The Roman Mosaics of Humayma, Jordan

by

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B.A., University of Victoria, 2005

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Abstract

This thesis documents three polychrome, geometric mosaics that were discovered in the Praetorium of the Trajanic Roman fort at Humayma in southern Jordan. Patterns used in the mosaics are swastika meanders, quatrefoil rosettes and interlocking circles, while colours used are beige, red, and two shades of blue. The mosaics can be confidently dated to the initial construction of the fort, between A.D. 111 and A.D. 114.

I document the excavation and present state of the most southern mosaics in Jordan, and place them in their regional and social context. By comparing the patterns employed with other similar mosaics, both geographically and temporally, I shed light on the early development of mosaics in the region. I argue that the Roman military employed local craftsmen to construct the mosaics and that evidence of craftsmen training is visible in details of the mosaics.

The social and cultural context of the Humayma mosaics is reconstructed by examining both other local examples, and comparanda from the wider, Mediterranean corpus of mosaics, including sites such as Delos, Olynthus, Antioch, Pompeii, and Ostia. The focus is on the extent of diffusion of the specific motifs employed. Interpretation of the mosaics at Humayma will concentrate on such issues as patronage, craftsman training, and indications of regional wealth.
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**Introduction**

In the early second century AD, the Roman military established a fort at the Nabataean settlement of Hawara in southern Jordan, 50 km southeast of Petra and 80 km north of ‘Aqaba. During excavations in the Praetorium, or commander’s house of the fort, in 2000 and 2004, the investigators uncovered three polychrome geometric mosaics.\(^1\) Occupying three rooms in the northeast corner of the structure, these mosaics, combined with elaborate frescos, created a luxurious setting in which the Roman commander could entertain his visitors.

The three mosaics decorate the inner dining and entertainment rooms of the Praetorium, as well as the hallway bordering the suite. This last mosaic was decorated with four-leaf clover patterns set within squares bordered with red tesserae. The reception room off the hallway was a blue and beige, interlocking circle pattern that extended across the whole floor. The finest mosaic, a compound pattern consisting of central rosettes, a border of swastika meander, and a frame of squares, rectangles and triangles, occupied the triclinium. A fuller discussion of the mosaics comes after an overview of the site’s topography and history. This order was chosen so that reader can properly contextualize the mosaics.

The discovery of these particular mosaics has immense importance for the study of early mosaics in both Jordan and the greater region of the Near East. These mosaics also provide the opportunity to examine the beginning of Romanization on the Arabian frontier, the interaction between the Roman military and the local Nabataeans, and the

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\(^1\) Conducted primarily by the author, Dr. George Bevan and Derek Sou (2004), Dr. George Bevan and Dan McElroy (2000), under the supervision of Prof. John P. Oleson and his Humayma Excavation Project. I returned with his project in 2005 for further examination of the mosaics and continued excavation of the Praetorium with Devon Skinner, Laura Enns, and Andrew Thompson.
early introduction of mosaic craftsmanship to Jordan. The goal of the investigation is to combine archaeological, literary, and art historical documentation to illuminate certain aspects of style, technical ability, and manner of transmission, and to produce viable conclusions about the character of Roman occupation and Romanization in the newly annexed province of Arabia.

Chapter 1 lays out the geographical context of Humayma and the surrounding region in terms of its location, topography, and proximity to water and other natural resources. It also provides the historical development of the settlement from its Nabataean origins to the arrival of the Roman army, and the later importance of the site through to Islamic times. With a thorough understanding of the regional and historical context, the discussion can progress to a more detailed investigation of the mosaics.

In the second chapter, this paper will examine the settlement structure and the layout of the Roman fort, along with a comprehensive discussion of the Praetorium’s plan. This part is devoted to the architectural context of the mosaics and provides an interpretation of the rooms in which they were found. It also documents the physical state of the Humayma mosaics, noting their size, present state, and level of preservation. I then look at the methods and materials used in the construction, particularly the geology of the stones used. Finally, I take a closer look at the geometric patterns employed.

Chapter 3 looks beyond the settlement of Humayma to examine the wider cultural context of the mosaics in the Near East, and the importance of their discovery in a Roman fort. Here I look at the closest parallels to the Humayma mosaics in southern Jordan, primarily the mosaics found in Wadi Musa, 60 kilometers to the north. Factors such as craftsman’s skill and training also are considered, along with the effects of patronage and
personal preference, in order to identify the difference between what a patron wanted and what the mosaicist was capable of producing. I also focus on the concept of a regional mosaic workshop, the unit of measure the artist used, and the methods of pattern transmission.

In Chapter 4, I undertake a study of other mosaics with stylistic similarities from the wider Mediterranean region. Beginning with the early origins of mosaics, I trace the patterns employed at Humayma through their evolution and distribution. After looking at Olynthos and Delos, I follow the development of mosaics in the Aegean, their transmission to western sites such as Morgantina and Pompeii, and their proliferation in the Roman Imperial period. I conclude the chapter by looking at the broader contextual question of mosaics discovered in other Roman military settings.

My conclusion addresses more general questions of analysis such as the introduction of mosaics to southern Jordan. I also look at what the Humayma mosaics can tell us about the level of wealth in a newly established garrison. Lastly I address what, if any, social impact the mosaics at Humayma had. Two appendices complement the work. The first is a catalogue of mosaics discussed throughout the thesis, while the second contains copies of the primary evidence cited throughout.
Chapter 1: Resources and History of Humayma

Physical Location

Humayma is located in southern Jordan, 80 km north of Aqaba at the head of the Red Sea and 3 km east of Wadi ‘Araba. It lies in the middle of a desert region known as the Hisma, at a site where the geology and geography offered superior natural resources in an otherwise desolate region. Also located 80 km south of Petra, Humayma was the natural halfway point between Aqaba and Petra on the King’s Highway, a major trade route since Biblical times that brought luxuries north from the Red Sea to the Nabataean capital at Petra, and beyond. The Peutinger Tafel, a 12th-century A.D. copy of a Late Roman map, shows this important trade route, situating Humayma (Hauarra) between Petra (Petria) and ‘Aqaba (Haila). The distances between the sites noted on the map correspond to the relative distances between them on the ground. The depiction of

Figure 1: Humayma Locator Map (C. Mundigler)
Sadaqa (Zadagatt) to the north of Humayma, and Khirbat al-Khalda (Praesidio) to the south, testifies to a well known sequence of stops through the Hisma desert between Aila on the Red Sea and Petra, the Nabataean capital (Graf 1995: 145).

Though correct in the placement of the sites in this region, the Peutinger Tafel has one obvious error close by the sites in question. The copyist of the map connected Praesidio with Addianum, likely the Roman fort at Yotvata on the west side of Wadi ‘Araba, instead of the expected link with Aila. The topography at Khirbat al-Khalda however, dictates that the road must have gone south through Wadi Itam to Aila, not west across Wadi ‘Araba. There is evidence of a later Roman fortification to the west of Quweira in a wadi leading towards Wadi ‘Araba (Personal communication, Andrew Smith II), perhaps guarding an east-west connector between the Hisma region and the Roman garrison at Yotvata, and may explain the copyist’s error.

**Topography**

The site of Humayma is located close to three distinct geographic regions: the sands of the Hisma desert to the south and east, the fertile Ma‘an plateau north of the al-Shera escarpment, and the mountains to the west separating the site from Wadi ‘Araba. All three contributed to Humayma’s prosperity in different ways. The desert provided winter crops and pasture land along with a steady stream of travelers through the area. Summer pasturage was available on the plateau along with timber from now depleted forests. The escarpment that separates the two areas rises almost 500 m from the desert floor and is a very difficult climb today, even for vehicles. The mountains to the west separate the Hisma from the Arabian extension of the Great Rift Valley and present a
formidable visual border at the edge of the desert. These rugged, though passable, hills also provide access to Wadi ‘Araba, and contribute to the higher amount of rainfall that Humayma receives.

Figure 2: Regional Topographical Map (C. Mundigler)
Travel Routes

Located in the Hisma between ‘Aqaba and Petra, Humayma represented a major watering point for the travelers and camel caravans that brought aromatics and spices north from Arabia Felix and the Red Sea along the King’s Highway to places like Petra, Philadelphia, Bostra, and Damascus, long before Roman arrival in the region. The King’s Highway, the unpaved predecessor to the Via Nova Traiana, passed right through the site of Humayma. The Nabataeans settled the area in the first century B.C. and developed it as a water supply point for travelers. Prior to the arrival of the aqueduct and other hydraulic structures, the site presented little attraction for settlers or travelers and there is no evidence for occupation between the Neolithic and the Nabataean periods (Oleson 2001a: 570).

From ‘Aqaba, the route climbs 1000 meters over 30 km through Wadi Itam to the Hisma desert. At the top of the wadi is Quweira (Quwayra), just inside the Hisma, where caravans could head north to Humayma, east to Disi, or southeast to Wadi Rumm. All were major watering points in the region, although only Humayma was on the main trade route through the area. The importance of water resources cannot be understated; the necessity to hydrate both man and animal made it imperative to visit watering points such as Humayma.

Humayma was most likely the second-day rest stop on the trip northward from the Red Sea; Khirbat al-Khalda, 34 km north of ‘Aqaba and a turnoff for Wadi Rumm, was likely the primary rest spot. Leaving Khirbat al-Khalda, travelers came to Quweira, 18 km further on just inside the Hisma. After Quweira, travelers faced another 18 km

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2 See Hammond 1973, and Dudley 1992 for thorough discussion and documentation of Nabataean trade patterns and commodities. Numbers 20.17 mentions the King’s highway as a route denied to Moses by the Edomites during the Exodus.
stretch, this time through open desert, to Humayma, the next watering point north on the King’s highway and its Roman successor, the *Via Nova Traiana*. Leaving Humayma, the next destination was another 20 km away on top of the al-Shara escarpment at ‘Ayn Ghana, one of three springs that fed an aqueduct at Humayma. The site of Sadaqa, depicted on the *Peutinger Tafel*, was probably the destination for the third day of travel.

Camel drivers could surely make the trip to Humayma in a single day (or night in many cases) if there was need for haste, rather than endurance. The majority of travelers on this route, however, would have opted for a much more leisurely pace, especially if they traveled on foot. The intermediate sites mentioned by the *Peutinger Tafel* may represent smaller water resources accessible to those who chose a less hasty, or pedestrian pace.

To judge from T.E. Lawrence’s travels through the Hisma and other nearby regions, described in his *Seven Pillars of Wisdom*, camels can travel over 100 km per day under forced march. The cost, however, was that the animals did not always survive the stress or would be nearly useless afterward. Lawrence even undertook the journey from ‘Aqaba into the Hisma numerous times. On one such expedition, he spent the first night in Wadi Itam after a leisurely ride from ‘Aqaba arrived in Quweira by morning, and reached Wadi Rumm as night fell. Later in his journeys, while collecting forces for a raid on the rail line south of Ma’an, Lawrence departed ‘Aqaba, stopped in Wadi Itam, spent the next night at a site called Hawara, possibly Humayma, and arrived in Wadi Rumm the next day. On another trip, he traveled the whole route from Hawara to ‘Aqaba in under two days (Lawrence 2000: 688). This relatively modern description of travel times in the region is still viable as the journey would differ little from ancient times.
**Climate and Natural Resources**

**Climate**

The Hisma desert and southern Jordan has an extremely harsh climate ranging from 45 degrees Celsius in the summer season to below freezing in the winter. There can also be as much as a 20-degree shift between day and night temperatures. The little precipitation that does fall in the area is limited to the winter months and can fall as snow as far south the Hisma desert. These modern conditions reflect the variability that can exist in the conditions around Humayma and are probably little different for the conditions in the ancient period.

In the early part of the Christian era, Jordan was relatively moist; “rainfall was probably somewhat greater than the present rainfall” (Shehadeh 1985: 27). By the early 4th century however, the region was plagued by a period of low rainfall that lasted until the 6th century. Evidence from the Christian and Islamic periods show that overall, the weather patterns in Jordan fluctuated continually from very moist to very dry conditions. Shehadeh notes at least 16 such climactic shifts over the last 2000 years (1985: 28).

**Water Supply**

Humayma was extremely important in the Hisma because of the extensive water management system that was developed to supply the settlement and the many travelers.\(^3\) The site takes advantage of a 240 km\(^2\) hydraulic catchment area, and although it only receives about 80mm of rain per year, Humayma has more rainfall than the rest of the Hisma region due to its position on the lee side of the mountains (Oleson 1997: 175).

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\(^3\) See Oleson 1988, Oleson 1990 and Oleson 1992 for the discovery and description of the regional water supply network. Further discussion of the origin of Nabataean hydraulic technology, its Hellenistic background, and specific connections with Delos can be found in Oleson 1995 and Oleson 2001b.
This extra rainfall, combined with Humayma’s favorable geologic conditions, allowed for the increased use of run-off fields for water collection and cisterns for storage.

In the center of the Nabataean town site were two large cisterns, supplied by run off from a specialized water collection area to the north of the site. In addition to these very large public reservoirs (numbers 67 and 68 on the map), thirteen other smaller cisterns, fed by the same run off field, were associated with domestic structures (Oleson 1997: 176). Around Humayma, surveys have also discovered at least 41 other cisterns in the hills around the site, and a wadi dam to the northwest, documenting a unique system of regional water supply first described in the 1st century B.C. by Diodorus Siculus (see below). These cisterns were certainly important to the sustainability of Humayma. However, only the arrival of the aqueduct’s copious waters allowed the settlement to prosper.

The 26.5 km long aqueduct brought water to Humayma from three springs on the al-Shara’ escarpment north of the site. The aqueduct, which consisted of a “ground-
level, roofed conduit of stone gutter blocks” (Oleson 1997: 176), emptied into an unroofed Nabataean reservoir 0.5 km northeast of the settlement center. The fact that Humayma is located at the southern most accessible point for a gravity fed aqueduct such as this one is clear evidence that development of the settlement occurred in combination with the water supply.

The original destination reservoir is an interesting piece of evidence of Roman impact on the area. The structure is relatively shallow, has angular platforms in the corners⁴ and was designed originally to remain full. We find examples of a similar Nabataean tradition of hydraulic display at Petra, which suggests that, because of its large size and open nature, this reservoir at Humayma was for more than just water storage. After the Roman occupation of the site, the outflow was changed from an open spillway at the top of the wall to a large bronze stopcock at the bottom, protected by a locked iron grill (Oleson 1992: 271). The most likely explanation of this is that the Romans converted what was previously a display of abundance into a carefully controlled commodity.

A second, larger reservoir (double the size of the previous one), also fed by the aqueduct in Roman times, was built in the northwest corner of the Roman fort. The water system of Humayma also supplied at least two bathhouses, one inside the Roman fort, attached to the Praetorium, and the other outside the fort in the vicus, or civilian settlement. A pressurized lead piping system connected to the converted Nabataean

⁴ This feature was also found in the reservoir of the Roman fort and perhaps enabled residents to use the reservoirs for swimming.
reservoir supplied the bath in the *vicus*, while the fort reservoir fed the one connected to the *Praetorium*.\(^5\)

Based on a daily consumption rate of 8.0 l per person, and 50% of the available cistern supply being used for watering livestock, Oleson suggests a population of around eight hundred residents for the Humayma region and livestock herds of around 180 camels and 1650 ovicaprids (Oleson 1997: 177, n.6). Oleson’s hypothetical figures are very conservative (a safety margin of 100%) and only refer to the stored water capacity of the site, not the total amount of supplied water. In addition to the water collected from run off, the aqueduct must surely affect these population figures as it provided Humayma with a further 6200 l per hour (at its maximum possible flow rate; the actual flow was probably less than this). He also notes that the volume stored in the reservoir of the Roman fort was sufficient to supply the auxiliary unit stationed there for one year (or half that if the same safety margin is used) without replenishment. An accurate population figure must combine the domestic and military numbers (an auxiliary unit usually numbered around 500), suggesting a population level closer to 1300 in the Roman period, assuming that all the hydraulic structures at Humayma were in use at the same time. This estimate could be even higher if we factor in the aqueduct flow; however, the difficulty of reproducing the flow rates limits the viability of further estimate.

**Soil and Vegetation**

Humayma is located toward the center of a large basin about 25 km long north-south, and half that east-west. The general region resembles a large depression half filled

\(^5\) See below for further details of the internal bath, likely from early 2nd century AD; Reeves 1996 and Reeves and Oleson 1997 discuss the structure in the *vicus*, which appears to be from the later half of the 2nd century AD and built on the remains of a large Nabataean structure.
with loessal soil and sand, a sandy sea, surrounded by jagged hills, and dotted with islands of eroded sandstone. Despite the desolate location, it seems that Humayma was sufficiently fertile to produce some agricultural products, probably in a similar manner to the local Bedouin today. Oleson notes, however, that the soil is very low in phosphorus, a condition that can hamper good production in crops (Oleson 1997: 178).

The region around Humayma is part of three separate botanical regions: desert, grassland, and Mediterranean steppe (Oleson 1997: 178). Soil samples taken from Nabataean and Roman contexts at the site have yielded mostly wild seeds (90%), suggesting that the residents of Humayma must have made extensive use of the local species for fuel and fodder. Some local shrubs are suitable for livestock and others provide ample firewood. The Romans heated the baths at Humayma with a shrub that is still used today by local Bedouin to make tea fires (Oleson 1997: 178). These fires usually burn hot and fast, requiring large amounts for sustained or large fires. A fuller discussion of the various plant species appears in Oleson’s article.

In addition to the wild plant varieties discovered in soil samples, domesticates appear, such as barley, bread wheat, fig, grape, olive, and chickpea, traditional crops of the Near East. Clearly, food production took place at Humayma. Islamic sources describe a grove of 500 olive trees around A.D. 700 when ‘Ali ibn ‘Abd Allah, a member of the Abbasid clan, moved south from Syria, bought Humayma and spent much of his time there praying in his orchard and mosque (Oleson 1997: 179 n.12). Today, olive, apple, and fig trees survive at the site, and local Bedouin still tend grain crops, despite receiving less moisture than in the ancient period and no aqueduct flow to saturate the landscape. This minimal modern agricultural success suggests that in the past Humayma was
capable of maintaining a greater level of food production than the present conditions would allow. The most significant benefit to agriculture at Humayma was the water from the aqueduct. The Nabataeans could fill the reservoir in about four days, at which time the excess water would begin to overflow. The Romans may have affected the agricultural production when they converted the reservoir to control the outflow and supply the bath. The Romans probably released wastewater from the bath as irrigation water, a practice that would have also affected agricultural production at the site.

**Animal Resources**

Faunal analysis has revealed a wide range of animals at Humayma throughout its history. The majority of the identifiable bones recovered are from domestic species like sheep/goat (40.11%), chicken (22.84%), and pig (19.89%), but also from camel, equid, cow, and dog (Oleson 1997: 179). In addition to chicken, other fowl include dove, raven, and ostrich egg; the shell could be an import product, or it could be from animals caught for meat. Wild animals such as hare, gazelle, mountain lion, rodents, and possibly even a wild boar, appear in the faunal record at Humayma, though lesser in quantity than the domestic species (Oleson 1997: 180). The semi-nomadic pastoralism practiced by the Nabataeans also supplied them with secondary food products like milk, cheese, and eggs, in addition to other essential non-food resources such as wool and services like transport.

Inhabitants of Humayma could obtain all the species noted above locally; this suggests that overall, little food importation took place. There is however, clear evidence of fresh seafood importation, especially during the Roman period. Unexpected, considering Humayma’s desert location, is the fair amount of fish (although these could
also be salted or dried) and shellfish remains that appear in the excavations. Fish species include mullet, carp, sea bream, and perch, while shellfish varieties include oysters, clams, and conch (Oleson 1997: 180). Because of their short storage life, shellfish are great indicators of how fast travelers could reach Humayma after loading up in ‘Aqaba.

**Foundation of Humayma**

Excavators have discovered evidence of human presence at Humayma in prehistoric times; Numerous lithic artifacts from the Upper Pleistocene through Chalcolithic periods, primarily flaked flint, frequently turn up around the site (Oleson 2001a: 570). Permanent settlement, however, did not begin until the 80’s B.C. with the development of the regional water supply. Ceramic evidence discovered at the site also confirms this

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**Figure 4: Humayma Site Plan (S. Fraser)**
general period as nothing seems older than mid 1st century B.C. (Oleson 2001a: 571; Oleson et al. 1999: 413).

Throughout the 1st century B.C. and 1st century A.D., Humayma developed into the only major settlement in the Hisma region. A fragment of Ouranios’ fifth-century A.D. Arabika preserved in Stephanus of Byzantium’s Ethnika provides the foundation myth for Humayma.

Auara: town in Arabia, so named by Aretas, son of Obodas, as a result of an oracle given to his father. For Aretas set out to investigate the oracle, which was ‘to seek the place auara’- that is ‘white’ in Arabic or Syrian. When Aretas had arrived and was keeping watch, there appeared to him an apparition, a man clothed in white, riding a white camel, and when the apparition disappeared, there appeared spontaneously a craggy hill, firmly rooted in the earth. There he founded a town (Trans: Oleson 1990: 145).

King Aretas III, known as the Philhellene, reigned c. 87-62 B.C., while his father Obodas began his rule in 95 B.C.;6 Aretas was responsible for Nabataean expansion into Damascus around 85 (later forfeited in 70) and a withdrawal of Nabataean forces from Judaea. The settlement of Humayma took place some time within this historical context, although specifically when is elusive. Oleson does note the possibility that the passage could refer to Aretas IV, the Philopatras. If this Aretas were responsible for the settlement of Humayma, then our founding date would shift from around 80 B.C. to between 9 B.C. and A.D. 40 (personal communication).

Ouranios’ reference to ‘white’ is also important as it provides clear evidence of linguistic continuity regarding the various names Humayma had in its history.7 While the myth refers a while camel, a variety that persists in the region today, another link

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6 Apparently Rabbel I, another son of Aretas II, ruled in 88 B.C., although little is known about his short rule and its abrupt end. See Hammond 1973:17.
7 Oleson 2001a: 570 provides a complete discussion on the linguistic continuity of Auara and other names the site has held in the past.
between the region and the colour white are the white sandstone formations that occur in the area.\textsuperscript{8} Formations of Disi sandstone, white in colour and very high in silica, dot the landscape to the east and southeast and miners today harvest the stone in the area of Humayma. Where excavators have removed the beige topsoil, bright white sand appears.

