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**Mosaic construction techniques
in Philippopolis, Syria, during the Roman age**

Doctoral dissertation

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**Római kori mozaikok készítése technika
a szíriai, Philippopolisban**

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Maher Jbaee

Dedication

To the one who was like a gentle breeze in this life, Living with peace
and calm, and departing from it with the same serenity,

To the soul of my mother

To the one who has virtuous hands and a heart full of love and
generosity,

to the one whose tears fall easily with love and nostalgia,

to the one who has been my first and last dream, to make him proud of
me.

To my Father

I. Introduction

Many studies and research projects have talked about the arts of the Roman era, and its connection with the mythological stories that tell the story of the first creation, heroic biography, adventures, sacrifices, and locations as an explanation of some stories, and other legends woven about the gods of that era.

The art of mosaic was one of the most important of these arts, which immortalized the work of humans over different periods, especially in the Roman era, which is one of the most important ages experienced by this art.

Many mosaics have been discovered in many locations in the East, where Antioch appears the first one within this geographical range as the source of the largest collection of Roman mosaics and gives us an idea of the artist's knowledge at that stage about the decorative values and the relationship of the mosaic to the architectural surroundings.

Mosaic patterns discovered in Syria, especially in Philippopolis, have opened the door to add new data in the study of decorative patterns used in mosaic art.

The mosaic findings discovered in Philippopolis is one of the most beautiful mosaic collections discovered in the Levant after the Antioch mosaic collection, which dating back to the Roman period, and reflected the intellectual and cultural depth, traditions and arts of the Syrian human at that era.

Archaeological discoveries and the results which have received from many mosaic pavements dating back to the classical period in various parts of the world prompted researchers to concerning with this art, especially during the last decades of the last century.

There are many good research and studies about the mosaics discovered in Syria dated back to the Roman period, where studied these mosaics in general with some comparisons with other mosaics in other regions in terms of classical components, history, and manufacturing workshops.

- **Reasons, motivation**

The most important reasons to concern this topic are:

- Roman mosaics discovered in the East, especially in Philippopolis have several characteristics that distinguish them from mosaics discovered in other regions within the Roman world sites such as Sicily, Greece, the provinces of North Africa, and Gaul lands.
- These pavements considered an important archaeological material through which to identify the most important decorative models adopted in the arranging of the surfaces of those pavements dating back to the Roman era and highlight what was of These are the result of classical Hellenistic-Roman traditions, and others result of local Syrian creations. It is known that as a result of the establishment of many Greek and Roman cities and colonies in Syria during the Seleucid and Roman Hellenistic era, the accompanying influx of new settlers from the Greek and Roman communities, who brought with them their religious beliefs associated with the worship of a group of their gods which they revered. Naturally, new beliefs and deities emerge in Syria that are distinct from the prevailing oriental beliefs. With this presence in the region, which led to diversity and fusion of religious beliefs and rituals, new meanings, ideas, and visions emerge.
- The few numbers of the Arab researchers who interested in the field of study of Syrian mosaic floors, especially the mosaic heritage of the city of Philippopolis, which are considered one of the most beautiful mosaic pavements in the Levant, and the lack of Arabic references that talked about mosaic art in detail and in specific. It was imperative to rely on foreign references that have documented the efforts of foreign researchers in this field and the analyses and studies they have reached from their point of view.
- Despite the studies made on the Philippopolis mosaic collection, which spread in many museums in Syria, one of the most important problems still to date, is the dating of these mosaics which is still in doubt in the study of many researchers and scholars to confirm or deny the hypotheses and the results presented earlier about the dating of these mosaics and artistic workshops that produced them.
- All the previous studies which concerned the ancient Syrian mosaic pavements in general and the mosaics of Philippopolis in particular, focused only on the artistic and historical aspects and neglected the technical sides that are considered important factors and deserve scientific research. The new research activities in this field represent the most suitable way to

know more about the original techniques and the nature of the materials used to create these mosaics and to discover more about the characteristics of their preparatory layers.

- **Goals:**

Therefore, the primary goal of this research is to add a new study about the techniques of ancient mosaic manufacturing in Philippopolis, trying to reveal the methods of preparation of the foundation layers. Further goal is to add a comparative iconographic study and analysis of these mosaics with mosaics discovered at other sites, as well as to highlight some dating conclusions which will benefit the students and all who work in the field of conservation and preservation of mosaics.

Study of the methods used to prepare the foundation layers and the nature of the materials used to produce them and their availability at the site in the city of Philippopolis to compare the results with other sites, which may help to find important information about the workshops that carried out these mosaics, and the different production periods, and in confirming or denying the proposed date of production of this mosaic in previous studies.

II. Geographic setting.



Fig 1. Syria's location within the Roman world map in the 3rd century AD (Photo: https://cosmolearning.org/images_dir/education/photos/1145.jpg)

Syria, with Lebanon, Jordan, and Palestine, constitutes the northern part of the Arabian Peninsula, extending between Egypt, Anatolia, and Mesopotamia, with a middle position between the three continents (Fig 1). This is what made it the crossroads of global roads, and the focal point of all civilization.

Syria was mentioned in the Mesopotamian cuneiform texts, and hieroglyphic inscriptions for the first time in the third millennium BC¹, hieroglyphic writings defined it as "Ruthano", while was mentioned in the Ugaritic literature in the second half of the second millennium BC by the name " Sherrin" and the Hebrew language "Siryon"².

¹ Klengel H.1985, p. 27.

² Hattî Fîlîb 1957, p. 62.

The Greeks were the first to name Syria and meant the country stretching from the Taurus Mountains in the north to Sinai in the south and from the Mediterranean Sea in the west to the desert in the east³.

The use of this name spread in classical times to indicate this geographical area and this extension between Egypt, Anatolia and Mesopotamia was continued within those borders under the designation of Greater Syria until the end of Ottoman rule at the beginning of the twentieth century. Then its territory was liable to the divisions of modern colonialism and has been divided into several countries separated from each other with artificial political borders, to become the current Syria. From that date geographically different from Greater Syria and its territory is limited to the currently known borders.

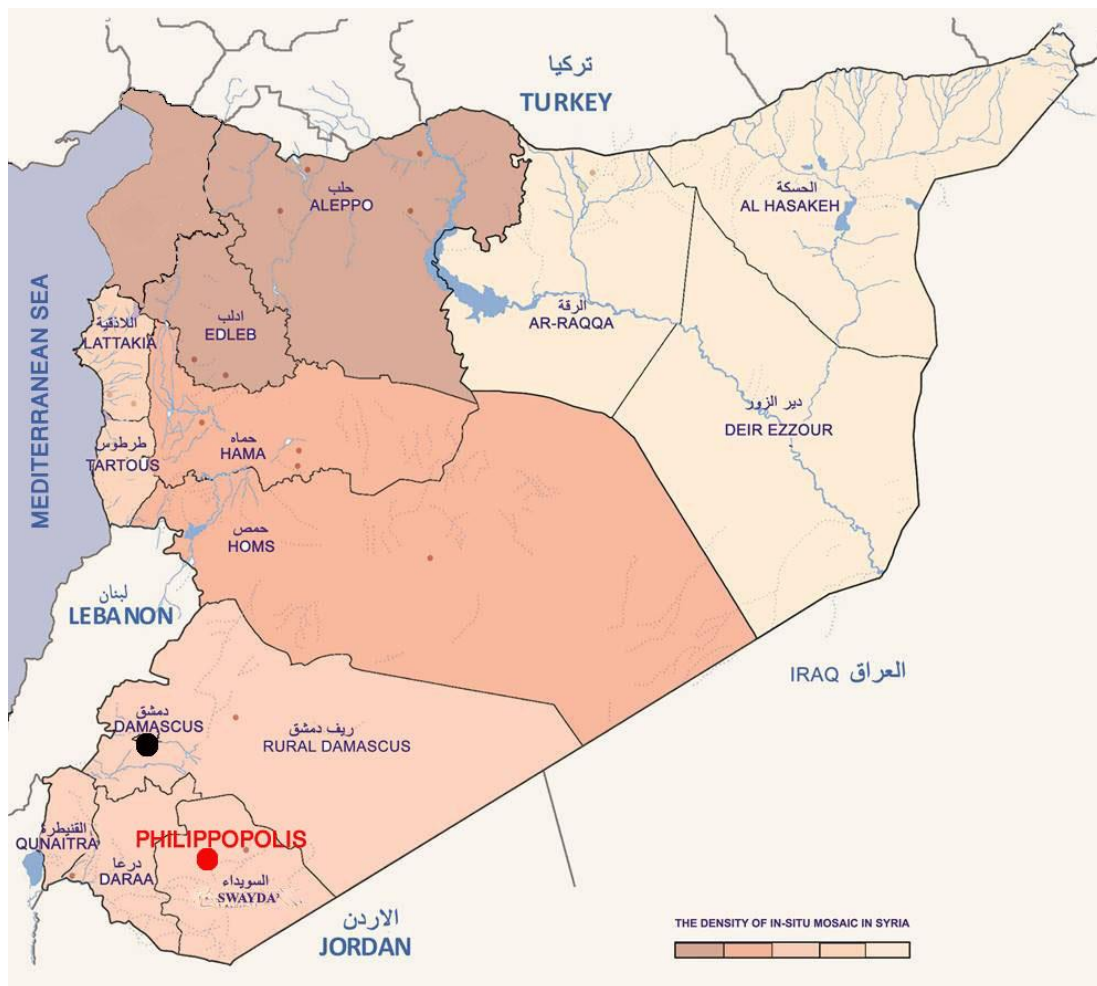


Fig 2. Location of the city of Philippopolis within the map of Syria, (Photo: <https://www.freeworldmaps.net/asia/syria>)

³ ‘Aṣḥūr Muḥammad Abū Al-Maḥāsin, 1984, p. 246.

Philippopolis (Currently the city of Shahbā) is located in the province of Swaydā' in the south of Syria, 90 kilometers south of Damascus and 19 kilometers north of the city of Swaydā' (Fig 2), a mountain city located on one of the hills of Mount Ḥaurān and surrounded by volcanic nature on all sides (Fig 3).

Philippopolis (Shahbā) region and the city of Swardā' in southern Syria were subjected to violent volcanic eruptions millions of years ago, which led to the formation of a giant basalt region (Lajāt), in addition to the four volcanic hills of the city of Philippopolis.

The four volcanic hills are located on a row west of the city of Shahba and on the eastern borders of the Lajat region. The row on which the four hills extend is approximately one kilometer long, and is from north to south Tel Shīḥān, Tel al-Ghrāra al-Shamālī, then Tel al-Jamal, finally Tel al-Ghrāra al-Janūbī.

Three hills consist of volcanic tuff - black sand - pure dark, with roughly equal vesicles, which is a huge economic fortune that is utilized in construction works, the manufacture of building bricks, in the fill layers of public road networks, and in agriculture. As for Tel al-Jamal, it consists of dark red volcanic rocky remains.

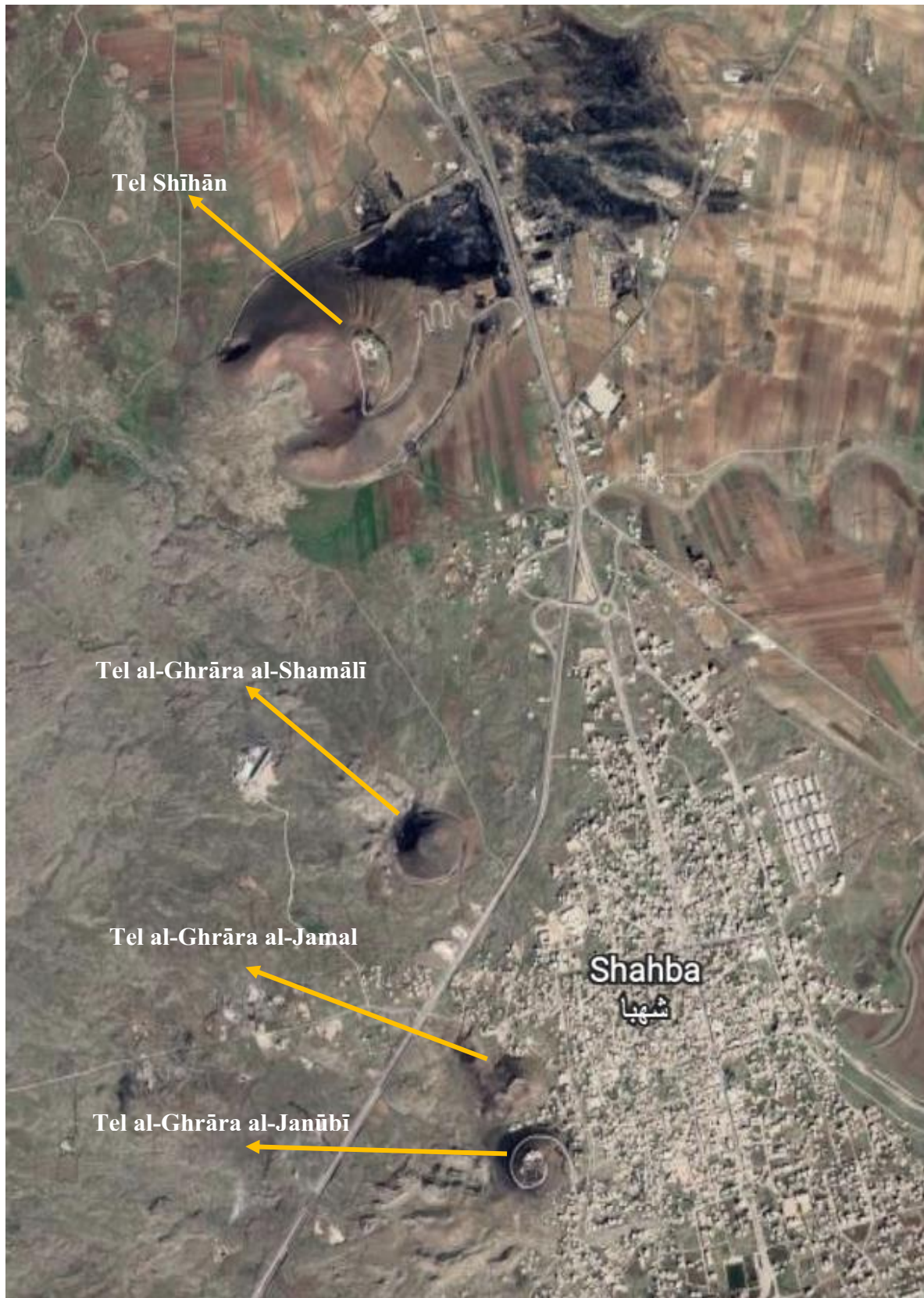


Fig 3. Philippopolis City with the surrounding volcanic nature (photo: Google Earth)

III. Methodology

In this research, I present a descriptive and analytical study of the techniques of implementing mosaic pavements discovered in the city of Philippopolis and put them within the general framework of techniques for the implementation of Roman mosaics in Syria and the ancient Roman world, in addition to an analytical study of the nature of the materials used in the paving of these mosaics, and preparation of the founding layers through the available materials on-site or imported from other sites, and compare the techniques of implementation each one of these mosaics and materials used in their producing, based on the excavation and restoration works that I have done in several sites, in the city of Philippopolis, and other locations in Syria.

In addition to study about the results of laboratory analysis of some samples taken from the founding layers of mosaic pavements discovered in Philippopolis, and to identify the elements and basic components of those layers, then to compare the results with each other, to determine the similarities and differences of the nature of the materials used, and the manufacturing workshops that produced those mosaics.

Furthermore, following the geographical aspect and the historical framework, three chapters of the research will include descriptive, analytical, and comparative studies.

The first chapter will include a descriptive study of the stages of the development of mosaic art and the techniques of the implementation of mosaic pavements in the Roman world. Then the stages of the development of mosaic art in Syria and the city of Philippopolis. In addition to a descriptive study of the artistic aspects of mosaic pavements discovered in Philippopolis, and their placement within the general framework of mosaic pavements belonging to the Roman era.

The second chapter will include an analytical study of the techniques of implementation of mosaic pavements in Philippopolis, and the nature of the materials used in the paving of these mosaics, and the nature of the materials used in the preparation of the foundational layers, and a comparative study for the implementation techniques of each mosaic in Philippopolis within the frame of the workshops., through the personal experience in the work of excavation and restoration in the city of Philippopolis and other sites in Syria.

The third chapter will include an analytical study of the results of the laboratory analysis carried out in the microscopic laboratory of the Conservation Department in the Hungarian University of Fine Arts in Budapest, which implemented on some samples taken from mosaic pavements discovered in the city of Philippopolis, and compared with each other, to obtain results about the nature of materials and differences in each mosaic.

The thesis will close with a conclusion based on the results that will be obtained to determine the nature of the materials used, the implementation workshops, the different production periods and aiming to determine the relative history of these mosaics compared to the data of previous research results.

III.1. Previous Research

There are few Arab researchers who are interested in the field of studying Syrian mosaic floors, especially those dating from the Roman era, and therefore the lack of Arabic references that dealt with mosaic art in detail is also a problem. This has made it necessary to rely on foreign references that have recorded the efforts made by foreign researchers in this area. The most important studies about this topic are the researches of Janine Balty⁴, Ernest Will, Maurice Dunand⁵, Maurice Sartre, Henry Stern, Philippe Bruneau, Catherine Dunbabin and other researchers who were highly interested in the Roman mosaic heritage in the Levant and in Syria.

Many references talked about the mosaics of Syria mainly or secondary and provided many additions about the historical framework of the region of Syria. The researcher Catherine Dunbabin by her book "Mosaic of the Greek and Roman world" published in 1999, gave important information about the history and development of mosaic art during the Hellenic and Roman periods.

And one of the main references is the book of the scholar Philippe Bruneau "La mosaïque antique", published in 1987, which also talked about the evolution of mosaic art, explaining some of the characteristics of these ancient mosaics. In addition to the book of the scholar Doro Levi " Antioch Mosaic Pavements" published in 1947 which presented a detailed description of the mosaic of Antioch discovered by Princeton University in the late 1930s.

⁴ Janine Balty: a Belgian archaeologist who worked in Syria for a long time during the late last century, especially in the city of Apamee, has many research and studies on Syrian mosaics.

⁵ Maurice Dunant, a French archaeologist who worked in Syria and Lebanon at the beginning of the last century for more than fifty years, is credited with discovering many archaeological sites, including the city of Philippopolis (Shahbā).

There are also important books on which the research relied, the book " Il mosaïco, materiali e tecniche dalle origini a oggi " by Fiorentini Roncuzzi Isotta, published in 1990, and book "La mosaïque" by Henri Lavagne, published in 1987. These books include a full explanation of the mosaic paving techniques known during the Roman era.

But the most important references on the mosaic heritage of Syria in general and the mosaic pavements of Philippopolis in particular were the research of the firstly mentioned Belgian scholar Janine Balty. She has given important information and significant additions in terms of comparisons, descriptions and analyses of the mosaics of Syria during her long period of work within Syria in the past decades. Also, she compared pavements discovered in the last century in many sites such as Rastan, Emessa, Amrit, Palmyra, Apamea, Philippopolis with other pavements in many regions of the world, and analyzed their classical compositions, and has presented the results of her long research within several books and articles. Her most important books are the "Mosaïques antiques de Syrie", which was published in 1977, and "Mosaïques antiques du Proche-Orient" published in 1995, in addition to some other articles which published in German periodicals and in the Syrian journal "Les Annales Archéologiques Arabes Syriennes" AAAS, such as: Composantes classiques et orientales dans les mosaïques de Palmyre, 1996, and Les mosaïques de Shahba-Philippopolis: chronologie, ateliers, commanditaires, 1997.

III. 2. Sources

III.2.1 Historical Sources

One of the most important historical sources is the book of Vitruvius "The ten books on architecture", which he wrote in the time of Augustus, and explained within it the properties of materials used for covering floors and walls, such as bricks, lime, sand, pozzolana, and other building materials.

The other book is " Metamorphoses " of the writer and poet Roman Ovidius Naso, who lived from 43 BC to 18 AD, which tells several ancient myths of the myths of Greece and the Romans, and allows the reader to dive into the world of myth and the names of the gods and heroes, along with their sadness and pleasure or emotion and love.

III.2.2 Travellers' Accounts

Many travelers made tours and trips to the East in general and Syria in particular. They were either travelers, explorers, orientalists, or theologians, politicians, historians, and archaeologists.

During their journeys to Syria, they explored southern Syria and Mount Ḥaurān* and visited many towns and villages of Swaydā' including the city of Philippiopolis and wrote in their books their description of the city, with its doors, streets, religious and civil buildings, baths temples and theatres.

Among these travelers are the British traveler Algernon Heber Percy, member of the Royal Geographical Society, the British lawyer Douglas Freshfield, the Irish traveler James L Porter, the British orientalist Richard Burton, the American orientalist Rudolf Ernst Brünnow, the American traveler William Thomson, the French novelist Jules Verne, the British travelers George Robinson, and writer and journalist James Silk Buckingham, the British historian Lord Lindsay, the English politician Charles James Monk, the Swiss traveler John Lewis Burckhardt, the German traveler Ulrich Jasper Seetzens, and the British writer Gertrude Lowthian Bell⁶.

But the most important of these travelers was Howard Crosby Butler.

- **Howard Crosby Butler**, a documenter, architect, and American university professor. He studied history, ancient and modern art and learned Greek and Latin at Princeton University. During 1899-1900, he led an archaeological mission in northern, central, and southern Syria. He continued to supervise these missions until 1909. He made his second travel in 1904-05. His last trip was in 1909. For ten years, Princeton University through its multi expeditions, has explored most archaeological sites in Syria, in Aleppo in the north and Arabia in the south.

In his books, he describes everything he saw in the archaeological sites, like architectural elements and figurative decorations, sculptures, mosaics, mural paintings, and others⁷.

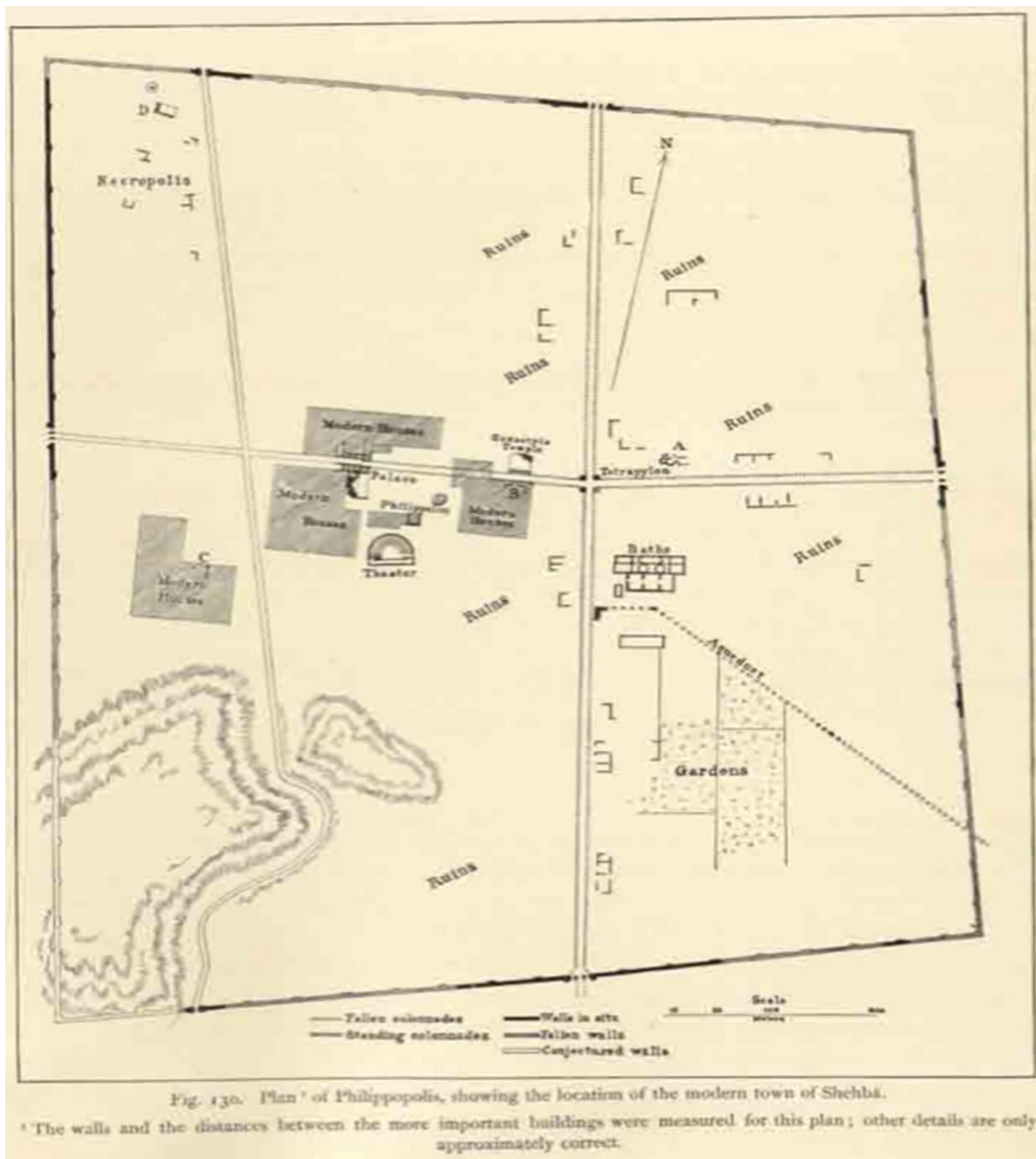
* See in chapter IX list of terms

⁶ Brünnow Rudolf Ernst. Domaszewski Alfred V, 1909, *Die Provincia Arabi*. Monk. Charles James, 1851, *The Golden Horn and Sketches in Asia Minor- Egypt – Syria and the Hauran*, Vol. II, London. Percy Algernon Heber, 1895, *A visit to Bashan and Argob, The Religious Tract Society*, London.

⁷ Butler H. C. 1903, pp. 376-396

He devoted a special chapter for Mount Ḥaurān (Swaydā' governorate), where he described the city of Philippopolis with its gates, streets, religious and civil buildings, baths, temples, and theater. He put a plan for the city of Philippopolis, defined the walls and the distances between the important buildings in the city with approximate details⁸ (Plan 1).

This scheme was relied upon by all researchers, historians and archaeologists who worked in Philippopolis (Shahbā) later.



Plan 1. Plan of Philippopolis city showing the walls and the distances between the important buildings, Philippopolis, Syria (Butler Howard Crosby, 1903, p. 376)

⁸ Butler H. C. 1915, pp. 359-360

- **James Silk Buckingham** an English writer and journalist, who made trips from Egypt to India via Palestine, Syria, and Mesopotamia.

As part of his journey from Palestine to Iraq in 1916, he passed from Mount Ḥaurān in mid-March, describing his journey, which included the villages of Ḥaurān and Mount Ḥaurān, passing through the town of Bosra and the villages of Mount Ḥaurān in the east, such as the city of Ṣalkhad, where he describes the tolerance of the inhabitants with him.

He describes the city of Swaydā' as the capital of the eastern Druze. He speaks extensively about the temple, the pools of water, an ancient church, and a building surrounded by 20 columns spread in the north and south, and he describes the town of Kanatha (Qanawāt) and the ruins of the Eastern Church, the Temple of Zeus, the Temple of the Nymphs and the Theater.

He then arrives at Philippopolis from its southern gate with a rundown central pavilion, describing its still-paved stone streets, the grand bath, the five-column pagan temple, and the theater⁹.

⁹ Buckingham J. S. 1825, pp. 257-262.

IV. Historical Frame

The city of Philippiopolis and other sites within this geographical area known as Greater Syria considered a melting pot of many different civilizations, such as Babylonian, Assyrian, Egyptian, Hittite, Greek, Roman etc. It was also a treasury filled with the masterpieces of human cultural heritage, the features of which are reflected in the many archaeological remains, whether it be various architectural edifices, or creative works of art, which reflected the extent of mutual influence among those peoples that succeeded their civilizations on this land.

When we want to talk about the historical aspect of the city of Philippiopolis, we must talk about the historical aspect of the region, including Syria.

Since the fourth millennium BC, there have been many civilizations that have left many traditions, ideas, cultures, myths, and images of different stages of their lives, like the Akkadians, Canaanites, Phoenicians, Amorites, Arameans, Greeks, and Romans, the archaeological discoveries made by many scholars and researchers, give us a wonderful view of those civilizations, and the most important cities that were of great importance in those times and their political and commercial relations with other civilizations.

In the middle of the first millennium BC, the area was controlled by the Assyrians and then by the Achaemenids, whose empire was weakened by their wars with the Greeks. This encouraged Alexander the Great to extend his sovereignty over the East after his victory at the Battle of Issus in 333 BC over the King of the Achaemenids Darius III¹⁰.

Alexander then continued his way across the coast, conquer Maratos, Arwād, Jubayl, and Sidon, then Tyre after a seven-month-long siege. Then after Babylon -the seat of the central government- continued his way to India, then returned to Babylon and died of fever in the palace of Nebuchadnezzar in 323 BC.

After Alexander's death, his commanders fought to win their best section of the Empire and the race ended after long wars over the division of the Macedonian Empire into four states among four leaders: Ptolemy in Egypt, Seleucus in Babylon, Antigonus in Asia Minor, and Antipatrus in Macedonia¹¹.

¹⁰ 'Abd Al-ḥaq Salīm 'Adel, 1959, p. 219.

¹¹ Ḥattī Filīb, 1957, pp. 253-259.

Seleucus emerged from 312 to 280 BC, nicknamed Nicator (Conqueror), and helped Ptolemy against Antigonus to join Palestine to the Egyptian province, and Seleucus be able to regain the Babylon, which he had lost previously, and in 301 BC he won a new victory against Antigonus in Ipsus, where he acquired the entire eastern part of Asia Minor and Syria from the Euphrates to the Mediterranean, where Antioch which he built on Orontes river became the seat of the Government of Syria. However, 312 is the birth of the Syrian state and the Seleucid history began.

During this period Seleucus was able to establish a state in which he followed the policy of spreading Hellenism developed by Alexander and built many cities bearing the names of his father Antiochus and the name of his mother Laodicea and his wife Apameia or his name.

The empire built by Seleucus lasted nearly a century, during which five wars were fought, the last of which was in 198 BC, and after the three Macedonian wars, the Romans found the situation very convenient because of the disintegration of the Greek world, the devastating internal wars, and the aggravation of social conflicts within the countries, where all Greece fell under the Roman control¹².

Pompeii in 64 BC was able to annex Syria to the Roman Empire and make it a Roman state (Provincia Syria) to replace the Kingdom of Syria, Antioch became the capital of the new state as the largest city in the western part and an important center of military, administrative and commercial aspects, and because of its position as a state on the border adjacent to the Parthian state, which was the only and frightening rival of Rome¹³.

The Romans, unlike Greece, did not care about the civilization of the population they ruled, but their main objective in Syria was to make it a base against the enemy and to invest its resources. In the time of Augustus, and after his victory in the Battle of Actium in 31 BC over his opponent Marcus Antonius, he was keen to protect it from external aggressions, particularly the danger of the Parthian Empire, by strengthening its borders and fortifications.

The southern region remained stable for a period after the Romans entered Syria, and then there was no clash between the Romans and the Nabataeans, because of the fear of the Romans to engage in such a clash, for their ignorance of the region, unlike the Nabataean, and

¹² 'Abd Al-ḥaq Salīm 'Adel, 1959, p. 238.

¹³ Ḥattī Fīlīb, 1957, p. 271.

because of the desire of the Romans to secure the borders of the Syrian-Roman state, and the Nabataean securing that¹⁴.

This was reflected in the stability of the state of Syria, and gradually regained its strength and commercial activity after the decline that fell to it at the end of the middle of the first century AD as a result of foreign and civil wars, to become a main part of the Empire extends from the Atlantic and the North Sea to the Euphrates and the Rhine and Danube to the Sahara, Roman order and security and peace prevailed, and trade was active as trade exchanges reached their peak in the caravan cities and trade, such as Petra, Jerash, Bosra, Palmyra, and Doura Europpos, for a long time, which ruled between 96-180 AD, by a series of competent emperors who began by Nerva and ended with Marcus Aurelius, and their age was described as the "age of righteous emperors"¹⁵.

During the reign of Emperor Trajan (98-117 AD), eliminated the political influence of the Nabataean Kingdom, annexed its property in southern Syria and eastern Jordan, with its capital Petra and the alliance of the ten cities of Decapolis, and established the Arab state (Provincia Arabia). Also, the state of Syria under the reign of Emperor Hadrian witnessed many reforms.

The city of Philippopolis/Shahba, which is the basis of this research, is within the geographical area of the control of the Nabataeans, and although they did not leave any effect in the context of the development of mosaic art during the period of control in the region, it must give a simple overview of the Kingdom of Nabateans, which was one of the Great kingdoms that have emerged in southern Syria for a while.

IV.1. Nabataeans

Researchers disagreed on the origin of the Nabataeans, some of whom said they were Arabized Aramaic peoples, and some who said they were Syriac-speaking Syriac, and some who said they came from southern Arabia and settled in the northern Arab countries. The Nabataeans first appeared in the 6th century BC as deported nomadic tribes who were in the desert in the east of Jordan, then at the end of the fourth century and the beginning of the third century BC they begin a life of stability and work in agriculture, and the first appearance as a

¹⁴ Mḥaffil Muḥammad, Al-zīn Muḥammad, 1984, pp. 129-132.

¹⁵ Mḥaffil Muḥammad, Al-zīn Muḥammad, 1984, pp. 129-132.

successful stable kingdom was in 312 BC. When they succeeded in repelling the campaigns of Antigonos, one of Alexander's successors, on their rocky shelter and their capital, Petra¹⁶.

Their kingdom expanded at the beginning of the 1st century BC and conquered the south-east of Syria, Hauran, and Jabal al-Arab (Swaydā'). With the decline of the Seleucids, they were able to expand the western borders of the kingdom and then reach Damascus and annex it to the Nabataean Kingdom in 85 BC¹⁷.

Pompey's attempts to expand the Roman border within the Nabateans to the Red Sea at the same time opened the door for Greek and Roman influences, bringing Syrian manufacturers to his capital, Petra, to introduce new Hellenistic models. Petra began to take typical Hellenistic manifestations.

But the golden age of the Nabataeans was from the year 50 BC and ended in 70 A.D, then it became part of the Roman Empire after the establishment of the Arab state by Trajan¹⁸.

Since the year 193, Syria witnessed the coronation of the Syrian dynasty in Rome, when Septimius Severus, commander of one of the divisions in Syria, succeeded in ascending the throne of the Roman Empire. After winning the throne, Severus punished Antioch for standing in the war along with his opponent Gaius Niger and attached it to Latakia (Laodicea), which gave it great privileges and the title of the colony (Metropolis) because of his victory, then transferred off the local ceremony of the Olympic Games and included it in the games that he established in Issus for his victory there.

To prevent any future rebellion, he divided the province into two states: one in the north called Syria Coele and another in the south called Syria Phoenicia¹⁹.

In 211 AD, Emperor Caracalla succeeded his father, Septimius Severus, on the throne of Rome and maintained his father's policy, including the policy of colonial uprising. He was killed in Edessa at the instigation of the commander of the Imperial Guards Macrinus at the eastern border of Syria in 217 AD, when he was fighting the Parthians. The Syrian state then witnessed instability during the reign of Elagabalus and Alexander Severus of the Roman Empire, who were the grandsons of Julia Maesa, and the end of the era of the Severian emperors in 235 AD.

¹⁶ Ḥattī Fīlīb, 1957, p. 417.

¹⁷ Ḥattī Fīlīb, 1957, p. 417.

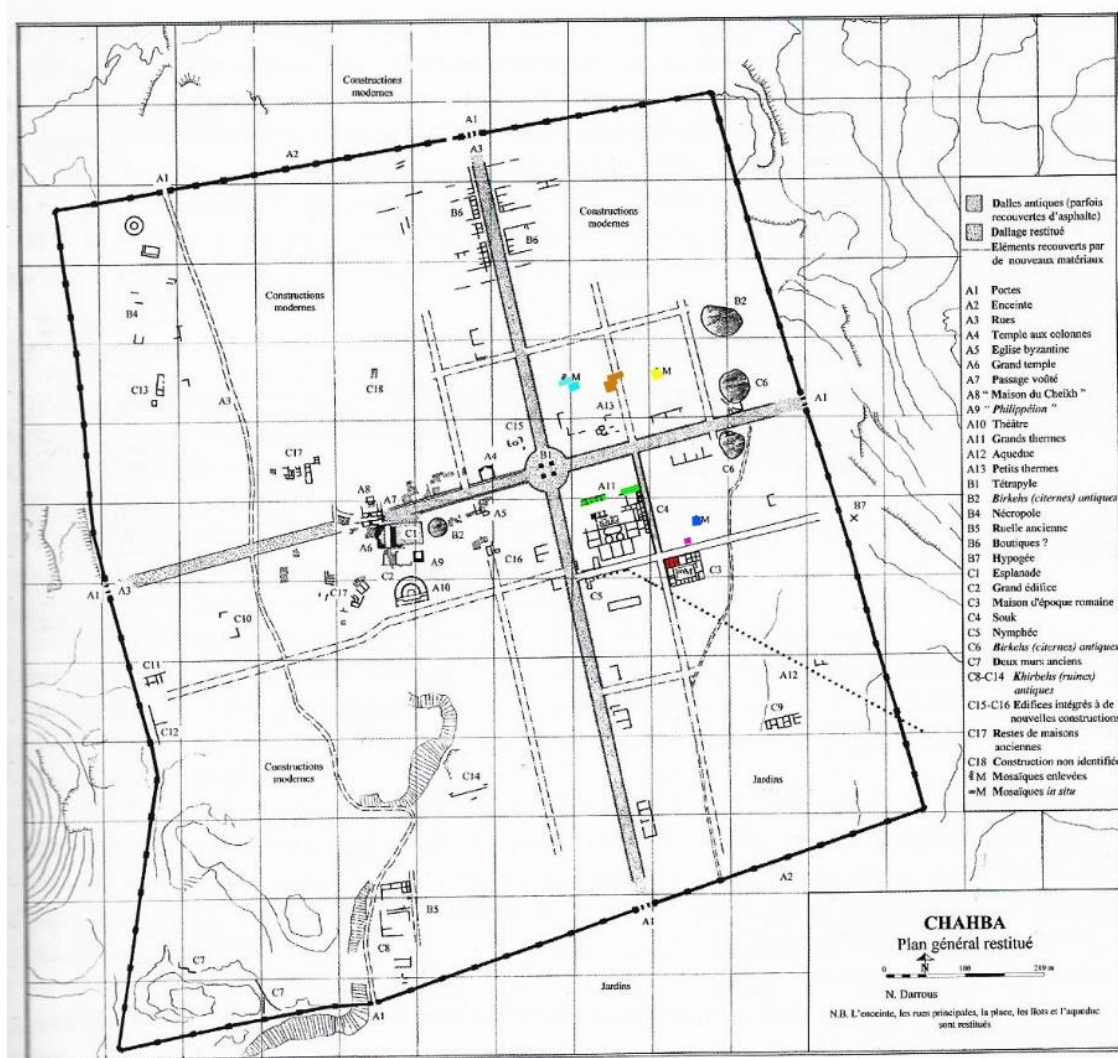
¹⁸ Dantzer, J-M. 1988, p. 252.

¹⁹ Downey, G. 1967.p. 140.

Ten years after the death of Alexander Severus, and after a period of sedition and unrest, soldiers called Philip the Arab to be the emperor and the Senate confirmed this choice in 244 AD, and it was the golden age of the city of Philippopolis.

IV.2. The city of Philippopolis

The city of Philippopolis, which for a time was within the area of Nabataean control and adjacent to the city of Kanatha which was an important city in the Nabataean period and one of the Decapolis cities in the Roman period, gives us an example of a village reaching the rank of city. Originally it was a small village in southern Syria and then became a colony during the time of Philip the Arab.



Plan 2. Plan of the city of Philippopolis (Plan by: Darrous Nouha, Rohmer Jérôme, Syria, Tome 81, 2004. p. 7)

Despite all these political events that have been successive to the region and the multiple attacks and invasions by foreign political forces, it is not reflected in Philippopolis except in

the Roman period in the middle of the third century AD. The Romans did not care at first about the location of Philippopolis, but the city experienced its brightest periods during the reign of Emperor Philip the Arab (244-249).

He expressed the depth of his loyalty to his homeland by showing great care in his hometown of Philippopolis, some archaeologists said that he wanted to make it like Rome, the then-known world capital, and became one of the most important cities of the Roman Empire. He built many of the buildings that are still to this day, surrounded by strong walls fortified with defensive towers and decorated with luxury gates built on the forms of triumphal arches.

The city penetrates two main roads perpendicular paved with volcanic stones and leads to the Forum which decorated with black stone arches many public and private buildings are scattered on the outskirts of the streets (Plan 2), such as majestic temples, stately palaces, houses decorated with the most beautiful mosaic pavements, baths and theaters in Roman style. So, who was this Emperor?

IV. 3. Philip the Arab

He is (Marcus Julius Philippus) a Roman emperor of Arab origin, born around 200-204 AD, in a small village in Mount Arab in southern Syria, known in the Roman period as Philippopolis, later known as Shahba. His father belonged to the Syrian Arabs of the area called (Al-Lajāh), who had Roman names after Emperor Caracalla issued in 212 his decree granting full Roman citizenship to all free inhabitants of the states without exception, thus his father named Julius Marinus. and his name Marcus Julius Philippus²⁰.

Like the youth of his time, Phillip joined the Roman army, and his physical, intellectual, and personal qualities, as well as his military talents, seemed to qualify him to become a leader of the Imperial Guard, who headed by a relative of the young Emperor Gordian III who is called Temiscitius²¹.

At the beginning of winter (243--244), following the successive wars between Rome and the Persians, Emperor Gordian III fought a war against the Sassanids and achieved impressive victories over the armies of the Sassanid king Sabor I (241-272) until he reached his capital Ctesiphon (Madaen). But during the battles, he lost his Imperial Guard commander and replaced him by Philip the Arab, who, immediately after taking his position, faced a military

²⁰ Al-nāṣirī Sayyid Aḥmad ʿalī, 1991, pp. 309-325.

²¹ Zuhdī Bashīr, 1997, p. 108.

rebellion at the gates of the Sassanid capital. This military rebellion succeeded in the assassination of Emperor Gordian, then demanded Philip be the emperor after signing a peace treaty with Sabor I where The Senate made this choice in 244 AD.

Philip then went to Rome through Antioch, where he minted the first coins bearing his name and immortalized his peace with the Persians, and on his way back across Europe and fought many battles against the Germanic tribes in 246 and achieved a solid victory, as well as defeated the tribes of the Carpi in Dacia (contemporary Romania). His campaign against the tribes on the lower Danube earned him the official title Germanicus Maximus²².

He married Martia Otacilia Severa in 237 and had a child who gave him the title of Marcus Julius Philippus Severus (Philippus II). Although the child was only ten years old when Philip arrived in Rome in 248, the emperor issued successive orders to grant his son the title of consul, and later the title of Caesar, and finally the title of Augustus and assistant of the emperor.

On April 21, 248, Philip the Arab celebrated the millennial anniversary of the founding of Rome, a celebration echoed throughout the empire. Then he followed by issuing many decisions to achieve some social and economic reforms, which earned him the sympathy of the poor classes, as well as the persecuted politicians who had previously been severely punished.

In the face of barbaric invasions on the Danube region, Philip sent several armed battalions led by Caius Messius Quintus Decius to confront the situation, and it seems that the success of this leader in the victories over the barbarians tempted him to claim the emperor position and supported his troops by this demand, where he went to Italy on its northern border, and at the Verona site, in the autumn of 249, Decius won an overwhelming victory over the troops of Philip who was killed and his son, then the victorious leader entered Rome, ending the five-year empire of Philip the Arab²³.

Some sources who talk about Philip's life cite reports of his tolerance for Christians, who were persecuted by the emperors of Rome, which some Christian historians have interpreted as an indication of Philip's faith in Christianity, while other historians deny this interpretation. Though, the incidents of tolerance are more pronounced in the history of this emperor.

²² Zuhdī Bashīr, 1997, p. 114.

²³ Zuhdī Bashīr, p. 115.

After that, the Syrian state witnessed from this period the aggravation of unrest and the accession of many emperors to the throne of Rome. The Persian danger of the Sassanid dynasty was exacerbated, and the Kingdom of Palmyra began to take the lead in the face of this danger and had a major role in drawing the historical map of Syria in the Roman period.

Between 285 and 305 A.D, the Roman commander Diocletianus took over the throne of the Roman Empire, and he administered the affairs of the East, and made peace with the Sassanid Persians, according to which he retreated beyond the Tigris. In 305 AD he abdicated the Roman throne, followed by several conflicts that led to Constantinus taking power, and Syria then witnessed a transitional period followed by a new era (Byzantine era), after the Roman Hellenistic lasted from 64 BC - 323 AD, where he transferred in 323 AD the capital of the empire from Rome to Byzantium, thus beginning a new period in the history of Mediterranean countries.

V Development stages of the art of mosaics

V.1. Development stages of the art of mosaics.

V.2. Techniques of mosaic production in the Roman age.

V.3. Development stages of the art of mosaics in Syria.

V.4. The artistic aspects of the mosaic pavements of the Philippopolis (Shahbā) collection and their features within the mosaic collections in the world.

V.5. Comparative Iconographic study of the Philippopolis (Shahbā) mosaic pavements

V.1. Development stages of the art of mosaics

The researchers agree that the first signs of mosaic art were at the end of the fourth millennium BC when archaeological excavations revealed the construction in the Sumerian city of Uruk (Fig 4).

It was used the conical nails of pottery to decorate one of its facades and columns. The heads of the conical nails were painted red, black, and white²⁴.

In the same context, we have in Syria an important witness dating back to the same history, and the Historians and the archaeologists did not talk about, and although all previous studies and research that talked about the first signs of mosaic history belong to the Uruk site, it is considered an important discovery within the map of the first important sites in the history of mosaic art, where they found in the Temple of the Eyes at (Tell Brak) site in northeastern Syria, a clay block containing conical nails embedded in the burnt clay (Fig 5). It dates to 3300 BC²⁵.



Fig 4. Facade adorned with conical nails of burnt clay. Uruk, 3300-3000 B.C. (photo: Arus, J. Wailenfels, R, 2003, Art of The First Cities, p. 19)



Fig 5. Conical nails of limestone and marble in clay, Temple of the Eyes, Tell Brak, 3300 B.C, Syria, Museum of Deir Ez-Zur, (photo: Maher Jbace, 2008)

After that many mosaic-similar arts appeared, such as the Banner of Ur, which was discovered in the royal cemetery in the City of Ur²⁶, which represents scenes of peace and war, as well as a piece found in Tel Hariri (city of Mary) which made by ivory and Obsidian, and the musical harp that found in the Sumerian royal cemetery made of wood, inlaid with Shells, pearl and lapis lazuli, all date back to the middle of the third millennium BC.

²⁴ Arus, J. and Wailenfels, R. 2003, p. 18.

²⁵ Archives of the Directorate General of Antiquities and Museums DGAM, Syria - Deir ezzor City Museum

²⁶ Collon, D. 1995, p. 66.

In Egypt, the artistic works that date back to the period between the fourth millennium BC and the beginning of the first millennium BC varied, and they depend on wood inlaid with bone and ivory that closely resemble mosaic art²⁷.

In the first millennium BC, some pavements presented a new artistic stage in the context of the development of models and methods of mosaic art, as the pavements of Assyrian palaces in each of the sites Arslan-Tash and Tel-Barsib in Syria, which dates back to the ninth century BC²⁸. It consists large rounded pebbles in white and black colors and was placed in decorative forms similar to a chessboard (Fig 6), while in the city of Gordion in Asia Minor a pavement was found dating back to the eighth century BC, it is a floor made of largely white, black and red pebbles²⁹ (Fig 7).



Fig 6. Pebble mosaic pavement, Tell Barsib, Syria, 9th century BC, (photo: Roobaert Arlette, Bunnens Guy, 1999, p. 178.)



Fig 7. Pebble mosaic pavement, Gordion, Turkey, 8th century BC, (Photo: Al-Khūrī Mūsā Dīb, 2010. p. 42.)

In the second half of the first millennium BC, different types of pavements appeared in the areas of Phoenician and Greek rule, which were distinguished by their colors and methods of preparation, which later established the development of paving of the floors with colored stone cubes. The Phoenician pavements were red because of the use of pottery powder in their manufacture, while the Greek pavements were black due to the use of charcoal and clay, these pavements were found in Carthage and Kirkuwān in Tunisia (Fig 8), and at Al-Bass site in Tyre in Lebanon, and on the island of Sicily in the sites Sūlintū and Silīnuntī, in addition to the sites of the island Sardinia, dated back to the period from the sixth century until the second century BC, and was characterized by these pavements with geometric decorations

²⁷ Badawī Ḥasan Rāmiz, 2007, p. 30.

²⁸ Lavagne, H. 1987, Paris. P. 39.

²⁹ Dunbabin, M.D.K. 1979, 1999, p. 5.

made by Opus Signinum, or Opus Figlinum techniques, with some of the symbols such as Tanit³⁰ (Fig 9).



Fig 8. Fig 8. Phoenician pavement, Kerkouane in Tunisia, late fourth century BC (Photo: http://upload.wikimedia.org/wikipedia/commons/3/36/Kerkouane_signe_de_tanit)



Fig 9. Punic pavement, Selinunte in Sicily, fourth century BC (Photo: https://www.selinunte.net/religione_punica.htm)

The Greek mosaic was a natural continuation of the development of mosaics in the Near East, and its origins date back to the early stages in the eastern Mediterranean basin, it can be said that the common development between the regions of the Levant, Anatolia, and Greece, contributed to the emergence of common mosaic art, which found fertile ground for its prosperity with the development of Greek civilization which took its turn at the beginning of the classical era and after the spread of Hellenistic culture in all regions of the Near East during the last few centuries BC.

From the end of the fifth century BC, the Greeks began using small pebbles to paving the floors, examples of which are the mosaics of Rhodes, Corinth, and Olinthus³¹ (Fig 10).

* See in chapter IX list of terms

³⁰ Badawī Ḥasan Rāmiz, pp. 50-60.

³¹ Dunbabin, M.D.K. 1979, pp. 15-16.



Fig 10. Greek pebble mosaic, second half of 4th century B.C. (Archaeological Museum of Sikyon (Photo: <http://swww.ancient.eu/uploads/images2621.jpgv=1599327004>)

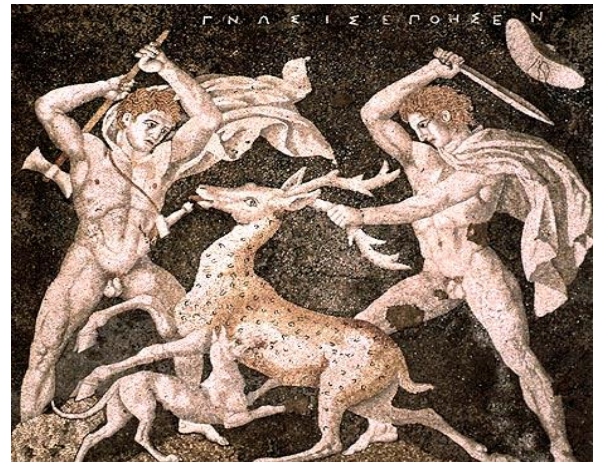


Fig 11. Pebble mosaic, deer hunt, Pella, Greece (ancient Macedonia), late 4th century BC, Pella Archaeological Museum (Photo: DUNBABIN M.D. Katherine, 1999, p. 70.)

Mosaic techniques consisting of small natural gravel colored green, white, and gray in the Greek cities reached their climax in the fourth century BC in the city of Pella, the ancient capital of Macedonia (Fig 11). Where they used new materials on these pavements to draw the boundaries of the depicted figures, represented by the use of clay bands and lead wires, which added new shades on the pavements, and the most important examples of this are the pavement that represents the scene of deer hunting and lion hunting that dates back to the end of the fourth century BC³² (Fig 12).

In a later period, cubes called *tesserae** in the terminology were used instead of gravel in paving the ends of the depicted scenes. Either for technical reasons related to better contact of the cubes with each other, which is not secured by the rounded shape of the gravel, or for aesthetic reasons that prompted the Greek artist to towards the use of cubes that contribute to the creation of multiple shades, and richer colors which tends to equal the color values of wall paintings. Until now, the place where the



Fig 12. Pebble mosaic, lion hunt, Pella, Greece (ancient Macedonia), 4th century BC, Pella Archaeological Museum, (Photo: <https://www.alamy.com/stock-photo-detail-of-the-pella-lion-hunt-pebble-mosaic, 2008>)

³² Stern, H. 1965. p. 214.

* see in Chapter IX List of terms.

technique of paving with tesserae was spread to other regions is not confirmed, some scholars and researchers say that it was known in Alexandria and spread to the rest of the regions, but the discovery of the Ganymede mosaic in Sicily, which dates back to the second half of the third century AD, confirmed the opposite opinion.³³

With the widespread use of stone tesserae in mosaics, starting in the middle of the third century BC, Opus Tessellatum typology prevailed over gravel technique, and the workshops and schools were established to produce mosaics in centers of Hellenistic power³⁴.

In the second century BC, for technical reasons on the one hand and aesthetic reasons, on the other hand, starting to use small stone tesserae that sometimes reach 2 mm in the depiction of the accurate human and animal scenes, and they were named Opus Vermiculatum due to their small size (Fig 13),

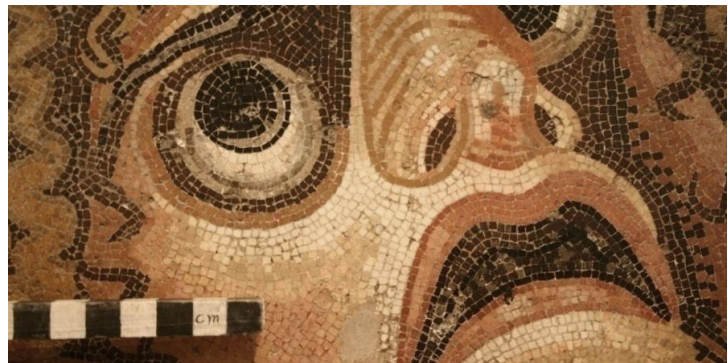


Fig 13. Mosaic of masks. National Museum of Naples (Photo: Maher Jbace, 2011)

and the mosaic that represents a scene from the famous battle of Issus, where Alexander overtook Darius III, King of the Persians, which was found on one of the floors of the house of the Faun in the Italian city of Pompeii, it represents one of the best examples of the use of this technique and is dated to the end of the second century BC³⁵ (Fig 14).

Since the middle of the second century BC, mosaic art has emerged as one of the most important decorative arts in Roman architecture, where the Roman artist in that era reached the emulation of the Greek - Hellenistic artist, through the depiction of realistic scenes. And since the first century BC, which witnessed the control of the Romans over most of the Hellenistic kingdoms, mosaic art entered a new stage of interest, as it became a pure Roman art starting from the capital, Rome, to the various regions and states of the Roman Empire.

³³ Dunbabin, M.D.K. 1979, pp. 21-22.

³⁴ Badawī Ḥasan Rāmīz, p. 76.

³⁵ Dunbabin, M.D.K. 1979, p. 41.



Fig 14. The Alexander Mosaic, Pompeii, National Archaeological Museum of Naples, end of the 2nd century BC
(Photo: Maher Jbace, 2011)

Spread of this art in the following centuries, causing the creation of methods and techniques that are distinct from each other in the provinces of the Roman Empire, and gave rise to the emergence of many schools and technical trends, such as the Italian School (Rome - Pompeii - Ostia, and others) and schools of the island of Cyprus and the island Rhodes, the North-African Schools (Carthage - Sūsa - El Jim - Tīmḡād - Libda - Vūlūbilis and others), school of the Gaul state, and schools of the East in Syria and Phoenicia (Antioch - Apamea - Philippopolis - Palmyra - Beirut - Tyre, and others). Each has the technical advantages that set it apart from other schools³⁶.

Thus, mosaic art in the Roman period reached the pinnacle of creativity and development through its spread and use in palaces, various public buildings, squares, baths, villas, cemeteries, temples relying on the color richness, movement, and manifestation of psychological and physical emotions. The scenes are often depicted in the dimensions. The artist's imagination relied on mythic stories from the world of Greek mythology, and topics drawn from the reality of daily life, such as scenes of hunting and grazing, harvest and sports, and the invention of plant, motifs and pictures of legendary or symbolic figures such as winds, or the personification of the protecting gods of the house according to some beliefs of that era.

Due to the finding of frequent scenes in many buildings in various regions of the Roman Empire - from west to east - which confirm the inevitable presence of the ready forms that are

³⁶ Badawī Ḥasan Rāmiz, p. 86.

moving within the empire which were surely in often use, of course together with some modification of the subject.

According to the decree of Emperor Diocletianus issued in the year 301 AD³⁷, the distribution of ranks and tasks of the artists and the workers, and the salaries that were given to each of them was identified (Fig 15). Such as, *Pictor Imaginarius*, the designer who creates the scene, draws it on *papyrus* or *vellum*, and proposes colors in coordination with the first craftsman. His salary was 175 dinars, while *Pictor Parietarius*, the artist who transmits the design to the site to be decorated, his salary was 75 dinars³⁸.



Fig 15. An illustration of the distribution of artists and workers during the implementation of a mosaic pavement, (Photo Tunca. Ö, Waliszewski. T, Koniordos, V, 2005, Tell Amarna in Syria. Colours of Christendom³⁹)



Fig 16. Relief of a burial stone, Ostia, Rome, 2nd Century AD (Photo: Lichtenberger. A ,Raja. R, 2017, Mosaicists at work, p. 1007)

Pictor Tessellarius, the foreman of paving the cubes in the floor, or the first craftsman who selects the method of paving, the colors and materials of the cubes, and sets the main lines of paving, his salary was 50 dinars, while for the equivalent artist who makes the wall mosaics, *Pictor Musivarius*, the salary was 60 dinars. For the lower rank craftsmen such as *Pictor Pavimentarius*, the one who completes paving the cubes after the first craftsman and put the mortar on the paving place⁴⁰, and *Lapidarius Structor* worker who is cutting cubes, and *Coctor Calcis*, the workers who prepare the mortar were all taken 50 dinars⁴¹. A stone relief found in Ostia in Italy, which dates back to the second century AD, shows a group of craftsmen and workers, the workshop, during the preparation of the materials for a mosaic pavement⁴² (Fig 16).

³⁷ Dunbabin, M.D.K. 1979, p. 275.

³⁸ Fiorentini Roncuzzi, I. 1990, p. 27.

³⁹ Tunca. Ö, Waliszewski. T, Koniordos, V, 2005, Tell Amarna in Syria. Colours of Christendom

⁴⁰ Fiorentini Roncuzzi, I. 1990, p. 26.

⁴¹ Dunbabin, M.D.K. 1979, p. 275. Fiorentini Roncuzzi, I. 1990, p. 26-27.

⁴² Dunbabin, M.D.K. 1979, p. 281.

V.2. Techniques of mosaic production in the Roman age

During the Roman phase, many types were known to implement mosaic type pavements, and for these types, the Romans invented names related to the specifications of the materials constituting them and the technical system for paving those materials. These designations were preceded by the Latin term *Opus**. The most important of these types:

***Opus Signinum*:** One of the types of implementing mosaic that was known since the fourth century BC⁴³, in the Roman period was named after the ancient Italian city of Signia. This floor consists of lime mortar containing pottery powder and scattered pieces of broken pottery, distributed or according to different drawings. In the Roman era in the Republic period white and black stone cubes were used for the motifs⁴⁴ (Fig 17).



Fig 17. Mosaic pavement by Opus Signinum type, 1st century BC, the archaeological site of Morgantina, Sicily (Photo: Maher Jbace, 2008).

***Opus Vermiculatum*:** A type in which tesserae smaller than 4 mm are used in paving fine areas in the mosaic, especially central parts (*Emblema* or *Pseudo-emblema**) which contain scenes executed with small, accurate colored tesserae, sometimes reaching up to 1 mm for a single piece. It was famous in the Roman period, and starting used since the end of the second century BC (Fig 13)

***Opus Tessellatum*:** A mosaic floor paved with tesserae ranging from 5 to 20 mm per side. The shape of the tesserae is regular, mainly cubic, and arranged adjacent to each other. The material can vary to marble, limestone, ceramic, or glass. Opus Tessellatum has been used since the third century BC⁴⁵ (Fig 18).



Fig 18. Mosaic pavement by Opus Tessellatum type, 2nd century AD, Bardo National Museum, Tunisia (Photo: Maher Jbace, 2005)

* See in chapter IX list of terms

⁴³ Fiori C. and Vandini M. 2002, p. 22.

⁴⁴ Fiorentini Roncuzzi, I. 1990, p. 19.

* See in chapter IX list of terms

⁴⁵ Fiorentini Roncuzzi, I. 1990; pp. 19-20.

Opus Scutulatum: One of the firstly used pavements, famous in the period from the second century B.C, until the end of the first century AD⁴⁶, consisting of a background of monochrome Tessellatum of black or white color, and with pieces of marble pieces incorporated in different sizes and colors. Many of them are found in Pompeii and Herculaneum⁴⁷ (Fig 19).

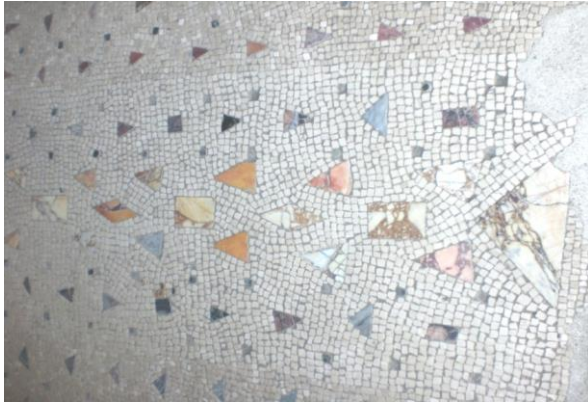


Fig 19. Mosaic pavement by Opus Scutulatum type, 1st century BC, the archaeological site of Herculaneum, Italy (Photo: Maher Jbace, 2011)



Fig 20. Mosaic pavement by Opus Sectile type, 117-138 AD, the archaeological site of Hadrian's Villa, Rome, Italy (Photo: Maher Jbace, 2011)

Opus Sectile: A pavement or wall decoration consisting of cut stone slabs, often made of marble of different colors and regular geometric shapes.⁴⁸ The geometric decoration was performed by the systematic setting of the regular pieces (Fig 20).

Opus Alexandrinum: A type similar to Opus Sectile, represented by various geometric combinations of marble, first known during the time of Emperor Alexander Severus (222-235 AD)⁴⁹. This was typical Byzantium from the 9th c. AD.⁵⁰

Opus Spicatum: A pavement executed with large, elongated slabs of pottery or marble, paved in the form of the fish skeleton⁵¹ (Fig 21). Similar type was in use as built wall structure made of bricks.



Fig 21. Mosaic pavement by Opus Spicatum type, 1st century AD, Archeological site of Ostia, Italy, (Photo: Maher Jbace, 2011)

⁴⁶ Fiori, C. and Vandini, M. 2002, p. 20.

⁴⁷ Lavagne, H. 1987, p. 25., Fiorentini Roncuzzi I. 2002, p. 23.

⁴⁸ Fiorentini Roncuzzi, I. 1990, pp. 21-22. Lavagne, H. 1987, p. 24.

⁴⁹ Lavagne, H. 1987, pp. 23-24.

⁵⁰ <https://www.britannica.com/art/opus-alexandrinum>

⁵¹ Fiorentini Roncuzzi, I. 1990, p. 25.

Opus Figlinum: A type similar to Opus Spicatum, usually consisting of rectangular ceramic or stone pieces of similar size and installed in adjacent groups to form a decoration in the shape of ear of wheat⁵² (Fig 22).



Fig 22. Mosaic pavement by Opus Figlinum type, 117-138 AD, the archaeological site of Hadrian's Villa, Italy, (Photo: Maher Jbacc, 2011)

Opus Musivum is a general term of all the mosaic works, but also indicates a wall mosaic technique implemented with small pieces of marble or glass, the pieces are smaller than the marble pieces used in the technique used by the Romans in decorating gardens and fountains of the Nymphs, where it began to be used at the beginning of the first century BC⁵³.

V.3. Development stages of the art of mosaics in Syria

Syrian art that carried the achievements of ancient eastern arts, and which borrowed from the Greek and Roman art principles of architecture and the origins of cities planning and love of luxury and grandeur, was able to integrate all of these artistic elements and produced a new mixture of them during long ages. In the Roman era by several undeniable qualities which were created a distinct authentic nature of the Syrian mosaic art was represented by clear characters, showing details of their clothes, a tendency to realism, and sincerity to the truth⁵⁴.

Although the first signs of the emergence of mosaic art are in the East, the pebble mosaic covering courtyard VII of building C2 at the site of Tel Barsib (Tel 'Aḥmar) which is the oldest mosaic found in Syria. This period from ninth to seventh century BC was one of the most important periods of occupation of the site as the provincial capital of the Assyrian Empire and played a key role in Iron Age history.

Tel 'Aḥmar, the site of ancient Tel Barsib, is situated on the left bank of the Euphrates River about twenty kilometers to the south of the modern border between Turkey and Syria. Shalmaneser III conquered the city in 856 and turned it into an Assyrian royal city and

⁵² Fiori, C. and Vandini, M. 2002, p. 25.

⁵³ Fiori, C. and Vandini, M. 2002, p. 34.

⁵⁴ 'Abd Al-ḥaq Salīm 'Adel, 1959, pp. 11-15.

renamed it Kâr-Shalmaneser.' Later on, Tel Barsib became the residence of the French excavations, conducted by Francois Thureau Danguin from 1929 to 1931⁵⁵. Where one of the most interesting features of the site of Tel Barsib is the pebble mosaic covering courtyard VII of building C2. It is 13 x 14.7 m in size and consists of black and white pebbles arranged in a checkered pattern, the flat and long pebble were carefully assembled and laid on their thin edge⁵⁶ (Fig 23).

In 2010, upon the proposal of the laboratory of mosaic restoration in the General Directorate of Antiquities and Museums, DGAM in Syria, the laboratory lifted and restored a part with dimensions 1 x 1 m from the pavement of the Tel Barsib mosaic and it was displayed in the Aleppo Museum to familiarize visitors and those interested in this site and the oldest mosaic pavement in Syria (Fig 24). The site was reburied. A similar late bronze age pebble mosaic floor from the Hittite period was excavated in 2018, in Usakli Höyük, Türkiye.⁵⁷



Fig 23. Pebble mosaic covering courtyard VII of building C2, Tel Barsib, Syria, (right photo: Mūḥammad Kāīed 2010, left photo: Bunnens Guy, 1995, Tel Barsib under the Assyrian Domination: Assyrian, p. 27)

⁵⁵ Bunnens, G. 1995, p. 17.

⁵⁶ ⁵⁶ Bunnens, G. 1995, p. 27, Roobaert A. and Bunnens G. 1999, p. 172.

⁵⁷ <https://www.cambridge.org/core/journals/antiquity/article/mosaic-floor-from-the-late-bronze-age-building-ii-of-usakli-hoyuk-central-turkey/800C1B9FC4349C94700366A7F300BBF7>



Fig 24. Lifting and restoring a part of pavement of the Tel Barsib mosaic, Syria (Photo: Mūḥammad Kāīed, 2010)

Archeologically discovered mosaics which dated back to the first Hellenistic period from the last third of the fourth century BC until the beginning of Roman domination are few and absent, and for this reason, the Roman era considered the beginning of the spread of this art in Syria, which has received great attention as one of the most important elements of the Syrian architectural decoration.

