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REPORT ON THE STATE OF PRESERVATION OF THE BYZANTINE MOSAICS OF THE SAINT GABRIEL MONASTERY OF QARTAMIN, TUR ABDIN (SOUTH-WEST TURKEY)

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The goal of this mission, conducted over five days in October 2006, was to evaluate the state of preservation of the Byzantine mosaics adorning the sanctuary of the church of Saint Gabriel Monastery in Tur Abdin, and to propose solutions for the mosaics' long-term safeguard and maintenance. Organized by Alain Desreumaux, researcher at the CNRS (Workshop on Ancient Semitic Studies at the Collège de France's Institute of Semitic Studies: Eastern Mediterranean UMR) and by Sébastien de Courtois, doctoral student at the EHESS, the mission was completed thanks only to the support of the Ministry of Foreign Affairs, and especially of Michel Pierre, who generously covered all transportation costs.

LOCATION

The Monastery of Saint Gabriel, or Mar Gabriel, is located in the region called Tur Abdin (in Syriac, "Mountain of the Servants"), a

mountain range in southeast Turkey that overlooks the Mesopotamian plain to the southeast of Diyarbekir. Southeast of Midyat, the monastery is located 5 kilometers from the village of Qartamin, 60 kilometers from the Syrian, and 90 miles from the Iraqi border. At present, the monastery belongs to the Syrian Orthodox Church, and wields special spiritual influence in Tur Abdin thanks to the presence of Metropolitan Timotheos Samuel Aktas, the diocesan bishop who resides there.

HISTORY

At the heart of Tur Abdin's history, the Mar Gabriel Monastery has long been a center of Christianity and Syriac culture in the Middle East. With its monuments and manuscripts, with its many illustrious ascetic saints, monks, bishops, scribes and writers, Tur Abdin has figured prominently in Syrian and Mesopotamian history from the 3rd century to the present.

The founding of Mar Gabriel likely dates to when Persians murdered Bishop Karpos during a raid on Roman Nisibe in the middle of the fourth century. A Syriac manuscript most probably dating from the thirteenth century (British Museum manuscript, Add. 17265, which is completed by Sachau manuscript 221 of Berlin's *Staatsbibliothek*, dated to the seventeenth century) explains the origins of the Syrian Orthodox monastery founded in 397 A.D. by Samuel, Karpos' spiritual son and a native of Mardin. One of his disciples, Simeon, succeeded him in 408; Simeon had buildings erected and transformed the hermit's retreat into a spiritual hub sheltering hundreds of monks. Because of its strategic location on the Roman Empire's eastern frontier, vast construction was undertaken, first under Emperor Arcadius, and then under Theodosius II. But it was only Emperor Anastasius' generosity that allowed the monks to build a large church, finally completed in 512. As the British Museum's manuscript tells us, Anastasius sent the monks not just gold, but also skilled specialized workers-builders, goldsmiths, sculptors, painters and mosaicists credited with the sanctuary's mosaic.

In the nineteenth and beginning of the twentieth centuries, several European travelers visited the monastery: H. Pognon in 1899, C. Preusser in 1909, Miss G. Bell in 1909 and 1911. Then, from 1918 to 1954, Tur Abdin became a military zone closed to tourism. In 1954, J. Leroy, researcher at the CNRS, was the first European allowed to see the monastery again. These visitors left descriptions that provide useful testimony on the state of the mosaics' preservation.

Gertrude Lowthian Bell, who visited the monastery on two separate occasions, took photographs and compiled a map of the buildings, which she published along with two drawings of the ceiling's mosaics. In 1958, Abbot Jules Leroy briefly mentioned two mosaics he had seen in 1954: "The first (published in Preusser, 1911) shows geometric designs with borders containing aces and spades". Concerning the second mosaic, he wrote, "one can make out... a cross surrounded by vines. According to [G. Bell in Van Berchem and] Strzygowski, *Amida*, [1910,] p. 272, this is the oldest example of wall mosaic in Mesopotamia," though the mosaic in question is the same that decorates the barrel vaulted ceiling. After each having stayed at the monastery in 1972, Ernest J. W. Hawkins and Marlia C. Mundell conducted further study on the mosaics, and published their findings in *Dumbarton Oaks Papers*, together with a fine photographic illustration (*DOP*, 27, 1973, pp. 279–296, 49 fig.).