**Nabataean Settlement**

The settlement of Humayma was part of a larger pattern of a shift to a sedentary lifestyle by the Nabataeans in the 1\textsuperscript{st} century B.C and 1\textsuperscript{st} century A.D. This transition in Nabataean society is clear from the differing accounts found in Diodorus of Sicily and Strabo. In the late 1\textsuperscript{st} century B.C., while recounting Antigonus’ invasion of Arabia in 312 B.C., Diodorus provides this glimpse of Nabataean lifestyle.

They live in open air, claiming as native land a wilderness that has neither rivers nor abundant springs from which it is possible for a hostile army to obtain water. It is their custom neither to plant grain, set out any fruit-bearing tree, use wine, nor construct any house… Some of them raise camels, others sheep, pasturing them in the desert… They are exceptionally fond of freedom; and, whenever a strong force of enemies comes near, they take refuge in the desert, using this as a fortress; for it lacks water and cannot be crossed by others, but to them alone, since they have prepared subterranean reservoirs… After filling these reservoirs with rain water, they close the openings, making them even with the ground, and leave signs that are known to themselves but are unrecognizable by others (19.94-2-10) (Geer et al. 1963)

Diodorus describes Nabataeans as desert dwellers with little in the way of permanent settlements. The mention of underground cisterns scattered around the desert is particularly interesting, as it closely matches the situation at Humayma. Perhaps the development of the cistern system predates the establishment of permanent settlement at

\textsuperscript{8} Cook 2004:70 notes further evidence for associations with camels and another Nabataean site of similar name at Meda’in Saleh in Saudi Arabia.
the site, which the Nabataeans originally used as a refuge in the manner described above. Regardless, it is clear Diodorus did not consider Nabataeans to be urban dwellers.

Strabo’s description dating to the early 1st century A.D., however, presents quite a contrast to Diodorus’ view on early Nabataean society.

The Nabataeans are a sensible people, and they are so much inclined to acquire possessions that they publicly fine anyone who has diminished his possessions and also confer honours on anyone who has increased them. Since they have but few slaves, they are served by their kinsfolk for the most part, or by another… or even by their kings. They prepare common meals together in groups of thirteen persons, and they have two girl-singers for each banquet… The King… often renders an account of his kingship in the popular assembly; and sometimes his mode of life is examined. Their homes, through the use of stone, are costly; but on account of peace, the cities are not walled. Most of the country is well supplied with fruits except the olive; they use sesame oil instead. The sheep are white-fleeced and the oxen are large, but the country produced no horses. Camels afford the service they require instead of horses… Some items are imported completely from another country, but others, only in part, especially in the case of native products, such as gold, silver, and most of the aromatics… (16.4.26) (Jones and Sterrett 1954)

Strabo presents a picture of a much more sedentary Nabataean society than that of Diodorus. By the 1st century A.D., they have grown very wealthy on the transportation and taxation of aromatics and other luxuries, have settled in permanent structures, and have taken up agriculture.

We find clear evidence of this cultural shift from a nomadic to sedentary population at both Petra and Humayma, where campgrounds give way to permanent dwellings and advanced hydraulic engineering practices. Along with this process of becoming sedentary, the Nabataeans also became more Hellenized from their contact with the Hellenistic kingdoms that surrounded them to the north and west. Much of the hydraulic technology employed by the Nabataeans was a combination of their traditional
experience with run off collection and storage, and the Hellenistic tradition of long distance aqueducts and pipelines.

Roman intrusion into Nabataea and Arabia prior to its annexation in A.D. 107 involved mostly political wrangling, although a few military encounters did occur. The Nabataeans had a tradition of becoming involved in the political affairs of their neighbors, especially Judea and Jerusalem. In 65 B.C., Aretas III led a force into Judea, backing Aristobulus’ brother Hyrcanus in his bid for the crown of Jerusalem. This intrusion brought the attention of the Romans to bear on the issue and led to a confrontation with M. Aemilius Scaurus, one of Pompey’s generals. As Bowersock comments, “Scaurus promptly instructed the Arab king to lead away the Nabataean army … or risk becoming an enemy of the Roman people” (1983: 29). Aretas soon returned to Petra, and after Scaurus had also left, Aristobulus decided to attack the Nabataeans, inflicting heavy casualties during a battle at Papyron. Three years later Scaurus himself invaded Nabataea, although the expedition was halted when Aretas paid him 300 talents of silver (Josephus AJ 14.81).  

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9 In 58 B.C. Scaurus, while aedile, issued a series of coins that depict Aretas kneeling to Scaurus beside a camel and extending an olive branch in peace, grossly misrepresenting the actual encounter Bowersock 1983:34.
**Roman Occupation**

After the death of the last Nabataean king, Rabbel II, in A.D. 106, Trajan annexed the Nabataean kingdom as part of his strategy for the defense of Rome’s eastern frontier. At the time, Trajan was in Dacia, embroiled in a battle for control of the region. The invasion of Arabia after the death of Rabbel took place not because of Trajan’s desire to embark on a war on two fronts, but rather because of a standing policy of his administration. Nabataea represented the last territory in the eastern Mediterranean not under Roman control. Trajan may have decided early in his rule that if Rabbel should die, Roman forces would annex the kingdom as a new province (Bowersock 1983: 82).

No major battles appear to have occurred in the annexation of Arabia, thus confirming that there was little opposition to Trajan’s political appropriation of Arabia (Bowersock 1983: 76). Bowersock notes, “Trajan never takes the title Arabicus in his titulature, although he does add Dacicus to commemorate another annexation of about the same period as the Arabia one.” Also, the “coin legend which later appears in commemoration of the new province declares, as has often been noted, *Arabia adquisita* and not *Arabia capta*” (1983: 81). Oleson however, believes that “given the reuse in the fort of numerous structural elements from major Nabataean buildings…it is possible that at Hawara, as now seems the case at Petra (Schmidt 1997) we have evidence of the violent character of the Roman occupation of the Nabataean kingdom in 106” (2004: 354). The destruction at Hawara most likely comes from the period between annexation and the great building project of A.D. 111-114.

Cassius Dio (68.14.5) tells us that in A.D. 106 Cornelius Palma, then governor of Syria was responsible for the annexation of Arabia, transforming the Nabataean kingdom
based in Petra into the Roman province of *Arabia Petraea*. Palma returned to Rome two
years later in 108 and served as consul in 109 with P. Calvisus Tullus Ruso, and thus held
little responsibility for the development of the province that took place from 111-114
(Freeman 1996: 97). That responsibility must belong to the first attested governor of
Arabia, Claudius Severus, who held the position from 111-115. He is mentioned in the
letter of Julius Apollinarius of 107 (Michigan Papyrus 466) and seems to be involved
with Arabia from the annexation onward (Freeman 1996: 98). The debate about what
legion was the original garrison of Arabia, and when it began construction activities still
continues. Freeman’s discussion of the issue however, provides the most complete and
plausible description of the issues. The vital part, however, is that as commander of the
Roman forces in Arabia, Severus is clearly an important person to consider when
identifying the patron of the Humayma mosaics. Our patron was in control of the earliest
Roman fortress in Arabia and his connections to Rome would most certainly influence
his military architecture and artistic tastes.

Forces from the Roman stronghold of Syria, where the Legio VI Ferrata was
stationed, moved into Arabia after the death of King Rabbel II, particularly around Bostra
(Keppie 1986: 423). We also have evidence of Roman soldiers entering Arabia from the
southwest, with members of the Legio III Cyrenaica from Alexandria arriving at Petra in
A.D. 107 (Eadie 1986: 244). 10 Rome did not occupy Arabia with a single legion initially,
as most have suggested (Bowersock for one), but with detachments from both the III
Cyrenaica and the VI Ferrata. Palma occupied the north from Bostra, while Severus

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10 Again, Michigan Papyri 466 and 465 are key pieces of evidence for this. They attest to forces in both
Bostra and Petra, and communication between the two garrisons. For more complete discussion of this
commanded the forces in the south around Petra. Eventually, the commander of the III Cyrenaica received the governorship in 111, perhaps through Palma’s influence in Rome.

This suggestion concerning Palma’s connections with Rome, though undocumented, is quite reasonable, as communication between the two during Palma’s command in Syria would have been extensive. If their relationship was amicable, then Palma could hold some responsibility for Severus’ promotion in A.D. 111 to Governor of Arabia. Another member of the III Cyrenaica, Titus Claudius Quartinus, a military tribune, served as praetor around 113 and suffect consul in 130, and was elevated to senatorial rank, perhaps also from his success in Arabia and connections in Rome (Bowersock 1983: 80 n.14).

It seems most likely that Severus and the Legio III Cyrenaica were responsible for the great building campaign that began in Arabia after A.D. 111. The most prominent example of this construction program is the Via Nova Traiana, the Roman repaving of the King’s Highway between Aila on the Red Sea and Damascus in Syria. The route headed north to Humayma and Petra, and on to Philadelphia and Bostra, the headquarters of Legio III Cyrenaica in Arabia after A.D. 139 (Speidel 1977: 693, 9). The highway then connected with other routes to Damascus and Palmyra, while intersecting with numerous routes west to the Mediterranean coast along the way.

Debate continues about the actual construction dates of the Via Nova Traiana. Despite Arabia’s annexation in A.D. 106, construction of the road does not seem to have begun until 111, and completed by 114. The letters of Apollinarius, the scribus of the Legio III Cyrenaica, stationed in Petra in 107 and Bostra in 108, mentions the quarrying of stone, a reference that has been use as evidence for road construction beginning
immediately after annexation (Michigan Papyri 466, 465). Graf’s dating of individual sections of the road, however, suggests that no road construction took place this early as he found no milestones of such an early date.

Based on the Trajanic date on the milestones, Graf argues that the first section, from Petra to Philadelphia, was completed in 111 A.D., while the second was the route from Petra south to Humayma and Aqaba, dating to 112 (1995: 262). Eadie has suggested that the southern section was completed in conjunction with the section between Madaba and Bostra in 114 (1986: 244). Graf’s discovery of an inscribed milestone 10 km. south of Quweira datable to 112 based on the titulature of Trajan seems to answer the debate definitively. Milestones around Jerash also bear the same titulature and suggest that construction progressed both north and south of Petra after 111 (Freeman 1996: 98). The III Cyrenaica did not complete the northern section from Philadelphia to Bostra until 114, suggesting that in the early period of Roman occupation, power was centered in the south around the former Royal capital. The northern parts of the province become secondary after the departure of Palma in 108, until the construction of the Via Nova Traiana and the legionary fortress at Bostra around 114.

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11 For more complete discussion of this important epigraphic testimony of early Roman presence on Arabia, and for whether or not the letter confirms Roman road construction see Speidel 1977:691-3.
The dating of the southern section of the road is crucial for establishing the date of the Roman fort at Humayma, and thus the date of the mosaics in question. The fort most likely shares the same construction date as the road, and the Romans intended to protect the vital watering point on the Via Nova Traiana. The establishment of an auxiliary unit on the trade route prior to the construction of the legionary fortress in Bostra clearly shows the importance of the site. The garrison installed at Petra in A.D. 107 apparently had no major fortification and likely billeted in existing Nabataean structures within the city itself. To date, excavators at Petra have not found any Roman military structure that even remotely compares with the fort at Humayma. Humayma may be the first major permanent Roman fort in Arabia, thus making it a perfect site to examine the initial impact the Roman military had on the local Nabataeans.
Excavations at Humayma reveal that the fort was occupied continually from its founding until the late 3rd century A.D. when the reforms of Diocletian moved the frontier to the west side of the Wadi ‘Araba. Based on the numismatic finds from the site, Humayma had an active economy throughout the latter part of the 3rd century, but no evidence of Diocletian’s coinage has appeared (Oleson 2004: 355). In the first quarter of the 4th century A.D., Roman forces returned to the fort. Clear evidence of this abandonment and subsequent return appears in the excavations of the fort. As Oleson notes, the new tenants, “modified some of the major interior structures for habitation, and dumped their own trash and that of the previous occupants in empty, disused rooms” (Oleson 2004: 355).

Sometime prior the 5th century A.D., the garrison at Humayma became a unit of local cavalry. In the Notitia Dignitatum, the role-call of administrative and military positions throughout the Empire around A.D. 400 (although it may represent earlier conditions), Roman Hawara is mentioned. The entry Oriens 34.25, notes that a detachment of Equites sagittarii indigenae Haua(r)ae occupied the fort at Humayma. Oleson suggests that in this period, Hawara was held by “mobile archers possibly mounted on camels” (Oleson 2001a: 573). His conclusion that equites could refer to camels, even though the Notitia Dignitatum usually differentiates between equites and dromidarii, is valid. He also notes that horses are ill suited for the region and that to date excavators have found no horse remains at Humayma. Despite their unsuitability in the open desert, they would have been perfectly suitable for travel on the paved sections of the Via Nova Traiana, provided enough water and fodder were available en-route. Other than this bit of evidence, we know little about the Late Roman presence at the site;
however, one fact is certain. Not long after Hawara’s mention in the Notitia Dignitatum, the Roman military abandoned the fort.

**Byzantine Settlement and Christianity**

Evidence of activity at Humayma in the Byzantine period is extensive despite the departure of the Roman military. Oleson notes that at Humayma, “the fort was abandoned early in the fifth century, as Byzantine emperors turned their eyes elsewhere and changed the strategy of imperial administration and defense” (2001a: 575). The settlement of Humayma, however, continued to prosper despite the absence of the Roman military. During the fifth and sixth centuries, at least five (and possibly six) churches were constructed, suggesting that Humayma was a potential center of Christianity in southern Provincia Arabia. The evidence also suggests that Arabs were “enthusiastic adherents of Christianity” by the mid 3rd century A.D. and this popularity is evident at Humayma (2001a: 575). It is unclear when Christianity arrived at Humayma and what parts of the population took part in its worship. The late fifth-century A.D. Beersheba Edict connects Humayma with the jurisdiction of dux Palaestina and assesses it the second highest rate in the region, 43 gold pieces, second only to Udhruh (Schick 1995: 320). This clearly confirms that prosperity at the site did not collapse after the departure the Roman military population.

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12 For more on Byzantine Arab interest in Christianity see Shahid 1984 and Shahid 1989. For Christianity at Humayma see Schick 1995.
The Abbasid Family at Humayma

After the 6th century A.D., when Stephen of Byzantium (*Ethnika* 25 and 144.19-26), lists *Hawar* as a polis, nothing is mentioned about Humayma until the early 8th century A.D., when it was acquired by members of the Abbasid family. Around A.D. 700, the Abbasids, descended from one of Prophet Muhammad’s uncles, moved south from Syria and took up residence at Humayma in the *qasr* identified on the south end of the settlement. From Humayma, the Abbasids plotted their revolution against the Umayyad caliphate and eventually moved to Kufa near Bagdad in A.D. 749 to launch the revolt. After their departure, the settlement ceased to be of any great importance and the sands of the Hisma eventually reclaimed Humayma.

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Chapter 2: The Fort, Praetorium, and Mosaics of Humayma

The Roman Fort

As noted above, the construction of the Roman fort in the early 2nd century A.D. drastically changed the nature of the settlement and life at Humayma (Figure 6). The fort of Roman Havarra has a rectangular perimeter wall 206.32 x 148.32 m (700 x 500 Roman feet), 14 four gates near the middle of each side, and 24 outwardly projecting rectangular towers, including the four corners (Oleson et al. 1994: 145-7). 15 Outside the fort, geophysical surveys identified the presence of a defensive ditch encircling the whole structure, and tituli, or defensive mounds,

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14 Further references to the Roman foot, a module of 0.296 m, will be abbreviated as RF.
outside the north and west gates. Inside the northwest corner of the fort, Roman engineers constructed a reservoir (29.40 x 14.20 x 3.05 m, or 100 x 50 x 10 RF) fed by a branch of the Nabataean aqueduct (Oleson et al. 2003: 37).

The fort’s internal layout conforms generally to the recommendations of Polybius (4.27-42) and Pseudo-Hyginus (de Munitionibus Castorum 4.14.17) and is very similar to contemporary fortifications in Britain and on the German frontier. “Both legionary fortresses and auxiliary forts of the first and second centuries AD conformed broadly in their planning to the basic principles [of Polybius and Pseudo-Hyginus]” (Johnson 1983: 31). The major difference between their descriptions of Roman forts and the example from Humayma is that both Polybius and Pseudo-Hyginus describe temporary fortifications, while Humayma is a permanent one. As Landers notes, however, in the early 1st century A.D., the temporary marching camps began to take a more permanent form, shifting from canvas tents, to wood structures, and finally to stone (1984: 12)

The resulting structural variations in these early stone fortifications often stem from the differing needs of a permanent garrison versus those of a mobile one, and thus the literary descriptions only provide overall evidence and not the specific layout of individual forts such as ours. Humayma’s internal layout is clearly part of a western military architectural tradition known as a “playing card fort”, so-called because they resemble playing cards placed on the ground. This fort style is always rectangular with rounded corners and internally projecting towers, has gates on the four sides, and has within the walls three distinct sections known as ranges.16 Humayma, while sharing

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16 For more on this style of fort see Johnson 1983 and Lander 1984; see Gregory 1995 and Parker 1995 for specific discussion of Humayma and other eastern forts.
internal similarities, is unique among playing card forts because it has square corners and externally projecting towers.

![Figure 7: Central Range of Fort (S. Fraser)](image)

The top and bottom ranges of playing card forts could be various arrangements of barracks, officers’ quarters, and workshop areas. The central range, however, usually followed a predictable pattern of a *principium*, the unit’s headquarters, in the center, with a *praetorium*, or commander’s residence, and a *horreum*, or granary to one side or the other (Figure 7). On the eastern edge of the Roman Empire in A.D. 112, Humayma may have represented the earliest example of this style of military architecture in Arabia and the East. It is clear that the military architect of the fort at Havarra had some formal training in his craft, probably in the western Mediterranean, and was familiar with the parameters described by Polybius in the 2nd century B.C., and later codified by Pseudo-Hyginus. As for how he learned his craft, perhaps technical handbooks, created specifically for the military, aided him in his task.
To date, the only structure identified in the northern range of the fort is the reservoir noted in Chapter 1’s section of the water supply, although geophysical surveys of the area have detected numerous walls in the northeast corner, and confirmed the line of *Via Decumana*, the roadway that lead to the north gate (Oleson *et al.* 2003: 50-3).

Excavations in the central range, north of the *Via Principalis*, discovered the fort’s *Principia*, which housed the unit’s offices and parade ground, the *Prætorium*, and the *Horreum*.¹⁷ The southern range yielded the remains of barracks blocks, workshops, and a latrine. Although most of this area remains unexcavated, through comparison with similar forts elsewhere in the empire, we understand the general plan. The number of possible layouts is immense; however, the most suitable and likely form for this fort is a set of horizontally aligned barracks on either side of a central roadway.

**The Praetorium**

Extensive excavations in the *Prætorium* in 2000, 2004, and 2005 refined our understanding of the structure’s entire plan.¹⁸ Although the building received several renovations and additions throughout its nearly three century history, the original plan appears to be a typical peristyle house (33.84 x 24.77 m; or 115 x 85 RF) of the kind commonly found elsewhere in both Roman forts and towns in early Imperial Rome

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¹⁸ The discussion below is based on the author’s field notes compiled while excavating the praetorium in 2004 and 2005, and from the annual excavation reports for 2000, 2004, and 2005, on file with the Department of Antiquities in Jordan. Professor Oleson has been very generous in allowing me access to this and other unpublished material for this thesis.
The walls of the building are of mixed stone rubble, layered in rough courses with mud packing, and covered in plaster. Most of the Praetorium’s internal walls are clearly integrated. This confirms that the builder erected different walls of the structure simultaneously and was working to a set design. Although some changes to the internal layout occurred during the building’s history, the Praetorium was definitely built to a plan, much like the fort itself.

Arch piers reinforced the rubble walls of the commander’s house and supported a roof of large sandstone slabs laid atop the arches. The Roman builders used mortar and mud thatch to seal the stone against the elements. The supporting arches ran east/west and spanned the entire width of the Praetorium probably in seven parallel rows; one larger set of arches (15 RF wide) ran down the entire length of east and west sides, and

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19 See Johnson 1983:132-42 for comparanda of this housing style in Roman forts. The closest example she provides is from Caernarfon 2 (138, fig. 104), which has a compound attached to one side. The Humayma structure certainly has additions that resemble this compound, though they remain unexcavated.
five smaller (10 RF) ones occupied the central portion of the structure in the north and south sections. In Room A, piers likely supported the arches, while elsewhere they integrate with the now destroyed upper portions of the walls. The smaller, central vaults stopped at the courtyard, where they used mud thatch instead of stone for the roof supported by the peristyle.

The colonnaded central courtyard (14.8 x 17.75 m; 50 x 60 RF) is flanked by a single range of rooms on the east and west sides, a double range on the north and south. The columns that supported the courtyard roof were made of plastered mudbrick and rested on bases of purple sandstone 0.59 m², or two RF per side. The colonnade is likely a five by six configuration (though others are possible), producing walkways 2.95 m (10 RF) wide on the north and south sides, and 2.35 m (8 RF) on the east and west. In the center of the courtyard, the excavators uncovered remains of a now-destroyed water feature (only the associated water pipe was found), surrounded by a packed earth and cobble pavement. About halfway between this central feature and the surrounding colonnade, the courtyard pavement changed from packed cobbles to ashlar flagstones, perhaps marking the extent to which the courtyard was roofed.

Excavations confirmed six doorways leading from the courtyard to the various rooms of the *Praetorium* and we have reconstructed six others. The work was focused primarily on the east side of the structure, revealing three single rooms (Rooms G, K, and L) with direct access off the courtyard. The rough flooring and plain white plaster in the southern two of these rooms (K and L) suggest a utilitarian or storage function, while the third room (G), containing an ashlar flagstone pavement and plastered walls, was perhaps a room of more important function than the other two. A fourth room (F), though
technically in the east range of rooms, is only accessible from the rooms in the northeast corner of the Praetorium and will be discussed in connection with these below.

