidebotham, S. (2008). *The Red Land: The Illustrated Archaeology of Egypt’s Eastern Desert*. The American University in Cairo Press, Cairo and New York.
- Van Der Veen, M. (2001). "The Botanical Evidence." In Peacock, D. & Maxfield, V. (eds.), *Survey and Excavation Mons Claudianus – 1987-1993 - vol. 2 – Part 1 - Excavations*, Institut Francais D’Archeologie Orientale, Cairo.
- Van der Veen, M. & Tabinor, H. (2007). "Food, Fodder and Fuel at Mons Prophyrites: The Botanical Evidence." In Peacock, D & Maxfield, V (eds.), *The Roman Imperial Quarries – Survey and Excavation at Mons Prophyrites*, Egypt Exploration Society, London, pp. 83-139.
- Van Rengen, W. (2007) "The Written Evidence - Inscriptions and Ostraca." In Peacock, D & Maxfield, V (eds.), *The Roman Imperial Quarries – Survey and Excavation at Mons Prophyrites – Volume 2: The Excavations*, Egypt Exploration Society, London, pp. 397-407.