The important discovery in Apamée in 1970, during the excavations that took place in the construction of Triclinos, consider the most ancient to date in Syria, where they found a mosaic pavement (Opus Tessellatum) which is a geometrical decoration of four colors against a white background, made in the form of a wide-open box.



Fig 25. Part of a mosaic discovered in Triclinos, Apamée, Syria, 1st century AD (Photo: Balty, J. 1977. p. 13)

It seems that it was designed to fit in with a central bath that had previously existed⁵⁸ (Fig 25) and by the comparison of this pavement with similar pavement discovered in Jerusalem, they were able to confirm the date of the mosaic in the context of the first century AD, which is one of mosaic pavements dates back to Herod's reign⁵⁹.

⁵⁸ Balty, J. 1989, p. 492.

⁵⁹ Balty, J. 1981, p. 360.

Also, one of the important mosaics dating back to the first century AD and discovered in recent years, a mosaic pavement with beautiful geometric motifs were excavated on the site of Tal Maksūr near the city of Apamée (Fig 26).



Fig 26. Mosaic pavement of the archeological site of Tal Maksūr, Apamée, Syria, 1st century AD (Photo: Maher Jbace, 2009)

Starting in the second century AD, the multi-colored mosaic style emerged in the central panels (Pseudo-emblemata) inherited from the Hellenistic tradition, and the topics of scenes were taken from the traditional legendary encyclopedia. Geometric decorations are initially characterized by some simplicity in composition, gradually transforming into complex compositions. And later on, during the reign of the Antonin Emperors, we see the skill in using contrasts in colors (light and dark), harmony in movement and expressive intensity, and the era of the Severian emperors witnessed the artist's ingenuity in using gradations of the colors in new artistic formations called rainbow-style*, which inspire to the viewer a strong color transition between the shadow and light areas, and the intense contrast between the dark and light sectors, so that the artist has achieved a perfect harmony to show the intensity and the strength of the eloquent gazes, through the oblique gaze of faces that give an expression of deep sadness and depression, by drawing the mouth and a meeting point of lips coming down to the bottom, and the appearance of the dramatic and theatrical scene in real shape⁶⁰.

The numerous discoveries in ancient sites, in Antioch, Apamée, Philippopolis, Palmyra, and others, show the extent of development of this art during the Roman era and makes Syria one of the most important and richest areas for studying the ancient mosaics and allows us to follow without difficulty the outlines the evolution of this art in the East.⁶¹

* See in chapter IX list of terms

⁶⁰ Balty, J. 1977, p. 5.

⁶¹ Balty, J. 1977. p. 5.

Antioch is unique as the first cities within this geographical area that contains the largest group of Roman mosaics, distributed in several villages, cities, and small sites. It is characterized by color richness and diversity of topics addressed and its link with the architectural spaces of the building, which indicates the artist's knowledge at that stage of decorative values and the relationship of mosaics to the architectural environment.

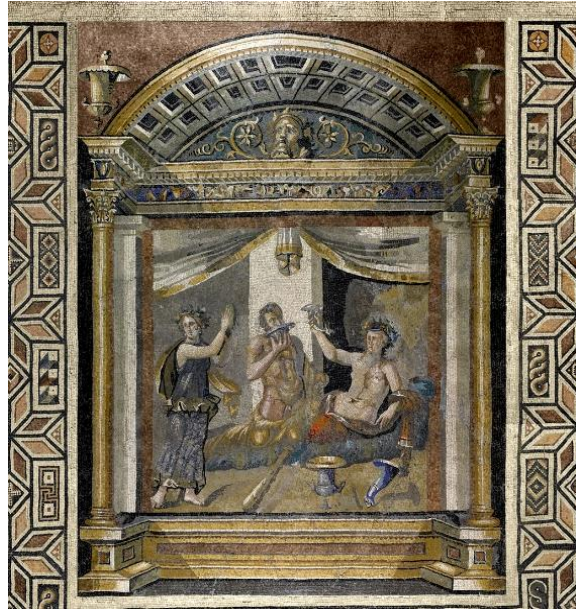


Fig 27. Mosaic of the House of the Drinking Contest, Antioch, early 3rd c. AD (Photo:FOUCHER, L. 2000. p.205).

This is what we see in many mosaics in Antioch, such as the mosaic of the House of Great Banquet and mosaic of the drinking contest of Dionysus and Hercules in the Triclinium (Fig 27).

The effects of the school of Antioch spread in many regions of the Roman Empire, including the cities of Syria, and brought with it the Hellenistic influences. The few mosaic models discovered in Palmyra that dated back to the third century AD added new information in the study of the decorations used in mosaic art, due to its being an important center for commercial and cultural exchange, contributed to a large extent to the fusion of the local elements with the Hellenistic – Roman tradition by the combination of the styles and artistic themes in the mosaics with other arts, such as sculpting and wall paintings to suit its message. This was evident in the designs and the repeated themes found in the Achilles and Cassiopeia mosaics, where this method has been widely used to separate the panels that have human scenes and animal scenes in Antioch mosaics. This confirms their accompaniment to the development of the elaborated composition called rainbow* on the one hand, and the style of the visual illusion found in the Philippopolis and Antioch mosaics on the other hand⁶².

⁶² Balty, J. 1996, p. 407.

In the year 2004 in the ʿIn al-Ḥilwa site in Latakia, were found a mosaic pavement depicted a scene with marine animals which is considered the first of its type in Syria, and dating back to the second century AD (Fig 28)⁶³.



Fig 28. Marine animals scene mosaic, ʿIn al-Ḥilwa. Latakia, 2nd century AD, the Mosaic Gallery in the citadel of Damascus, Syria, (Photo: Maher Jbacc)

While we see that there are a large number of mosaics dating back to the third century AD. Many mosaic pavements with mythological themes were discovered at the Ghillīna site in Latakia, which dates back to the Severian period (193-235 AD)⁶⁴.

A mosaic depicting a symbolic scene of the Euphrates River was found on the site of al-Masʿūdyya.

The personification of the river was performed in the form of an old man leaning on a fertile horn, and next to him the two women represented Syria and Mesopotamia (Fig 29). This mosaic is distinguished by the presence of Latin writing that is repeated in Syriac for the name of the craftsman and the date of



Fig 29. Euphrates river mosaic, al-Masʿūdyya, Syria, 3rd century AD, (Photo: LEVI, D. 1947. p. 395)

implementation of the mosaic, which is the year 539 according to the Seleucid calendar, which is a match to the year 227-228 AD⁶⁵.

⁶³ Jbacc M. 2017, pp. 205-209.

⁶⁴ Balty, J. 1977, p. 12.

⁶⁵ Levi, D. 1947. p. 395.

A mosaic pavement representing the embodiment of the Orontes River has been discovered in the city of al-Rastan (Arethusa – the Grecian name), in central Syria, dating back to the first quarter of the third century AD. In addition to Hercules mosaic which was discovered in the city of Ḥumṣ and dates to the third century AD.

Palmyra has presented many beautiful mosaic pavements of legendary content. Where a large mosaic pavement was discovered in the house of Cassiopeia dating back to the mid-third century AD⁶⁶. Some mosaics in the house of Achilles and return to the end of the third century AD⁶⁷.



Fig 30. Mosaic pavement from a Triclinium, Palmyra, Syria, 3rd century AD (Photo: DGAM Archives, 2004)

A special Triclinium mosaic was recently discovered within the Churches district, dating back to the third century AD (Fig 30). Also, there are many mosaic pavements discovered in Syria from the third century AD, such as the mosaics excavated in the Roman house at the site of Syrūs in northern Syria.

In this context, mosaic pavements discovered in Philippopolis can be considered one of the most important mosaic collections in Syria from the point of view of those interested in this field, due to the originality and the multiplicity of topics, which mostly have a Greek-Roman mythical content. The repertory has contributed to drawing a true picture of the beauty of this art, represented by the intensity of the artistic elements, the imaginary expression, the variance between the areas of light and shadow, the use of the formation of rainbow style elements, in addition to the high skill in implementation.

According to the Belgian scientist Janine Balty, these pavements through the diversity of artistic styles used in implementing the designs of its various artistic formations (figural and ornamental designs with human figures, animals and plants, geometric patterns), presented several different artistic features. Including what was inspired by the prevailing classical patterns of the middle of the third century AD (the period of the foundation of the city), or

⁶⁶ Stern, H, 1977, p. 36.

⁶⁷ Stern, H, 1977, p. 14.

what has new artistic features related to the period in which they were produced, especially the mosaics dated between the end of the third century and the beginning of the fourth century AD⁶⁸.

⁶⁸ Balty, J. 1997, pp. 49-61.

V.4. The artistic aspects of the mosaic pavements of the Philippopolis collection and their features within the mosaic collections in the world.

Although the city of Philippopolis was only elevated after Philip the Arab assumed the throne of Rome (244-249 AD), and transformed his hometown from a small village into a Roman colony, the mosaic pavements found in this city are considered to be one of the most important groups in Syria and the Levant, in terms of originality, quality, and composition. The most important characteristics which can be distinguished it from other mosaic groups in other regions of the Roman legacy are:

- The plans of these pavements show the artist's keenness on the rules of perspective to show the prominent elements and mastering the implementation of the interior scenes and natural scenes in imitation of the wall paintings.
- Skill in the use of contrasting colors (light-dark), harmony in movement, and expressive intensity of the depiction of the eyes, so that the artist made the looks and movements of hands (Fig 31).
- Aesthetic sense, manual skill, and experience in expressing emotions, feelings, abstract ideas, attitudes, and tragedy⁶⁹ (Fig 32).

⁶⁹ Balty, J. 1981, pp. 396-398.



Fig 31. Mosaic of Aphrodite and Ares, 2nd quarter of the 4th century AD, Philippopolis, Syria, Museum of Shabbā, (Photo: DGAM Syria Archives. 2004)



Fig 32. Mosaic of Tethys, 2nd quarter of the 4th century AD, Philippopolis, Syria, Museum of Shabbā, (Photo: DGAM Syria Archives. 2004)

- Relying on the classical Hellenistic tradition characterized by the implementation of persons in the central panel, which is the most important element with a clear absence of geometric assortments, around which the boundaries of the mosaic and frames based on different geometric structures such as braid, or geometric intersections, or a rainbow pattern such as in the case of the mosaic of Justice and Education and Philosophy, or the use of twigs and garlands as a simple twofold twig, and may be composed of grape leaves, acanthus or ivy leaves, or from the combination of these. This motif is usually executed against a black background, and it is inhabited by living creatures of all kinds (birds, locusts, butterflies, rodents) or this vegetal ornamentation is enriched with masks such as in the frame of the mosaic depicts the Embodiment of the Four Seasons, or scenes of grape harvest or hunting and chasing of animals by the hunter Cupids, or scenes of sea fishing by the Cupids as in the mosaics, Tethys - Weddings of Dionysus and Ariadne (Fig 33), and mosaic of Gaia Plutus and the Giveaways of the Four Seasons). The use of geometric decorations contained human masks is also present such as in the framework of the mosaic of Orpheus⁷⁰ (Fig 34).



Fig 33. Mosaic of the Wedding of Dionysus and Ariadne, 2nd quarter of the 4th century AD, Philippopolis, Syria, Museum of Shabbā (Photo: Maher Jbaee, 2010)

⁷⁰ Balty, J. 1996, pp. 423-424.

- All the mosaic pavements are made according to the Opus Tessellatum typology by colored tesserae, with a distinct use of Opus Vermiculatum in making central scenes which were made either in situ or in the workshop, but no support was applied when laid so they are the so called pseudo-emblemata. These depictions often imitate the real Emblema's frame namely it was originally prepared in the workshop into a terracotta tray or stone slab as support and then they were inserted together with this support in the in situ created mosaic pavement in place. But this latter was not applied in Philippopolis. All the central scenes are extremely enlarged compared with the general dimensions of a real mobile Emblema.
- All the mosaics were executed against a white background, especially in the mosaics implemented with Opus Tessellatum type, while the black background was used only in the frame of the mosaic "Gaia Plutus and the Giveaways of the Four Seasons", as a background of the twigs inhabited by winged Cupids (Fig 35).



Fig 34. Mosaic of Orpheus, 2nd quarter of the 4th century AD, Philippopolis, Syria, Museum of Shabbā, (Photo: Maher Jbacc, 2010)



Fig 35. Mosaic of Gaia Plutus and the gifts of the four seasons, mid-3rd century AD, Philippopolis, Syria, Museum of Swaydā', (Photo: Maher Jbace, 2010)



Fig 36. Mosaic of Justice, Education and Philosophy, end of 3rd century AD, Philippopolis, Syria, Museum of Damascus, (Photo: Maher Jbace, 2010)

- The use of glass tesserae was detected in a few pavements, especially in the mosaic of Justice, Education, and Philosophy in some details of the mosaic discovered in 1965 and 2014 (Fig 36).
- An important feature of the Philippopolis mosaic group is also the artist's use of shadows for the figures executed in the scenes.

Although Philippopolis originally was a simple village, it became a city in a limited period. In addition to the legal decree that was drafted by the Emperor to establish the city, it was also accompanied by numerous projects to beautify it and give it importance and appearance consistent with its new situation, so the campaign to organize the city, which causing attracted architects, artists, craftsmen, and architectural decoration specialists, at the invitation of the emperor from all regions and of all kinds to Philippopolis, and certainly among them were the mosaicists⁷¹.

Also, the topics of these mosaics are related to the social status of the customers, and the social and economic renaissance that the new state of the city provided for some customers who were relatives or friends of the emperor. The topics show their eagerness to give themselves a more appropriate picture with their position in society and to consider themselves from the upper class. They appear not only as polite people and fond of luxury, but also as true intellectuals, and as mindful thinkers of philosophy by expressing the ideals of pagan life. Thus, an expression of the greatness of their lifestyle, through their vast culture and different gifts for the fertile gods. The mosaicists could most likely rely on the copybooks of models known at the time in the regions of the Roman Empire. These topics reflected on a group of mythical scenes that are related to the veneration of the fertile gods and the glorification of the Earth and its gifts, such as the scenes of the god Dionysus and the seasons, or scenes of the goddess of the Earth with the group of gods associated with the agricultural cycle and the eternal cycle of the four seasons and the creation of human from the clay of the Earth, which was reflected within the mosaic of Glorification of the Earth (Fig 37) and the mosaics of Gaia Plutus and the gifts of the Four Seasons. Others tell stories of love, punishment, and weddings for some deities, demigods or heroes, such as the mosaic of Aphrodite and Ares that embodied one of the most important stories of the love among the myths of Greek-Roman gods. The mosaic of Artemis (Fig 38) and scenes of the wedding of deities and heroes embodied in the mosaic of the wedding of Dionysus and Ariadne, and the mosaic of the wedding of Thetis and Peleus, or the mosaic of the marriage of the hero Pelops

⁷¹ Balty, J. 1997, pp 49-61.

and the beautiful Hippodamia, without forgetting the symbolic scenes related to the sea and its gods, or the divine singer poet Orpheus and the Three Graces.

It turned out that these mosaics were produced by high-end artistic workshops that were brought in at the request of the new emperor who wanted to convert his birthplace of Philippopolis to be like Rome. This transformation of Philippopolis as a Roman colony and the birthplace of the Emperor of Rome and the recruitment of new residents, inevitably there was an aristocratic class that was keen to give itself a picture more in line with the new situation. Peoples of that class were keen on decorating their homes, so they started recommending the high-end workshops to implement mosaics with mythological and philosophical themes, which guarantee them a good life, abundant good and eternity through the fertile gods, agricultural gods. They aimed the idea of immortality within its philosophical framework, where the inevitability of improvement and decoration projects, and thus attracted builders, artists and mosaicists from all the provinces of the empire⁷².



Fig 37. Mosaic of Glorification of the Earth Mid-3rd c. AD, Philippopolis, Museum of Damascus. (Photo Maher Jbace 2010)

⁷² Balty, J. 1997, pp. 49-61.



Fig 38. Mosaic of Artemis, Mid-third century AD, Philippopolis, Syria, Museum of Şwaidā', (Photo: Maher Jbace, 2010)

V.5. Comparative Iconographic study of the Philippopolis mosaic pavements

In the author's thesis for master's degree in classical archeology, I presented a comparative artistic study of the mosaic pavements discovered in the city of Philippopolis with their counterparts in the mosaics of Antioch, according to a systematic method of describing the mosaic, and then an analytical comparative study of the mythological scenes depicted on the mosaic pavements discovered in the city of Philippopolis in Syria which dates back to the Roman period, with its counterparts in Antioch mosaic collection of the same era.

In this study I adopted the technical comparison of the method of design in those mythical scenes and decorative elements of these mosaics in terms of the Compositions of classical subjects, and comparing the hypotheses that were posit forward in previous studies, in order to reach conclusions about the many characteristics that pertain to the Philippopolis mosaic collection and its counterparts in the Antioch mosaic collection of the Roman era, to confirm or deny the validity of these hypotheses that were posit forward about the dating of those pavements, and trying to extract the goal of depicting those scenes, and the classic and local

influences, And relating it with the reality of the Syrian human life during the Roman era in the various fields.

All the themes of the Philippopolis mosaics are inspired by ancient Greek literature, and bear a Hellenistic character, with borrowing and inspiration for their themes from mythology and superstitious legends related to pagan gods.

The mosaic heritage of Philippopolis is in contrast with the sculpture works in the region as a whole, which latter were of a local style, and they were also not like the Palmyrene mosaic pavements, which are considered the only evidence of the fusion of classical civilization and Eastern civilization that occurred through the gathering of Syrian and Greek scholars under the supervision of Zenobia, and the presence of skilled artists and craftsmen capable of transforming philosophical thought into art in the third century AD. While we find that the mosaic pavements that were uncovered in Antioch were distinguished, in addition to everything related to the gods, that there were mosaics with themes related to daily life, with a great diversity of geometric decoration. How the central panels were designed in the interior architectural spaces, which were executed based on a previous artistic plan which gave an idea of the artist's knowledge at that stage of decorative values and the relationship of mosaics to the architectural surroundings.

While we see that the Philippopolis mosaic group was found by chance, either sometimes in small, individual rooms, or within houses that were not systematically excavated, or within a Roman villa which considered the only completed example with its distributed rooms for different purposes.

All of these mosaics begin their history from the period of the founding of the city and its transformation into a Roman colony in the middle of the third century AD until the Constantinople Renaissance in the middle of the fourth century. While we find that the mosaics of Antioch are mosaic floors distributed in several centers and houses that tell stories accumulated over the years and centuries that passed since the founding of the city in 300 BC until the end of the era of the empire. The houses that were existed in the first centuries AD, it had a specific organization such that one could find in it more rooms of the type of triclinium or summer triclinium, and one would find the Nymphaeum and baths, in addition to courtyards surrounded by several corridors and overlooking several rooms. All spaces had floors decorated with mosaics with human, animal and geometric scenes, in addition to recurring geometric themes within square and rectangular panels, which were used

extensively to separate among the figural panels. As there was an increase in the size of the houses, with the presence of corridors leading to several rooms, and the presence of heavenly courtyards containing a fountain surrounded by corridors, with a large room of the Tablinum type leading to a hallway and a large, covered courtyard entered from both ends, as is the case in some Herculaneum houses.

By comparing the designs and scenes that were shaped both in the Philippopolis and the Antioch mosaics, the great influence of the city of Antioch has highly appeared in most of the topics, we will show this as follows:

Topics related to the sea goddess Tethys:

Among the topics that were frequently repeated and received the attention of artists for their embodiment in mosaic pavements in sites of the Roman world in general and Syrian mosaics, including Antioch and Philippopolis, are those representations that embody the sea goddess Tethys, and she was either represented alone, or she would appear accompanied by her husband, Oceanus.

In the Philippopolis mosaic group we have two mosaics that embody this goddess, one of which is on display in the Swaydā' Museum, and the other is still in its original location in Shahbā Museum. Also, in the Antioch mosaic collection, we find many representations of this goddess in the House of the Calendar, the House of the Menander, the House of the Boat of Psyche, and the Baths area.

By reading the Tethys mosaic in the Swaydā' Museum (Fig 39), we noticed the harsh meanings that the artist gave to the character through the eyebrows and rigid facial expressions, where depicted by the two small wings emerged from the top of her forehead, and through the depiction of her symbols represented by the paddle and the dragon wrapped around her neck, surrounded by various marine creatures, such as fish and dolphins, in addition to small winged children, playing around her.



Fig 39. Mosaic of Tethys, the second half of 3rd century AD, Philippopolis, Syria, museum of Swaydā' (Photo: Maher Jbace, 2010)



Fig 40. Mosaic of Oceanus and Tethys, House of the Menander, Antioch, second half of the third century AD (Photo: BALTY Janine, 1981, p. 411).

This representation is similar to the way she was depicted in the Tethys mosaic in the House of Menander in Antioch (Fig 40), which dates to the second half of the third century AD⁷³, where she was depicted with her husband (Oceanus). For this reason, the artist neglected to depict her with her symbols, and we notice the same harsh expressions on the face of the goddess, the sideways look and the mouth drawn in a straight line.



Fig 41. Mosaic of Tethys, 2nd quarter of the 4th century AD, Philippopolis, Syria, Museum of Shahbā, (Photo: DGAM Archives, 2004)

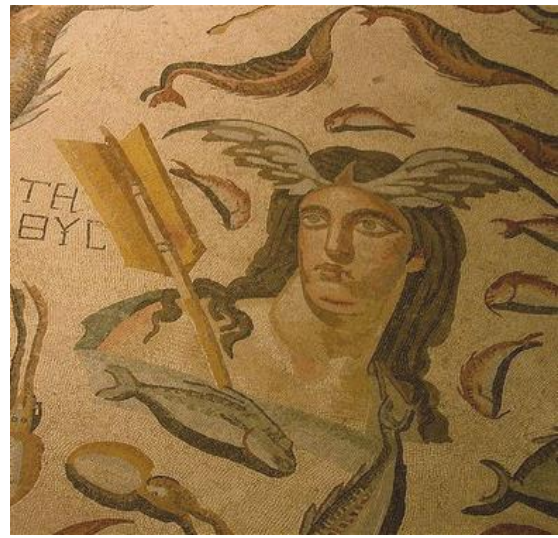


Fig 42. Mosaic of Tethys, 4th century AD, Antioch, Baths F, (Photo: LEVI Doro, 1947, pl. CLXII).

One of the most beautiful depictions of the sea goddess in all sites dating back to the classical period is her embodiment in the mosaics discovered in Philippopolis, which are still displayed in their location (in-situ) within the Roman villa (Fig 41). She was embodied in a half way with her symbols, the oar and the serpentine sea creature, and we can note the closeness of this embodiment to her representation on the pavement mosaic of a water basin

⁷³ Balty, J. 1981, p. 410.

in the baths area (F), dating to the fourth century AD⁷⁴ (Fig 42), where Tethys was depicted according to artistic features similar to the Shahba mosaic, and her identity was indicated in Greek writing (ΤΗΘΥC) in two lines on its right. Tethys is surrounded by fish of different types, with a depiction of one of its symbols, the paddle, and ignoring the serpentine animal, the dragon with the head of a dog.

In both mosaics we notice the high craftsmanship in implementing the paving of the goddess's facial expressions, the somewhat harsh nose, and the small mouth, and the use of red color gradations towards the pink to depict the redness of the cheeks and the shadow at the nose and chin. What distinguishes Tethys Philippopolis is the trend towards embodying the goddess in a semicircular form, isolated within a frame, while the other elements are built within the same frame of the mosaic instead of being around the goddess within the central panel (Fig. 41). This type of representation has been used previously, in addition to the goddess's hair, curly like algae, which mixes with different types of fish, the starfish at the top of her forehead, on either side of which two small wings protrude, and the sea dragon, trusting and strongly attached to her body, as if it were a summons and evocation of the sea itself, and the mysterious look that suggests the depths of the sea.

The depiction of Eros in the fishing and sailing scenes accompanying the scenes of the sea goddess Tethys comes from the union of Eros with Aphrodite in an episode of her birth in the sea, and his union with the myth of Peleus and Thetis and with the sea monsters.

Naturally, we see the dolphins that Eros wants to ride controlled by the Bridle and the whip, and his activities are not limited on riding dolphins only, but also as fishermen and sailors sailing in fishing boats or in the forms of real sailors⁷⁵. The Philippopolis mosaic preserved in Swaydā' Museum and the other preserved in Shahbā Museum, Eros the sailor and the fisherman are depicted there.

In the Swaydā' Museum mosaic we see him riding a dolphin, controlling him with the reins and trying to direct him with a whip which he raises it with his right hand, as we saw this depiction in the mosaic of the House of the Boat of Psyche (Fig 43) and the mosaic of the House of Menander in Antioch (Fig 44), but what is distinctive in the mosaic of the Suwayda Museum is the depiction of Eros riding a mythical animal (Triton) with either a head of a horse or a head of a lion and a tail of fish (Fig 45).

⁷⁴ Levi, D. 1947, p. 258.

⁷⁵ Levi, D. 1947, Op. Cit, p. 178.



Fig 43. Details of Eros, Mosaic of the house of the Boat of Psyche, Antioch. (Photo: CIMOK Fatih, 2000, p. 169)



Fig 44. Details of Eros, Mosaic of the House of Menander, Antioch. (Photo: LEVI Doro, 1947, pl. XLI)



Fig 45. Details of Eros, Mosaic of the sea goddess Tethys, Philippopolis, Swaydā' Museum (Photo: Maher Jbacc. 2012)

The other depiction of Eros was a fisherman and a sailor. In Shahbā Museum mosaic, he was embodied in the frame of the mosaic and not around the goddess, he was depicted in a boat practicing fishing, either throwing a net or pulling his net full of fish, or we see him as a sailor rowed by the boat's oar (Fig 46), and we see him as a fisherman within the mosaic of Antioch, but either standing on a rocky cliff on the beach fishing with a fishing rod or net, or riding a dolphin and fishing by a rod, or holding a fishing basket or holding a torch, sitting on top of the dolphin with legs spread apart or in the opposite direction to a dolphin's direction. , as in the mosaic of the fountain and the mosaic of the House of the Boat of Psyche, and the mosaic of Eros the Hunter in the House of Menander. The fishing boat in the Eros the Fisherman mosaic in the House of Menander has a high crescent-shaped front, while Eros the

Fisherman in the Philippopolis mosaics in the Shabbā Museum is distinguished by his depiction riding a chariot pulled by two dolphins.



Fig 46. Details of Eros, Mosaic of the sea goddess Tethys, Philippopolis, Shabbā Museum (Photo: Maher Jbace, 2010)

The common features that were present in both the Tethys mosaic of Shabbā Museum and the Tethys mosaic in the Paths (F) in Antioch⁷⁶, while the depiction of the Eros the fishermen in boats instead of the rocky cliff. Also, the artist did not depict the sea through broken lines, but rather resorting to using tesserae in different colors, while the sea is in the mosaic of fisherman Eros the in the House of Menander is executed with light gray tesserae under the boat.

Topics related to the god Dionysos:

Among the representations of the myths of the gods that attracted the attention of artists in various fields of sculpture and painting, including mosaic pavements decorations, were the

⁷⁶ Balty, J. 1995, p. 142-167. Balty, J. 1997, p. 68.

representations related to the god Dionysus (Bacchus), the god of wine, vine, and Lasciviousness, who is considered one of the most famous Greek gods.

The worship of Dionysus as the god of the vine and wine was widely spread in the countries of the Mediterranean basin as one of the most famous agricultural worships. It was linked to the renewal of life and the agricultural cycle, and it possessed special rites and ceremonies known as the Dionysian or Bacchusian mysteries.

This was the reason for the interest of artists in embodying it in all the arts of sculpture, wall paintings and certainly in many mosaics in sites of the Roman world, which included some aspects of his legendary stories, his Triumph processions, and the Lasciviousness and dancing parties that accompanied him with his wife Ariadne and his companions. Certainly, the mosaic pavements in both Philippopolis and Antioch contained many of these mythological scenes.

Among these representations is the depiction of the god of wine drunk and in a state of extreme ecstasy. Within the mosaic pavements of Philippopolis we find a depiction of him that embodies this state (Fig 47). He was depicted as a young boy standing naked, leaning with his left elbow on a vessel of wine and resting his scepter on his left shoulder. In his right hand he held a cup in the shape of a horn filled with wine that fell from the bottom, and the god Pan (in his well-known form) pick it up next to him on the left side. It is known that many of the scenes related to the gods that were depicted in the mosaic were influenced by other classical era arts such as sculpture, wall painting and painting on pottery.

The subject of drunken Dionysus, with his swinging legs and leaning on the shoulder of a Satyr*, is one of the favorite subjects in Greek sculpture from an early time, such as the collection of statues of the Alexandria Museum, and the statues of the Museum of Venice that date back to the second half of the fourth century BC⁷⁷. We can find a similar depiction of him on the facade of a gold temple (Fig 48) dates back to the period from 200-250 BC in the National Museum of Athens⁷⁸.

* See in chapter IX list of terms

⁷⁷ Levi, D. 1947, p. 41.

⁷⁸ Richter, G. 1987, p. 287.

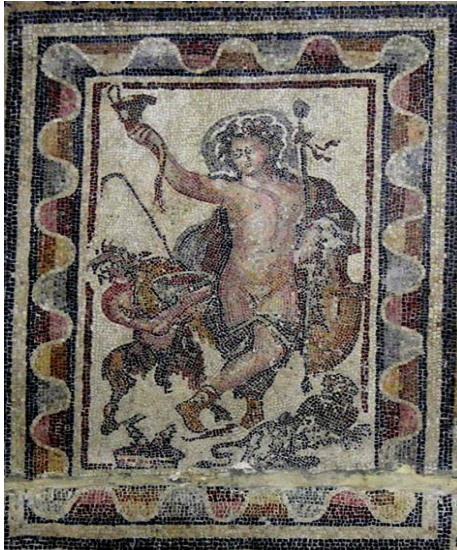


Fig 47. Mosaic of drunken Dionysus, middle of the 3rd century AD, Philippopolis, Shahbā museum, Syria. (Photo: Maher Jbace 2010)



Fig 48. Details of God Dionysus drunk, small temple of gold, Athens National Museum, 250-200 BC. (Photo: Richter Gesell, 1987, p. 287)



Fig 49. Details of God Dionysus drunk, facade of a tomb found in a cemetery, Rome, second century AD. (Photo: www.cosmovisions.com)

While in the Roman period many sarcophagus and wall paintings were found that depict the god drunk supported by a satyr, such as the facade of the sarcophagus that was found in one of the cemeteries in Rome (Fig 49), he appears with the features of an old man, while on the façade of the sarcophagus displayed in the National Museum of Naples and dating back to the period 200 AD (Fig 50), he appears in the form of a boy leaning on a young satyr as well. Examples that depict him in a state of ecstasy and intoxication also include the wall painting that was found in Pompeii and is on display in the National Museum of Naples, from the first century AD. He is supported by a satyr and surrounded by one of the Maenads and Selene (Fig 51). In all the examples mentioned previously, he appears in a state of extreme ecstasy, resting on his left shoulder his scepter which ends at the top with a pine cone, and holding a cup in his right hand. Wine spills from him and is grabbed by a lioness or tiger standing or crouching next to his legs. Among the collection of mosaics of Antioch, we find a similar scene in the House of Bacchus that embodies this situation and completely mimics the wall painting that was found in Pompeii (Fig 52), where the artist depicted one of the Maenads next to him in addition to a Satyr in a single painting, framed with several frames, in the same style followed in the mosaic of the House Dionysus (Fig 53), where he is depicted in a central panel in his naked youthful form, but leaning on the shoulder of a satyr instead of the pasture god Pan, and holding in his lowered right hand a cup from which wine is spilled, which a small tiger pick up next to his crossed legs. The god Dionysus appeared to be a naked young man; he is wrapped in a cloak that has receded from his torso to cover his legs only. The artist

depicted the scene within a central panel surrounded by several frames with a wide band at the bottom, exactly as in the Philippopolis mosaic. The difference is in the lower frame executed in the mosaic of Antioch in the form of a recurring geometric formation called the crow's step, while in the mosaic of Philippopolis the frame was executed with a geometric formation consisting of four opposite, recurring petals similar to the frame in the house of Menander and dated to the middle of the third century AD. This example led Janine Balty to give the same date for the Philippopolis mosaic, but the closest example to the Philippopolis mosaic in terms of depicting the god raising his right hand, holding a cup in the shape of a horn is the Byblos mosaic (Fig 54) in Lebanon⁷⁹, which dates back to the second half of the second century AD. It shows the god in the same form, leaning with his elbow on a satyr and supporting his scepter with his left arm, which ends with a pinecone, as on the Philippopolis mosaic, while this was not depicted in the mosaic of the House of Dionysus in Antioch.

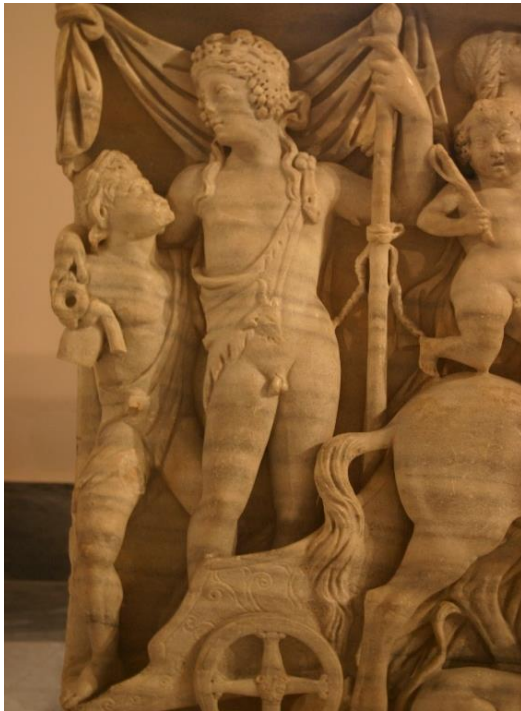


Fig 50. Dionysus drunk, facade of a tomb, 200 AD, National Museum of Naples (Photo: Maher Jbaee by permission of the National Museum of Naples, 2011)



Fig 51. A wall painting depicting a drunken Dionysus, Pompeii, 1st century AD, National Museum of Naples (Photo: Maher Jbaee by permission of the National Museum of Naples, 2011)

⁷⁹ Chehāb, M. 1959, pl. IV



Fig 52. Mosaic of Dionysus drunken, House of Bacchus, Antioch, 1st century AD. (Photo: Cimok, F. 2000, p. 57)

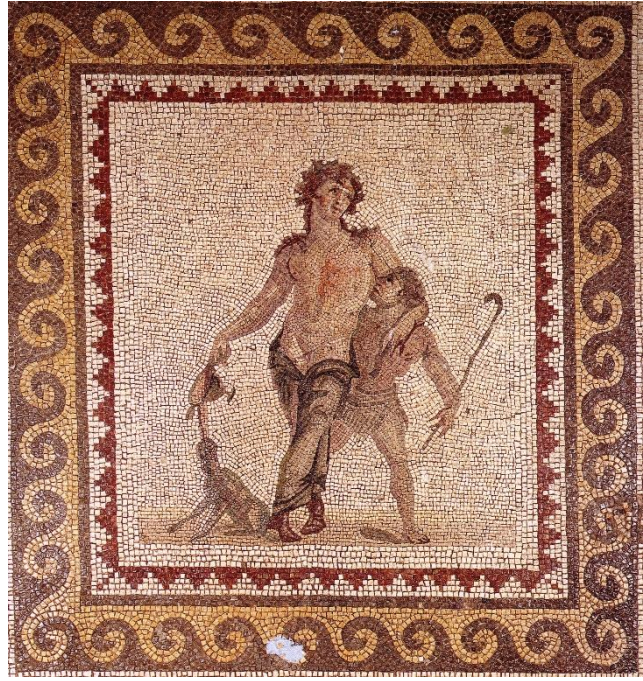


Fig 53. Mosaic of Dionysus drunken, House of Dionysus, Antioch, mid-second century AD. (Photo: Cimok, F. 2000, p. 51)



Fig 54. Mosaic of Dionysus drunken, second half of the 2nd century AD. Byblos, Lebanon, (Photo: CHehāb Maurice, 1959, pl. IV)

There are many scenes related to the god Dionysus that artists depicted in mosaic pavements, including those scenes showing him together with his wife Ariadne, either their

first meeting when he found her sleeping on the island of Naxos, the scenes related to their wedding, or the offerings of the gifts of the earth and the four seasons.

In the Philippopolis mosaic collection there are two mosaics related to this aspect of the god Dionysus as a god of fertility and one of the agricultural worships.

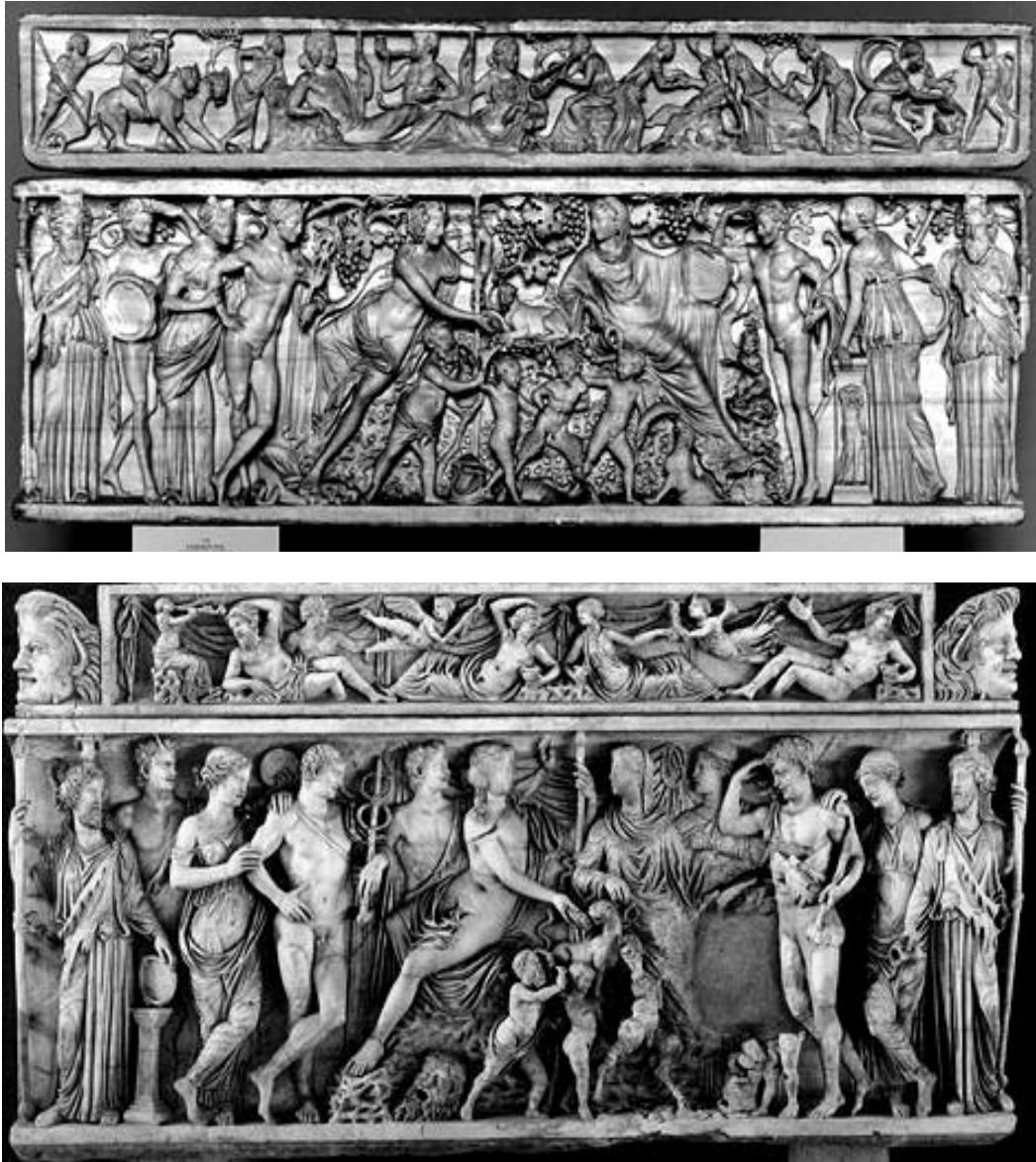


Fig 55. Details of the Weddings of Dionysus and Ariadne, two Roman stone sarcophagi, Pompeii, National Museum of Rome, second half of the 2nd century AD. (Photo: www.cosmovision.com)



Fig 56. Mosaic of Wedding of Dionysus and Ariadne, Zeugma, Turkey, end of the 2nd century AD. (Photo: Abadie Reynal Catherine, 2002)

In Shahbā Museum there is a mosaic pavement still in its original location that depicts a scene that expresses the meeting of lovers within a group of characters accompanying the newlyweds, where the god and his bride Ariadne were depicted on a rock in a festive scene. Next to them is a group of characters, such as Hercules in a state of extreme intoxication, Maron (MAPWN), Dionysus's teacher and companion, who represents ecstasy and drunkenness⁸⁰, in addition to (ΠΟΘΟC), the messenger of the god of marriage (Hymenaios) with a flaming torch in his hand, a symbol of marriage and eternal life.

The wedding of the god Dionysus and Ariadne was depicted extensively in the arts of sculpture on Roman stone sarcophagi, as in the sarcophagus discovered in Pompeii and displayed in the National Museum in Rome and dating to the second half of the second century AD⁸¹ (Fig 55). Dionysus and his wife Ariadne were depicted seated on the top of a large rock facing each other, surrounded by a large number of gods, their entourage, and well-wishers. The same scene one sees on the mosaic of Dionysus and Ariadne wedding which discovered in Zeugma and dated to the end of the second century AD⁸² (Fig 56). The god Dionysus and Ariadne appeared sitting on a throne, his torso naked and his head crowned with a wreath of leaves and flowers, he holds a cup of wine in his left hand while he extends his right hand behind Ariadne to place it on her shoulder. He turns his head slightly to the right towards Ariadne, who is wearing a long dress that reaches to her feet and turns her head towards Dionysus. A small three-legged table (*Delphica*) appears in front of them, while

⁸⁰ ʿUthmān Suhīl, Al-ʿAṣfar ʿAbdilrazzāq, 1982, p. 388.

⁸¹ Balty, J. 1995, p. 52.

⁸² Ergeç, R. ed. 2007, p. 47.

around them are girls presenting gifts to the bride, and on the right we see the god of marriage (Hymenaeus) sitting on a chair in an androgynous form close to the depiction of girls, he raises his right hand above his head while in his left hand he holds the marriage torch, a symbol of desire. In embodying this scene in the Philippopolis mosaic, the artist resorted to depicting the god Dionysus and his wife Ariadne in a way different from what the same scene appeared in the sarcophagus of Pompeii. They were depicted covering the upper part of their bodies with a cloak, while on the sarcophagi of Pompeii the god Dionysus was depicted completely naked, leaning on the rock and holding his scepter and Ariadne is wearing a robe that covers her entire body. The god's position and the orientation of his head, his exposed torso, and his body are completely similar to the Zeugma mosaic.

The torch is a symbol of desire and the symbol of the god of marriage who is present in such scenes. Where we see it in the Philippopolis mosaic as a winged child while in the Zeugma mosaic the torch is in the hand of Hymenaeus, the god of marriage himself. On the other hand, we find another artistic feature present in the Philippopolis mosaic through the decorative element that took a cone shape in the middle of the crown which decorated the head of God Dionysus and appeared clearly among the leaves and bunches of grapes that made up the crown. It is similar to the decorative element that decorates the head of the Dionysus depicted in a semicircular form on a mosaic of Constantine Villa in Antioch, dating back to the second quarter of the fourth century AD (Fig 57.Fig 58).

This decorative element was described as a symbol of masculine fertility, which is an appropriate description for his worship because of the nature that this god takes as a god of fertility and renewal of nature. It appears as if he is one of the main characteristics of Sabazios, who is a mystical god of Thracian-Phrygian origins, very close to Dionysus. The Greeks matched him with Zeus and in other cases, especially in Thrace, with Dionysus⁸³. Doro Levi's assumption about this issue relates to the veil with a hat high above the head, which is a feature of the rituals of the gods in the Syrian theology for Heliopolis from the side of Aphrodite-Atargatis*, and it is certain that the female hat called Tantour, which is still used by some sects in northern Syria -but is close to extinction, was certainly derived from this strange head covering. Hence, we assume that the Syrian artists who decorated the mosaics of Antioch were inspired the mystical crown on the head of Dionysus from local fashions, which

⁸³ Levi, D. 1947, p. 246., Jbaee, M. 2023, pp. 95-97.

* See in chapter IX list of terms

in fact had been adopted in Syria for its sacred symbolism, similar appearance, and similar symbolic value⁸⁴.



Fig 57. Detail from the mosaic of wedding of Dionysus and Ariadne, Shahbā Museum, Syria, (Photo: Maher Jbaee, 2012)



Fig 58. Mosaic depicting Bust of the god Dionysus, Villa of Constantine, Antioch, first quarter of the fourth century AD. (Photo: CIMOK Fatih, 2000, p. 221)

In creating the Philippopolis mosaic (Fig. 33), the artist resorted to using vine twigs filled with bunches of grapes and inhabited by cupids in scenes of hunting and chasing wild animals such as pigs, deer, and foxes, and scenes of picking and gathering grapes, where the four corners of this frame were decorated with human decorations limited to heads symbolizing the four seasons, where the winter was symbolized by the head of an old man, the summer by the head of a young man, while spring and autumn were symbolized by female heads with a crown of roses for spring and Calathus surrounded by bunches of grapes for autumn.

In this field, researcher Janine Balty proposes to date this mosaic, like the other of the Shahbā Museum mosaics within the Roman villa, to the second quarter of the fourth century AD, justifying her adoption of this proposal due to the great similarity between the conical decorative element placed on the head of god Dionysus in the Philippopolis mosaic, and the same decorative element on the head of the god in the mosaic of the Villa of Constantine, which dates back to the second quarter of the fourth century AD. The style of executing the facial expressions of god Dionysus in both artworks are similar in terms of the light shadows

⁸⁴ Levi, D. 1947, p. 248.

of the eyelids drawn in the form of a thin line of black stone tesserae, and the eyes surrounded by a row of tesserae in dark yellow⁸⁵.

In this mosaic, the artist embodied the special trend related to the Dionysus as one of the agricultural cults' characters, God of fertility and harvest by depicting the process of harvesting grapes and depicting the four heads in the corners as symbols of the seasons and the renewal of nature depicting the celebration of the marriage of Dionysus to Ariadne. To distinguish this scene from other scenes, the artist resorted to depicting ΠΟΘΟC, the messenger of the god of marriage, Hymenaeus, with a flaming torch in his hand, a symbol of marriage and eternal life, while in the Zeugma mosaic the artist depicted the torch in the hand of Hymenaeus and this arrangement distinguished the Philippopolis mosaic from the sarcophagi of Pompeii, which embodied the same theme, also the Zeugma and Antioch mosaics with related scenes to the god Dionysus.

We find another example of the special characteristics of the god Dionysus related to his being one of the agricultural cults and as the god of the harvest, through another similar mosaic found in Philippopolis and displayed in the Swaydā' Museum, where we see a depiction of the him and his wife Ariadne in the middle of a central panel (Fig. 35), sitting on a chair receiving gifts of the earth provided by her four children, who symbolize the seasons of the year, and under the supervision of both the goddess of the Earth, GE, and the god of wealth, Plutus. Ariadne extended her left hand behind Dionysus and placed it on his shoulder in a position that is often repeated in such scenes of the lovers. In her hand is a fruit that she took from a plate holding by a person on her right, and in front of them is a three-legged table. Each leg of the *Delphica* form the shape of a bust of a lion, while we see the embodiment of the seasons in the four corners in the like human heads as in the previous mosaic.

The frame of the mosaic is made up of rings of coiled acanthus leaves inhabited by cupids that hunt various wild animals. We notice the difference in the formation of the acanthus leaves on the upper side of the frame that look like ostrich feathers. The frame in this side appeared rich, beautiful, and executed with high technology and quality that distinguished it from the frames on the other sides and different from the frame of the mosaic of Dionysus and Ariadne preserved in the Museum of Shahbā, which is similar in terms of the inhabited vine twigs by cupids. Regard to the difference in the depiction of the acanthus leaves on the upper side of the frame of the Swaydā' Museum' mosaic pavement, it suggests that a subsequent and

⁸⁵ Balty, J. 1997, p. 56.

late restoration process took place on the mosaic which originally dates back to the period of the founding of the city, the middle of the third century AD in reference to the harsh expressions of the faces of the seasons in the lower two corners characterized by an expression of gloom and sadness that characterizes the types of the Severian period and the middle of the third century AD.



Fig 59. Lower edge of the frame surrounding the mosaic of Gaia, Plutus and the Four Seasons, Philippopolis, Swaydā' Museum, Syria. (Photo: Maher Jbaee 2012)



Fig 60. Upper edge of the frame surrounding the mosaic of Gaia, Plutus and the Four Seasons, Philippopolis, Swaydā' Museum, Syria. (Photo: Maher Jbaee 2012)



Fig 61. Frame surrounding the mosaic of Constantine's Villa in Antioch, fourth century AD. (Photo: CIMOK Fatih, 2000, p. 203)

While the acanthus twig of the upper edge, which is in the form of ostrich feathers, is similar in shape to the surrounding frame in the mosaic panel of Constantine's Villa in Antioch dated to the first quarter of the fourth century AD, and gives evidence that Philippopolis' excellent workshops continued to work even in the second half of the fourth century AD⁸⁶ (Fig 59. Fig 60. Fig 61).

The depiction of the four seasons in the scenes related to Dionysus has spread widely due to its association with the agricultural cycle and its consideration as one of the agricultural cults and a god of fertility. We find it in many classical media such as sculpture and wall

⁸⁶ Balty, J. 1981, p. 402.

painting. For example, on the façade of the sarcophagus in the Metropolitan Museum, we find an embodiment of the scene of the victory of Dionysus and the four seasons (Fig 62). We see the god Dionysus, with his usual personality, half-naked, riding on a tiger and resting his scepter on his left arm, and behind him is the god of fauna (Pan), while we see the four seasons in the forms of naked young men standing on either side of Dionysus in a similar position, wearing a simple robe that wraps around the neck and covers only the left shoulder, and each of them carries the symbols of the specific season.



Fig 62. Façade of a sarcophagus depicting the Triumph of Dionysus and the Four Seasons, Metropolitan Museum of Art, New York (Photo: www.arthistory.about.com)

If we try to make a comparison about the depiction of the seasons in the Philippopolis mosaics in both the mosaics of the weddings of Dionysus and Ariadne, and mosaic of Gaia, Plutus and the gifts of the four seasons, and the depiction of the seasons of the year in the mosaics associated with Dionysus on the mosaics of Antioch, we notice that the representation of the seasons in the two Philippopolis mosaics was limited on human heads in different forms, where the artist resorted to embodying the winter season in the form of an old man, while summer as a young man. The spring and autumn were female figures, led by roses for spring and Calathus for autumn, while the preferred embodiment in the Antioch collection was full-sized winged female figures, busts, or winged child figures (Putti).

Where we see in one of the corridors in the house of the drinking competition a mosaic that embodies the four seasons, the artist resorted to depicting them also in the forms of small winged children figures naked with plump bodies (Fig 63).



Fig 63. Representation of the seasons in the mosaic of the House of the Drinking Contest, Severian period, Antioch, (Photo: CIMOK Fatih, 2000, p. 140-141)

The Spring, a graceful, winged child is covered with a green cloak draped over the left shoulder, and adorned with a crown of flowers. He takes a step forward carrying in both hands a bowl full of flowers. The summer was depicted of a winged, almost naked child with an orange cloak flowing around his body, carrying in his left arm a sheaf of wheat and in his right hand a small scythe. The personification of the autumn is a winged child wearing a white tunic with shades of grey and a blue cloak is tied over it. He appears to be walking, with a basket full of grapes and fruits resting on his shoulder, with a small pruning tool in his right hand. The personification of the winter is also a winged child wearing a long dress and a cloak rising above his head. In front of him is a hollow vessel with a lobed rim on a carved column that is

thin at the top and thick at the bottom above a rectangular base⁸⁷. We saw the same embodiment of the seasons in the form of winged putti in the House of the Red pavement in Antioch (Fig 64).



Fig 64. Representation of the seasons in the mosaic of the House of the Red Floor, third century AD, Antioch .
(Photo: CIMOK Fatih, 2000, p. 74-75-84-71)

But what also distinguishes the mosaics of Antioch is the representation of the seasons in the form of standing winged woman figures. A clear example of this style is the mosaic of the Villa of Constantine, where the seasons in the central panel of the large room No. 1 were depicted in a diagonal and opposite arrangement. The winged women are standing facing each other, appearing out of the inhabited Acanthus leaves. They wear different clothes appropriate

⁸⁷ Levi, D. 1947, p. 161.

to each season, decorated with jewelry and each of them places on her head the typical attributes of the season that she symbolizes⁸⁸ (Fig 65).



Fig 65. Representation of the seasons in the mosaics of Constantine's Villa, fourth century AD, Antioch. (Photo: Cimok, F. 2000, p. 205-207-209-211)

The scene of the god Dionysus and Ariadne in the mosaic of Gaia, Plutus, and the four Seasons, with the three-legged table in front of them, we can compare with a similar model found on the mosaic of the weddings of Dionysus and Ariadne discovered in Zeugma in Turkey⁸⁹ (Fig. 56). Other example is the Agros and Opora mosaics in Antioch, in the house of the boat of Psyche dated according to Doro Levi to the period from 235-315 AD⁹⁰ (Fig 66. Fig 67. Fig 68), which embody a scene in the same position of the two lovers (Agros and Opora), whose names were identified in Greek writing of red tesserae above their heads (ΑΓΡΟΣ) and (ΟΠΩΡΑ). One can see Agros extending his hand behind Opora and placing it on her shoulder, while Opora holding a basket full of fruits in her lap. Silenus, who was named here as well, appeared to be (Oinos) offers them wine, extending his right hand that holds the cup, and in his left hand he holds a scepter ending with a pine fruit with several ribbons hanging on it. This is the symbol of the god of wine, Dionysus. Silenus appeared standing in the form of an elderly man, not completely naked, in a robe wrapped around his waist and a crown of vines covering his head. In front of them there is a table very similar to

⁸⁸ Levi, D. 1947, pp. 230-231.

⁸⁹ Levi, D. 1947, pp. 230-231., Jbacc, M. 2023, p. 102.

⁹⁰ Levi, D. 1947, p. 186.

the same three-legged table (Delphica) in the mosaic of Gaia-Plutus and the gifts of the four seasons in Swaydā' Museum.



Fig 66. Mosaic of Gaia, Plutus and the gifts of the four seasons, Swaydā' museum, Syria. (Photo: Maher Jbace 2012)



Fig 67. Mosaic of the Wedding of Dionysus and Ariadne, Zeugma, Turkey, end of the second century AD. (Photo: Abadie Reynal Catherine, 2002)



Fig 68. Agros and Opora mosaic, House of the Boat of Psyches, Antioch, mid-third century AD. (Photo: Abadie Reynal Catherine, 2002)

The scene is completely similar in both the mosaics of the Swaydā' Museum and the mosaics of Antioch in terms of location, where in each of them the artist resorted to depicting the event within a luxury place; curtains hanging from the ceiling behind the characters. The character of Opora is linked to the character of the god Dionysus. In the early Greek thought and literature, Opora is associated with harvest rituals, more specifically with the harvest of grapes and as a personification of autumn.⁹¹ There is likely a folk tale related to her legend in the 4th century BC in the Greek comedy, describing her love for the planet Sirius. descended to Earth and threatened to bring destruction of humanity, and it is not a coincidence that we see in the famous theological calendar of Athens that the image of autumn in the form of a winged female figure carrying a cup and fruit standing next to the dog Sirius. And as the personification of the harvest or grape harvest, Opora falls within the circle of Dionysus, and with her embodiment of autumn or the month of September in which the grape crop is harvested, Opora is associated with the character of Dionysus⁹², or it is replaced with the character of the god Dionysus himself. The character of Silenus confirms the connection of the characters within the scene with the god of wine, Dionysus.

We notice the great similarity in the depiction of each of the characters of Dionysus, Ariadne, Agros, and Opora in the two mosaics in Philippopolis and Antioch, in terms of the

⁹¹ Levi, D. 1947, pp. 187-188.

⁹² Levi, D. 1947, p. 188., Jbace, M. 2023, p. 106.

head' turn and the realization of the naked torso. This similarity is evidence of the presence of artists influenced by mosaic models of Antioch, if they were not brought from the workshops of Antioch, and the existence of model books exchanged by those who executed mosaic.

Topics related to the Earth Goddess, Gaia:

Scenes of the Earth Goddess GE or Gaia are associated with many characters related to the Earth's goodness and gifts, the renewal of life, the seasons of the year, time, the winds, and human life.



Fig 69. Mosaic of Gaia, Plutus and the four Seasons mosaic, Philippopolis, Swaydā' museum, Syria. (Maher Jbacc: 2012)

Within the mosaic of Gaia, Plutus and the gifts of the four seasons to Dionysus and Ariadne displayed in Swaydā' Museum, one see the goddess of the Earth in the lower left corner of the central panel (Fig 69) in the form of dignified noble lady, stepping forward and pushing four children (Putti) in front of her. She is decorated with various ornaments and wearing her distinctive and well-known crown on her head, which is the Calathus (inverted fruit bowl), and her identity was signed by a Greek inscription (ΓΗ) written in front of her foot that she moves forward. Her four children wore various clothes, they were crowned with different

types of earth's bounties indicating the symbolism of each season of the year seasons, in addition to identifying each one of them in Greek writing.

The first child is crowned with a crown of wheat ears and carries a sheaf of wheat in his hands, and the Greek writing under his feet is Theros (ΘΕΡΟΥC), which means summer. The second child stands directly in front of him, his head crowned with different types of flowers. He carries a small lamb that he has wrapped in a red robe and the Greek writing at his feet is May (ΑΙΑΡ), meaning the spring season. The other two children's features have been lost due to damage, and the writing that indicates them has not remained, but we can distinguish one of them carrying a bunch of grapes, and the other carrying a kernel of corn; they symbolize the autumn and winter seasons.

Although the seasons of the year are represented in the middle of the scene with the characters of young children, the artist also resorted to depicting the four seasons in the form of human heads in the four corners of the scene (Fig 70), as in the mosaic pavement of Dionysus and Ariadne in the Shahbā Museum.



Fig 70. The four seasons, mosaic of Gaia, Plutus and the four seasons mosaic, Philippiopolis, Swaydā' Museum, Syria. (Maher Jbaec: 2012)

As for the embodiment of the Earth Goddess in the mosaic “Glorification of the Earth” displayed in the Damascus National Museum, is considered one of the masterpieces of mosaic art in the Roman period. She was depicted with her children (ΚΑΡΠΟΙ) in a scene that expresses the glorification of the earth through the other characters associated with it and its symbolism for giving, fertility, and creation (Fig 71).



Fig 71. The central panel of the mosaic Glorification of the Earth, Philippopolis, Damascus National Museum, Syria. (Maher Jbaec: 2012)

The Earth Goddess appeared to be reclining on the ground in the usual way she is depicted in most mosaic pavements with her children, the (ΚΑΡΠΟΙ). Her torso is naked, and she covers her legs with a cloak, leaning with her right elbow on a rock next to her, and the horn of Plenty which is considered one of her symbols is resting on her right shoulder. A Greek inscription (ΓΗ) shows her identity on the rock on which she leaned. While her young children were depicted naked, each carrying a fruit or plant from the many bounties that the earth produces during the seasons of the year. Their identity was written with the Greek term ΚΑΡΠΟΙ (Fig 72). But in this case, they were not symbolized as in the previous Philippopolis mosaic, as an embodiment of the seasons because the seasons were depicted separately within the scene and were indicated by the Greek inscription (ΤΡΟΠΑΙ).

The depiction of the Goddess of the Earth with her children (ΚΑΡΠΟΙ) received great interest in various depicting arts and was famous topic of many mosaic pavements. In Antioch, there were many of these mosaics that embodied the Goddess of the Earth alone or with her children in Bath E in the baths area (Fig 73), as she appears half-lying in the same position like on the mosaic of the Damascus National Museum on a female sphinx shape seat, her legs are visible, and the remaining part of her body are hidden under her cloak that wrapped around her knee and leg, leaning by her elbow on the head of the Sphinx. Her left leg is extended, while she raises her right knee and extends her right arm horizontally.



Fig 72. Details from the mosaic *Glorification of the Earth*, Philippopolis, Damascus National Museum, Syria. (Maher Jbace: 2012)



Fig 73. Mosaic of the Goddess of the Earth and the ΚΑΡΠΟΙ, Bath E, Antioch, fourth century AD. (Photo: Levi D. 1947, pl LXII)

Her torso is depicted in three-quarters, and she wears a robe tied over her left shoulder while it recedes from the right shoulder. She is decorated with golden bracelets on her wrists and arms, and her hair falls in strands over her shoulders. It is decorated with wheat stalks on the top of the head, and her identity is next to her head by a Greek inscription (ΓΗ).

The children of the Earth Goddess were depicted around her in the form of nine naked children, the Greek inscription (ΚΑΡΠΟΙ) was inscribed in the middle above the head of the one who's back bent under the weight of a huge wreath of wheat stalks. They were distributed within the scene, some pulling the wreath by the end and others placed it on his shoulder or bent down under it and picked up some of the wheat stalks that had fallen from it. Some of them were depicted next to the Earth Goddess and holding the wreath by the other end. One of them appeared to be standing next to the Goddess' bent knee as if he were intimately connected to her, while the first of them on the opposite side bent over a naked female figure covering her legs with a cloak flying behind her. She rests on her left knee on the ground, embracing the child with her arms. The remaining letters of her name written in Greek identified her as Aurora, the appeared letters [ΑΡΟ ...], while the missing letters are [ΥΡΑ]⁹³.

The personification of the Earth Goddess in a reclining position with her children is widely found in various types of arts. In addition to the Philippopolis mosaic displayed in the Damascus Museum and the mosaic of the bath E in Antioch, a depiction of her with the ΚΑΡΠΟΙ was found on a silver plate from Parabiago, depicting a Festive scene of the Triumph of Cybele and Attis which was found in Milan, Italy (Fig 74).⁹⁴ On the scene of the plate she supports her head with the palm of her left hand and rests on the ground, lying next to the Horn of Plenty (*Kornukopia*) which surrounded by her left arm, and her right hand is resting on the ground next to her body.

This depiction is completely identical to another incarnation of her with her children in a mosaic found at the Sentinum site and displayed in the Munich Museum (Fig 75)⁹⁵. The goddess appears bare-chested, covering her legs with a cloak and her right hand resting on her knee, ornated with a crown of flowers and a snake around her neck. The cornucopia and the sheaf of grain or Calathus* on her head are common features of the incarnation of the Earth Goddess and are in fact a metaphorical representation of the universe.

⁹³ Levi, D. 1947, pp. 263- 264.

⁹⁴ Levi, D. 1944, p. 287.

⁹⁵ Levi, D. 1944, p. 287.

* See in chapter IX list of terms



Fig 74. Personification of the Earth Goddess with ΚΑΡΠΟΙ on a silver plate, Parabiago, Milan. (Photo: Levi Doro, 1944, p. 286)

The number of her children, sometimes identified with ΚΑΡΠΟΙ, may vary, but usually they are only four. Symbolic characteristics directly or indirectly linked them to the four seasons, such as olives or flowers, or holding a sheaf of wheat, or wearing a cloak.⁹⁶ These features are what we have seen in all examples related to this regard or they are identified also with a Greek inscription (ΚΑΡΠΟΙ) as we saw on the mosaic of the Glorification of the Earth in Philippopolis displayed in Damascus National Museum and on the mosaic of Bath E in Antioch. They can even appear without these specifications as on the mosaic of Gaia, Plutus and the Gifts of the four Seasons in Philippopolis displayed in Swaydā' Museum, on the Parabiago dish, and on the Sentinum mosaic.

But what distinguishes the mosaic of Philippopolis (Gaia, Plutus, and the Gifts of The four seasons) displayed in the Swaydā' Museum (Fig. 69) is the artist resorted to personifying children and emphasizing their symbolism for the seasons of the year by writing their names to identify each season within the scene. The mosaicist depicts them in different clothing appropriate to each season with different features, as is customary, then he repeats the representation of the seasons again in the four corners of the frame. What also distinguishes the mosaic of Philippopolis (Glorification of the Earth), displayed in Damascus National Museum (Fig. 71), is that the artist depicted the seasons in the same scene within the central panel elsewhere, and identified them with the Greek inscription (ΤΡΟΠΑΙ).

In the process of comparing the depiction of the two scenes of the Earth Goddess in the two Philippopolis mosaic pavements with their counterparts in Antioch and other locations in the

⁹⁶ Levi, D. 1944, p. 265.

Roman period, we must analyze some of the characters that were depicted in these mosaics and their connection with the idea of fertility and renewal of nature.

In the mosaic of the Swaydā' Museum, we see within the central panel a personification of god Plutus, the god of wealth (Fig. 69), who is depicted in the upper right corner standing behind Dionysus, wearing the Calathus* and holding his scepter. The Greek inscription (ΠΛΟΥΤΟΣ) indicates his character. In Greek mythology he is the son of the goddess Demetra and a symbol of wealth and abundance. The word Plutus in Greek means wealth, and the main Greek god Zeus made him blind to distribute the chances of wealth randomly without regard to merit⁹⁷.



Fig 75. Personification of the Earth Goddess with ΚΑΡΠΟΙ, in Mosaic of Aion discovered in Sentinum in Italy, Munich Museum. (Photo: https://upload.wikimedia.org/wikipedia/commons/4/4c/Aion_mosaic_Glyptothek_Munich_W504.jpg)

⁹⁷ ʿUthmān Suhīl, Al-ʿAṣfar ʿAbdīlrazzāq, 1982, p. 181.

The artist depicts him on this mosaic as a supervisor of the distribution of wealth. This is an embodiment that is unique to the Philippopolis mosaics, and we rarely meet this scene in mosaics pavements, also we did not see it in the Antioch mosaic collection associated with the Earth Goddess.

If we conduct a comparative analytical study of the mosaic of the Glorification of the Earth displayed in Damascus National Museum, we notice many characters that the artist wanted to depict to convey a specific idea related to the Goddess of the Earth, GE. She occupied the center of the scene, and all the characters that were depicted around her revolved in her orbit, and the placement of characters with an agricultural content like Georgia, the goddess of agriculture, and Triptolemus the genie of agriculture with her in the same space in the middle of the scene.

According to Greek mythology, Demetra, while searching for her daughter Persephone, taught Triptolemus agriculture, gave him a plow, and charged him with spreading agriculture in the world. In this mission, he encountered many difficulties and dangers that Demetra was saving him from her⁹⁸, and thus he is closely linked to Georgia, the goddess of agriculture, and GE, the goddess of the earth. We can note that this arrangement is rarely seen on mosaic pavements.

In another part of the mosaic, the artist depicted the god of time, Aion, in the form of a strong man sitting on a stone bench with a Greek inscription indicating his identity. Aion (AEWN) appears completely naked and wrapped in a white robe that hung from his left shoulder and covered his right leg and part of his left thigh. He placed a headband on his head and turned to his left watching Goddess of the Earth and her children. He holds in his right hand a wheel as an embodiment of his symbolism of time. Behind him are depicted four winged girls, indicated by Greek writing above their heads which is (ΤΡΟΠΑΙ), meaning the four seasons. They were depicted standing next to each other. The first one raises a wreath of flowers to place over her head and holds in her left hand a small lamb as an embodiment of spring. Behind her another girl is holding ears of wheat in her right hand as the personification of the summer. Right behind her we see a girl standing in a facing position, crowned and holding fruits in her right hand; she is the embodiment of the autumn. In the background the fourth girl who covered her head and her entire body with her garment, represents the winter.