The southern range of rooms presents numerous problems for an accurate reconstruction. This part of the Praetorium has the shallowest depth of overburden and later inhabitants have extensively plundered it for the valuable building stone. Despite the numerous excavation squares opened, only one room (N) was completely excavated. A second area to the east of Room N appeared not to be a room at all, but rather a columned porch in the southeast corner of the structure, fronting onto the intersection of the Via Principalis and smaller road that separated the Praetorium and the Principia. This area (so-called Room M) received extensive renovations in the past and was heavily damaged by stone robbing in later periods. Because of the extensive damage, interpretation of its form and function is difficult.

The excavated Room N, however, produced a much better picture of the room’s function. Serving as an internal gatehouse for the courtyard and private internal rooms of the Praetorium, it had a bench, shelf, and bin installed along one wall of the room, perhaps providing a space for waiting visitors or display space for votive offerings. This room apparently controlled access to the central courtyard and all the rooms beyond. Excavations failed to find the expected gateway into the courtyard in the center of the south wall (identified as so-called Room X on the plan, although it has no known dimensions or divisions). Evidence of later stone robbing and renovation in this area also clouds our understanding. One room (R) was identified to the south of Room N, and though it was unexcavated, it clearly suggests that the south wall of the structure fronted along the Via Principalis, likely mirroring the deeper range of rooms in the northern part
of the *Praetorium*. A blocked door was found leading from Room X into the southwest corner of the courtyard. This closure probably results from later renovation to the building.

Although the rooms on the west side of the courtyard have received very little excavation, we have reconstructed them as mirroring the east side of the structure. Room Q in the southeast corner has received some attention, but its connection to the courtyard and Room U above, was not established. We have entirely reconstructed the three other rooms (S, T, and U), as well as their connections to other rooms and the courtyard. Room S may share a connection to its northern neighbor, similar to that of Room F on the opposite side of the structure.

Room O in the northwest corner confirmed both that the peristyle structure was symmetrical and that there were obvious additions to the core structure to both the north and east. Excavations outside the original peristyle building were minimal, so the nature of these areas (so-called room Y to the north and the unlabeled V to the west of the plan) is unclear. The symmetrical arrangement of the structure enabled us virtually to flip the excavated plan along its central line to produce the present reconstruction pictured above. This central line also corresponded with the destroyed water feature in the center of the courtyard, the relative spacing of the columns, and a central door leading north to Room A, thus lending further support to our reconstruction.

The function of Room O, however, was not readily apparent. The flagstone pavement was much eroded and the fill contained both destruction and construction debris together in the same deposit, suggesting a usage other than the one originally intended at construction. Perhaps this area was turned into a work area at some point in
the *Praetorium’s* history, rather that staying part of the residential quarters. The connections between Room O and its neighbors were not determined by excavation, nor was the reconstructed presence of Room Z to the south.

The plan shown (Figure 8) is but one possible configuration for doorways in this part of the *Praetorium*. The room connections could well mirror that on the other side of the plan, or be entirely different. The main reason for proposing an entranceway from Room P into Room O is that the former is most likely a hallway similar to one found on the east side of the building. The difference between the two hallways is that Room P has no external exit at the northern end, a feature found on the eastern hallway, thus Room P connected to Room O, or it was a dead-end. The former possibility seems more likely than the latter.

Outside the northern wall of the *Praetorium*, just to the north of Room P and directly at its midpoint, a ceramic pipeline was uncovered running on a north-south line. These sections of pipe match those associated with the courtyard water feature, and make this pipeline the most obvious source for the central display. The pipeline also suggests that this area was slightly higher than the surrounding area and that this corner of the building was excavated into the terrain and leveled prior to construction. The water line travels in a slow gradient from the direction of the fort reservoir, to the *Praetorium* back wall about 20 cm above floor level, before diving down below both the north wall and flagstone floor of Room P on a straight-line course for the courtyard. Clearly, the builders dug this corner of the *Praetorium* into a small hillside and the raised ground level outside prevented Room P from providing access to the rear area of the *Praetorium*, a theory the present topography would also support.
Room P most likely connected to Room A to the east, the large central room in the northern range, and the courtyard to the south, although evidence for these connections is scant. Although only a small part of Room A has been excavated, some reasonable observations can be made about its layout and possible function. The vaulting reconstruction noted previously provided for three sets of arches crossing the central space of Room A carried by two rows of piers. The area is too large to be spanned in a single set of arches, and the presence of such an arrangement is suggested by the discovery of a large central door framed by antae made from plaster and mudbrick that provided access to Room A on a grand scale. It makes a central division of the room unlikely, further supporting the tripartite reconstruction of both the roofing system and the room layout. Another possibility is a flat roof for the area, although this too would require a similar support structure.

Clearly, the builders intended for Room A to impress its visitors and perhaps functioned as a grand tablinum. The floors, at least along the southern perimeter, were large well-laid slabs of grey sandstone found also in the courtyard. The walls were covered in frescoes of white, black, yellow, and red bars, perhaps imitating architectural forms or creating faux marble paneling around the room. The renovations and repainting reveal the continued importance of this room. Overall, it appears that Room A was an important space for both occupant and visitor, although only further excavation will confirm its nature.

The doorway in the east wall of Room A provided access to Rooms B and C, originally a single room that was later divided by a mud wall (Figure 9). Functioning as a hallway, Room B-C connected the courtyard to the rear area of the praetorium. The
doorway in the north wall was eventually blocked up with large well-laid stones, and the dividing wall between Rooms B and C was built some time later, perhaps to make better use of the now terminal space.

The floor of Room B-C consisted of a tri-colour mosaic of three rosettes, set into squares of beige tesserae, and framed with red borders. The long, linear nature of the design (i.e. that the design is continuous through the length of the room), providing decoration over nearly the entire length of the room, clearly shows the original intention was a transitional space, providing a connection between the central courtyard, and the rear of the structure. The loss of the room’s importance resulting from the closure of the door in the north end is evident by the treatment the mosaic floor received. The mud-brick dividing wall was laid directly on the mosaic, right across the middle of the northern-most rosette, and there was no attempt to make a clean divide between the two rooms.

The external area (Room I) accessed by the original doorway offers an obvious reason for the change in function. Originally, this area may have accommodated a back porch, covered by a mortar and thatch roof supported by a single arch, and with one-step between the threshold and the ground. Some time after the completion of the initial peristyle, a hypocaust room (J) was added to the east, and this former porch became the
praefurnium for a private bath suite. Access to Room J was from Room D and will be discussed below. Perhaps the best explanation for these renovations is that the hypocaust addition and doorway closure were part of the same phase.

After the closure of Room B-C’s northern door, Room B became a three-way transitional space controlling access between Room A and the courtyard, and the private Room E. Room C on the other hand, because of its size and location off the routes of passage, may have been used for storage. Room E, paved with a mosaic of interlocking circles with quatre-foil centers, and executed in blue and beige tesselae, provided further access to Rooms D and F. While its function is unknown, it was plainly an important and likely private space, for use by only the commander and his personal guests. Room F to the south, with its finely laid flagstone floor, was likely a storeroom for personal items or a food preparation area for the triclinium to the north.

Room D to the north was the finest room in the house, with frescoed walls and a high quality polychrome mosaic. The wall paintings consisted of a series of red bands, including some with areas of yellow and red imitation marble mottled with orange, yellow, and white paint. In addition to this imitation marble, vegetative patterns were rendered in various shades of green. The areas of green in this room and others often shows multiple layers of repainting, either indicating multiple phases of decoration or just a method used to create a deep, rich design. Room D also yielded a large section of red lines radiating from broad red borders, an otherwise unattested pattern. Lastly, excavators found a very good example of a beveled molding with red, yellow, black lines and a black denticular pattern on a white background.
The mosaic in Room D consists of a double outer band of alternating polychrome triangles and rectangles, an intermediate band of swastika meander, and a central cluster of quatrefoil rosettes. The mosaic itself is executed in much finer detail than the other two, with tesserae half the size and more liberal use of colour. Red, blue, and beige tesserae are used in the surrounding borders, while beige, red, and black fill the center design. The centerpiece is two equal squares, each with its own rosette set inside a circle. The use of black in this feature, a colour not used elsewhere in the set of mosaics, suggests that the room’s focal point was the center.

This central focus also corresponds well with our interpretation of the room’s function. With such elaborate frescos and a complex mosaic pavement, Room D likely served as a *triclinium*, or formal dining area of the *Praetorium*. No evidence was discovered during the excavations to support this attribution other than the decorations themselves. Other than the mosaic and frescoes, most of the materials recovered were of later date and not associated with the initial phase of the structure. Thus, we can only guess at the initial intended usage and later changes there were in the room function.

One of the clearest alterations to Room D was the installation of the single-room hypocaust bath suite to the north (Room J mentioned above) sometime after the initial construction of the original peristyle portion of the *Praetorium*. The east and north walls of Room D bond with each other forming an integrated corner; everything to the north of this abuts the original wall, and are thus likely to be additions. Room J is also sandwiched between a north south wall that enclosed the rear yard of the praetorium along the road to the east, and the original arch pier in Room I that supported the porch roof previously mentioned. Room J, consisting of a heated floor of *suspensura* tiles laid on top of two
rows of round *laterculi* stacked to form *pilae*, was entered from Room D to the south. Box flue tiles were also discovered embedded in the walls of Room J, along with extensive amounts of both hydraulic and regular mortar. Although excavations did not find a water feature due to the limited excavation of the room, the presence of such a feature is plainly suggested by the extensive amounts of hydraulic mortar found in the lower fill of the room.

Only the eastern portion of the room was excavated, and it was discovered that the suspended floor had been destroyed and the room filled with a wide variety of waste material. Possibly the bath was abandoned when the cost of maintenance or fuel became too high, and was then appropriated as a waste dump for those cleaning up debris from either the structure or the area around it. Eventually the doorway from Room D was closed and plastered over, sealing the deposit. Despite the ruined state of Room J, its function is made clear by both the internal structure and the discovery of the *praefurnium* to the west. What effect the construction of this room had on the function of Room D to the south is unknown, although it is a suitable location for a heated bath if Room D did serve as a *triclinium*. Perhaps prior to the addition of Room J, the *triclinium* space was too cold for year-round use, and as a result, the heating system had to be installed to enable comfortable occupation. The highly decorated Room D could also have become the private quarters of the fort commander, at least in the wintertime, when close proximity to the warmth of the hypocaust room was most desired.

In conclusion, the *Praetorium* is clearly a structure built with a specific function and plan. The reconstruction above corresponds with both the typical layout of a peristyle house, and the remains actually documented through excavation. As the residence for the
unit commander, it is extremely important evidence of Roman influence at Humayma. The mosaics used in the northeast corner of the building are key elements of Nabataean/Roman interaction and require further documentation to highlight additional aspects of this relationship.

The Mosaics

Complete documentation of these mosaics is crucial for their own long-term preservation; the damaged state of the mosaics and their continued decay threaten their survival (Figure 10). Some conservation measures were taken during excavation, but little could be done to protect the mosaics over the long term other than the application of a geotextile mat to prevent root intrusion. Subsequently they were reburied. The Friends of Archaeology in Jordan is now raising funds for consolidation of the mosaics and a permanent shelter to protect them. The section below describes the mosaics in detail,
noting the condition, measurements, materials, construction methods, and patterns employed in their construction.

**Condition**

All three mosaics were damaged heavily in antiquity and received at least one major repair. Renovators replaced destroyed portions with a rough flagstone floor cemented together with a poor quality, ashy mortar (Figure 11). The intact mosaic sections and the flagstone repairs were afterward covered with a plain white floor plaster, a process that preserved the remaining mosaics until their excavation.

Of the three mosaics, the example from Room B-C is the best preserved, with repairs to only its southern portion, likely because of the increased traffic this area received. The northern part, Room C, is nearly intact (except for one small area in a corner) perhaps because of the change in room function previously noted. About half of mosaic in Room E is preserved, with damage to the northern and eastern portions. The damage caused by the illicit excavations noted below destroyed the mosaic from near the center of the room to the northern threshold. In addition, deterioration and repair in front of the south door to Room F suggests regular traffic between the two rooms. While Room
D contained the finest mosaics, it also suffered the most damage, with less than a third surviving. The intact section is L-shaped, running down the west wall and along the south wall near the threshold to Room E. Despite the incompleteness of the mosaic, the remains preserve enough elements of the entire design, from outer border to the beginning of the central detail, to allow for a reasonably accurate reconstruction.

All the mosaics show some signs of burning, a process that leaves reddish or black marks on the tesserae (Figure 12). The majority of these burn marks appear along the perimeter near a wall, although some occur in the center of a room. Because of the small size of these burned areas, it is possible that they are the result of dropped oil lamps; those on the perimeter from sconce mounted lamps, while the central burns perhaps come from suspended lamps. Another possibility is that small, contained fires were lit in these areas, perhaps by squatters after the brief withdrawal of Roman forces in the 3rd century A.D. The size and location resemble the small fires local Bedouin use to this day for making tea and cooking small meals.

Room B-C displays the largest number of scorch marks, nine; seven occur along the perimeter, primarily close to doorways, one central burn in each hallway section. In Room E, with its five visible marks, a similar pattern emerges as all the burns are around
the edge of the mosaic close to the three doors that lead from the room. The middle of the room has been destroyed, making it difficult to determine if a comparable central mark existed, although possible signs of burning appear on the edge of the surviving portion. Room D, despite having the largest burned area, has only two burnt sections. The first is a small area along the south wall near the door to Room E. The second, larger charred section likely resulted from a fire in the center of the room, not from a dropped oil lamp. This event was far more destructive to the mosaic than the smaller burns; large burn marks surround the remains of the mosaic’s center panel. Fortunately, the charred fringes provide just enough evidence for both the central pattern and its destruction of it by fire. Interesting is the fact that excavators found no associated debris normally resulting from fires such as these (neither burnt lamp fragments, nor carbonized wood), suggesting that they occurred during the praetorium’s first phase of use, before the mosaics were patched and covered with plaster.

Materials

Identification of the lithic materials helps locate the possible source sites for the tesserae. Almost all the stone used in the mosaics was either marl or fine sandstone, two kinds of rocks that are similar in composition but differ primarily due to variations in formation conditions underground. The colour of these stones varies from beige to red for the marls, and from light blue to dark grey in the fine sandstones.

Geologically the stone can be traced to a formation called the ‘Ajlun group, which consists of limestones, marls and sandstones, and is the primary surface formation of the

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20 I thank Dave Gardner of the Department of Earth and Ocean at the University of Victoria for his advice and assistance with this section.
plateaus on either side of the Dead Sea. The formation begins about 100 km north of Humayma and extends over 200 km further north (Bender 1974: 66). However, two outcroppings of the ‘Ajlun group appear much closer to Humayma; the first is located to the northwest about halfway to Petra. The second is just to the east of Ras al-Naqb on the edge of the al-Shara’ escarpment, northeast of Humayma, where two faults expose the ‘Ajlun group under the more common Balqa group (Bender 1974: fig. 75a). Although an actual quarry site has not been identified, considering the close proximity of this geologic formation to Humayma, and its appropriate composition, this second location is most likely the source of the mosaic tesserae.

Two very small sections of the mosaics used exotic stones for details. Room B has two perpendicular lines of translucent white quartz tesserae accenting the southern-most rosette, while in Room D the artist used dark bituminous shale to create the central rosettes. The source of our quartz is unknown. However Bender notes an outcrop between Ras al-Naqb and Qatrana, to the north of the escarpment, and others further south near Khirbat al-Khalda in Wadi Itam (Bender 1974: 167). Numerous rounded pieces of quartz also erode out of the Disi sandstone, the coarser white sandstone formation that underlies the strata noted above, and can be found around the site. Nevertheless, considering the consistency, grain, and colour of the quartz, the tesserae most likely were cut from the same large piece, rather than individual stones. This likely favours a quarry site as the source of the quartz. The source of the bituminous shale is also unknown. A formation of lesser quality stone, one that has little commercial value for the bitumen it contains, was identified near Ma’an (Bender 1974: tab. 1). Perhaps the stone from here is similar to our material, although no direct comparison has been made.
More discussion on the decorative aspects of these accents will take place below in the specific descriptions of the mosaics.

The mosaicist used a hard, very limey mortar to set the *tessera* in place. This mortar, with its bright white colour and minimal inclusions, is very different from other mortars found at the site. Perhaps this was a special mortar blend designed for mosaics; comparison with the mortar beds of other regional mosaics may help identify continuity in building methods. No evidence has been found for the production site of the lime used in the mortar.

**Construction Method**

Illicit excavations in the *Praetorium* between the 2000 and 2004 excavation seasons damaged the mosaic in Room E and created a hole 1.2 x 0.8 m in the northern portion in front of the threshold to Room D. While the damage was extensive and irreparable, it provided us with an opportunity to examine the profile of the mosaic and its prepared sub-floor underneath. This investigation revealed crucial information about the construction of the mosaics, and a possible cause for their fragmentary state.

Typically, Roman mosaics had a well-constructed sub-floor in order to give the final surface the support it needed, and to reduce the appearance of cracks in the mortar. Vitruvius (7.1.1-7) suggests the placement of three separate layers underneath the

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**Figure 13: Profile of Typical Mosaic (Dunbabin 1999: fig. 288)**

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tesserae bedding (Figure 13): the *statumen*, a foundation of fist-sized rubble, mixed 3:1 with lime (if reused rubble is used, it is mixed 5:2 with lime); the *rudus*, a mix of finer rubble, lime, and sometimes potsherds; and the *nucleus* or *opus signinum*, a fine blend of crushed pottery or rubble mixed 3:1 with lime. Once these layers had been packed by wooden stamps and leveled, layout grid lines were drawn to plan out the patterns. The tesserae were then placed in a setting bed of mortar, which was laid in series of patches. The final thickness between the tesserae and the bottom of the *rudus* after tamping and paving should no less than one RF (0.296 m); two digits (29 mm) of bedding mortar, six digits (111 mm) of *nucleus*, and ¾ of a RF (222 mm) for the *rudus* is recommended.

In contrast, the Humayma mosaicist appears to have done the bare minimum to prepare the rooms for paving. While distinct stratigraphy is visible below the mosaic, it bears only slight resemblance to the recommendation of Vitruvius above (Figure 14). Although we have very little idea about just how many mosaics actually conformed to the Vitruvian ideal, we can at least use his words as a guideline. Under the tesserae and their thin, very limey mortar bed is a layer (approx. 20 mm thick) of packed mud with small lime and pebble inclusions, perhaps an attempt at forming a
nucleus. Under this is a very thin (10 mm) layer of what appears as mud plaster, probably resulting from the use of water to settle the rudus below. The rudus is half as thick (110 mm) as the Vitruvian recommendation of 3/4 of a RF. We found no sign of a statumen; rather, the rudus sits directly on the naturally compacted, sterile sand that is regularly found under foundation deposits at Humayma. As this stratum is very hard and difficult to excavate, it was probably considered sufficiently stable to support the mosaics. It is, however, plainly evident that the other preparations for the foundations of the mosaics were inadequate.

Overall, the surviving floor is uneven. There are specific signs of sub-floor collapse that appear as depressions in Room D, and cracks in Room C and E. One particular example is seen in the photo, where the foundation has obviously slumped, creating a 2 cm deep depression (Figure 15). Another possible explanation for such damage is that the collapse of the roof created the indentations; however, there is no evidence, such as fractures or scarred stone, for the crushing blow such a collapse would produce.

Figure 15: Depression in Mosaic of Room D (author)
Individual Mosaic Descriptions

Mosaic #1, Room BC: Rosettes

As briefly noted above, this mosaic consists of three rosettes set in squares that extend the length of the hall. The pattern, more generally called a four-leaf clover, has four blue, bilobed leaves in a cross around a central point, resembling hearts pointing toward the center (Figure 16).

Room BC is 8.89 m x 2.90 m (30 x 10 RF) in size, and the mosaic fills the entire space. The red rectangle is approximately centered in the hall on the long axis, but it is located closer to the courtyard door in the south than to the northern counterpart, leaving a wider gap between the rectangle and the wall. The margin of the long panel is ca. 65 cm from the west side, 60 cm from the east and 122 cm from the north wall. The southern portion of the mosaic is unfortunately destroyed; however, in order to incorporate the full rosette in the southern-most square, the border would have to be approximately 30 cm from the wall. These variations suggest that the mosaic was laid from the center toward the periphery. The beige tesserae used in this section are marl, with a colour range of
2.5Y 8/2-8/3. The stones are usually rectangular or quadrangular, around 25-40 mm square, and have an average density of 15 tesserae/dm$^2$.$^{21}$ The layout is orderly and usually consists of relatively neat horizontal rows. There are some sections, particularly in the northern portion, where the tesserae lose their orthogonal arrangement and become disordered.

The central panel is framed in a border of red stone (dark to light red 5R3/8, 5R4/8, 5R5/8), laid in a neat, three tesserae wide band (ca. 80 mm thick). The outside dimensions of the rectangle are 167 cm by 733 cm long, for an approximate length to width ratio of 4.40:1. When the inner dimensions are used, subtracting twice the width of the red border from both numbers (resulting in dimensions of 150 cm by 716 cm), the rectangle has a near perfect 4.75:1 ratio, suggesting that the outer dimension of the inner panel were the measuring points used by the builders.

The same red, three-tessera wide band as used in the outer border defines subdivisions within the rectangle. The internal partitions, however, while having uniform widths, are not perfectly square and vary somewhat in length. The southern-most square, just inside the courtyard door, is the closest to a true square (146 x 150 cm). The second section from the south is clearly rectangular and is 165 x 150 cm. The third is a short, empty field only 73 cm long. The fourth and fifth sections, those in room C, are similar to the southern two in size and measure 161 x 150 cm and 145 x 150 cm respectively. The similarity in the sizes of the north and south pairs is unlikely to be coincidence.

$^{21}$ Square decameters (i.e. 100 sq. cm) are a unit typically used for measuring the density of tesserae in mosaics.
Of the five internal divisions, the central and northern-most contain no decoration, only a plain field of beige tesserae. The other three sections contain the four-leaf clover design executed in blue. The stone comes in various shades (5B5/1, 5B6/1, 5B7/1), and the tessera size is similar to the rest of the mosaic.

The clover forms, or rosettes, are made up of four bi-lobed, heart-shaped leaves, separated by a central, corner-to-corner X that bisects the enclosing box.