DESCRIPTION OF THE DECOR

The mosaics in question adorn one room of the main church, situated in the eastern section of the monastery. This space—called "presbyterium" by G. Bell and "sanctuary" by E. Hawkins and M. Mundell—forms the church's choir, and is partially occupied by a modern altar affixed to the floor. The room measures 4.33 X 5.83 meters; at its center, the barrel vault rises to 5.36 meters.

The description found in the British Museum's thirteenth-century manuscript states, "The sanctuary's floor is covered with mosaics of white, black, yellow, purple and maroon marble, with various figures. Its circular walls are covered by marble slabs, and overhead, on the vaulted ceiling, there are mosaics of golden cubes."

THE PAVEMENT

G. Bell mentioned that the pavement was decorated with polychromatic marble, of which J. Leroy offered a brief description upon which E. Hawkins and M. Mundell further elaborated, also presenting three photographs: "The floor of the sanctuary is paved with *opus sectile* of black, red, and white marbles. A rectangular panel fills the west doorway (fig. 49). The main floor has a rectangular design with a border around the walls and a circular centerpiece with a spiraling pattern around a small grey and white variegated marble disc (32 cm. in diameter), now partly covered by the step in front of the modern altar (figs. 47, 48)."

Covering a surface of about 25.25 m², the flooring is trichromatic *opus sectile* (black, white, red). Along the checkerboard walls (whose squares are decorated with alternating hourglasses and florets with two spear-shaped petals each), the flooring's bordering zone is delimited towards the center by a row of white triangles on a black background. The central part of the floor mosaic is adorned with a grid of rows of adjacent squares, which form large quadrangles occupied in turn by four white squares around further black or red squares, all of which are decorated with a four-petal floret of contrasting colors. At the center of this composition, there is a large circle decorated with a "triangle shield" with a double border—one border on a white background being decorated with alternating black beads and black squares and inscribed with a white square; the other border being decorated with alternating black/red and white squares marked with florets of contrasting colors. The center of the shield is marked with a marble disk bordered by a line of red and black triangles.

First descriptions of the wall mosaics

Of the wall mosaics on the vaulted ceiling and lunettes, of which about 45 m² are preserved, G. Bell left precise descriptions: "Of the presbyterium mosaic a precious fragment remains. The barrel vault is covered with a spreading vine, the spirals of which encircle leaves and bunches of grapes (Fig. 21 [drawing from a photograph]) … At each of the four corners, the vine springs from a double handled vase. The body of the vase is divided into two zones by a narrow band; in the lower zone a geometric design springs up from the pointed base. In the centre of the vine, at the top of the vault, there is a rayed *crux gemmata* enclosed in a circle (Fig. 22 [drawing of the motif]). The vault is bordered by three bands of ornament. The first is a forked pattern worked in three colours; the second a row of hollow 8-pointed stars with a white dot in every point and an ivy leaf in the hollow centre; the third a series of rhomboids, separated from each other by a cross band of three jewels, the whole closely resembling the jewelled bands which occur in Byzantine mosaics of the 6th century. On the S. wall of the chamber, under the vault, there are fragments of mosaic in which it is possible to make out a small domed tabernacle, the dome carried on two pairs of columns. On the N. wall also there are traces of mosaic, and upon the floor there is a pavement of different coloured marbles. The mosaic on the vault is carried out in red, a pale greenish blue, and white, upon a gold ground… The execution

of the vine is fine and delicate in detail, and the realistic treatment is unlike mosaics of the Moslem period."

This description was further elaborated upon by M. C. Mundell, who was able closely to examine part of the mosaic during her stay at the monastery in August 1972. The stylistic analysis that she gave was accompanied by many photographs of details, which are especially helpful for comparisons as we document the decor's present state of preservation.