⁹⁸ Ovidius Naso, 1992, p. 129., 'Uthmān Suhīl, Al-'Aṣfar 'Abdilrazzāq, 1982, p. 212.

The embodiment of the god of time, Aion, holding the wheel of time in his hand, and as a character connected to the process of fertility and the renewal of nature, received high attention, and spread. This embodiment in a scene within a mosaic that is much older than ours, on a black and white pavement discovered in a burial ground on the island of Sacra near the Tiber in Ostia⁹⁹ (Fig 76). A naked man sitting on a rock, bent down and holding the wheel of time in his hand, with a presence the four seasons female characters, ready to cross the wheel. The first of them was already half crossing it.



Fig 76. Mosaic of Aion and the Four Seasons, island of Sacra in Ostia. (Photo: Levi Doro, 1944, p. 285)

Also, the same depiction is visible on a newer mosaic of colored tesserae in a mosaic from villa Cileen in the greater city of Leptis Magna in Libya. Where appeared with him in the same scene, in addition to the four seasons, the Goddess of the Earth, crowned with a wreath of fruits on her head, in addition to her four sons who accompanied the four girls, the four seasons, where the first of them appeared to have crossed the wheel of time accompanied by one of the sons of the Goddess (Fig 77).

If we return again to the scene that depicted on the silver plate from Parabiago, we see an embodiment of the god of time, Aion also within the scene. He appears on the victory festival of Cybele and Attis* (Fig 78). He is depicted half naked holding his scepter and wrapping a cloak around his waist. He stands in the Wheel of Time supported by Atlas*, with the presence of other figures as goddess of the Earth, Oceanus, and Tethys. As well as in the Sentinum mosaic pavement (Fig 75), the god of time appears in the main scene, standing completely naked within the wheel of time (Zodiac).

⁹⁹ Levi, D. 1947, p. 286.

* See in chapter IX list of terms

* See in chapter IX list of terms



Fig 77. Mosaic of Aion, Villa Cileen, Ancient city of Leptis Magna in Libya. (Photo: <https://www.pinterest.com/pin/855895104171650764/>)



Fig 78. Detail of God Aion on the silver plate from Parabiago, Milan. (Photo: Levi Doro, 1944, p. 287)

Within the Antioch mosaics collection, we find an embodiment of the God of Time within the Aion and Chronoi mosaic discovered in the house of Aion (Fig 79). He was depicted within a banquet scene with four other characters, but he appears separate from them on the left side. This group of figures is sitting at a table, some of them held a cup and raised it in their hand, and some of them tended to an incense burner.

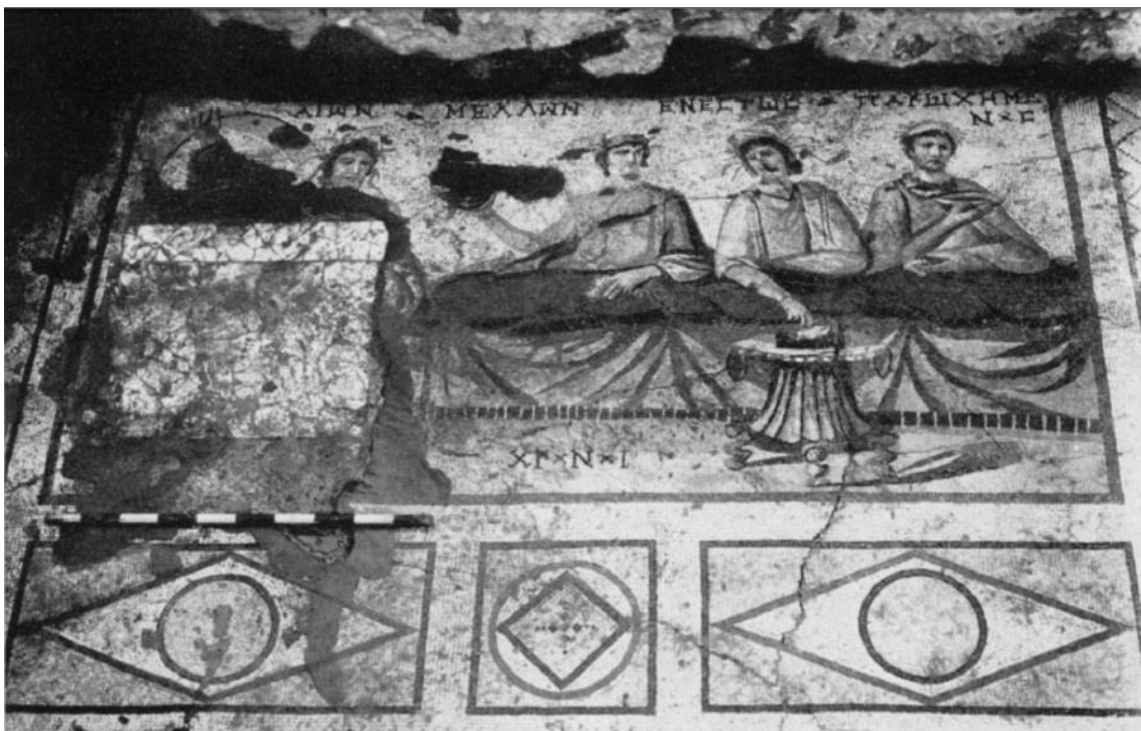


Fig 79. Aion and Chronoi mosaic, House of Aion, Antioch, 3rd century AD, (Photo: Levi Doro, 1944, p. 271)

Their names were written above their heads, and in the middle under the table was engraved the word Chronos in Greek (ΧΡΟΝΟΙ). As for Aion, he appeared to be the important figure in the scene in the form of an elderly man with a mustache, beard and a wreath of rich

leaves above his head where has a Greek inscription (AIWN) to identify him. He turns towards the three other characters.

Unfortunately, the remaining and important part of the figure was damaged and was restored in an ancient period using a slab of marble and limestone, but we can see that he is holding the wheel in his right hand¹⁰⁰.

In this mosaic dating back to the third century AD, we find that Aion's sitting position and his turning towards the three remaining figures is similar to his depiction in the Glorification of the Earth mosaic, but he is wearing a garment and not naked as appears from the remaining part of his hand. This is what his depiction in such scenes as banquets requires. On the mosaic of the Glorification of the Earth the *Paludamentum* clasped over the left shoulder and the headband were known as features associated with Roman emperors in the third century AD. There is a suggestion that the figure of Aion resembles the image of the Emperor Philip the Arab himself (Fig. 77), especially since the celebration of the thousandth anniversary of Rome by that emperor was in the year 248 AD, which is accompanied by prominent and special themes such as immortality and renewal, and its production may have occurred shortly after that date¹⁰¹.

The mosaics of Aion and Chronoi in Antioch has a deeper philosophical interpretation than the mosaic of the Glorification of the Earth in Philippopolis, and we find a unique case represented not only by the incarnation, but we also find a title that helps us understand the general meaning of the story. The presence of the three people with the Chronoi inscription underneath them is an embodiment of philosophical concepts and an explanation of the late Neoplatonic school. It is one of the important and appropriate topics for entertaining the society of Antioch at luxurious banquets. The three characters identified in Greek writing above the head of each represent the past, present and future, and Chronoi is connected to Chronos, which means continuous time. While Aion in the Greek tradition has an absolute meaning that brings and gives everything to change name, form and nature, and it is summarized in the philosophical definition as an ideal concept of eternity.¹⁰²

Based on the above, we find that the character of Aion is closely linked in part to the Goddess of the Earth and the idea of fertility, the renewal of life and nature, and the depiction

¹⁰⁰ Balty, J. 1977, p. 28.

¹⁰¹ Dunbabin, M.D.K. 1999, p. 169.

¹⁰² Levi, D. 1944, p. 274. Jbace, M. 2023, p. 113.

of the four seasons by his side ready to cross the wheel. The wheel is an expression of the cycle of agricultural and eternal seasons as in the previously mentioned mosaics. Aion is considered in the Greek philosophical concept the perfect embodiment of eternity.

Returning to the analysis of the characters associated with the Earth Goddess (GE) in the mosaic of the Glorification of the Earth, we saw other characters on the right side of the central panel led by the great importance figure, Prometheus (Fig 80). He appears as a completely naked, muscled man sitting on a rock, and busy completing a statue of a small human figure from clay. We see the clay in the palm of his left hand, and he took it from a vessel placed to the right of his foot, while the statue is in front of him on a rocky block. It has been identified as Protoplastos, which means body of the Perishable human¹⁰³.

Behind Prometheus we see a naked young woman, half covered by a robe, standing and turning her crowned head towards the statue that Prometheus is modelling.



Fig 80. Details of Promitheus, mosaic of the Glorification of the Earth, Philippopolis, Syria, Damascus National Museum. (Photo: Maher Jbace 2012)



Fig 81. Details of Promitheus, Sarcophagus of Arles, Louvre Museum, 3rd century AD (Photo: 'Ukāsha Tharwat, 1982, p. 273)

To the top of the scene of Prometheus we find the god Hermes, the messenger of the gods, holding the human soul, Psyche. She appears by her look and movement, and her hands are signs of horror at her fate from the fusion with material. Next to Hermes also one can see a sad female figure.

¹⁰³ Balty, J. 1977, p. 28.

The scene of Prometheus who creating the first human from the clay of the earth and the embodiment of Hermes holding the soul (Psyche) to be merged together with the material, are among the important mythological themes that were embodied in classical pictorial arts, and we find a very similar model on the facade of the Sarcophagus of Arles, located in the Louvre Museum (Fig 81), which date back to the third century AD¹⁰⁴. It shows Prometheus sitting on a bench with a basket full of clay next to him, and he forms different models of man. One of these models is on a pedestal in front of him and he is still working on finishing it, while another model is located below the pedestal. Also, in front of him we can see Hermes, the messenger of the gods, holds in his right hand the god of soul (Psyche), and between his legs are two statues of Cupid and Psyche, symbolizing to union of the soul with the body.

Behind Prometheus the goddess of wisdom (Athena) stands, who pats his shoulder, and in addition to these people, we find embodiments of the goddesses of birth and destiny who determine the length of the thread of life. In her hands are the wool thread that symbolizes the number of years of life. Also, the Goddess of Death, who determines when the thread of life must be cut, and Anima, who gives life to the new human body. In addition of the embodiment of the Goddess of the Earth lying down to confirm the idea of creating the human from the clay of the earth¹⁰⁵.



Fig 82. Sarcophagus of Arles, Louvre Museum, 3rd century AD (Photo: 'Ukāsha Tharwat, 1982, p. 273)

On the facade of the Arles sarcophagus, we can confirm the character of Athena, who is present behind Prometheus and appears in her usual personality and her dress and hat. This role is often played for her on stone sarcophagus (Fig 82), while on the mosaic of the Glorification of the Earth in Philippopolis, the character who might be Athena and who might

¹⁰⁴ 'Ukāsha Tharwat, 1982, pp. 371-372.

¹⁰⁵ 'Ukāsha Tharwat, 1982, p. 372.

be Aphrodite was not clearly identified. They are two out of the characters who could be present to witness such events.

But what makes it more likely that Athena was present in the depiction of this event is that the idea of Prometheus creating human and the union of the human soul to breathe life into him again, with the presence of Athena has remained in the memory of artists. We find an example of the depiction of this myth within paintings of modern art, such as a painting displayed in the National Museum of Naples (Fig 83), where it depicts the soul (Anima) in the process of uniting with a statue of a person that Prometheus had finished making in the presence of the goddess Athena. This example gives us the possibility of accepting that the woman standing behind the god Hermes on the mosaic of the Glorification of the Earth in the Damascus National Museum, whose identity has not been determined, may be Anima. Our suggestion is supported by the idea that the spirit anima is always present in the embodiment of this scene with Hermes and Psyche, and she may appear wearing a robe covering her head, as we saw her on the sarcophagus of Arles and on the mosaics of Philippopolis¹⁰⁶.



Fig 83. Prometheus creates the first human, modern art, National Museum of Naples. (Photo: Maher Jbace with permission of National Museum of Naples 2011)

¹⁰⁶ Jbace, M. 2023, p. 114.

The depiction of Psyche has always been linked to representations of Eros, the god of love, and there are many examples of representing them together in Hellenic art. Sometimes Psyche is depicted in the form of a winged girl, as on many mosaics among others on the mosaic of Philippopolis, or on the facade of the sarcophagus of Arles.

In Antioch there is many examples related to this topic such as the mosaic of the house of the Boat of Psyches (Fig 87), and on the mosaic of the House of the Drinking Contest ¹⁰⁷(Fig 87).

But the closest example of a depiction of Psyche in the way it appeared on our mosaics is her representation on the sarcophagus of Arles. The great similarity is visible in the movement of the hands, especially the raised hand, and the similarity in the depiction of the god Hermes in the Philippopolis mosaics and the sarcophagus of Arles (Fig 84.Fig 85), through the turning of his head, and the movement of his hand holding Psyche, and the robe that wraps around his neck and covering the left shoulder. So, with our knowledge that such as this scene is depicted in the mosaic gives us clear evidence that the artist who paved the Philippopolis mosaic was clearly influenced by this depiction model.

¹⁰⁷ Levi, D. 1947, p. 160.



Fig 84. Psyche and Hermes in the Mosaic of Glorification of the Earth, Philippopolis, National Museum of Damascus, Syria, (Photo: Maher Jbace 2012)



Fig 85. Psyche and Hermes on Sarcophagus of Arles, Louvre Museum, Paris, France (Photo: CIMOK Fatih, 2000, p. 136)

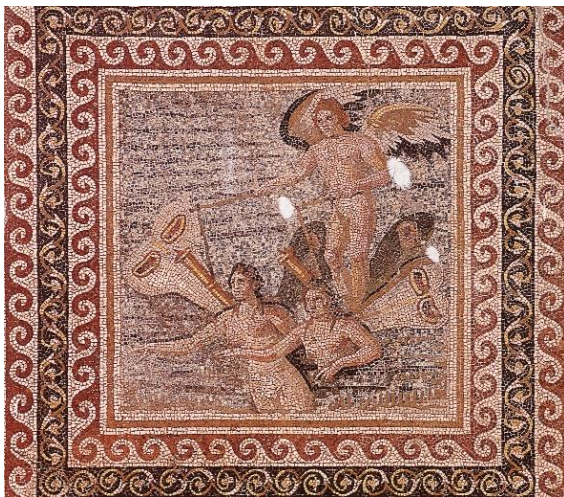


Fig 86. Psyche on the Mosaic of the House of the Boat of Psyches, Antioch, mid-third century AD, (Photo: CIMOK Fatih, 2000, p. 99)



Fig 87. Psyche on the Mosaic of the House of the Drinking Contest, Antioch, Severian period, (Photo: CIMOK Fatih, 2000, p. 136)

In the end, we can say that all the embodiments that were present in mosaic of glorification of the Earth in Philippopolis represented by the goddess of the earth, and Georgia the goddess of agriculture, and Triptolemus, the genie of agriculture, on one hand, Aion and the four seasons on the other hand, and Prometheus and the myth of the creation of the first human, with both Hermes and Psyche, on the third hand, reflect With its content the glorification of the Earth as the mother of nature and its renewal, the agriculture, and the succession of the seasons of the year through the endless and eternal cycle of time, and at the same time it is the mother of human who was created from its clay.

The mosaic of the Glorification of the Earth in Philippopolis has a symbolic, philosophical content, the artist wanted it to be a tribute to the forces that direct and secure the earth's

material life, it may be a product of the thought and culture of that era, which was mixed with several philosophical schools of thought. It was a mixture of theoretical and practical philosophy, popular religion, and some beliefs. It confirms however, in producing his composition, the artist relied on a number of models, not on a single model¹⁰⁸.

We notice the accuracy in organizing the people and the harmony and diversity of colors, demonstrating the artist's skill in distinguishing the dark colors of the faces of the gods, from the light faces of the goddesses and children, and using the style of shadows that surround the bodies to suggest prominence and contribute in showing the intersections of faces, which makes this symbolic mosaic a wonderful and concentrated summary of the ideas of that era.

Topic of the divine poet and singer Orpheus:

Another mythological representation depicted on the Philippopolis mosaics is the embodiment of Orpheus, the Greek divine poet and singer. Although this embodiment has been widely spread in classical arts, Orpheus of Philippopolis belongs to a style distinguished by the Phrygian hat and a dress under a long sleeved robe famous in the East and also more widespread on the East than in the West, starting from the second half of the second century AD.¹⁰⁹ Orpheus appears by three-quarters sitting on a rock with his legs tilted to the right, the head turned gracefully to the left as it occupies the center of the scene embodied by high quality in his usual position next to a tree, surrounded by animals and birds. His left foot is on the ground, supporting the lyre placed on his thigh, while his right foot follows the rhythm by striking the ground. The plectrum steady in his right hand while he strikes the strings with his left hand where that the fingers appear to be extended and striking the strings (Fig. 34).

There is a similar in terms of the distribution of animals and the use of tesserae in depicting clothes to its depiction in the Thrace mosaic dating from the second half of the third century (Fig 88), but Orpheus's figure is reversed and the lyre is on the rocky block and not on his thigh. The tree is also on the opposite side¹¹⁰.

We did not find similar depiction in Antioch, but found in Tarsus in Turkey, dated to the 3rd century AD (Fig 90). The closest composition of Philippopolis Orpheus is on the mosaic of Arles in Greece, which it is dated to the end of the third century and the beginning of the fourth century AD (Fig 91). It matches in terms of his position and that of the animals around

¹⁰⁸ Will, E. 1953, pp. 27-48.

¹⁰⁹ Balty, J. 1995, p. 239.

¹¹⁰ Balty, J. 1995, p. 242.

him, and the tree behind him. One more close example is a mosaic discovered in Paphos in Cyprus dates back to the end of the second century and the beginning of the third century AD¹¹¹, where he was depicted facing away, holding his lyre in his left hand and resting it on the rock on which he was sitting (Fig 89).

The depiction of Orpheus in the center of the scene with his Phrygian hat is clear in all the mosaics that portray him, with varying differences in the direction of his sitting position on the rock and the depiction of his feet, but in most cases the lyre is to the left of him. The position, number and type of animals differ from one mosaic to another, and all of these works share a style of distribution. The animals are in two symmetrical rows on either side of Orpheus, but what distinguishes this distribution of the Philippopolis mosaic from other mosaics is that it was not for the purpose of filling the void only, but rather it was creating



Fig 88. Mosaic of Orpheus, Thrace, Turkey, second half of the third century AD, (Photo: CIMOK Fatih, 2000, p. 147)

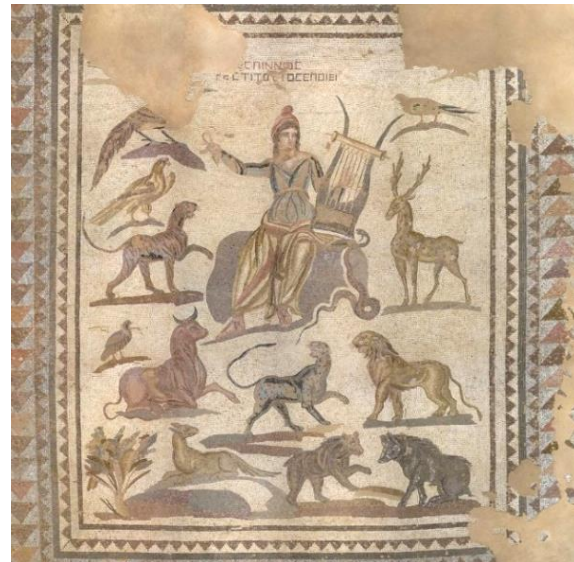


Fig 89. Mosaic of Orpheus, Paphos, Cyprus, third century AD. (Photo: MICHAELIDES Demitrios, 1987, pl XX)

¹¹¹ Michaelides, D. 1987, p. 12.



Fig 90. Orpheus mosaic, Tarsus, Hatay Archaeological Museum, Antioch, Turkey, 3rd century AD, (Photo: <https://www.pinterest.jp/pin/489977634438127916/>)



Fig 91. Mosaic of Orpheus, Arles Museum, France 3rd - 4th century AD. (Photo: <https://www.pinterest.co.uk/pin/roman-mosaics--254383078929245581/>)

depth and refreshing the scene through the clearly living animals, which express the intensity of the emotion that marks the scene through the elongated neck and slightly open mouth.

The presence of the tree within the scene did not have a common function in all representations. On the Philippopolis mosaic the tree extends its branches towards Orpheus to rejoice at his playing and singing and supports the snake and the various types of birds distributed on its branches to rest in its shade, including the osprey, which in the mosaic of Thrace took its place on the lofty rock to the right of Orpheus. The birds were neglected in both the Thrace and Paphos mosaics and were distributed without a substrate¹¹². In addition to all of the above, the Philippopolis Orpheus mosaic is distinguished by its inclusion of an embodiment of the mythical animal Griffin, which appears with the body of a lion and the head of an eagle positioned on top of a rock in the upper right corner of the scene.

This depiction, the Griffin figure, is considered a symbol of inevitable death, where the researcher Janine Balty compared it with a similar embodiment appeared on the mosaic of Piazza Armerina in Sicily (Fig 92). The presence of the birds depicted on the tree may have certain symbolic connotations, as the eagle and the bird symbolize the spirit, while the peacock symbolizes eternity¹¹³.

¹¹² Balty, J. 1995, p. 241.

¹¹³ Balty, J. 1977, pp. 46-47.



Fig 92. Depiction of the Griffin in Orpheus mosaics of Philippopolis and Piazza Armerina, (Photo: Maher Jbace 2012 and 2008)

In our analysis of the Orpheus mosaic, we find that the artist resorted to framing the central mosaic with a frame composed of two parallel and intersecting double braid, forming squares containing 20 masks, distributed so that there were six masks on each side. These masks were derived from the masks that were used in the theater and Roman tragedy, which in turn was a transfer from the Greeks who settled in southern Italy in the third and second centuries BC, after which Roman theater developed. At the beginning of each stage show a panel appears with the masks of all the characters of the novel, arranged according to their appearance on the stage. Later there was a period when large wigs were used instead of masks.

There are many inscriptions, frescoes and mosaic pavements that depicted various models of masks used in Roman theater and Roman tragedy, especially in Pompeii and Ostia¹¹⁴ (Fig 93), and there are depictions of such masks in the Antioch mosaic group, such as on the mosaic frame of the House of Triumph of Dionysus and the mosaic of the House of Masks. (Fig 94).



Fig 93. Frame of the mosaic of the house of fauna, Pompeii, National Museum of Naples (Photo: Maher Jbace, 2011)

¹¹⁴ Ukāsha Tharwat, 1993, pp. 578-585.



Fig 94. Frame of the mosaic of the House of Triumph of Dionysus , Daphne, Antioch, (Photo: <http://www.soniahalliday.com/category-view3.php?pri=TR92-8-o8.jpg>)



Fig 95. Frame of the mosaic of Orpheus, Philippopolis, Syria, (Photo: Maher Jbace 2012)

The masks in the frame of the Philippopolis Orpheus mosaic are an expression of Roman theater and Roman poetic tragedy, the most beautiful meanings of which were embodied by the poet Orpheus (Fig 95).

Topics related to the goddess of love and beauty (Aphrodite):

Among the mythological representations that were also depicted within the Philippopolis mosaic collection are those scenes related to the goddess of love and beauty Aphrodite (Venus), such the mosaic that related to the myth of her birth, or the love story between her and the god of war Ares (Mars). One piece of the mosaic collection of Philippopolis is about the depiction of Aphrodite on a mosaic displayed in the Swaydā' Museum in a scene that

expresses her birth. In the mythical aspect of her birth was from sea foam. On this mosaic we see her within a shell carried by two marine centaurs (Fig 96), she holding a long braid of her hair in her right hand, and in the left hand is a mirror with a handle reflects her image. At the bottom of the scene some fish represent the depths of the sea.



Fig 96. Mosaic of Venus, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbace, 2012).

The topic of the sea birth of Aphrodite is one of the rare topics in the eastern states of the empire, but in contrast it is considered one of the popular topics in north Africa, where we can see the creativity of the workshops in the second century AD¹¹⁵, especially the third century AD. The depiction of the scene of the birth of Aphrodite in Timgad in Algeria and Pula Regia in Tunisia are representative (Fig 97). Within the Antioch mosaics, no similar scene was found. The only eastern example was recently found in Zeugma (Gaziantep) in Turkey, which dates back to the end of the second century and the beginning of the third century AD¹¹⁶ (Fig 98).

The Philippopolis mosaic was distinguished by the artist's high craftsmanship in depicting the figure of the goddess Aphrodite and her reflection in the mirror, and making the scene appear as if it were within the sea and highlighting the depth by using color gradations in the

¹¹⁵ Balty, J. 1981, p. 398.

¹¹⁶ Ergeç, R. ed. 2007, p. 120.

realization manner of the sea, in contrast with other mosaic implementations where broken lines were set to imitate sea waves¹¹⁷.



Fig 97. Mosaic of the Birth of Aphrodite, Bella Regia, Tunisia, third century AD. (Photo: <https://www.flickr.com/photos/pilotgirl/4242215799>)

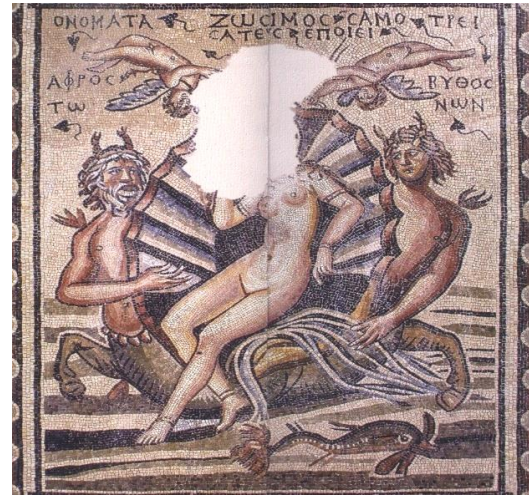


Fig 98. Mosaic of the Birth of Aphrodite, Zeugma, Turkey, end of the second century beginning of the third century AD. (Photo: Ergec, R. ed. 2007, p. 151)

In this context, Jeanine Balty suggests that the dating of this mosaic goes back to the period of the founding of the city in the middle of the third century AD, relying on the similarity in the method of treating the scene in terms of adherence to the classical traditions found in North African mosaics that prevailed in the Severian period. The features also appear through the movement of the head, the direction of the sight, the neckline, the movement of the raised right arm, and the position of the legs, one bent and the other extended. The soft shadows, flexibility in shaping the face and body, the intensity in the expressive looks we see on the Philippopolis mosaics and the North African mosaics of Timgad and Bulla Regia (Fig. 99)¹¹⁸. She goes back to suggesting that finding a mosaic depicting the birth of Aphrodite, which was recently found in Syria at the site of Şarrin and dates back to the sixth century AD, eliminates the idea of North African influences¹¹⁹.

However, with the discovery of the mosaic of the Birth of Venus in Zeugma (Fig. 100), we suggest Eastern and North African influences in the implementation of the Philippopolis mosaics, especially with the presence of designs and models traveling with artists in all states.

Among the scenes related to the goddess Aphrodite is also the scene of her love with the god Ares (Mars). This scene is not often applied on mosaic pavements, on the contrary, it has

¹¹⁷ Balty, J. 1977, p. 16.

¹¹⁸ Balty, J. 1995, p. 63.

¹¹⁹ Balty, J. 1977, p. 52.

received wide attention and spread in wall paintings. There are many scenes embodying this love were found in Pompeii and are displayed in the Naples National Museum (Fig 99. Fig 100).

The mosaic of Ares and Aphrodite's love in Philippopolis is unique because the artist depicted characters accompanying them that have interpretations of their relationship through the personification of Kharis (ΧΑΡΙΣ) alongside the goddess Aphrodite. Kharis is holding a crown and presented to her. This is an expression of the innocence of love and affection between the two gods, the denial of Aphrodite's betrayal of Hephaestus. Also, the presence of Epribia (ΕΥΠΡΕΠΙΑ) beside Ares, an embodiment of the greatness of the god of war.¹²⁰

In addition to the artist's high technique and his ability to show realism in expressing movement and emotion and setting the faces by showing the areas of light and shadow using color gradations. The mosaicist performs the tops of the mountains through the character of Skobeh (ΣΚΟΠΗ) holding an ivy leaf, which is similar in its representation to the depiction of the city of ((ΑΚΤΕ)) in the mosaic of the Artemis, also worth to mention the similarity in the sitting position, the ivy leaf, and the towering crown above the head (Fig. 112. Fig. 113).

Janine Balty believes that this mosaic, like others from the Shahba Museum collection, dates back to the second quarter of the fourth century AD, as it has features known as modern Constantinople, which prevailed starting in 325 AD.

We notice that the artist resorted in the Philippopolis mosaic to depicting the Cupids playing with the weapons of the god Ares. Two of them disputing over his helmet and two others carrying his sword lumberingly, following the method used in depicting them in the love scenes of the two gods executed in the frescoes in Pompeii. They also may be among the representations that accompany the love scenes that it is related to the gods or heroes as we see this same representation of the Cupids playing with the weapons of the hero Heracles in a wall painting representing him and Omphale* (Fig 100).

¹²⁰ Balty, J. 1977, p. 58.

* See in chapter IX list of terms



Fig 99. Aphrodite and Ares, wall painting, House of Mars and Venus, Pompeii. (Photo: Maher Jbace 2011, with permission of National Museum of Naples)



Fig 100. Heracles and Omphalia, wall painting, Pompeii, (Photo: Maher Jbace 2011, with permission of National Museum of Naples)

Topic related to the Three graces:

The depiction of the three of grace goddesses, was also popular concerning the Philippopolis mosaic collection. The three graces represent sing, dance and happiness, and are the goddesses of the joys and charms of life. Their depiction also received great attention from classical artists who were interested in embodying the myths and stories of the gods executed in mosaic techniques, they were depicted in the form of three naked girls dancing standing next to each other, shoulder to shoulder.

An ancient example that depicts them in this way is the wall painting found in Sabratha in Rome, and the wall painting found in Pompeii in the Casa di T Dentatus Panthera, which dates back to the first half of the first century AD (Fig 101).

The Antioch mosaic group did not provide such a depiction, but we see that the depiction of the three graces in Philippopolis is similar to those on many of the mosaic pavements of sites dating back to the Roman period. We find this topic in the city of Cherchell, in Algeria, in Morocco, and in southern Turkey in Korykos. However, the closest depiction to the Philippopolis mosaic is their depiction as they appeared in Korykos, in terms of the wearing of the middle girl of the belt (Strophion) on the chest area, and on the other hand the roundness of her face¹²¹ (Fig 102. Fig 103).

¹²¹ Balty, J. 1981, p. 410.



Fig 101. Three Graces, wall painting, Pompeii, (Casa di T Dentatus Panthera), 1st century AD, National Museum of Naples, Inventory number 9236) (Photo: https://upload.wikimedia.org/wikipedia/commons/3/32/Wall_painting_-_the_three_Graces_-_Pompeii_%28IX_2_16%29_-_Napoli_MAN_9236.jpg (10.01.2024)



Fig 102. Mosaic of Three Graces, Korykos, southern Turkey, fourth century AD (Photo: Budde, L. 1972. Fig. 92)



Fig 103. Mosaic of Three Graces, Philippopolis, Syria (Photo: Maher Jbaec, 2012)

What distinguishes the Three Graces mosaic in Philippopolis is its depiction in an isolated place, as if it were in front of the entrance to a cave, so the artist succeeded in depicting this by using tesserae of multiple colors to create the rocks of the entrance. Black cubes were used to show the depth. We can encounter with something similar within a mosaic group Antioch is the characters depicted in the frame of the mosaic, where the four seasons in the form of busts were represented in the corners with Greek writing to identify each of them. It can be compared with the depiction of the four seasons in the mosaic of the house of GE and the four seasons in Antioch. In the Philippopolis mosaic the seasons are placed within squares in the frame and not within the main scene. Each season is in the form of a bust of a young man, two of which are summer and autumn in the form of a winged, while winter and spring in the form of a non-winged young man with additional symbols for the character of each season (Fig 104). On the mosaic of the house of GE and the four seasons in Antioch, the artist depicted the four seasons in the central panel within medallions designed in the four corners in the form of half-busts of girls, not young men, all of whom are winged (Fig 104. Fig 105).



Fig 104. Summer season, mosaic of the Three Graces in Philippopolis, Syria, (Photo: Maher Jbace, 2012)



Fig 105. Summer season, mosaic of the house of GE and the Four Seasons mosaic, Antioch, (Photo: Levi D. 1947, pl. CXXXI)

Topic related to the hunting goddess (Artemis):

Among the collection of Philippopolis mosaics, we also find a scene of the hunting goddess Artemis and her surprise to be seen by the hunter Actaeon when she was bathing in the water of a spring in one of the forests in which she was hunting (Fig. 38).

This is a mythical scene that was not embodied in many mosaics, but we often find it in the field of sculpture, frescoes and engravings.

The relief on the facade of a stone sarcophagus discovered in Rome, which dates to the first half of the second century AD¹²², embodies this theme and depicts the goddess in a squatting position, surprised by the sight of the hunter Actaeon while she was bathing¹²³ (Fig 106), but she took a position opposite to her position in the Philippopolis mosaic, and turned her head towards the hunter Actaeon. Which was photographed on the opposite side overlooking a rocky cliff. On either side of the goddess, we see instead of the Nymphaea, as in the Philippopolis mosaic, we see two small children, one of whom is behind her, sprinkling water on her from a pitcher he carries on his shoulder, and the other is kneeling in front of her in an attempt to help her bathe. While one of the Nymphaea depicted in on the top of the rocks on the left side, she is lying with her left elbow on a jar from which water is pouring down, she is almost naked, and she turns her head towards the hunter Actaeon.

We also find this representation in a mural on the wall of one of Pompeii's houses, where the goddess appears in a squatting position, surprised by the hunter Actaeon, and in the same position as she was in a sarcophagus of Rome (Fig 107. Fig 108. Fig 109)



Fig 106. Sarcophagus depicting the surprised God Artemis and the punishment of Actaeon, Louvre, 2nd century AD. (Photo: www.cosmovision.com)

What is distinctive on the mosaic of Philippopolis is the facial expressions. The true expression of anger, and the reactions of the fear of the sudden after the appearance of the hunter Actaeon on the rocky cliff. The look she gave him and the blushing that the artist showed by using the pink tesserae, and the shy double movement of her hands so that she placed her left hand on her private parts and her right hand is throws the hunter by water, and at the same time the high professionalism in depicting the woman's body.

¹²² www.cosmovision.com

¹²³ Balty, J. 1983 p. 398.

What draws attention is the artist's resort to depicting the transparency of the water at the feet of the goddess using blue-gray tesserae, and highlighting the depth in the depiction of the rocks and the sizes of the characters at the entrance to the cave. In contrast to their depiction in the sarcophagus of Rome, in which the artist resorted to depicting small bushes on both sides of the entrance and did not consider the proportions and sizes. Her depiction including earrings, bracelets, necklaces and a crown, with the depiction of the movement of her raised and surprised eyes, which we did not find in that literal way in other examples.



Fig 107. Detail from the mosaic of Artemis, Philippopolis, Swaydā' Museum, Syria, 3rd century AD, (Photo: Maher Jbace, 2012).



Fig 108. Detail from the sarcophagus, depicting the surprised God Artemis and the punishment of Actaeon, 2nd century AD, Louvre Museum, (Photo: www.cosmovision.com).



Fig 109. Fresco of Octavius Cartio's House, 1st century AD, Pompeii, (Photo: Balty, J. 1983, p. 399).

On the other hand, in the Philippopolis mosaic, the artist resorted to depicting mountains and highlands by depicting two girls in the upper right corner of the central panel, one of them wearing a dress that covered her entire body, and the other in front of her, almost naked, resting with her right elbow on the rocky cliff. Both of them carried an ivy leaf and a note was written on top of them in Greek writing (AKTE), a symbolic representation of mountains and highlands¹²⁴. This is a scene that we have saw before on the mosaic of Aphrodite and Ares in the Shahbā Museum through the character CKOΠH, by the form of a girl in the upper right corner of the scene holding an ivy leaf in her hand to represent the mountain peaks (Fig 110. Fig 111).

As for the botanical decorative band, rich in flowers and fruits and inhabited by various types of birds, which is carried by small, winged children wearing Phrygian hats. It is a typical imagery from the traditional Hellenistic heritage that was embodied in abundance and

¹²⁴ Balty, J. 1977, p. 20.

on a large scale in Roman art on the facades of stone sarcophagi, especially in the period of the second and third centuries AD. We also find it on the façade of a sarcophagus with the myth of Theseus and Ariadne preserved in the Metropolitan Museum in New York, which dates back to the period 130-150 AD, and on a sarcophagus from Tarsus in Turkey, which is also in the Metropolitan Museum and dates back to the period 200-225 AD¹²⁵.



Fig 110. Depiction of the heights and the mountain peaks, Mosaic of Artemis, Philppopolis, Swaydā' museum, Syria, (Photo: Maher Jbaee, 2012)



Fig 111. Depiction of the heights and the mountain peaks, Mosaic of Aphrodite and Ares, Philppopolis, Shahbā museum, Syria, (Photo: Maher Jbaee, 2012)



Fig 112. Plant ribbon laden with flowers and fruits and carried by children, (Photo: Maher Jbaee, 2012)



Fig 113. Plant ribbon laden with flowers and fruits and carried by Nymphae, sarcophagus, Louvre, (Photo: www.cosmovision.com)



Fig 114. Plant ribbon laden with flowers and fruits and carried by children, sarcophagus, Metropolitan Museum, (Photo: www.metmuseum.org/pubs/journals)



Fig 115. Plant ribbon laden with flowers and fruits and carried by children, sarcophagus, Tarsus, Turkey, Metropolitan Museum, (Photo: www.metmuseum.org/pubs/journals)

¹²⁵ www.metmuseum.org/pubs/journals.

Putti sometimes appear winged and other times not winged, but young children with Phrygian hats, as in the Philippopolis mosaic, appear in the form of the god Attis*, who is depicted on Roman sarcophagi with a Phrygian hat and a draped garment with a shovel in his hand. His depiction in the mosaic of Artemis in Philippopolis is a unique case, and the replacement of the Putti with Attis and the presence of Actaeon gives a symbolic value to a funeral, and at the same time the harmonious rhythm of the dance movement of Attis gives a pleasant scene to the celebration and dancing¹²⁶ (Fig 112. Fig 113. Fig 114. Fig 115).

Topics related to marriage:

Mosaic of the wedding of Thetis and Pele:

Among the mythological representations that were embodied in the Philippopolis mosaic collection too, we find another representation of a wedding, the myth of the marriage of Thetis and Pele. According to Balty it is dated to the Tetrarchy period, the end of the third century AD (Fig 116) due to some of the features that characterize this period in the depiction of facial features, oblique glances, folds of clothing, hair styling, which appeared in the characters of the mosaic of the Swaydā' Museum¹²⁷.



Fig 116. Mosaic of the marriage of Thetis and Pélée. 3rd century AD, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbacc, 2012).

This scene was not depicted in Antioch mosaic collection, while similar scene, the wedding of Thetis and Pele was found in a mosaic discovered in Algeria, and it may have been inspired by previous artistic models. One find an embodiment of the wedding of Thetis and Pele on the facade of a stone sarcophagus discovered in the Villa Albani in Rome, dating to the beginning

¹²⁶ Balty, J. 1977, p. 22., Jbacc, M. 2023, pp. 121-123.

¹²⁷ Balty, J. 1981, p. 425.

of the second century AD¹²⁸ (Fig 117), and we often see within the scene the presence of Hymenaeus the god of marriage. He always appears, as he appeared on the Philippopolis mosaic, in the form of a young effeminately handsome man, his torso is naked, draped over a cloak over his crossed legs, his hair has long interwoven strands and falls on the shoulders.



Fig 117. Wedding of Thetis and Pele, sarcophagus, Villa Albani, Rome, early 2nd century AD. (Photo: www.cosmovisions.com)

He is adorned with a crown, leaning on his left arm which holds a torch as a symbol of the desire that unites the newlyweds, and in his other hand he holds a crown of flowers or a jar. Sometimes his character is identified by writing his name, sometimes not.

We see the difference in embodying the idea of desire that the newlyweds gather in the two Philippopolis mosaics, the first one is mosaic of the wedding of Dionysus and Ariadne displayed in Shahbā Museum, the second is mosaic of the wedding of Thetis and Pele displayed in Swaydā' Museum. On the Dionysus and Ariadne mosaic it is shown through (ΠΟΘΟΣ), the messenger of the god of marriage, who appears in the form of a winged child holding a torch and identified by a Greek inscription above his head. While on the wedding of Dionysus and Ariadne discovered in Zeugma, and on the mosaic of the wedding of Thetis and Pele of Philippopolis, it was embodied by Hymenaeus, the god of marriage by himself. He was identified by an inscription above his head in the mosaic of the wedding of Thetis and Pele in Philippopolis, but he was not named on the mosaic of Dionysus and Ariadne in Zeugma.

He appeared in an androgynous form close to that of a girl (Fig 118. Fig 119. Fig 120), where it is known according to legend that Hymenaeus is the son of the god Apollon from one of the water nymphs, and he is so handsome that whoever sees him thinks he is a virgin. Even

¹²⁸ www.cosmovisions.com

when he was among virgins, he did not realize that he was not a girl, because he had lost his voice when he was sings at the wedding ceremony of Dionysus and Ariadne, and it has become a tradition for his name to be mentioned and his songs to be sung at wedding celebrations in his memory¹²⁹.



Fig 118. God of marriage, mosaic of wedding of Thetis and Pele, Philippopolis, Syria, (Photo: Maher Jbace, 2012)



Fig 119. God of marriage, mosaic of wedding of Dionysus and Ariadne, Philippopolis, Syria, (Photo: Maher Jbace, 2012)



Fig 120. God of marriage, mosaic of wedding of Dionysus and Ariadne, Zeugma, Turkey, (Photo: Abadie-Reynal, C. 2002)

Mosaic of the wedding of Pelops and Hippodamia:

Among other scenes related to the stories of the marriage, we find a third Philippopolis mosaic with the myth of the marriage, that of Pelops and Hippodamia in three scenes depicted the stages of the myth within the central panel as a whole and separately in terms of the timing of the event. The scene of Pelops asking for the hand of Hippodamia from her father, King Oenomaus is in the lower left corner. While the scene of the chariot race of Pelops and Oenomaus over the entire area of the upper half of the central panel is shown in the presence of stableman, Myrtellus (Fig 121)



Second scene

¹²⁹ Ergec, R. ed. 2007, p. 46.



First scene



Third scene

Fig 121. Mosaic of the wedding of Pelops and Hippodamia, Philippopolis, Damascus Museum, Syria. (Photo: Maher Jbace 2012)

The third scene of the myth ends with the fulfillment of the prophecy and the marriage of Pelops to Hippodamia in the lower right corner.

From analyzing and comparing the mosaic, we find that the artist repeatedly wrote down the names of the characters in each scene to easily convey the idea of the legend with its stages, characters and relations.

Despite the simple drawing in depicting the characters especially of the second scene when King Oenomaus was fallen from the chariot, the mosaicist tried to show the third dimension by minimizing the measures of the characters in the scene to appear as if they were far away. He also succeeded in making the eyes and hand movements express attitudes and emotions, and he excelled in expressing the tragedy with the artistic movement element of the fast horses, and the separation of the wheel from the royal carriage and the death of King Oenomaus.

He succeeded in choosing the colors of the tesserae in which he paved the scene as a whole and distinguishing Hippodamia's dress in the third scene with different colors from that in the first scene to indicate that she was wearing the dress of married women. He also embodied the place where the race started and where it ended by depicting two towers for each of one are

three serrated heads. According to the legend, from the Temple of Zeus in Olympia was the start of the race, to Isthmus of Corinthia, the end of the race.

The legend of the chariot race between Pelops and Oenomaus was depicted in several sculptures. On the front of the eastern façade of the Temple of Zeus in Olympia, which dates back to the middle of the fifth century BC (Fig 122), where Zeus appears in the middle. On his right is Oenomaus and his wife, while on his left Pelops and Hippodamia are placed, and on both sides, we see the two racing chariots.



Fig 122. Statues of the eastern facade of the Temple of Zeus in Olympia, mid-fifth century BC, (Photo: www.cosmovisions.com)

But the example that is completely similar to this mosaic of ours, especially the second scene, which depicts the stages of the race, the fall of King Oenomaus from his chariot, and the victory of Pelops, is on the stone sarcophagus located in the Vatican Museum¹³⁰ (Fig 123), which dates back to the third century AD, where we see a prominent relief of Pelops winning the race and Oenomaus falling from his chariot. Here we note that the artist of the Philippopolis mosaic depicted the racing chariot with four horses, as it was depicted on ancient sarcophagi.



Fig 123. Sarcophagus, third century AD, Vatican Museum, (Photo: Maher Jbace by permission of the Vatican Museum, 2012)

¹³⁰ Jbace, M. 2023, pp. 124-125.

Topics related to Philosophical characters:

In the Philippopolis mosaic collection we find a mosaic that is not related a mythological story of a god or hero, but rather has symbolic content, the mosaic of Justice, Education, and Philosophy (Fig 124). It is one of the three mosaics discovered in the same house in addition to the Banquet mosaic and the mosaic of the wedding of Thetis and Pele. The researchers link them to each other in terms of the relationship with marriage. Our mosaic suggests the ideal raising of the children born from this marriage, teaching them, and raising them well. In the main scene a girl sitting on a chair in the middle of the hall and turning to the right as a sign of reception. The same movement and the same direction are repeated through two other figures standing on her left and right.

Each of the three women are wearing a long dress and a wide robe, with a cylinder shape basket contains scrolls of paper placed at the feet of the figure who embodies wisdom and philosophy. She turns her head towards her companions and the movement of her right hand is an indication of blessing.



Fig 124. Mosaic of Justice, Education, and Philosophy, end of 3rd century AD, Philippopolis, Syria, Museum of Damascus, (Photo: Maher Jbace, 2010)

The artist resorted to portrayed them wearing luxurious clothes like the clothes of great people, wise men, and distinguished figures. The scene was depicted as being in a luxurious reception hall with curtains that the artist designed behind the three figures. On this mosaic, there is an expression of happiness in having beautiful children and raising them leads to justice and philosophy, where the stylized forms of people that give everyone a certain pallor, the position of the head in a three-quarter, and the oblique direction of the looking in the image of the personification of Justice, and the succession of light and then dark colors in clothing are nothing but a pure feature of this art at the end of the third century AD. Through this study the author was able to reach specific conclusions about many of the characteristics that distinguished the mosaic collection of Philippopolis and Antioch and emphasizes the uniqueness of Philippopolis to produce some mosaic pavements with scenes not found in other locations. Such as the Glorification of the Earth that collected multiple topics from multiple models, the mosaic of surprise of Artemis in the bath, or the mosaics of the myth of Pelops and Hippodamia, which we did not see elsewhere on mosaic pavements, but in various models of other artistic genres.

We have to highlight on the mosaic of Justice, Education and Philosophy with deep philosophical content, and the high craftsmanship of the manufacturing techniques¹³¹ and its specialty in combination of mosaic materials (significant use of glass) also examined in the frame of this research.

¹³¹ Jbace M. 2023, pp. 125-126.

VI Chapter Two: Analytical study of mosaic implementation techniques in Philippopolis.

VI.1 Studying the paving techniques of Philippopolis (Shahbā) mosaic pavements and placing them within the general framework of the paving techniques known in the Roman era.

VI.1.1 The mosaics discovered at the site of al-Qabbānī house.

VI.1.2 The mosaics discovered in the Roman villa.

VI.1.3 The mosaics discovered at the site of al-Ḥarfūsh house.

VI.1.4 The mosaics discovered near the eastern gate and north of the great baths.

VI.2 The field works in 2014-2015 related to the previous and the crisis situation from 2011

VI.2.1 al-Qabbānī House.

VI.2.2 al-Ḥarfūsh House.

VI.2.3 Jādū al-Matnī House.

VI.3 An analytical study of the workshops that produced the Philippopolis mosaics based on comparative iconographic study and the field work.

VI.4 Analytical study of the nature of the tesserae used in paving Philippopolis (Shahbā) pavements.

VI.5 Analytical study of the materials used in the preparation of the preparatory layers in these mosaics, and their availability at the site.

VI.1 Studying the paving techniques of Philippopolis mosaic pavements and placing them within the general framework of the paving techniques known in the Roman era.

VI.1.1 The mosaics discovered at the site of al-Qabbānī house:

I previously mentioned that all the mosaic pavements discovered in Philippopolis are located in the residential area, which is located between the southern gate and the northern gate, on both sides of the Cardo Road heading from the Tetrapylon in the city center and towards the eastern gate.

In al-Qabbānī house, and through the excavations in 1925, in 1965, and 2014, four mosaic pavements were discovered in this site, pavements of rooms of a Roman villa.

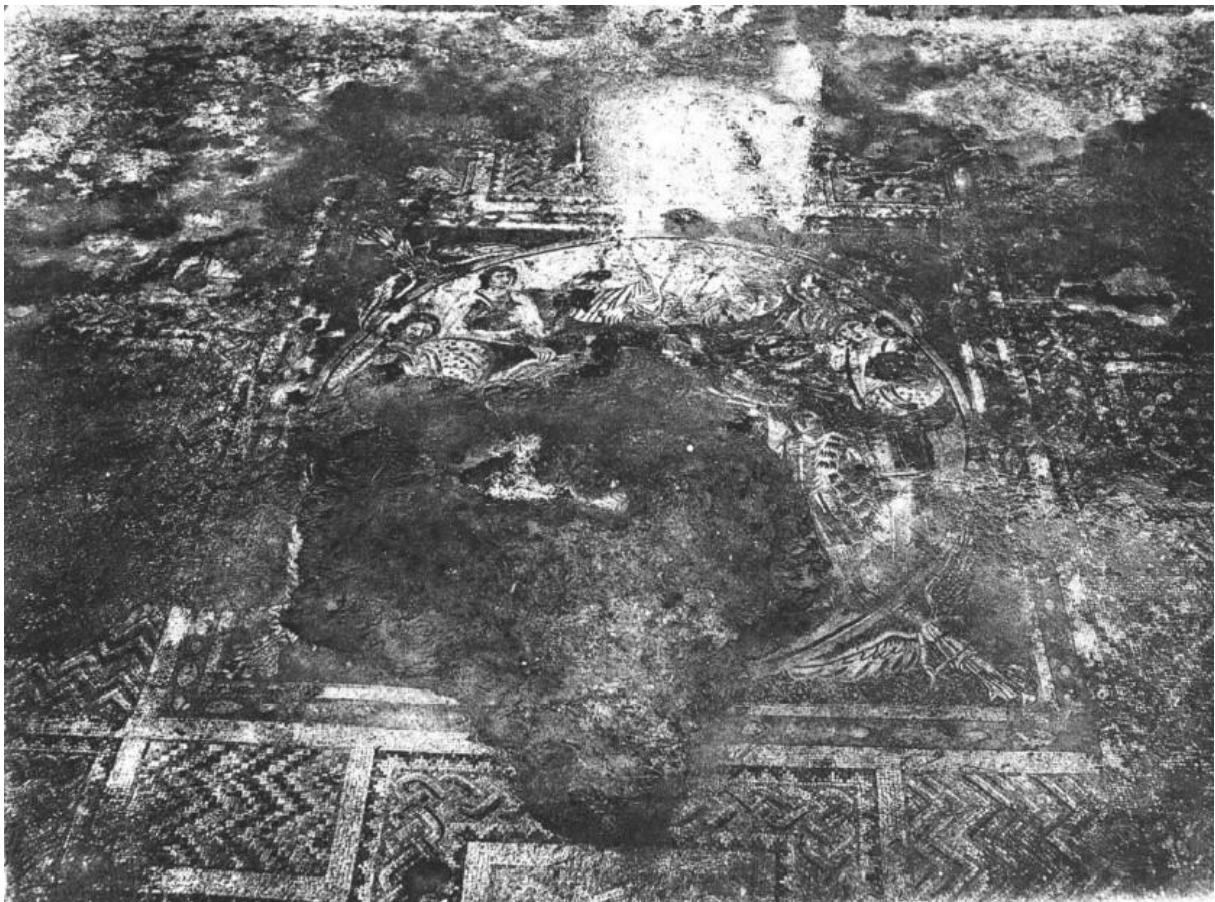


Fig 125. Mosaic of the Banquet, in situ view second half of the 3rd century AD, Philippopolis, Syria, (Photo: Dunand M. 1925. LXV III)

Through the excavations carried out by the French scientist Maurice Dunand in 1925 in the located area north of the Cardo Road which heading from the Tetrapylon towards the eastern gate, three pavements were discovered in a Roman villa: a mosaic of the Banquet (Fig 125. Fig 126), the mosaic of the Marriage of Thetis and Peleus (Fig 127. Fig 128), and the mosaic

of Justice, Education, and Philosophy¹³² (Fig 129. Fig 124), and these mosaics are displayed now in the National Museum of Damascus and the museum of the city of Swaydā'. The Banquet mosaic is stored in the warehouse of the latter. It is important to highlight on the similarity of the Banquet mosaic and the Triclinium mosaic in Palmyra (Fig 30) concerning the structure of the arrangement, motifs and colors of the framing sections. This observation can reveal a workshop connection between Philippopolis and Palmyra.

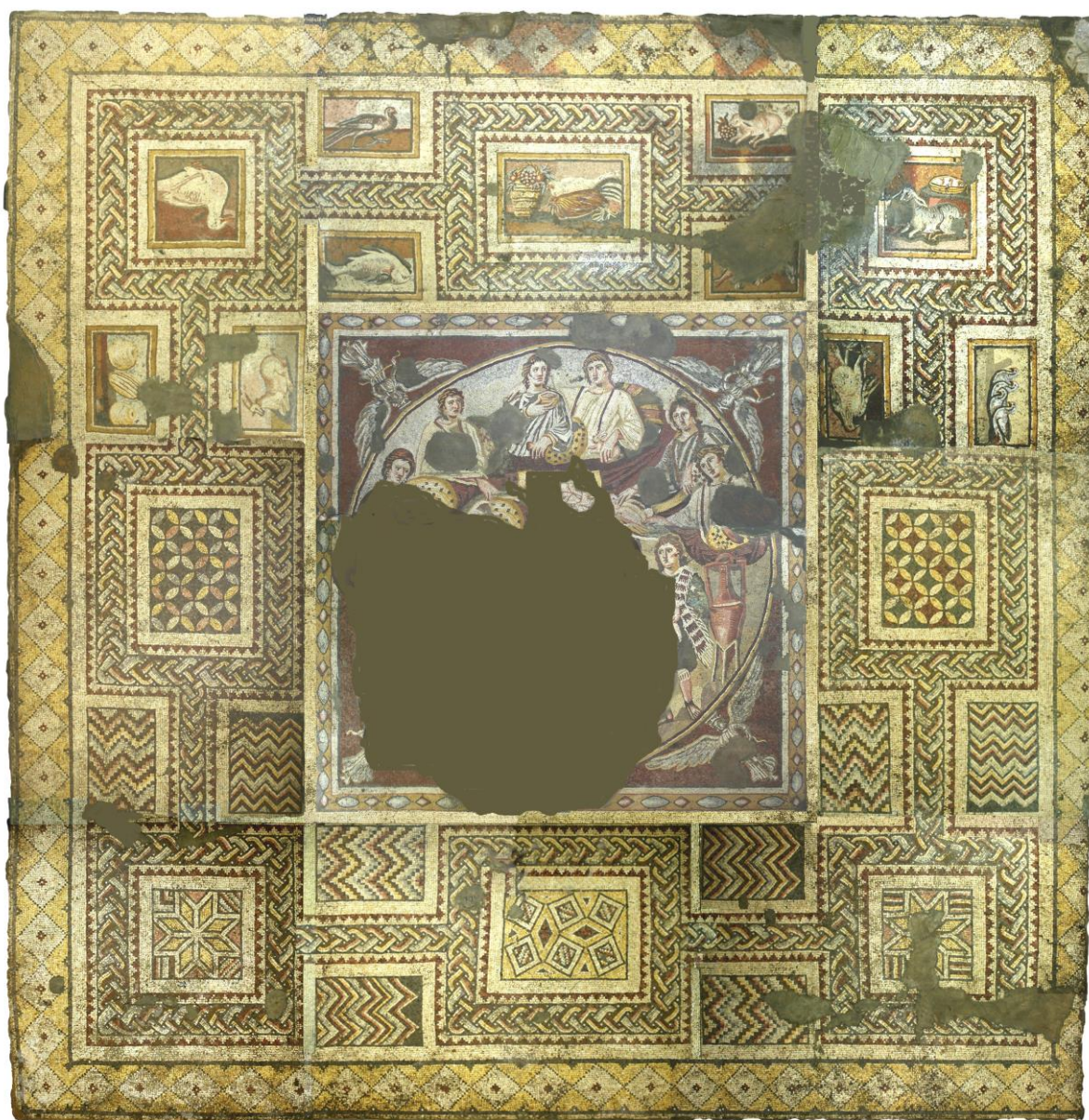


Fig 126. Mosaic of the Banquet, second half of the 3rd century AD, Philippopolis, Swaydā' Museum Warehouse, Syria, (Photo and process: Maher Jbaee, 2015)

¹³² Dunand M. 1925, pp. 295-296.



Fig 127. Mosaic of the Marriage of Thetis and Pelcus, in situ view second half of the 3rd century AD, Philippopolis, Syria, (Photo: Dunand M. 1925. LXV II)



Fig 128. Mosaic of the marriage of Thetis and Pelcus. 3rd century AD, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbace, 2012).

Mr. Dunand in his description of those mosaic pavements says “*All these mosaics form part of the same building, situated to the north of the Roman road which crosses Philippopolis from east to west, between the southern gate and the tetrapylon. These mosaics are the most beautiful that have yet been found in Syria.*”¹³³

¹³³ Dunand M. 1925, pp. 295- 296.

By studying the details of the mosaic scene depicting the wedding of Thetis and Peleus, we observed the difference between the scene at the time of discovery and the scene after restoration and display. It appears that many details were lost, either during lifting from the site or during restoration processes. These details and information were never documented, neither in reports nor photographs, where the discovery took place in 1925, and the mosaic was immediately restored and displayed in the Swaydā' Museum.

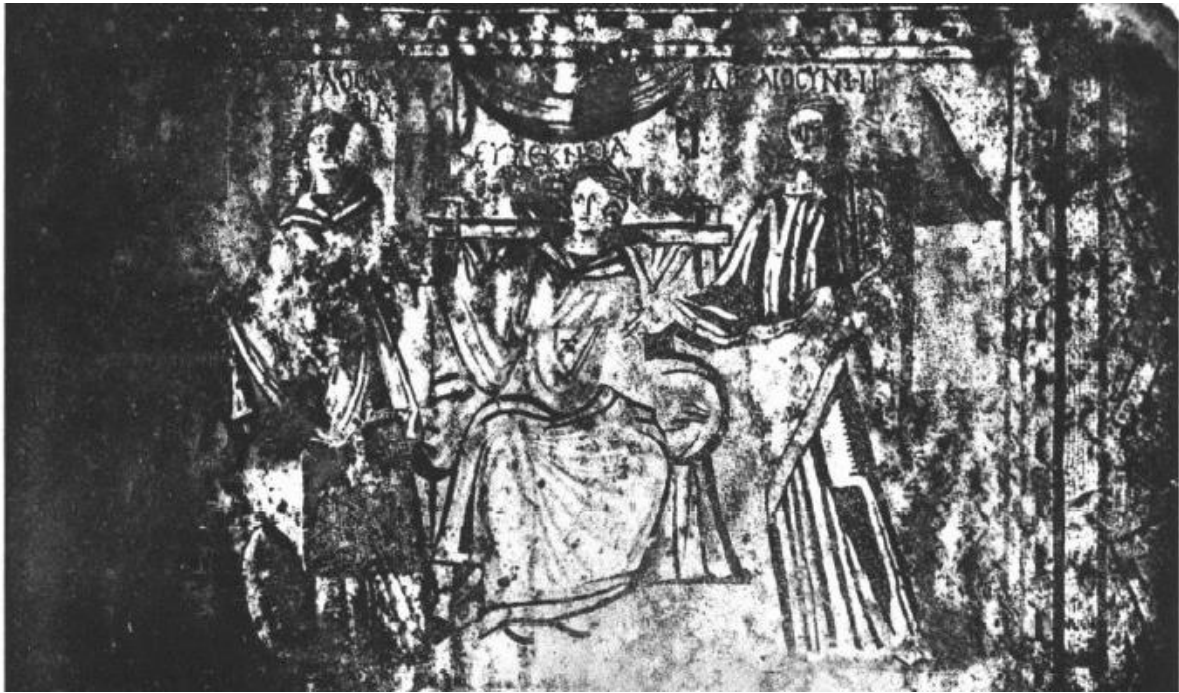


Fig 129. Mosaic of Justice, Education, and Philosophy, in-situ view second half of the 3rd century AD, Philippopolis, Syria, (Photo: Dunand M. 1925. LXV II)

Through my study of these mosaics, it became clear that the main scenes of these three mosaics were executed using Opus Vermiculatum type, and this technique was also used in the paving of small panels of fish and birds in the banquet mosaic. The frames surrounding these scenes were executed using the Opus Tessellatum type.

In 1965, parts of a mosaic pavement were discovered that represent small scenes surrounded by frames with adjacent geometric shapes, such as lozenges in different colors, and within these small panels are different types of birds or different types of masks used in the Roman tragedy. These parts have been lifted from the site, restored and now on display in Shahba City Museum (Fig 130).

These small panels were executed with Opus Vermiculatum type, while the surrounding geometric frames were created with Opus Tessellatum type.



Fig 130. Mosaic of the site of al-Qabbānī house, Philippiopolis, Shahbā Museum, Syria (Photo: Maher Jbace, 2012).

VI.1.2 The mosaics discovered in the Roman villa

Within the excavations that took place in 1963, a Roman villa was discovered, and within some rooms of this villa four wonderful mosaic pavements were found which, according to studies, were dated to the first quarter of the fourth century AD¹³⁴.

The General Directorate of Antiquities and Museums fully uncovered these mosaics, then preserved them in the site by the establishment of a museum over the part of the villa in which these mosaics were discovered and presented to visitors in-situ (Fig 131).



Fig 131. Museum of Shahbā, Syria, (Photo: Maher Jbace, 2012).

By studying these mosaics was showed that the workshop that carried out them followed a single system in the distribution of scenes within the architectural space in all rooms, where

¹³⁴ Balty, J. 1997, pp. 49-61.

the artist depicted the scenes in a central panel in the middle of the rooms, surrounded by a beautiful decorative frame of scenes of the hunter cupids, the four seasons, or the inhabited leafy plants by cupids and animals, or a geometrical frame with masks. The remaining space around the central panel was filled with light ochre tesserae without any decoration (Fig132).

The artist implemented these scenes in the central panel and the figural frames using Opus Vermiculatum type, while the remaining areas up to the walls were made according to the Opus Tessellatum type.

Through studies, the entrance to the section of the villa in which the four mosaic floors were discovered was not determined, but through the scenes depicted in these rooms, we found that the artist relied on directing the characters within the scenes in certain directions related to the doors leading to each room. Based on this hypothesis it must be a door of this section in the southern wall of the room that contains Orpheus mosaic because the direction of the Orpheus figure is towards the south. There must also be a door from the Orpheus room that leads to the room of Dionysus and Ariadne, depending on the direction of the figures in this mosaic. Then we can go further to the room of Tethys, and the plan is also showing the direction of the mosaic of Aphrodite and Ares through the door between the two rooms.

The dimensions of the central scene together with the figural frame are similar, between 2,65 cm and 3,15 cm.

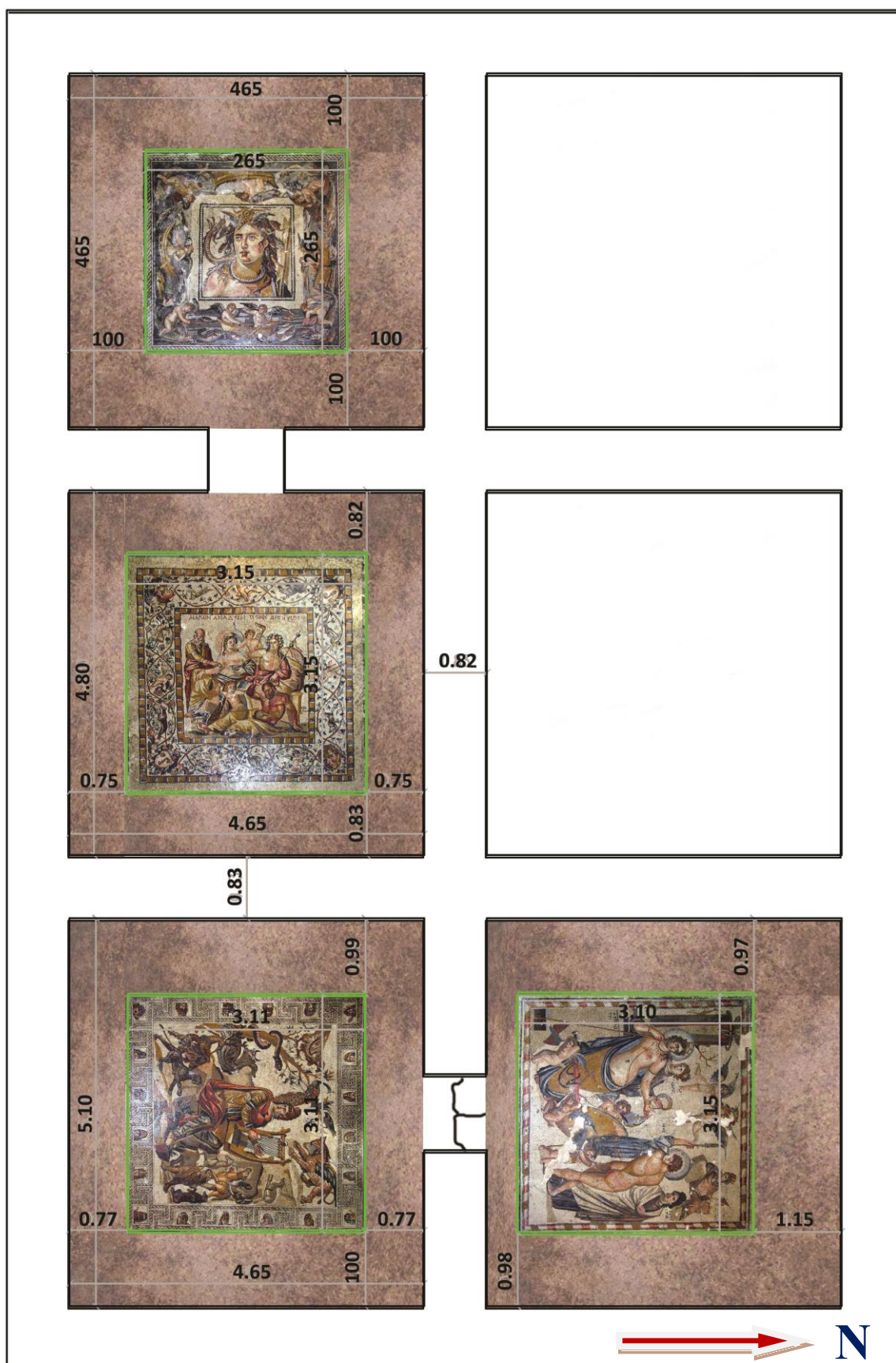


Fig132 . The Roman villa, the 1st quarter of the 4th century, Philippopolis, Syria

(Photo and graphic: Jbace, M. 2021).