The immense pattern book, *Le Décor géométrique de la mosaïque romaine*, compiled in 2002 by Balmelle, Prudhomme, and Raynaud, provides standardized pattern descriptions in five languages. This extensive resource offer a description of the pattern as a “unitary rosette of 4 adjacent elements, as bilobed petals, around a central point” (Balmelle et al. 2002: 60).\(^{22}\) The Humayma examples differ only slightly, as they are set inside a frame, have solid-colour lobes, and are rotated 45 degrees. The usual beige tesserae fill the space within the frames not occupied by the by the rosettes.

The southern-most of the floral decorations is neatly shaped and well proportioned. The central X, here executed in distinctive white quartz, is straight, and the arms are perpendicular to one another. These central guidelines stop 40 cm short of the actual corner of the frame, resulting in an X that is contained by the rosette decoration.

\(^{22}\) Their example, from Piazza Amerina (Italy), is later and of little use to this discussion other than to testify to continued use of the pattern. See: Carandini, *Filosofiana*, 1982: pl. LIII, 130

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**Figure 17: Piazza Armerina rosette example, 4th C AD. (Balmelle et al. 2002: pl. 262a)**
Near the diagonal reference lines, the tesserae are neat and orderly. The petals of the rosette are filled by neat concentric rows of tesserae, until they reach the center, where they become less ordered. The beige fill around the square forms neat rows along the red border and a double outline of well-fit tesserae around the petals. The rest is filled with concentric rows, while the centers of sections are pieced together with tessera chips.

The second rosette, also executed in blue tesserae, is clearly inferior to the one just described. It contains a central X of plain beige tesserae, which, because of the rectangular shape of the enclosing frame, has arms that are not perpendicular to one another, but rather form greater angles on the east and west sides and narrower ones on the north and south. The oversized rosette is also poorly shaped around the outer edges, and fills almost the entire field. Closer to the central X, the tesserae are orderly and neat, following the same pattern of concentric outlines noted previously in the first rosette.

The last rosette fills the fourth section from the bottom, this time a bichrome example of opposing red and blue petals. This rosette was created by following the same technique used in the other two, although its quality falls between that of the other two. The petal lobes are more symmetrical and rounded, creating a proper heart shape. The rectangular frame of this square, however, produces the same disproportion in the size of the lobes noted above in the discussion of the second rosette. It is also possible that the master mosaicist laid out the initial X and left the apprentice to finish the panel.
Mosaic #2 Room E: Interlocking Circles

This mosaic consists of a series of overlapping bi-chrome circles that form a quatre-foil design, surrounded by a beige border similar in style to the previous mosaic (Figure 18). The dark, centrally accented quatrefoils combine with beige circles, producing a large panel in the center of the room.

Room E, with entrances on all but the east side, measures 3.10 m x 4.65 m (10 x 15 RF). While the north and south thresholds are flush with the inner face of Room E, the western door leading to Room B was set flush with that room, resulting in a large rectangular mosaic with a small westward projection in the doorway. The circular field measures 244 cm north-south and an estimated 400 cm east-west. The central position of the panel produces a beige border approximately 33 cm wide on all sides, except in the western portion where, in the doorway, it extends up to 60 cm from the central field, in a section about 140 cm wide.

The central pattern, which is uniform and precise, is created by overlapping circles 44 cm in diameter, laid out in a pattern of five and a half north to south, and nine east to west, counting from the northwest corner. The tesserae average 25-40 mm in size.
and the mosaic has a regular tessera count of 16 tesserae/dm$^2$; the beige border has a slightly higher density (18/dm$^2$) due to the orderly nature of the tesserae. Colours used are the usual beige tessera noted above (2.5Y 8/2-8/3), while the blue is a mix of shades, ranging from 5B7/1 to 5B5/1, with the latter, darker shade being predominant.

Balmelle et al. describes this pattern as a “bichrome row of tangent circles formed of four spindles forming poised concave squares and pairs of opposed thorns, the colours interchanged”. The Humayma example is a continuous field of this pattern, with a near perfect match to the center detail, except for the depicted central white tessera (Figure 19). The field is surrounded by the same beige border found in Room B.C., except that it is about half as wide as the previous example.

Figure 19: Interlocking circle pattern from Switzerland, 3rd C AD. (Balmelle et al. 2002: pl. 46a)

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23Their example is from Avenches (Switzerland) and, unlike the Humayma example, has a central accent in addition to the four surrounding ones. See La Mosaique Greco-Romaine, Paris 29 Aout-3 Septembre 1963, I, p.243, fig.18
Mosaic #3 Room D: Hourglasses, Swastika Meander, and Central Rosettes

As noted above, the mosaic in Room D, measuring 4.60 x 4.65 m (15 RF x 15RF) and consisting of four different elements combined to create a series of intricate geometric patterns, is superior in quality to the other two pavements (Figure 20). The outermost part is a plain beige border similar to the mosaics in Rooms B.C. and E. The second element is a double band of bichrome, hourglass shapes, separated by net of interconnected rectangles and squares. Inside this border is a swastika meander that encloses squares; the swastika is executed in red on the east and west sides, and blue on the north and south. The final element is a central rectangle composed of two equal squares separated by a central line, each containing a four-petal rosette inside a circle.
The outer beige border (2.5Y 8/2-8/3, pale yellow), only preserved on the west and south sides, consists of tesserae much smaller than the other mosaics. Average tessera size for this part, and the other elements of this mosaic, is between 15-25 mm, resulting in a density of 25 tesserae/dm². The width on the west side border is around 25 cm, although the irregular separation formed where the wall plaster meets the floor, covers some of the outermost tesserae and creates variations in the width. On the south side, the outer border is only about 14 cm wide, a dimension that appears in the second part of the mosaic and therefore was more likely intentional than the result of filling in leftover space. The width of this border on the north and east sides are unknown. In reconstructing the overall pattern for the room based on the preserved elements, however, we discovered the possibility that the width of the border on these sides may have varied. By using the visible dimensions to provide measurements for the destroyed sections of the mosaic, the resulting width of the beige border on the two missing sides would be approximately 50 cm. Reasons for this difference in border width will be addressed below.

The second element of the mosaic consists of a pattern of squares divided into pairs of opposed triangles, or hourglass shapes, separated by bands of narrow rectangles.
and squares (Figure 21). Along the west side of the room there are three bands separating two columns of hourglasses, while in the south, there are only two rows of hourglasses separated by a single line of rectangles and squares. The hourglasses are in squares that measure on average 29-30 cm on a side with a diagonal length of 40 cm, although the squares vary in the precision. Along the west side of the room, the triangles are always opposite pairs of red and beige, resulting in red hourglasses flanked by beige triangles. Along the southern portion, the order of the colours is more random than the pattern on the west side. Here, blue (5B5/1, 5B6/1, 5B7/1, though predominantly the latter) tesserae appear in both the hourglasses and their flanking triangles, including one example with blue, red, and beige sections all in the same square.

![Figure 22: Band of squares and triangles from Riems, 2nd C AD. (Balmelle et al. 2002: pl. 17f)](image)

The Balmelle *et al.* description of the pattern (Figure 22) is a “band of alternating monochrome and diagonally quartered bichrome squares, the colours counterchanged” (Balmelle *et al.* 2002: 48). The Humayma example has rectangles in between triangle pairs, not the squares depicted above, and are also bichrome.²⁴

The surrounding rectangles, measuring on average 30 x 13 cm, are a mix of solid blue or red blocks with little discernable pattern; the smaller, squares 13 cm per side created by the intersection of these rectangular blocks are always red. In the center of

²⁴ Their example is from Riems (France). See *Recueil general des Mosaïques de la Gaule* I, 1979, #24, pl. VI
these squares is an open cross detail similar to the central detail of the circle mosaic of Room E. In the southern portion of the mosaic, where the small squares still appear only in red, the rectangles have even greater variation in colour scheme with beige also being used.

The third pattern in Room D is a concentric band of swastika meander around the central rectangle (Figure 23). The arms of the interconnected pattern surround small squares in the spaces between the swastikas, forming a rectangular band of four squares and three swastikas on the long side, with three and two on the short sides. The colour of the pattern changes from red and beige to blue and beige in the corners, creating long sides of red and short ones of blue. The enclosed squares, which measure around 17.4-5 cm on the outside, have an internal decoration that seems to vary from one to the next. Of the two surviving examples, one has an X through the center drawn with single tesserae, while the other has a nine-box checkerboard pattern with internal divisions of 3.5 cm on a side.

Bichrome bands of red and beige or blue and beige tessera, which are always in three-tesserae-wide rows around 3.6-4.0 cm in width, combine to form the meander. These lines are uniform in width and fit tightly together, creating a neat and ordered pattern. The width of the meander pattern is 34 cm, although with its border elements it is
closer to 44 cm. The unit length of one swastika and enclosed square is 60.4 cm. *Tessera* colour, size, and density is consistent with the other elements of the mosaic discussed above.

The description in Balmelle *et al.* is a swastika-meander of spaced single-returned swastikas with a square in each space (Balmelle *et al.* 2002: 80). At Humayma there is variation in the square detail in the space including an open cross or checkerboard pattern, and an X form.\(^{25}\) It even has the same unattached borders on top and bottom.

![Figure 24: Swastika meander example from Antioch, 1\(^{st}\)-2\(^{nd}\) C AD. (Balmelle *et al.* 2002: pl. 38c)](image)

The innermost pattern consists of two squares side-by-side, each containing a circle of red with a black four-petal rosette in the center of the framing square (Figure 25). The outer border of this section is another three *tessera* wide band that matches those found in the meander. The squares are roughly 60.6 cm on a side and are separated by a blue line that is also the same width as the border (36 mm). The exact radius of the circle inside the square is difficult to determine, although it is likely around 44-46 cm. Despite the damage to this section, it is clear that the pattern was a four-petal design. Enough of the central sections remain so that if the rosette were perhaps a six or eight petal design, we would clearly see some remnant in the *tessera* pattern.

\(^{25}\) Their example is from Antioch (Turkey): see D. Levi, Antioch Mosaic Pavements vol. 2, 1947, pl. CXLIII, a
Red tesserae are used to form the circles, while the black stone used for the petals is the bituminous shale noted above (7.5YR 2.5/2 or 10YR 2/3, very dark brown). What is visible of the two circles suggest that they were executed by the same person, though it appears that two artists worked on the beige fill areas outside the circles, as the placing of tesserae in each is quite different. In the example on the left of Figure 25, the stones are laid in a clear horizontal and vertical pattern, causing some disorder closer to the center circle. On the other hand, the right example uses concentric outlines to fill the void, resulting in a much neater construction. Unfortunately, the extent of destruction limits what can be said.

Based on what we can see, the pattern is identifiable in Balmelle et al. as a “unitary rosette of 4 noncontiguous elements as superimposed tassels around central point, rosette as quatrefoil” (Balmelle et al. 2002: vol. II: 52). At Humayma this pattern forms the centerpiece of room, with a pair within the space framed by the swastika.

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26 The example they provide is from Acholla (Tunisia): Gozlan, Acholla II, 2001, #83, pl. XXV, 2-3
meander. Despite the ruined state, this is the most probable identification, although a six petal variant may be possible (Figure 26).

The centerline of the middle swastika on the long side lines up perfectly with the blue dividing line of the central panel, confirming that the two sections were conceived in unison. The layout of these two sections differs from the hourglass portion of the mosaic. The midline of the central panel, and the corresponding alignment with the middle swastika, corresponds with nothing in the hourglass patterns. It is clear, however, that the same module of measurement was used, as some parts of the two sections do align. I will focus more on discussion of the unit of measurement below, as it is connected with the origin of the pattern and its transmission to Jordan and Humayma.

Figure 26: Quatrefoil rosette example from Acholla, 2nd C AD (Balmelle et al. 2002: pl. 255e)
Chapter 3: Interpretation and Local Comparison

Interpretation of Humayma Mosaics

While the previous chapter provided the physical details required for proper documentation of the Humayma mosaics, it supplied little in the way of interpretation or analysis. Before we can compare these mosaics with similar mosaics elsewhere, we must return to Humayma mosaics again, focusing this time on details illuminating construction technique and on the identities of the workmen. By combining the physical description above with interpretative discussion of the details, we will better understand the artists who created them. Equally important is the identity of the patron who commissioned the mosaics. For the former, I compare the Humayma mosaics with very similar examples from Petra and Wadi Musa to establish that a mosaic tradition, or school of mosaicists (albeit a small one), was already in place in the region prior to Roman occupation of Arabia. As for the patron, I focus on Claudius Severus, the provincial governor at the time of Humayma’s fortification. Once the artist and patron are identified, we can compare the Hawara mosaics with others in the Provincia Arabia, and in Chapter 4, with those from the wider Mediterranean region.

Mosaic #1: Hallway Rosettes

Despite the relative simplicity of the hallway mosaic, with its five sections and three rosettes inside a long rectangle, it is very informative about the craftsmen who installed it. The mosaic shows clear signs of variations in technique, perhaps indicative of a relatively inexperienced student receiving direction from a master (Fig 27). The neat rounded forms of the southern-most rosette show skill and practice in the art of tessera
placement, while the other two have been more roughly laid. The identification of two different mosaicists seems secure, a fact that has great impact on the discussion, because it may reveal details of how students received practical instruction.

Given the dimensions of the room and the mosaic frame, this mosaic may have been designed with four rosettes in evenly spaced squares with a half-size empty field in the middle of the rectangle. Either poor planning or some element of inexperience resulted in boxes of differing size. As the widths of all the sections are uniform, the large outer rectangle was likely laid out first. The artist laid the square and rectangular subdivisions for the rosettes afterward, as they abut the frame, rather than integrate with it.

Surrounding the red borders is a wide beige field that fills the space between the central rectangle and the wall. The neatness of the parallel rows next to the central rectangle suggests that this part of the mosaic was built from the central rectangle outward to the wall. The artists probably laid the central panel after the plain outer sections to provide a work surface and a frame to base the more complex pattern within.

The outer beige border of the mosaic would have been the perfect place to train students how to lay straight lines of tesserae. Having established sections of the central rectangle himself as a reference line, he could leave his apprentice to practice his tile setting. There is one area in the north end of the room were this orderly arrangement is
replaced by more irregularly laid tesserae.

This section is clearly distinct from the area to the south in both technique of tessera placement and in the colour of the stone used. It also includes a misalignment of the red outer border, resulting in a one-tessera wide step in the northwest corner (Figure 28). This staggered intersection of the border can be easily explained if the two ends of the rectangle were measured and tiled separately, rather than in continuous construction from one end to the other. Perhaps this northern section, with its disorderly tesserae as evidence, was the another good location to teach an inexperienced workman in an inconspicuous area. Such poor execution in the southern section would have been a disaster for the master, effectively ruining the aesthetics of a higher traffic part of the mosaic, something his apprentice succeeded in doing anyway with his ill-proportioned rosettes.

The southern-most rosette is undoubtedly the best proportioned and executed of the three, and includes the quartz accents noted in the discussion of the materials in Chapter 2. The quality of its execution, and the use of more uncommon stones, suggests that an experienced craftsman produced it, someone who had obviously laid a mosaic pavement before. Perhaps this rosette was a master’s example for an apprentice to follow. The second rosette seems to have been created by a less experienced hand. As noted in the physical description, its lobes are oversized and misshapen, resulting from non-
perpendicular central guidelines and poorly formed curves. It is unclear why a rectangular frame, and not a square one like the southern-most rosette, was created for the student’s rosettes. Perhaps the apprentice miscalculated on the second section and was forced to correct his mistake by changing the overall plan. More likely, we will never know the reason why.

The quality of execution, other than the poor layout, does show some skill in the student’s attempts. The apprentice started with the same central X as a guide, and followed a fill technique similar to that used by the master in the first rosette. Areas close to this central reference lines lie in neat rows, although towards the outer edge of the petals, where the lines are more free form, the apprentice loses the shape and order, showing difficulty in selecting and shaping the tesserae to form smooth curves. There is much less beige fill around this rosette, as the petals are oversized, resulting in a separation from the red frame of only one or two rows of tesserae. For comparison, the first rosette has between four and seven rows at the same measuring points.

To the north of the second rosette is a short, empty rectangle containing only a fill of tight, well-laid beige tesserae. The third rosette, above this small empty field, clearly resembles the second with its rectangular frame and oversized petals. The outer edges of the bi-lobed petals are similar, but more symmetrical and better formed than the second rosette. The artist shows improvement in his technique with this rosette, forming a neater overall rosette. However, his improved workmanship still pales in comparison to the masterful southern rosette. The wall and door threshold that later divided the hall into two rooms are built directly on top of the mosaic, across the bottom part of the rosette. Interesting is the fact that the later renovators made no attempt at a clean aesthetic
division; moving the wall a few inches south would have concealed the edge of the rosette and created a clean transition, yet no such attempt was made, thus suggesting that aesthetics were not important factors in the later renovation.

Mosaic #2: Interlocking Circles

The repetitive field of interlocking circles in Room E is also informative in regards to artist skill and technique. The dark quatrefoils are particularly interesting because we find the exact same tesserae pattern in the center of all. A central blue tessera, along with four white tesserae, forms a small X detail in the center of each one. The positioning of the accents and the construction of the quatre-foils is the same every time. There are always nine tesserae diagonally through the center of the quatrefoil, confirming the use of odd numbers to make a centered pattern (Figure 30). Even counts of tessera can only be used for patterns that are repeating sections or mirror images, while odd numbers create a patterns that is replicated on either side of a central line.

The quality of execution in this mosaic is excellent, at least in comparison to the rougher forms in the previous mosaic above. The artist’s construction of the circular pattern shows skill in creating even, round forms and experience with complex geometric designs. His measurements are precise and uniform, indicating the use of guidelines that were traced on the bedding surface. The separation between the two colours is clean,
continually following the same pattern. The sequence of execution suggests that the dark outlines were laid first to form the circular elements, for the tesserae form clear circular patterns and separate the beige elements of the design. After the initial circular forms were established, the artist filled the quatrefoils with their beige, central accents. Finally, he filled the lenticular shaped sections between the quatre-foils with beige tesserae to complete the pattern with clean colour separation.

Figure 30: Detail of quatrefoil design (author)
Mosaic 3: Swastika Meander and Hourglass Pattern

Because of the smaller tessera size and increased complexity of the pattern, the mosaic in Room D is potentially the most informative of the level of skill of this team of mosaicists; at the same time, it also shows the master and student working together on the same mosaic. The combination of three unique elements into one cohesive pavement shows compositional creativity by the master mosaicist. The off-center positioning of the focal panel brings the meander in line with the center of the southern doorway, suggesting that concern for the initial sight lines was more important than true centering in the room.

The finest section of the whole mosaic is the swastika meander. With its tight fitting tesserae that conform to a neat grid, the surviving portion shows no mistakes in the pattern, and only minimal irregularities in the straightness of the lines. Tesserae were carefully chosen for their square shape and small size. In some of the individual colour bands used to create the pattern, some 90-degree corners cleanly integrate in a step formation, while others terminate in a straight line and start again in a different direction (Figure 32). From these orientation patterns in the tesserae, we can determine which

Figure 31: Drawing of meander mosaic in Room D (S. Fraser)
sections of the meander were laid continuously and where the stopping points were
during construction.

Only the meander
and the central panel were
laid out in unison; the
inner dimensions of the
meander dictated the size
of the central panel. The
outer hourglass pattern
appears to be secondary,
having been constructed
after completion of the inner two patterns. The repeating meander pattern with a regular
unit of measure produced a predictable panel with a 2:1 ratio. The dividing mid-line of
the central panel aligns perfectly with the mid-line of the central swastika on the long axis, and shows clear continuity between the two elements. The two squares, with their
enclosed rosettes, resulting from the central division, fill the space evenly and present a
balanced focal panel (See Figure 25).

The rosettes were built using the exact same pattern as the continuous field in
Room E; a series of overlapping circles that produce four lenticular shaped petals. In the
other room, the petals are turned to form an X shape, pointing roughly to the corners of
the room, while in Room D, they form a cross, with the tips aiming at the walls. The
tesserae of dark bituminous shale, a stone that appears nowhere else in the surviving
mosaics, cleanly outline the rosette petals, while the contrasting red fill creates an
enclosing circle of the same dimensions as those in Room E, 44 cm in diameter. The beige tesserae that fill the rest of two squares show variation in the fill technique used. In some parts the section, the artist used neat parallel lines against the outer edge that intersect irregularly with the circular rosette, while in others he made concentric rings that outline the central circle and the outer border. The use of different techniques in the same area may indicate either two artists at work, or a decision by a single one to change his style midway through a section, perhaps for ease of execution. The limited size of the surviving portion does not permit a definitive answer to this question.

The large preserved portion of the hourglass pattern, a repeating network of rectangle, squares, and triangles, allows for more detailed discussion. The pattern is uniform in its layout, forming a predictable border of larger squares divided into triangular forms, bordered on all sides with narrow rectangles, with smaller, centrally accented squares at the corners. Despite the uniformity of the geometric pattern, the colour scheme is much more irregular. As noted in the previous chapter, the use of red or blue for the narrow rectangles appears indiscriminant, especially on the southern side of the mosaics. Here beige also becomes a predominant colour for the rectangles, a choice that wreaks havoc.
with the colour pattern of the hourglasses. Along the west side of the mosaic, beige was only used as a horizontal divider between red triangles, while blue or red separated the beige triangle. The result was a relatively neat colour grid that presented only minimal variation. Somewhere in the now-destroyed corner transition of the pattern, the orientation of the beige triangles was changed from east-west, to north-south. This caused a problem because the beige triangle sections now backed onto the plain beige border, creating no separation between the elements and confusing the pattern. The artist repeated this change twice on the outer row and three times on the inner one before he attempted to correct his (or his student’s) mistake. Perhaps this poorly conceived part of the mosaic represents the size of the section the mosaicist was building simultaneously before he realized the problem. To remedy the situation, the craftsman returned to using beige rectangles in the horizontal position to separate the coloured north-south hourglasses. Unfortunately, he could only salvage the pattern by creating an obvious visual irregularity, a pair of triangles with mismatched colours (see Figure 34). Also prominent in this area is the use of blue for triangular elements, something unseen along the west portion.

Individual parts of this pattern show the artist’s skill in tight tessera placement. The rectangular and small square sections are composed of orderly rows of well-fit stones. In the triangular elements, the artist neatly outlined the sections and made use of triangular tessera to fill spaces where square ones would not fit (Figure 35). In some
sections, the straightness of lines does wander, but overall the individual geometric elements maintain their forms.