The ceiling in 2006

The ceiling presents a decor of vine leaves springing from four canthari vases set in the corners. To accentuate the effect of height, the vines narrow towards the center of the ceiling, which is marked by a radiating *crux gemmata* drawn onto a starry background, inside a circle made of a row of trisected calices set alternately top to bottom (diam. 1.40 m). In smaller medallions, two other crosses standing on steps face each other on the vaulted ceiling's spring: one is situated over the west door and is bordered by a guilloche (diam. 59 cm); the other, less complete, is located over the east apse and is bordered by a two-stranded braid (diam. 66 cm). The field is limited by three borders (width: 82 cm): these are, from the inside outwards, a line of nesting chevrons; a strip of eight-pointed stars (each point accented with a little circle) decorated with circles marked with a heart-shaped leaf; and finally a gem-studded line with alternating large and small squares on edge.

Less complete, the southern and northern lunettes present figurative decorations: to the south, framed by two trees (cypresses?), a domed tabernacle supported by columns shelters an altar (?) with two chalices, and oil-lamps hung on each side of the tabernacle; to the north, the decoration, in a ruinous state, seems to have been similar, though only the two side trees and the tabernacle's dome remain. Made of glass tesserae, a Greek inscription is still partially preserved under the tabernacle of the south lunette. This inscription, studied by C. Mango (*DOP*, 27, 1973, p. 296), likely gave the sponsors', or perhaps the mosaicists' signature.

The backgrounds' tesserae have gold leaf. In the lunettes, these tesserae are set in regular horizontal lines that are widely spaced, and their surface is tilted slightly down. Jutting out in this way, these tesserae's reflections are more fetching, catching the light better. The lines' wide spacing also allowed for savings on tesserae.

Identification of other decoration

During our brief mission, only the choir's decor could be studied, though the monastery also possesses vestiges of other mosaics. According to G. Bell, "Local tradition insists that the vault of the nave was once covered with mosaics like the vault of the *presbyterium*; possibly a careful examination of the brickwork might yield some evidence as to the truth of this tale." E. Hawkins and M. Mandel also mentioned the presence of a destroyed mosaic in the choir's small apse: "The shallow apse bears traces of destroyed mosaic decoration… All the mosaic in the shallow apse recess has been lost, but an irregular area of setting-bed (1.15 m. x 0.75 m.) bearing traces of the frescoe's design is exposed on the north side of the original window opening and it is possible that more extends around to the other side underneath comparatively modern renderings. The design on the setting-bed is not immediately apparent though it seems to be a foliate decoration. Four years ago, as a security precaution, the apse window was almost entirely blocked up…" In a space situated further to the north, Hawkins and Mandel made the following observation: "On the south, east, and north walls of the 'tomb chamber' chapel to the north of the northern compartment of the sanctuary, there are areas of the characteristic intermediate rendering for mosaics which bears a rough herringbone pattern of incised lines. This plaster is similar to that which can be seen in some places where mosaic has been lost in the sanctuary (fig. 20), and it is reasonable to suppose that this chamber was decorated with mosaic at the same time as the sanctuary."

State of preservation

Already in 1909, Miss Bell noticed that "the vault is much blackened by smoke; if it were cleaned every detail would be visible." This remark was echoed a half-century later by Abbot Leroy: "The ceiling's mosaic is difficult to see because of the filth." Ten years later, in 1968, when he alerted the scientific community to "The present state of Christian monuments in southeast Turkey (Tur Abdin and surroundings)" (*CRAI*, 1968, p. 483), this same Abbot Leroy painted a sad picture of the mosaics' condition: the painting in the two lunettes were "destroyed", he wrote, and "wide sections [of the ceiling] are in danger of immediate collapse".

But E. Hawkins, who conducted precise observations in November 1972, gave a more detailed description of the mosaics' state of preservation, also analyzing the remains of ancient mortar.

To further his examination, Hawkins mentioned that he had been able to perform a limited cleaning: "The mosaics…cover the vault and lateral lunettes… The lower halves of the walls are now bare, except for some relatively recent wall paintings… The colors of the tesserae are overcast, in some places totally obscured, by thin deposits of lime and soot which give to the whole a light gray or blackened appearance… The deposits on the mosaics were probably created by lime, carried down by rain water from the masonry above, combining with soot from the smoke of frequent fires below. Around its lower parts the mosaic has been partly obscured by splashes and smears of later rough renderings of the walls below… Most of the mosaic of the vault survives, but there are several losses, notably to the west of the center and along the lower part on the west, and to the east behind the top of the modern altar. In the south lunette most of the lower and middle parts of the mosaic has fallen. The greater part of the north lunette mosaic has been lost and of what remains much is in imminent danger of collapse. Other areas where further falls could occur are at the left side of the south lunette and near the center of the vault."