VI.1.3 The mosaics discovered at the site of al-Ḥarfūsh house:

In the fifties of the last century and in 1979, many mosaic pavements were discovered at frequent intervals in several locations near the Great Baths in Philippopolis in the house of al-Ḥarfūsh east of Great Baths, We do not have any documents or reports showing the history of the discoveries or any information to relate these mosaics with their locations within the rooms, because these discoveries were by chance. The archaeological authorities have lifted the mosaics from the places of their discovery without any documentation, photographs or plans, then handing over the houses to their owners who changed some parts, thus the archaeological and architectural elements modified. That is why the information we only obtained was through the elderly men, who informed us that these discoveries were happened in different periods. I will talk about my work at the site al-Ḥarfūsh house, east of the Baths, in another part of the thesis.

The scenes depicted on those mosaics have a mythical content and have been dated within the previous studies and publications by researchers to two periods, the mid-third century AD and the second half of the third century AD. Only the upper frame of mosaic Gaia Plutus and the giveaways of the Four Seasons was dated for the first quarter of the fourth century AD¹³⁵.

The first mosaic is the god Bacchus drunk, now exhibited in the Shahbā City Museum, dated to the middle of the third century AD (Fig 133)



Fig 133. Mosaic of drunk Bacchus, Philippopolis, Shahbā Museum, Syria, (Photo: Maher Jbace, 2010)

¹³⁵ Balty, J. 1997, pp. 49-61.

where the main scene on this mosaic showing the god Bacchus drunk leaned on his scepter by his left hand and raises a cup of wine in his right hand. On his right we can see the god Pan, and at his feet a Panther.

The artist realized this scene using Opus Vermiculatum type, while the surrounding frames and the remaining space of light tone tesserae were performed by Opus Tessellatum type.

The second mosaic was discovered in 1979, it is dated to the second half of the third century AD¹³⁶, showing the marriage of the hero Pelops to Hippodamia, and the victory of Pelops with the helping of Martellus, who is the Oenomaus's charioteer, and the death of king Oenomaus falling in the chariot race (Fig 134). The whole mosaic, the main scene and the surrounding frame was realized by Opus Tessellatum type.



Fig 134. Mosaic of Pelops and Hippodamia, Philippopolis, Damascus Museum, Syria, (Photo: Maher Jbace, 2012)

¹³⁶ Balty, J. 1997, pp. 49-61.

The third mosaic discovered at the site was the Three Graces mosaic, which was dated to the second half of the third century AD¹³⁷, the artist depicted the scene of the Three Graces in the center as pseudo-emblema, surrounded by a geometric frame of three-dimensional boxes. On both sides six half figures were placed, marked by Greek writings next to each character. The three busts in each side have the same orientation. The whole composition is framed by twisted ribbon motif (Fig 135).



Fig 135. Three Graces mosaic, Philippopolis, Shahbā museum, Syria, (Photo: Maher Jbace, 2012).

The figures in the corners depicted the Four Seasons in the form of busts of young men with horns sticking out of their heads, two of them winged. Between these characters we see the goddess of joy and pleasure and the goddess of dawn. On this mosaic too, we find that the artist used only one type, Opus Tessellatum, in paving out the figures, the surrounding frames, and the remaining parts paved with light monochrome tesserae.

¹³⁷ Balty, J. 1997, pp. 49-61.



Fig 136. Mosaic of Tethys, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbacc, 2012).

The fourth mosaic was also discovered near the Great Baths is the mosaic of Tethys (the goddess of the sea), and it was dated to the second half of the third century AD¹³⁸, where the scene depicted the goddess Tethys with her symbols, the paddle, and a sea serpent with a dragon's head. The artist depicted the goddess within a medallion in the middle of the scene, it framed by a plait distributed in the middle and edges of the scene (Fig 136), and within the four corners, there are four hunter Cupids riding Tritons and mythical sea creatures. The artist depicted the goddess Tethys, the hunter Cupids, dolphins, and marine animals using Opus Vermiculatum, while the white background and plait in the center and the surrounding area paved by Opus Tessellatum type.

The final mosaic is Gaia, Plutus and the giveaways of Four Seasons. This mosaic was dated to the middle of the third century AD (Fig. 69), while the upper frame is slightly different and it was suggested by Balty that this frame was restored in the first quarter of the fourth century AD (Fig 137) because this frame is similar to the frame of the mosaic of Constantine villa in Antioch which dated to this period¹³⁹.

¹³⁸ Balty, J. 1997, pp. 49-61.

¹³⁹ Balty, J. 1997, pp. 49-61.



Detail from the lower edge of the frame of the Gaia, Plutus mosaic and the giveaways of the Four Seasons



Detail from the upper edge of the frame of the Gaia, Plutus mosaic and the giveaways of the Four Seasons



Detail of the frame within the mosaic of the Villa of Constantine, Antioch

Fig 137. Details of frames of the mosaic of Gaia, Plutus and the giveaways of the Four Seasons, Philippopolis, Swaydā' Museum, Syria (Photo: Maher Jbace, 2012) and the frame surrounding the mosaic of the Villa of Constantine, Antioch, (Photo: Cimok, F. 2000, p. 203).

In this mosaic, the artist depicted the god of the Earth, Gaia in the lower left part of the main scene, and in front of her are her children who embody the four seasons, while in the middle part of the scene we can see the god Dionysus and his wife Ariadne behind a three legged table, the so called *mensa delphica*, and next to Ariadne a young man carries a plate full of fruit, while we see next to Dionysus the god of Wealth, Plutus. On the top of the scene a beautiful curtain is visible.

The scene is surrounded by a delicate wide frame against a black background, composed of wrapped acanthus leaves inhabited by Cupids armed with different weapons, and different wild animals, while in the four corners the four seasons are represented in the form of human heads. It seems clear the difference in the formation of acanthus leaves in the upper frame rather resembles to ostrich feathers.

In this mosaic, the artist has executed the entire main scene using Opus Vermiculatum type, while the outer remains of the light monochrome area were executed using Opus Tessellatum type.

VI.1.4 The mosaics discovered near the eastern gate and north of the Great Baths

The excavations that took place in the early 1950s near the eastern gate brought to light a mosaic pavement that is unparalleled in all sites of the Roman world, in terms of the number of figures represented on this mosaic and, regarding the relation of them together give a unique and symbolic philosophical idea. This mosaic dated to the mid-3rd century AD. The figures of this mosaic personify the glorification of the Earth, through the goddess of the Earth and her four children, the goddess of agriculture in the middle, the god of time on the right side, and the personalities associated with the latter such as the four seasons and the gods of the winds, and his connection with the Earth through the time cycle of life. In addition to other figures associated to the Earth also on the left side, such as Prometheus, the creator of the first human being, forming a clay statue in front of him, behind him god Hermes holds Psyche, the goddess of the soul and other personalities attend the creation of the first human (Fig 138). The Greek names of the characters are indicated with black tesserae near each of them. The artist executed the main scene, which is a pseudo-emblema, using Opus Vermiculatum type, while the surrounding frames, a three-dimensional labyrinth motif against a black background, and the outermost light tone area of the pavement were created using Opus Tessellatum type.



Fig 138. Mosaic of glorification of the earth, Mid-third century AD, Philippopolis, Syria, Museum of Damascus, (Photo: Maher Jbace, 2012)

The first mosaic discovered north of the great baths depicted the story of the surprise of the hunter's Actaeon to the goddess Artemis while she was bathing. This mosaic was dated to the middle of the third century AD¹⁴⁰ (Fig 139). The artist used Opus Vermiculatum type on the entire main scene and the surrounding decorative frames, while we can see remains of whitish tesserae on the edges of the outermost frame, which confirm that the artist used the same way, paving the main scenes in the center of the room and leaving large areas around the framed scene of only white tesserae by using the Opus Tessellatum type.



Fig 139. Mosaic of Artemis, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbace, 2012).

¹⁴⁰ Balty, J. 1997, pp. 49-61.

The second mosaic depicted the birth of the goddess Venus in a shell carried by two centaurs in the sea full of fish. This mosaic is dated to the middle of the third century AD¹⁴¹, the artist used the Opus Vermiculatum type in the main scene to embody this scene, while he used the Opus Tessellatum type in the frame. (Fig 140)



Fig 140. Mosaic of Venus, Philippopolis, Swaydā' museum, Syria, (Photo: Maher Jbaee, 2012).

VI.2 The field works in 2014-2015: related to the previous and the crisis situation from 2011

The mosaic pavements discovered in the city of Philippopolis are distributed in three museums in Syria.

The mosaics that were discovered in 1925 had been restored and displayed in a museum that was established in the city of Swaydā' during the period of the French occupation.

After the expansion of the National Museum of Damascus, some mosaic pavements were transferred to it to be a museum inclusive of all archaeological artifacts from all regions of Syria, and among of those mosaics there are three mosaic pavements discovered in the city of Philippopolis.

¹⁴¹ Balty, J. 1997, pp. 49-61.

In 1963, the Museum of the City of Shahbā (Philippopolis) was established, where it included the mosaic pavements discovered in the Roman villa next to the great baths in the city, which still in their original location. Then, other pavements were discovered later in the city of Philippopolis were displayed in the museum.

Now the mosaics discovered in Philippopolis are displayed as follows¹⁴²:

- **Shahbā City Museum**, where the following mosaics are displayed:

Mosaic of Tethys (the goddess of the sea), Mosaic of the wedding of Dionysus and Ariadne, Mosaic of Orpheus, Mosaic of Aphrodite and Ares, which are still in their original locations, in addition to the Three Graces Mosaic, parts of the mosaic of the House of al-Qabbānī and the Mosaic of the drunken Dionysus, which were restored on a concrete support.

- **Swaydā' Museum**, where the following mosaic are displayed:

all of which have been restored on a concrete support and displayed on the walls of the main hall of the museum:

Mosaic of Artemis – Mosaic of the birth of Venus - Mosaic of Tethys (the goddess of the sea) - Mosaic of the Marriage of Thetis and Pélee and mosaic of the Gaia, Plutus and the giveaways of the Four Seasons, while in the museum warehouse there is the pavement of the Banquet mosaic, which has been restored on a concrete support and is not yet displayed.

- **Damascus National Museum**, where the following mosaics are displayed:

Mosaic of Glorification of the Earth - Mosaic of Justice, Education and Philosophy and Mosaic of Pelops and Hippodamia, restored on a concrete support and displayed on the walls of the halls of the Classical Department of the Museum.

- **The strategy of the Directorate General of Antiquities and Museums DGAM to preserve the Philippopolis mosaics during the crisis**

During the crisis that began in 2011 in Syria, the Syrian archeological authority closed all museums in Syria to protect the artifacts displayed within them from theft and destruction and took various methods to protect these pieces. For example, all entrances in the Damascus National Museum were closed with strong metal doors that could not be opened or destroyed.

¹⁴² See the Table 1

In 2015 the National Museum of Damascus was reopened, and the mosaics discovered in Philippopolis are again on display.

While the artifacts in the Swaydā' City Museum were preserved in a different way, and among the works of protecting the mosaics displayed on the walls of the main showroom, I prepared a project for preserving them which was successfully implemented by the Engineering Department of the Swaydā' Museum. The mosaics were saved by hiding them behind newly built walls. The mosaics were isolated within the walls to protect them from any damage, then the new walls were made to be similar to the other walls of the hall and to appear as the walls of the main hall (Fig 141).



Fig 141. Preserving the mosaics displayed in the museum during crises, Swaydā' Museum, Syria, (Photo: Amal Zein Aldien, 2015)

While the mosaic pavements in Shahbā Museum, which are displayed mainly in situ within the floors of the rooms of the Roman villa, were protected by covering them with a thick insulation layer of sand, and then a layer of cement to appear as the floors of the main rooms in the museum (Fig 142). This work was led by the author.



Fig 142. Preserving the mosaics displayed in the museum during crises, Shahbā Museum, Syria, (Photo: Amal Zein Aldien, 2015)

Unfortunately, against all our expectation, the ShahbA Museum mosaics are still (in 2023) under covering because of the continuous risky situation.

VI.2.1 al-Qabbānī House:

In 2014, the General Directorate of Antiquities and Museums in Damascus was informed that a person called (Ibrāhīm al-Qabbānī) from the city of Philippopolis had found parts of a mosaic pavement in one of his house, and accordingly, an archaeological mission was formed to unearth the mosaic, and conduct systematic excavations at the site and a full study of it to get more information about the site divisions and its former function.

Initial information showed that the discovered mosaic pavement is located within a building in the north of the house in which the mosaic pavements were discovered by the French scholar Maurice Dunand in 1925, and in the same site where the mosaic pavement was discovered in 1965, then it was removed from the site, restored and displayed in Shahbā Museum.



Fig 143. Consolidation and documentation work for the mosaic of the al-Qabbānī House, Philippopolis, Syria, (Photo: Maher Jbaee, 2014).

By studying the newly discovered parts and linking them with the parts discovered in 1965, it became clear that they were in their entirety one mosaic covered the floor of one hall with dimensions 11.5 x 5.5 m. The locations of the fragmentary parts discovered in 1965 within the discovered mosaic pavement in 2014 were not determined, but the results gave us a preliminary idea of the plan and pavement design (Fig 143). The scenes did not differ on the entire mosaic, which is geometric decoration of lozenges with opposite heads forming between them rectangles which contain human heads in the form of masks and different types of birds (peacock - duck - pigeon), while the artist paved the entire space along the eastern wall of the hall with a scene consisting of a repetition of 50 cm wide octagons. Their borders

are executed with black tesserae against white background, and inside each octagon a small square shape is visible¹⁴³ (Fig 144).



Fig 144. Parts of the mosaic of the al-Qabbānī House discovered in 2014, Philippopolis, Syria, (Photo: Maher Jbace, 2014).

The walls of the hall are the main walls on three sides at a height of approximately 75 cm, as evidenced by the presence of the remains of wall paintings, the first of their kind in the city of Philippopolis (Fig 145). While the northern wall is new due to the presence of some parts of the mosaic under the wall.

We found that there is an entrance to this hall in the western wall leading to a corridor with a width of 250 cm. Two other entrances were detected within the southern wall due to the presence of parts of the mosaic under the wall at each entrance together with the presence of some fragments of wall paintings preserved on the stones of the entrance. These observations indicate the relation of this hall with the southern building where the parts of the mosaic pavement were discovered in it in 1925 in the southern part of the hall.

- ¹⁴³ Nofal, O. and Jbace, M. 2014



Fig 145. Parts of wall paintings, the first of their kind in the city of Philippopolis, al-Qabbānī House, Philippopolis, Syria, (Photo: Maher Jbaee, 2014).

Based on the results of the in-situ work, we performed archaeological probes behind the southern wall of the hall in the house where the mosaics were discovered in 1925 by Maurice Dunand. These soundings showed the presence of the remaining preparation layers of the mosaic pavements, and the remains of parts with white tesserae on the parallels of the 250 cm wide corridor on the west of the hall.



Fig 146. Mosaic cubes and foundation layers that appeared by archaeological soundings behind the southern wall of the mosaic hall, al-Qabbānī House, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

These findings indicate that this corridor was decorated by a mosaic with white tesserae, or a mosaic with monochrome edges (Fig 146). Other searches elsewhere in this house did not show us any clues to the location of the mosaic pavements that were unearthed in 1925.

Later excavations in al-Qabbānī house in the northern courtyard to the west and north, revealed the layers of preparation for mosaic paving (Fig 147), which means the extensions of the mosaic.

One of the results of the excavations in that area of al-Qabbānī house was also the finding of white stones the size of a fist, circular, oval, or polygonal, the dimensions or diameter of them do not exceed 10-12 cm, spread out on the surface of an earthen floor interspersed with some pink or orange stones¹⁴⁴ (Fig 148). The presence of these stones of a calcareous nature in this house within the city of Philippopolis, in which there are only basalt stones, allowed us to suggest that they are from a group of limestone that were brought by the workshop to be used for the manufacture of tesserae used in the production of mosaic pavements in this house - Of course, we found nothing to confirm this hypothesis, whether it was small pieces or a tesserae of the same nature as these white stones, or a place designated for cutting stones.

On the other hand, these stones are also appropriate as raw material for produce lime used as binder in the mortars both for the foundation layers of the mosaic pavement and for the rendering layers of the wall paintings.



Fig 147. Foundation layers for extensions of the hall mosaic pavement, al-Qabbānī House, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

¹⁴⁴Nofal, O. and Jbacc, M. 2014



Fig 148. White stones on an earthen floor, al-Qabbānī House, Philippiopolis, Syria, (Photo: Osama Nofal, 2014)



Fig 149. Parts of wall paintings that found in the west room, the first of their kind in the city of Philippiopolis, al-Qabbānī House, Philippiopolis, Syria (Photo: Maher Jbace, 2014).

To the west of the hall of the mosaic is a room with dimensions 420 x 480 cm, in which parts of wall paintings were found on the western wall, sometimes up to 30 cm high, and their colors were like white marble accompanied with black or red (Fig 149. Fig 150).



Fig 150. Parts of wall paintings that found in the west room, the first of their kind in the city of Philippopolis, al-Qabbānī House, Philippopolis, Syria, (Photo: Maher Jbace, 2014).

In the second season of work on the site, the excavations showed the presence of other rooms on the northern side. Fallen fragments of wall paintings were found on the floor of one of these rooms (Fig 151), where it was preserved and lifted from the site (Fig 152).¹⁴⁵ Also we found mosaic tesserae and foundation layers, evidence that they were paved with mosaics. There was a difference in the foundation layers level between the eastern and western sides, which forced the mosaicists to make two lime mortar layers in the southeastern corner of the room separated by a layer of black volcanic gravel¹⁴⁶.

¹⁴⁵ There are no previous references that talked about the discovery of remains of wall paintings in the city of Philippopolis.

¹⁴⁶ Nofal, O. and Jbace, M. 2014



Fig 151. Fallen fragments of wall paintings found on the floor of the west north room, al-Qabbānī House, Philippopolis, Syria, (Photo: Osama Nofal, 2014).



Fig 152. Fallen fragments of wall paintings found on the floor of the west north room, al-Qabbānī House, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

It should be noted that, in this same room, colored stones in red and yellow-ochre colors were found that were apparently used in the coloring of the wall paintings (Fig 153).



Fig 153. Coloured stones that were used in the colouring of the wall paintings, al-Qabbānī House, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

The data provided by the excavations in the house of al-Qabbānī showed that this house and the house in which the mosaic pavements were found in 1925 are together an integrated Roman villa. The revealed architectural ground plan reflects an example for one of the luxurious Roman villas, but the nature and function of the rooms that appeared on the north and northwest side are not known. Subsequent excavations and upcoming studies of the archaeological site and the architectural plan may answer many questions.

The technique used in the implementation of the mosaic discovered in the hall of al-Qabbānī house characterized by the use of small and thin tesserae, where the artist used the Opus Vermiculatum typology to pave the small scenes decorated with birds and human heads similar to masks, while he used the Opus Tessellatum typology to execute the geometric motifs and the side frames.

According to researcher and colleague Osama Nofal, the field manager of the excavation team at the site, the excavations that were carried out at the site of al-Qabbānī house provided some of scientific results that focused mainly about the ancient architectural plan of the house.

Through the parts of the mosaic pavement that covered the floor of the hall, we were able to reach, in a comparative way, the sections and functions of the rooms and the courtyards that surrounded them.

The architectural plan is one of the models of the plans of luxurious Roman houses or villas that appeared in each of the cities of Rome and Pompeii, which is known as *Domus Romaine*, which consists of two courtyards, one of which is used to collect water and is known as the Atrium, followed by a reception hall known as Tablinum, and on one side of the reception hall there is a corridor known as Andron, which allows passage between the Atrium courtyard and the second courtyard known as Peristylum, which is a colonnaded courtyard, roofed portico, and a floor tiled with mosaics¹⁴⁷.

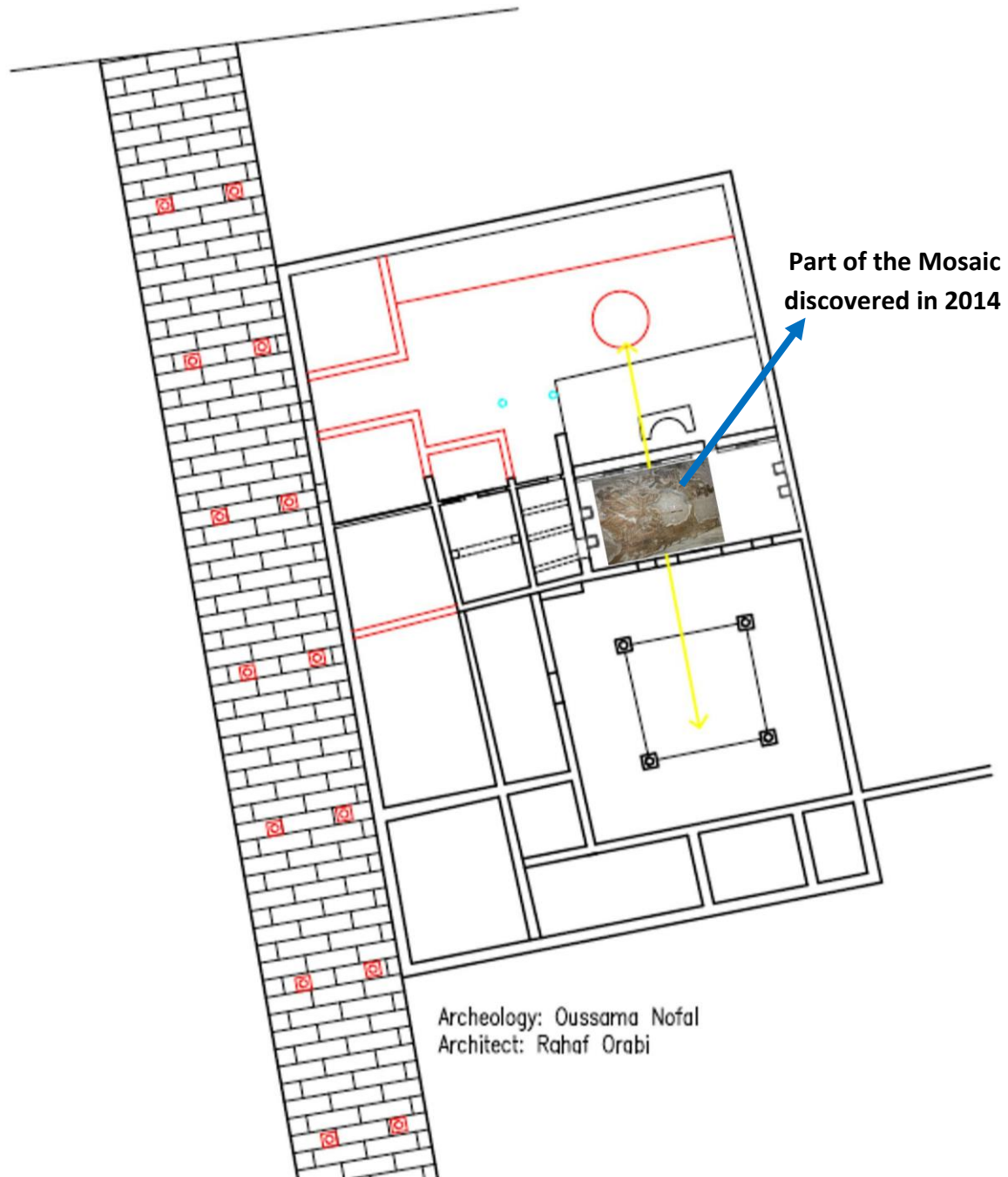
The rooms are scattered on both sides of the courtyards and comprise of living and sleeping rooms, while one of the rooms overlooking the Peristylum is dedicated to the dining area and is known as the Triclinium.

This detail of the plan of the ancient Roman house corresponds to the data of the excavations that appeared in the house of al-Qabbānī, whereby the comparison it can be assumed that the mosaic hall is commensurate with the Tablinum hall in terms of its direction with the two courtyards, Triclinium and Peristylum courtyard¹⁴⁸.

It can also be assumed that the Banquet mosaic covered the floor of the dining hall (Triclinium). This idea allows us, through archaeological and architectural data, to consider the architectural plan is correspond with the model of *Domus Romaine* (Plan 3).

¹⁴⁷ Nofal, O. and Jbace, M. 2014

¹⁴⁸ Nofal, O. and Jbace, M.



Plan 3. Plan of the discovered Roman house at the site of al-Qabbānī house, Philippopolis, Syria, (Plan: Rahaf Orabi)

VI.2.2 al-Ḥarfūsh house:

In April 2014, an archaeological mission was formed to carry out simple excavations in one of the rooms of the house of al-Ḥarfūsh, west of the Great Baths in the city of Philippopolis, as previous information indicates that many mosaic pavements were lifted from this house in the middle of the last century and in 1979. The excavations have been shown the presence of

parts of a mosaic pavement made of white tesserae along the northern and western walls of a room measuring 8.5×7.5 m (Fig 154).



Fig 154. Remains of a mosaic pavement in the house of al-Ḥarfūsh, Philippopolis, Syria (Photo: Osama Nofal, 2014).

The width of the parts adjacent to the northern wall was about 150 cm and the width of the parts adjacent to the western wall was about 100 cm.

Also, we found some separate parts of the mosaic pavement with tesserae of white and black colors with sizes 1-1.2 mm (Fig 155), which are parts of the frame of one of the mosaics that were previously discovered in the same room¹⁴⁹.

¹⁴⁹ Nofal O. and Jbace, M. 2014



Fig 155. Separate fragments of the mosaic pavement, al-Ḥarfūsh, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

The excavations in al-Ḥarfūsh house showed us the architectural elements that date back to the Roman period, as it appeared through the two preparation layers of wall paintings that covered the exposed part of the northern and western walls, at a height that sometimes exceeded 55 cm (Fig 156).



Fig 156. Remnants of layers of preparation of wall paintings, al-Ḥarfūsh, Philippopolis, Syria, (Photo: Osama Nofal, 2014).



Fig 157. The stone pillar formed from a pyramidal base, al-Ḥarfūsh, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

In the middle of the western wall, the remains of a stone pillar formed from a pyramidal base, topped by two rows of elaborately carved stones, where the height of each stone was approximately 30 cm. It was noted that there are remains of preparation layers of wall paintings (Fig 157). Also through the sondage that we made in the southeast corner of the room, remains of an extension of a Roman wall have appeared, some parts of it still contain lime-based preparation layers remained of former wall paintings extended towards the next room, which is located to the east (Fig 158)¹⁵⁰.

The results of the excavations that took place in the house of al-Ḥarfūsh confirmed the previous, non-archived information about the discovery of several mosaic pavements in this house in the middle of the last century, but unfortunately, we were not able to expand the excavations in other rooms.

We could not determine the mosaic that was originally in this room, but the dimensions of the room are 8.5×7.5 m, and the presence of remnants of the white tesserae of the mosaic pavement along the north and west walls give us the opportunity to confirm the presence of a mosaic pavement with the same dimensions of the room.

¹⁵⁰ Nofal O. and Jbace, M. 2014



Fig 158. Remains of an extension of a Roman wall in the southeast corner of the room, al-Ḥarfūsh, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

The inner borders of the remnants of the white tesserae confirm the using of the same style of design as the workshops that worked in the city of Philippopolis applied by depicting the main scene in the middle and leaving a wide, light tone, monochrome area of up to the walls.

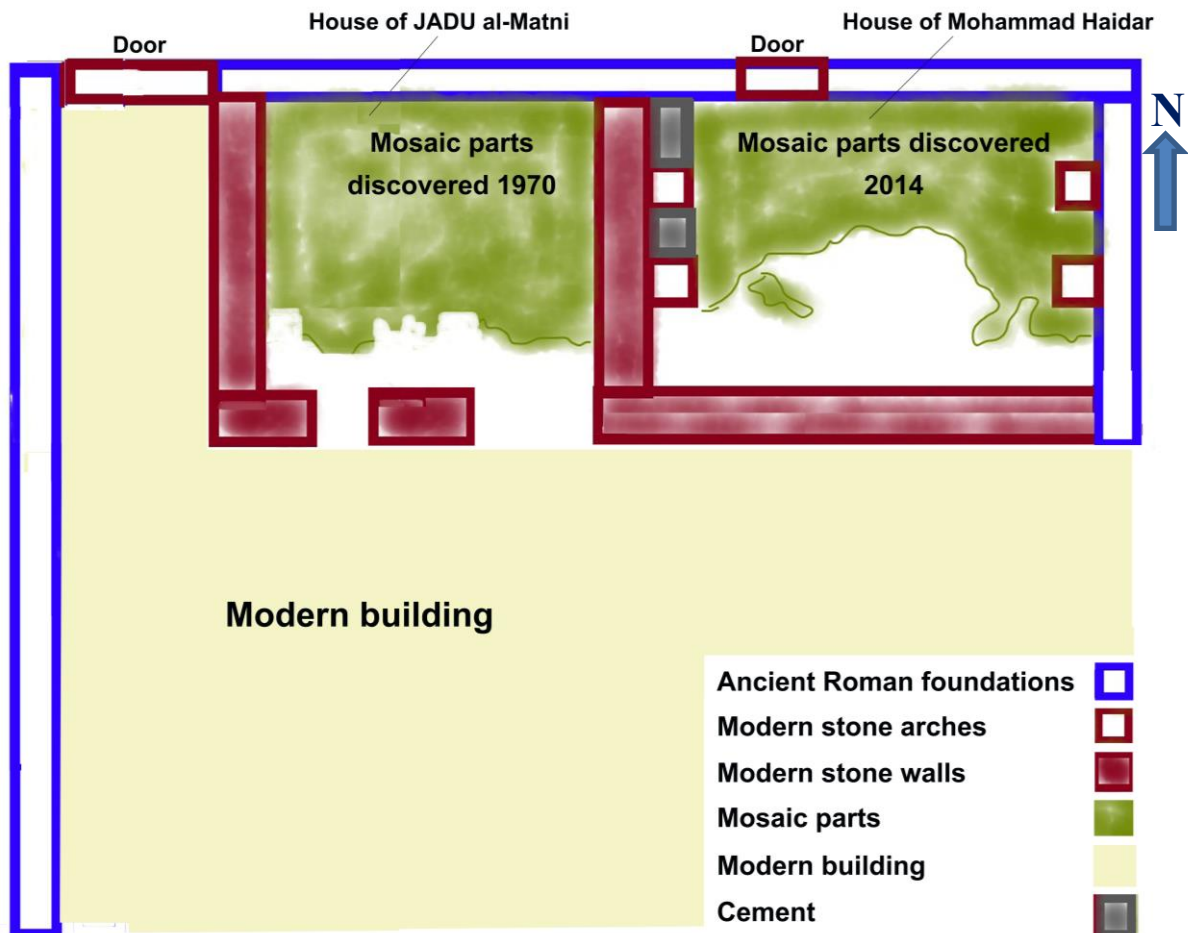
VI.2.3 Jādū al-Matnī House:

In 2014, as the head of the mosaic conservation laboratory at the General Directorate of Antiquities and Museums in Syria, I extracted a mosaic that had been stored in the warehouse since 1970 and had not been restored previously.

Through one document that we found in the Archives of the Mosaic Conservation Laboratory¹⁵¹, which shows the ground plan of the room where the mosaics were discovered in Jādū al-Matnī house in the city of Philippopolis in 1970 we recognized that the mosaic stored in the warehouse has further parts remained in the original site. Accordingly, we asked the General Directorate of Antiquities and Museums to survey the site to obtain some information, and surprisingly we discovered the remaining parts of the mosaic in another house next to Jādū al-Matnī house.

¹⁵¹ Archives of Mosaic Conservation Laboratory, 1970, DGAM, Syria.

Accordingly, an archaeological mission was formed to uncover and lift the remaining parts of the mosaic from the site to be later combined with the parts lifted in 1970. After uncovering the mosaic we lifted and preserved it in the warehouse to be restored together with the firstly discovered parts.



Plan 4. Plan showing the rooms where the mosaics were discovered in the Jādū al-Matnī house and the house next to it, based on an ancient document, Philippopolis, Syria, (Graphic: Maher Al-Jabai, 2024)

Through the discovering, it became clear to us that in 1970, parts of a mosaic were removed from a room in a house owned by Mr. Jādū al-Matnī, as a new building was going to be constructed on that site. The extensions of the mosaic parts extended under the wall separating Jādū al-Matnī's house and a room to the east owned by a person named Muhammad Haidar.

Accordingly, the parts discovered in Jādū al-Matnī's room were removed only, and the wall separating the two rooms was reinforced with cement to prevent the wall from collapsing. Indeed, during the discovering, we saw the new building in the eastern and southern sides of the room in which we found the rest of the parts of the mosaic in 2014 (Fig 160).

The surprise was that after the mosaic was lifted out, we discovered parts of a mosaic of large white tesserae 1.5 -2 cm interspersed with some grey and orange tesserae. These parts were near the eastern and northern walls of the room, while the main scene was missing. (Fig 161)



Fig159 . Lifting the mosaics of Jādū al-Matnī House, Philippopolis, Syria (Photo: Maher Jbacc, 2014).



Fig 160. The new building in the eastern and southern sides of the room in which we found the rest of the parts of the mosaic in 2014, Philippopolis, Syria, (photo, Osama Nofal, 2014).

We documented the site and drew a section for the sequence of the foundation layers of the upper and those of the lower mosaic and sampled these foundation layers for further study. Then the site was reburied.

The presence of the lower mosaic clearly showed that the site was used in an earlier period, and the loss main scene may have been reused in paving the upper mosaic¹⁵².

¹⁵² Nofal, O. and Jbacc, M. 2014



Fig 161. The lower mosaic with large cubes, Jādū al-Matnī house, Philippopolis, Syria, (Photo: Maher Jbace, 2014)

We were unable to find the architectural elements of the original building because of its destruction during the construction of the new building in the place where the parts were discovered in 1970. The only visible structure of the original wall of the building which coinciding with the period of mosaic implementation was on the north and east side of the room, where the evidence that the mosaic ended along the two mentioned walls, while the further extension of the mosaic appears clearly under the western wall and the arches. (Fig 162).



Fig 162. Details showing the final borders of the mosaic near or under the walls, Jādū al-Matnī house, Philippopolis, Syria, (Photo: Maher Jbace, 2014)

Through the discovering, it was also found that the southern wall of the room is a modern wall, and there are extensions of the mosaic towards the south. This assumption was confirmed by the presence of remains of stone tesserae from the mosaic extending under the bottom of this wall (Fig 162).

The scenes of the mosaic lifted in 1970 are a central circle with a diameter of approximately three meters, its frame is, according to the index of drawings for the geometric decorations of the Roman mosaics, *polychrome unrolled ribbon forming spaced circles*¹⁵³. In the center of the circle there is other small circle with a diameter of about one meter, and the shape in the middle of it is unknown because it is now under the wall separating the room that in which we found the mosaic parts in 2014, and the room in which the first mosaic parts were discovered in 1970, and this wall is part of a populated house.

The space that separates the two circles represents the shield of the goddess Athena which normally surrounding the scene of head of Medusa is an intertwined decoration in different shapes and colors that appear overlapping each other, and the difference in the contrast of colors in each one gives an elaborate design to mix colors. According to the graphic index of the geometric decorations of the Roman mosaics, this pattern named *"pattern forming shield of adjacent scales in counterchanged colors, with identically parti colored scales forming rows"*¹⁵⁴ (Fig 163).

Surrounding the large circle is a square-shaped frame, it is polychrome row of tangent inverted juxtaposed bells forming an undulating line, with each bell horizontally shaded the colors were counterchanged, and the undulating line outlined in white¹⁵⁵.

In the four corners we can see jars facing towards the middle, two of which are still present, one in the form of an amphora and the other in the form of an elongated jar.

¹⁵³ Balmelle et al. 1985, p. 116.

¹⁵⁴ Balmelle et al. 1985, p. 140.

¹⁵⁵ Balmelle et al. 1985, p. 110.



Fig 163. Mosaic of Jādū house that discovered in 1970, Jādū al-Matnī house, Philippopolis, Syria, (Photo: Maher Jbaee, 2017)

Next to the circle is another scene of beautiful geometric motifs of six octagons (Fig 164). in two rows formed by the coiled frame of an asymmetrically shaded simple plait on black ground. Within the octagons are colorful circular frames, the like of which had never been discovered before in Philippopolis, and inside each octagon has a beautiful decorative shape that is different from the other and surrounded by a different frame from the other as well.

Description of the six octagons:

In the first octagon there is a circular frame in the form of a triangular braid called according to the index "*Shaded three-strand braid on a colored ground*"¹⁵⁶, and inside the frame is a rosette of four lobed petal non-contiguous with single center.

¹⁵⁶ Balmelle et al., 2002, p. 122.

In the second octagon is a circular frame in the form of Cable named "*asymmetrically shaded band*"¹⁵⁷, and inside the circle there is a decorative form of two intertwined square in different colors, with small squares also in different colors.

In the third octagon there is a circular frame in the form of *barbed garland of adjacent laurel leaves superposed in shaded three strand guilloche on a dark ground*¹⁵⁸, also inside the frame is a *rosette pattern of four non-contiguous infolded lobed petal with single center*¹⁵⁹.



Fig 164. Scene of geometric motifs Mosaic of Jādū al-Matnī House that discovered in 1970, Philippiopolis, Syria, (Photo: Maher Jbace, 2017).

In the fourth octagon in the other row is a circular frame called "*polychrome row of quasi-tangent circles and oblique S-form*"¹⁶⁰, and inside the circle also a decorative star form of two intertwined square in different colors. Inside, an octagon in the form of saw teeth in two different colors with a yellow square is present.

In the fifth octagon is a frame of a repeating three-dimensional shape of various colors, called "*Row of spaced square merlons shaded*"¹⁶¹, and inside it there is a geometric decoration called "*Knot of three curvilinear interlaced triangles*" with Solomon's knot¹⁶².

¹⁵⁷ Balmelle et al. 2002, p. 32.

¹⁵⁸ Balmelle et al. 2002, p. 141.

¹⁵⁹ Balmelle et al. 2002, p. 52.

¹⁶⁰ Balmelle et al. 2002, p. 161.

¹⁶¹ Balmelle et al. 2002, p. 154.

¹⁶² Balmelle et al. 2002, p. 100.

In the sixth octagon, we see a circular frame in a decorative repeated pattern of four different colored plant leaves meet at their heads, and within it also a pattern in form *rosette of four non-contiguous infolded lobed petal with circle in the center*¹⁶³

Through the study, it was found that some of the decorations that were implemented within the Jādū_mosaics can be a mixture of more than one models implemented in other Roman sites, and a mixture of more than one models described in the dictionary of geometric decorations of the Roman mosaics.

Although the great damage within the remaining side scenes we were able to see delicately performed decorations, In the corner we find a fruit-filled bowl-shaped Calathus* facing towards the Centre in the opposite direction to the circle scene depicting Athena's shield, with scrolls of inhabited acanthus leaves, where we see two birds and a naked Cupid hunter holding a shield in his left hand and a dagger in his right hand, facing a tiger whose front half of his body is shown, with his right hand extended forward. (Fig 165.Fig 166. Fig 167).



Fig 165. Details from the mosaic of Jādū al-Matnī house discovered in 1970, Philippopolis, Syria (Photo: Maher Jbace, 2017)

¹⁶³ Balmelle et al. 2002, p. 52.



Fig 166. Details from Mosaic of Jādū al-Matnī house discovered in 1970, Philippopolis, Syria (Photo: Maher Jbace, 2017)



Fig 167. Details from Mosaic of Jādū al-Matnī house discovered in 1970, Philippopolis, Syria, (Photo: Maher Jbace, 2017).

On the opposite side, we found that the parts that we uncovered in 2014 are parts of the same mosaic pavement within a room whose dimensions are 5.60 x 4.70 m, and covers two-thirds of the room next to its northern and eastern wall, while it is destroyed on the southern side (Fig 168).



Fig 168. Mosaic of Jādū al-Matnī House discovered in 2014, Philippopolis, Syria, (Photo: Maher Jbace, 2014)

The parts that we found were a part of the frame of the central circle with the some parts of Athena's shield next to the western wall of the room, and an amphora in the space between the circle and the surrounding frame (Fig 169).

The next scene is 2.80 m wide and is completely identical in location and dimensions to the scene of the octagons depicted on the western side in relation to the central circle. It is a geometric decoration of one of the patterns that prevailed in various periods and is close to the swastika within squares intertwined with rhombuses in multiple colors, according to the index of drawings for the geometric decorations of the Roman mosaics, this scene called "*Orthogonal Pattern of spaced swastika-meander with recessed reverse returns on a bichrome ground, with overlapping spaces containing a multi-colored lozenges*"¹⁶⁴.

In the eastern side, we found the end of the mosaic, which is a scene of 1.50 m wide, with simple scene consisting of adjacent octagons, executed with black tesserae, with forms of simple flowers inside. Where it appears that the mosaic continues under the arches on this

¹⁶⁴ Balmelle et al. 2002, p. 307.

side of the room, which indicates a new construction in a later period of the settlement of the house (Fig 170).

Through the results of the excavations in 2014, we concluded that we expect that the length of the mosaic pavement approximately 12 meters, where the diameter of the circle 3 meters and the width of the mosaic that was exposed in 2014 is approximately 4.50 meters. The plan drawn in 1970 shows that the room from which the mosaic fragments were removed has the same dimensions as the room discovered in 2014. There is a original Roman wall in the western side of the room, and therefore it is possible that the final scene after the scene of the octagons and adjacent to the western wall of the room is the same carpet of octagons with a width of 1.50 m in the eastern side, so each scene consists of two carpets with a width of 4.50 m on each side of the circle.



Fig 169. Details from Mosaic of Jādū al-Matnī House discovered in 2014, Philippopolis, Syria, (Photo: Maher Jbace, 2014)



Fig 170. Details from the mosaic of Jādū al-Matnī house that discovered in 2014, Philippopolis, Syria, (Photo: Maher Jbace, 2014)

The width of the mosaic is unknown due to the loss of scenes in the southern side of the mosaic in the site, and what was discovered only 4.20 m. However, what we were noted is that the direction of the Calathus is towards the south in the opposite direction to the scene discovered in 1970, and from the angle towards the middle, and the direction of the birds and the hunter Cupid also suggests that it is a frame for a scene in the southern side, Especially since we discovered the continuation of the mosaics under the modern southern wall. which is one of the many scenes known in Roman mosaics and discovered in many archaeological sites and in Philippopolis as well, such as the mosaic of Artemis, and mosaic Bacchus Plutus and the gifts of the four seasons discovered in Philippopolis.

The way how the scenes are distributed in the mosaic of Jādū al-Matnī house, the selection of topics and the highly professional paving technique and style give us an idea of a first-class workshop. With these expected dimensions and the viewer's orientation in the wide frame which suggesting a scene to the south, and the distribution of the scenes within the mosaic pavement indicates the possibility that it was a pavement for a reception hall (Tablinum) or a dining room (Triclinium) of a Roman house that includes the house of Jādū al-Matnī and the

neighboring houses. We performed some probes in the house east of Jādū al-Matnī house and found that there are remains of foundation layers of mosaic, but we do not have the permission to expand the systematic excavations (Fig171).

To paving this mosaic, the artist used a combination of Opus Vermiculatum typology in the formation of birds, tiger, Cupid, and acanthus scrolls, and the Opus Tessellatum typology in frames, geometric motifs, and edges of the mosaic. In the main scenes small thickness tesserae were applied which are typical to the Opus Vermiculatum typology.

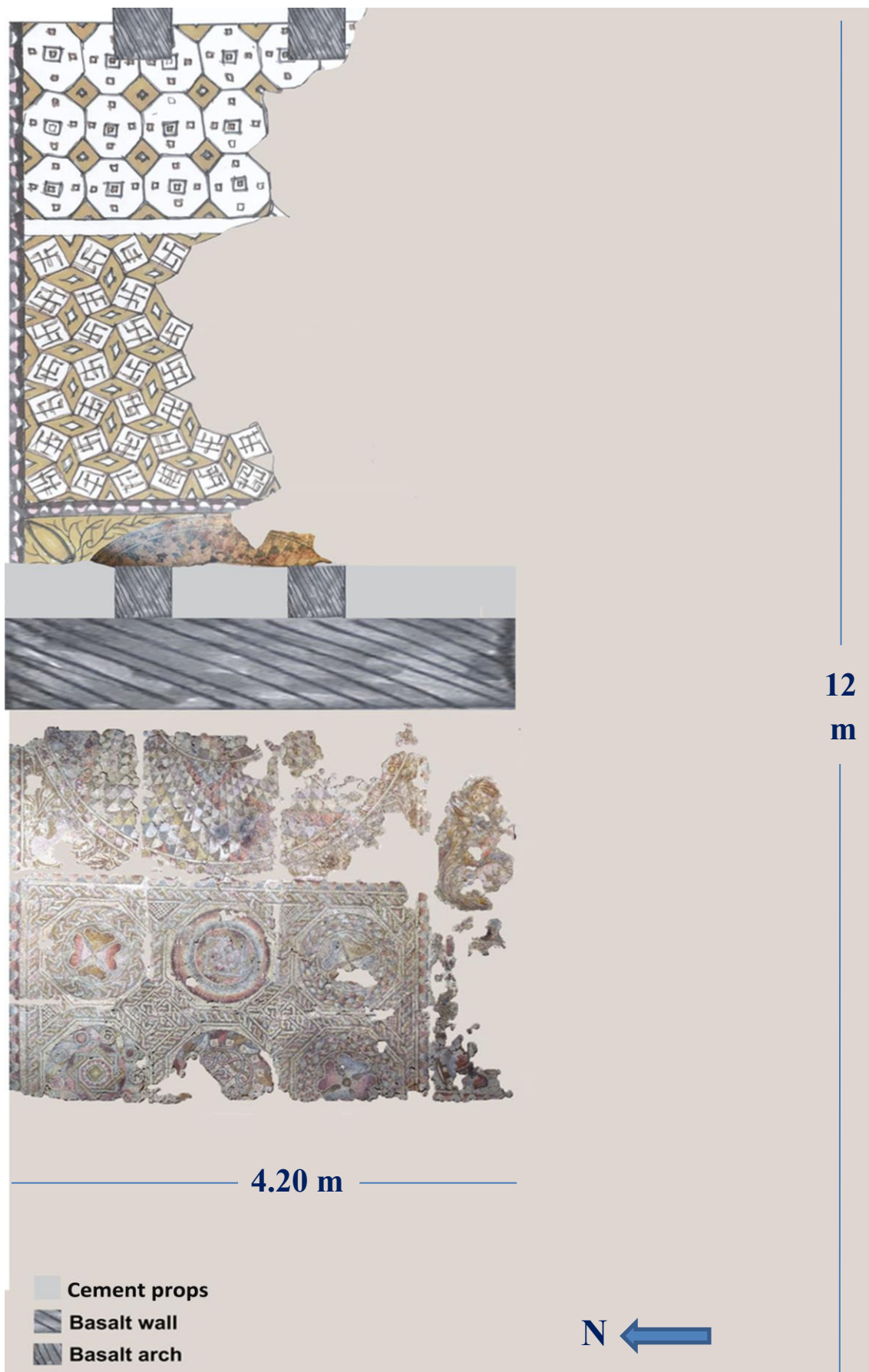


Fig171 . Mosaic of Jādū al-Matnī House, Philippopolis, Syria (Photo: Maher Jbace, 2021)

- **Artistic and technical mosaic analysis and dating**

We do not know the depiction of the central medallion in the scene of house of Jādū al-Matnī due to its loss under the wall of the house,

But always prevalent in such types of scenes that the central part of the circle is decorated by the head of Medusa. where the scene is represent the shield of the goddess Athena surrounding the head of Medusa, Where the mosaic Medusa heads and the fact that they are often the central piece in an elaborate design of ellipses or spiraling triangles indicates the strong belief that the presence of Medusa was exert a real power in a world where life was precarious and the belief of the Roman householders in the Medusa's power to ward off the evil and provides immunity to the house.

As legend would have it, Medusa was once a beautiful woman who attracted the attention of Poseidon, who raped her in the temple of Athéna. The latter, in her rage, punished Medusa by transforming her into a monster whose locks of hair became writhing snakes and anyone who looked at her turn into stone Then the hero Perseus, with the help of goddess Athena, cut off Medusa's head and presented it to her, who placed the head in the middle of on shield. Therefore, possible that the central part of the scene represents the head of Medusa.

We have several examples in which decorative topic the shield of the goddess Athena in the form of radiated or swirling patterns in various shapes and colors, The head of Medusa is usually in the middle of the scene. (Fig 172).

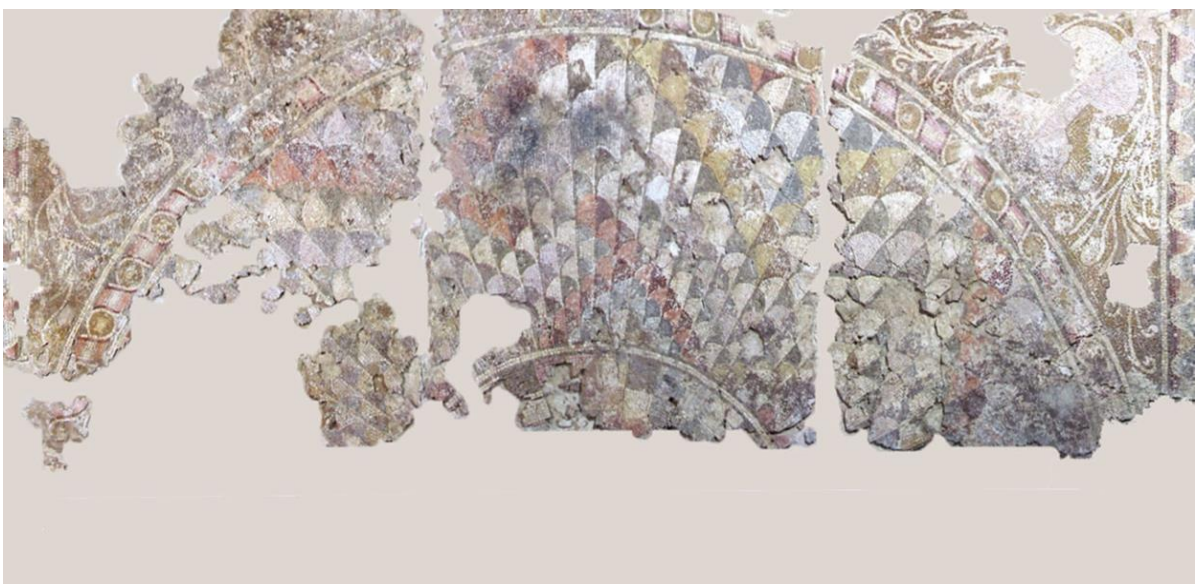


Fig 172. Details from the mosaic of Jādū al-Matnī house with radiations patterned with different shapes and colors, Philippiopolis, Syria (Photo: Maher Jbace, 2021)

- **Analogies:**

In the comparison process we will rely on the scene of the shield of the goddess Athena in the form of radiated or swirling patterns in various shapes and colors without emphasizing that the central scene is the head of Medusa.

The shield of the goddess Athena scene appear in mosaic art in all parts of the Roman Empire, and most often appear in Domuses, private buildings and villas, while they are rarely found in public buildings appear in mosaic art in all parts of the Roman Empire, and most often appear in Domuses, private buildings and villas, while they are rarely found in public buildings.¹⁶⁵

As far as their position inside the private buildings is concerned, most of them decorated Triclinium halls, The shield surrounding Medusa's head which was usually directed towards the banquet guests , and here as well we suppose that the primary use of this hall was for receptions.

We see the depiction of Athena's shield surrounding the Medusa's head in the middle of the scene in a mosaic found in the site of (Baths of Diocletian) in Rome. It is a central panel of a mosaic pavement dating back to the 1st - 2nd century AD¹⁶⁶ (Fig 173). There is also such depiction in a mosaic medallion displayed in the National Museum of Sousse in Tunisia and dates back to the second century AD¹⁶⁷ (Fig 174). Also, this representation was found during excavations of the Diana theatre in Alexandria, National Museum in Egypt which dating to the 2nd century AD¹⁶⁸ (Fig 175).

There is a similar mosaic panel too in Devnya Museum of Mosaics Bulgaria dating to the early of the fourth century AD¹⁶⁹ (Fig 176). And we can see this scene in a mosaic displayed in the museum of Palazzo Massimo in Rome with head of Athena by black and white (Fig 177). This scene was also found in Rhodes in Greece from the Roman period, Late 3rd - mid 4th century AD¹⁷⁰ (Fig 178).

¹⁶⁵ Jeremic, G. (2017), p. 258.

¹⁶⁶ www.worldhistory.org/image/10448/medusa-mosaic.

¹⁶⁷ helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads.

¹⁶⁸ helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads.

¹⁶⁹ <https://archaeologyinbulgaria.com/museum-of-roman-mosaics-devnya-bulgaria/>

¹⁷⁰ helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads.



Fig 173. Medusa head, National Museum of Rome, Baths of Diocletian, 1st-2nd century AD, Rome, (Photo: <https://www.worldhistory.org/image/10448/medusa-mosaic>)



Fig 174. Medusa head, Sousse Archaeological Museum, Tunisia, 2nd century AD (Photo: <https://helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads/>)



Fig 175. . Medusa head found in Diana theatre, Alexandria National Museum in Egypt. 2nd century AD (Photo: <https://helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads/>)



Fig 176. Medusa head, Devnya Museum of Mosaics, Bulgaria, end of the 3rd century AD (Photo: <https://commons.wikimedia.org/wiki/File:Devnya-mosaics-museum-gorgon-medusa>)



Fig 177. Medusa head, museum of Palazzo Massimo in Rome and dated to the end of the 2nd century AD, (Photo: <https://helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads/>)



Fig 178. Medusa head, Rhodes, Greece, Late 3rd - mid 4th century AD. (Photo: <https://helenmilesmosaics.org/ancient-mosaics-general/mosaic-medusa-heads/>)

The system of the depiction of the shield of the goddess Athena in Philippopolis mosaic is differs from the other panels we previously referred to, and according to the Index of

Drawings for the Geometric Decorations of the Roman Mosaics it is known as " a shield of two-part scales in contrasting colors, with 28 scales per row and 17 rows".

There is a mosaic similar to the Philippopolis mosaic in terms of the distribution of rows and the distribution of colors. It was discovered at the Gabbari site in Alexandria - Egypt and depicts the shield of Athena surrounding the head of Medusa. It was executed with great care but is not well preserved, and dates back to the end of the first century BC (Fig179 . Fig180 . Fig 181).

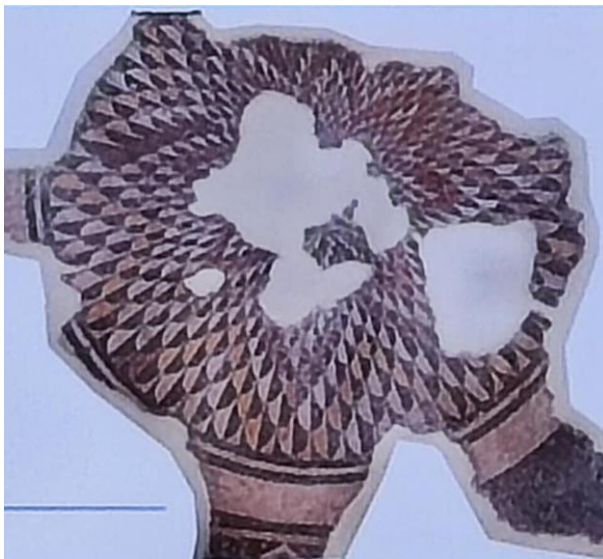


Fig179 . Mosaic Gabbari site in Alexandria - Egypt, end of the first century BC, (Photo: Anne Marie Guimier. 16th conference of the Association Internationale pour l'Etude de la Mosaïque antique (AIEMA))

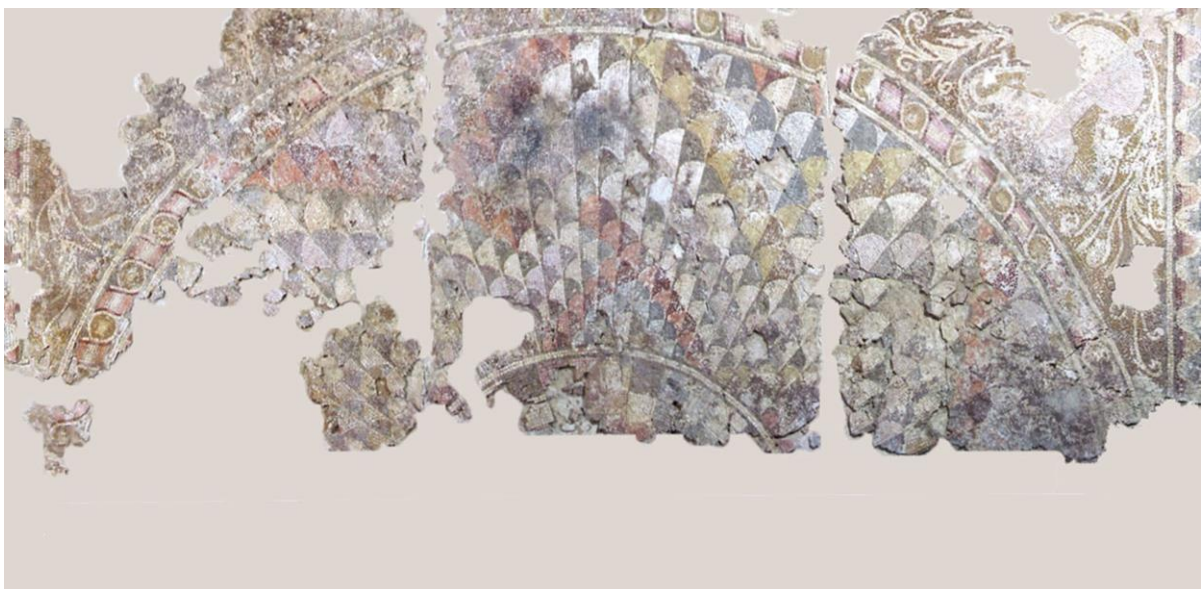


Fig180 . Details from the mosaic of Jādū al-Matnī house with radiations patterned with different shapes and colors, Philippopolis, Syria (Photo: Maher Jbace, 2021)



Fig 181. Graphic showing distribution of rows and the colors of the scene of Athena's shield in mosaic of Jādū al-Matnī house, Philippopolis, Syria, (Graphic: Brigitta Maria Kürtösi, 2023).

Among the scenes in the mosaic of house of Jādū al-Matnī we see an elegant depiction of inhabited leaves of acanthus by various types of birds and hunter cupid who attacks on a tiger in front of him (Fig 182). This depiction is popular as a frame motif on many Roman mosaic pavements. Despite the apparent loss in our scene, we can see Cupid wearing a mantle that falls behind his left shoulder, while in his left hand he holds a shield made of various tone red tesserae showing the oval shape of it, and in his right hand he holds a dagger with which he attacks on a tiger whose head appears and his right front paw extended forward.



Fig 182. A hunter Cupid, mosaic of house of Jādū al-Matnī, (Photo: Maher Jbacc, 2017)

The depiction of different types of animals (tigers, lions, panthers, bears, pigs) and the hunting cupids using a spear, dagger or bow were found within the frames of many Roman mosaic pavements.

Among the mosaics that embodied this scene are what we see in the mosaic pavement of Women at breakfast, which was found in the Zosimos Villa in the city of Zeugma and dates to the end of the 2nd century AD beginning of the 3rd century AD, but the scene in mosaic of Zeugma was depicted on a black background, while in mosaic house of Jādū al-Matnī the background was white¹⁷¹ (Fig 183. Fig 184).

In some of Philippopolis mosaic pavements we also see depictions of hunter Cupid as in the mosaic Gaia Plutus and the giveaways of the four seasons (Fig 185). And mosaic of Hercules which displayed in al-Ma'arra Museum in Syria and dated to the 3rd century AD (Fig 186).



Fig 183. Detail of the frame with Hunter Cupid, mosaic of Women at breakfast, Zeugma, 2nd- 3rd century AD, (Photo: Zeugma, a bridge from past to present, 2001)



Fig 184. Detail of the frame with Hunter Cupid, mosaic of Women at breakfast, Zeugma, 2nd- 3rd century AD, (Photo: Zeugma, a bridge from past to present, 2001)

¹⁷¹ Ergce, R. ed. 2007, p. 186.



Fig 185. Details of the frame of mosaic Gaia, Plutus and the giveaways of the Four Seasons using a background with black tesserae, Philippopolis, museum of Swaydā', Syria (photo: Maher Jbace, 2010)



Fig 186. Details of the frame of Hercules mosaic using a background with black tesserae, al- Ma'arra Museum, Syria (photo: Maher Jbace, 2010)

To suggest a period for any mosaic pavement, it is first relied on the clear architectural construction or archaeological artifacts within the excavation and archaeological sites such as coins or ceramic, or on an inscription within the mosaic pavement that includes the date of its implementation or the name of the person who executed it.

In the absence of all these features, it is relied on comparisons of the scenes, and the decoration elements, especially the decorations of the frames, which are considered a dating standard for some mosaic pavements.

In the case that all these elements are lost as they are in our mosaic, there is no way but to rely on the archaeological data that we obtained within the archaeological site and the historical study of the city of Philippopolis, in addition to comparison with the similar scenes of mosaic pavements which discovered in other sites.

In the case of the mosaic of Jādū al-Matnī house, the site was discovered by chance in 1970, and the mosaic was removed from the site as an emergency and by non-scientific and methodological methods, with no archaeological or architectural evidence documented, in addition to the loss of more than 50% of the mosaic, meaning the loss of many scenes and decorations that reliable in the process of comparison and dating.

Through the technical and artistic study, it became clear that the mosaic of Jādū al-Matnī house was produced by a first-class artistic workshop, and through the scenes and dimensions, it was found that it was probably the floor of a large hall, and we suggested that it might cover the floor of Triclinium or Tablinum in a Roman Villa.¹⁷²

¹⁷² Jeremic, G. 2017, p. 259.

We have historical facts that clarify the history of the founding of the city of Philippopolis, with the absence and loss of archaeological data from architectural elements showing the identity of the building, and the absence of the archaeological finds and the artifacts.

Also, it is clear that the Philippopolis mosaic collection dates back to the period from the beginning of the founding of the city by the emperor Philip the Arab in the middle of the third century AD, to the Second quarter of the fourth century AD¹⁷³, and before this date, there is no clear evidences of the Roman or Hellenistic period in the city of Philippopolis or even the Nabataean period as we see in neighboring cities such as Kanatha or Swaydā'. and therefore the mosaic of the house of Jādū al-Matnī must be dated to this date or to a later period.

An obvious feature of the Jādū al-Matnī House mosaic pavement is that it is a second pavement that has been laid on top of an earlier mosaic pavement. Thus, the lower mosaic pavement dates back to at least the founding period of the city, while the upper mosaic pavement dates back to a later period, which is the first evidence that the mosaic of Jādū house dates back to a period after the middle of the third century AD.

There may have been changes in the architectural constructions of the building that occurred in a later period, or a change in the function of the building or the internal facilities. But through the works it was clear that the north and east walls of the room where the mosaic was found are the original walls both of the lower and upper mosaic pavement. While there are extensions of the mosaic towards the south, as shown by the scenes of the wide frame, and the finding of tesserae and foundation layers under the modern southern wall.

Through the analytical and comparative study, it was found that the scene of the circle, which depicts a shield inscribed with different colors and shapes, is known according to the Index of Drawings for the Geometric Decorations of the Roman Mosaics "*a shield of two-part scales in contrasting colors, with 28 scales per row and 17 rows*", There are many scenes in the mosaic pavements that depict Athena's shield, but there are some differences in the distribution of colors or the distribution and number of rows. Jādū al-Matnī House mosaic pavement is quite similar in terms of the number of scales and rows within the shield and the shapes executed within each scale with the scene of the mosaic that unearthed in Bulgaria and displayed in the Devnya Museum of Mosaic which dates back to the early of the fourth century AD (Fig 187. Fig 188). But they differ in terms of colours and their distribution, where they are only in black and white in the mosaics discovered in Bulgaria.

¹⁷³ Balty, J. 1997, pp. 49-61.

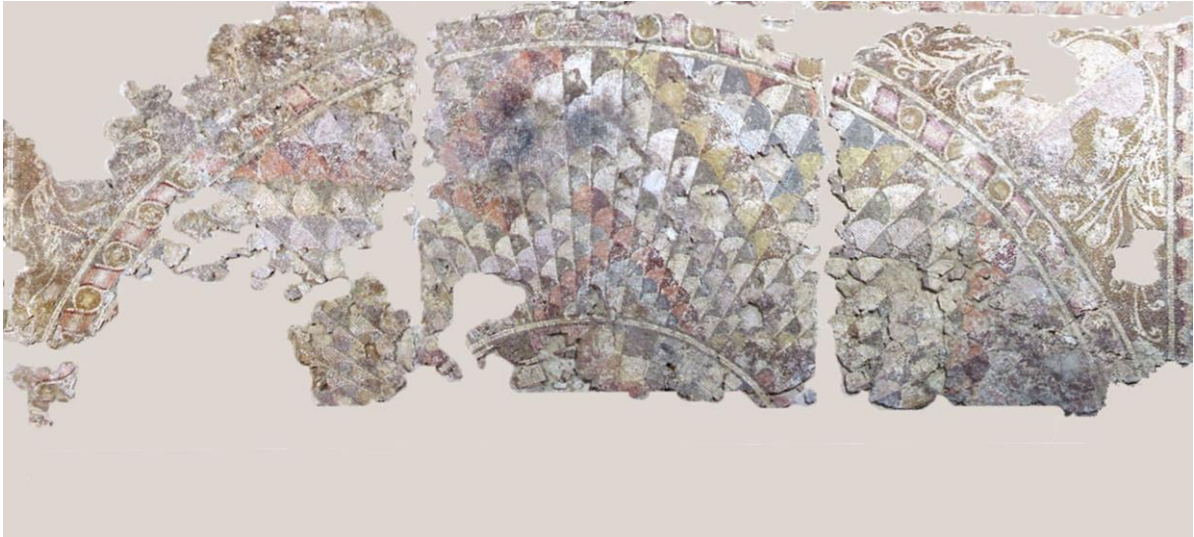


Fig 187. Details from the Mosaic of Jādū al-Matnī House with radiations patterned with different shapes and colors, Philippopolis, Syria (Photo: Maher Jbace, 2021)



Fig 188. Medusa head, Devnya Museum of Mosaic, Bulgaria, end of the 3rd century AD, (Photo: <https://commons.wikimedia.org/wiki/File:Devnya-mosaics-museum-gorgon-medusa>)

On other hand it is also noted that some of the frame decorations of Jādū al-Matnī house mosaics are similar to some of those found in the Three Graces mosaic discovered in Philippopolis in al Ḥarfūsh house and dated to the end of the third century AD, as well as the colors, quality and sizes of the tesserae used in their implementation. (Fig 189. Fig 190).



Fig 189. Detail of frames in the Jādū al-Matnī House Mosaics, Philippopolis, Syria (Photo: Maher Jbace, 2014)



Fig 190. Detail of some frames in the Three Graces mosaic, Philippopolis, Syria (Photo: Maher Jbace, 2012)

Also, through the wide-frame scenes that include the acanthus leaves inhabited by birds and the scene of Cupid the hunter and the tiger, which is very close to the depiction of Cupid the hunter and the tiger in the mosaic of Women at Breakfast discovered at Zeugma and dating to the end of the third century AD.

Based on all these archaeological data and artistic comparisons, we suggest dating the mosaic of the house of Jādū al-Matnī to the late Roman period, the end of the third century to the middle of the fourth century AD.

VI.3 An analytical study of the workshops that produced the Philippopolis mosaics based on comparative iconographic study and the field works.

The city of Philippopolis gives us an example of a village that reached the status of a city. It was originally a small village in southern Syria, then it became a colony and witnessed its brightest period during the reign of its son, Emperor Philip the Arab (244-249 AD), who expressed the depth of loyalty to his homeland by showing great interest in his hometown of Philippopolis.