**Local Parallels**

Discussion of the Humayma mosaics in isolation can only provide limited understanding of the early mosaics in southern Jordan. For a more complete contextualization and understanding of the pavements, they need to be examined as part of a larger group, the production of a specific mosaicist or workshop. Construction methods and patterns employed show obvious connections between the mosaics at Humayma, two discovered in Wadi Musa, and a third from Petra. This group of pavements provides more information about the craftsmen who created them.

**Wadi Musa 1: Swastika Meander**

Preparations for the construction of a new hotel in Wadi Musa in 1996 revealed an early first-century A.D. atrium style villa next to a large cistern (Figure 36). The resulting salvage excavations revealed a mosaic and frescoes very similar to those found at Humayma. The house was renovated in the late 1\textsuperscript{st} century A.D., then abandoned and finally destroyed early in the 2\textsuperscript{nd} century A.D., perhaps as a result of Roman arrival at
Petra (‘Amr et al. 1997: 470). The rectangular mosaic, part of the late first-century A.D. renovations, contains a meander of swastikas nearly identical to those at Humayma. The only variation between the two examples is the different detail treatment of the enclosed square, which at Wadi Musa, is accented by a single central square (Figure 37). The center panel was a large circle of black and beige *tesserae* in checkerboard pattern, enclosed within a red square. On either side of the red square is a narrow rectangle of checkerboard pattern (‘Amr et al. 1997: 470).

There are clear parallels between this mosaic and the Humayma swastika meander mosaic. The pattern has the same three-tessera-wide bands creating the meander, and is laid out using the same unit of measure. The width of the band is 44 cm, and the length of a square and swastika set is 60 cm, both exactly the same as the Humayma mosaic. The border is larger than in the Humayma example in that it is composed of five enclosed squares on the long side and four on the short (Humayma being four by three). The Wadi Musa meander is
also surrounded by plain border of beige tesserae, paralleling the treatment of the outer edges of all the mosaics at Humayma. The Wadi Musa meander even helps us reconstruct destroyed elements of the Humayma mosaic, such as the corner transitions visible in Figure 37. Close examination of the details show definitive connections between the two mosaics.

Figure 37: View of Wadi Musa 1, Meander Mosaic (M. Angus)

**Wadi Musa 2: Interlocking Circles**

Continued excavations in the same area as the Wadi Musa 1 mosaic in 2000 uncovered a second pavement in a separate structure less than 50 m southeast of the 1996 discovery ('Amr and al-Momani 2001: 266). Based on the structural similarity with the 1996 villa, and its close proximity, this mosaic likely also dates the late 1st century A.D. Executed in dark blue and beige tesserae, this mosaic, with its pattern of interlocking circles, perfectly matches the one found at Humayma in both pattern and dimensions (Figure 38). The circle diameter is 44 cm, the same as the Humayma example, and the central detail of the dark quatrefoils matches exactly. Again, a border of plain beige tesserae surrounds the field of circles, clearly paralleling the pattern of both the other
Wadi Musa mosaic, and those at Humayma. Only a small portion of the mosaic was revealed so the overall dimensions of the pattern are unknown. However, the portion revealed is sufficient to connect securely the two mosaics.

**Al-Zantur Mosaic**

In a first century A.D. Nabataean villa on the south slope of al-Zantur inside Petra proper (designated EZ IV) a black and white mosaic was found in a destruction layer that fell from a second story. “The geometric design of the mosaic consisted of squares and triangles” (Kolb et al. 1998: 261), and is perhaps related to the hourglass pattern in Room D at Humayma (Figure 39). Although fragmentary, this mosaic is dated by a glass sherd embedded in the mortar to the latter half of the first century A.D., perhaps the earliest mosaic in the region (Kolb et al. 1998: 262).
A Local Mosaic Workshop

The Wadi Musa mosaics, combined with the three from Humayma, represent the only identifiable collection of early mosaics in southern Jordan. The mosaics from the Petra Church are much later (possibly 4th century A.D.) in date and follow a completely different artistic tradition. Dr. ‘Amr suspects, however, that there are others in the region that have yet to be excavated. In her position with the Department of Antiquities in Jordan, she has seen photographs of similar mosaics uncovered by illicit excavations. Although Dr. ‘Amr was unable to discover where the mosaics were located, she suspects they are in the Ras al-Naqb region, but does not know if they remain in situ (personal communication: Amman, 2005). If we consider that the mosaics range in date from the late 1st century A.D. into the 2nd century, and are very similar in pattern and construction, then we must assume there was a mosaic ‘school’ or ‘workshop’ producing pavements in the region. Given the scope of the various projects, it is unlikely that they are the work of a single artisan. The Wadi Musa and Petra examples represent some of the early efforts of the school, while the Humayma mosaics represent their last known pavements. Identification of individual members of this workshop is extremely difficult, although the work of several artisans is obvious, especially at Humayma, where it is clear that at least two mosaicists laid the pavements. Such schools and workshops have been well established elsewhere, so extended coverage is unnecessary here. However, I will focus on the specific aspects of the Humayma and Wadi Musa mosaics that identify an active workshop in the region.

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27 My use of the terms ‘workshop’ and ‘school’ somewhat interchangeably, follows Dunbabin who states ‘‘workshop’ is used … to refer to a group of workmen; it does not, of course, imply a fixed location for their activities.” Dunbabin 1999:269.
Shelia Campbell’s work on mosaics in Turkey developed three criteria for identification of individual schools or workshops: “(1) variations on standard geometric forms; (2) repeated combinations of geometric forms; (3) repeated themes or iconography” (1979: 288). The first two criteria certainly apply to the mosaics in question. The use of the same swastika meander and interlocking circle patterns at both Humayma and Wadi Musa confirms the use of two standard geometric patterns in close proximity to each other. Variation is also seen in the details of the swastika meander and the overall composition of the mosaics at Humayma, lending further support for their connection to a specific workshop. The third criterion for workshop identification, the repeated use of iconography, is not applicable for this set of geometric mosaics.

**Unit of Measurement**

Another factor that can identify an individual workshop or mosaic tradition is the unit of measurement used to lay out the mosaic. Both the Humayma and Wadi Musa mosaics use measures of approximately 30, 45, and 60 cm to create elements of the mosaic patterns; simple ratios of one, one and a half, and two. It is important to determine whether these units conform to a Greek or Roman measurement system so that we can identify the tradition behind the Humayma mosaics. Although the Hawara *Praetorium* was clearly planned using the Roman foot of 29.6 cm, the same may not be true of the mosaics. A detailed breakdown of the section measurements suggests that, in fact, the artist used a Greek unit. Considering the recurrence of 30 and 45 cm in the circular pattern and swastika meander, the most likely unit of measure is the Greek Attic foot (30.5 cm), or the cubit or *pechus* (45 cm), which equals one and a half Greek feet.
The Hellenic origin of the artist’s unit of measurement is further supported by closer examinations of the more intricate parts of the mosaics.

In the long mosaic of Room B.C., the inside measurements of the central rectangle convert nicely to Greek feet (GF) for a ratio of 5 GF wide by 24 GF long. The square subdivisions are 5 GF², the rectangular sections are 5 GF by 5.5 GF, and the small central section is 5 GF by 2.5 GF. Even more informative is the width of the red bands. At 8 cm wide, this border is very close to four fingers (dactylos, 4 x 19 mm) wide, otherwise known as a palm or palaiste (Humphrey et al. 1998: xxiv). The application of Roman equivalents for these measures, including the inch (uncia, 25 mm) and foot (pes, 29.6 cm) produces numbers that are more irregular and thus are less likely to be the units used.

The mosaic in Room D, with its complicated composition and multiple elements, also divides easily into Greek units. The square sections of the central panel have sides that are 60.8 cm, or 2 GF, separated by a band 39 mm wide, the equivalent of two fingers. Inside the square sections, the circular rosettes are 44 cm in diameter or a cubit, and are exactly the same size as the interlocking circles in Room E. The swastika meander is also clearly composed using Greek measures. The width of one swastika and enclosed square set is exactly 2 GF and the width of the whole meander border is 48 cm, 13 equal bands of 2 fingers (38-40 mm) each, forming a balanced pattern of 6 bands on each side of a central one. Essentially, it is a cubit divided into 12 parts with the addition of one more 2 finger wide band to create an uneven number. The use of an odd number is crucial to making the pattern balanced on either side of the midline.
The hourglass pattern around the outer edge of the swastika meander is also composed using divisions of the Greek foot; however, this section shows the most variations and inaccuracies in the use of the standard measurements. The height of the squares containing the hourglasses is 30.5 cm, but they are only 28.5 cm wide, 1 GF minus 2 fingers. Perhaps the square was truncated in width in order to provide greater emphasis on the height of the hourglasses, making them seem more realistic. The width of the thinner bands that surround the hourglasses is 12 cm, or about six fingers. This distance, being about a quarter of a cubit, conforms to the overall pattern of using multiples of *dactyloi* to produce the patterns.

Overall, based on specific measurements noted above, we can securely accept the Greek foot as the primary unit of measurement used to build the entire corpus of mosaics, a fact that will help trace the patterns in Chapter 4. If the unit of measurement, and thus the tradition of training, is Greek, then we must associate the mosaics with the mosaic traditions of the Eastern Mediterranean, and not with the Roman West. This also provides further support for our identification of the craftsman as a local resident, and not a Roman import.

**Transmission of Motifs**

One question that still needs to be answered is how the patterns used at Humayma and Wadi Musa came to the region. As we will see in the next chapter, the geometric patterns have parallels throughout the entire Mediterranean basin. Such “geographic diffusion may be explained by assuming that mosaicists migrated, carrying in their heads the repertory of themes and motifs they had learnt and passing them on to their new
pupils” (Dunbabin 1999: 302). Artists also would have carried sketch drawings of patterns they had seen. Investigating the transmission of the motifs involves looking at a few main aspects, such as the source of the patterns themselves, the possibility of an itinerant artist, and the transmission of the motifs and techniques from the master to apprentices.

Despite the fact that no examples of pattern books have been uncovered, artists must have used them to plan patterns and transport from one location to another (Dunbabin 1999: 303). “The fact that the same geometric motifs are used throughout the Roman Empire indicates the existence of such books, or some other mnemonic device” (Campbell 1979: 288). The pattern books need not have been a formally bound volume that the term ‘book’ implies, but could be little more than schematic notes and sketches from which the artist could reproduce a polished work of art. “It should be stressed that the assumption of their existence does not imply exact mechanical copying by the craftsmen; on the contrary, they clearly had considerable latitude in handling whatever models they used” (Dunbabin 1999: 303).

The Humayma mosaics find clear parallels elsewhere in the Mediterranean which we will examine in the next chapter, and evidently the pattern were transferred to the region from abroad. The motifs are too similar to other examples to be independent creations of an emerging mosaic school. Rather, a trained mosaicist must have immigrated to the region around Petra in the late first-century A.D. and brought the patterns and techniques with him in one form or another. Pattern books were only one available resource artists could use to develop their patterns. “The most skilled craftsmen are likely to have drawn on all that was available to them: on their memories and training,
on copy-books, and on works that they had themselves seen, in the same medium or in others” (Dunbabin 1999: 303).

While pattern books are one mechanism by which specific motifs were passed from one region to the next, the most likely explanation, considering the fact that no prior mosaic tradition existed in the region before the late 1st century A.D., is the arrival of an itinerant artist who brought the patterns with him in one form or another. This artist, clearly trained in the Hellenistic mosaic tradition, must have come to the Petra during the height of Nabataean power in the 1st century A.D., as one of the many Hellenizing influences on Nabataeans society during this period (Schmidt 1997).

While this itinerant mosaicist studied his trade elsewhere, learning the repertory of a specific school, he chose at some point to travel elsewhere to practice his trade. Eventually he must have decided to settle in the Petra region to establish his own mosaic workshop in a place where no previous school existed. Considering the late first-century A.D. date of the Wadi Musa and Petra mosaics, the school presumably also dates to this time. The appearance of such similar mosaics at Humayma as much as two generations later is only explicable if original master passed his patterns and techniques on to a new generation.

Construction and artistic trades, such as mosaic paving, have been passed from master to apprentice for millennia, so there is little surprise that this method of transmission is possible here. Only production by artists from the same training tradition can explain the similarities between the Wadi Musa and Humayma mosaics. A relative chronology of the known mosaic production in the region suggests that early examples are the work of the itinerant master, while the Humayma pavements are the work of his
student, who had honed his skills on other projects. The identification of a student and teacher style relationship at Humayma suggests that the art of mosaic construction was passed on yet again. Perhaps the trade even had a patrilineal heritage, with sons following the path of their fathers.

Although the date of the Wadi Musa examples is imprecise, the possibility also exists that all the mosaics in question are works of the same artist. If this were the case, it would seem that he was active in the area for more than twenty years. This possibility does not contradict the discussion of an apprenticeship relationship, since the Humayma mosaics suggest otherwise. Because of our unfortunately small sample size, which is clearly much less than the number of commissions a workshop would require over such a period, we must be cautious about conclusions that could be changed by a single new discovery. Regardless of whether or not we have the work of a single master, or a master and his matured student, both scenarios still show the transmission of techniques from one generation to the next.

The question of where the master received his training still needs to be addressed. By tracing the patterns he employed, along with his chosen unit of measurement, we can perhaps establish the origins of his training. This discussion appears in the next chapter, where the geometric patterns employed are analyzed in detail. Having established most of what we can about the actual artist, we instead need to turn our attention to the other half of the artistic equation, the patron of the Humayma mosaics.
**Patronage**

The question of the identity of the patron must also be considered, because without a patron the mosaic would not exist. The decision to pay for such extravagant decoration on the edge of the Roman frontier was the choice of whoever held power in the region. While the artisan may be the primary supplier of the patterns and techniques used, the patron must have had considerable influence over the final design. The main limitations were the ability of the workmen he employed and the available materials. Their skill set was apparently limited to just geometric designs, as none of the early mosaics in the region have figural scenes. Nabataean preference for aniconic images may have contributed to the dominance of geometric patterns in the mosaics (Patrich 1997). This limitation forced our patron to select from a limited collection of geometric patterns, perhaps even viewing examples of the school’s previous work in and around Petra. Considering the mosaics in Petra and Wadi Musa, the seat of Roman military power in southern Jordan, and the Humayma mosaics, in the first major fortification in the region, we must consider the commander of the legion, and also the province, as the most likely answer to question of patron identity.

For the identity of this man, we return to the previous discussion in Chapter 1 of the Roman commander in Arabia during the construction of the fort, Claudius Severus. What we know about Severus and his ascension to the position of provincial governor, and later to consular rank, is limited. Despite the paucity of the evidence, we must still examine what part he played in installation of mosaics in the Humayma Praetorium. Is he even the Roman we should be looking at when discussing patronage of the Humayma mosaics? In the absence of another named individual even remotely connected with the
mosaics, it seems we have little other choice. Thankfully, Severus is a good candidate for the title of patron.

Only three sources of evidence provide information about Claudius Severus in the new province of Arabia. The first, inscriptions within the province itself, primarily milestones, testify to his involvement in the construction of the *via Nova* and his governorship of the province (Sartre 1982: 78-9). As noted in Chapter 1, Graf provides the best documentation of Severus’ construction of the *Via Nova* and its related milestones, and he presents a reasonable chronology for its completion by A.D. 114/5. Severus built a road “*a finibus Syriae usque ad mare Rubrum*” (ILS 58.34) (Syme 1958: 4). This collection of milestones provides numerous testaments to Severus’ command and secure dates for many road sections, allowing us to trace the progress of construction.

In Petra, excavations in 1958 recovered a fragment of an inscription dating to A.D. 114 that mentions one Gaius Claudius, presumably Severus (Bowersock 1971: 232). There is also an inscription on the north gate at Jerash that describes Severus as being of Consular rank (Sartre 1982: 78). Based on this, Syme argues for accepting the ‘]dios Severus’ noted by the *Fasti Ostienses* as a *suffectus* in A.D. 112 as the our Claudius Severus (Syme 1958: 4). This secondary source of evidence about Severus clearly testifies to his connections with Rome, despite his absence from there. Instead of attending to his consular duties, he was busy commanding the construction of the *via Nova*’s south section between Petra and Aqaba, and most likely, building the Humayma fort. If he was not there in person, he at least directed the efforts from Petra.

Two papyri from Michigan, 466 and 562 (see Appendix 2), provide supplemental evidence that identifies Severus as military commander in the region. Sartre and Syme
have established that Claudius Severus was the legate or commander of the Legio III Cyrenaica prior to his appointment as provincial governor. In Michigan Papyrus 466, our scribe Apollinarius describes Severus as *hypatikos*, a term usually applied to consuls. Here it seems to have been used in a less formal sense, likely referring to Severus’s position as legionary commander, which in effect gave him rule of the region. Syme notes that a second reference by Apollinarius (line 31), “apo tou hypatikou tes legionos,” must refer to Severus as commander of the legion (Syme 1958: 4). The letter is securely dated to A.D. 107 and thus cannot possibly be referring to Severus as a Consul, a position he does not appear to hold until 112. The answer to this mistake of terminology likely lies in that fact that Julius Apollinarius, unfamiliar with “legionary legates or praetorian governors of the senatorial order, … innocently applied the term hypatikos to Claudius Severus” (Syme 1958: 5).

The second papyrus, 562, also found at Karanis with the other papyri noted above, plainly states that Julius Apollinarius was a member of the Legio III Cyrenaica; because of the prior connection between Apollinarius and Severus, it seems safe to confirm the latter as the legionary commander of the Legio III Cyrenaica. In order for Severus to hold this position in A.D. 107, he most surely was in charge of the legion (or at least part of it) prior to its deployment to Arabia. If that is the case, Severus’ command of the Legio III Cyrenaica lasted from the invasion and occupation of Petra in 107 until 115, when he was succeeded as governor by Tiberius Claudius Alpinus (Sartre 1982: 79). Not much is known of Severus’ actions after this date.

Some may question the validity of identifying Severus as the patron of the Humayma mosaics. While there is no direct evidence for placing Severus at Humayma,
as commander of Roman forces in Arabia at the time, he must have been involved in, if not responsible for, the construction of the fort. This participation must have included authorizing the expensive addition of mosaic pavements, and he may have selected the mosaicist from Petra, where Severus was presiding as provincial governor. It is unknown if the Praetorium at Humayma was intended as Severus’ personal house, or more probably, that of the garrison commander chosen by Severus. Severus, as the political leader of the province, would not have lived at outpost forts such as the one at Humayma, but rather in the comfortable surroundings of Petra. That is not to say he never visited the Hawara during his time in office. He gave the order to build the fort at the site, the result of which was a top-of-the-line military fortification that combined tradition with innovation. In A.D. 112, the date of via Nova’s construction in the region, no other large-scale military outposts existed in southern Jordan. There is little doubt that the Roman commander-in-chief, Claudius Severus, was involved in the construction, and that the highly decorative reception rooms in the northeast corner of the Praetorium were where he knew he would be entertained during his visits to the site.
Chapter 4: Geometric Traditions in Mosaics

This chapter traces both the development of mosaics during the Greek and Roman periods, and the history of the patterns employed in the Humayma mosaics. As it would be impossible to attempt a full history of such a popular and diverse medium as mosaics in a single chapter, this discussion will be limited to the major developments in the art form, and their distribution throughout the Mediterranean region. My choice of examples is intentionally biased toward pavements that employ the geometric patterns found at Humayma; this choice, however, does not alter or challenge any of the established scholarship on mosaics, it only presents a partial picture of mosaic development. Another problem is the evidence itself; problems arising from the sporadic and chance preservation of mosaics is often compounded by the limited reporting of the discovered examples. In many cases where figural scenes are framed by geometric borders, only the focal points are photographed and documented. As a result, the discussion I present below is based not necessarily on the whole corpus of mosaics discovered, but on those that have received adequate publication with visual documentation. Necessarily, my evidence is gathered from excavationcatalogues from such sites as Olynthos, Morgantina, Pompeii, Ostia, and Antioch. In addition, Dunbabin’s Mosaics of the Greek and Roman World (1999) and Ovadiah’s Geometric and Floral Patterns in Ancient Mosaics (1980) both proved invaluable.

Early Greek Mosaics

The beginning of mosaic art is often connected to wall decorations on a stairway at Sumerian Uruk-Warka in the 4th millennium B.C., where coloured terracotta cones
were used to decorated mudbrick columns with simple patterns (Figure 40). As Dunbabin notes, this distant ancestor should be discarded as the origin of mosaic art because there is little in common with the next incarnation of identifiable mosaics in the Aegean late Bronze Age (1999: 5). Rather than look for the connections between the decorated columns at Uruk in the 4th millennium and the Late Bronze Age examples noted below, we must instead look for indigenous origins in Greece and elsewhere more fitting with the form mosaics take in the Bronze Age.

The earliest true mosaic pavements, consisting of floors paved with plain or coloured stones set into a bed of plaster or mortar, appear in the Neolithic period on Crete. Both the Minoans and the later Mycenaeans used these simple pavements with no obvious pattern to the stones. There is however, one example from the late Bronze Age at Tiryns where “the pebbles are set to form a rudimentary pattern” (Dunbabin 1999: 5). Perhaps this represents the beginning of patterned mosaic decoration. Unfortunately, the so-called Dark Age of Greece creates a large gap in the corpus of mosaic evidence and the next surviving pavements: plain pebble floors in sacred areas, which appear in the 7th and 6th centuries B.C. At the Temple of Artemis Orthia in Sparta the pavement is
composed of natural, uniform coloured stones, but at the Temple of Athena Pronaia at Delphi, multi-coloured pebbles are combined in random order.