Hawkins described the mosaic's mortar setting: "As might be expected over a brick vault, there are three renderings of lime plaster; the first roughly finished, the intermediate keyed with the point of a sharp tool with lines in a broad herringbone pattern for the reception of the setting-bed…"

Concerned that certain parts of the mosaics were in danger of collapsing, Hawkins made sure to stress that "Adequate scaffolding, time, and skilled workmanship will be necessary if this is to be averted. There is indeed an urgent need for steps to be taken to save this unique decoration." (*DOP*, 1973, p. 283).

Despite his warnings, no serious conservation work seems to have been undertaken until 1997. At that time, the whole interior of the church was "restored", the walls were cleaned and all traces of the ancient coating was removed. The stones were bared and repointed with white cement mortar. This also seems to have been when the gaps in the mosaics of the vault's spring were plugged with beige mortar, underlining the vault's lower section. A comparison of the present state of preservation with the photographs Hawkins and Mundell included in their article reveals that tesserae have disappeared in places, especially in the southern lunette's inscription. The damage probably occurred in the course of this restoration work.

More recently, in 2001 or 2002, the region's governor called in a team of Italian restorers who were working on mosaics found during emergency excavations conducted because of the construction of a dam on the Euphrates, which flooded part of the ancient city of Zeugma. This team's work lasted two days, and consisted of gluing a layer of gauze to the mosaic to maintain the most weakened sections of the ceiling and lunettes. This gauze is still in place.

STATE OF PRESERVATION IN 2006

We are faced with architecture that was entirely renovated without concern for the materials used in the fifth century. The mortars used in ancient times were made up of a lime binder with a mineral mixture (sand, terra cotta, gravel) which let water vapor through. Since it was not hard, it possessed a certain elasticity that allowed it to give without breaking. This is not the case with the modern cement mortars, waterproof and very hard, that were set in place in the twentieth century. Overly hard compared to the ancient materials, they are already detaching.

Therefore, in years to come, we can expect many problems with the architecture (fissures, buckling) which will risk altering the buildings and their decorated parts. This deterioration may have a direct influence on the mosaics' preservation, since these have been weakened by the mortar's failure to stick to the walls.

It is regrettable that the restoration work done thus far was conducted without archeological input. This is particularly sad given G. Bell's photograph showing vestiges of wall paintings, and also Hawkins and Mundell's examination of the vestiges of mortar that still bore traces of the tesserae lost in other parts of the monastery.

THE *OPUS SECTILE*

In the very irregular *opus sectile* flooring, ancient restorations are still visible. These restorations were carried out using grey cement and scattered marble fragments. Though the marble pieces remain in place, several parts have cracks that show the ancient mortar. The floor is normally covered with carpets which have also served to protect it.

The mosaic

On the mosaic of the barrel vault and lunettes, which was noted in Miss Bell's first descriptions, a blackish layer has formed on the

tesserae's surface. This layer is composed of chalky concretions, dust and the black smoke rising from candles and incense used in religious ceremonies, but also resulting from general sootiness, even if it seems that at some unknown date, the decor may have been dusted off. We were able to locate the part cleaned by Hawkins in 1972.

However, our examination brought to light graver damage, very worrisome unless action is taken quickly. In many places, the stone and brick masonry has detached from the first layer of gross mortar. This has taken place both in the north lunettes and on the ceiling. This detachment may cause large chunks of the mosaic to fall, particularly in light of the region's vulnerability to seismic activity and aftershocks. The Italian team recently called in reinforced many of the detached parts, but this can only be a stop-gap measure until true restoration work can be undertaken.