Some archaeologists said that he wanted to make it like Rome, the known capital of the world at that time, and to become one of the most important cities of the Roman Empire. He ordered the construction of many buildings, which still stand to this day, and surrounded it with strong walls, fortified with defensive towers, decorated with luxurious gates built in the shapes of triumphal arches.

The mosaic pavements in Philippopolis show that they were produced by high quality workshops at the request of the emperor, the new inhabitants, the aristocratic class of the emperor's relatives. They were keen to give themselves an image more appropriate to the new situation, so they recommended the best workshops to implement mosaics with mythological and philosophical themes, guarantees them a prosperous life, abundant goodness, and immortality. These ideas were represented through the gods of fertility and agriculture and through the idea of immortality within its philosophical framework. Most likely, these workshops were brought from one of the Syrian provinces well prepared with Hellenistic tradition and cultural knowledge.

Previous studies by researcher Jeanine Balty suggested that the workshops operate in Philippopolis were brought from the city of Emessa (Hūms), which witnessed a brilliant era in its history as the home of Julia Domna, wife of Emperor Septimius Severus. During his reign and the reign of the Severian emperors Homs became a Roman colony of great importance. In this regard and despite the support of the Belgian scholar, supporting her proposal by the discovery of the Hercules mosaic in Homs, which is considered one of the mosaics of high class. The proposal may seem close to being true, especially with our knowledge that Antioch remained for a period of time - in the period Septimius Severus - assumed the throne of Rome, deprived of its rights and stripped of its title as a colony. It was attached to the city of Latakia on the Syrian coast at the end of the third century AD, when the city of Antioch at the

time was supported the emperor's opponent. But we cannot reject the suggestion that the workshops and mosaicists came from Antioch itself, because of its prestigious status in the period, the large-scale production of mosaic pavements found and because its impact on the rest of the cities, which made Antioch the first source of the workshops abroad. A part of these workshops carried out their work during the period of Philip the Arab's accession to the throne of Rome, and some of them may have remained in the city and executed many works even after the assassination of the emperor. This is confirmed by some mosaics that date back to later periods after his reign and is confirmed by historical documents that show that the city of Philippopolis remained important in the region, as evidenced by the fact that during the Byzantine period it became the seat of an archbishopric with Bosra as its center.

Through a technical comparison of the designs and scenes depicted in the mosaics of Philippopolis and Roman mosaics in other locations, particularly in the eastern colonies in general and Syrian sites specifically, it becomes clear that the greatest influence is evident in sites with a rich cultural heritage within these colonies. In this context, the northern Syrian colonies, such as Antioch and Zeugma, stand out, with Antioch itself being the most prominent due to its significant and ancient cultural heritage within the Roman world.

If we compare these themes with those depicted in Syrian mosaics from Palmyra, Apamea, Homs, and other Syrian sites, we find that the subjects depicted in Syrian mosaics are generally Hellenistic-Roman in origin, particularly in coastal and mountainous regions (Hūms, Rastan, Philippopolis), while local influences appear in some mosaic works in desert areas such as Palmyra.

In Palmyra, all the mosaic panels belong to the Hellenistic Classical style of illusion, appearing as if they were created by the same artist and in the same workshop.

We can trace Palmyrene mosaics back to Eastern Roman art, despite their scarcity, Palmyrene mosaics are of immense importance, as they bear witness to the complete fusion of elements of Classical and Eastern civilizations. This fusion occurred through the collaboration of Syrian and Greek scholars, under the patronage of Zenobia, and the presence of skilled artists and professionals capable of transforming philosophical thought into art in the third century AD¹⁷⁴.

¹⁷⁴ Balty, J. 1996, pp. 303-308.

For example, in the mosaic of Achilles House in Palmyra, we find the influence of stone sarcophagus carvings in the depiction of Achilles. The mosaic of Cassiopeia's House shows an Eastern influence in the depiction of figures. Similarly, the mosaic of Bellerophon preserved the general topographical representation, while the Eastern influence is evident in the attire of both Bellerophon and the figure of the knight wrestling the tigers¹⁷⁵.

However, it is highly probable that mosaic workshops did not exist in Palmyra itself, as evidenced by the limited number of such discoveries despite extensive and systematic excavations. Even assuming a few workshops did exist in Palmyra, they undoubtedly belonged to workshops in “Emessa- Homs”, making it logical to bring the workshops from Emessa itself¹⁷⁶.

As for Apamee, no mosaic pavements dating back to the 2nd and 3rd centuries AD have been found. Despite the extensive urban planning and restoration work the city underwent, like other cities, due to the earthquake that struck the region in 115 AD, no mosaic pavements from that period have been discovered, with the exception of a mosaic piece that adorned the Triclinium floor. This piece is distinguished by its wide frames and geometric decoration of diamond-shaped stars, similar to some of the motifs discovered in certain panels in Antioch dating back to the Severan period¹⁷⁷.

This striking similarity in many pieces has led to the hypothesis that mosaic artists possessed model books that they circulated among themselves, offering designs to those who wished to decorate the floors of their palaces and homes¹⁷⁸.

The Philippopolis mosaic collection provides sufficient information to understand its overall composition and the distribution of motifs in its various spaces. This is evident in a central panel surrounded by rich frames, either geometric, floral, or a combination of both, with animal, human, or symbolic figures such as masks. This type of composition, a pictorial panel depicting a mythological theme in most cases is typical of mosaics from Antioch during the Roman period, particularly in the 2nd and 3rd centuries. Examples include the House of

¹⁷⁵ Nofal, O, 2014, p. 372.

¹⁷⁶ Balty, J, 1996, pp. 303-308.

¹⁷⁷ Balty, J, 1995, p. 61.

¹⁷⁸ Bruneau, Ph, 1984, p. 241-272.

Menander (second half of the 2nd century) and the mosaics of the Drinking Competition and the Judgment of Paris¹⁷⁹.

The Philippopolis mosaic shares many similarities with numerous other mosaic pavements from Antioch dating from the 2nd, 3rd, and the first half of the 4th centuries. The similarities include many depictions of key scenes, motifs, figures, and frame decorations (geometric shapes and acanthus scrolls), filling elements such as geometric patterns, birds, and masks, the style of human figures, the technique of light and shadow, the slanted gaze, and the expression of sorrow all of which suggest that these mosaics were created by an experienced workshop. Based on the known decorative repertoire of Antioch, it would not be surprising that the workshops that produced the Philippopolis mosaics were those of Antioch.

This will be demonstrated as follows:

Our technical study revealed a striking similarity between the depiction of Tethys the sea goddess, in the mosaics of Swaydā' Museum and Shahbā Museum, and those of the House of Menander and the Baths F in Antioch¹⁸⁰.

Similarly, the depiction of Dionysus in the mosaic of the wedding of Dionysus and Ariadne in Shahba Museum resembles his depiction in the mosaic of the Villa of Constantine in Antioch¹⁸¹.

The mosaic of the love of Aphrodite and Ares also falls within the artistic development known as Neo-Constantinople, characterized by the sharp expressions of the faces, as seen in the Villa of Constantine in Antioch, dated to the first quarter of the 4th century AD.¹⁸²

Main Scene of the mosaic of Plutus, Bacchus, and the Four Seasons reflects Severan influences, and a parallel to this scene can be found in Antioch, such as the Argos and Ibora mosaic discovered in the House of the Spirit Boat. This parallel is evident in the depiction of acanthus leaves haunted by Cupid and wild animals, and the foliage faces, which are similar in style to some Antiochian mosaics of the Severan period. The frame, dated to the 4th century, is also similar to the style used in the Villa of Constantine in Antioch¹⁸³.

¹⁷⁹ Abdallah, K, Al-kaied. M, 2023, Pp. 45-72.

¹⁸⁰ Balty, J. 1981, p. 410.

¹⁸¹ Levi, D. 1947, p. 248.

¹⁸² Balty, J. 1997, pp. 49-61.

¹⁸³ Balty, J. 1981, p. 402.

If we want to rely on frames as a dating standard, we know that the decorative elements of the frames of Philippiopolis mosaics and the Syrian mosaics are characterized by their rich diversity of geometric, floral, animal, and human motifs, And most of these are derived from styles common in the Greek and Roman periods.

We see frames containing various geometric motifs such as waves, saw teeth, and the Greek swastikas, or floral motifs such as acanthus leaves intertwined in rings, depicting hunting scenes and the pursuit of animals by a group of Cupids.

Sometimes, decorative human faces are included, and at other times, symbolic representations of the four seasons. These are sometimes depicted against a black background, mimicking some panels discovered at Zeugma, Antioch, and elsewhere, or against a white background. And some pavements showed fruit and flower wreaths are also present in some frames¹⁸⁴.

In Philippiopolis, we find that the compositional plan of most pavements falls within certain patterns, where the central panel occupies most of the mosaic pavement area and is surrounded by a small number of decorative frames. This pattern is frequently seen from the Severan period at the beginning of the 3rd century AD and remained so until the Constantinople Renaissance in the mid-4th century AD¹⁸⁵.

In the Philippiopolis mosaic, we see the influence of Antioch and suggest that the mosaic workshops came from Antioch for several reasons:

The frame of the Orpheus mosaic, which includes the masks, employs the same technique used in the mosaic of the House of the Triumph of Dionysus in Antioch, dating to the Antonine period (138-193 AD)¹⁸⁶.

While the motifs in some of the frames surrounding the central panel of the Surprise of Artemis mosaic, such as circular rings, spiral shapes, crosses, human heads, and ivy leaves, are decorative motifs used in the Severan period on floors discovered in Antioch¹⁸⁷.

¹⁸⁴ Nofal, O. 2014, p. 373.

¹⁸⁵ Nofal, O. 2014, p. 376.

¹⁸⁶ Levi, D. 1947, p. 94

¹⁸⁷ Balty, J. 1981, p. 377

The frame of Bacchus the Drunken Mosaic, which includes repeating decorative motifs, is similar to those found in the Menander panel in Antioch and dates to the mid-third century AD¹⁸⁸.

The mosaic depicting the marriage of Pelops and Hippodamia differs in style and realism. It suggests a distinct workshop approach compared to other mosaics in Philippopolis, where the artist conveyed this through facial features and gestures, realism is evident in the portrayal of Hippodamia's joy at Pelops's victory in the race. The artist also treated the figures differently, resulting in a somewhat disproportionate appearance.

Furthermore, the artist's approach to facial features is different, for example, the nose is represented by two parallel lines, the eye by a circle, and the gaze is slanted and upward. The mouth is depicted as a small line¹⁸⁹.

¹⁸⁸ Levi, D. 1947, p. 625.

¹⁸⁹ Balty, J. 1981, p. 410.

VI.4 Analytical study of the nature of the tesserae used in paving Philippopolis (Shahbā) pavements.

Philippopolis mosaics were made by workshops at the request of the Emperor Philip the Arab, the new residents and the aristocracy, the emperor's relatives who were keen to give themselves an image more compatible with the new situation. They started recommending the high-end workshops to implement mosaic pavements with mythological and philosophical themes which assume for them a comfortable life, abundant good and immortality through the gods of fertility and agricultural gods and along with the idea of immortality within its philosophical framework.

This new situation necessitated the emergence of improvement and decoration projects, thus attracting builders, artists and mosaic makers from all the colonies of the empire within Syria or nearby. Most likely the workshops that produced the studied pavements were brought from an eastern Syrian colony, according to Jeanine Balty¹⁹⁰, may be from the city of Ḥoms (Emessa), with a glorious era in its history as the home of Julia Domna, wife of Emperor Septimius Severus. Emessa became a Roman colony of great importance during her reign and that of the Severian emperors. Balty supports her suggestion based on the discovery of the Hercules mosaic in Homs, which is considered one of the mosaics of high craftsmanship. This suggestion may seem acceptable, but according to my assumption, these workshops came from one of the important cities that require the permanent presence of mosaic workshops, such as Antioch, Apamée or Latakia. I may suggest that they are most likely from Antioch itself. We know that the founding of the city of Antioch was in 300 BC, and its cultural and artistic heritage was based on the Hellenistic culture. The city of Antioch had a prestigious position in that period by the large production of mosaic pavements found within it, and its impact on other cities makes this city the first source of workshops. Supporting this proposal, it is possible that some workshops remained in the city and carried out many works even after the assassination of the emperor, as it is confirmed by some mosaics dating back to later periods¹⁹¹ after his reign. Also, can be confirmed by historical documents that show that the city of Philippopolis remained important and significant in the region, since it became the seat of the Archdiocese of Bosra in the Byzantine period.

¹⁹⁰ Balty, J. 1997, pp. 49-61.

¹⁹¹ Balty, J. 1997, pp. 49-61.

The mosaics of Philippopolis themselves show that they were produced in different periods of time, and not only during the period of Philip the Arab accession to the throne of Rome, as some others¹⁹² suggest. According to Balty, who based her opinion only on stylistic analysis, through special artistic features that were characterized by distinctive artistic nature, by some artistic advantages that prevailed in the Severian period, such as the deep expression of gloom and sadness that appear on the faces of the characters. Or the artist's dependence on the use of the color gradient to create the depth, in addition to showing movement of the bodies by using gradations of color and sectors of shadow and light to visualize the third dimension. (Fig. 31- Fig. 33) While we see in some of them an attempt to escape from regulations and laws and abandon the artistic patterns that were prevalent, and continue to highlight the character of excitement in the depicted scenes through the sectors of shadow and light, and rely of color mixing, and taking care of its details, showing the movements of the body and realistic expressions in the faces, mixing the structures and geometric decorations with geometric shapes and formations in the frames based on some decorative elements such as squares, braids and the rainbow pattern (Fig. 36- Fig 71)¹⁹³.

As we explained earlier, the southern region in Syria in general and the city of Philippopolis in particular is characterized by a volcanic nature, and there are only black basalt stones and volcanic pebbles, and there is no limestone or any type of marble as in the other regions in Syria.

The pieces of the Philippopolis mosaic pavement collection, like other pavements produced in the Roman period, mainly used tesserae made of calcareous stones, which were obtained from the trade and manufacture of these materials within the colonies of the Roman Empire. Marble and limestone were used in the production of all Philippopolis mosaic pavements as well, which were brought from outside Philippopolis in various colors.

The colored compact limestone types are considered an essential raw material in the production of the largest volume of mosaic works, starting from the fourth century BC until the present day, due to their ability to be polished, cutting and shearing in the form of small tesserae, in addition to their ability to resist weathering¹⁹⁴, and their richness in multiple color degrees, such as white, yellow, black, gray, pink, red, orange, brown and others. In addition to the sedimentary limestone, the marble formed from the metamorphic rocks from the limestone

¹⁹² Balty, J. 1997, pp. 49-61

¹⁹³ Balty, J. 1997, pp. 49-61.

¹⁹⁴ Farneti. M, 1993, *Glossario Tecnico-Storico del mosaico*, Longo Editore, Ravenna, p. 62.

was also used in the Hellenistic, Roman, Byzantine and Arab periods, in the decoration of floors and walls.

Pure marble contains 99% calcium carbonate, which is formed as a result of simple recrystallization of limestone. The color of marble varies from place to place and according to the type and amount of impurities contained in the rock. Black marble takes its color from decomposing organic materials, while green marble takes its color from the Diopside, Hornblende, Serpentine minerals or those contained in the rock.¹⁹⁵ Red marble contains oxides and oxides-hydroxides of iron like Hematite or Limonite, while the beautiful patterns that appear on some types of marblelike stones are due to the original texture and structure of the limestone or remains of fossils. These stones are often referred to as marble but in most cases, they are compact limestone.

The trade in marble and multi-colored decorative stones and sources for their use in interior and exterior cladding and in the decoration of mosaic floors is one of the most important concerns of the Romans since the third century BC. Hundreds of tons of stones were quarried, prepared in specific shapes, and then transported across the seas, traversing thousands of kilometers across the Roman world through the internal roads of cities far from the shores, in the eastern and western Mediterranean¹⁹⁶.

Thus, the owning and use of imported stones, with their different colors and shapes, or with their smooth and polished surfaces, became a symbol of the center of power. It can only be obtained by exerting great effort and exorbitant costs, as it was clearly in line with imperial sovereignty¹⁹⁷. Many cities in the various Roman provinces tried to obtain this aristocratic material in order to improve the manifestations of luxury. In the late first century AD and the beginning of the second century AD, the trade system of decorative stones developed as a result of the huge construction projects performed in Rome, in addition to the increase in the demand for these stones significantly, and the distribution network expanded to reach customers outside Rome¹⁹⁸. The distribution of quarry products was subject to the management and authority of the Empire. It was clear that these decorative stones were frequently used in the cities of the Middle East, as most quarries were located in that region. The process of transporting heavy and large stones was carried out through the water, which

¹⁹⁵ Ghnīm ‘abdalla, 1998, pp. 84-85.

¹⁹⁶ Butcher, K. 2003, pp. 203-204.

¹⁹⁷ Butcher, K. 2003, pp. 203-204.

¹⁹⁸ Butcher, K. 2003, pp. 207-211.

facilitated and contributed to the import of decorative stones among several areas located on the Mediterranean coast and the interior regions, and these uses contributed to some imported stones in linking inland cities far from the coast with coastal cities¹⁹⁹.

Among the types of marble or semiprecious stone products that were used in the decoration of floors and walls, we find: Pentelico, Pario, Luni, Carrara, Tasio, Marmor carystium or Cippolino, Tinaro black marble (Nero de Tenaro), ancient red marble (Rosso antico, Marmor Taenarium), Red Serpentino Marble (Serpentino Rosso), Red Porvedo (Marmor mumidicum), old yellow marble (Marmor mumidicum), Africano marble (Marmor luculleum), Travertino, Porvedo green or serpentino marble (Lapis Lacedaemonius, Serpentino)²⁰⁰.

Most of them originate in the Greek islands or near Athens, and some are from North Africa, Asia Minor, Egypt, Cyprus or the northern coast of Syria²⁰¹.

From our previous information, we find that the use of limestone and marble in the decoration of pavements and walls, and their use in particular in the decoration of mosaic pavements, was associated in the Roman period with the trade and manufacture of these materials through the colonies of the Roman Empire with a simple use of limestone and local marble.

Certainly, the dependence on the domestic product increased and expanded in the Byzantine period, especially in the fifth and sixth centuries AD, and this is what we see in many church floors that were discovered in various regions, especially central and northern Syria. Therefore, it was necessary to search for quarries of those raw materials needed to decorate those floors.

Through the search within the Archives of the General Company for the Investment of Marble and Stones in Syria which could be used in decoration, it was found that there are many old quarries that were previously used to supply these stones to workshops, and there are many of them that were recently used to supply the local and foreign market, in addition to importing some types that are not in the local market.

The ancient and modern marble and limestone quarries in Syria which produce many colors are distributed, in the Syrian coast (Jābla - Kasab - Killīs – al-Ḥiffa – al-Qirdāḥa), in central

¹⁹⁹ Butcher, K. 2003, p. 206.

²⁰⁰ Marta. R, 1991, pp. 59-68., Roncuzzi Fiorentini, I. 1990, pp. 39-43.

²⁰¹ Marta. R, 1991, pp. 59-68.

Syria (East of Homs – al-Furuqlus - Qaṣr al-Ḥīr - Palmyra Mountains - Miṣyāf - Qal‘at al-Ḥiṣn), in northern Syria (Ḥarim - Kafr Tkharīm - Salqīn - Idlib) and in the vicinity of the city of Damascus (al-Ḍmīr - ‘sāl al-Ward- al-Rḥayba- Barzā- Rankūs). The names related to the place of the extraction (Badrūsī - Kasabī - Ḥalabī - Barzāwī – Rankūsī- Tadmurī- Rḥībāwī) and the colors are multiple such as (white - light white - beige - light beige - pink - light yellow - dark yellow - reddish brown - light brown - dark brown - light gray - dark gray - light blue - black)²⁰² (Table 1).

Marble type	Color	The region
Badrūsī	light cream-white-colored- light yellow - dark yellow	The Syrian coast (north of Latakia)
Kasabī	white – light white	The Syrian coast (north of Latakia)
Ḥalabī	black, pink, reddish black, dark beige	North of Syria (Aleppo)
Barzāwī	beige, pink, reddish brown, light brown	South of Syria (Damascus)
Rḥībāwī	white – light beige	South of Syria (east of Damascus)
Tadmurī	white – light beige	Central of Syria (Ḥoms- Tadmur)
Rankūsī	beige, pink, reddish brown, light brown	South of Syria (east of Damascus)
Masyāf	white – light beige- light gray- dark gray	Central of Syria (Ḥamāh- Maṣyāf)

Table 1. A table showing the types, colors and regions of Syrian marble

²⁰² ‘Askar Haytham, 1999, *al-‘aḥjār al-kilsīyya al-naqīyya*, archive of the General Company for the Investment of Marble and Stones, Syria. Nāyfa Fayṣal, 2005, *al-‘a‘māl al-Tanqībiyya lidirasat al-ṣukhūr shibh al-Rukhāmiyya fī manṭiqat Tadmur*, archive of the General Company for the Investment of Marble and Stones, Syria.

The marble and limestone used in the production of all Philippopolis mosaic pavements, were brought from outside Philippopolis and in various colors. The size and thickness of these tesserae differ according to the place, the pavement and the scene, in addition with the presence of unique cases in some mosaics that distinguished them from mosaic pavements in other Syrian sites.

The first case was characterized by the use of glass tesserae in two of the mosaic sidewalks in the house of al-Qabbānī. Of course, glass tesserae were used in some of the mosaics discovered in Syria, but in mosaics associated with the water scenes, depictions of river gods or scenes of marine wealth. While in the mosaic of al-Qabbānī house, glass cubes were used in various philosophical and symbolic scenes. The use of glass tesserae in the mosaic of al-Qabbānī house, were in the mosaic of Justice, Education and Philosophy discovered in 1925 AD along with the mosaic sections that were discovered in 1965 and 2014 AD.

Another unique case was the use of tesserae with a volcanic nature, completely similar to the nature of the dark red volcanic material found in the vicinity of the city of Philippopolis, was observed in the mosaics of the **Jādū al-Matnī house**, which was not found or identified in Syrian mosaics in other sites.

Previous studies of the mosaics of Philippopolis have shown that the mosaic pavements of the **Roman villa site** date back to the first quarter of the fourth century AD, by highlighting the character of excitement in the depicted scenes, relying on the process of color mixing, the contrasts and highlighting the realistic details of the main characters in the scene (Fig 31-34), which according to Janine Balty, are among the advantages that were known as "*the modernized Constantinople*", which prevailed in the period of the Constantinople Renaissance²⁰³. In performing the pavements of this villa, the artist used tesserae of marble and limestone, where he used tesserae of colored marble measuring 3-5x3-5x5 mm for the characters of the scenes in the center of the mosaic, while the light beige of limestone tesserae in paving the area surrounding the main scene measuring 10x12x12 mm.

The previous studies also dated the pavements that were discovered in the **House of al-Qabbānī** to the second half of the third century AD²⁰⁴, where parts of a Roman villa were discovered including four mosaic pavements, three of which were discovered in 1925, some parts of the fourth mosaic were discovered in 1965, while the other parts were found in 2014.

²⁰³ Balty, J. 1997, pp. 49-61.

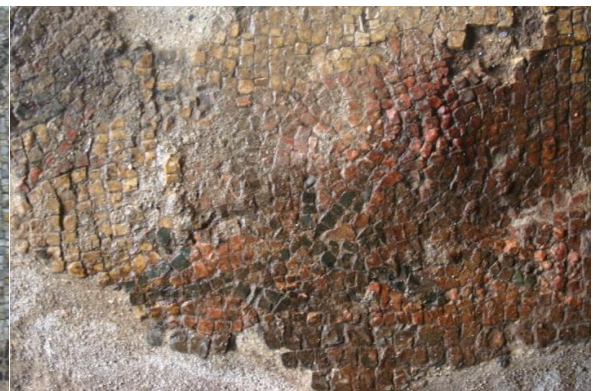
²⁰⁴ Balty, J. 1997, pp. 49-61.

These pavements were paved with marble and limestone tesserae of different colors and sizes. Their dimensions are approximately 10x10x10 mm in the frames and the backgrounds of the main scenes, while they were 5x5x5 mm in the main scenes and small panels and details of characters, animals, and birds. Two of these pavements were distinguished by the use of glass cubes in some details of the characters in the main scenes.

At this site the use of glass tesserae is noted in details of the mosaics of Justice, Education and Philosophy, where the mosaicist used two hues of blue glass tesserae. One can see in the character's dress that represents philosophy, in the details of the hair of all the characters, and it also used for writing the names of the characters depicted in the scene. Also, the use of the glass tesserae was in the fourth mosaic that was discovered in 1965 and 2014 in some details of the birds and plants within the small panels (Fig. 191). The use of glass tesserae can be considered evidence in the difference of the workshop that executed this pavement from the rest of the workshops that executed other pavements in other sites in Philippopolis.



A- Details from mosaic Justice, Education and Philosophy shown the used glass cubes, Philippopolis, Damascus Museum, Syria (photo: Maher Jbaee, 2010)



B- Details from the fourth mosaic of the house of al-Qabbānī shown the used glass cubes, Philippopolis, al-Qabbānī site and Museum of Shahbā, Syria (photo: Maher Jbaee, 2014)

Fig 191. A- B Details from mosaic of the house of al-Qabbānī shown the used glass tesserae, Philippopolis, al-Qabbānī site, Museum of Shahba and Damascus Museum, Syria (photo: Maher Jbaee)



Fig192 . Detail from mosaic Justice, Education and Philosophy with the blue glass tesserae, Philippopolis, Damascus Museum, Syria (photo: Maher Jbace, 2023)

By studying the state of the glass tesserae within the scene it is conspicuous, that the tesserae of some parts seem more intact (Fig. 192), not so damaged as one can see in other parts of the mosaic, the reason may be lack of use, or the presence of the remained original mortar layers are in diverse thickness under the Tessellatum after the lifting, the upper part of the mosaic shows that the glass tesserae used in the names of the characters appear to be more visible than others, but in reality they are quite similar to the glass cubes found in the other parts of the mosaic in terms of condition and damage, but they were colored at a previous stage as part of one of the mosaic conservation projects in the National Museum in Damascus.

Examination of the glass cubes under a microscope revealed that they were all similar in terms of material and may differ only in the proportion of the colouring agent (Fig 193). By the portable-XRF²⁰⁵ measurement of the darker blue tesserae the presence of chromium, iron, manganese and copper were detected from the possible chromatic components. Chromium is associated mainly to the green colour, but in the form of chromium (II) it can result a blueish tone. Although by the pXRF one can just see the elements and the quantities, it is not clear that the unstable chromium (II) is present, other form, or its salts²⁰⁶ and also a question that the further detected trace elements how are able to modify the final tone (Table. 2).

Element s	Si	Cr	Al	Cl	Ca	Mg	M n	Fe	Cu	S	P b	Sb	S n	Sr	Z r
BLUE1 (PPM)	17,76 %	360 o	440 o	2,926 %	2,140 %	-	78 o	165 o	60 o	46 3	7 8	19 8	2 7	11 7	1 1
BLUE2 (PPM)	13,54 %	190 o	450 o	2,080 %	1,138 %	1,19 %	56 o	121 o	28 1	37 6	2 7	42 6	-	12 1	1 4

Table 2. Elements measured with pXRF on the BLUE1_translucent darker blue, and BLUE2 translucent lighter blue glass tessera samples from the Justice, Education Philosophy mosaic. Presently displayed in the Damascus Museum, Syria. (p-XRF Olympus Vanta C Series)

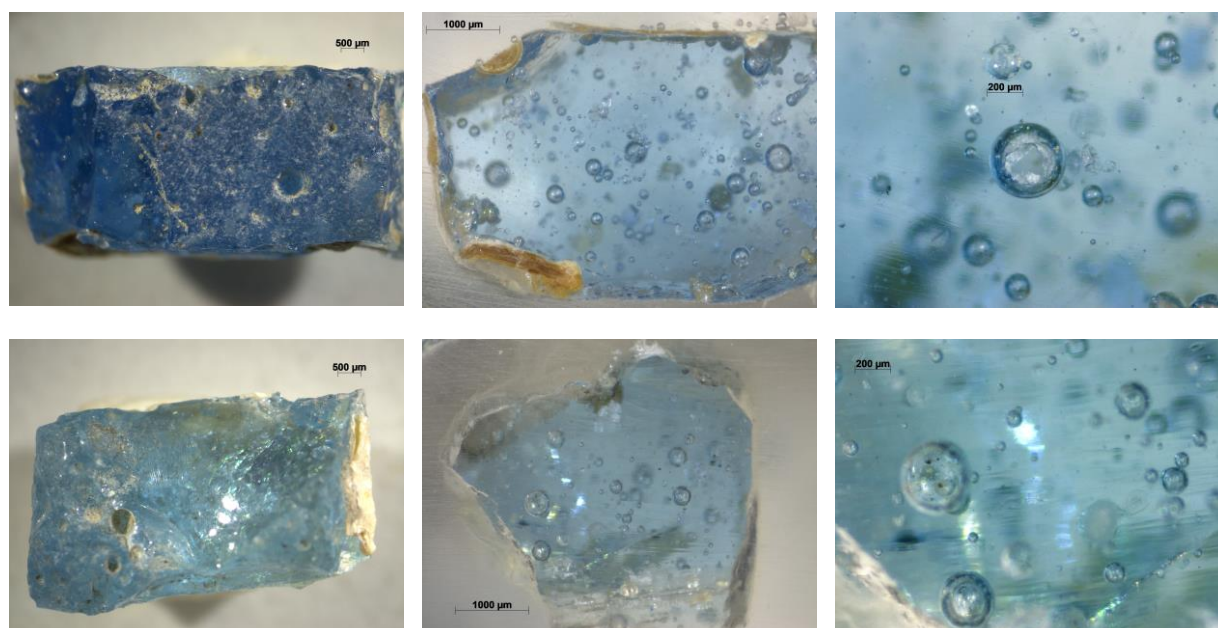


Fig 193. Darker BLUE1 (above) and lighter BLUE2 (below) blue glass' structure under stereomicroscope. The translucent glass material is similar in appearance concerning the ratio of the coloring agent(s) and also the dimension and distribution of bubbles. Difference is found in the final hue of the two. The darker is more purplish blue, while the lighter tends to greenish blue. (Photo: Brigitta Maria Kürtösi, 2023)

²⁰⁵ The measurements were performed in the Laboratory of the Hungarian University of Fine Arts, data by B. M. Kürtösi The pXRF is a useful and simple, basic tool in the glass research.

²⁰⁶[https://melscience.com/US-en/articles/oxidation-states-chromium/#:~:text=Chromium%20\(II\)%20oxide%20and%20hydroxide,reactions%20from%20chromium%20\(II\).](https://melscience.com/US-en/articles/oxidation-states-chromium/#:~:text=Chromium%20(II)%20oxide%20and%20hydroxide,reactions%20from%20chromium%20(II).)

Copper also may be responsible for the blue color. Manganese content can turn the hue towards a purplish tone but also was used as a decolorant agent. The iron content can give or increase the green color.

The question with the result is that chromium was not used in the Roman times directly as coloring agent for blue, as additive (mainly the cobalt was used), it is a later habit for example of the Venetian glassmakers around 1880.²⁰⁷ The high levels of chromium in ancient Syrian glass can be rather the use of Cr-bearing sands for the glassmaking process. It is also known that chromium-rich sand was used from the River Belus and its region (the Syro-Palestinian/Syrian/Phoenician coast, today Nahr Naaman, Israel), which is also mentioned for example by Pliny as primary source for the ancient glassmaking.²⁰⁸ The mosaic was lifted and treated in the past for displaying, thus any restoration could happened, but we assumed that the location of the sampling (the left bottom sequence of the scene, the area of the dress of the left figure) (Fig. 191A) is an original part of the mosaic. To reveal the original glass technology further analyses and if possible new sample comparisons would be needed.

In researching in a larger scope, concerning the Syrian mosaics dating back to the Roman period, we did not see the use of glass tesserae except in scenes related to water in particular, either for a pictorial purpose to give the scenes the true colors, or for a functional purpose due to the glass' resistance to water and humidity.

Roman mosaic pavements in Syria, in which we found glass tesserae date back to the second century AD or the beginning of the third century AD.



²⁰⁷ Freestone, Bimson 2003, p. 183.

²⁰⁸ Engle 1964, p. 21.



Fig 194. Details from the marine wealth mosaic showing the use of glass tesserae, 'ain al-Hilwah, Damascus Citadel Hall, Damascus, Syria, (photo: Maher Jbace, 2014)

The scenes in some of them were used to depict the blue or turquoise color of the water and in some of them they were used to form marine animals and their shadows within the mosaics that cover the floors of reception halls, or around the fountains, and they could be paved within a water stream to make the fish and marine animals appear as if they are swimming in the water. In other mosaics, these tesserae were used in the details of characters who embodied river gods. For example, we see a large use of glass tesserae in the marine wealth mosaic that was discovered directly on the seashore at the site of 'ain al-Hilwah in the city of Latakia (Fig 194), which dated to the second century AD and is on display in Damascus Citadel. Glass tesserae in light blue, dark blue and orange colors were used extensively to depict marine animals such as fish, octopus, crabs and lobsters. Light blue glass tesserae were also used to depict the shadows of these animals.

Greenish-blue glass cubes were also used in al-Rastan mosaic which dated to the beginning of the 3rd century AD and displayed in the Homs Museum to depict water in the middle of the scene (Fig 195). Light green and light blue glass tesserae were also used in the details of the Orontes River character and plants within the main scene in the Orontes River mosaic that was discovered at the Ghillina site and displayed in the Damascus National Museum (Fig 196). These mosaics date back to the second century AD or the end of the second century AD and the beginning of the third century AD.



Fig 195. Mosaic al-Rastan showing the use of glass tesserae, Homs museum, Syria, beginning of the 3rd century AD. (photo: Yamen Saleh. 2023)



Fig 196. Orontes River mosaic showing the use of glass tesserae, Damascus National Museum, Syria, beginning of the 3rd century AD (photo: Maher Jbace 2005)

The pavements discovered in the vicinity of the Great Baths were dated to the founding period of the city (mid-third century AD) relying on some of the features that prevailed in the Severian period.²⁰⁹ Limestone and marble tesserae measuring 5x5x5 mm were used in paving the main figures in the scenes and in the execution of animals, birds and human heads in the frames, while 10x10x10 mm tesserae were used in paving the frames and the backgrounds of the scenes. One of the pavements was distinguished by the use of black tesserae in paving the background of some scenes, unlike the backgrounds of all the pavements, where whitish tesserae were generally in use. The examples for the black background color within the figural frame surrounding the main scene of the mosaic Gaia, Plutus and the Giveaways of the Four Seasons, which included scenes of inhabited plants with cupids chasing animals, in addition to human heads in the four corners representing the four seasons (Fig 197).



Fig 197. Details from mosaic Gaia, Plutus and the Giveaways of the Four Seasons with black background in the figural frame surrounding the main scene, Philippopolis, Museum of Swaydā', Syria (photo: Maher Jbace 2010)

²⁰⁹ Balty, J. 1997, pp. 49-61.



Fig 198. Frame of Hercules mosaic using a background with black tesserae, al-Ma'arra Museum, Syria (photo: Maher Jbace, 2010)

We did not find this method of using a background composed of black tesserae in any other mosaic in Philippopolis, but it was found in some mosaic pavements discovered in other regions in Syria, with similar topic and character. For example we have to mention the frame of Hercules mosaic discovered in Ḥomṣ and displayed in al-Ma'arra Museum²¹⁰ (Fig 198), the frame of Cyrrhus mosaic displayed in Aleppo Museum²¹¹ (Fig 199), and the frame of al-Rastan mosaic displayed in Ḥomṣ Museum (Fig 200), all of which date back to the beginning of the third century AD. In addition to the similar frame of Maryamīn mosaic displayed in Ḥamāh Museum (Fig 201), which dates back to the fourth century AD.

²¹⁰ Balty, J. 1997, pp. 49-61.

²¹¹ Abdul Massih, J. 2009, pp 289-306.



Fig 199. Frame of Cyrrhus mosaic using a background with black tesserae, Aleppo Museum, Syria (photo: Maher Jbace, 2010)

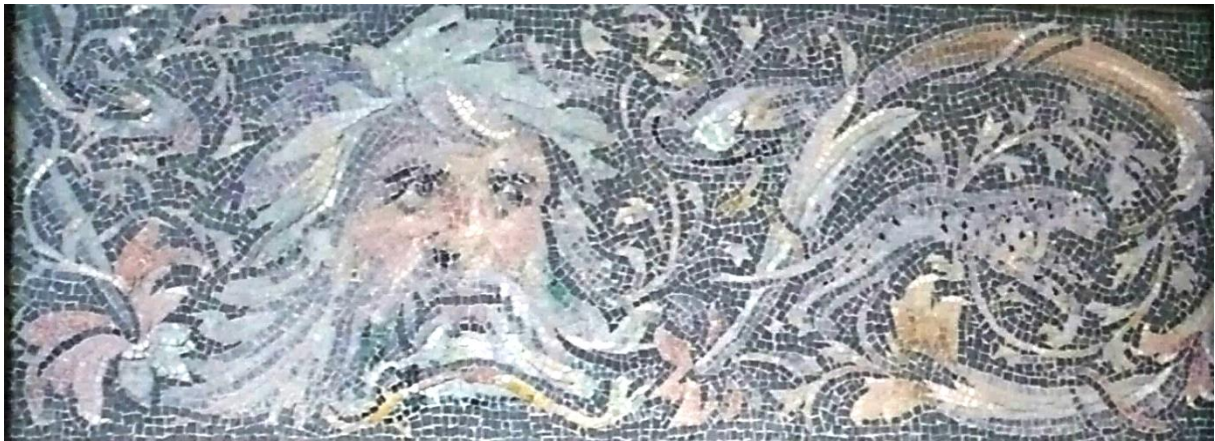


Fig 200. Frame of al-Rastan mosaic using a background with black tesserae, Homs Museum, Syria (photo: Osama Nofal, 2010)



Fig 201. Frame of Maryamīn mosaic using a background with black tesserae, Ḥamāh Museum, Syria (photo: Maher Jbace, 2010)

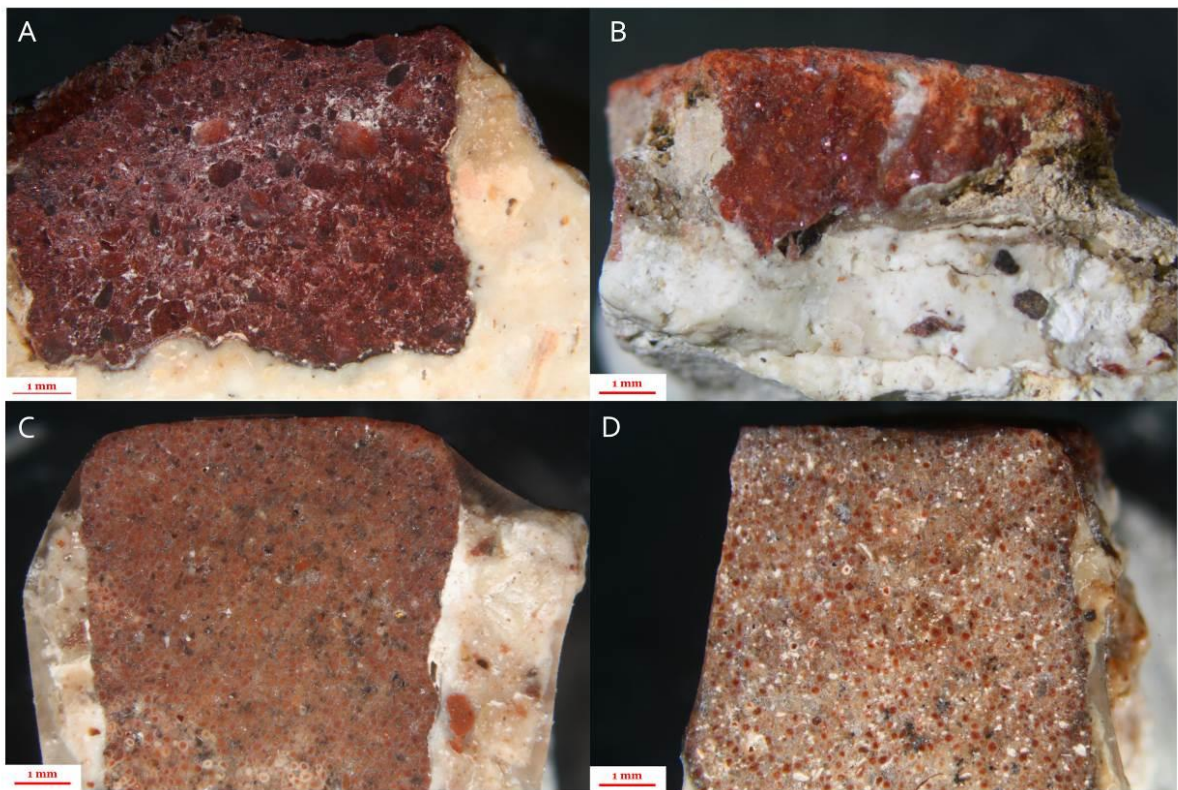
Previous studies also dated the pavements that were discovered in **al-Ḥarfūs** house east of Baths, and the pavement that was discovered near the eastern gate, with the topic of the Glorification of the Earth, to the second half and the end of the third century AD²¹². Three pavements were discovered in this house, paved with marble and limestone tesserae, of different sizes from 5 -10 mm.

The mosaics discovered at the site of the house of **Jādū al-Matnī** were characterized by the use of colored tesserae of marble and limestone with small sizes from 3x6x6 mm to the size 9x7x8. It was also distinguished by being not as thick as the used tesserae in other pavements, where the thickness of some cubes was only 3 mm (Fig 202). Also, the analysis of the samples showed the use of tesserae of a volcanic nature quite similar to some stones and the volcanic material found in Philippopolis, it was in the mosaics of Jādū al-Matnī house with small sizes from 3x6x6 mm (Fig 203).

²¹² Balty, J. 1997, pp. 49-61.



Fig 202. Part of the foundation layers of mosaic of the house of Jādū al-Matnī shown the used of less thickness tesserae, Philippopolis, Syria (photo: Maher Jbace 2014)



Various types of red tesserae from the mosaic of the Jado house, Philippopolis/Shahba, Syria.
A/ JM1B, B/ JM9, C/ JM7A, D/ JM3B

Fig 203. Various types of red tesserae from the Jādū al-Matnī house mosaic. (Photo: Brigitta Maria Kürtösi 2022)

VI.5 Analytical study of the materials used in the preparatory layers of these mosaics, and their availability at the site.

Ancient pavements are composed of a variety of preparatory or foundation layers constituting the substrate, and of a layer of tesserae, pebbles, or marble slabs, forming the surface of the floor, and in other cases, the surface consists of a mortar layer beaten and polished.

The design of the floors of buildings, whether they are residential, religious, or administrative, evolved with the development of the structures of these buildings. In addition to their primary function as a floor, they have aesthetic and decorative functions. Beside their designs, materials used in preparing their substrates and layers were developed.

Despite the studies that have been done on the artistic patterns of mosaic pavements, and the many studies devoted to documenting and restoring mosaics, very few of these studies have been concerned with the “invisible” part of these pavements.

The mortar used in preparing the foundation layers for mosaic floors was based on lime as a binder.

Limestone is naturally quarried as a compound of calcium carbonate, then it needs to be burnt at 900°C to ensure a good material is produced. The temperature at which it is burnt will affect, among others, its reactivity in all other stages of the lime circle or cycle – firing the calcium-carbonate (CaCO_3) to produce Calcium Oxide (CaO) which is commonly known as Quicklime, then it is mixed with water (H_2O) which producing calcium hydroxide (Ca(OH)_2) - slaked lime and heat (technical name lime paste) (Fig 204).

We can speak about “Air lime” if lime combines and hardens only in relation with the carbon dioxide of the air. But lime with hydraulic properties is able to set and harden when mixed with water on the air and/or under water, where the reaction with atmospheric carbon dioxide is just a part of the hardening process. The natural hydraulic lime (NHL) is produced with the firing of limestone with a high amount of clayish content. The hydraulic property of this kind of argillaceous or siliceous limestone derives from the chemical composition of natural raw material. Beside calcium hydroxide, calcium silicates are the components.

In the case if the initial lime itself has no hydraulic property the hydraulic additives can perform this, such as the most typical volcanic ash, pozzolana, brick powder concerning the ancient historical mortars.²¹³

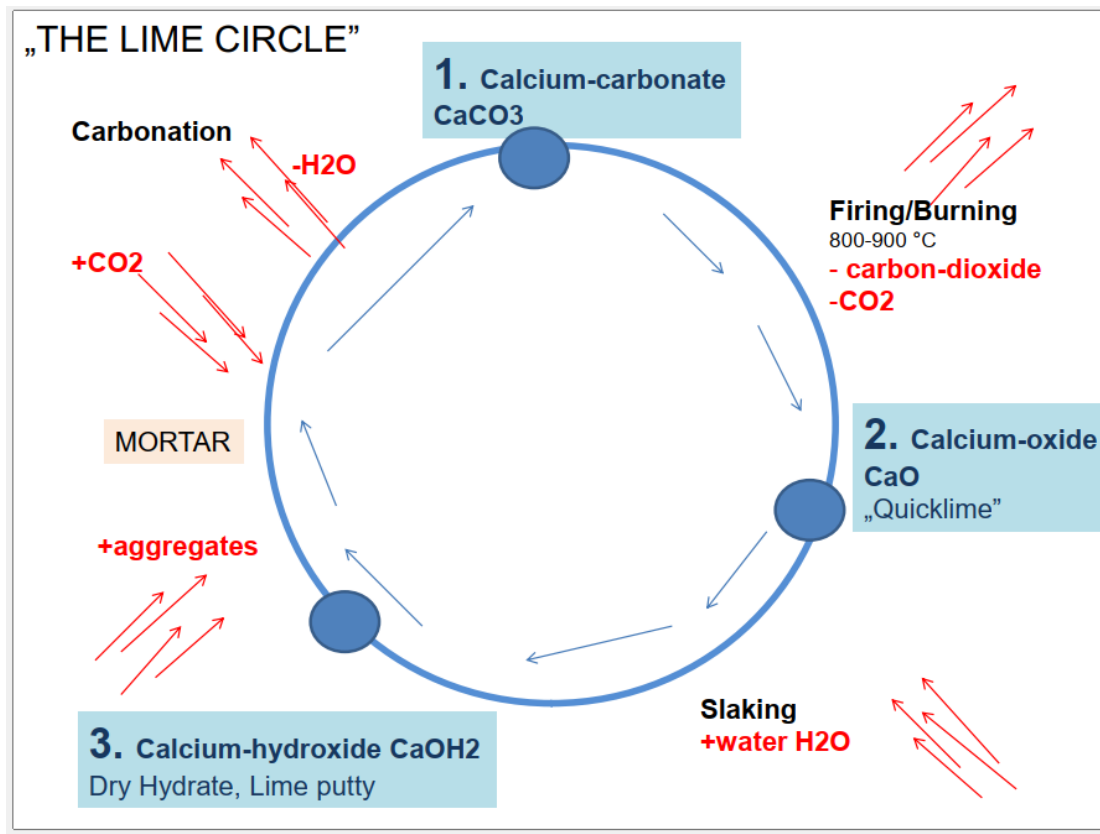


Fig 204. Lime Cycle (diagram by Brigitta Maria Kürtösi)

In the 1st century BC, Vitruvius in his book "The Ten Books On Architecture- Book VII- Chapter I- Floors" points out which are the most suitable conditions for the building of pavements, where he described the appropriate circumstances during manufacturing, such as damp environment, as the pavement endures best and longest in moist and shady places, while the rapid drought and looseness of the soil are the main causes of the rapid deterioration. Furthermore, he stresses the importance of keeping the pavement wet, so it acquires good mechanical properties²¹⁴. The moist environment can promote and elongate the carbonation process, thus the mortars become more and more durable. The explanation is in the use of “hot lime technique”. During the also called “dry lime slaking” procedure, which was common in the ancient and medieval times the slaking was not equable and, in the mortar, always remained unslaked particles. By the presence of water, or moisture these unslaked

²¹³ Kürtösi B. M. 2019

²¹⁴ Vitruvius Pollio, M, 1914, p. 238.

lime lumps of the binder are able to slake by the slow process of carbonation, the newly appeared reactive binder can connect the micro-cracks and strengthen the structure which results better mechanical properties.²¹⁵

According to the Latin author, the soil must be tested to see whether it is everywhere solid by ramming it vigorously, then foundation layers were spread on top of it. After ramming and leveling the soil, a layer of wooden boards that do not crack with moisture and cause cracks in the floors is placed. According to Vitruvius, winter oak boards that are not damaged by moisture must be used, or very thin common oak wood boards that can be fixed by nailing them, then covered with straw to protect the wood from lime²¹⁶. This layer of wooden panels and straw covering has not been found before in Philippopolis sites in particular, nor in Syrian sites in general.

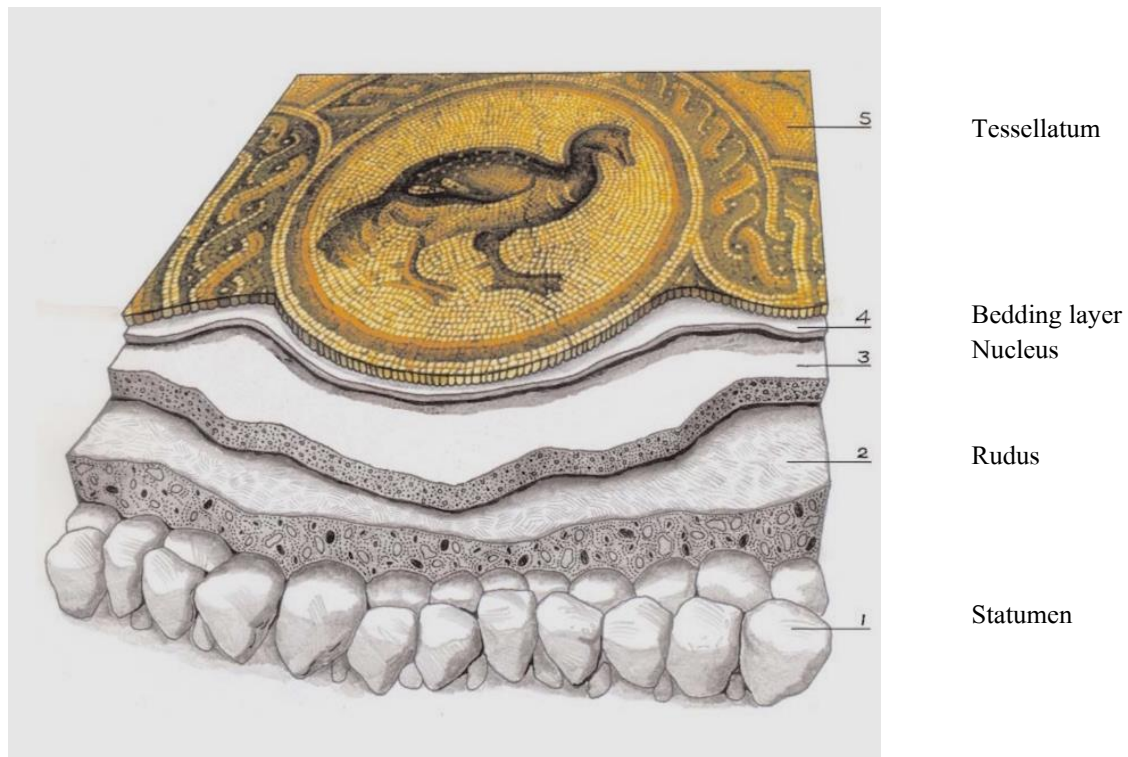


Fig 205. Standard stratigraphy of ancient mosaics by Vitruvius

(Photo: The Getty Conservation Institute, 2011, p. 2)

The first layer called Statumen, laid on the ground, was made of fist-size or even larger stones. The second layer, called Rudus, was spread over the Statumen and consisted of small

²¹⁵ Kürtösi B. M. 2011, pp. 414-415

²¹⁶ Vitruvius Pollio, 1914, pp. 239-241. Examples of the so called *contignatio* is known from Türkiye, Evcim 2023, pp. 187-199.

stones mixed with lime in the proportion of three to one. This layer was rammed by wooden mallets, and according to his description its thickness was three-quarters of a foot, which means about 20 cm. The third layer, called Nucleus, was made of powdered tile or brick with lime in the proportion of three to one and its thickness was no less than six fingers, which means about 10 cm. On top of the Nucleus, a pavement of marble slabs or the mosaic was laid and rubbed down. After the rubbing down, when the pavement was completed, marble dust was sprinkled over it, and over the lime and sand were applied.

Later most of the mosaic pavements were made according to the description of Vitruvius with some adjustments in the thickness of the first three layers that he described in his book finished with the bedding layer and the marble pieces or mosaic tesserae (Fig 205). Accordingly, the preparation of pavements, the mosaic stratigraphy in the Roman period can be described as follows:

1. Statumen: First preparatory layer which is made of large stones laid on the ground, previously leveled and rammed. This layer only exists if the mosaic has been constructed on natural soil, and it can be dispensed with or reduce the sizes of stones if the nature of the land is rocky in origin²¹⁷.
2. Rudus: Second preparatory layer which is spread over the Statumen, this layer is made of a lime mortar with large aggregates of gravel or brick.
3. Nucleus: Third preparatory layer which is spread over Rudus layer in a thinner layer. The nucleus is made of a lime mortar with fine hydraulic components depending on the geographical environment: powder of brick, pottery or tile, volcanic ash or pozzolana and oftentimes, in areas where these were not available, the Nucleus layer contained coal or burnt wood ash, which increases the durability and elasticity of the lime mortar.
4. Bedding layer: Fourth preparatory layer of mortar is very rich in lime and is thinly applied in small sections in stages and according to the size of work the mosaic craftsman does.
5. Tessellatum: Layer which constitutes the mosaic surface and is composed of tesserae and mortar filling the interstices between them²¹⁸.

²¹⁷ Vitruvius Pollio, M. 1914, pp. 239-241.

²¹⁸ Vitruvius Pollio, M. 1914, pp. 239-241.

The techniques and materials for preparing the foundation layers for mosaic pavements in the sites of Syria, in general, did not differ, and they followed the same system prevailing in all sites of the Roman world, due to the nature of the region and the materials that available in it, in which there are quarries of sandstone, limestone, and marble. But the nature of the southern regions in Syria in general and in Philippopolis in particular, was an exceptional case in the use of materials with abundant volcanic elements of the foundation layers. The technical workshops have resorted to using volcanic raw material for preparing these foundational layers and also for additives in their preparation mortars.

As we explained before that Philippopolis located in the south of Syria, surrounded by volcanic mountains on all sides (Fig 206).



Fig 206. Tal shīhān, one of the volcanic mountains in Philippopolis, Philippopolis, Syria (Photo:<http://esyria.sy/sites/code/index.php?site=suweda&p=stories&category=places&filename=201103240825135>).

We can arrange all the pavements discovered in Philippopolis in four groups in terms of organizing the foundation layers. Also, we were able to systematize them through the surveys and excavations that we performed in 2014 and 2015 firstly to know the methods of organizing the foundation layers of the four mosaics that were discovered in 1963 on the Roman villa site. In the followings we investigated the foundation layers connected to the collection discovered in the mid of the last century and in 1979, which are four pavements in the house of al-Ḥarfūsh and that of the mosaic collection, again four pavements, discovered

1925 in the house of al-Qabbānī, and lastly we could examine the order of the foundation layers for the mosaic discovered in 2014 in the site of Jādū house.

Through the archaeological sondages, we noticed a difference in each group from the other groups, in terms of the mosaic stratigraphy and also in the use of the components. We can see a clear difference between the components of the foundation layers in Philippopolis pavements and those in other sites in Syria, this is related mainly to the nature of the materials and their available sources in Philippopolis, which differ from the nature and sources of the materials in other sites in Syria, in addition to the different workshops.

We noticed a heavy use of volcanic raw material available in the area whether it was within the foundation layers separately or mixed with the lime mortar. The probes showed that the preparation of the foundation layers is different in the case of some pavements than the common system in other sites dating back to the Roman period in general or particularly in Syria. For example, in some of them there were only four layers instead of five.

The unique case that was found in Philippopolis was in the mosaic pavement of the House of al-Ḥarfūsh, where the Rudus layer was replaced only with a layer of black volcanic stones that is abundant in the area, without mixing it with other materials or with the lime.

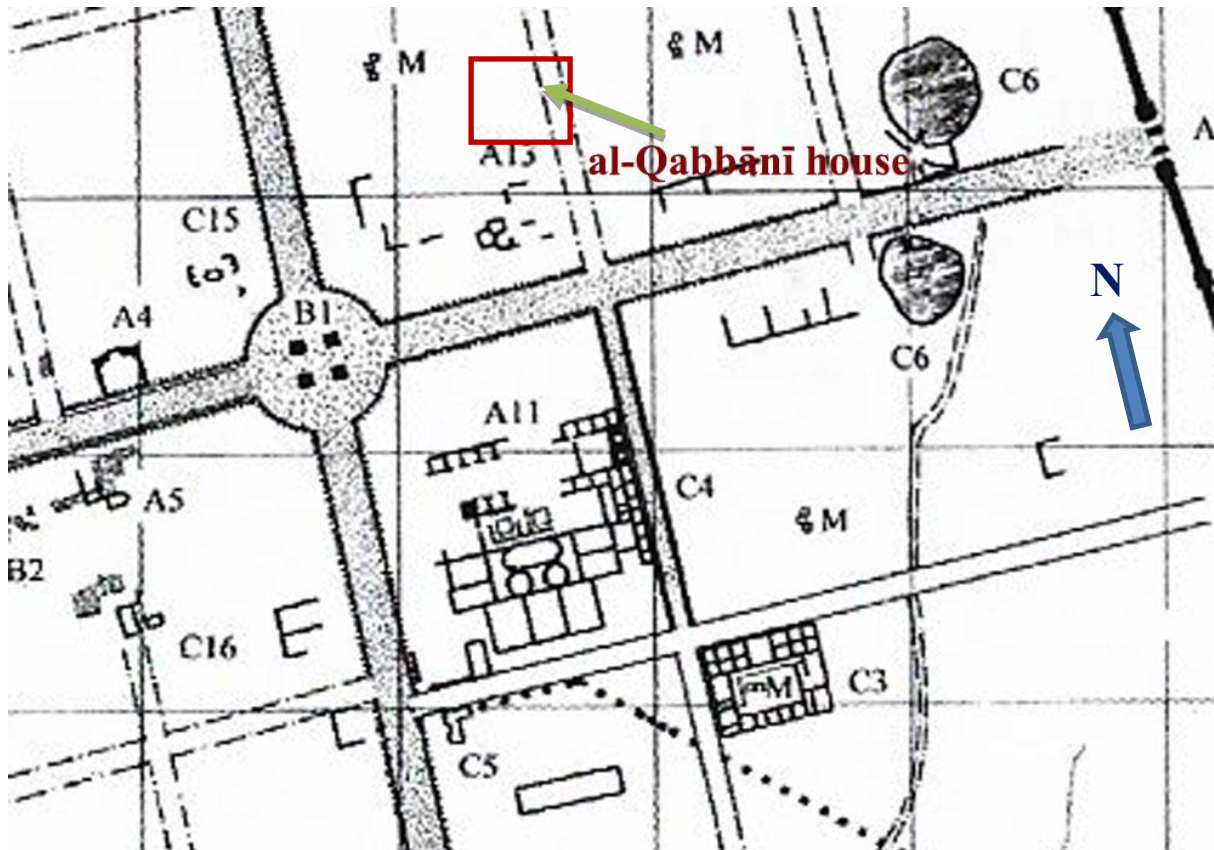
In the House of al-Qabbānī we detected the presence of a sixth layer under the Statumen, which is a basic foundation layer of stones of a smaller size than those of the Statumen layer with a thickness of up to 30 cm.

The third special case is the discovery of the remains of a previous mosaic pavement under the mosaic that was discovered at the house of Jādū al-Matnī. The earlier mosaic was made by large white cubes of limestone. The white tesserae surrounded a lost main scene, which explains that the workshop probably reused the color tesserae in the paving of the upper mosaic. In preparing the foundation layers of this pavement, the craftsmen used large pieces of basalt within the Rudus and in some cases in the Nucleus.

- **Mosaic of the house of al-Qabbānī:**

Through excavations in the house of al-Qabbānī in 2014, we were able to connect the newly found remains of the mosaic with the previously discovered fragments in 1965, and

that this mosaic covers the floor of a hall within a Roman villa located in the residential area north of the road between the Tetrapylon and the eastern gate (Plan 5).



Plan 5. The location of the house of al-Qabbānī within the plan of the city of Philippopolis (Plan by: Darrous Nouha, Rohmer Jérôme, Syria, Tome 81, 2004. p. 7)

The mosaic is geometric decorative of lozenges with opposite heads forming between them rectangles contain human heads in the form of masks and different types of birds (peacocks - ducks - pigeons), while the artist paved the entire space along the eastern wall of the hall with a scene consisting of a repetition of 50 cm wide octagons, the borders of which are executed with black tesserae against a white background. Inside each octagon small square shape was placed.

Among the works that we did in this hall in the house of al-Qabbānī, we conducted a sondage in the southwestern corner (Fig 207). We also carried out several sondages in the rooms where the mosaic pavements were discovered in 1925, but we did not find the foundation layers because of their destruction after the discovery and the construction of modern buildings.



Fig 207. The sondage in the southwestern corner of the hall of the house of al-Qabbānī Philippopolis, Syria
(Photo: Maher Jbace, 2014)



Fig 208. The mosaic which discovered in the house of al-Qabbānī and the location of the sampling within the mosaic, Philippopolis, Syria, (Photo: Maher Jbace, 2014).

The sondage that we did in the hall showed that the workshop had followed a different system in organizing the foundation layers (Fig 208). This may be due to the methodology of the work of this workshop or because of the nature of the soft soil in this location, where a 30 cm thick foundation layer of small stones is established before the generally first layer called Statumen. The mosaic stratigraphy was as following (Fig 209):

1. Tessellatum layer: it is made of marble tesserae with a size of 0.5-0.8 cm.
2. Bedding layer: is a lime mortar with a high proportion of lime and with a thickness of 1.5-2 cm.
3. Nucleus layer: It is gray-colored lime mortar due to the use of volcanic ash and/or lapilli grinding with some thin volcanic aggregates, lumps of lime, and very little use of small aggregates of red and black of volcanic pieces was detected, the thickness of this layer is about 5 cm.

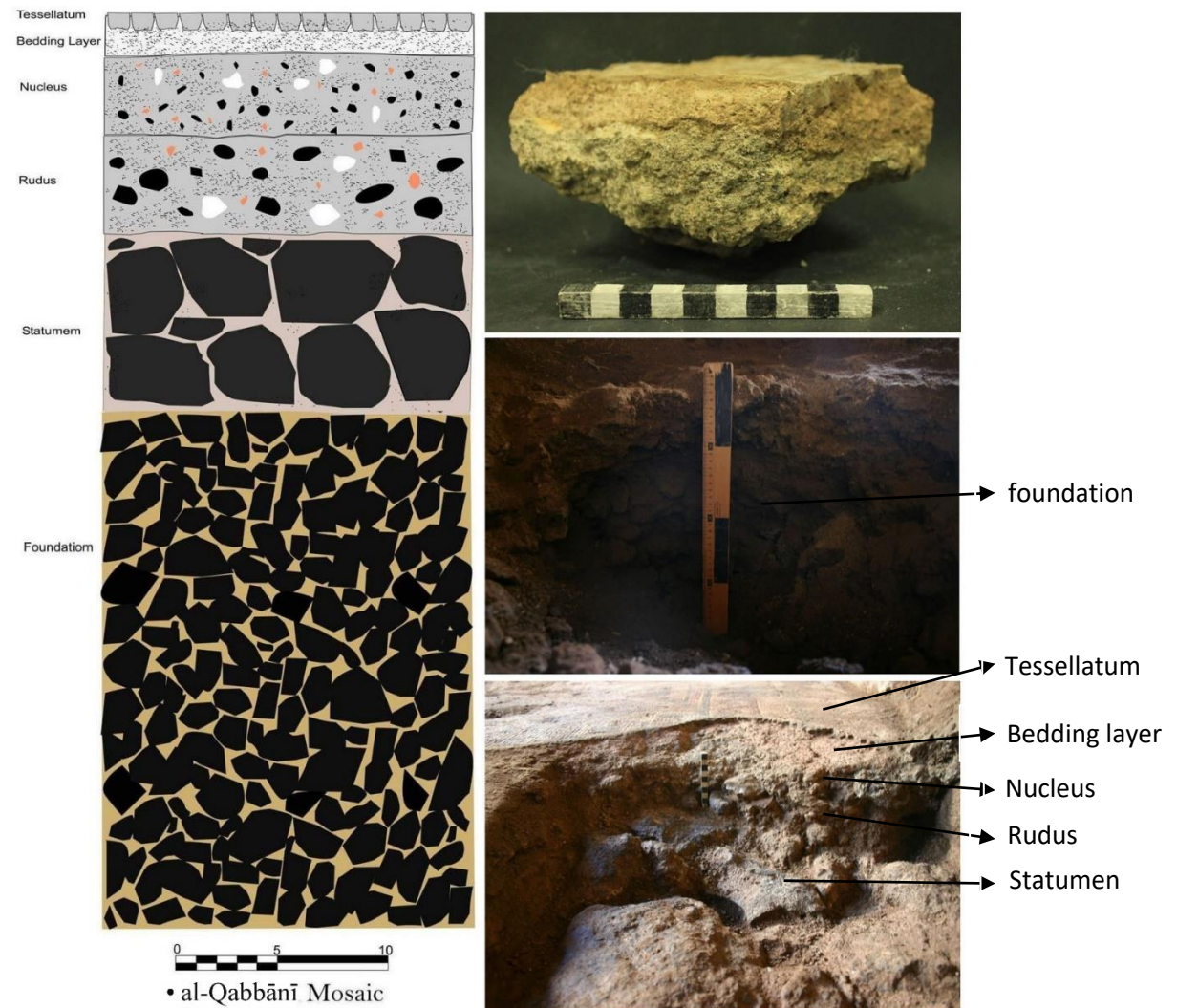


Fig 209. Graphic reproduction of mosaic stratigraphy of the house of al-Qabbānī, Philippopolis, Syria, (Photo: Maher Jbaee, 2014, Graphic: Mustapha Oude, 2019).

4. Rudus layer: a layer of lime mortar with a light gray color, as the proportion of volcanic ash and/or crushed lapilli is less than in the Nucleus layer and contains different sizes of aggregates such as larger basaltic stones and small aggregates of

pieces of red and black of volcanic fragments. The thickness of this layer is about 5 cm.

5. Statumen: It is a layer of fist size basaltic stones and slightly smaller sized pieces interspersed with soil. Its thickness is about 10 cm.
6. Foundation layer: It is of irregular size and shape volcanic stones whose sizes are smaller than the stones of the Statumen layer, and the diameter of the pieces does not exceed 4-5 cm, piled on top of each other in a thickness of 30 cm.