Evidence for mosaics in Phrygian Asia Minor in the late 8th century B.C. suggests another potential early source for Greek mosaics. Some scholars are reluctant to attribute the development of Greek mosaics to an independent invention and descent from the few Bronze Age examples, but would rather look to Gordion as the source for the mosaic arts (Dunbabin 1999: 5).\footnote{For more on the Gordion Mosaic, see R. Young, “Early Mosaics at Gordion,” Expedition 7, (1965).}

Excavations at Gordion in central Anatolia uncovered mosaics composed of plain pebbles in simple polychrome geometric patterns- scattered symbols and shapes with no apparent overall design (Figure 41, Catalogue no. 63). The motifs used included many shapes that became standard patterns in the later tradition, such as squares, rosettes, and swastikas. Some other examples were also found further east, in the contemporary Assyrian palaces of Arslan Tash and Til Barsib (Dunbabin 1999: 5), suggesting that mosaics either originated in this region or spread there from Gordion. For Ovadiah, the Gordion mosaics, Phrygian by design but influenced by the Assyrians, were found at a site that represents the geographic “bridge between East and West” (Ovadiah 1980: 69). Since

Figure 41: Mosaic pavement from Gordion. 8th C B.C.
(Ovadiah 1980: pl. XIV, fig 32)
later pavements continued to develop the geometric patterns into repetitive fields, he
believes that Gordion was a major center for the development of this art form in the
Archaic period. His view is that, with the Persian occupation of Asia Minor in the 6th
century B.C., mosaics spread westward and were reintroduced to the Greek world. Other
scholars are not so ready to accept this transmission from Phrygia to Greece; Dunbabin,
for one, argues for an independent tradition in Greece that has ties to the Mycenaean
pebble pavements (Dunbabin 1999: 5).

There is another gap in the corpus of Hellenic mosaics between the 6th century
B.C. examples from Sparta and Delphi, and the next group of mosaics, which includes a
single example from Corinth, and a large collection from Olynthos. These pavements
date to the late 5th or early 4th century B.C. At these sites we find not just simple pebble
pavements, but rather an art form that is in full development. Pebbles of several colours
are used to create geometric borders and fields, vegetal forms, and figural images.

The earliest surviving complex mosaic pavement in Greece was found at Corinth
(Figure 42, Catalogue no. 64). Found in the late 5th century
B.C. Centaur bath, and named
for a figure depicted in one
corner of the mosaic. It has a
wheel in the center,
surrounded by a circular
meander and a band of
cresting waves, with various
animals in the corners (Dunbabin 1999: 6). One mistake is evident in the wave band, probably the result of poor measurement resulting from the difficulties associated with an inward curving pattern. Many other examples of cresting waves in a circular pattern have the white facing outward. The pavement as a whole suggests that the mosaic artist pushed the limits of his skill. The choice of a circular form and the inclusion of figural elements show skill and experience, though his work is not perfect.

We also find developed, complex mosaics at Olynthos in the end of the 5th century B.C. The example in Figure 43 (Catalogue no. 41) uses the same elements as the Corinth mosaicist, though with considerable variation in execution. The similarities may indicate that the artists at both sites were somehow connected, perhaps two products of the same school of training. The swastika meander is the first to include the enclosed squares. This pattern, although not previously seen in mosaics, was popular in other media. In addition, early forms of the hourglass and four leaf clover patterns found in the Humayma mosaics appear in this mosaic.

Considering its prevalence of the meander pattern in architectural elements in the 6th and 5th centuries B.C., Ovadiah, in his study of the origins of geometric mosaic patterns, concludes that the swastika meander came from painted architectural decorations (Ovadiah 1980: 101). Despite the numerous examples of painted and carved decoration he cites, Ovadiah does not look outside this medium for other forms of

Figure 43: Mosaic in House A vi, 6, Olynthos. Late 5th C B.C. (Robinson 1932)
evidence. Two other obvious sources include ceramics and textiles. Geometric period pottery is covered with swastikas, which are sometimes connected in meanders. It is also extremely important to consider textiles. Mosaics were a means of decorating a space, much like a woven carpet or linen drapery did, except that they were permanent. It would be only natural to look for patterns in an art form that served a similar function, to decorate. Although little evidence for carpet or cloth patterns survives from the ancient world, sculpture can provide the evidence for other materials such as linens. Two late 6th century B.C. korai from the Acropolis Museum in Athens show borders of swastika meander on the edges of their chitons (Figure 44). The swastika meander could have been adapted from textiles just as easily as from architectural decoration. Regardless of the origin, this pattern became one of the most common in later mosaics, including those discovered at Humayma and Wadi Musa, and is instrumental in tracing the transmission of mosaics from one region to another.

Another pattern that figures heavily in later mosaics, though it plays no part in the repertoire at Humayma, is the band of cresting waves that surrounds the swastika
meander in many mosaics. This pattern is important enough for discussion here because it helps in tracing the transmission of mosaic patterns from one center to the next. By looking at which sites use the same motifs as those found at Olynthos, and use them in the same combinations, we can identify the movement of craftsmen, patterns, and techniques in the early period of mosaic production. Following the spread of such geometric patterns as the swastika meander and the cresting wave and the figural depictions often related with them, and correlating them with the chronology of the sites, we produce a clear picture of the expansion of Greek mosaics.

By the 4th century B.C., there had been major developments in the art form at Olynthos. A central figural panel, surrounded by cresting wave and swastika meander borders on these mosaics created a paradigm used for centuries. The most famous example from Olynthos is Bellerophon Slaying the Chimaera in House 26 (Figure 45, Catalogue no. 30). The stark contrast between quality of this mosaic and all earlier examples clearly shows that we are again missing some transitional evidence. Almost all the early mosaics from Olynthos contain a frame of swastika meander very similar to the pattern at Humayma. In the Bellerophon Mosaic, we have the enclosed squares divided...
diagonally, while others at the city (Catalogue no. 40, 42-3) show checkerboard patterns, solid squares, cross-shaped divisions, and starburst patterns. The accuracy in the execution and the variation in the decorative details clearly suggest that the meander was adapted from another, well-established medium.

Another significant pattern that figures frequently in later mosaics, though it plays no part in the repertoire at Humayma, is the band of cresting waves, seen around the swastika meander in the Bellerophon mosaic. This pattern is important because it helps in tracing the transmission of mosaic patterns from one center to the next. By looking at which sites use the same motifs as those found at Olynthos, and use them in the same combinations, we can identify the movement of craftsmen and techniques. By following the spread of geometric patterns such as the swastika meander and the cresting wave, and the related figural depictions, the relative chronology of Hellenistic mosaics is plainly apparent.

The peak of mosaic development at Olynthos is shown by the pavements in the Villa of Good Fortune, laid in the 2nd quarter of the 4th century B.C. (Figure 46, Catalogue no. 44). They combine figural panels with concentric borders of ivy, meander, and waves. The central scenes have yet to

Figure 46: Achilles, Thetis, and Nereids, Villa of Good Fortune, Olynthos. 4th C B.C. (Robinson 1934: pl. xxx)
develop into complex interactions of figures; rather, it is a series of separate elements that seem disassociated with their space. The meander is interesting as it has four-point starbursts inside the enclosed squares.

Olynthos was destroyed by Phillip of Macedon in the siege of 348 B.C., in response to the city’s support of Athens and rivals to the Macedonian crown. The conflict between Athens and Phillip caught Olynthos in the middle and could have completely destroyed mosaic development in the period. Instead, the site’s destruction seems to have contributed to the dispersal of mosaics and mosaicists throughout the Greek world. By the mid 4th century B.C., mosaics clearly connected with the Olynthos style, displaying the swastika meander wave pattern and similar figural scenes, appear at many sites including Eretria (Catalogue no. 8) and Pella (Catalogue no. 31) and Sikyon.

The mosaics of these sites exhibit clear connections with Olynthos, and each other. As a group, the mosaics from these sites show the development of mosaics through the 4th century B.C. Olynthos’ fall began the next phase of mosaic evolution, in which complex patterns of vegetation and polychrome figural scenes develop. The pavement from Eretria (Figure 47, Catalogue no. 8), with its palmette center, mythical figures, and
swastika meander, exemplifies the beginning of this period. The band of cresting waves borders the meander and frames a polychrome Nereid. The use of the meander and wave patterns, along with the similarity of the figures, support connections with the Olynthos tradition, though there is considerable development in the style and use of colour.

Thanks to the patronage of the Macedonian elite, by the end of the century mosaics had developed a high level of detail and realism. At Pella, figural forms were even accented with lead strips to outline features, and shading was used to give images depth, resulting in realistic images that remain the pinnacle of mosaic development for over three centuries. A definite attempt was made to imitate the effects of painting, giving the figures life and motion unseen in previous pavements (Dunbabin 1999: 22). Vegetal patterns also explode in popularity and complexity. Mosaic artists in Macedonia during this time achieved a standard high above that of the majority of mosaics, regardless of the time period.

**Development of Tessellation and Transmission Abroad**

Mosaics continue to spread throughout Greece in the beginning of the 3rd century B.C. One example with a swastika meander appears at Sparta (Catalogue no. 20), an important geometric tradition is founded on Delos, and by the middle of the century, pavements start appearing beyond the Aegean at sites such at Cyprus (Catalogue no. 65), Alexandria (Catalogue no. 10), and in Sicily. This period is also important because of the abandonment of pebbles in favour of marble chips and square tesserae. To connect the transition from natural to artificially manufactured materials with a single site is impossible; rather, it appears that at many sites pebbles and tesserae were used alongside
each other for much of the century (Dunbabin 1999: 19). In early examples, stone chips are loosely spaced and fit, and the patterns closely resemble those used in pebble mosaics. Yet, by mid-century, square shaped, tightly fit tesserae appear and allow for unparalleled detail in a much wider range of colours, something very difficult to accomplish with pebbles. Now almost any stone could be used in a mosaic.

The development of true tessellation, the exclusive use of cut pieces of stone to form the mosaic, is often credited not to artists in Greece, but to those of Morgantina in Sicily. The famous Ganymede mosaic of the mid 3rd century B.C. (Figure 48, Catalogue no. 9), often held to be an early example of the technique, shows a radical departure from the pebble mosaic tradition. The stark contrast between this and non-tessellated pavements again shows that we are missing the developmental stages. The date has been disputed by some scholars, arguing that such development must be from later in the century, though with a terminus ante quem of 211 B.C., when the Romans sacked Morgantina (Tsakiris 1989: 412-3). A date in the last quarter of the century seems more likely, based on the advanced state of technique development. This renders the mosaic ineligible as an early example of the new

Figure 48: Ganymede and Eagle, Morgantina. Mid-late 3rd C B.C. (Dunbabin 1999: fig. 19)
style, though it does testify to how quickly the artists embraced tesserae and advanced in skill.

The swastika meander figures prominently in other Morgantina mosaics, appearing in numerous variations and styles. The Ganymede Mosaic in Figure 48 is particularly interesting, as it has cut pieces of marble for the main elements of the swastika meander and the whole pattern is executed in deep three-dimensional perspective. Meanders also appear as pure chains of swastikas with no intervening squares (Catalogue no. 46) and double meanders such as that in Figure 49 (Catalogue no. 48). Other mosaics at the site with the meander include Catalogue no. 45 and 47. One late example of the meander, Catalogue no. 49, from the 2nd half of the 2nd century B.C., provides a glimpse of the Italic style that emerges in the Republican and Early Imperial periods at sites such as Pompeii, Ostia, and Rome.

Another, separate mosaic tradition that developed in the 3rd century B.C. was opus signinum, an admixture of mortar, aggregate, and crushed ceramics accented with stone chips or tesserae on the surface. This method of pavement decoration probably developed at the Punic site of Motya in western Sicily (Dunbabin 1999: 20). Opus signinum is clearly connected with Carthaginian styles and owes little to the Hellenic mosaic development. It did make heavy use of common geometric patterns, however, with the
swastika meander appearing frequently. Later development took place at Pompeii, where over 40 examples of meanders were found (Catalogue no. 21-2, 32 are examples), and at Herculaneum, including a late second–early first-century B.C. example of a double swastika meander from the Samnite House (Figure 50, Catalogue no. 11). *Opus signinum* even spread as far north at Ampurias and Neapolis in Spain (Catalogue no. 14, 23), perhaps traveling on the maritime trade routes along the coasts of Italy and France.

**Hellenistic Mosaics**

While many sites around the Mediterranean begin to favour mosaics for decorative pavements in the Hellenistic period, one particular place seems to have developed the tradition to a level unseen elsewhere until the Roman period. Over 350 mosaics, mostly dating to the 2nd and 1st centuries B.C., have been found on the island of Delos in the Aegean, a major center for trade and pilgrimage throughout the ancient period. Most of the mosaic corpus can be securely dated to between 130 and 88 B.C. by the historically attested destruction of the site, providing the opportunity to examine both the styles and techniques that were in use during the late Hellenistic period (Bruneau Figure 50: *Opus signinum*, Samnite House, Herculaneum. Late 2nd-early 1st C B.C. (Dunbabin 1999: fig. 50)
Floors of plain marble chips set in mortar are the most common, although it is particularly interesting that the true mosaics are predominantly geometric, with figural mosaics, accounting for less than 10 percent of the total group, and primarily in elite houses (Dunbabin 1999: 30). Numerous parallels are evident between the patterns and motifs used at Olynthos and Delos. Principal among them are the cresting wave and swastika meander, which appear in conjunction in numerous pavements. The example in Figure 51 (Catalogue no. 58) shows a rather uncommon use of the meander as the center of a panel. The accompanying wave pattern appears in so many mosaics at Delos that it can be termed ubiquitous. The two patterns are frequently used together, commonly around central panels, with the meander separating two wave patterns. One example is the famous House of the Dolphins mosaics (Catalogue no. 27), while Catalogue nos. 59 and 60 show the meander bordering the central panel. The mosaics Catalogue no. 61, although difficult to see in the image, is a large pavement with a double swastika meander framing three central panels, with a wave border. Another example, from the same structure as that in Figure 51, shows the meander in perspective, similar to the Ganymede mosaic from Morgantina noted above. One last mosaic with the meander motif, from the early first-century B.C. House of the Trident, has a swastika border with enclosed squares, around a still-life image of an amphora (Figure 52).
still-life is probably another example of mosaicists drawing from popular painting trends of the time. The enclosed squares of the meander show extraordinary variation in their decoration, with no fewer than seven different treatments: diagonal Xs, 9 and 25 section checkerboards, four triangles, a 4-point starburst, and a cube in perspective. The high level of variation suggests the artist was well acquainted with the meander pattern and capable of executing multiple effects simultaneously, much like the mosaicist at Humayma.

Two other elements of the Humayma mosaics that began to emerge at Delos are the plain frame found in the hallway, and the triangles in the outer band of Room D. The first is a relatively simple, rectangular border creating a sort of canvas for the central figural image, which sits alone floating in the middle (Catalogue no. 57). This type of border even appears around the outside of geometric patterns, creating a separation between the plain and decorative sections of the mosaic. The second element, the bisection of squares to produce two pairs of bichrome, opposed triangles, is considerably different from the Humayma use of the pattern, although it is still a useful parallel (Catalogue no. 62). Despite the fact that only small fragments were found, the motif is
clear, forming a continuous field of alternating colours, with a plain outer band. Perhaps this represents an attempt to imitate *opus sectile*, cut pieces of marble fit together to form patterns, that was becoming popular in southern Italy at this time (Dunbabin 1999: 254).

Overall, the group of mosaics from Delos is fairly representative of the whole Hellenistic period. Geometric patterns figure prominently, while figural scenes continue to develop as central features, dominating the pavements with their intricate details by the end of the Hellenistic period. Mosaics of the 2nd and 1st centuries B.C. in general are all surprisingly similar in style, even among examples from different ends of the Mediterranean, suggesting that “close links and artistic interdependence must have existed between mosaicists” (Ovadiah 1980: 75) during the Hellenistic period.

**Roman mosaics**

As a result of this “artistic interdependence,” almost all of the patterns that appear in the Hellenistic period, along with some new variations based on them, are found in Italy by the 1st century B.C. There is little difference between the pavements of eastern Mediterranean and those in Italy, contributing to “lack of demarcation between Hellenistic and Roman mosaic art” (Ovadiah 1980: 75). The mid to late first-century B.C. mosaic in Figure 53 (Catalogue no. 12), from

*Figure 53: Delian style at Pompeii, House of Menander. 1st C B.C. (Dunbabin 1999: fig. 57)*
the House of Menander in Pompeii, with its swastika meander, wave patterns, and central maritime motif, clearly shows connections with what could be called the ‘Delian’ style. The plain swastika meander is again used to separate two bands of cresting waves, and together they form the geometric border for a focal panel, which itself shows various sea creatures, a diver, and a spear fisher. This pavement is but one example of the steady development in ornate tessellated pavements and their use in elite residences.

There are numerous examples of the swastika meander at Pompeii. In addition to more than 40 examples of the pattern in opus signinum, several mosaics show the pattern’s use in tessellated pavements. Figure 54 (Catalogue no. 38) shows a meander around a plain central panel and an array of decorations inside the enclosed squares, similar to the example from Delos in Figure 52. Here there are only three different patterns, creating an effect where hourglass shapes, checkerboards and starbursts each fill four boxes, creating a balanced image. Perhaps the Humayma mosaicist was attempting this style of variation from an otherwise standard pattern when he decided to depart from the uniform decoration of the enclosed squares in the Wadi Musa meander. Diverse treatment of the enclosed squares at Humayma is hinted at by the two surviving decorations.
Other mosaics in Pompeii show that the meander was used in a variety of situations to either frame or border other elements in the mosaic. It increasingly appears without the previously common wave pattern and becomes an independent element of mosaics. One example from the House of Vesibinus, in the same insula as the pavement in Figure 54, frames an image of a boar to create a doormat (Catalogue no. 56). Catalogue no. 35 has a meander around a diamond shaped geometric panel. The swastika meander was also used as a border around larger rooms, sometimes separated from the central panel by plain sections of tesserae (Catalogue no. 37, 39). The Casa di Niobe has single meander around the impluvium, and a continuous field of them in one of the rooms.

In the same house we also find a second example of the opposed bichrome triangle pattern noted at Delos above. The Pompeii example is much larger than the fragments previously noted, and

Figure 55: Triangle and square weave pattern from Casa di Niobe, Pompeii. 1st C A.D. (Ovadiah 1980: fig. 78)

of the mosaic with a pattern of alternating squares and bichrome triangles (Figure 55, Catalogue no. 34). Although used in a different manner than the example from Humayma, the similarities in the base elements of the pattern suggest some sort of connection. However, considering the relative simplicity of the pattern as simply a
variation on a grid lay out, independent development of this motif at numerous sites is very possible. Laying a grid for planning the design is one of the first skills a mosaicist has to learn, so a modification of this skill is not surprising.

We also have the appearance at Pompeii of the interlocking circle pattern found in Room E in the Praetorium at Humayma, although it is unlikely that this pavement represents the first example of the pattern. In the four published examples, all of them are continuous fields of black quatrefoils with no central accents and white lentoid shapes, and fill large sections of the rooms they occupy. One example (Figure 56, Catalogue no. 36), is found in the same house as a field triangles and squares similar to that in Figure 55, while another, Catalogue no. 33 has a band of swastika meander around the outer edge of the room. Judging from the close proximity of the patterns here at Pompeii, it appears that all three motifs, the swastika meander, the triangles, and the interlocking circles, were closely related and passed among mosaicists as a standard group.

While Pompeii is an excellent site for tracing the early development of mosaics in Roman Italy, this tradition stopped in 79 A.D. with the eruption of Vesuvius. To continue tracing the history of mosaics in the Roman world into the period of the Humayma examples, we need to look further north, to Ostia, around Rome, and a few other smaller sites around Italy. Despite the numerous pavements discovered at Ostia, only a small
proportion of them contain the patterns used at Humayma, perhaps because most of these mosaics were laid in public structures rather than in the private home. One example from a courtyard in the mid 2nd century A.D. Horrea Epaganthiana and Epaphroditiana has a large field of interconnected swastikas around a single swastika set in a square (Catalogue no. 51).

Another example of the same period shows how poorly a meander could be executed. As we can see in Figure 57 (Catalogue no. 52), numerous problems combine to make a rather sloppy pattern. Different section widths and swastika sizes created problems with pattern spacing, corner transitions, and uniformity. The most obvious mistakes appear in the top part of the border where, in one case, a swastika is rendered unrecognizable. Following the pattern anticlockwise, perhaps we can follow the sequence of the artist’s work. Presumably the artist began in the bottom right corner and progressed reasonably well, creating a regular pattern of swastikas and squares, though with some visibly crooked lines. When he reached the top right corner, he encountered a wider border and was forced to change his spacing. After
the corner transition he reversed the direction of the first swastika, before switching back on the next one. In the left potion, the pattern falls apart, perhaps from miscalculation of the new unit he had to use. It is also possible that he was trying to connect the pattern to the section on the left that he or another artist had previously completed. Clearly, at least two artists were at work on the pavement; while the border is rather poor, the figural scenes in the middle are excellent. Perhaps there is some sort of master and student relationship visible here. And if this is an example of how poorly executed a meander pattern can be, then the small deficiencies of the student at Humayma must be consider negligible in comparison.

One example of the interlocking circle pattern also survives at Ostia, although from a late 2nd century A.D. context, placing it after the Humayma and Wadi Musa examples (Catalogue no. 53). It follows the Pompeian examples (Figure 56) of this pattern in that there is no decoration in the center of the quatrefoils, yet it is different because it reverses the usual colour scheme. No western artists seem to decorate the centers prior to the 3rd century A.D. In the eastern Mediterranean however, as shown not just by the Humayma and Wadi Musa pavements, but also others discussed below, central decoration seems to be the standard. More on this pattern appears below.

Another pattern that appears in mosaics contemporary with those at Humayma is the network of squares and rectangles resembling a woven pattern, which makes up the outer portion of the mosaic in Room D (Figure 58, Catalogue no. 55). Although the Ostia examples lack the triangular divisions seen in the Humayma pattern, and the motif is used to create a field instead of a border, the similarity is plainly visible. Several similar
examples appear at Ostia, including one pavement in the Palazzo Imperiale where it is bordered by the image of an ashlar fortification wall (Catalogue no. 54).

Elsewhere in Italy the patterns found at Humayma seem to have received little attention, appearing infrequently at scattered sites with no obvious connections to the other trends in mosaics. Two examples of the swastika meander come from Cividale and Milan, though doubtless there are more examples of this common pattern to be found (Catalogue no. 25, 29). One problem with the investigation of standard patterns such as the meander and other common geometric motifs is that they are usually overlooked in favour of the more impressive figural and floral scenes that dominated this period of the mosaic development.

Another motif that appears with some frequency is the bisected squares with pairs of opposed triangles. At Stabiae, the sections are connected together to form chains, not a continuous field as most other examples do (Figure 59, Catalogue no. 19). A destroyed section of this mosaic clearly shows the grid lines on the nucleus,
providing some idea of what the lay out of the Humayma pattern may have entailed. A pavement from Hadrian’s villa at Tivoli shows the pattern used as a border, a clear departure from the continuous fields of the pattern’s origin (Catalogue no. 13).