In the south lunette, the lower section has many lacunae, and is plugged with the grey cement mortar seen already in the photographs Hawkins and Mundell took in 1972. This cracked mortar no longer sticks to the wall. In the center of the pictured tabernacle, an older crack was filled with glazed blue ceramic elements (already visible in 1972). It was on this lunette that we located Hawkins' cleaning test. In comparison with the 1972 photograph, the Greek inscription under the tabernacle has lost several tesserae, probably when the mortar was repointed in 1997.

By comparison with the earliest illustrations, one can see that the north lunette is much more damaged, and a large section of the west side has detached, which is already visible in the single photograph that we possess of the ceiling, taken in 1911. The cracks have been plugged with the same sort of grey cement mortar. However, though the mosaic seems to have shifted only slightly since Hawkins' stay, all of the mosaics contained in this lunette are in utter decay.

The ceiling also shows cracks: one large crack above the doorway leading in from the central nave, on the western arch, already visible in G. Bell's photograph; another large crack above the apse and behind the modern altar—this crack was plugged, probably in 1997, with a beige mortar similar to the one that borders the vault's spring; besides those, there are numerous smaller cracks, which are old and sooty. Our examination of the vault showed that even if the mortar is barely sticking to the stone, the tesserae are at least satisfactorily adhering to their mortar.

Over the course of our stay, besides the attentive examination of the remains, we were also able to conduct a few cleaning tests

on the mosaics of the south lunette, and at the bottom of the vault in the northeast corner.

The entirety of the decor is composed of colored, opaque glass tesserae (dark blue with nuances of light blue, green, red, brown and black), of translucent glass tesserae with a gold and silver backing, of tesserae of white, pink or grayish limestone (or marble? "Pink marble" according to M. C. Mundell). As G. Bell, E. Hawkins and M. Mundell stressed, a gentle cleaning would certainly sharpen the palette and help identify the materials used.

The tesserae are irregular in shape, measuring from about 0.8 to 1 cm along their edge. The tesserae with silver leaf are slightly smaller than the others. Several motifs are rendered by plaques with specific forms (circles, droplets, etc.)

Our observations, however limited, revealed that the limestone, colored glass tesserae, and gold-leafed tesserae are in good condition. Those with silver leaf are less well preserved since the metal at the edges of the tesserae has oxidized (silver oxide). No exfoliation of the glass was noted.

The joints are very sooty, particularly since in this type of wall mosaic, the joints are deeply recessed, which increases chances for dirt deposit.

On the ceiling, we noted the presence of metal clamps stuck into the mosaic, flush with the tesserae's surface. These hooks reinforce the mortar's hold on the wall. Because of the general sootiness and our limited time, we were unable to check the regularity of their placement. A list will have to be drawn up, and a more detailed study will need to be conducted of the metal's state of preservation. Depending on the results, it may be necessary to replace them.

On the ceiling's western spring, a large hole is visible in the interior of the structure, in the mosaic and its mortars as well as in the wall itself, but a corresponding hole was not found on the ceiling's exterior. It is most probably the opening for a conduit whose function we were unable to ascertain. The mosaic and its mortar incline slightly into the conduit, proof that the conduit already existed when the mosaics were being laid.

Moreover, we also observed various hooks from which light fixtures have been hung over the centuries. The insertion of these hooks broke numerous holes into the mosaic.

THE PRESERVATION ETHIC

We will base our work on the various charters elaborated and adopted by the professionals of the preservation of cultural

treasures (archaeological sites, monuments, furniture, etc.), first of all on the Charter for the Restoration of Historical Monuments signed at Athens in 1931 at the First International Congress of Architects and Technicians of Historical Monuments, then on the International Charter on the Preservation and Restoration of Monuments and Sites put out in Venice in 1964 after the Second International Congress of Architects and Technicians of Historical Monuments, and finally on the Charter for the Management of Archeological Heritage adopted by ICOMOS in 1990.

In 1931, it was decreed that the removal of works from the framework for which they were created was a regrettable principle. Consequently, we cannot envisage removing the mosaics from the building they decorate. The mosaic must therefore be preserved in the same place where it was created.

The mosaic of the Saint Gabriel monastery's church is part of a Byzantine monument. It is an exceptional historic and artistic testimony: it belongs to the heritage of an entire country and culture. The urgency of its preservation is further heightened by the recent disappearance of elements of the decor, most notably the painted elements.