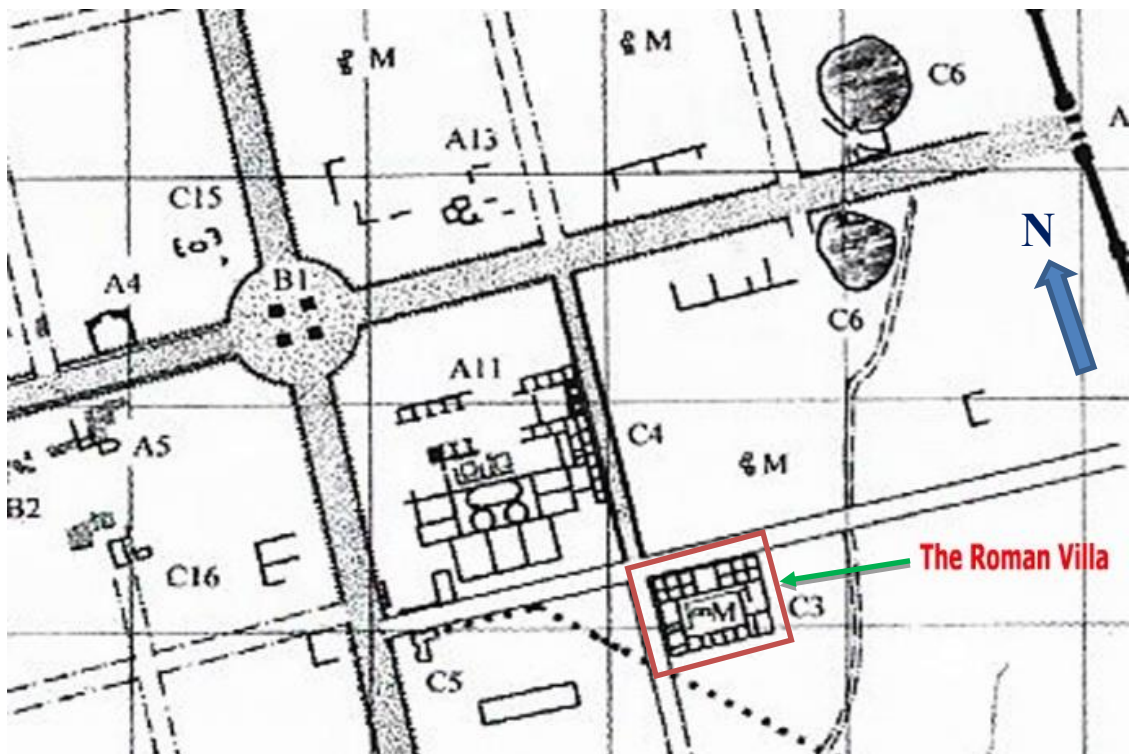
Mosaic of the Roman Villa:

In 1963, two rows of rooms were discovered in the northwestern section of this villa, so that each row contained three rooms, and in four out of these six rooms mosaic pavements were brought to light. The mosaic pavements have been preserved in-situ, in their original place, and the site has been converted into a museum called the Shahbā Museum (Fig 210). The dimensions of the four rooms are approximately equal, 480 – 510 cm and separated by stone walls of 83 cm in thickness (Plan 6).

The workshop followed the same system to depict the scene in the four mosaics, the main scene is in the center of the room with the connected colorful frames, and the surrounding spaces were uniformly paved with light ochre tesserae. The style and execution manner of the figural scenes are also of the same, high end workshop quality. Thus, we can expect that the mosaicists have used the similar method of preparing the foundation layers for the four mosaics over the entire area of the rooms and also that the four pavements are from the same construction period (Fig 210. Fig 211).



Fig 210. The Roman villa and the museum which contains the mosaics, Philippopolis, Syria, (Photo: Archive of Shabbā Museum, 2004)



Plan 6. The location of the Roman Villa on the plan of the city of Philippopolis (Plan by: Darrous Nouha, Rohmer Jérôme, Syria, Tome 81, 2004. p. 7)



Fig 211. The Roman Villa with the mosaic pavements and the location of the sampling within the mosaic of Orpheus, Philippopolis, Syria, (Plan by Maher Jbace, 2021).

In April 2014 I made an archeological sondage in the eastern side of the mosaic of Orpheus that decorated the southeast room of this section (Fig 212), and through this probe we detected five foundation layers (Fig 213) although we cannot exclude that slight differences in

materials or proportions may exist between the upper layers under the frame and those under the center of the mosaic, where we could not investigate the stratigraphy.²¹⁹



Fig 212. Archaeological sounding in the eastern side of the mosaic of Orpheus, Philippopolis, Syria, (Photo: Maher Jbacc, 2014)

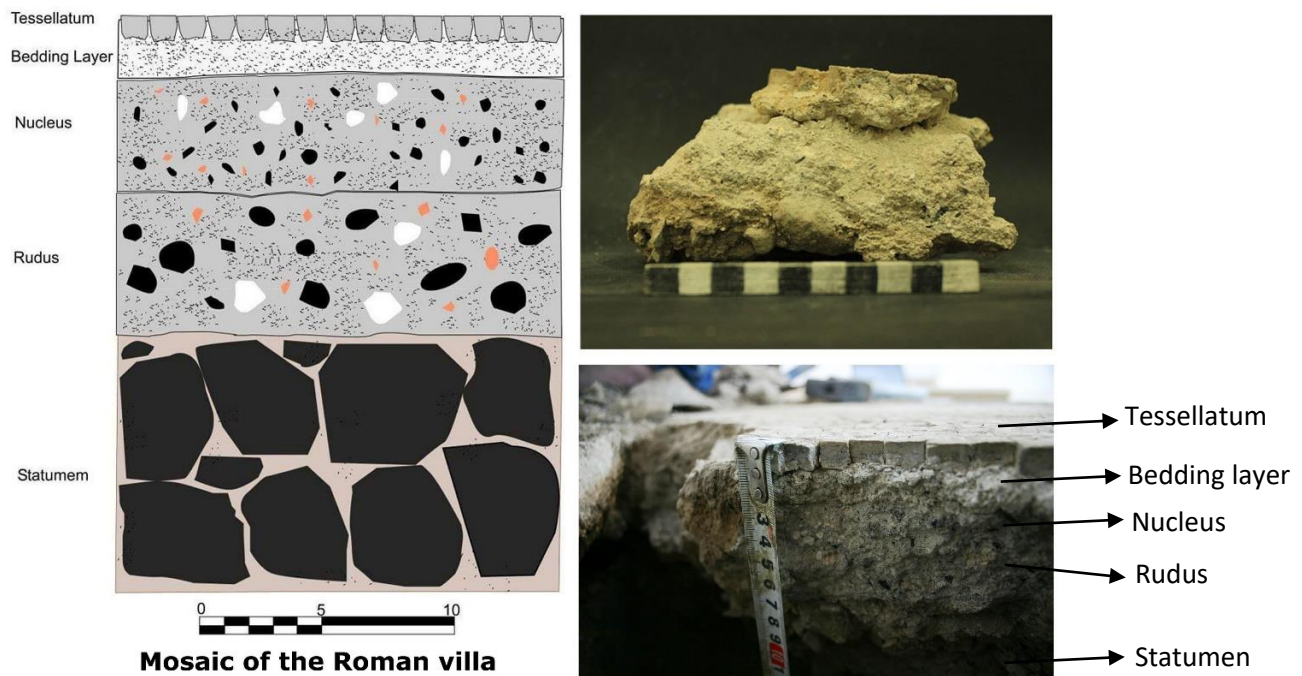


Fig 213. Graphic reproduction of mosaic stratigraphy of the Roman Villa, Philippopolis, Syria, (Photo: Maher Jbacc, 2014, Graphic: Mustapha Oude, 2019).

²¹⁹ Samples were taken from the foundation layers of the Orpheus mosaic, from the bedding layer, the Nucleus layer, and the Rudus layer.

1. Tessellatum layer: it is made of compact limestone and marble tesserae with a thickness of 1 cm (in the frame).
2. Bedding layer: is a fine lime mortar with a high proportion of lime due to its white color that differs from the lower layers, and it is 1.5-2 cm thick. Some yellowish spots appear which are clayish parts, lime lumps are also visible as typical features of the dry lime slaking.
3. Nucleus layer: It is gray-colored lime mortar with lumps of lime, the color is due to the use of volcanic particles and remnants of charcoal. A very little use of small aggregates of red and black of volcanic pieces can be detected. The thickness of this layer is about 5 cm.
4. Rudus layer: a layer of lime mortar with a light gray color, as the proportion of volcanic ash and/or lapilli griding seems less than the Nucleus layer and contains different sizes of aggregates such as basalt agglomerates and small aggregates of red and black of volcanic pieces. The thickness of this layer is about 5 cm.
5. Statumen: basalt stone layer of the size of a fist and slightly smaller sizes interspersed with soil, and its thickness is about 10 cm.

- **Mosaic of the house of al-Harfūsh:**

I mentioned before, that in the fifties of the last century and 1979, many mosaic pavements were discovered in the house of al-Harfūsh east of great baths.

Also, I mentioned that the pavements that were discovered in the vicinity of the great baths in the north and east are seven pavements, and there is no documented information about what was discovered in the north of the baths and what was discovered in the house of al-Harfūsh east of the baths (Plan 7), but the owner of the house confirmed that the mosaics that were discovered in his house were only four. Three of them were discovered in the middle of the last century: the drunk Bacchus mosaic, the mosaic of the Three Graces, and mosaic of Gaia, Plutus, and the giveaways of the four seasons, while the mosaics of Pelops and Hippodamia were discovered in 1979.



Plan 7. The location of the house of al-Ḥarfūsh within the plan of the city of Philippopolis (Plan by: Darrous Nouha, Rohmer Jérôme, Syria, Tome 81, 2004. p. 7)

Through our work in 2014 in one of the rooms in the house of al-Ḥarfūsh located in the southern part of the building, opposite the Roman villa, we were able to discover some parts of a mosaic that decorated the room floor with measures of 850 x 750 cm.

I made an archaeological sondage in the room for revelation of the foundation layers of this mosaic (Fig 214) and collected some samples for each layer.



Fig 214. The mosaic which discovered in the house of al-Ḥarfūsh and the location of the sampling within the mosaic, Philippopolis, Syria, (Photo: Osama Nofal, 2014).

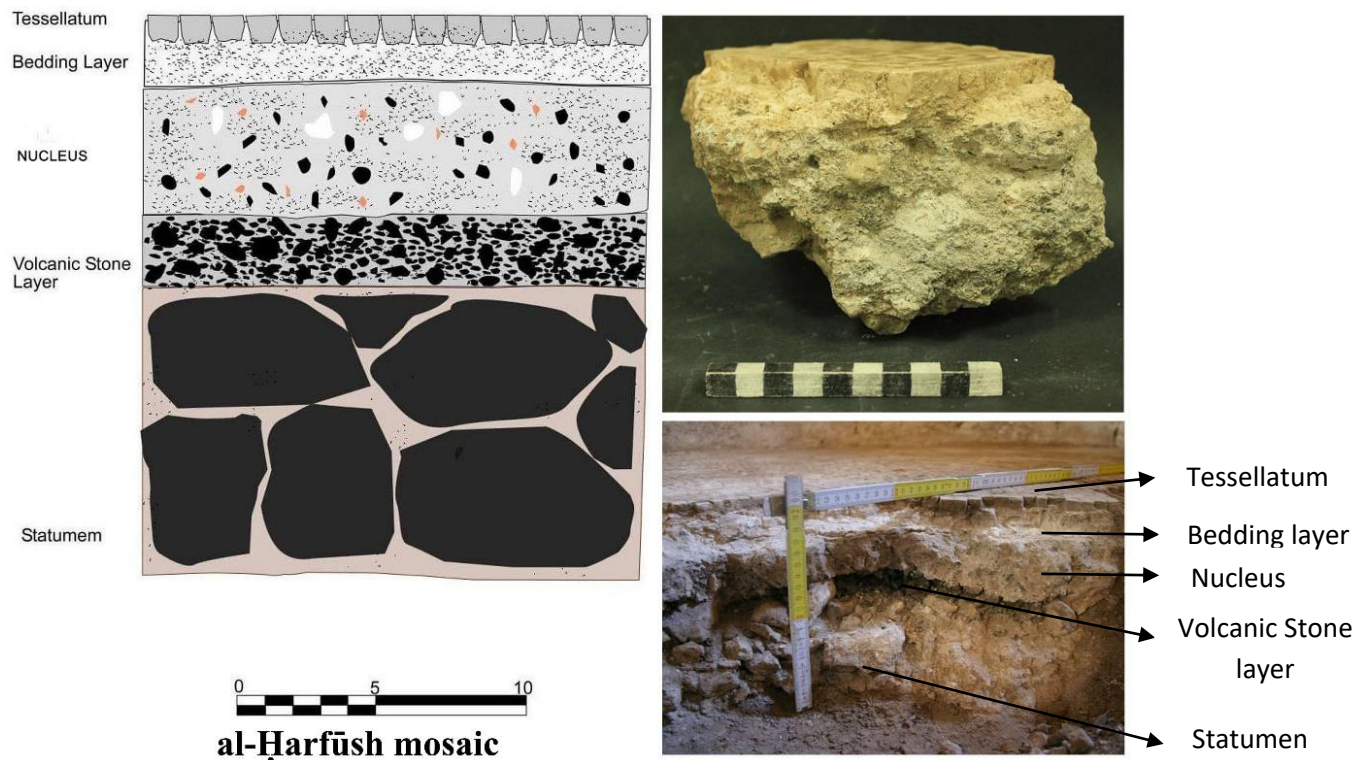


Fig 215. Graphic reproduction of mosaic stratigraphy of the house of al-Ḥarfūsh, Philippopolis, Syria (Photo: Maher Jbace, 2014, Graphic: Mustapha Oude, 2019).

By studying this archaeological sondage, I found that the mosaic stratigraphy composes of five layers (Fig 215):

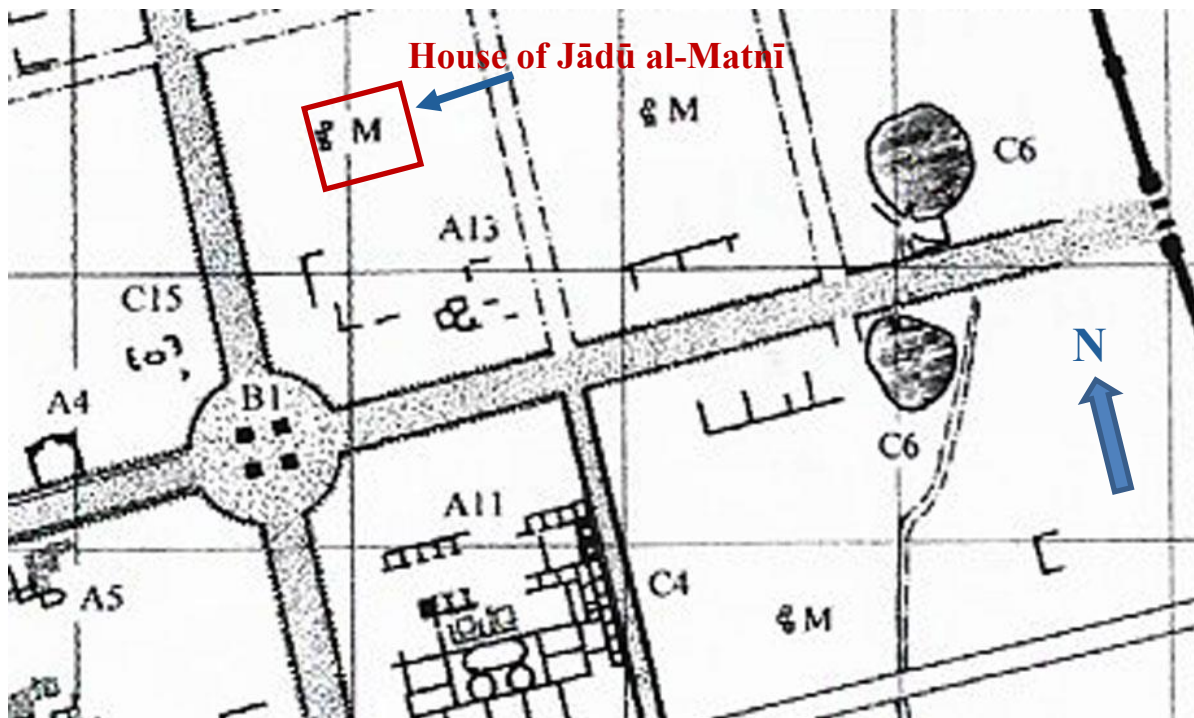
1. Tessellatum layer: it is made of marble tesserae with a thickness of 1 cm.
2. Bedding layer: is a lime mortar with a high proportion of lime with a thickness of 1.5-2 cm.
3. Nucleus layer: It is gray-colored lime mortar due to the use of volcanic ash, with some thin aggregates of lapilli, lumps of lime, and very little use of small aggregates of red and black of volcanic pieces was detected. The thickness of this layer is about 5 cm.
4. Black volcanic agglomerate layer: A layer of volcanic stone about 3 cm thick which has been used in this pavement instead of a layer of Rudus. We do not know exactly the main reason for using volcanic material between the layers of Statumen and Nucleus, but this available raw material in the city of Philippopolis is known to be very lite and retain moisture, so the villagers use it as a material to be mixed with the soil around the olive trees, which gives ventilation and moisture to the soil. The use of these volcanic stones in the case of the mosaics may either due to the ease of placing it over Statumen layer instead of Rudus layer that needs longer time, or it may be to

draw moisture down from the layers above it, thus keeping the surface of the mosaic always dry, but also it can function as an insulation layer.

5. Statumen: It is a layer of basaltic stones of the size of a fist and slightly smaller sizes interspersed with soil in a thickness of about 10 cm.

- **Mosaic of the house of Jādū al-Matnī:**

The site of house of Jādū al-Matnī is an exceptional case among the sites discovered in Philippopolis (Plan 8).



Plan 8. The location of the house of Jādū al-Matnī within the plan of the city of Philippopolis (Plan by: Darrous Nouha, Rohmer Jérôme, Syria, Tome 81, 2004. p. 7)

The presence of two mosaic pavements on top of each other is considered the first in the city of Philippopolis, where I previously indicated that we have restored parts of these mosaics that had been removed from the site in 1970, and have been preserved in the warehouse since that time until 2014, we took it out of the warehouse and restored it to be displayed later in the Shahba Museum (Fig 163).

We also worked on the same site in Philippopolis in 2014 and discovered other parts of the same pavement, and after lifting it to be restored and joined to the previous parts, we found under it parts of a mosaic floor with large white tesserae from the space around the missing main scene (Fig 216).



Fig 216. Parts of a mosaic pavement dating back to an earlier period under the mosaic pavement discovered in house of Jādū al-Matnī, Philippopolis, Syria, (Photo: Maher Jbace, 2014)

In addition to the tesserae layer, the parts that were lifted in 1970 also included the first, second and third foundational layers. Through our restoration work of these parts, we found that they differ greatly in terms of preparing the foundation layers for them.

We noticed that the Nucleus and Rudus layers contained a very high percentage of volcanic stone powder and large pieces of basalt stones, sometimes up to the same size as the stones in the Statumen stratum, a condition not seen in every site in Philippopolis.

After removing the mosaic that we discovered at the same site in 2014, we found parts of a mosaic pavement that had covered the floor in an earlier period. The stratigraphy for the two pavements were as follows (Fig 217):

1. Tessellatum layer: it is made of marble tesserae with a size of 0.5-0.8 cm.
2. Bedding layer: is a lime mortar with a high proportion of lime and with a thickness of 1.5-2 cm.
3. Nucleus layer: It is gray-colored lime mortar with lime lumps. The color is due to the use of volcanic ash and/or crushed lapilli, with some thin aggregates of volcanic stones, and very little use of small aggregates of red and black of volcanic pieces. The general thickness of this layer is about 4 cm.
4. Rudus layer: a layer of lime mortar with a light gray color, as the proportion of volcanic ash and/or ginding of lapilli is less than in the Nucleus layer and contains

different sizes of aggregates such as basaltic stones and small aggregates of red and black volcanic pieces. The thickness of this layer is about 5 cm.

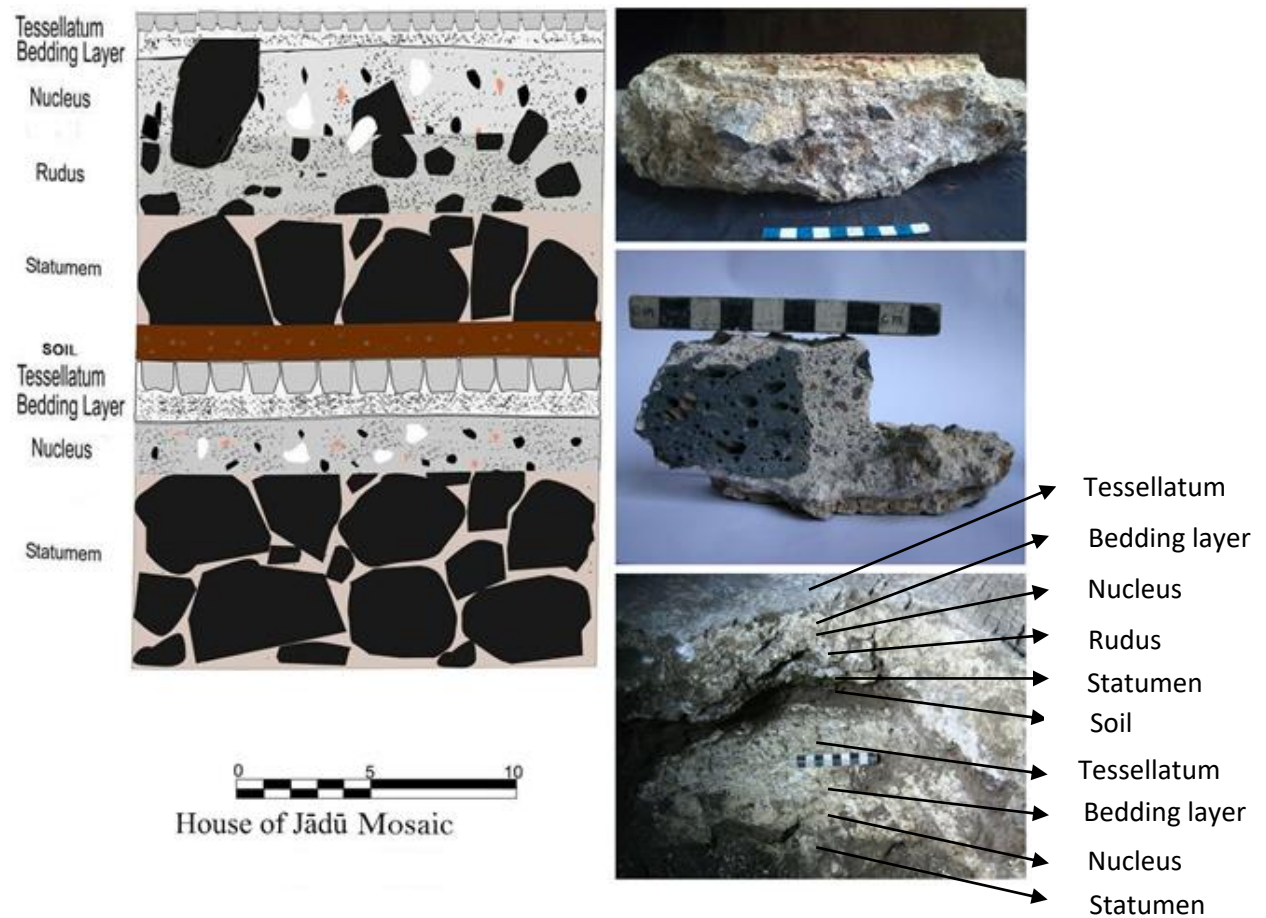


Fig 217. Graphic reproduction of the upper and lower mosaic stratigraphy of the house of Jādū al-Matnī, Philippopolis, Syria, (Photo: Maher Jbace, 2014, Graphic: Mustapha Oude, 2019).

5. Statumen: It is a layer of basalt stones or of the size of a fist and slightly smaller sizes and is interspersed with soil. And its thickness is about 6 cm.
6. Soil: A layer of soil with thickness of 3 cm.
7. Tessellatum layer: it is made of marble tesserae with a size of 2 cm.
8. Bedding layer: is a lime mortar with a high proportion of lime and with a thickness of 2 cm.
9. Nucleus layer: It is gray-colored lime mortar due to the use of volcanic ash, with some thin aggregates of lapilli, lumps of lime, and very little use of small aggregates of red and black of volcanic pieces, the thickness of this layer is about 4 cm.
10. Statumen: It is a layer of basalt stones of the size of a fist and slightly smaller sizes and is interspersed with soil. And its thickness is about 10 cm.

VII. Chapter three: Laboratory analyzes of samples of Philippopolis (Shahbā) mosaics.

VII.1 Analytical study for the implementation techniques of each mosaic in Philippopolis (Shahbā) within the frame of the Roman types.

VII.2 Study of the materials used in each mosaic based on the laboratory analyses

VII.2.1 Sample analysis

VII.2.1.1 Sample analysis in the laboratories of the Russian Academy of Sciences, Moscow, Russia.

VII.2.1.2 Samples analyzed in the Laboratory of the Hungarian University of Fine Arts, Conservation Department, Budapest.

VII.3 Comparative study of the examined mosaics through the results of the analysis of the samples taken from the Tessellatum and the preparatory layers of the mosaics of Philippopolis (Shahbā).

VII.1 Analytical study for the implementation techniques of each mosaic in Philippopolis (Shahbā) within the frame of the Roman types.

By studying the techniques of implementation concerning the Philippopolis mosaic collection, we found that, as a whole, it possesses general characteristics that distinguish it from the mosaic collections discovered in other regions in Syria (Apamee, Palmyra, Emesa (Homs), and others), and special characteristics for each mosaic and each site separately.

Artistically, the Philippopolis mosaic was characterized by a Hellenistic Roman character and did not have any local influences, rather, its iconographic representations were inspired by models that appeared previously in various fields of arts such as sculpture and mural painting.

While technically we found that the entire set of mosaic pavements of Philippopolis was carried out with Opus Vermiculatum type in the main scenes that include the main characters and their accompanying characters around which the mythical story revolves, and in some of the frames surrounding the main scene. While the Opus Tessellatum type was used in the geometric frames surrounding the main scene on some pavements, and in the implementation of the background of the main scene and the light ochre areas surrounding the center panel on other pavements.

The mosaic pavements discovered in the Roman villa next to the great baths and dated to the first quarter of the fourth century AD were characterized by the implementation of the main scene as a central panel in the center of the room with the surrounding frames using of Opus Vermiculatum type, while the large area surrounding this scene was executed using light ochre tesserae only and using of Opus Tessellatum type.

Through our work in house of al-Ḥarfūsh in the 2014-2015 seasons, it was found that the pavements discovered in this house and dated to the second half of the third century AD, adopted the same method, which included the implementation of the main scene in the center of the room using the technique of Opus Vermiculatum type, and surrounding it with a large area of light ochre tesserae to the limits of the room using Opus Tessellatum type.

While the mosaics discovered north of the great baths, which dated to the founding period of the city in the middle of the third century AD, showed the implementation of the mythical

story or the god and the accompanying figures within a general scene using of Opus Vermiculatum type surrounded by a frame that includes the hunting scenes of the Cupids also implemented by using of Opus Vermiculatum type, or with frames with geometric decorations implemented by Opus Tessellatum type.

As for the pavements discovered in house of al-Qabbānī and house of Jādū, they were distinguished by a different style in terms of the distribution of these mosaic pavements within the rooms and reception halls, and in terms of the quality of the scenes depicted within these mosaic pavements.

We found that all the pavements discovered in the Roman villa next to the great baths, the mosaics of house of al-Ḥarfūsh and the mosaics discovered north of the great baths are included legendary stories and embodiments of the gods and the characters accompanying them. While the mosaic pavements discovered in the house of al-Qabbānī and the house of Jādū are included mythical symbolic scenes and small panels associated with these scenes, in addition to scenes related to marriage and banquets.

The analytical study of the mosaic discovered in 2014 in both house of al-Qabbānī and house of Jādū al-Matnī shows the use of Opus Vermiculatum type on the entire pavement area using small-sized but not thick colored marble tesserae compared to the other mosaics in which small-sized tesserae were used, some of which did not exceed 3 mm in thickness. Where we found a similarity in the quality and sizes of the marble tesserae used in the mosaics discovered in house of Jādū al-Matnī and the mosaic that was discovered in 2014 in the northern hall of house of al-Qabbānī, which included scenes of geometric shapes of lozenges star that included shapes of some birds or masks.

VII.2 Study of the materials used in each mosaic based on the laboratory analyses

The previously discovered mosaic group of the city of Philippopolis is displayed in more than one museum, and the newly discovered mosaics are in their original location. Therefore, we have collected a number of mortar samples from many of Philippopolis mosaic pavements that present in sites, museums and storage, and the identification of the samples that were taken depended on the nature of the site and the possibility of obtaining those samples compared to other mosaics and other sites that cannot be distorted and tampered with.

For some of them, we were able to obtain samples of its foundation layers during our work on the sites, and part of them were able to obtain permission to take those samples from a mosaic displayed within the museum, but in specific areas from the mosaic frame, and in an area that cannot damage the mosaic.

We also depended on determining the mosaic pavements belonging to these samples based on the archaeological site and the mosaic pavements discovered there. For example, the samples that were taken from the site of house of al-Qabbānī during our work on the site in 2014, are a standard of all the mosaic pavements belonging to the same Roman villa, discovered in 1925 and 1965, and displayed in the museums of Damascus, Swaydā', and Shahbā.

The samples that were taken from the site of house of al-Ḥarfūsh during our work on the site in 2014 also are a standard for all the mosaic pavements that were previously discovered at this site in the 1940s and 1950s and are displayed in the museums of Damascus Swaydā', and Shahbā as well.

The samples taken from the frame of the Orpheus mosaic displayed in the Shahba Museum we also use as a standard of all the mosaics of the Roman villa in the other rooms at the same site.

While the samples that were taken from the house of Jādū al-Matnī during our work on the site in 2015 represent the mosaic discovered during our work together with the parts of the same mosaic previously discovered in 1970.

The samples that were taken from the above mentioned four sites are from the bedding mortar layers, nucleus mortar layers along with some tesserae from the mosaic of house of

Jādū al-Matnī, in addition to a sample of vesicular pyroclastics from the vicinity of the city of Philippopolis ‘for comparison with the nature of some of the tesserae used in paving the mosaic of the house of Jādū.

VII.2.1 Sample analysis

Samples were analyzed by Dr. Brigitta Maria Kürtösi in the Laboratories of the Hungarian University of Fine Arts, Conservation Department, Budapest, and supplemented with the results that we obtained from the analysis that were carried out on the same samples in the Laboratory of the Russian Academy of Sciences, Moscow, Russia.

VII.2.1.1 Sample analysis in the laboratories of the Russian Academy of Sciences, Moscow, Russia.

The samples were analyzed in the laboratories of the Russian Academy of Sciences in Moscow, Russia by Dr. Atali Akmuradovich Agakhanov, a Doctor of Mineralogical Sciences and the Vice Director of the Mineralogical Museum of A. M. Fersman of the Russian Academy of Sciences.

The analyses of the samples were performed by using: OM: Optical microscopy, XRD: X-ray Diffraction, SEM: Scanning Electron Microscopy coupled with EDS: Energy Dispersive Spectrometry and JEOL's Super probe 733 electron microprobe with INCA tungsten thermal emission spectrometer. Thin sections of the samples are unfortunately not available to check them again.

One of the previous studies that conducted on the examination of one out of the four hills surrounding the city of Philippopolis confirmed that the stratigraphy of these volcano hills is mainly composed of bedded basaltic scoria, according to previous petrographic and mineralogical analyses of the material of the largest mountain among them (the local name - Tel Shīḥān) scoriaceous glassy olivine-plagioclase basalt was detected. “*The constituents are olivine (3-6 vol.%) and plagioclase (4-8 vol.%), set in glassy groundmass (35-40 vol.%) and vesicles (30-35 vol.%)*”²²⁰. The particles of the vesicular pyroclasts are in different degrees and serve as groundmass for the associated mineral phases.²²¹.

There is no mention about the bright red volcanic materials, where the mainly black color indicates that the pyroclasts did not suffer from extensive oxidation, only the brown

²²⁰ Al-Malabeh, A. A. H. 2012, p. 67

²²¹ Al-Malabeh, A. A. H. 2012, p. 67.

colored uppermost bed may reflect to this circumstance²²². Tel Shehan is one of the four hills surrounding the city of Philippopolis, where its deposits and the deposits of two other hills are black volcanic pieces (Fig. 218). while the deposits of the fourth hill (Tal al-Jamal) are red-colored vesicular pyroclasts, which is certainly what we see within our samples that were analyzed (Fig. 219, Fig. 220, Fig. 221).

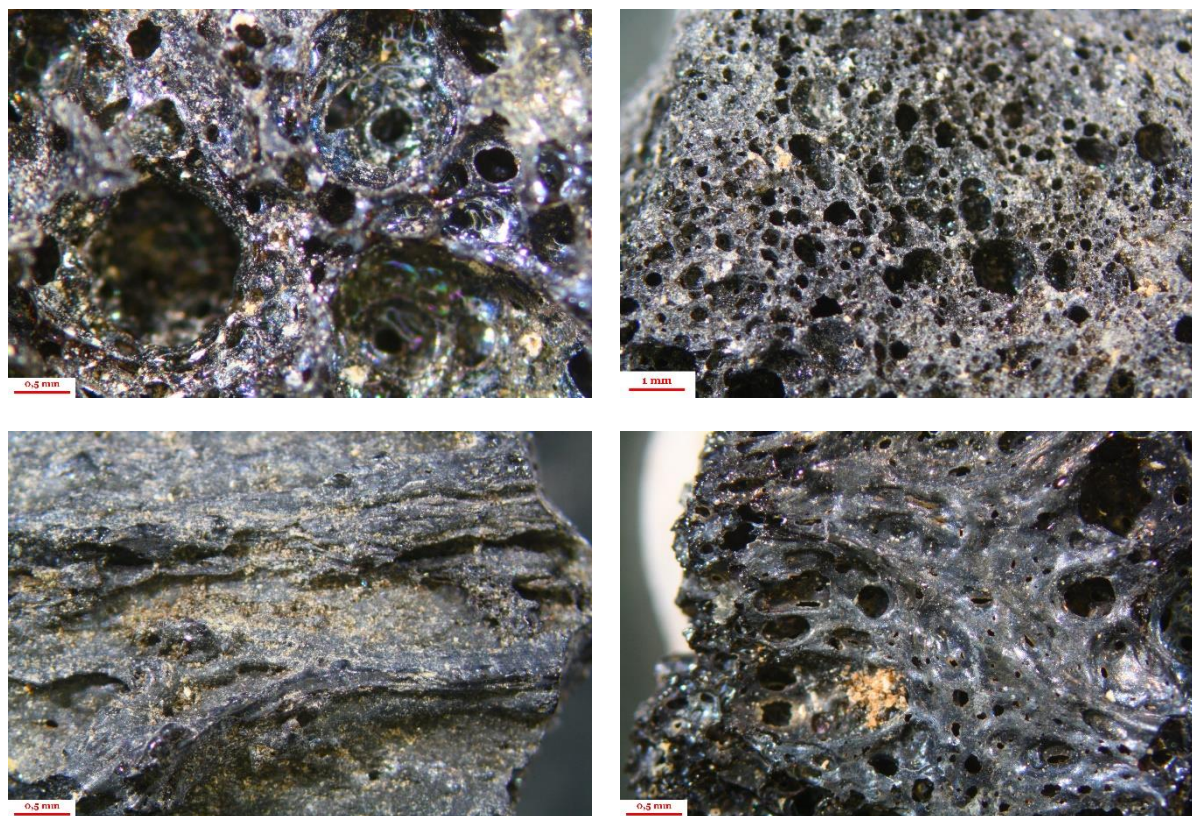


Fig218 . Photomicrographs of pieces from Shahba volcanic material, Syria. The black basaltic scoriaceous material is highly porous, with glassy shine and ellipsoidal holes. It has a purplish hue and partially flow character. (Photos: Brigitta Maria Kürtösi)

²²²Al-Malabeh A. A. H. 2012, p. 69.



Fig 219. Tel al-Jamal, one of the four hills surrounding the city of Philippopolis, Syria (Photo: Mohannad al Taweel, 2022)



Fig 220. The red-colored vesicular pyroclasts of Tel al-Jamal, Philippopolis, Syria (Photos: Mohannad al Taweel, 2022)

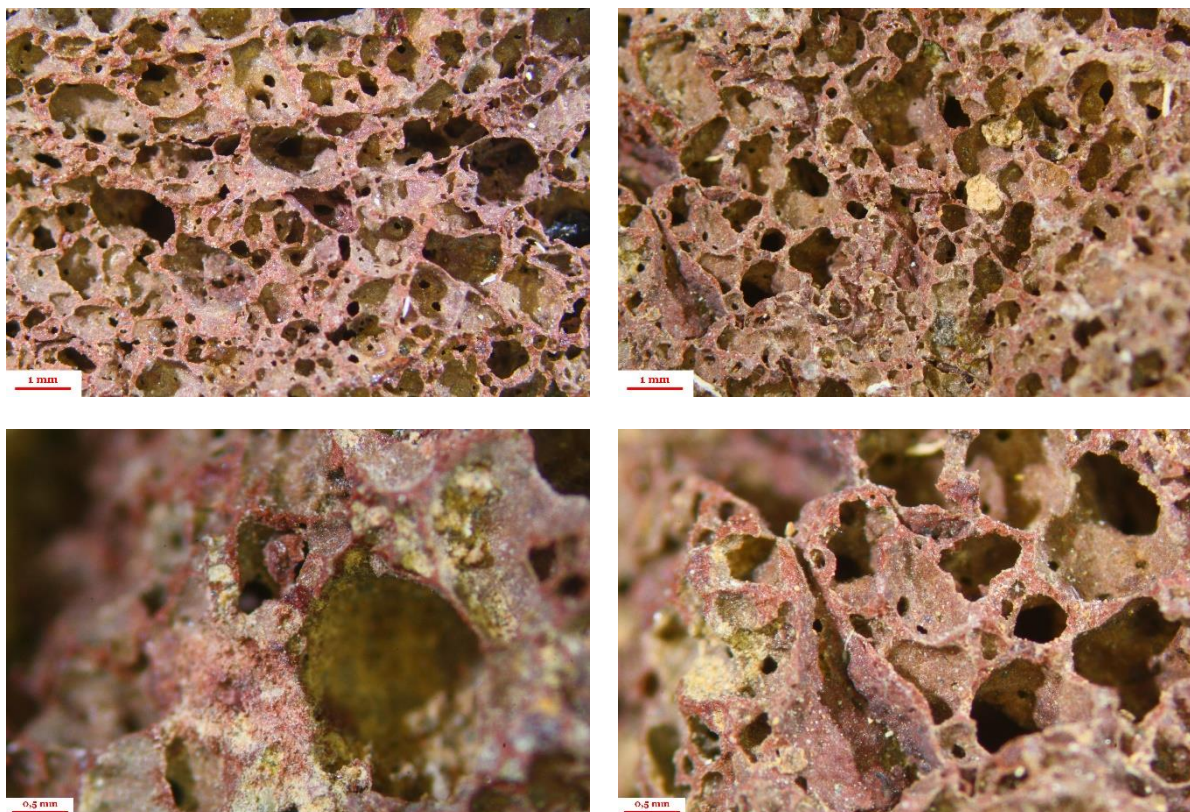
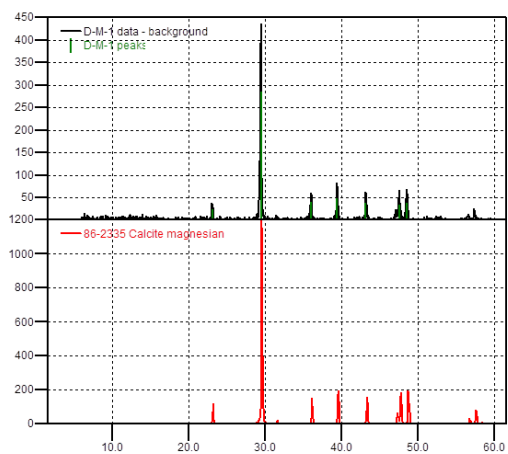


Fig 221. Photomicrographs of pieces from Shahba volcanic material, Syria. The reddish-brown scoriaceous material is highly porous, with various types of the vesicles. The reddish hue is due to oxidation. (Photos by Brigitta Maria Kürtösi)

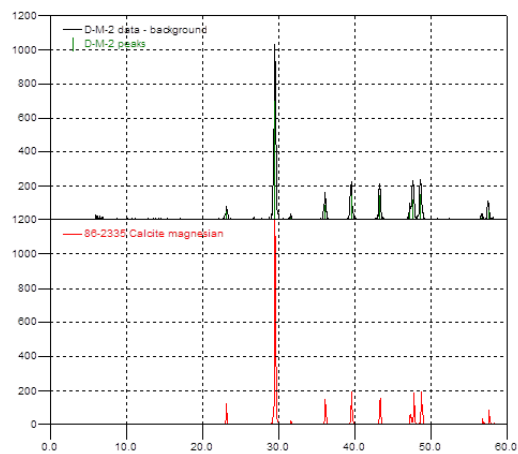
The results of the analysis that were carried out on the samples in the laboratories of Russian Academy of Sciences showed that all the test mortar samples consisted of calcium carbonate, which as a mixture contains different minerals.

The main carbonate mass contains randomly pieces of volcanic rock and rare rounded grains of quartz, Apatite, Calcite and rarely contains organic residues (coal). Fragments of volcanic rocks are represented by volcanic glass. It is important to note that the mineral composition of black and red types of volcanic rock fragments is the same, the colour difference is caused by the different oxidation state of these materials. The results of the analysis showed that the fragments of volcanic rock are highly porous, and this matrix contains minerals of feldspar group (Anorthite, Microcline, Albite) together with Augite, Olivine and Rutile. In addition, there are minerals from the Spinel group²²³, the iron-titanium-oxide minerals. Accessory minerals from this group are common in basalt (Fig. 222).

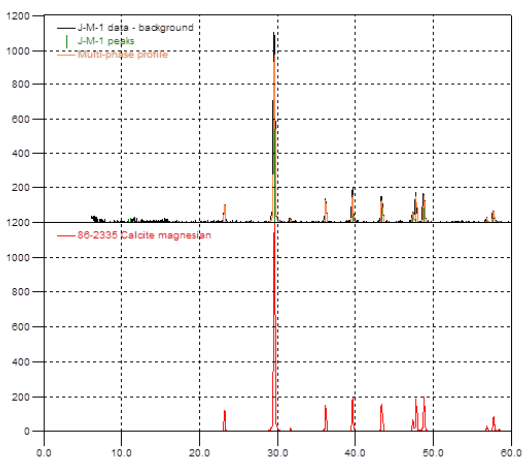
²²³ Agakhanov Atali Akmuradovich, 2018, laboratories of the Russian Academy of Sciences in Moscow, Russia.



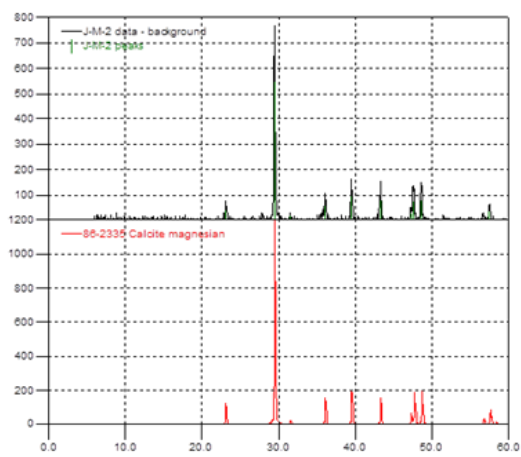
OM1 Orpheus mosaic bedding mortar



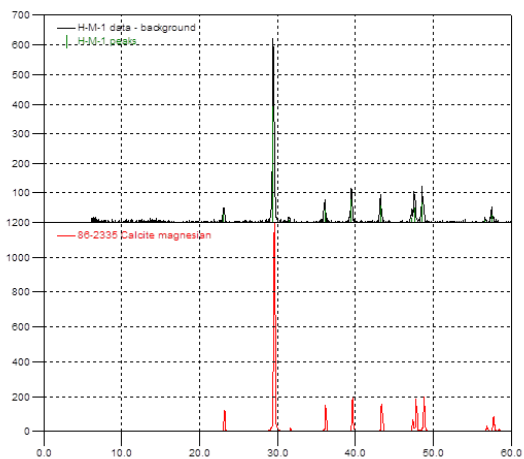
OM2 Orpheus mosaic nucleus



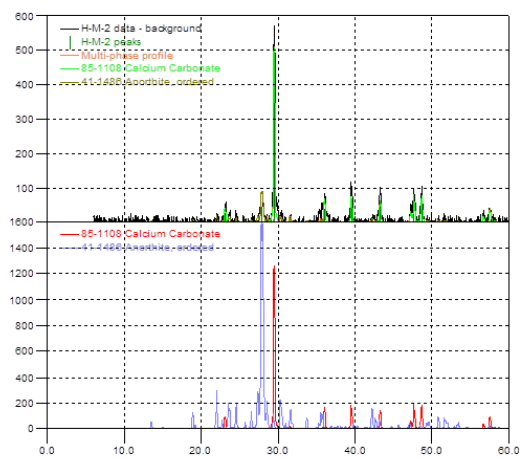
JM1 Jādū al-Matnī house mosaic bedding mortar



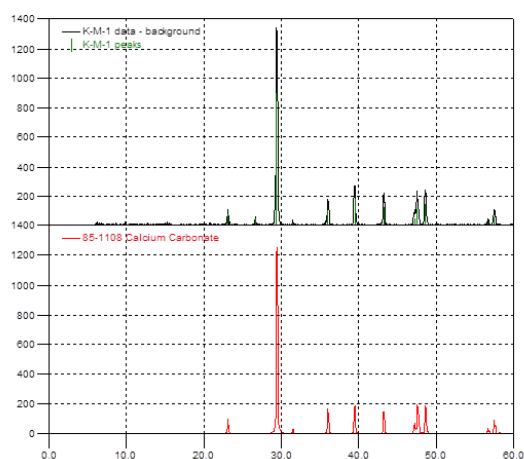
JM2 Jādū al-Matnī mosaic nucleus



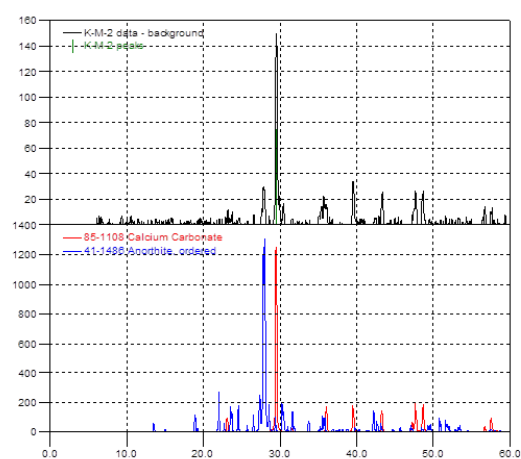
HM1 Al-Harfoush mosaic bedding mortar



HM2 Al-Harfoush mosaic nucleus



KM1 Al-Qabbani mosaic_bedding mortar



KM2 Al-Qabbani mosaic nucleus

Below the bedding mortar sample of al-Qabbānī mosaic is shown as an example for the detection of the components of the volcanic aggregate by using SEM-EDS.

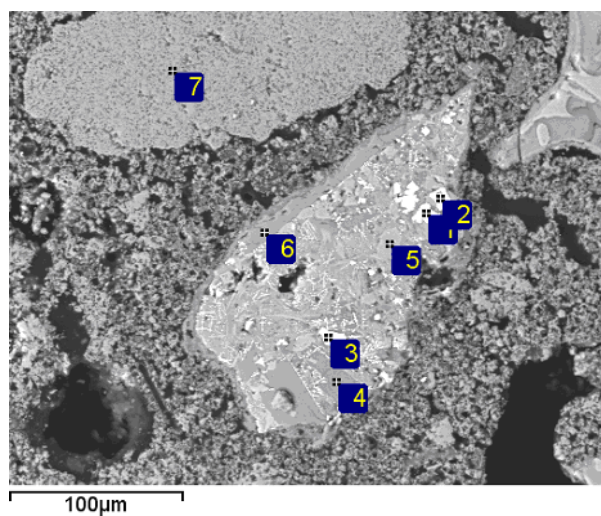
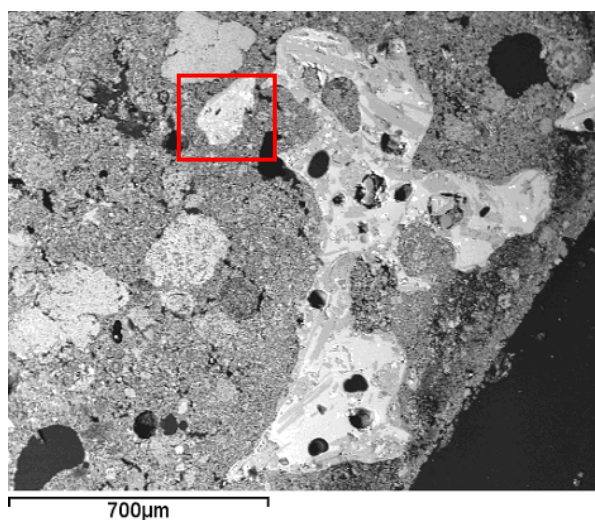
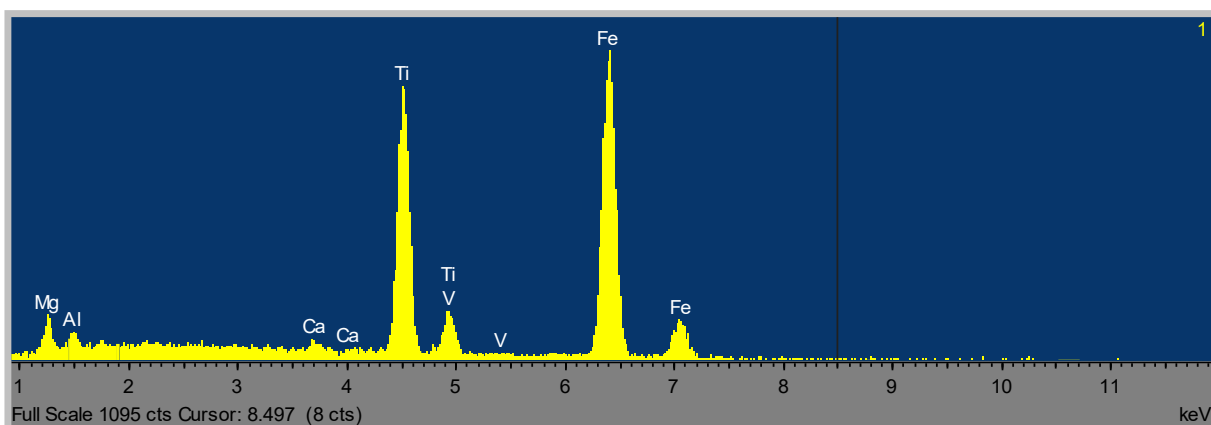
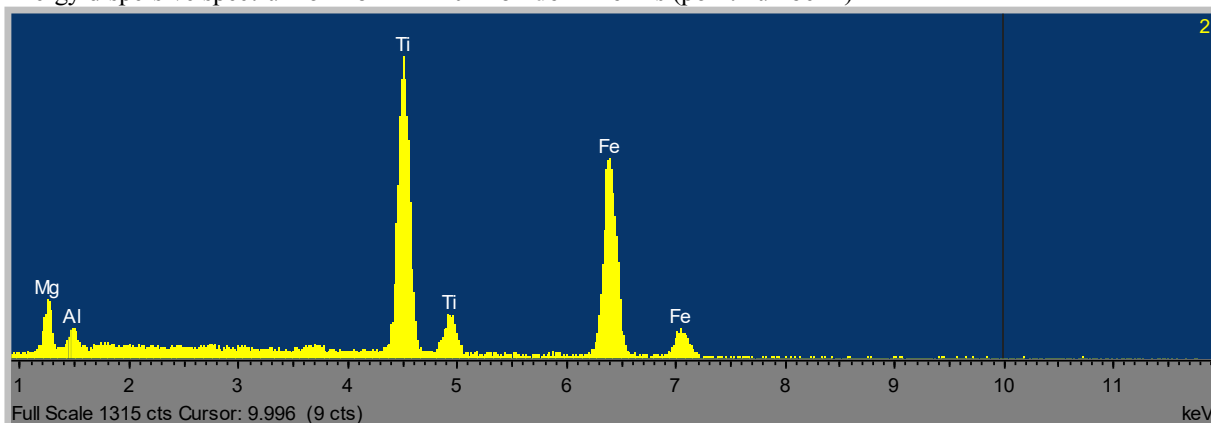


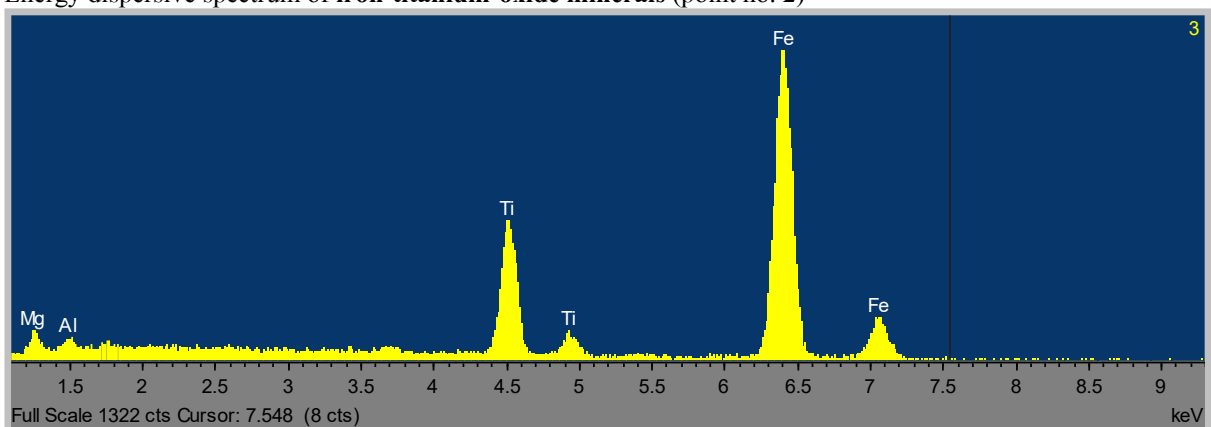
Fig 222. Images of sample KM1 of bedding layer of al-Qabbānī mosaic. Images in BSE mode. An enlarged fragment of the figure on the left with analysis points, Philippopolis, Syria, (Photo: Atali Akmuradovich Agakhanov, 2018)



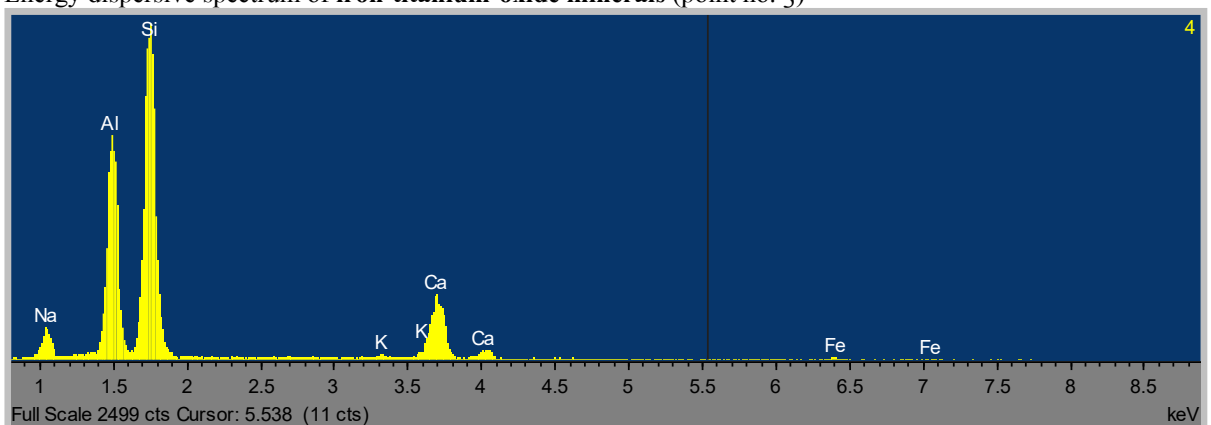
Energy dispersive spectrum of **iron-titanium-oxide minerals** (point number 1)



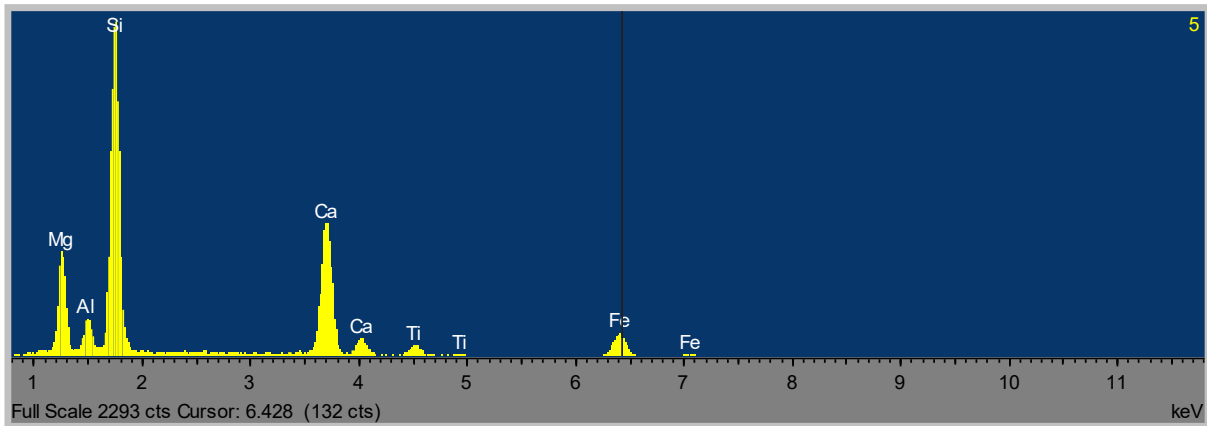
Energy dispersive spectrum of **iron-titanium-oxide minerals** (point no. 2)



Energy dispersive spectrum of **iron-titanium-oxide minerals** (point no. 3)



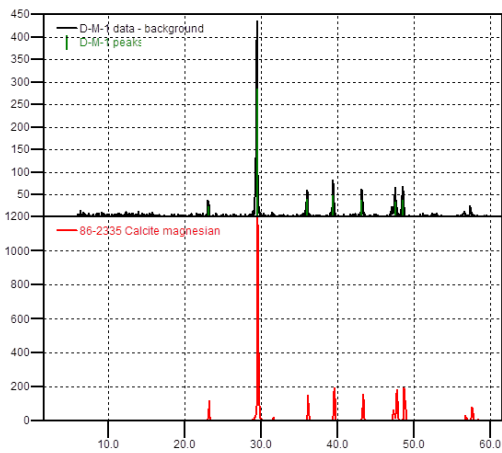
Energy dispersive spectrum of **anorthite** (a mineral from a group of feldspars) from volcanic rock (point no. 4)



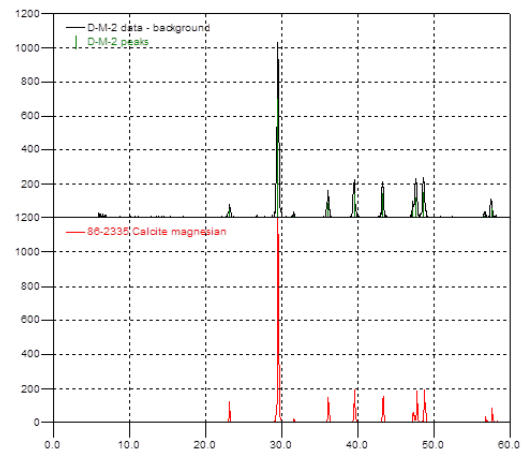
Energy dispersive spectrum of **augite** from a matrix of volcanic rock (point no. 5)

Fig 223. Analysis points 1-6 of the Fig. 220. KM1 bedding layer of al-Qabbānī mosaic with the energy dispersive spectrum of the measured volcanic rock filler fragment in the bedding mortar matrix. Philippopolis, Syria (Photo: Atali Akmuradovich Agakhanov, 2018)

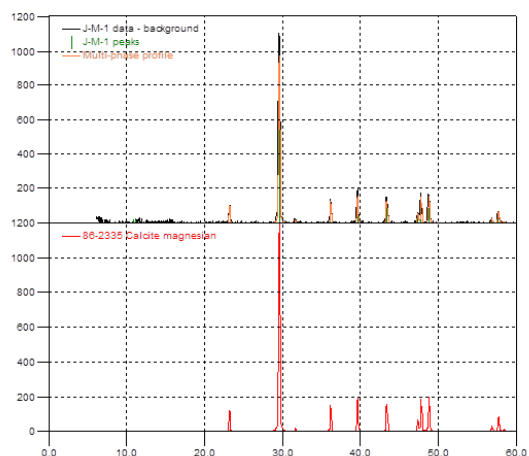
The X-ray diffraction (XRD) measurements are for determination of the crystalline phases of the samples. The method is not sensitive to any other types of components including the glassy phases, which, in our case, are the main filler materials. Thus, we can get a limited information about the whole.



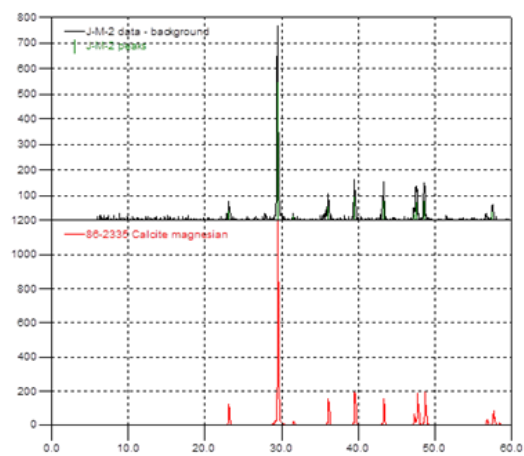
OM1 Orpheus mosaic bedding mortar



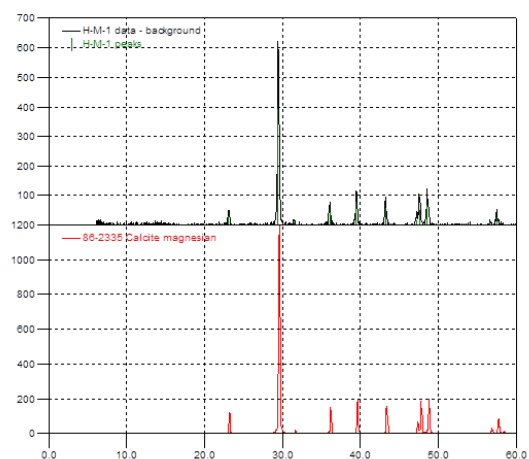
OM2 Orpheus mosaic nucleus



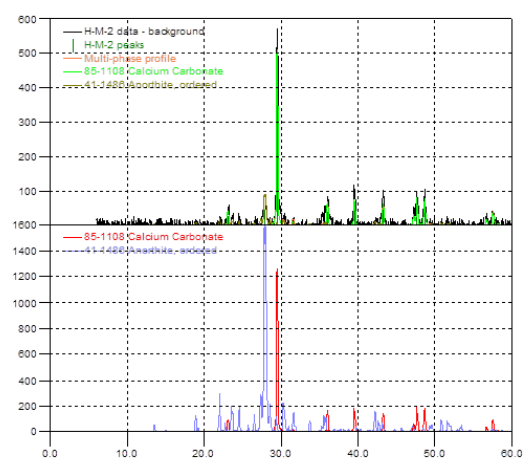
JM1 Jādū al-Matnī house mosaic bedding mortar



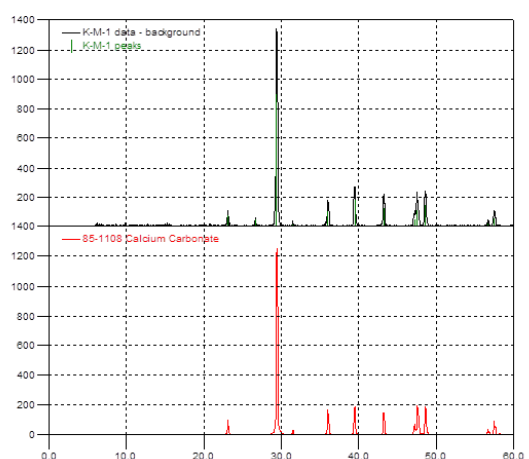
JM2 Jādū al-Matnī mosaic nucleus



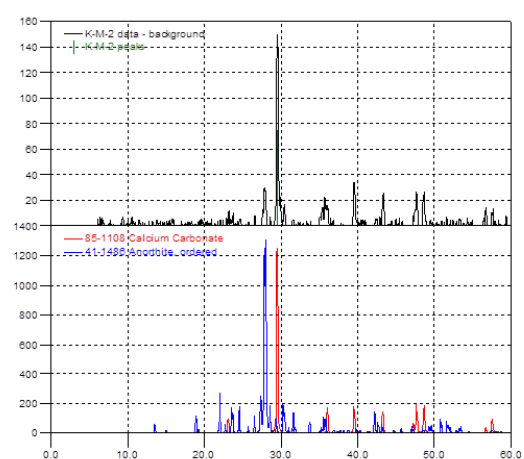
HM1 Al-Harfoush mosaic bedding mortar



HM2 Al-Harfoush mosaic nucleus



KM1 Al-Qabbani mosaic bedding mortar



KM2 Al-Qabbani mosaic nucleus

Fig 224. Diffractograms of samples of the bedding layer and samples of nucleus mortars of the examined mosaics of Philippopolis, Syria (Photo: Atali Akmuradovich Agakhanov, 2018 The bedding mortars' bulk represent calcium carbonate, while the nucleus layers in two cases, in Al-Qabbani and Al-Harfoush mosaics, show anorthite content as well.

VII.2.1.2 Samples analyzed in the Laboratories of the Hungarian University of Fine Arts, Conservation Department, Budapest.

The samples were analyzed in the laboratories of the Hungarian University of Fine Arts - Department of Conservation - Budapest by Dr. Brigitta Maria Kürtösi.

Experimental: Stereomicroscope Nikon SMZ800, Camera Canon EOS 1000D, Polarized Light Microscope Nikon Eclipse LV100, Camera Canon EOS 1100D

According to our samples we can note that the black pyroclastic material predominates in the Philippopolis mosaic mortars, particularly in the nucleus layers. That of Al-Harfoush mosaic and Al-Qabbani mosaic is practically coloured blackish by this type of material, which is present in the mixture in powder/ash form along with 1-1,7 cm large vesiculated fragments as well. Also, in Al-Harfoush and Al Qabbani samples showed the anorthite content beside calcium-carbonate in the bedding mortars. In the stratigraphy of Al-Harfoush mosaic was found an atypical layer consist of the black volcanic vesiculated lapilli which may serve as a insulation layer.

In the case of Jādū al-Matnī house the general coloration of the nucleus mortar is not so specific. Its nucleus layer looks lighter in general; the binder/aggregate ratio is different. The use of higher amount of lime binder can be detected and not only black, but deep red volcanic filler (d=5mm) is visible. This tendency is true for the bedding layer of the Jādū al-Matnī mosaic as well. In this house two levels of mosaic pavement were found; our samples belong to the upper mosaic. This situation determine that the grounding layers of this mosaic are not equal with the traditional order concerning the number and the thickness of the strata.

The appearance of stratigraphy under Orpheus mosaic is not like the above mentioned three despite the typical components were also found by XRD and SEM-EDS.

- **Samples of al-Qabbānī House mosaic:**

The analysis of the raw sample (KM₁) for the bedding mortar with the light ochre tessera, showed white lime with small red, black and orange volcanic particles. Some traces of the joint mortar are detected, different in hue. Lime lumps with shrinkage cracks sign the dry hot lime slaking process.

Tessera is light ochre compact limestone; on one side the bedding mortar fill the joint. The imprints of bubbles are present on the wall of the tessera, probably the traces of the exotherm slaking process are visible²²⁴ (Fig 225).