**Mosaics in the Roman East**

In the Roman East, mosaics continued to develop in a similar manner to the Hellenistic Delian examples noted above, although with definite connections to the tastes and traditions developed in the West. As a result of the economic hardships Greece faced during the early Imperial period, pavements from late in the 1st century B.C. and early in the 1st century A.D. are sparse, and it is not until the end of the century that mosaics begin to reappear in quantity. Elsewhere in the eastern Mediterranean, mosaics become increasingly popular, particularly in Syria at Antioch.

A mosaic from a villa in the Anaploga district of Corinth, which contains intricate geometric patterns framing three still life panels in the center, represents the emerging style of this period (Catalogue no. 17). The central panels are surrounded by a swastika meander in perspective- very similar to the Ganymede mosaic from Morgantina- an ornate ivy scroll, and an outer border of interlocking circles, this time with central accents in the quatrefoils.

Over the next half century, a number of similar mosaics appear at major sites in Greece in public structures such as baths and stoas, but also in large private villas. A pavement in the stoa in front of the Odeum of Herodes Atticus in Athens exhibits several of the patterns found at Humayma such as interlocking circles, a swastika meander, and a weave pattern of squares and rectangles, some of which are divided into pairs of triangles.
like the outer border in Room D at Humayma (Catalogue no. 50). The circle pattern with central accents forms the central panel to the room, while the meander, with its enclosed squares decorated with a single small square, borders the whole mosaic. The Kladeos Baths at Olympia and another villa from Corinth both show the interlocking circle pattern in close proximity to the swastika meander, and the example from the latter site also has a panel of weave pattern with opposed triangles very similar to Figure 55 from Pompeii (Dunbabin 1999: figs. 224, 225). The close proximity of these patterns in individual structures and at multiple sites clearly suggests that the patterns were transmitted as a group, perhaps in a pattern book of some kind as discussed previously.

The distribution on the patterns found at Humayma is not just confined to the Greek mainland, but also to other sites around the Aegean. At Kastelli Kisamou on Crete, there is a mid 2nd century A.D. pavement with a swastika meander very similar to those seen in the western Mediterranean (Catalogue no. 24). Figure 60 shows an early 2nd century A.D. example from Pergamon that exhibits definite connections to the geometric tradition at Delos. Despite the artist’s apparent skill at executing highly technical pattern combinations such as this one, there is a problem with the spacing in the meander band in the middle of the left side. In the peristyle of the same house, there is a mosaic with an
interlocking circle pattern very similar to those Corinth and Olympia mentioned above. Again, the close proximity of the patterns suggests transmission as a group, rather than individually.

While mosaic pavements of this period appear at many sites in the eastern Mediterranean, Antioch was clearly the major center for mosaic production and instruction from the 2\textsuperscript{nd} century A.D. The development of mosaics there over the next two centuries established the foundation of the Christian mosaic tradition that swept through the eastern Mediterranean in the late Roman period. Antioch is particularly interesting because it is the closest major mosaic center to Humayma in the 2\textsuperscript{nd} century A.D., and its mosaics display the main patterns in the pavements under examination.

The swastika meander figures prominently in numerous Antioch mosaics as a frame for figural panels. The early 2\textsuperscript{nd} century A.D. example in Figure 61 (Catalogue no. 5) shows neat execution of the pattern with centrally accented squares very similar to the Wadi Musa Meander. Catalogue nos. 4 and 15 also exhibit the pattern, both coming from \textit{triclinii}, suggesting that the pattern was regularly chosen for pavements in the entertaining portion of the house, similar to the situation at Humayma. It is interesting that the pattern is always the same, showing none of the variations noted in the square
decoration above, as if copied from the same source, or taught by the same school of training. A later mosaic from the 3rd century A.D. (Catalogue no. 16) has the meander executed in perspective, recalling the tradition of meanders in perspective.

The interlocking circle pattern also appears at Antioch, and unlike the previous examples noted in the west, here it has the central accents similar to the Humayma and Wadi Musa examples. As seen in Figure 62 (Catalogue no. 6), an example from the 2nd century A.D., the pattern appears near identical in colouration and tessera layout, except for a five tessera detail in the middle of the quatrefoil where the examples in Jordan have only four. Also interesting is that the field of interlocking circles has a plain border around the outside similar to the pavement in Room E of the Humayma praetorium, suggesting that it was standard practice to frame the pattern with a plain border. The Antioch example, though very similar, uses a smaller unit of measure than the one used at Humayma and Wadi Musa. Another pavement (Catalogue no. 7) of similar date shows the circle pattern alongside a swastika meander, attesting to the continued combination of these patterns first seen in the Italic examples noted above.

Overall, the pavement in Figure 62 provides a clear picture of the pattern, style, and colour scheme of the interlocking circle motif in the eastern Mediterranean and supplies the most likely mosaic tradition that gave rise to the pavements at Humayma and
Wadi Musa. The mosaic tradition at Antioch in the end of the 1st century A.D. best resembles the style of these mosaics, suggesting that the artists who first brought mosaic laying skills to the region had some connection with Antioch or Syria. In the absence of evidence to the contrary, it seems that Antioch is the best choice for the source of the Humayma and Wadi Musa patterns. The similarities in style, decoration, colouring and technique visibly support this connection.

Although I have only discussed mosaics up the 3rd century A.D., when a major revolution and expansion in mosaic art takes place, we have a clear picture of the development of our specific patterns from the 8th century B.C., through into the Roman period. Despite the fact that all the Humayma patterns have a long history in Christian and Byzantine mosaic traditions, it is the early development that concerns us most.

Mosaics in Military Contexts

One of the very few mosaics ever discovered in a Roman fort was found at Caerleon in Britain, home to the Legio II Augusta. The mosaic was discovered in the nineteenth century in a room bordering the central square of the principia (Boon 1972: 72, fig. 42). The pattern of the pavement forms a labyrinth, with a head of a thyrsus in one corner. The placement in the principia however, rather than in the praetorium such as at Humayma, limits its usefulness for comparison with the mosaics in question. The Caerleon mosaic is nevertheless important because it testifies to the use of mosaics within a Roman legionary fort. This singular example is not enough to support an argument for a

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29 I must thank Prof. Roger Wilson of the University of British Columbia for his advice and valuable references in this section.

30 See also D. J. Smith, 'The labyrinth mosaic at Caerleon', Bulletin of the Board of Celtic Studies 18 (1959), 304-10
tradition of mosaics in Roman military contexts. Rather, we should see Humayma example as an exception to the standard decoration of a praetorium.

One would also expect to find mosaics in legionary bath houses, which are usually sited within legionary fortresses, but are commonly found outside auxiliary forts. Several examples are known in Britain, including Caerleon (Boon 1972: 80, fig. 47), Exeter (Bidwell and Bailey 1979: 132-4), and Chester (Mason 2001: 71, fig. 37-8). There are also hints of fragmentary mosaics in the praetorium there, though they are limited and may be from later in the 3rd century A.D. (75). Black and white mosaics from the baths at Vindonissa in Switzerland are also mentioned by Bidwell (1979: 47). The bath house at Humayma had no mosaics in it, suggesting that the mosaics in the praetorium did not inspire further commissions in the bath house or other structures at the site.
Chapter 5- Conclusions

We can draw many conclusions about the Humayma mosaics from a study such as this. Before I present some final comments on the introduction of mosaics to Jordan, their importance as regional wealth indicators, and the possible social impact of mosaics, it is best to review the evidence presented in the previous chapters. A summary of Humayma’s history and context, the mosaics and the artists that created them, and the artistic traditions behind the patterns, will answer our questions about the origins and influences of the mosaics.

Chapter 1 outlined Humayma’s geographic location in the middle of southern Jordan’s Hisma Desert, a major watering point in the arid region for caravans heading from the Red Sea to Petra and beyond. The importance of the site is evident in the extensive Nabataean water supply system that included an aqueduct and several large cisterns. This water system helped Humayma prosper as a major site critical to the transport of goods, particularly luxury items, from southern Arabia to the cities of the eastern Mediterranean. The chapter also presented the evidence for Humayma’s founding by the Nabataeans in the 1st century B.C. As a larger pattern of sedentarization, the Nabataeans used Hellenistic technologies gained through their trade relations outside the region to build a sustainable culture in the desert. The arrival of the Roman Legio III Cyrenaica in the region in 107 A.D., and their construction of a large auxiliary fort at the site, had a major impact on the region in many ways- politically, economically, and socially. The Roman abandonment of the fort in the 4th century A.D., although of little importance to our discussion of the mosaics themselves, had great impact on Humayma, creating a power vacuum that had to be filled locally. The importance of the site in
Byzantine and Abbasid times shows that after the Roman departure, religion played a major role in establishing control of the area, first with Christianity, and secondly with Islam.

The second chapter focused on the Roman fort and the architectural context of the mosaics. The layout of the fort is easily recognizable as the so-called playing card plan described by Polybius and Hyginus, and commonly found in the western Roman provinces, although rare in the East. The main difference is that the fort Humayma has square corners, while most other examples of this fort style have rounded corners. The Legio III Cyrenaica’s military engineer must have either been trained in the western military architecture tradition prior to his deployment to Arabia, or he was in possession of literature that specifically detailed the construction of such a fort. The faithful reproduction of the style makes either a possibility. Through extensive excavation, we discovered the Praetorium’s plan to be the peristyle design commonly found in forts of this style, with rooms arranged around a central courtyard and colonnade. The mosaics discovered in the northeast corner of the structure occupied a hallway, a reception room, and the triclinium, forming a suite of rooms that served as the entertainment area for guests. Chapter 2 also examined the physical condition of the mosaics, the evidence of their construction, and the materials used. Lastly, it described the geometric patterns identified in the mosaics: the swastika meander, interlocking circles, a woven pattern with opposed triangles, and four-leaf clovers. The evidence also gave insight into how the artists went about combining the patterns.

Chapter 3 placed the mosaics in their artistic context, focused on the factors that combined to create the pavements, and helped produce a clear interpretation the
Humayma mosaics. Because of their close similarity with the Wadi Musa mosaics, we can identify a small group of artists working in the region for at least two generations, passing the trade from master to apprentice through training on the job. The unit of measurement used, the Greek foot, helps confirm the identification of the artist as non-Roman, likely someone who learned his trade in a Hellenized center of the Mediterranean. The chapter also discussed possible methods of pattern transmission, such as pattern books and apprenticeship training. The latter method of passing on mosaic laying skills is clearly visible in the tessera patterns at Humayma, leaving little doubt as to how at least one student learned his craft and patterns. This chapter also focused on the important question of patronage. The identification of Claudius Severus as the prime candidate for the role of patron has major impact on our interpretation of the mosaics’ importance. Even if the patron of the mosaics is not Severus, it must at least have been a high ranking Roman official, who used his position of power both to facilitate the construction of the mosaics and to impress his visitors with them.

The fourth chapter looked closer at the mosaic traditions behind the Humayma pavements and the patterns they contain. The debate over the origins of mosaics still continues; both influence from Gordion, or independent development in Greece are viable possibilities. The early pavements from Olynthos show the development of mosaics by the 4th century B.C., and display most of the patterns found at Humayma. Morgantina is a very important site for its role in the adoption of tessellation and influence on early Roman mosaics. The regular appearance of the swastika meander and the interlocking circle patterns at Pompeii and Ostia show that the main motifs discovered at Humayma were commonly associated long before the 2nd century A.D. The
discussion in Chapter 4 also looked at the development of Roman Imperial mosaics in the eastern Mediterranean. The regular appearance of the swastika and circle patterns in close contexts, particularly in Greece and the Aegean, suggests that they were transmitted as a group. The mosaics of Antioch provide the most important comparative material for the Humayma and Wadi Musa pavements. The similarities in pattern and style suggest close connection between the sites, and provide a likely source for the original mosaicist. The last topic of this chapter focused on the relative scarcity of military sites and structures that contain mosaics. The limited examples suggest that mosaics are rare in military contexts, exceptions to the common practice of simplicity. The Humayma mosaics suggest that on the edge of the empire, Roman military commanders could generally do as they wished when it came to the construction and decoration of their fortifications. Or perhaps Humayma was such a miserable posting that the fort commander wanted some style in an otherwise dull environment.

The conclusions reached in the individual chapters allow us to discuss the broader concepts noted previously: the introduction of mosaics to Jordan in the 2nd century A.D., their importance as indications of regional wealth, and the impact on those in contact with the mosaics. These aspects can only be identified by conducting an investigation such as the one above, and are extremely important for understanding how the Roman occupation of Humayma affected the region.

As a group, the Humayma and Wadi Musa mosaics are among the earliest known pavements east of the Dead Sea and Wadi ‘Araba. The examples from Humayma are only slightly later than those near Petra, but are obviously the product of the same group of artists. Mosaics do not commonly appear in the rest of Jordan until the 3rd century
A.D. when the eastern Mediterranean becomes saturated with pavements in early Christian structures. However, there appears to be little or no continuity between the early pavements and the later ones, suggesting that they are from separate traditions. The mosaics from Humayma and Wadi Musa may represent the earliest introduction of the art form to the region, but it was not a sustained tradition. These pavements, although important for being the oldest known in Jordan, are not responsible for the later tradition seen as sites such as Petra, Madaba, Mt. Nebo, and other early Christian sites.

Intricately tied with this discussion of the pavements is the identity of the artists themselves. It is these normally intangible details that are perhaps the most interesting. A master and apprentice relationship is clearly the prime method of artist training. As for the skill set and methodology of the artists, their craftsmanship suggests that they were all far from the skill level of the masters at Antioch and other major sites. Perhaps the initial mosaicist in the region, due to his lack of skill in figural designs, was seen as inadequate for the advanced mosaic schools, resulting in difficulty finding work in his homeland, and was forced to find employment abroad, where his relative lack of talent would be overlooked.

The Humayma mosaics are also great indicators of wealth in the region of southern Jordan in the late 1st and 2nd centuries A.D. As luxury items, mosaic pavements are only found in areas with excess wealth, suggesting that Roman control of Nabataea brought great financial resources to those who collected the taxes from the regional trade. As Rome’s representatives in the area, the Legio III Cyrenaica and its commanders supervised this trade and reaped generous rewards. The Wadi Musa mosaics, coming from domestic structures that date prior to the Roman annexation, suggest that a wealthy
Hellenized elite occupied mansions in Petra and Wadi Musa areas. Their owner’s wealth may also result from involvement in the same trade network annexed by the Romans. The construction of the pavements must stem from the patron’s experience with mosaics abroad, and a desire to emulate the elite houses of other sites such as Delos and Antioch, sites frequented by Nabataeans in the 1st century B.C. to the 2nd century A.D. The Wadi Musa patrons may even be responsible for enticing the original mosaic artist to come to the region, perhaps offering guaranteed work for whoever was willing to leave Antioch and venture south to Nabataea.

The Humayma pavements are quite different from the Wadi Musa examples as indications of regional wealth. With Claudius Severus and the Roman military in the role of patron, the mosaics take on a totally different meaning, as projections of the new wealth available to the military unit. In effect, by installing the mosaics at Humayma, the patron was attempting to rival, even surpass, all other domestic decorations. Perhaps he even viewed the Wadi Musa pavements before deciding to commission the Humayma mosaics. The pavements are only one of many Roman attempts to solidify their position as the political, economic, and social leaders of the area after annexation. The rarity of mosaics in other Roman military contexts adds to the importance of these particular mosaics. The Humayma mosaics are such exceptions to the standard that they must result solely from the patron’s personal decision, and not from some prior tradition of decorating the praetorium of forts with mosaics.

There is little doubt that there were social impacts resulting from the decision to install mosaics in the praetorium at Humayma. As the personal residence of the regional military commander, responsible for the via Nova Traiana, the most important and
valuable trade route in southern Jordan, the *praetorium* most surely would have received many visitors. The visual impact of being entertained in such lavishly decorated rooms would have been unforgettable by all visitors and suggests that perhaps the patron of the mosaics wanted to entice and overawe the local population. The encounter may have inspired the decision to install mosaics in other structures in the region, although they have yet to be found. It is interesting that no other mosaics appear at Humayma, suggesting that there may have been little or no emulation of this style of interior decoration, or that there were few other individuals that had sufficient resources to commission something as costly as a mosaic. Further excavations in this region of southern Jordan could confirm this hypothesis. Only with the discovery of more mosaics from this region can we make further conclusions about the social impact of the Humayma mosaics. For now, this discussion must end as we have reached the limit of our evidence. One thing that is for certain is that the mosaic pavements of Humayma are remarkable examples of an art form that spread from one end of the Mediterranean to the other, and graced the houses of the many rich Greek and Roman elite.
Appendix 1: Corpus of Mosaics Examined

Catalogue #: 1

Regional Index: J1

Site: Wadi Musa, Jordan

Room Function: villa with bath complex

Date: mid to late 1st century AD

Description: swastika meander enclosing squares with central detail, surrounding a square containing a central circular design

Comments:

References: (‘Amr et al. 1997: 470, fig. 4)

Image:
Catalogue #: 2

Regional Index: J2

Site: Wadi Musa, Jordan

Room Function: villa

Date: mid to late 1st century AD

Description: interlocking circular pattern, forming quatre-foils with a four-stone cross as a center detail

Comments: exact match to Humayma

References: (’Amr and al-Momani 2001: 266, fig 18)

Image:
Catalogue #: 3
Regional Index: J3
Site: Ez-Zantur in Petra, Jordan
Room Function: villa
Date: mid 1st century AD
Description: bichrome mosaic fragments of triangles and squares
Comments:
References: (Kolb 2002: 261-2)
Image:
Catalogue #: 4
Regional Index: S1
Site: Antioch, Syria; IV A 7 Atrium House
Room Function: house with large triclinium
Date: 115-150 AD
Description: border of swastika enclosing squares forming one side of figural panel
Comments:
References: (Campbell 1988: 20, pl. 70)

Image:
Catalogue #: 5

Regional Index: S2

Site: Antioch, Syria; IV A 7 Atrium House

Room Function:

Date: 115-150 AD

Description: Plain swastika meander with enclosed squares accented with a single square, surrounding figural portraits

Comments:

References: (Campbell 1988: 20, pls. 73, 4)

Image:
Catalogue #: 6

Regional Index: S3

Site: Antioch, Syria

Room Function: house; IV A 9 House A

Date: perhaps late 2nd century AD

Description: pelta design of interlocking circles, a five-stone cross accenting the quatrefoil center

Comments:

References: (Campbell 1988: 26, fig. 77)

Image:

Campbell patterns 46a, 238a
Catalogue #: 7

Regional Index: S4

Site: Antioch, Syria; IV A 12, House of Polyphemos and Galateia

Room Function: probably house

Date: prior to 115 AD

Description: center panel of birds, surrounded by field of interlocking circles, and the beginning of another panel with a border of swastika meander enclosing squares

Comments: meander appears in multiple rooms of this house

References: (Campbell 1988: 30-1, figs. 90-1)

Image:

Campbell pattern 38c
Catalogue #: 8

Regional Index: G1

Site: Eretria, Greece; House of the Mosaics

Room Function: andron

Date: mid-4th century B.C.

Description: swastika meander border enclosing squares with checkerboard patterns inside, framing a central panel of griffins around an ornate rosette

Comments:

References: (Ling 1998: fig. 11)

Image:
Catalogue #: 9

Regional Index: I1

Site: Morgantina, Sicily; House of Ganymede

Room Function: domestic structure

Date: 2nd half of 3rd century B.C.

Description: swastika meander border enclosing empty squares, executed in perspective; Central panel is Ganymede and the eagle.

Comments:

References: (Dunbabin 1999: 21, fig. 19)

Image:
Catalogue #: 10

Regional Index: E1

Site: Alexandria, Egypt; Graeco-Roman Museum

Room Function:

Date: 3rd century B.C.

Description: small section of swastika meander preserved on the edge a room, probably framing a room transition; instead of squares within the meander, a rosette and starburst are used

Comments:

References: (Dunbabin 1999: 24, fig. 22); Inv. 21643; see (Daszewski 1985: 179-82)

Image:
Catalogue #: 11

Regional Index: I2

Site: Herculaneum, Italy; Samnite House

Room Function: *tablinum*

Date: Late 2nd to early 1st century B.C.

Description: a double meander of opus signinum framing central circular pattern, the enclosed squares have a central accent.

Comments:

References: (Dunbabin 1999: 54, fig. 50)

Image:
Catalogue #: 12

Regional Index: I3

Site: Pompeii, Italy; I 10, 4 House of the Menander

Room Function: caldarium

Date: c.40-20 B.C.

Description: continuous border of swastikas framing a marine scene

Comments:

References: (Dunbabin 1999: 59, fig. 57)

Image:
Catalogue #: 13

Regional Index: I4

Site: Tibur, Italy; Hadrian’s Villa

Room Function: cubiculum of Hospitalia

Date: 118-134 AD

Description: band of hourglasses across one side, quatre-foils on three, and a center panel of ornate rosettes

Comments:

References: (Dunbabin 1999: 67, fig. 68)

Image:
Catalogue #: 14

Regional Index: H1

Site: Emporiae; Neapolis, Spain

Room Function: triclinium

Date: 2nd to 1st century B.C.

Description: swastika meander of opus signinum, enclosed squares with single center accent, and center field of diamonds.

Comments: similar to double meander from Herculaneum, signed in Greek by Hedykoitus

References: (Dunbabin 1999: 145, fig. 148)

Image:
Catalogue #: 15

Regional Index: S5

Site: Antioch, Syria; Atrium House

Room Function: triclinium

Date: either c. AD 100, or 1st half of 2nd century AD

Description: a barely visible swastika meander border that encloses squares with a central square. Central panel is the Drinking Contest of Dionysus and Heracles.

Comments: Same room and probably same as Campbell 1988, figs 73-4

References: (Dunbabin 1999: 162, fig. 165); Worchester Art Museum no. 1933.36

Image:
Catalogue #: 16

Regional Index: S6

Site: Shahba-Philippopolis, Syria

Room Function:

Date: 2\textsuperscript{nd} half of 3\textsuperscript{rd} century AD

Description: swastika meander with empty squares, executed in perspective, framing an allegorical scene of Aion

Comments:

References: (Dunbabin 1999: 168, fig. 174); National Museum, Damascus. (Balty 1977) pl. 9

Image:
Catalogue #: 17

Regional Index: G2

Site: Corinth, Greece; Anaploga Villa

Room Function:

Date: last quarter 1st century AD

Description: swastika meander with empty squares, laid in perspective around central still life panels; along room edge is interlocking circle pattern with 5 central accents in the quatre-foils.

Comments:

References: (Dunbabin 1999: 212, fig. 222)

Image:
Catalogue #: 18

Regional Index: T1

Site: Pergamon, Turkey; Building Z

Room Function:

Date: post AD 100

Description: framing border of swastika meander with enclosed empty squares, executed in perspective, around cuboid field with small figural panel

Comments: interlocking circles are found in peristyle of same house

References: (Dunbabin 1999: 224, fig. 236)

Image:
Catalogue #: 19

Regional Index: I5

Site: Stabiae, Italy; Villa Arianna

Room Function:

Date: probably mid 1st century AD

Description: pattern of bichrome hourglasses separate by squares

Comments: layout lines visible on mortar bed

References: (Dunbabin 1999: 284-5, figs. 292-3)

Image:
Catalogue #: 20
Regional Index: G3
Site: Sparta, Greece
Room Function:
Date: early 3rd century B.C.
Description: called the Triton mosaics and features a swastika meander with enclosed centrally accented squares, framing central panel of Triton
Comments: slightly earlier than Delos mosaics
References: (Dunbabin 1979: 271-2, fig. 8)
Image:
Catalogue #: 21

Regional Index: I6

Site: Pompeii, Italy; House VIII 2, 39

Room Function:

Date: 2\textsuperscript{nd} - 1\textsuperscript{st} century B.C.

Description: swastika meander enclosing squares with central accent, framing a central panel

Comments: over 40 examples from this period

References: (Joyce 1979: 254-5, fig. 2)

Image:
Catalogue #: 22

Regional Index: I7

Site: Pompeii, Italy; House VI 9, 3-5

Room Function:

Date: 2nd - 1st century B.C.

Description: triple swastika meander enclosing squares with central accent, framing a central panel

Comments: one of over 40 examples of this style from this period at Pompeii

References: (Joyce 1979: 257-8, fig. 14)

Image:
Catalogue #: 23

Regional Index: H2

Site: Ampurias, Spain

Room Function:

Date: 1st century AD

Description: opus signinum pavement of swastika meander with enclosed, centrally accented squares around a central panel of lozenges

Comments:

References: (Ling 1998: 10, fig. 3)

Image:
Catalogue #: 24

Regional Index: G4

Site: Kastelli Kisamou, Crete

Room Function: villa

Date: mid 2\textsuperscript{nd} century AD

Description: swastika meander with enclosed squares accented with a single diamond, in a square around a circular central panel

Comments:

References: (Ling 1998: 60, fig 42)

Image:
Catalogue #: 25

Regional Index: I8

Site: Cividale, Italy

Room Function:

Date: 2nd century A.D.

Description: swastika meander with decorated enclosed squares, with border of dentals and lozenges

Comments:

References: (Ovadiah 1980: fig. 5) see also Blake, MAAR, pl. 38:4

Image:
Catalogue #: 26

Regional Index: G5

Site: Delos, Greece; The Northern Quarter, the Agora of the Italians: mosaic 25

Room Function:

Date: 2\textsuperscript{nd}-1\textsuperscript{st} century B.C.

Description: swastika meander with empty enclosed squares, executed in perspective

Comments:

References: (Ovadiah 1980: fig. 8), (Bruneau 1973: fig 31)

Image:
Catalogue #: 27

Regional Index: G6

Site: Delos, Greece; the Quarter of the House of the Masks, House of the Dolphins: mosaic 210

Room Function:

Date: 2nd century B.C.

Description:

Comments:

References: (Ovadiah 1980: fig. 18), (Bruneau 1973: fig. 174)

Image:
Catalogue #: 28

Regional Index: G7

Site: Delos, Greece; the Theatre Quarter, House of the Trident

Room Function:

Date: late 2nd-early 1st century B.C.

Description: swastika meander with enclosed squares decorated a variety of patterns, around central panel of still life vase

Comments:

References: (Ovadiah 1980: fig. 22), see also Charbonneaux, fig 191

Image:
Catalogue #: 29

Regional Index: I9

Site: Milan, Italy

Room Function:

Date: Late 1st-2nd century A.D.

Description: swastika meander, with enclosed double squares accented by central dot, forming border of large central panel

Comments:

References: (Ovadiah 1980: fig. 49), see Blake MAAR pl. 15:3

Image:
Catalogue #: 30

Regional Index: G8

Site: Olynthos, Greece; House A VI 3

Room Function: andron

Date: 3rd century B.C.

Description: pebble swastika meander with enclosed rectangles, each filled with an X, around circular central panel of Bellerophon slaying the chimera, and surrounded by a band of cresting waves

Comments:

References: (Ovadiah 1980: fig 54), see Richter, HGA, fig. 396; and Robertson 1932, fig. 1

Image:
Catalogue #: 31

Regional Index: G9

Site: Pella, Greece; Area I, Block 5, lambda

Room Function:

Date: 3rd century B.C.

Description: swastika meander with enclosed squares, all divided into a 3x3-box pattern, surrounding large figural panel with chariot

Comments:

References: (Ovadiah 1980: fig. 59) see Petsas, MGR, fig. 6

Image:
Catalogue #: 32

Regional Index: I10

Site: Pompeii, Italy; House VII 6, 28

Room Function:

Date: 2nd-1st century B.C.? 

Description: opus signinum, swastika meander with enclosed centrally accented squares, framing circular central panel and surrounded by grid of dots

Comments: numerous other examples at Pompeii see figs. 67-9

References: (Ovadiah 1980: fig. 66), see Pernice, PFM, pl. 11:3

Image:
Catalogue #: 33

Regional Index: I11

Site: Pompeii, Italy; Casa delle nozze d’argento: V 2

Room Function:

Date: 1st century A.D.

Description: Field of interlocking circles with no central accents, room bordered by a swastika meander with enclosed squared accented with crosses

Comments:

References: (Ovadiah 1980: fig. 72), see Pernice, PFM, pl. 18:2

Image:
Catalogue #: 34

Regional Index: I12

Site: Pompeii, Italy; House VII 15, 2

Room Function:

Date: 1st century A.D.

Description: continuous field of bichrome hourglasses and squares, bordered by a meander of ivy

Comments:

References: (Ovadiah 1980: fig. 78), see also Pernice, PFM, pl. 27:4

Image:
Catalogue #: 35

Regional Index: I13

Site: Pompeii, Italy; House IX 2, 27

Room Function:

Date: 1st century A.D.

Description: swastika meander border with enclosed squares accented with double diamonds, around central panel of geometric design

Comments:

References: (Ovadiah 1980: fig. 80), see also Pernice, PFM, pl. 34:4

Image:
Catalogue #: 36

Regional Index: I14

Site: Pompeii, Italy; House VIII, ii, 1

Room Function:

Date: 1st century AD

Description: interlocking circle pattern forming dark quatre-foils with no central accents, and light lentoid petals, framed by a plain border

Comments:

References: (Ovadiah 1980: fig. 103), see also Blake, MAAR, pl. 24:4; (Joyce 1981: 261, fig. 20), for more examples see also Pernice pls. 18:5 (House V 2), 24:5 (VII 15,2), 36:6 (I 4,5)

Image:
Catalogue #: 37

Regional Index: I15

Site: Pompeii, Italy; House VII, ii, 20

Room Function:

Date: 1st century A.D.

Description: border of swastika meander with enclosed squares, which contain hourglass, grid, and starburst patterns, on edge of plain central panel with centerpiece of squares and triangles

Comments:

References: (Ovadiah 1980: fig. 109), see also Blake, MAAR, pl. 19:2

Image:
Catalogue #: 38

Regional Index: I16

Site: Pompeii, Italy; House VII, ii, 16 (House of the Geometric Mosaics)

Room Function:

Date: 1<sup>st</sup> century A.D.

Description: frame of swastika meander with enclosed squares, which display hourglass, grid, or starburst patterns, around an empty central panel

Comments:

References: (Ovadiah 1980: fig. 111), see also Blake, MAAR, pl. 20:3

Image: second photo: author
Catalogue #: 39

Regional Index: I17

Site: Pompeii, Italy; House VII, vii, 5

Room Function:

Date: 1st century AD

Description: band of swastika meander with enclosed squares centrally accented with a single small square, framed by plain borders

Comments:

References: (Ovadiah 1980: fig. 113), see Blake, MAAR, pl. 21:1

Image:
Catalogue #: 40

Regional Index: G10

Site: Olynthos, Greece; House 27

Room Function:

Date: early 4th century B.C.

Description: pebble mosaic of swastika meander with enclosed squares divided by crosses and Xs, around a central sunburst pattern

Comments:

References: (Robinson 1932: 19, fig. 2)

Image:
Catalogue #: 41

Regional Index: G11

Site: Olynthos, Greece; House A vi, 6

Room Function:

Date: Late 5th-early 4th centuries B.C.

Description: swastika meander with enclosed squares, decorated with 3x3 checkerboard pattern, around a central panel of a rosette surrounded by cresting waves

Comments:

References: (Robinson 1932: fig. 3), (Joyce 1979: 259, fig. 15)

Image:
Catalogue #: 42

Regional Index: G12

Site: Olynthos, Greece; House 100

Room Function:

Date: 4th century B.C.

Description: pebble mosaics, swastika meander with enclosed squares filled with 3x3 checkerboard pattern around central panel of sphinxes, sea divinities, and Lion attacking a stag

Comments:

References: (Robinson 1932: pl. III)

Image:
Catalogue #: 43

Regional Index: G13

Site: Olynthos, Greece

Room Function:

Date: 4\textsuperscript{th} century B.C.

Description: pebble mosaic, swastika meander with empty enclosed squares, forming border around stone altar, and surrounded by hunt scenes

Comments:

References: (Robinson 1932: pl. IV)

Image:
Catalogue #: 44

Regional Index: G14

Site: Olynthos, Greece; Villa of Good Fortune

Room Function:

Date: 4\textsuperscript{th} century B.C.

Description: swastika meander with enclosed squared accented with 4-point starbursts, framing center panel with ivy border, and figural scene of Achilles, Thetis, and Nereids, all surrounded by a band of cresting waves

Comments:

References: (Robinson 1934: pl. XXX)

Image:
Catalogue #: 45

Regional Index: I19

Site: Morgantina, Sicily; House of Ganymede, room 1

Room Function: corner room of house that enters onto courtyard

Date: likely 3rd century B.C.

Description: border of swastika meander enclosing empty squares, executed in perspective and surrounding central panel

Comments:

References: (Tsakirgis 1989: 397, fig 2)

Image:
Catalogue #: 46

Regional Index: I20

Site: Morgantina, Sicily; House of Ganymede

Room Function: doormat of Room 1

Date: 3rd century B.C.

Description: continuous swastika meander framing central panel

Comments:

References: (Tsakirgis 1989: 397-8, fig 3)

Image:
Catalogue #: 47

Regional Index: I21

Site: Morgantina, Sicily; House of Ganymede, room 14

Room Function: small room off courtyard portico

Date: post 3rd century B.C.

Description: Swastika meander enclosing empty squares surrounding central panel

Comments:

References: (Tsakirgis 1989: 399-400, fig 10)

Image:
Catalogue #: 48

Regional Index: I22

Site: Morgantina, Sicily; House of the Arched Cistern, room 1

Room Function: large well-decorated room off courtyard portico

Date: 3rd century B.C.

Description: a double interconnected swastika meander surrounding squares with large square central accents, executed in perspective, framing central panel

Comments:

References: (Tsakirgis 1989: 401-2, fig 16)

Image:
Catalogue #: 49

Regional Index: I23

Site: Morgantina, Sicily; House of the Tuscan Capitals, room 22

Room Function: threshold to room of unknown function

Date: post 150 B.C.

Description: single band of swastika meander

Comments:

References: (Tsakirgis 1989: 404-5, figs 24-5)

Image:
Catalogue #: 50

Regional Index: G15

Site: Athens, Greece; Odeum of Herodes Atticus

Room Function: stoa pavements

Date: mid 2nd century AD

Description: Swastika meander enclosing squares with central dots, forming outer border of numerous panels in stoa. Central panel of interlocking circles forming quatre-foils with central accents

Comments:

References: (Waywell 1979: 295-6, fig 8)

Image:
Catalogue #: 51
Regional Index: I24
Site: Ostia, Horrea Epagathiana et Epaphroditiana
Room Function: Warehouse
Date: mid 2nd century AD
Description: an interconnected field of swastika meander enclosing squares with central accent, and framing a central panel with a single swastika
Comments:
References: (Becatti 1961: #18, Tav. XIX)

Image:
Catalogue #: 52

Regional Index: I25

Site: Ostia, Domus della Fortuna Annonaria

Room Function: perhaps bedroom or tablinum

Date: mid 2nd century AD

Description: swastika meander enclosing squares with single central accent, around three sides of central panel

Comments: poor quality with numerous mistakes

References: (Becatti 1961: #18, Tav. XCIX)

Image:
Catalogue #: 53

Regional Index: I26

Site: Ostia, Sacello nel Campo della Magna Mater

Room Function: shrine

Date: Severan period

Description: interlocking circles forming quatre-foils

Comments:

References: (Becatti 1961: #319, Tav. XL)

Image:
Catalogue #: 54

Regional Index: I27

Site: Ostia, Palazzo Imperiale

Room Function:

Date: mid to late 2nd century AD

Description: Bichrome net of rectangles and squares, surrounded by border of ashlar fortifications

Comments:

References: (Becatti 1961: #307, Tav. XVI)

Image:
Catalogue #: 55

Regional Index: I28

Site: Ostia, Insula di Bacco Fanciullo

Room Function: insula

Date: Hadrianic

Description: Bichrome net of rectangles and squares

Comments:

References: (Becatti 1961: #14, Tav. XXXII), Similar to Ostia #273 and 183

Image:
Catalogue #: 56

Regional Index: I29

Site: Pompeii, Italy, House VIII, ii, 26; House of Vesbinus

Room Function:

Date: 1st C AD

Description: Swastika meander with double inclosed squares accented with four triangles pointing toward a central square, surrounding the image of a boar, forming the border of a doormat

Comments:

References:

Image:
Catalogue #: 57

Regional Index: G16

Site: Delos, Greece; Maison derriere l’Ecole francaise

Room Function:

Date: first quarter of 1st century B.C.

Description:

Comments:

References: (Bruneau 1973: 130, fig. 16)

Image:
Catalogue #: 58

Regional Index: G17

Site: Delos, Greece; Agora des Italiens

Room Function:

Date: Late 2nd or early 1st century B.C.

Description: a double swastika meander enclosing empty squares, executed in perspective, forming central panel, and surrounded by a spiral wave crest border

Comments:

References: (Bruneau 1973: 134, fig. 22)

Image:
Catalogue #: 59

Regional Index: G18

Site: Delos, Greece; Sanctuaire des dieux syriens

Room Function:

Date: last quarter of second century B.C.

Description: swastika meander border with enclosed empty squares, with two spiral, cresting wave borders around central panel of perspective cubes and inscription

Comments:

References: (Bruneau 1973: 224, fig. 156)

Image:
Catalogue #: 60

Regional Index: G19

Site: Delos, Greece; Maison du Trident

Room Function:

Date: 3rd century B.C.

Description: border of swastika meander with empty enclosed squares, executed in perspective, framing a central panel, and surrounded by a double spiral wave crest border

Comments: same house as Ovadiah fig. 22

References: (Bruneau 1973: 263, fig. 215)

Image:
Catalogue #: 61

Regional Index: G20

Site: Delos, Greece; Maison de Fourni

Room Function:

Date: 3rd century B.C.?

Description: double swastika meander with enclosed squares with center detail, executed in perspective, surrounding three central panels and bordered by a double band of spiral cresting waves

Comments:

References: (Bruneau 1973: 304, fig. 271)

Image:
Catalogue #: 62

Regional Index: G21

Site: Delos, Greece; Maison de Fourni

Room Function:

Date: 3\textsuperscript{rd} - 2\textsuperscript{nd} century B.C.

Description: field of opposed triangle pairs forming hourglasses, surrounded by a plain border

Comments:

References: (Bruneau 1973: 312, fig. 283/4)

Image:
Appendix 2: Papyrological Evidence

PMich 466

Date: March 26, 107 A.D.
Content: Private Letter
Reference: Rep Editor - Smallwood EM; Rep Ser. - Documents Nerva-Hadrian; 1966;
Rep_Pg. 307b
Winter JG-Youtie HC, PMich VIII, 466, 1951 -- BL III, 116 (line 48); BL IV, 54 (date); BL VI, 82; BL VII, 111; BL VIII, 215 (l. 39); BL IX, 161; BL XI, 132 (bibliography)
Fuks A-Tcherikover V, CPJ III, 486b, 1964
Translation: APIS Database entry Michigan.apis.2586
(www.columbia.edu/cu/lweb/projects/digital/apis)

Text:

Iulius Apollinarius to Iulius Sabinus, his dearest father, very many greetings.

Before all else, I pray for your good health, which is my wish, since I revere you next to the gods; but this has troubled me, that I have very often written to you through Saturninus the signifer, likewise through Iulianus the son of Longinus and [[through Dios]], and not yet have you answered me concerning your health. But nevertheless, now that you have been asked, do you give your attention necessarily before all else to writing to me concerning your health. A number of times I asked Longinus, who brings you the letter, to take something for you, and he refused, saying that he was unable [to take anything]; but I want you to know that Domitius the armicustos(?) [took a long a basket in which] there was a . . . for you. Things are [going well for me. After] Sarapis [conducted me hither] in safety, while others . . . all day long were cutting building stones and doing other things, until today I endured none of these hardships; but indeed I asked Claudius Severus the consularis to make me a secretary on his own staff and he said, "There is no vacancy, but meanwhile I shall make you a secretary of the legion with hopes of advancement." With this assignment, therefore, I went from the consularis of the legion to the cornicularius. If then, you love me, you will straightway take pains to write me concerning your health and, if you are anxious about me, to send me linen garments through Sempronius, for merchants come to us from Pelusium every day. I shall take pains, as soon as the prefect (of the province?) begins to grant furloughs, to come to you immediately. Volusius Proclus salutes you, as do Longinus Paccius, Valerius
Sempronius, Valerius Herma . . ., Iulius Priscus, Apollinarius . . . ion, and all their comrades. Salute Iulia my lady sister, likewise Sarapias and my mother, my grandmother Sambathion, Thermouthis and her children, the father of Paccius, and all your colleagues individually, and those at home. I pray for your good health. The 10th year of Trajan, our lord, Phamenoth 30.; I am grateful to Volusius and Longinus Barbarus. You will tell the firm of Aphrodes, the son of the condiment dealer, that they enrolled me in the cohort at Bostra. It lies 8 days' journey from Petra and . . .

PMich 465

Date: February 20, 108 A.D.
Content: Private Letter
Reference: Rep Editor - Smallwood EM; Rep Ser. - Documents Nerva-Hadrian; 1966;
pg.307b
Winter JG-Youtie HC, PMich VIII, 465, 1951 -- BL V, 70 (bibliography); BL VI, 82 (bibliography); BL VIII, 214 (l. 31; bibliography); BL IX, 161 (bibliography; date); BL X, 124 (l. 18)
Fuks A-Tcherikover V, CPJ III, 486a (l. 38-43), 1964
Translation: APIS Database entry Michigan.apis.2580
(www.columbia.edu/cu/lweb/projects/digital/apis)

[Apollinarius] to Tasoucharion, [my] lady mother, many greetings. Before all else, I pray for your good health, as it is [my wish], to make obeisance to you (and find you) in good health [. . .] and life. You ... me [. . .] if I know in the [. . .] for ... not yet [. . .] of (my) parents, and it is most of all my wish. For each time I remind myself [of you], neither do I eat, nor do I drink, but I cry [. . .] to me alone [. . .] . . . I give thanks to Sarapis and Good Fortune that while all are laboring the whole day through at cutting stones I as an officer move about doing nothing. And I received some money and wanted to send you a gift of Tyrian wares; and since you did not reply, I have not entrusted it to anyone on account of the length of the journey. For fine garments and ebony(?) and pearls and unguents are brought here in abundance(?). Therefore I ask you, my lady, to be . . . and merrily joyful; for this is a good place. For if you are grieved, I am uneasy. Do you now give yourself the trouble to make inquiry of a friend of mine at Alexandria, so that you may send to me through him coarse-fibered linens. For there is none here and the weather is very hot. I ask you seriously not to annoy my lady Iulia in anything, since you know that . . . protects
me doubly(?) . . . I pray that I may make obeisance to you, after the gods, (and find you) in good health. And if you received the set of . . . I ask you without delay to reply to me concerning your health, so that I also may have consolation. Salute Iulia, Sarapias my lady sister, grandmother Sambathion, . . ., Eros, little Ptolemaios, . . . my brother, Ammonous and their children, Betes, Dius, Ptollas, . . ., Ptollous. Clemens . . . came with his man. I greet all those at home. I pray that you be well and happy. Mecheir 25;(Verso) [For Tasoucharion,] my mother; deliver to Iulia . . . .

PMich 562

Date: September 1, 119 A.D.
Content: Lease of Grain Land and Olive Groves
Reference: Husselman EM, PMich IX, 562, 1971, Pl. X -- BL VI, 83 (date; l. 12); BL VII, 113 (line 11).

Gaius Iulius Apollinarius, soldier of the Legio III Cyrenaica, frumentarius of Rome, to Sabinus, son of Sokrates, from the village of Karanis in the Arsinoite nome, greetings.;I acknowledge that I have leased to you the two arourai [[of an olive grove]] of grain-bearing land near the same village, and one-half and one-fourth of an aroura near Bacchias, and two arourai of an olive grove near Karanis in the so-called Onkos, and one(?) aroura of an olive grove near Alkias(?), and two arourai near Hiera, for which I have received the rents for three years from the present 4th year of Hadrian the lord; all expenses and labor and taxes, and whatever public or private charges may be owed on them devolving upon [me(?)], the estates suffering no diminution, as has been agreed upon; on the further condition that Sabinus, son of Sokrates, shall return the two arourai of olive grove near [[Bacchias]] 'Hiera' in full cultivation.;4th year of the Emperor Caesar Trajan Hadrian Augustus, Thoth the third(?), 3.
Bibliography


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Author: ________________

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