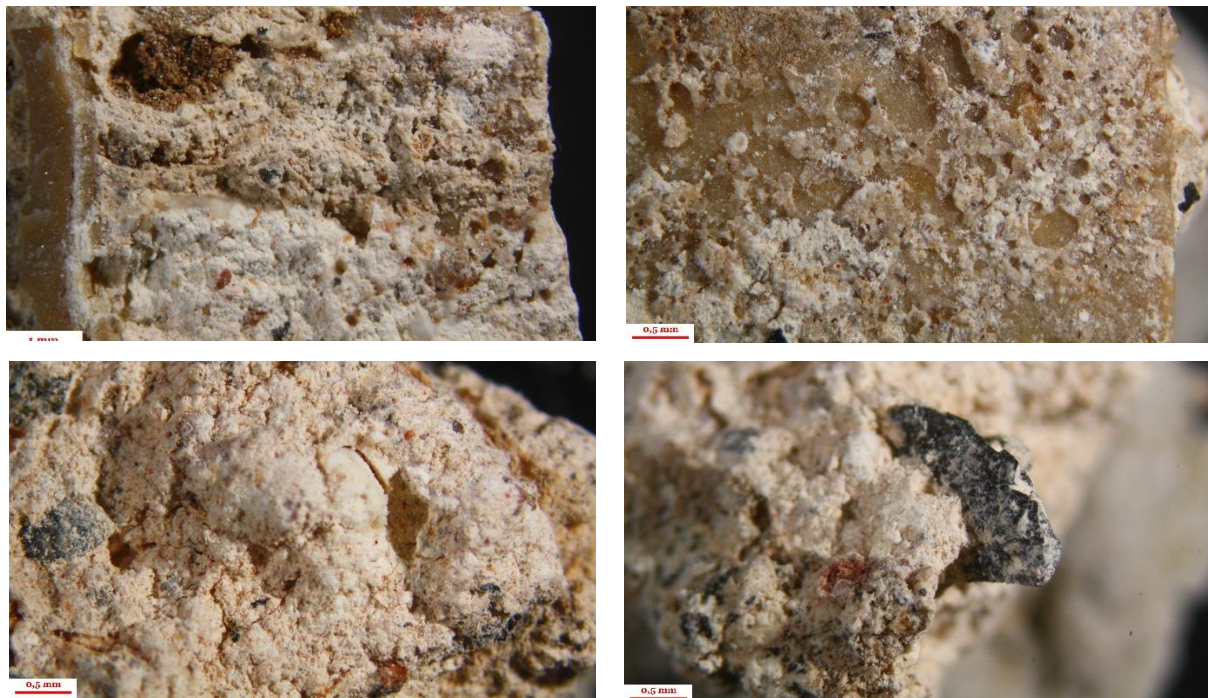


Fig 225. Photomicrographs of the raw sample KM1/bedding mortar with ochre tessera/ of al-Qabbānī house mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

While the cross section of the same sample (KM1) by Polarized Light Microscope showed that in the lime binder matrix small red, orange and black volcanic particles are visible. The fillers are mainly the same scoria fragments (the compact forms), but orange, red limestone pieces were also mixed, which can represent the remnants and splinters of the stones used for cutting tesserae. Lime lumps with shrinkage cracks are the traces of the dry hot lime slaking procedure (**Error! Reference source not found.**)

²²⁴ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

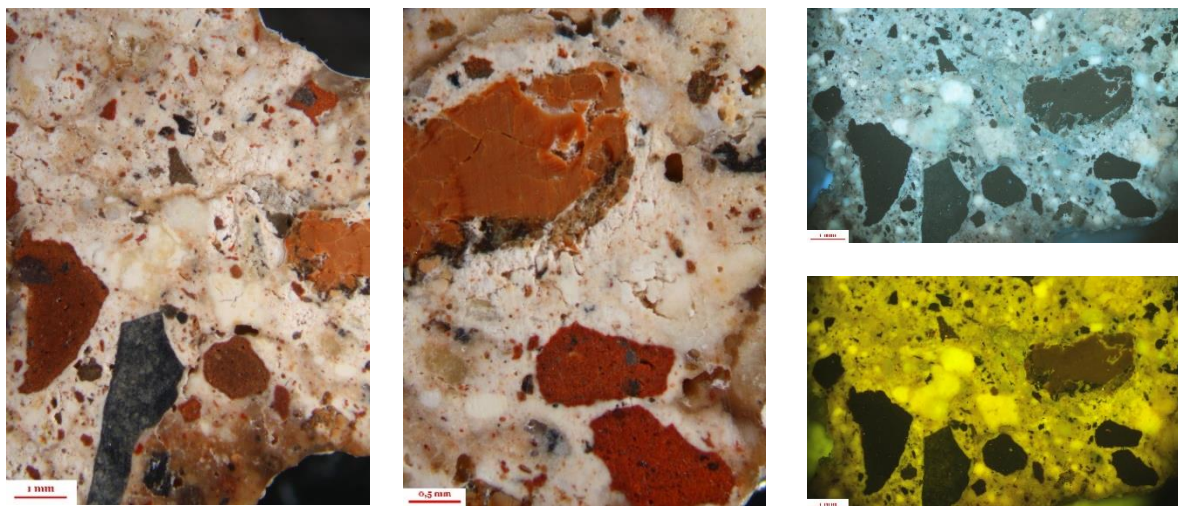


Fig 226. Photomicrographs of the cross section, sample KM1/bedding mortar layer of al-Qabbānī house mosaic, Philippopolis, Syria, Stereomicrograph of the raw sample on the left and PLM_UV, PLM_BV of the polished cross section on the right (analyse and photo: Bri

The analyses of the raw sample (KM2) for Nucleus layer showed lime mortar with fully filled black and red volcanic scoriaceous aggregates. Imprints of wooden particles in white and brownish color are clearly visible; the mortar sample is extremely fragile²²⁵ (Fig 227).

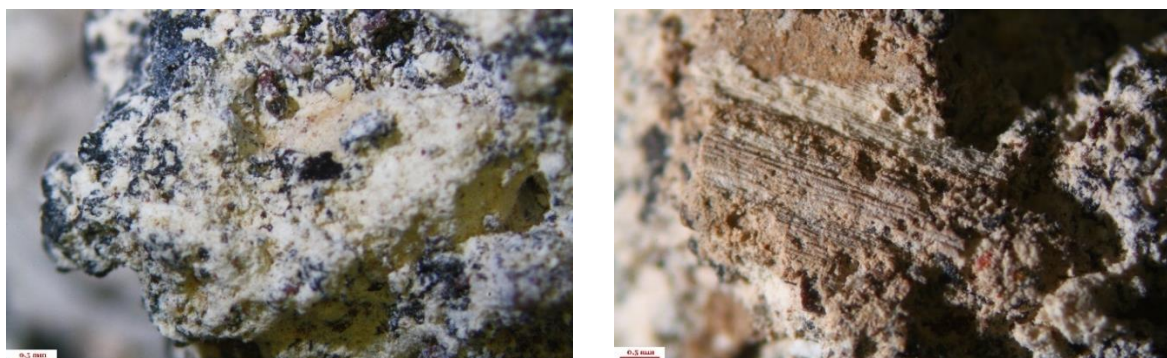


Fig 227. Photomicrographs of the raw sample KM2/Nucleus layer of al-Qabbānī house mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

While the cross section of the sample (KM2) for Nucleus layer by Polarized Light Microscope showed that in the lime binder matrix small red, orange and black scoria particles are visible. The fillers are mainly the same scoria fragments (more compact and bubbly forms together), but a grey, hand cut marble piece was also mixed (the square shaped piece is probably a tessera or a waste of that.) Lime lumps are the remnants of the lime slaking procedure, the pale-yellow chalky parts also come from the lime binder²²⁶ (Fig 228).

²²⁵ Kürtösi B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

²²⁶ Kürtösi B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

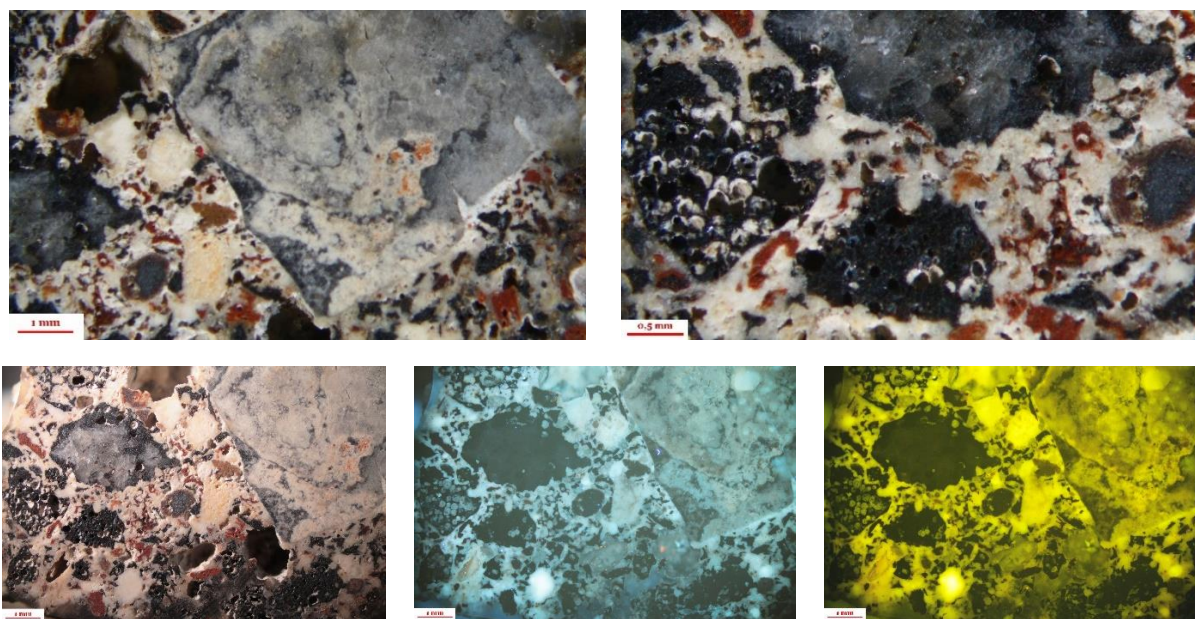
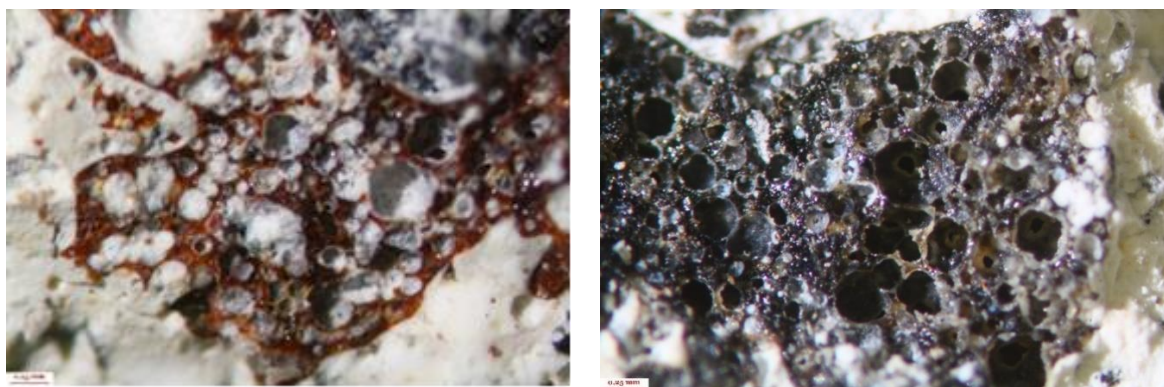


Fig 228. Photomicrographs of polished cross section KM2/Nucleus layer of al-Qabbānī house mosaic, PLM (below VIS, UV-L, BV-L) Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

The raw sample and the polished cross section (KM3) for Rudus layer mortar or 2nd nucleus layer showed red, deep red and black scoria fillers are fully or partially filled with lime. The volcanic material has shiny, glassy appearance. Some brownish claylike material is present in the cavy, porous structure. The composition is very similar to (KM2) but mixed with mainly larger pieces of the filler material²²⁷ (Fig 229).



²²⁷ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.



Fig 229. Photomicrographs of the raw sample and the polished cross section of KM3/Rudus or 2nd nucleus layer of al-Qabbānī house mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

- **Samples of the Roman villa mosaic:**

The analysis of the raw sample (OM1) for the bedding mortar with the ochre tessera showed that the bedding mortar of the Orpheus mosaic is white air lime (quicklime, CaO) binder probably hot slaked with mainly black volcanic fragments and charcoal particles. The charcoal is not possible to detect by XRD. The grain size distribution is from powder form as hydraulic to bigger pieces as aggregates. Lime lumps and yellowish chalky clayish parts are visible. The mortar layer has some shrinkage cracks which could appear after the setting.

On the wall of the ochre hued compact limestone tessera there are reddish particles beside the black pieces, likely the traces of the fine filler material of the joint mortar which could differ that of the bedding mortar. Greenish-yellow fine particles are also present in the lime binder probably as accessory minerals²²⁸(Fig 230).

²²⁸ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

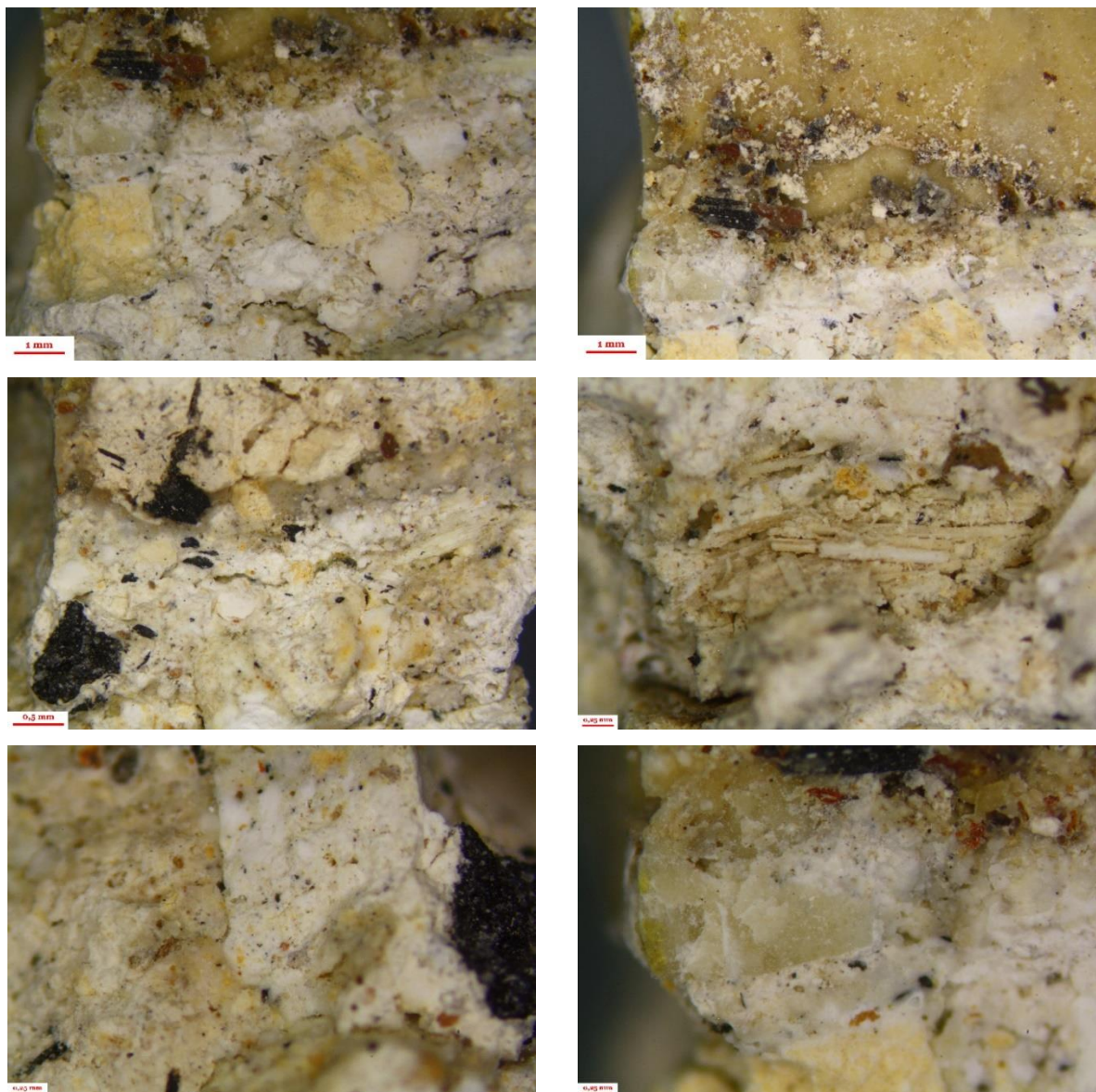


Fig 230. Photomicrographs of the raw sample OM1 of bedding mortar with ochre tessera of Orpheus mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2021)

The analyses of the raw sample (OM2) for Nucleus layer mortar showed that Nucleus layer is more heterogeneous, mainly greyish with the same light yellow chalky clayish parts, pure lime lumps and with more filler _quartz grains, black basaltic scoria aggregates_ in the matrix. Wooden remnants are also present. There are some intense greenish-yellow parts connected with the pure lime lumps, according to its character the presence of Forsterite from Olivine group ($(\text{Mg Fe})_2 \text{SiO}_4$) is highly possible²²⁹ (Fig 231).

What is distinctive feature about the Roman villa samples from the other sites is the presence of charcoal in the mortar matrices, which is evidence of a workshop different from the workshops that produced other mosaic floors in Philippopolis.

²²⁹ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

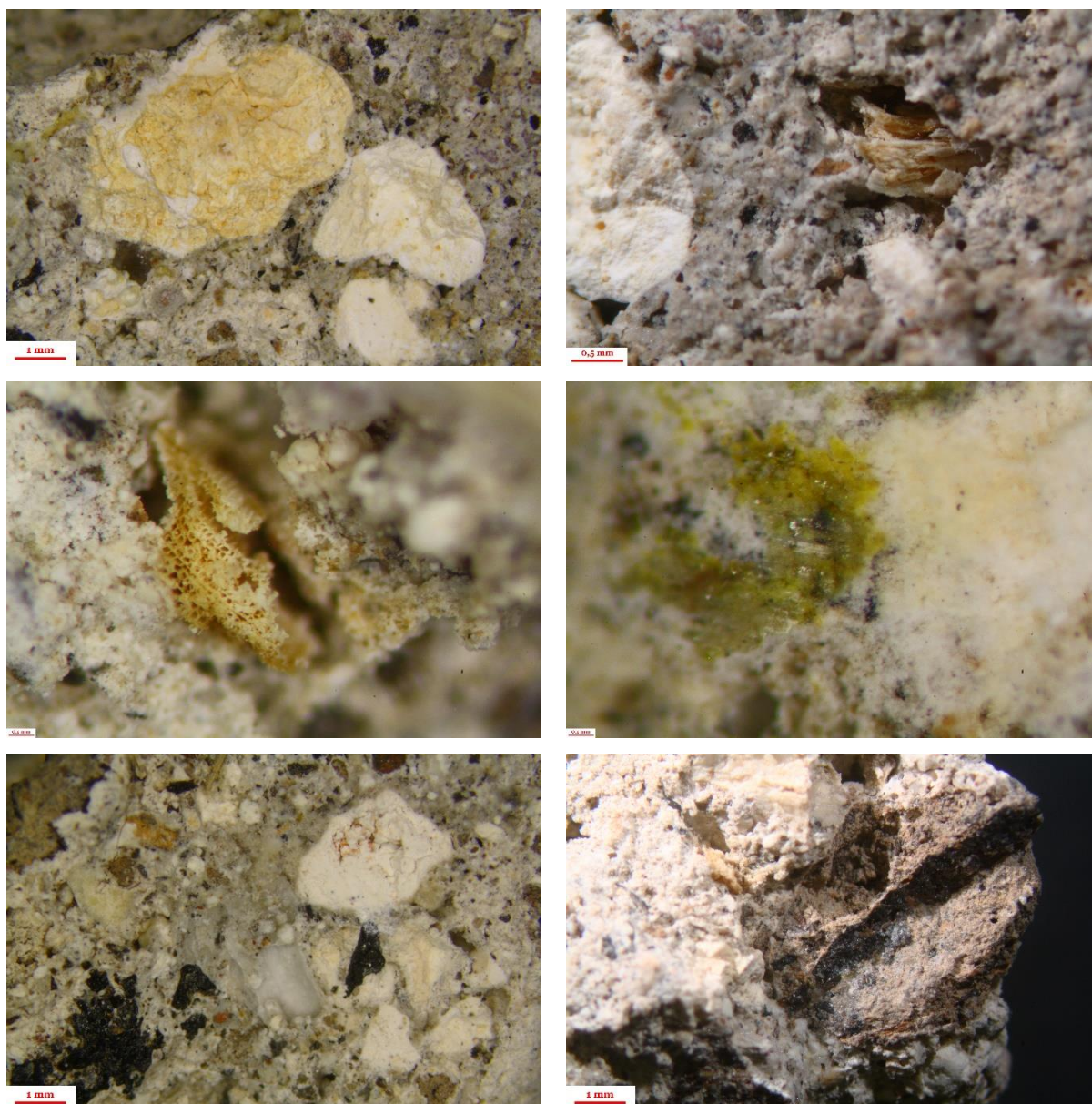


Fig 231. Photomicrographs of the raw sample OM2 of Nucleus layer of the Orpheus mosaic, Philippopolis, Syria, (analysis and photo: Brigitta Maria Kürtösi, 2021)

- **Samples of al-Ḥarfūsh House mosaic:**

The analyses of the raw sample (HM1) for the bedding layer mortar with the with ochre tessera, showed the lime mortar is white with small amount of aggregates which are black scoriae particles with bubbles. A few red volcanic particles were also mixed into the bedding mortar. Shrinkage cracks in pure lime lumps are visible in the matrix. The light ochre tessera is a compact limestone traced with orange hued parts in structure. On the wall of the tessera translucent greenish-yellow minerals deriving from the mortar are also present²³⁰(Fig 232).

²³⁰ Kürtösi B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

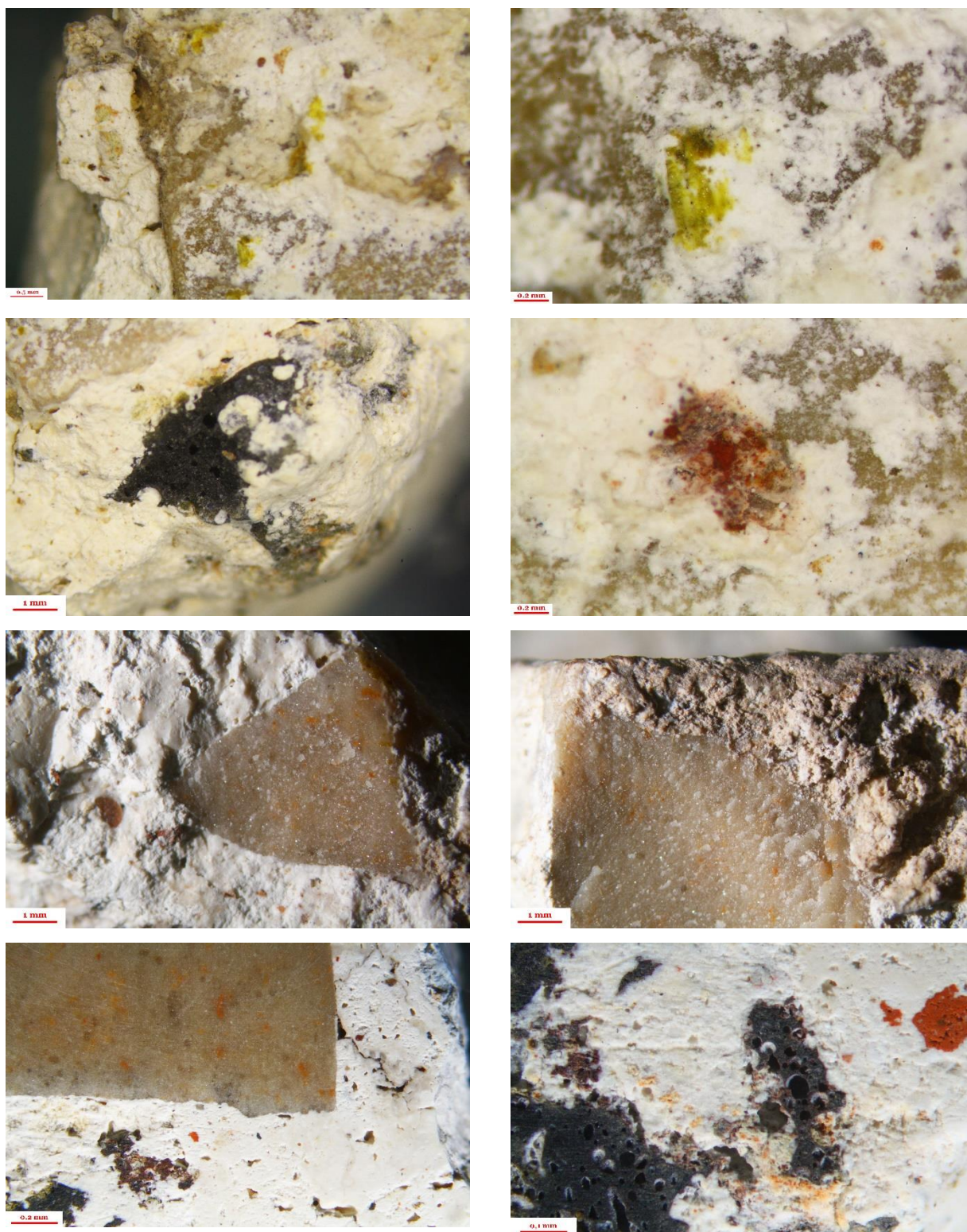


Fig 232. Photomicrographs of the raw sample HM1 of Bedding mortar with ochre tessera of al-Ḥarfūsh mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

While the cross section of the sample (HM2) for the Nucleus layer mortar by Polarized Light Microscope showed that the lime-based Nucleus is full of black and bright red bubbly volcanic rock aggregates. The lime fills the hollows of the filler material which proves the

hot-lime slaking process. Small particles and powder of the same material create the matrix along with orange and yellowish translucent minerals²³¹ (Fig 233).

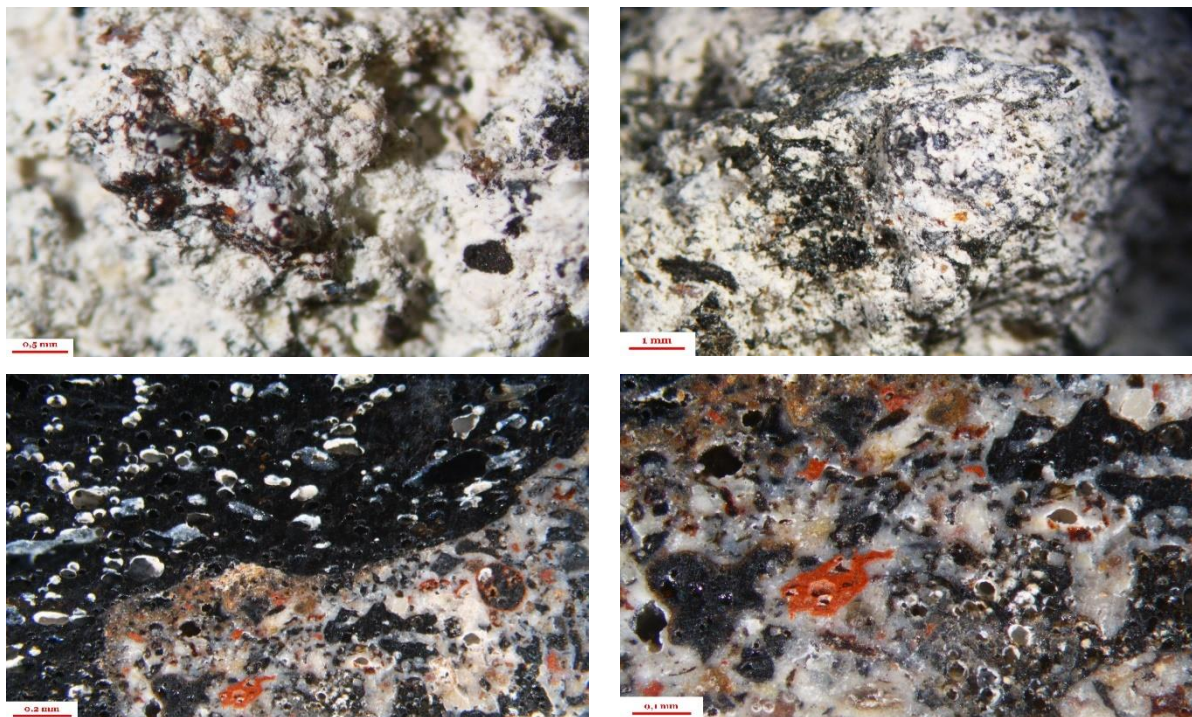


Fig 233. Photomicrographs of the raw sample HM2 of Nucleus layer of al-Ḥarfūsh mosaic, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2020)

- **Samples of Jādū al-Matnī House mosaic:**

There was a peculiarity in studying the pavement of the mosaic discovered at the site of Jādū al-Matnī House, where in 2014 we formed a working team to restore the parts discovered in 1970, which were within the warehouse of the Directorate General of Antiquities and Museums DGAM in Damascus, and to discover and remove the parts that were still at the site, and we were able to obtain various samples of mortar and multi-colored tesserae used in paving this mosaic (Fig 244. Fig 245. Fig 246).

The photomicrographs of the cross section of the greyish black tessera in the bedding mortar showed the tiny shrinkage cracks are present in the mortar and are highly visible under the tessera, and the pure lime parts are light, the filler particles are dark. The bedding mortar is composed of volcanic powder or ash and small, mainly rounded shaped fragments (Fig 234).

²³¹ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.



JM4B yellow tessera in bedding mortar
Dimensions of the tessera: 3 x 6 x 6 mm.



JM9 bedding mortar with red tessera. The height of the tessera is 3 mm.
Stereomicrographs of bedding mortar samples with



JM1A bedding mortar with greyish-black tessera.
Dimensions of the tessera: 9 x 7 x 8 mm
tessera embedded from the mosaic of Jado house,

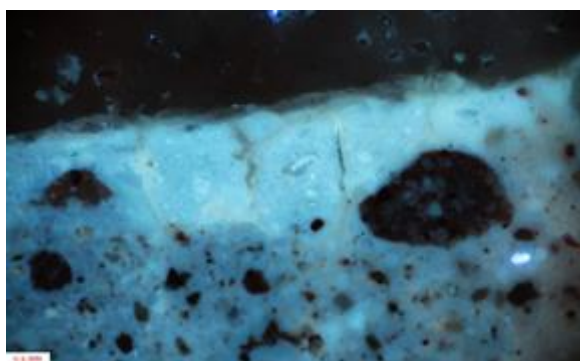
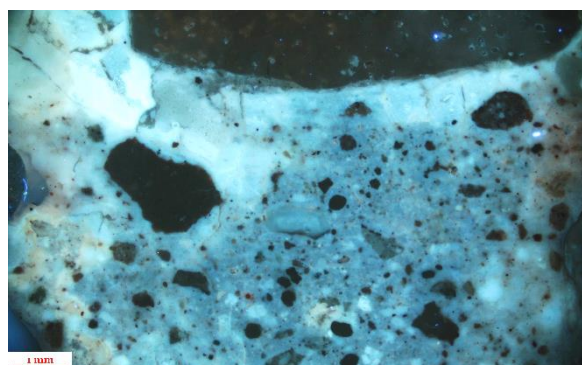


Fig 234. Photomicrographs of the cross section of the sample JM1A of the greyish-black tessera in the bedding mortar of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, PLM VIS, PLM UV (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analyses of the cross section of sample (JM2) for Nucleus layer mortar showed the white lime mortar contains deep red-brown and blackish vesicular basaltic scoriaceous particles filled with the binder. Bright red and yellow particles are also present²³² (Fig 235).

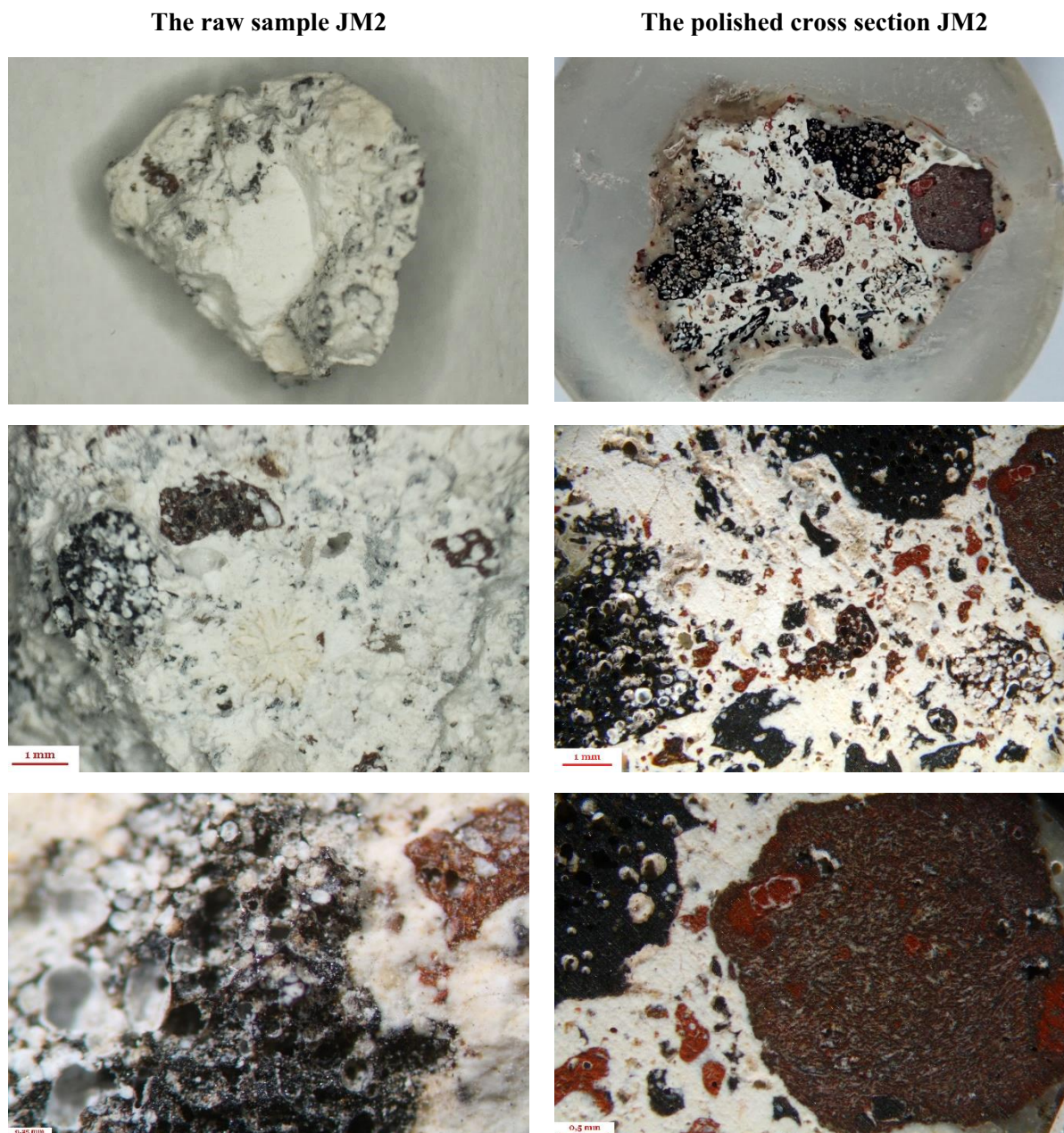


Fig 235. Photomicrographs of the sample JM2 of Nucleus layer of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analysis of the raw sample (JM1A) for the bedding layer mortar with greyish-black tessera showed white lime mortar with lime lumps and shrinkage cracks. Mainly reddish, orange-red dots and black particles are visible. The edges of the greyish-black tessera are rounded; small holes are visible in the stone material. Remains of reddish joint mortar are

²³² Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

detected on the top, in the holes and on the edges, dimensions of the tessera: 7 x 9 x 8 mm²³³ (Fig 236).

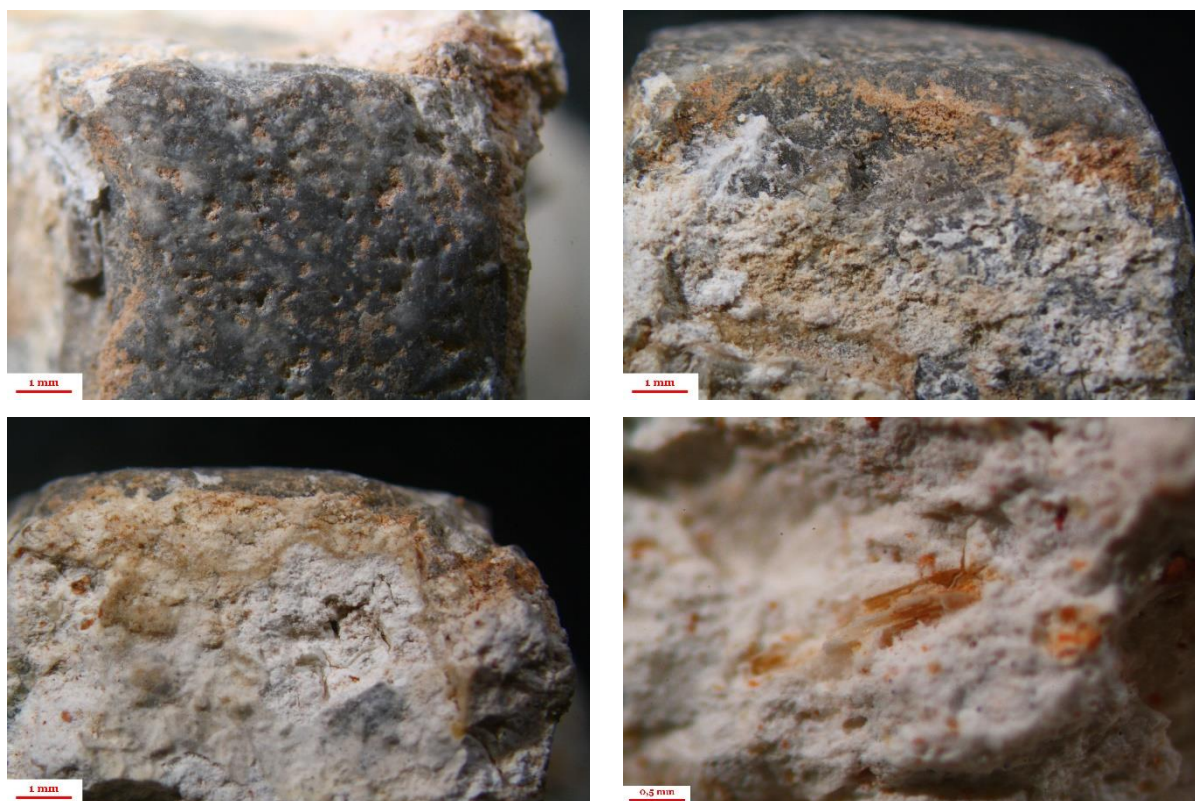


Fig 236. Photomicrographs of the raw sample JM1A of bedding mortar with greyish-black tessera the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analysis of the sample (JM11) for Two greyish-black tesserae in bedding layer mortar showed the surface is covered by crust. The stone material is compact. The mortar contains red, orange, and black colored particles. Yellowish clay particles are visible in the white lime binder matrix²³⁴ (Fig 237).

In the case of the sample (JM3A) for the bedding mortar with black tessera the analysis also showed that the mortar is white with red, orange and black dots of filler. Imprints of vegetal particles are also present. The body of the tessera is purplish black from volcanic origin. 6 x 5 x 10 mm. The top of the tessera has a dotted pattern, it is covered by a reddish crust, or the joint material²³⁵ (Fig 238).

²³³ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

²³⁴ Kürtösi B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest..

²³⁵ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.



Fig 237. Photomicrographs of the sample JM11 of Two greyish black tesserae of the bedding mortar of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

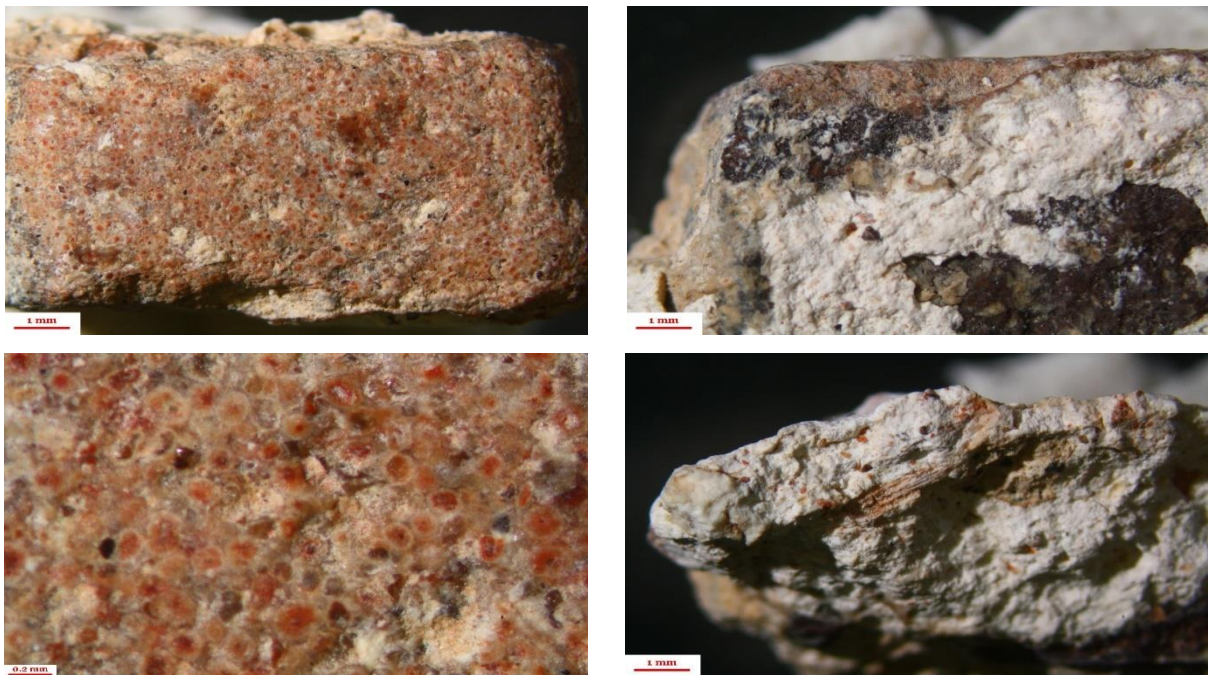


Fig 238. Photomicrographs of the sample JM3A of bedding mortar with black tessera of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analysis of the raw fragment and cross section of the sample (JM1B) for a deep red tessera in the bedding mortar showed of a deep red tessera with dimensions (7 x 8 x 5 mm) with rounded shaped grains. In the white lime binder, there are scarce tiny bright brownish

and dark red particles and a 3 mm large fragment similar as the material of the tessera. Vegetal particles and their imprints are also visible in the bedding mortar²³⁶(Fig 239).

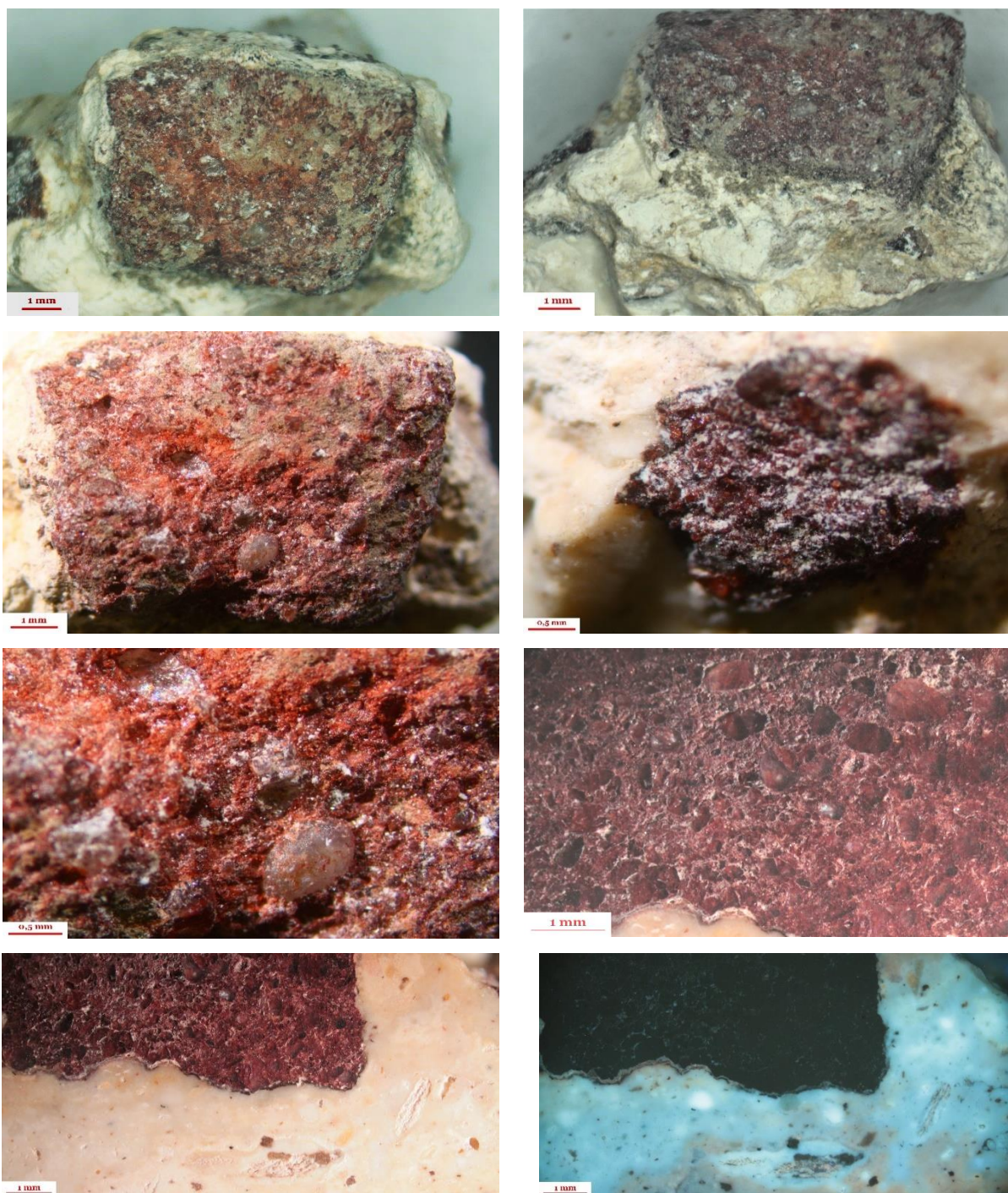


Fig 239. Photomicrographs of the sample JM1B of the deep red tesserae in bedding mortar of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

²³⁶ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.



Fig 240. Photomicrographs of the sample JM7A of the Deep red tesserae in bedding mortar of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analysis of the sample (JM7A) for a dark red tessera with Dimensions 6 x 5 x 4 mm in the bedding layer mortar, showed that the white mortar on the top of the tessera has similar small red, orange, yellow and black particles (Fig 240).

The study of the sample (JM9) for the bedding layer mortar with red tessera showed that there is an orange reddish layer on the top, probably the joint material, or the parts of the inhomogeneous structure. The height of the tessera is 3 mm. The lime-based bedding mortar contains small red, orange, brown and black heterogenous shaped particles. The body of the stone is compact; the broken surfaces are bright with orange parts. In the mortar white and yellowish rounded fillers are detected as well²³⁷ (Fig241).

The sample (JM8), an orange hued pink compact limestone tessera embedded in fine mortar. The mortar is composed of small red, pink, and orange particles in the lime binder. Some cracks and cavities are also present. On the sides of the tessera the level of the bedding mortar is well detected. Traces of reddish joint mortar are visible upon the white bedding layer²³⁸ (Fig 242).

²³⁷ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

²³⁸ Kürtösi B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest..

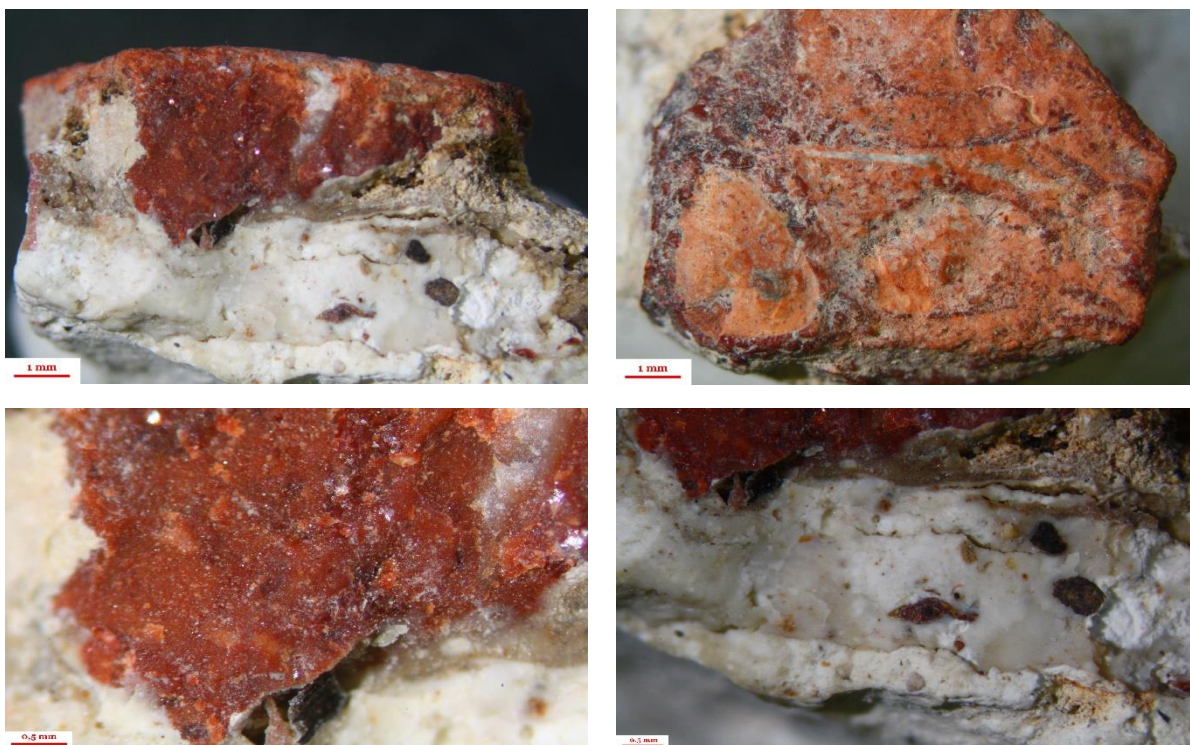


Fig241 . Photomicrographs of the sample JM9 of the bedding mortar with red tessera of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

The analysis of the sample (JM4B) for a yellow tessera in bedding mortar showed a yellow compact structured tessera with slight orange hue. It is not totally fixed into the bedding mortar there is a void underneath. Fragment of another yellow tessera is embedded beside it. The bedding mortar is white, some bigger light yellowish and greyish white filler grains are visible along with small particles of accessories -red, black, yellow. The lime binder has shrinkage cracks. Dimensions of the tessera: 6 x 6 x 3 mm²³⁹ (Fig 243).

²³⁹ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.



Fig 242. Photomicrographs of the sample JM8 of the Pink tessera in bedding mortar of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

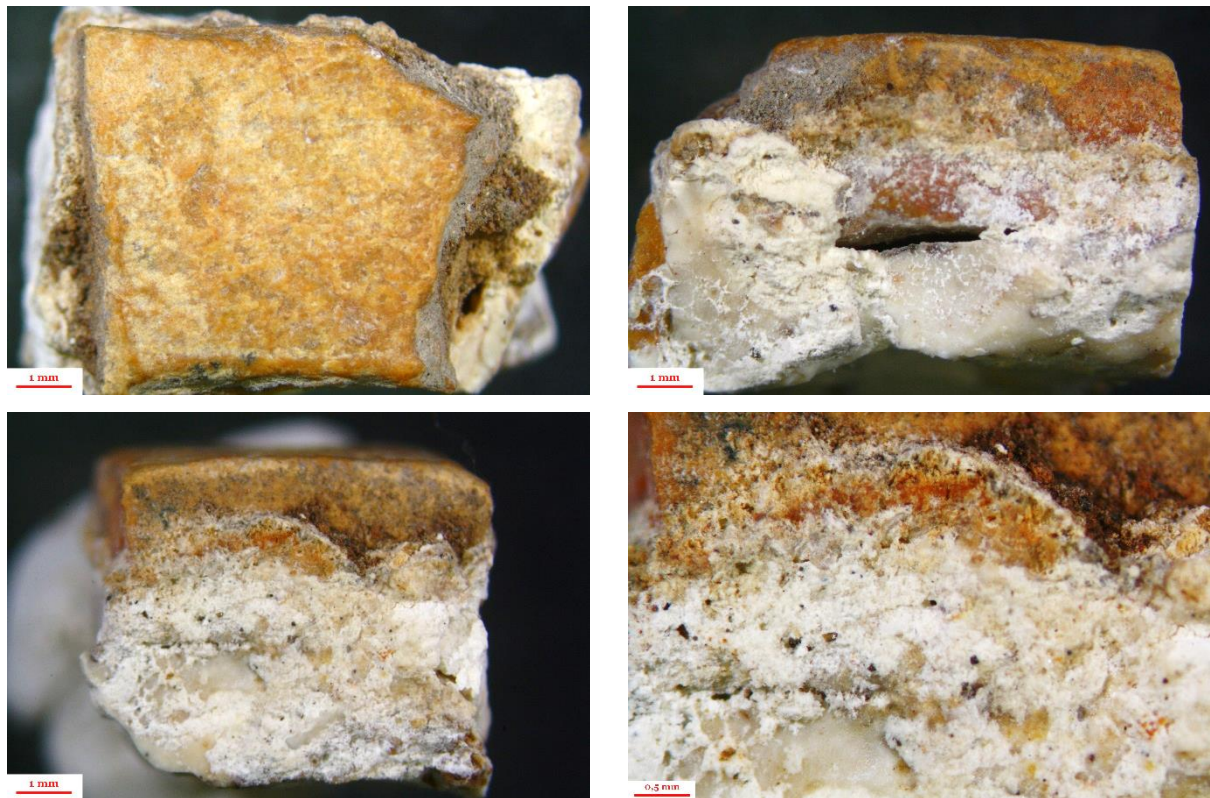


Fig 243. Photomicrographs of the sample JM4B of the yellow tessera in bedding mortar of the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

VII. 3 Comparative study of the examined mosaics through the results of the analysis of the samples taken from the Tessellatum and the preparatory layers of the mosaics of Philippopolis.

The geological features of the volcanic surroundings of Philippopolis highly influenced the type of building materials on this site.

The volcanic context envisages the use of mostly local raw materials or that of nearby by the ancient mosaicists. In all the cases examined volcanic materials are present in the composition of the mortars, and we can detect them among the tesserae as well, although most of the tesserae are compact limestone.

The results of the analysis showed that all the examined mortar samples are of calcium carbonate binders containing minerals from the group of clays. In the main carbonate matrix pieces of volcanic fragments and rarely organic residues are present²⁴⁰.

The results of the analysis also showed that the characteristics of the measured components are similar, and we can diagnose that the results can only confirm and point out the presence of typical, site-specific compounds. The real, delicate differences can be better found by the analyses of microscopic and on-site features. Although the performed experimental methods are not sensitive to organic components, there is insufficient data on the presence of any organic additive components²⁴¹.

As we mentioned earlier, some samples taken from the mosaic pavements in Philippopolis are from the frames and some are from the foundation layers in the middle of the pavement, wherefore we must noting that the nucleus layer in the case of a mosaic floor can be more or less similar in all part of each, but the bedding mortars may differ in the frame of a mosaic where, in general, they used larger tesserae than in the central parts, under the figural or ornamental scenes. That is why it is important to consider the location of the sampling.

The dimension and shape of the tesserae are also various, in the delicately composed parts not only the visible surface of each tessera is smaller, but the data of height as well. This leads to differences in the characteristics of the bedding mortar in density and considering the ratio and size of the components. For example, in the frame of the Orpheus mosaic in the roman villa the height of the tessera sampled is 13 mm, also that of the al-Ḥarfūsh mosaic (Fig 244),

²⁴⁰ Agakhanov Atali Akmuradovich, 2018, laboratories of the Russian Academy of Sciences in Moscow, Russia.

²⁴¹ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

but when the samples come from more central parts, such as in the case of the Jādū al-Matnī house mosaic (second mosaic) the height of the tesserae varies between 3-10 mm, and 4-5 mm seems the general format. The thickness of the bedding mortar must equalize these differences (Fig 245. Fig 246) (Table. 3).

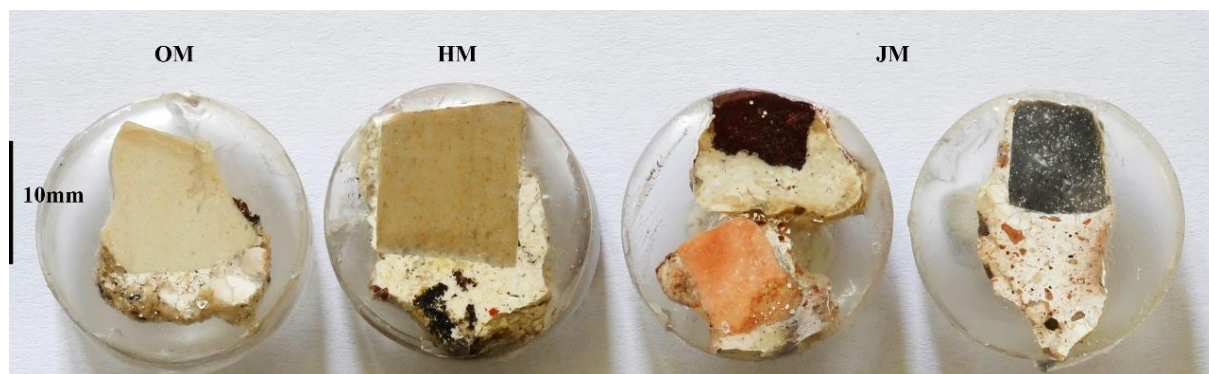


Fig 244. Polished cross sections of the tessera samples in bedding mortar from the different mosaic pavements of Philippopolis, Syria, OM, HM, JM (analyse and photo: Brigitta Maria Kürtösi, 2022)



Fig 245. Tesserae samples from the mosaic of Jādū al-Matnī house, Philippopolis, Syria, (analyse and photo: Brigitta Maria Kürtösi, 2022)

Code	Origin	Colour	Type of the tessera in bedding mortar	State
OM	Orpheus mosaic, Roman Villa	Light ochre, beige	limestone	Polished cross section in epoxy resin
HM	al-Ḥarfūsh house	Yellow ochre	limestone	Polished cross section in epoxy resin
JM ₁ A	Jādū al-Matnī house	Greyish black	limestone	Polished cross section in epoxy resin
JM ₁ B	Jādū al-Matnī house	Deep red/ purplish	Volcanic	Polished cross section in epoxy resin
JM ₃ A	Jādū al-Matnī house	Black with reddish crust on top	limestone	Not analysed
JM ₃ B	Jādū al-Matnī house	Pale brownish red	Volcanic or Sandstone (?) Further analysis needed	Polished
JM ₄ A	Jādū al-Matnī house	Yellow	Limestone or marble	Polished
JM ₄ B	Jādū al-Matnī house	Yellow	Limestone or marble	Polished
JM ₆ A	Jādū al-Matnī house	Light ochre, beige	Limestone	Polished
JM ₆ B	Jādū al-Matnī house	Light ochre, beige	Limestone	Not analysed
JM ₇ A	Jādū al-Matnī house	Red	Volcanic or Sandstone (?) Further analysis needed	Polished
JM ₇ B	Jādū al-Matnī house	Red	Volcanic or Sandstone (?) Further analysis needed	Not analysed
JM ₈	Jādū al-Matnī house	Pink	Limestone or marble	Polished cross section in epoxy resin
JM ₉	Jādū al-Matnī house	Red	Volcanic	Polished
JM ₁₀	Jādū al-Matnī house	Light beige	Limestone	Polished
JM ₁₁	Jādū al-Matnī house	Blueish grey	Limestone	Polished

Table3 . Catalogue of stone tessera samples from Philippopolis sites. On site sampling: Maher Jbace 2015,
Analysed by: B. M. Kürtösi

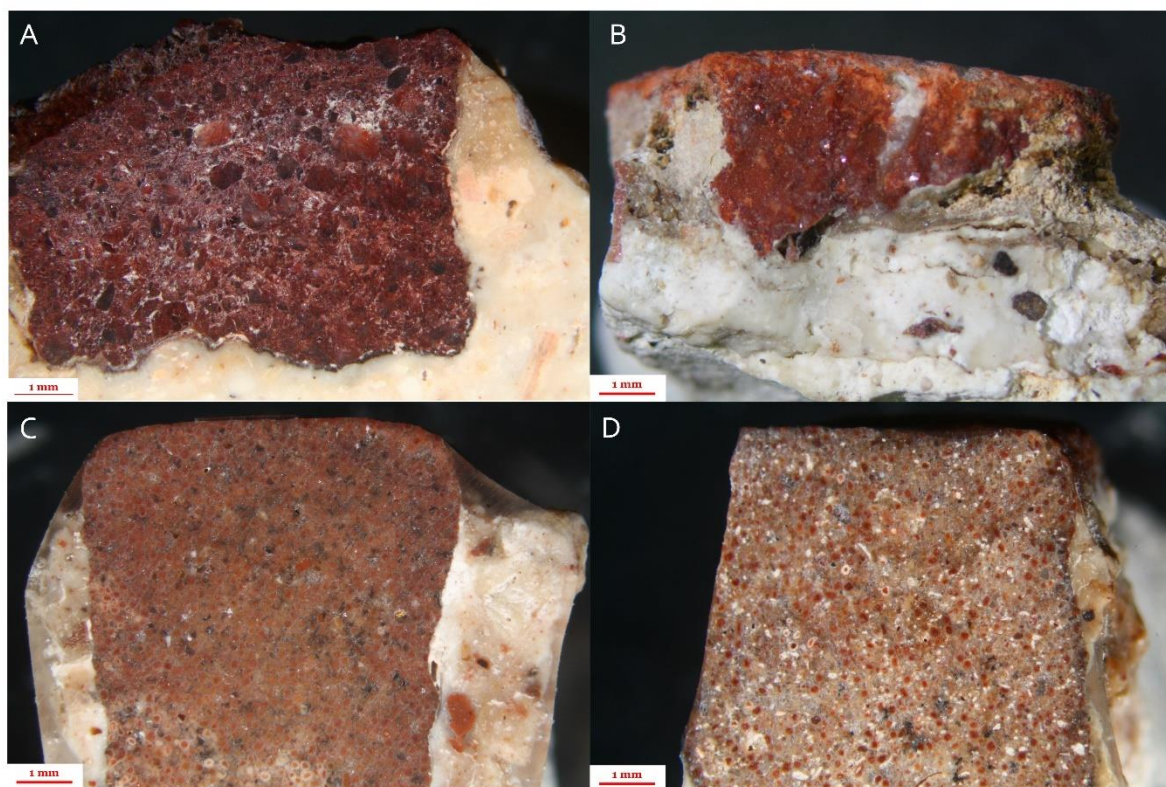


Fig 246. Various types of red tesserae from the mosaic of Jādū al-Matnī house, Philippopolis, Syria, A: JM1B B: JM9, C: JM7A, D: JM3B (analyze and photo: Brigitta Maria Kürtösi, 2022)

Diffractograms of the bedding mortars represent calcium-carbonate, while the nucleus layers in two cases, in al-Qabbānī and al-Ḥarfūsh mosaics, show anorthite content as well (Fig 247).

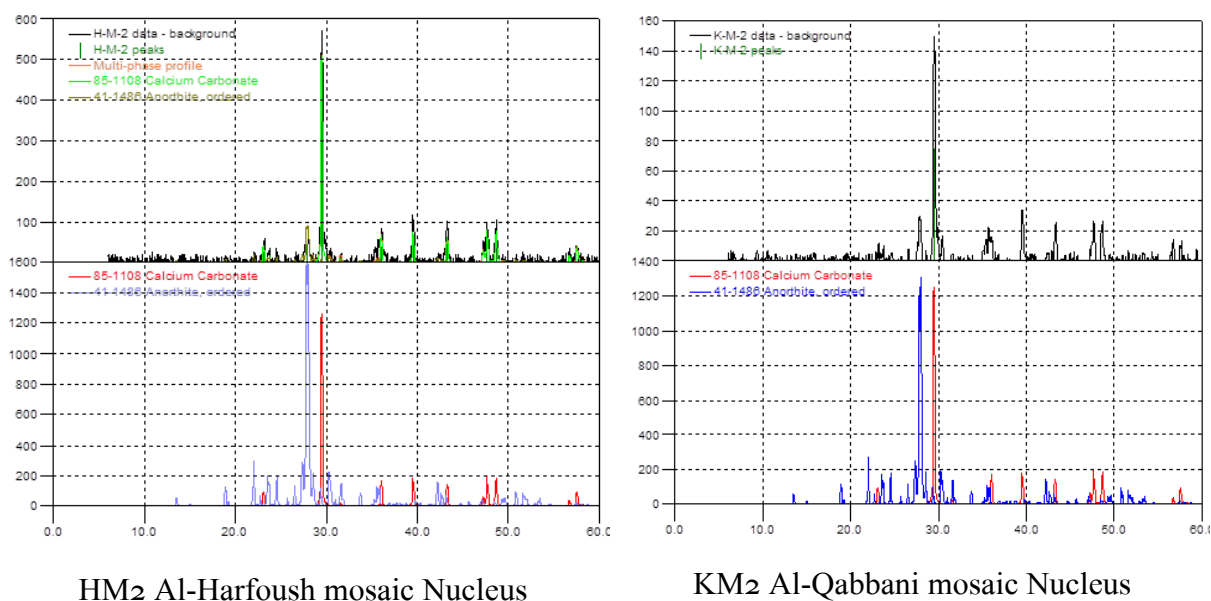


Fig 247. Anorthite content in the Nucleus layers in al-Qabbānī and al-Ḥarfūsh mosaics, Philippopolis, Syria (Photo: Atali Akmuradovich Agakhanov, 2018)

As filler material in the lime binder fragments of volcanic rocks are represented by highly porous volcanic glassy material, mainly as basaltic scoria. The mineral composition of black and red types of volcanic fragments is the same, the color difference is caused by the different oxidation state of these materials. The matrix contains minerals of feldspar group (anorthite, microcline, albite), augite, olivine, rutile. Accessory minerals from the spinel group are common in basalt²⁴². According to a previous study, noted that the pyroclasts of the Tel Shīhān cone is mainly composed of fallen scoria deposits, which are mostly composed of vesicular pyroclastic fragments of different size and shape of black and brownish volcanic rocks.

According to our samples we can note that the black pyroclastic material predominates in the Philippopolis mosaic mortars, particularly in the Nucleus layers, where that of al-Ḥarfūsh mosaic and al-Qabbānī mosaic is practically colored blackish by this type of material, which is present as a powder in the mixture with 1-1,7 cm large fragments as well²⁴³ (Fig 248).

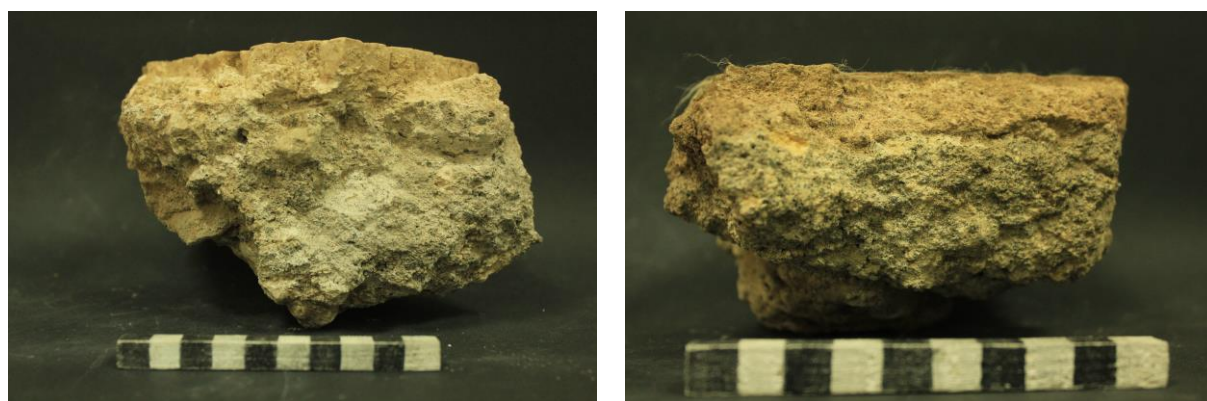


Fig 248. Parts of the foundation layers of al-Ḥarfūsh mosaic and al-Qabbānī mosaic, Philippopolis, Syria (Photo: Maher Jbace, 2014)

In the stratigraphy of al-Ḥarfūsh mosaic was found an atypical layer consist of the black volcanic vesiculated lapilli which may serve as an insulation layer (Fig 249). This atypical layer of black volcanic material was also found in some layers of lime floors that were found in al-Qabbānī House²⁴⁴ (Fig 250).

²⁴²Agakhanov Atali Akmuradovich, 2018, laboratories of the Russian Academy of Sciences in Moscow, Russia.

²⁴³ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest

²⁴⁴ Nofal O. and Jbace, M. 2014



Fig 249. Atypical layer of black volcanic vesicles in the stratigraphy of the mosaic pavement in al-Ḥarfūsh house, Philippopolis, Syria (Photo: Maher Jbace, 2014)



Fig 250. Atypical layer of black volcanic vesicles in the stratigraphy of the lime floors in al-Qabbānī house, Philippopolis, Syria (Photo: Osama Nofal, 2014)

In the case of Jādū al-Matnī house the general coloration of the nucleus mortar is not so specific. Nucleus layer looks lighter in general; the binder/aggregate ratio is different (Fig 251). The use of higher amount of lime binder can be detected and not only black, but deep

red volcanic filler is visible. This tendency is true for the bedding layer of the Jādū al-Matnī mosaic as well²⁴⁵.



Fig 251. Part of the foundation layers of Jādū al-Matnī mosaic, Philippopolis, Syria (Photo: Maher Jbace, 2014)

In Jādū al-Matnī house two levels of mosaic pavement were found, our samples belong to the upper mosaic. This situation determines that the foundation layers of this mosaic are not equal with the traditional order concerning the number and the thickness of the strata (Fig 252).



Fig 252. Foundation layers of the two levels of mosaic pavements, Jādū al-Matnī house, Philippopolis, Syria
(Photo: Maher Jbace, 2014)

²⁴⁵ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest

The appearance of stratigraphy under Orpheus mosaic is not like the other three sites despite the typical components being also found by XRD and SEM-EDS.

The general appearance of the mortar matrices (OM₁, OM₂) looks more homogenously greyish due to mainly the presence of charcoal additives beside the small particles of the black volcanic material. The bedding mortar is without larger volcanic rock particles but significantly compose of the pure lime lumps (white) and yellow clayish parts²⁴⁶ (Fig 253).

The mortar layer has some shrinkage cracks which could appear after the setting. Greenish-yellow fine particles are also present in the lime binder probably as accessory minerals. The presence and significant number of the yellow clayish parts compared to the other three examined cases assume that the limestone which was used for burning the lime was probably from different source.

It is interesting that charcoal was found only in the mortar samples of the Roman villa mosaic (Orpheus), a feature that confirms to us the presence of a different art workshop and/or construction period. This feature is typical for the Greek tradition.



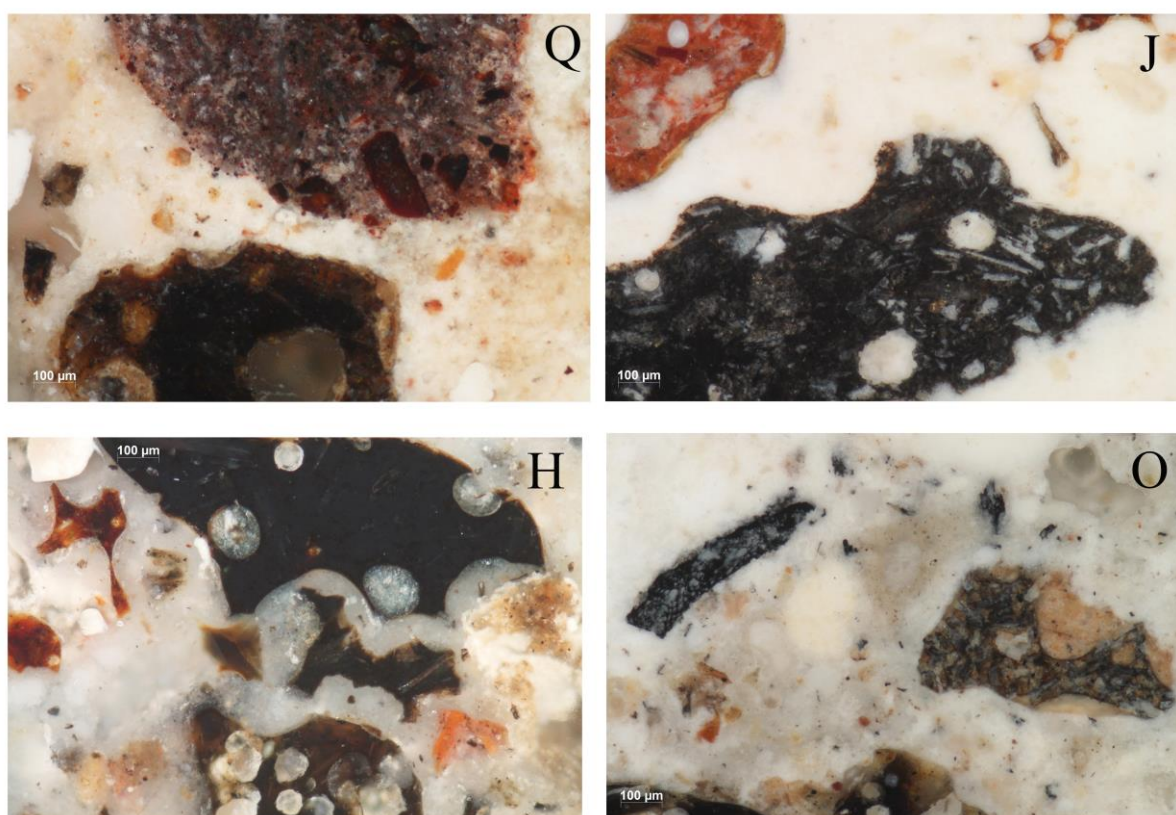
Fig 253. foundation layers of Orpheus mosaic pavement, the roman villa, Philippopolis, Syria (Photo: Maher Jbacc, 2014)

²⁴⁶ Kürtösi, B. M. 2020, Hungarian University of Fine Arts - Department of Conservation - Budapest.

In the calcium-carbonate matrix of mortar samples of all sites small red, orange and black volcanic particles are visible, while in the mortars of the Orpheus mosaic just scarce red particles were detected which is also a significant difference concerning the other sites.

Some iron-titanium-oxide minerals were detected in the mortar samples of all mosaic pavements. It is interesting to note that only in the al-Ḥarfūsh samples was the presence of quartz detected.

The mortar sample of al-Qabbānī mosaic is extremely fragile probably because of the high proportion of aggregates (Fig 254. Fig 255. Fig 256).

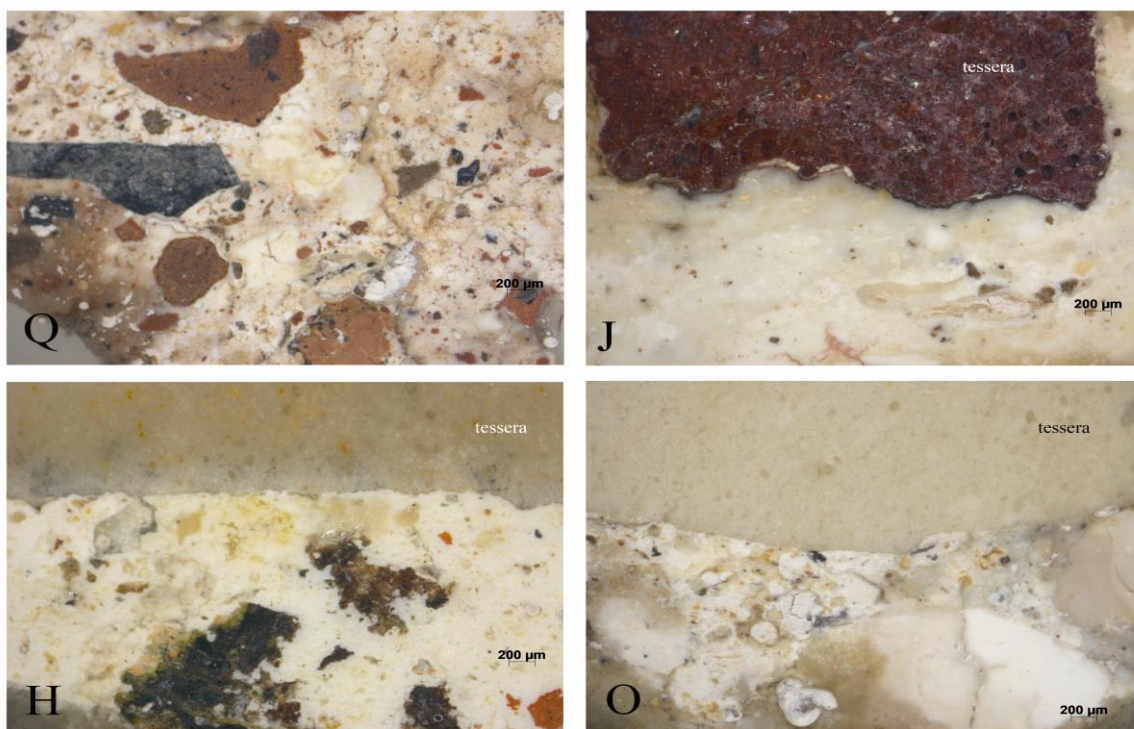


Typical aggregates of nucleus layer in mosaics from Philippopolis/Shahba, Syria Scale: 0,1 mm

Q: Al-Qabbani house mosaic, H: Al-Harfouh mosaic, J: Jado house mosaic, O: Orpheus mosaic, Roman villa

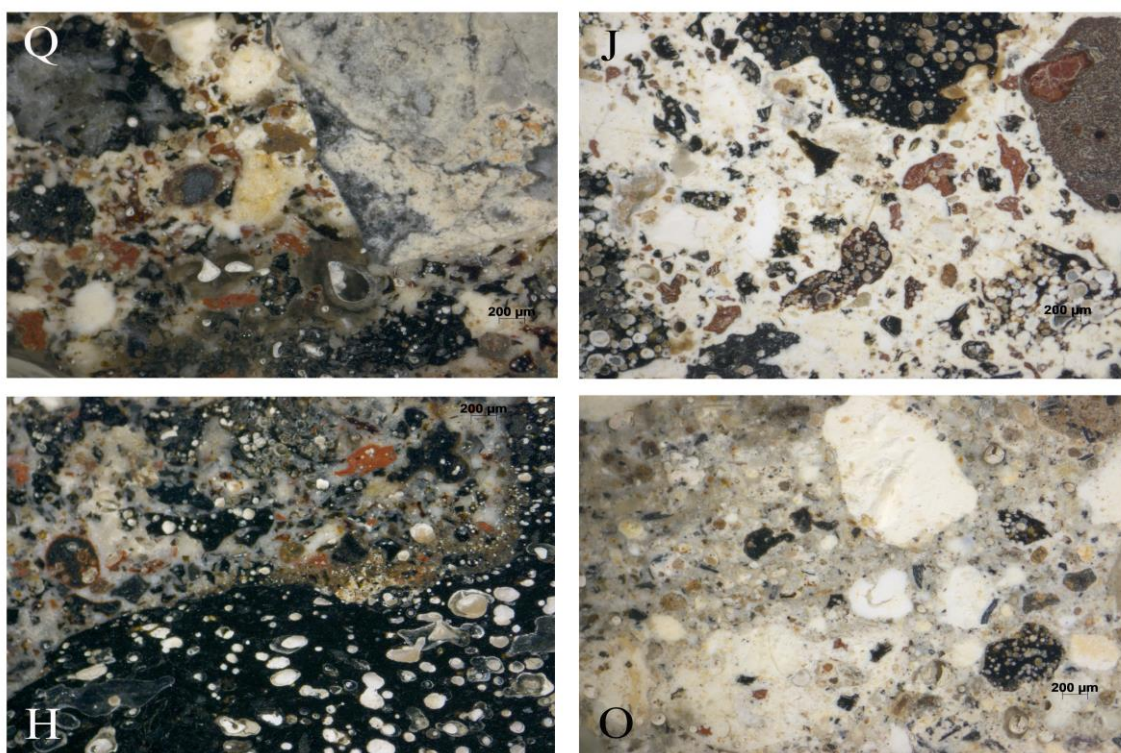
PLM_ZEISS Axioscope A1

Fig 254. Typical aggregates of nucleus layer in mosaics from Philippopolis- Syria, Scale 0.1 mm, Q: Al-Qabbānī , H: al-Ḥarfūsh , J: Jādū Al-Matni , O: Orpheus - roman villa, PLM_ZEISS Axioscope A1. (Photo: Brigitta Maria Kürtösi, 2022)



Bedding layer matrices of mosaics from Philippopolis/Shahba, Syria in cross section. Scale: 0,2 mm
 Q: Al-Qabbani house mosaic, H: Al-Harfoush mosaic, J: Jado house mosaic, O: Orpheus mosaic, Roman villa
Stereomicroscope Zeiss Stemi 508

Fig 255. Bedding layer matrices of mosaics from Philippopolis- Syria, in cross section, Scale 0.2 mm, Q: Al-Qabbānī , H: al-Ḥarfūsh , J: Jādū Al-Matnī , O: Orpheus - roman villa, Steromicroscopy Zeiss stemi 508. (Brigitta Maria Kürtösi, 2022)



Nucleus layer matrices of mosaics from Philippopolis/Shahba, Syria in cross section. Scale: 0,2 mm
 Q: Al-Qabbani house mosaic, H: Al-Harfoush mosaic, J: Jado house mosaic, O: Orpheus mosaic, Roman villa
Stereomicroscope Zeiss Stemi 508

Fig 256. Nucleus layer matrices of mosaics from Philippopolis- Syria, in cross section, Scale 0.2 mm, Q: Al-Qabbānī , H: al-Ḥarfūsh , J: Jādū Al-Matnī , O: Orpheus - roman villa, Steromicroscopy Zeiss stemi 508. (Brigitta Maria Kürtösi, 2022)

Special case	Al-Qabbānī mortar sample	Orpheus (Roman villa) mortar sample	al-Ḥarfūsh mortar sample	Jādū al-Matnī mortar sample
Quartz presence	-	-	detected	-
Red particles presence in the bedding mortar	detected	-	detected	detected
The general appearance of the mortar matrices (Nucleus, Rudus)	greyish	more homogenously greyish	greyish	Light greyish
Yellow clayish parts	-	detected	-	-
small red, orange and black volcanic particles	detected	detected	detected	detected
Orange and red limestone pieces in the bedding mortar	detected	-	-	-
Tessera or waste of it in the nucleus	detected			
fragile mortar sample probably because of the high proportion of aggregates	detected	-	-	-
An atypical layer of the black volcanic vesiculated lapilli which may serve as a insulation layer	detected	-	detected	-
Charcoal	-	detected	-	-
Vegetal remnants	detected	detected	-	-

Table4 . Table showing the special cases that were discovered within the results of the mortar samples analysis of the Philippiopolis mosaics, Syria (Maher Jbace, 2023)

VIII Conclusion:

MOSAIC	DATE	SITE	DIMENSIONS	DISPLAYING PLACE	ARCHAEOLOGICAL MISSION	DISCOVERY DATE	SUPPORT SITUATION	DOCUMENTATIONS
TETHYS	2nd quarter of the 4th century AD	Roman Villa site	4,65 x 4,65 m	In situ	DGAM	1963	Original support	J. Balty, H Stern,
DIONYSUS AND ARIADNE	2nd quarter of the 4th century AD	Roman Villa site	4,65x 4,80 m	In situ	DGAM	1963	Original support	J. Balty, H Stern
ORPHEUS	2nd quarter of the 4th century AD	Roman Villa site	4,65 x 5,10 m	In situ	DGAM	1963	Original support	J. Balty, H Stern
APHRODITE AND ARES	2nd quarter of the 4th century AD	Roman Villa site	4,65 x 5,10 m	In situ	DGAM	1963	Concrete support	J. Balty, H. Stern,
THE BANQUET	second half of the 3rd century AD	al-Qabbān ī house	6,55 x 6,60 m	In the warehouse	M. Dunand	1925	Concrete support	J. Balty, M. Dunand
MARRIAGE OF THETIS AND PELEUS	second half of the 3rd century AD	al-Qabbān ī house	4,30 x 1,75 m	Swayd ā' museu m	M. Dunand	1925	Concrete support	J. Balty, M. Dunand
JUSTICE, EDUCATION AND PHILOSOPHY	second half of the 3rd century AD	al-Qabbān ī house	4,32 x 3,30 m	Damas cus museu m	M. Dunand	1925	Concrete support	J. Balty, Dunand
AL-QABBĀNĪ MOSAIC	second half of the 3rd century AD	al-Qabbān ī house	4,32 x 3,30 m	Shahbā museu m + In situ	DGAM	1965-2014	Concrete support+Ori ginal support	DGAM Archive
DRUNK DIONYSUS	mid-3rd century AD	al-Ḥarfūs h house	2,68 x 1,98 m	Shahbā museu m	DGAM	1950's	Concrete support	J. Balty

PELOPS AND HIPPODAMIA	second half of the 3rd century AD	al-Ḥarfūs h house	2,20 × 2,20 m	Damas cus museu m	DGAM	1979	Concrete support	J. Balty +DGAM Archive
THREE GRACES	second half of the 3rd century AD	al-Ḥarfūs h house	3,65 × 2,50 m	Shahbā museu m	DGAM	1950's	Concrete support	J. Balty +DGAM Archive
ARTEMIS	mid-3rd century AD	North of the Great baths	3,05 × 3,05 m	Swayd ā' museu m	DGAM	1950's	Concrete support	J. Balty, H. Stern,
BIRTH OF VENUS	mid-3rd century AD	North of the Great baths	3,23 × 3,23 m	Swayd ā' museu m	DGAM	1950's	Concrete support	J. Balty, H. Stern
TETHYS	second half of the 3rd century	Near of the Great baths	2,35 × 1,85 m	Swayd ā' museu m	DGAM	1950's	Concrete support	J. Balty
GAIA-PLUTUS AND THE GIVE-AWAYS OF FOUR SEASONS	mid-3rd century AD	Near of the Great baths	3,55 × 3,55 m	Swayd ā' museu m	DGAM	1950's	Concrete support	J-Balty, H. Stern,
GLORIFICATION OF THE EARTH	mid-3rd century AD	Near of the eastern gate	3,30 × 2,75 m	Damas cus museu m	DGAM	early 1950s	Concrete support	J. Balty + Ernest Will publications
JĀDŪ AL-MATNĪ HOUSE MOSAIC	Suggested date: end of the 3rd c. to the early 4 th c. AD	Jādū al-Matnī house	Un-known	In the ware-house	DGAM	1970 + 2014	Aluminum honey comb support	DGAM Archive

Table 5. Documentation of the Philippiopolis mosaic collection with the new discoveries. Colours of the table according to the original sites. (Maher Jbaee, 2023)

MOSAIC	TYPE	TESSERAE DIMENSIONS	TESSERAE COLORS	TESSERAE MATERIAL	MOTIFS
TETHYS	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink,, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Marine and Geometric Motifs
DIONYSUS AND ARIADNE	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Plant and Geometric Motifs
ORPHEUS	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, nature and Geometric Motifs
APHRODITE AND ARES	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Plant, Geometric and Architectural Motifs
THE BANQUET	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Plant and Geometric Motifs
MARRIAGE OF THETIS AND PELEUS	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Beige, Brown, Yellow,	Marble, Limestone	Human and Geometric Motifs
JUSTICE, EDUCATION AND PHILOSOPHY	Opus Vermiculatum + Opus Tessella-tum	0.4-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow, Dark Blue Glass, Light Blue Glass	Marble, Limestone, glass	Human, Geometric and Architectural Motifs
AL-QABBĀNĪ MOSAIC	Opus Vermiculatum + Opus Tessella-tum	0.4-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow, Green Glass	Marble, Limestone, glass	Human, Animal, Plant and Geometric Motifs
DRUNK DIONYSUS	Opus Vermiculatum + Opus Tessella-tum	0.4-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal and Geometric Motifs
PELOPS AND HIPPODAMIA	Opus Tessella-tum	0.8-12 mm	White, Black, Pink, Rose, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, Plant, Geometric and Architectural Motifs

THREE GRACES	Opus Vermiculatum + Opus Tessella-tum	0.4-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, Plant, Geometric and Architectural Motifs
ARTEMIS	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, Plant, Geometric and Architectural Motifs
BIRTH OF VENUS	Opus Tessella-tum	0.6-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, marine and Geometric Motifs
TETHYS	Opus Tessella-tum	0.6-12 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal and Geometric Motifs
GAIA-PLUTUS AND THE GIVE-AWAYS OF FOUR SEASONS	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, Plant, Geometric and Architectural Motifs
GLORIFICATION OF THE EARTH	Opus Vermiculatum + Opus Tessella-tum	0.4-10 mm	White, Black, Pink, Light Pink, Red, Dark Red, Burgundy, Gray, Dark Gray, Light Gray, Maroon, Beige, Brown, Yellow, Dark Yellow	Marble, Limestone	Human, Animal, Plant and Geometric Motifs

Table 6. Documentation of the Philippopolis mosaic collection with the new discoveries. Colours of the table according to the original sites. (Maher Jbaee, 2023)

Although the city of Philippopolis did not rise only after Philip the Arab assumed the throne of Rome (244 - 249 AD) and transformed his hometown from a small village into a Roman colony, the mosaic pavements found in this city are among the important discoveries in the Levant, in terms of originality, quality and composition.

Artistic characteristics:

The collection of mosaic pavements in Philippopolis is characterized by many notes that are considered among the hallmarks of mosaic art and one of the most important collections in Syria and the Levant. Through its originality and the themes are considered among the subjects of the Greco-Roman mythology, which contributed to drawing a true picture of the beauty of this art. It is represented by the density of artistic elements, imaginative expression, and uncommon quality in the implementation of the designs of those mosaics' schemes and their various human, animal, geometric, and plant formations. It is considered a phenomenon superior in terms of quality and artistic value that it provided and refer the profound and great transformation that took place in this part of the empire during the period of Philip the Arab. The mosaic heritage reflects the thought, traditions and arts of the Syrians in that era, and the extent of the intellectual and cultural depth and the local artistic taste of a Hellenistic character isolated from local influences.

The remarkable studies about the mosaic pavements discovered in Syria that dated back to the Roman period, focused on the artistic and historical side in general with some comparisons with other mosaics in other regions in terms of classical components, dating and manufacturing workshops.

All the previous studies which concerned with the ancient Syrian mosaic pavements neglected the technical sides that are considered important factors and deserve scientific research. The new research in this field represents a suitable way to know more about the original techniques and the nature of the materials used to create these mosaics and to discover more about the characteristics of their preparatory layers.

Paving techniques and types:

By studying the execution techniques of these pavements, we found that they were created by using Vermiculatum type in the main scenes that include the main characters and the accompanying characters around which the legendary story revolves, in small scenes that

include animals, birds, and masks and in some frames surrounding the main scene on some pavements which includes the inhabited plants and the personification of the four seasons.

While the artist relied on the use of the Tessellatum type in the geometric frames surrounding the main scene on some pavements, and in implementing the background of the main scene and the light, monochrome spaces around the central panel on other pavements. The differentiation in the use of these methods is common in depictions of characters, gods, and heroes in the Roman period.

Tesserae:

Marble and limestone were mainly used in the production of all Philippopolis mosaic pavements, which were brought from outside Philippopolis and in various colors. It is important to note the use of tesserae of a volcanic nature which quite similar to some rocks and the volcanic raw material found in Philippopolis, the presence of volcanic tesserae was present in the mosaics of the house of Jādū al-Matnī. Because of the limited number and the small dimensions of the tesserae, more samples and further analysis would be needed.

The use of glass cubes in some of the mosaic pavements discovered in the House of al-Qabbānī, in some details of the mosaics of Justice, Education and Philosophy, also in some details of the mosaic discovered in 1965 and 2014. The blue glass tessera sample from the piece of the Damascus Museum collection, the *Justice, Education and Philosophy* mosaic seems to be a special example to the Syrian glass production by the detection of Chromium. The presence of this element can be a significant fingerprint, it can derive from the sand used during the glassmaking, and not present as an additive, which would be only possible in a modern glass.²⁴⁷ We are planning the further investigation of the blue glass material accurately, because it can be a clue concerning the provenance if the circumstances let us continue the work.

The size and thickness of the tesserae differed according to the place, the pavement, and the scene, the use of glass tesserae is detected only in two mosaics derive from the al-Qabbānī House.

One of the pavements was distinguished by the use of black tesserae in paving the background of some scenes, unlike all the pavements where “white” tesserae were used in paving the background of the main scenes and frame scenes. The black tesserae were used in

²⁴⁷ Moretti 2001, p. 102.

paving the background of the scenes within the frame surrounding the main scene in the mosaic of Gaia Plutus and the Giveaways of the Four Seasons, which included scenes of inhabited plants in the shapes of cupids chasing different animals, in addition to human heads in the four corners representing the four seasons.

Architectural space:

The group of mosaics of al-Qabbānī House and the Jādū al-Matnī House, which were discovered in the period from 1965-1970, showed us that these mosaics used to decorate the floors of halls that differ in terms of function, and with larger areas necessitated by the functional requirements of these halls, such as reception rooms or dining rooms.

Field work results

Jādū al-Matnī house mosaic:

Through the technical and artistic study, it became clear that the mosaic of Jādū al-Matnī house was produced by a first-class artistic workshop, and through the scenes and dimensions, it was found that it was the floor of a large hall, and we suggested that it might cover the floor of Triclinium or Tablinum in a Roman villa.

One of the most important results of our recent excavation at the site was the discovery of a previous mosaic pavement under the firstly excavated mosaic pavement. Also, we were able to suggest a date for the upper mosaic, where through comparisons of the scenes within this mosaic pavement with similar scenes discovered in other sites, especially the mosaic that was unearthed in Bulgaria and displayed in the Devnya Museum of Mosaic which dates back to the early of the fourth century AD. Some of the framing decorations of the Jādū house mosaics are similar to some of those found in the Three Graces mosaic discovered in Philippopolis and dated to the second half - the end of the third century AD.

All of these comparisons and evidence gave us the possibility to suggest that this mosaic pavement might be dated to the end of the third century, middle of the fourth century AD.

Al-Qabbānī house mosaic:

From the results of excavations in al-Qabbānī house is a discovery on the remains of wall paintings, the first of their kind in the city of Philippopolis. Also, colored stones were found

that were apparently used as raw materials of paints used in the coloring of the wall paintings and were bright red and ochre colors.

Also, one of the results of the excavations in al-Qabbānī house was the finding of white stones the size of a fist, circular, oval, or polygonal, the dimensions or diameter of each of which does not exceed 10-12 cm, distributed within an earthen floor, and also interspersed with some red and yellow stones.

The presence of these stones of a calcareous nature in this house within the city of Philippiopolis, in which there are only basalt stones, allowed us to suggest that they are from a group of limestone that were brought by the workshop to be used for the manufacture of tesserae used in the production of mosaic pavements in this house, or for preparing quicklime (by burning limestone) as binding agent for the mortars.

Among the results shown by the data provided by the excavations in al-Qabbānī house in 2014, and the mosaic pavements which found in 1925 in other rooms, and according to researcher Oussama Nofal, the field manager of the excavation team at the site, that through the parts of the mosaic pavement that covered the floor of the north hall, and the excavation data, we were able to suggest that the architectural plan is one of the models of the plans of luxurious Roman houses or villas that appeared in each of the cities of Rome and Pompeii, which is known as (*Domus Romaine*), with the presence of the Atrium, followed by a reception hall known as (Tablinum), and the presence of a room dedicated to the dining and is mainly known as (Triclinium).

Foundation layers' materials:

Through the archaeological sondages we noticed differences in each site from the other site, in terms of the preparation of the foundation layers, and clear difference is visible also between the components of the foundation layers in Philippiopolis mosaic pavements and those in other Syrian sites.

This is definitely related mainly to the nature of the materials and their available sources in Philippiopolis, which differ from those features in other Syrian sites, in addition to the different workshops. We noticed a heavy use of volcanic gravel available in the area whether it was within the foundation layers separately or within the lime mortar.

The sondages showed that the preparation of the foundation layers is different in some pavements than the common system in the Roman period described in detail by Vitruvius in the 1st century BC, and Pliny in the 1st century AD. According to the Latin author the soil was rammed and levelled and then four foundation layers were made on top of it under the Tessellatum.

The presence of sixth layer under the Statumen layer of the mosaic pavement in the house of al-Qabbānī can be consider unique, which is a layer of stones of a smaller size than those of the Statumen layer with a thickness of up to 30 cm.

Another specialty was the discovery of the remains of a previous mosaic pavement under the mosaic excavated at the house of Jādū al-Matnī. The first paved mosaic was made of large whitish tesserae of limestone, all around a lost main scene. The workshop that paved the upper mosaic seems to re-use the colored tesserae preserved of the first pavement. In preparing the foundation layers of this second pavement, the artists used large pieces of basalt in the Rudus and in the Nucleus.

A particular feature was the application of a five-centimeters-thick layer of black volcanic gravel instead of the Rudus layer in the mosaic stratigraphy of the al-Ḥarfūsh site. According to our identification it may used as an insulation layer.

Results of the analyses

The view of the Roman city of Philippopolis is determined by the presence of the cinder cones of surrounded volcanic hills. The geological features highly influenced the type of building materials on this site.

The volcanic context envisages the use of mostly local raw materials or that of nearby by the ancient mosaicists. In all the cases examined volcanic materials are present in the composition of the mortars, and we can detect them among the tesserae as well, although most of the tesserae are compact limestone.

All the examined mortar samples are of calcium carbonate binders containing minerals from the group of clays. In the main carbonate matrix pieces of volcanic fragments and rarely organic residues are present.

The characteristics of the X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM) measured components are similar, and we can diagnose that the results can only

confirm and point out the presence of typical, site-specific compounds. The real, delicate differences can be better found by the analyses of microscopic and on-site features.

The results of the analyses showed intensive use of local materials present on the site. The microscopic examination of the polished cross-sections made from each sample demonstrated the use of red and black volcanic material in the form of vesicular pyroclastics (lapilli and/or agglomerates) as filler and grinding of lapilli and/or volcanic ash as hydraulic component within the lime mortar.

One of the most important results that there is no trace of use of pottery powder in the foundation layers of the examined mosaic pavements from Philippopolis which we can see frequently in general and typical to the Syrian mosaics.

Also, one of the important results that in the main scene of the Jādū al-Matnī mosaic we can detect the volcanic stone as tesserae (red, brownish, deep red) although most of the tesserae are of compact limestone.

Also, one of the most important results is that the general appearance of the mortar matrices of the Orpheus mosaic from the Roman villa looks more homogeneously greyish due to not only the small particles of the black volcanic material but the presence of charcoal remnants. The bedding mortar is mainly composed of lime containing pure lime lumps and clayish particles.

The finding of charcoal in the Orpheus mosaic matrices in the Roman Villa site is important evidence of its production by a workshop different from that of the other examined sites and it can also indicate difference in the execution period. These mosaic pavements were stylistically dated to the second quarter of the fourth century by the Belgian scholar Janine Balty, but from the analyses we can surely assume the diversity of the Roman Villa site mosaics' also by their construction from the other examples of Philippopolis.

Workshops:

Although some previous studies suggested that the workshops producing the Philippopolis mosaics came from Homs, technical comparisons and laboratory analyses support our hypothesis that these workshops rather came from Antioch.

Artistic studies have provided us with sufficient information about the distribution of motifs within the different areas of the mosaics. This distribution is similar in most cases to

many examples found in mosaics of Antioch, and shares with them many features in terms of depicting main scenes, motifs, shapes, patterns, frame decorations, the style of human figures, the technique of light and shadow, and other features that characterized Antiochian mosaics in the second and third centuries AD and the first half of the fourth century AD.

Through our field work in the Philippopolis, the study of the sequence of the preparatory layers for the mosaics discovered in these sites and by the results of laboratory analyzes of the materials of these foundation layers, we found a great similarity in terms of the use of local materials. The volcanic context envisages the use of mostly local raw materials or that of nearby by the ancient mosaicists, where in all the examined cases pyroclastics are present in the composition of the mortars.

But the difference is clear in the way they are prepared, sequenced, distributed and used. Each site gave clear indications of the difference in the workshop that carried out the mosaic pavements discovered within it, even those that were implemented in the same period. Through surveys and fieldwork, and through the results of laboratory analysis, it appears that there was more than one workshop that executed the Philippopolis mosaic group, with the need to focus on the difference in location and period.

It seems that all workshops, in different time periods, have benefited from local materials in producing the pavements, but each workshop has harnessed these local materials in its own way.

Al-Qabbānī house:

The presence of the fifth foundation layer of volcanic stones under the Statumen layer as the first bottom layer within the constituent layers of the mosaic pavements was discovered in al-Qabbānī house.

The special case in the mosaic pavements of the al-Qabbānī house in particular and in the Philippopolis mosaic pavements in general, which is represented by the use of glass tesserae in the mosaic of Justice, Education and Philosophy in the details of the hair, clothes and the names of the characters in the main scene. Also the use of the glass tesserae was in the fourth mosaic that discovered in 1965 and 2014 in some details of the birds and plants within the small panels.

Using the glass tesserae is gives us the opportunity to suggest that the mosaics of the house of al-Qabbānī were executed by a different workshop.

The Roman villa:

The results of laboratory analysis proved the discovery of charcoal only in the mortar samples used in preparing the foundation layers of the mosaics discovered in the Roman villa, and it was not used in preparing the foundation layers of the mosaic pavements discovered in other sites, which is clear evidence of the difference in the workshop that produced these mosaics. This is consistent with previous research studies that dated Roman villa mosaics to the second quarter of the fourth century AD.

Al-Harfūsh house:

The presence of an atypical layer of black vesicular pyroclastics as an insulation layer instead of the Rudus layer within the foundation layers of the mosaic pavements discovered in al-Ḥarfūsh house. This kind of layer was also found in some underlayers of limestone pavements found in the house of al-Qabbānī. The previous research studies that dated the mosaic pavements of the house of al-Ḥarfūsh and that of al-Qabbānī to the same time period- the second half of the third century AD-, give us the opportunity to suggest that the mosaics of the two houses were produced by the same workshop or suggest us a working habit which can origin in the site-specific needs to create the adequate foundation.

Jādū al-Matnī house:

Among the clear features of the foundation layers prepared in the mosaic pavement discovered in Jādū al-Matnī house was the use of large basalt stones in the preparation of the Rudus layer, also were interlaced within the Nucleus layer and in some cases directly under the Tessellatum. Some of the stones were similar in size to those used in the Statumen layer. While it is common to use only smaller stones and pebbles in the layer of Rudus and particularly in the Nucleus, which we generally found during our work in other Philippopolis sites and Syrian sites. In addition to the use of tesserae of the local volcanic nature is also significant, while the majority is the use of tesserae of a calcareous nature.

These features support the suggestion of a different workshop that performed the mosaic pavements discovered in Jādū al-Matnī house, from the workshops that executed the mosaic pavements in other Philippopolis sites.

The existence of two layers of mosaic pavements indicates difference in time and probably in function or in owner as well. The reuse of the colorful stone material of the first mosaic shows us a practical but also an economical decision.

Future strategies for Philippopolis mosaic pavements:

The mosaic pavements discovered in Philippopolis are part of a group of mosaic pavements of a Roman city that marked by all the features of Roman cities with its official, administrative, religious, service and residential buildings. It is certain that there are many undiscovered or known and undeclared pavements by their owners.

We are facing with a big problem in Syria in the way how the local community to understand the importance of preservation of the cultural heritage. There is no realization that the protection of cultural heritage is the responsibility of everyone from individuals, institutions and government, also the process of expropriating archaeological areas by the archaeological authorities in Syria follows an old system and has not been modified so far.

The compensation paid to the owners of the archaeological properties upon expropriation is very little compared to its real price. Therefore, citizens in archaeological regions and cities such as Philippopolis, in which the ancient city overlapped with modern buildings, hide the fact that there are archaeological monuments or mosaic pavements in their houses for fear of their appropriation by the government and compensating them with small amounts, or because they do not have an alternative to this house as a residence for them. Even the expropriation process sometimes takes a long time due to the specificity of the place or the complex composition of the ancient and modern city together.

This is what we noticed during our work in the city in the 2014-2015 seasons, as some of the homeowners, especially in the residential area of the old city in the northeastern part of the city, have told us with all honesty that even if their houses have mosaic pavements, they will not inform the governmental archaeological authorities about that, for the above mentioned fears.

At that time, we tried to convince the governmental archaeological authorities of the importance of the site of the city of Philippopolis in general, and these houses, which contain mosaic pavements in particular.

The idea was to present ideas for similar cases in the world and the possibility of their application in the city of Philippopolis, or to convince governmental authorities to agree to make the citizen benefit from his property even if it is expropriated. Where after the expropriating of the property, the archaeological level of the site prepared and opened as a museum site linked with the neighbouring properties. Following this idea permission is given to the property owner to take advantage of the upper floors of the property to build his house and the houses of his children, and thus we have obtained the approval of both parties.

To put forward these ideas, in 2014 in the city of Shahbā (Philippopolis) we held a meeting for the archaeological authority, representatives of the government and the people of Philippopolis. There was acceptance by the people of the proposed ideas, but because of the crisis and difficult conditions in Syria during that period, - the deteriorated financial conditions, the state budget became less than before, and to support other issues more important, which are considered a priority in the current period - all of this made the project just idea not actually implemented.

One of the first future work strategies for the city of Philippopolis is to reactivate this project and educate the local community to understand and realize the importance of cultural heritage, as the followings: the responsibility of preserving it is the responsibility of everyone, government institutions and individuals, and linking the modern city with the ancient city within an integrated project to be one of the important archaeological, historical and touristic sites in Syria.

Among our works in the General Directorate of Antiquities and Museums in Syria was the restoration of parts of the mosaic pavement discovered at the site of Jādū house in Philippopolis. These parts were discovered in 1970 and preserved in warehouses until 2014, in that year we removed them from the warehouses for restoration and at the same time excavations works were carried out in the same site for the discovery of the potentially connecting parts. It has already been found that there are further sections of the same mosaic pavement, as they were removed from the site in order to also be restored and added to the previously discovered parts displayed in the Shahba (Philippopolis) city museum. Where a plan was drawn up to restore and display the mosaic pavement within the museum's garden

and within a building and shelter to be built with traditional materials similar to the nature of the Philippopolis region.

Due to the difficult circumstances and the current situation in Syria, the museum was closed, the artifacts displayed in it were preserved. Therefore, the works of displaying the mosaic pavement in the museum was postponed until the end of these conditions, the return of life to its previous state, and the reopening of the museum.

Also, among our works in the city of Philippopolis was preserving the parts of the mosaic pavement discovered at the site of al-Qabbānī house by re-burial within the site to be exposed in the future and displayed on the same site with the previous parts discovered in 1965. It is part of the plan of the General Directorate of Antiquities and Museums to rehabilitate the site of al-Qabbānī house and the mosaic pavement, and to include it in paths of archaeological visitation and tourism in the city of Shahba (Philippopolis).

Publication on the topic of the dissertation

Poster, 14th ICCM conference in Plovdiv, Bulgaria, 2022



ICCM
International Committee
for the Conservation of Mosaics



D.G.A.M. SYRIA



**PÁZMÁNY PÉTER
CATHOLIC UNIVERSITY**



**PLOVDIV
2022**

MOSAIC CONSTRUCTION TECHNIQUES IN PHILIPPOPOLIS - SYRIA

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CONTEXT: Syria has a huge legacy of ancient mosaics, and the archaeological discoveries and the results received from many mosaic pavements dating back to the classical period in various parts of the world prompted researchers to concerning this art, especially during the last decades of the last century.

There are remarkable studies about the mosaic pavements discovered in Syria dated back to the Roman period, focusing on the artistic side in general with some comparisons with other mosaics in other regions in terms of classical components, dating, and manufacturing workshops.

Philippopolis (Shahba) mosaic collection is considered one of the most beautiful in Syria and in the Levant. Roman mosaics discovered in the east in general, and in Philippopolis, in particular, have several characteristics that distinguish them from mosaics discovered in other regions within the Roman world.







Mosaic of Aphrodite and Ares - D.G.A.M. Archives



Mosaic of Artemis - D.G.A.M. Archives

The mosaic pavements reflect the intellectual and cultural depth, traditions and art of the Syrians at the Roman era. Although the city of Philippopolis was only elevated after Philip the Arab assumed the throne of Rome (244 - 249 AD) and transformed his hometown from a small village into a Roman colony, the mosaic pavements found in this city are considered to be one of the most important finds in Syria and in the Levant, in terms of originality, quality, and composition.

AIMS: All the previous studies which concerned with the ancient Syrian mosaic pavements in general and the mosaics of Philippopolis, in particular, focused only on the artistic and historical aspects and neglected the technical sides that are considered important factors and deserve scientific research. The new researches in this field represent a suitable way to know more about the original techniques and the nature of the materials used to create these mosaics and to discover more about the characteristics of their preparatory layers.



Mosaic of Orpheus - D.G.A.M. Archives



Mosaic of Tethys - D.G.A.M. Archives

PHILIPPOPOLIS is located in the south of Syria, 90 kilometers south of Damascus and 19 kilometers north of the city of Sweida.

The city characterized by volcanic nature and surrounded by volcanic mountains on all sides.

It is noted that the mosaic pavements discovered in the entire city are distributed north and south of (Decumanus) the road from Tetrabyon towards the eastern gate, that is, in the residential area of the city, not in the area designated for the administrative and religious buildings.

Vitruvius in the 1st century B.C., and Pliny in the 1st century A.D., described in detail the methods of construction of pavements. According to the Latin author, the soil was rammed and leveled and then three foundation layers were made on top of it.

THE DISCOVERY OF MOSAIC PAVEMENTS in the city of Philippopolis was carried out either by systematic excavations, or by accident, and it was executed in multiple and separate periods. Some of them were discovered in the last century, and then other parts were discovered in 2014-2015.

But we can arrange all the pavements in four groups in terms of organizing the foundation layers, as we were able to through the excavations that we performed in 2014 and 2015 to know the methods of organizing the foundation layers for the four mosaics that were discovered in 1963.

Also, we were able to know the methods of organizing the foundation layers for the groups discovered in 1925 - 1943- 1952- 1965-1970 and 1979. So that the four groups are:

- A group includes the mosaics discovered in Al-Qabbani house.
- A group includes the mosaics discovered in Al-Harfoush house and the north of the great baths.
- A group includes the mosaics discovered in the Roman villa (currently Shahba Museum).
- A group includes the mosaics discovered in Jado house.

Through the Archaeological sondages, we noticed a difference in each group from the other groups. In terms of the stratigraphy and also the components, we can see a clear difference also between the components of the foundation layers in Philippopolis pavements and those in other sites in Syria.

This is definitely related mainly to the nature of the materials and their available sources in Philippopolis, which differ from the nature and provenance of the materials in other sites in Syria, in addition to the different workshops. We noticed a heavy use of volcanic gravel available in the area in a dense way, whether it was within the foundation layers separately or within the lime mortar.

THE SONDAGES: showed that the preparation of the foundation layers is different in the case of some pavements than the common system in sites dating back to the Roman period in general or in Syria in particular, and in some of them there were only four layers instead of five.

The unique case that was found in Philippopolis was in the mosaic pavement of the House of Al-Harfoush, where the Rudus layer was replaced only with a layer of black volcanic gravel that is abundant in the area, without mixing it with other materials or with lime.

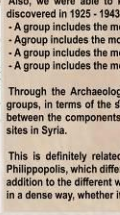
The another case is the presence of a sixth layer under the Statumen layer in the mosaic pavement of the House of Al-Qabbani, which is a foundation layer of stones of a smaller size than those of the Statumen layer with a thickness of up to 30 cm.

Also the another special case is the discovery of the remains of a previous mosaic pavement under the mosaic pavement that was discovered at the House of Jado, where we discovered a mosaic was made by large white cubes of limestone, this large tesserae surrounding a lost main scene, that appears the workshop that paved the upper mosaic used the colored cubes in the paving of this mosaic.

In preparing the foundation layers of this pavement, the artist used large pieces of basalt within the Rudus and in some case in the Nucleus.



Statumen
Rudus
Nucleus
Succellum



Statumen
Rudus
Nucleus
Succellum

SAMPLES: We sampled the foundation mortar layers of the four sites where eleven mosaics were discovered out of the sixteen pavements unearthed in Philippopolis.

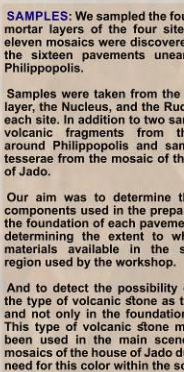
Samples were taken from the bedding layer, the Nucleus, and the Rudus from each site. In addition to two samples of volcanic fragments from the area around Philippopolis and samples of tesserae from the mosaic of the House of Jado.

Our aim was to determine the main components used in the preparation of the foundation of each pavement. Thus determining the extent to which the materials available in the site and region used by the workshop.

And to detect the possibility of using the type of volcanic stone as tesserae, and not only in the foundation layers. This type of volcanic stone may have been used in the main scene in the mosaics of the house of Jado due to the need for this color within the scene.



Jado Mosaic
Al-Harfoush Mosaic
Al-Qabbani Mosaic
Roman Mosaic



Jado Mosaic
Al-Harfoush Mosaic
Al-Qabbani Mosaic
Roman Mosaic

THE ANALYSIS AND RESULTS:

The results of the analysis showed heavy intensive use of local materials present on the site.

The microscopic examination of the polished cross-sections made from each sample showed the use of red and black volcanic filler material in the form of small pieces or crushed powder within the lime mortar.

The analyses also proved the presence of basaltic scoria particles and powder in the lime binder as hydraulic components.

There is no trace of use of pottery powder in the foundation layers of the examined mosaic pavements from Philippopolis which we can see frequently in general and typical to the Syrian mosaics as well. This is due to the conscious use of volcanic soil, sand and gravel with the lime resulting in hydraulic properties of the mortar.

The analysis of the samples took place within the laboratory of the Conservation Department at the Hungarian University of Fine Arts in Budapest.

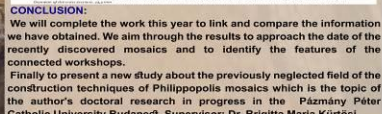
Mortar samples of al-Harfoush mosaic and al-Qabbani mosaic is practically colored blackish by this type of material, which is present as a powder in the mixture with 11,7- cm large vesiculated fragments as well, and in the Jado mosaic we can detect volcanic stone as tessera (red, brownish, deep red/madder) among the tesserae as well, although most of the tesserae are compact limestone.

The general appearance of the mortar matrices of the roman villa looks more homogeneously greyish due to the small particles of the black volcanic material present mainly in powdery form as hydraulic in the mixture. The bedding mortar is without larger volcanic rock particles, mainly composed of lime containing pure lime lumps and clayish particles.

A distinctive case of Philippopolis pavements was found at the House of Jado site. The massive use of black volcanic powder made the mortars hard and coherent. Within the rudus and nucleus the presence of basalt stone pieces in similar size than the stones of the Statumen layer were detected. The other particular feature was the application of a five-centimeter-thick layer of black volcanic gravel instead of the rudus layer in the mosaic stratigraphy of the Al-Harfoush site. It may serve as an insulation layer.



Statumen
Rudus
Nucleus
Succellum



Statumen
Rudus
Nucleus
Succellum

CONCLUSION:

We will complete the work this year to link and compare the information we have obtained. We aim through the results to approach the date of the recently discovered mosaics and to identify the features of the connected workshops.

Finally to present a new study about the previously neglected field of the construction techniques of Philippopolis mosaics which is the topic of the author's doctoral research in progress in the Pázmány Péter Catholic University Budapest. Supervisor: Dr. Brigitta Maria Kürtösi



AIEMA
2023-2024

INVESTIGATION OF A NEW MOSAIC FROM PHILIPPOPOLIS – SYRIA

Maher Jbaee - Brigitta Maria Kürtösi



Roman Empire
Research Institute

Introduction

The mosaic pavement collection of Philippopolis (Shabak) is one of the most significant in Syria and the Levant. The city always excites us with new discoveries, and we can add a new finding to the ensemble discovered in one of the residential area – houses of Philippopolis, northeast of the Tetrapylon.

Aims

In this research we attempt to date the mosaic pavement discovered at the site of JbUJ house based on archaeological observations, technical data and comparisons.

Description

The scenes of the mosaic tiled in 1970 are a central circle with a diameter of approximately three meters, framed by polychrome unframed ribbon forming spaced circles. In the centre of the circle there is a medallion with a diameter of about one meter with unknown depicted on because it is new under the wall of a populated house, separating two actual rooms with parts found in 2014, and the others discovered in 1970.

The circle represents the shield of the goddess Athena. It is an interlaced decoration in different shapes and colours (that appear overlapping each other, and the difference in the colour of cubes gives an elaborate design). It is framed by a square-shaped frame with 10 cm width by a polychrome row of larger inverted juxtaposed beads forming an undulating line.

Next to the circle is another scene of geometric motifs of six octagons(2) in two rows formed by the coiled frame of an asymmetrically shaded triangle plot on black background. Within the octagons are coloured circular frames, never been discovered before in Philippopolis, and inside each octagon has a beautiful decorative shape that is different from the other. These shapes have various frames(3).

Although the great damage within the remaining side scenes we were able to see delicately performed decorations, such as in the shape of a boat filled with fruit resembling Calixtus in the corner, with scrolls of interlaced acanthus leaves with different birds and a hunter Cupid holds a shield in his left hand and a weapon that resembles a bayonet in his right hand and faced by a tiger.



Mosaic of JbUJ house discovered in 1970, Philippopolis, Syria (Photo: Maher Jbaee, 2017)



Mosaic of JbUJ house discovered in 2014, Philippopolis, Syria (Photo: Maher Jbaee, 2017)



Mosaic of JbUJ house discovered in 2014, Philippopolis, Syria (Photo: Maher Jbaee, 2017)



Mosaic of JbUJ house discovered in 2014, Philippopolis, Syria (Photo: Maher Jbaee, 2017)



Mosaic of JbUJ house discovered in 2014, Philippopolis, Syria (Photo: Maher Jbaee, 2017)

Context

The mosaic pavement was found by chance in 1970, and was lifted from its site, then stored in the warehouse without any documentation, archiving or study. In 2014, the mosaic extracted from the warehouse after being together for nearly 45 years, and through one document found in the Archives of Laboratory (DGAM) we recognized that the stored mosaic has further parts left in situ. According to an archaeological mission was formed, headed by Maher Jbaee, with the participation of MSc. Özlem Nefci and a number of students from the Faculty of Archaeology at Damascus University, we discovered the remaining parts of the mosaic in another house next to JbUJ house.

After the mosaic was lifted out, parts of another, lower mosaic was found made with large white cubes near two of the walls of the room, but the main scene was missing. The presence of the lower mosaic clearly showed that the site was used in an earlier period, and the material of the last mosaic scene may have been reused in paving the upper mosaic.

The architectural elements of the original building were not found because of the construction of the new building. The only visible structure of the original wall coinciding with the period of mosaic implementation was on the north and east side of the room, where the mosaic study ended, and its further extension appears clearly under the western wall and the arches.

The way how the scenes of the mosaic of JbUJ house were distributed, the selection of topics, the highly professional painting technique and style give us an idea of a first-class workshop.

Technical analysis

In 2014 the parts of the same mosaic pavement were discovered within a 5.60 x 4.70 m large room. The mosaic covered the two-third of the room next to its northern and western wall, while it is destroyed on the southern side. These parts are the frame of the central circle in the western side.

We found some parts of the central circle and some parts of the shield. The rest scene is 2.80 m wide and is completely identical in location and dimensions to the scene of the octagons depicted on the western side in relation to the central circle. It is a geometric decoration close to the mosaics within squares interlaced with rhombuses in multiple colours(4).

In the eastern side, the end of the mosaic was found, which is a decoration of adjacent octagons with 1.50 m width.

Through the results of the excavations in 2014, we concluded that the width of the mosaic newly exposed is approximately 4.50 meters, and it must be corresponding to the same site on the opposite side.

The end of the mosaic discovered in 1970 must be the same carpet of octagons with a width of 1.50 cm, so each scene consists of two carpets with a width of 4.50 m on each side of the shield.

As the diameter of the circle is 3 meters, means at least approximately 12 metres length of the mosaic pavement. While the width of the mosaic is unknown due to the loss of scenes in the southern side, and what was discovered only measured 4.20 m.

The frame of the missing scene is wide and contains scenes of interlaced acanthus leaf by birds and hunter cupids. With these dimensions we assume that this mosaic was decorated the floor of a Tablinum or a Triclinum.

Artistic analysis

The depiction of the central medallion of JbUJ house mosaic is unknown due to its loss under the new wall of the house, but provided in JbUJ types of scenes that the central part is decorated by a Medusa-head.

Several examples show the Medusa head surrounded by the shield of goddess Athena in the form of radiated or swirling patterns (involute shapes and colours)(5).

Corruption appears in mosaic art in all parts of the Roman Empire. As far as their position inside the buildings is concerned, it was usually turned towards the guests, and how as well we suppose that the primary use of this hall was for receptions. The hunter Cupid scene against a black background has also analogies(6).

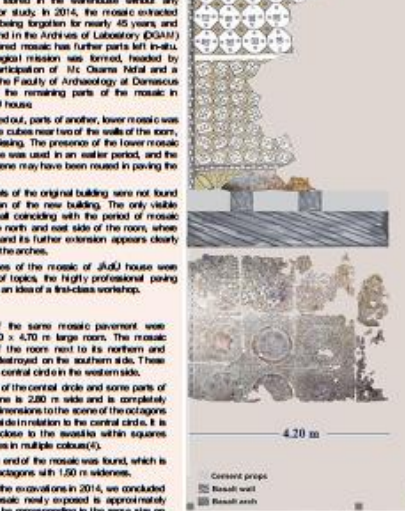
Conclusion

The case of JbUJ house, the presence of two mosaic pavements on top of each other is considered the first in the Syrian Philippi. Due to the absence of important archaeological data, the lack of findings, and the loss of more than 50% of the mosaic, there is no general way to dating, but only to rely on the historical facts of the city and on comparison of analogies.

Since the Philippopolis mosaic collection dates to the founding of the city by the emperor Philip the Arab (in the middle of the 3rd century AD), to the second century of the 4th century AD, therefore the lower mosaic in question must be dated at least to this, but the upper mosaic surely must be executed in a later period.

Through the analytical and comparative study, it was found that the scene of the circle, which depicts a shield inscribed with different colours and shapes. According to Catherine Sakellari in the Index of Drawings for the Geometric Decorations of the Roman Mosaics(7) is highly similar in terms of the number of scales and rows within the shield to the scene of the octagons that unearthed in Philippopolis (B. Jbaee) and displayed in the Oesuvius House of mosaic which dates back to the early 4th century AD.

Based on all the previous evidence and comparisons, we can suggest dating the upper mosaic of JbUJ house to the period from the end of the 3rd century AD to the middle of the 6th century AD.



Graphic reproduction of the upper and lower mosaic stratigraphy of the house of JbUJ, Philippopolis, Syria (Photo: Maher Jbaee, 2017)

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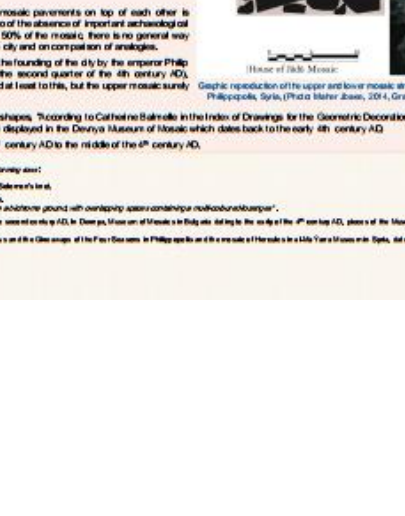
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Graphic reproduction of the upper and lower mosaic stratigraphy of the house of JbUJ, Philippopolis, Syria (Photo: Maher Jbaee, 2017)

IX List of terms:

- **Mount Ḥaurān:** (page 11): It is a name given to the Swaydā' Governorate, as it is adjacent to the Ḥaurān Plain (Dar'ā Governorate)

- **Tanit:** (page 25): A symbol related to the goddess of the same name, It was perceived as a representation of the connection of the terrestrial world with the celestial world, The motif has been interpreted as having protection, and the Punics being eager to protect themselves from the evil eye.

The first representations of the sign were discovered on stele unearthed on the site of Carthage, and the archaeological excavations have subsequently uncovered representations on other supports such as mosaics or even on ceramics and highlighted the particularly important diffusion of the symbol in the western basin of the Mediterranean Sea.

- **Tessera** (page 26): A Latin word meaning square; plural: tesserae; the word is derived from the ancient Greek τέσσαρες / téssares - "four") is the name for the small cubes, polygonal or round pieces made of stone, ceramics, ore, lead, bone, terracotta, glass or similar hard materials used to produce mosaics. The term is in use for the cut/manufactured pieces.

- **Opus** (page 30): Latin term meaning (work - product) and used to refer to different types of the mural and Roman floor mosaic. The name given to the typology is preceded by relying on several technical data related to the specifications of its component materials and the technical system for paving those materials.

- **Pseudo-emblema** (page 30): The central panels that are paved directly on the site, while Emblema are the central panels that are produced in the workshop on a slab of marble or pottery and then moved and placed in the place designated for them on the site.

- **Rainbow-style:** (page 35): It is a geometric decoration used in mosaic art, developed during the fourth century AD, depends on multiple geometric shapes: such as symmetrical squares, lines in a cubic shape resting on one of its heads, shape of saw teeth. Slight transition of hues reached by the systematic order of the tesserae' tones from lighter to darker.

- **Satyr:** (page 54): They are beings among the gods, humans, and animals, similar to jinn. They were considered by the Greeks to be the gods of forests and mountains. The Romans called them Faunas, and they represented the instincts and energies of living organisms, as well as plant organisms. People imagine them as human dwarves with few or many animal features, such as having a tail, the legs of a goat, or horns on the forehead, and their eyes resemble the eyes of wild animals. They tend to play and accompanies Nymphs and is

considered one of Dionysius's companions. Author: ʿUthmān Suhīl, Al-ʿAṣfar ʿAbdilrazzāq, Pp. 288-289.

- **Atargatis:** (page 60): The Syrian goddess of fertility in Classical Antiquity, great goddess of northern Syria; her chief sanctuary was at Hierapolis (modern Manbij), northeast of Aleppo, where she was worshiped with her consort, Hadad. Her ancient temple there was rebuilt about 300 BC by Queen Stratonice, wife of Seleucus I, her cult spread to various parts of the Greek world, where she was generally regarded as a form of Aphrodite.

- **Calathus:** (page 73): A calathus or kalathos /'kæləθəs/ (Ancient Greek: κάλαθος, plural calathi or kalathoi κάλαθοι) was a basket in the form of a top hat, used to hold wool or fruit, often used in ancient Greek art as a symbol of abundance and fertility.

The Kalathos had a symbolic meaning as a basket of flowers for Persephone at the festivals of Athens, or especially in the celebrations of Demeter, it is depicted as a bowl filled with fruit.

- **Attis:** (page 77): He is the Phrygian god of vengeance, the young lover of Cybele, and it is said that he is the god of fertility in Asia Minor. Cybele, (the great eastern goddess, the Anatolian mother goddess) loved him with a virginal love, but he betrayed her, abandoned her, and loved another nymph, and she made him mad, then he died after he castrated himself and bled to death. Author Shapiro Max, Hendrix Ruda, 1999, p. 56.

- **Atlas:** (page 77): Atlas: Son of Lapetus of Clymene and brother of Prometheus and Epimetheus, Zeus punished him after the Titan War by standing at the far west of the earth and raising the sky on his shoulders. Shapiro Max, Hendrix Roda, 1999, p. 55.

- **Omphale:** (page 92): She is the queen of Lydia. Heracles served her after the oracle Apollon advised him to do so after he killed his close friend Iphytus in a fit of madness in order to purify himself of his sin. So, he entered into her servitude and assigned him many tasks which he completed with merit. Then she became his lover and wife. It is said that she humiliated him and asked him to That he wears women's clothes and spins wool, while she wears his lion's skin.

Summary:

Mosaic pavements are considered as an important archaeological material group for research and for studying the decorative styles used in their design and production. The style of some Syrian mosaic originates from the classical Hellenistic-Roman tradition, while others are the results of local Syrian creativity.

It is known that the establishment of numerous Greek and Roman cities and colonies in Syria during the Seleucid and Hellenistic Roman periods led to an influx of new settlers from Greek and Roman communities. Among these emerging cities was Philippopolis, founded by Emperor Philip the Arab in southern Syria. He sought to honor his birthplace by creating a city that rivaled those of the Roman Empire, and to be a small Rome.

This thesis explores the aesthetic and craft values of mosaic pavements production in Philippopolis from the mid-3rd to the mid-4th century AD, through an iconographic comparison of the decorative elements depicted in the mosaic scenes, and an examination of the paving techniques and preparation of the foundation layers, since the utilizing materials available in Philippopolis and the surrounding areas.

The thesis also establishes the aesthetic values and significance of these mosaic floors pavements by studying the evolution of mosaic art in the Syrian colonies during the mentioned period, placing them within the broader context of Roman mosaic art. Furthermore, it presents an analytical study of the workshops employing comparative iconographic analysis and fieldwork on sites where mosaic pavements were unearthed in 2014-2015.

The thesis also analyzes the nature of the tesserae and the materials used in paving and preparing the foundation layers of these mosaics, and presents a new scientific approach to working with mosaic assemblages discovered in Syria through a technical study of these mosaics, an area previously neglected by those who have studied, worked on, and researched Syrian mosaic floors. This was achieved through laboratory analysis of samples taken from the foundation layers and tesserae of these mosaics.

The scientific results obtained by this study were very promising, providing us, for the first time, with important information about the techniques used by the artisans and workshops in producing these floors pavements and the nature of the materials they used, which relied heavily on local materials in the Philippopolis region. It also provided us with important information about the workshops and their variations at each site, which allowed us to confirm or refute previous hypotheses regarding the dating of the mosaics under investigation.

The study offers a valuable opportunity for new research activities in this field, as it demonstrates that, by applying the available solutions presented, gaining an understanding of the original techniques and the properties of the materials used to create the mosaics along with the foundation layers truly contributes to a more accurate understanding of Syria's mosaic heritage.

Összefoglalás

A mozaikpadlókra fontos régészeti anyagszoportként tekint a kutatás, A mozaikpadlók tervezéséhez és a kivitelezésükhöz alkalmazott stílusok és megoldások tanulmányozása szintén jelentős szempont. Egyes szíriai mozaikok stílusa a klasszikus hellenisztikus-római hagyományokból fakad, míg mások a helyi szíriai kreativitás eredményeit is mutatja.

Közismert, hogy számos görög és római város, illetve kolónia alapítása új görög és római közösségekből származó telepesek beáramlását eredményezte a szeleukida és a hellenisztikus-római korszakban Szíriában. Az így kialakuló városok egyike volt Philppopolis is, amelyet I. Fülöp császár alapított Dél-Szíriában. Célja az volt, hogy szülőhelyén olyan várost hozzon létre, amely felveszi a versenyt a Római Birodalom jelentős városaival, és valóban egy „kis Róma” lesz.

A disszertáció a i. sz. 3. század közepétől a 4. század közepéig tartó időszak során Philppopolisban készült mozaikpadlók esztétikai és készítése technikai jellegzetességeit vizsgálja. Módszertana az ábrázolt jelenetek, díszítőelemek ikonográfiai összehasonlítása, valamint a mozaiktechnika és az aljzatrétegek előkészítésének vizsgálata és elemzése, a helyszínen és környékén rendelkezésre álló anyagok és adottságok tükrében.

A disszertáció kísérletet tesz továbbá a kutatás körébe bevont mozaikpadlók esztétikai értékeinek és jelentőségének meghatározására. Vizsgálja a szíriai kolóniák mozaikművészetének fejlődését az említett időszakban, illetve beágyazza azokat a római mozaikművészet tágabb kontextusába. Elemzi továbbá a térségben működő mozaikműhelyeket összehasonlító ikonográfiai szempontok és a 2014–2015-ben lezajlott feltárási munkálatok, helyszíni kutatások segítségével.

A disszertáció emellett elemzi egyes mozaikokat alkotó tesseraék jellegét, valamint a padlók készítéséhez, az alapozórétegek előkészítéséhez használt anyagokat egyaránt, és célja egy új tudományos megközelítést bemutatása, mely terület a szíriai mozaikpadlókat tanulmányozók, feldolgozók és kutatók eddig figyelmen kívül hagytak a Szíriában feltárt mozaikok vizsgálata során. A disszertáció komplex módszertanával, mely stíluskritikai megközelítésen túl a mozaikok alaprétegeiből származó és a mozaikokat alkotó tessera minták anyagvizsgálatára és mikroszkópos elemzésére egyaránt hangsúlyt fektet hiánypótló tanulmányként jelölheti ki a további szíriai mozaikörökség-kutatás irányait és mutathatja be lehetőségeit.

A dolgozat eredményei ígéretesek, hiszen a szíriai kontextusban először nyertünk fontos információkat a padlóburkolatok előkészítése során, alkalmazott technikákról valamint a mozaikműhelyek anyaghasználati szokásairól, amelyek szerint, a vizsgálati kört tekintve, nagyrészt a Philppopolis régióban előforduló helyi nyersanyagokra támaszkodtak. Emellett fontos adatokhoz jutottunk az egyes mozaikműhelyekről, munkamódszerük és anyagaik helyszínenkénti eltéréseiről is, ami lehetővé tette számunkra, hogy megerősítsük vagy cáfoljuk a mozaikok kormeghatározásával kapcsolatos esetleges korábbi hipotéziseket.

A tanulmány értékes irányt mutat új kutatásokhoz, mivel bizonyítja, hogy a bemutatott, elérhető megoldások alkalmazásán keresztül az eredeti technikák és rétegrend, valamint a mozaikok készítéséhez használt anyagok tulajdonságainak megismerése valóban hozzájárul a szíriai mozaikörökség pontosabb megismeréséhez.

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