As a rule, it is essential to apply to the safeguard of these remains the procedural norms accepted by our profession: non-invasiveness, compatibility, and the reversibility of the products, materials and techniques used. Concerning the restoration of lacunae, the minimalist option will be applied in order to maintain the authenticity of the original work: preservation of the original parts, whether these be tesserae or ancient mortar, and no reconstruction of the missing decor.

PROPOSALS FOR INTERVENTION

We shall now present the interventions necessary for the preservation and presentation of this exceptional set of wall mosaics extending over 45 m^2. We shall also offer a cost and work-schedule estimate for the operation's realization.

The goal is to preserve the mosaics in their context, while improving their clarity, to reset into place the fallen mosaic fragments, to reestablish cohesion between the wall, the ceiling and the mortar that supports the mosaic. The ungainly cement mortar will be replaced with lime mortar matching the original; the cracked parts will not be reconstituted.

The strengthening and cleaning operations will be carried out progressively in zones: first the north and south lunettes, then the

ceiling, divided into three zones. The work will progress from the top of the ceiling downwards, and symmetrically to either side.

Initial surface cleansing

An initial surface cleansing will be conducted in order to discover the mosaic's condition, to identify the buckling areas and to check the state of the tesserae. To the same end, it would be desirable to analyze samples of the mortar in order to identify its composition; this will facilitate the search for compatibility between these mortars and the restoration grout.

Reinforcement

In the lacunae, the cement mortar—cracked and loose, as well as unseemly—will have to be removed by mechanical means. In order for the cracks to be cleared out, the fragile areas, and especially the mosaic's edge, will have to be held in place by a textile paste.

Once the cement mortar has been removed, remnants of the mortar from the mosaic's ancient setting may be revealed. It is also possible that tesserae will be found still in place under the cement. These will be left visible after cleaning and reinforcement.

Lime mortar will be set into the fissures; this will be close to the ancient mortar in both graininess and color. It will be set slightly recessed from the mosaic's surface in order that it may be easily identified.

At the same time, it is imperative to conduct a general reinforcement of the whole in order to reaffix the loose mortar to the stone walls. Before this can be done, the detached areas will have to be cleaned of accumulated mortar residue; this cleaning will be carried out by vacuum suction. Next, reinforcement will be conducted by injections of a lime mortar grout, followed by the placement of a prop and clamps to hold the mortar and the mosaic to the walls until it dries.

Certain small areas of the mosaic and mortar are no longer adhering to the walls. They are detached from the mosaic by fissures. After being pasted with textiles, they will be taken down; the crumbling mortar will be removed and each fragment will be set back in place on a new layer of lime mortar.

Different types of reinforcing agents will be used over the course of these phases: acrylic resin solutions and emulsions, as well as inorganic reinforcers (ethyl silicate). These will be applied either by injection or by soaking.

It will be necessary to discover the extent to which the metallic clamps have oxidized. The products of metallic corrosion can crack mortar and also cause discolorations to the tesserae and mortar. If this is the case, it may be necessary to remove them and replace them with clamps of non-oxidizing material.

Cleaning

During the October 2006 mission, we conducted two cleaning tests: the first on the tree pictured on the left side of the south lunette (tesserae of colored glass and with gold-leaf), the second at the bottom of the ceiling, in the northeast corner (tesserae with gold leaf and silver leaf, glass tesserae and limestone tesserae). These tests, which were conducted mechanically (with scalpels) revealed a good overall preservation of the tesserae, except for the silver leaf tesserae.

The general cleaning of the mosaic will essentially consist of removing the blackish deposits. These can be removed by mechanical means, for example by scalpel. Placing compresses on them can facilitate the clearing process by softening the crust when it is too hard. At the same time as these cleanings, we will also reinforce the tesserae by imbibing them with an acrylic resin solution.

We will examine the ancient mortars very attentively to search for traces of how it was applied or for preparatory sketches.

CARPENTRY WORK

Before this work can begin, extensive carpentry work will need to be carried out in order to create workable conditions. It will be necessary to build a platform 2.90 meters above the floor; this platform can be built in one piece, but in that case, it will close the ceiling off for several years. Alternatively, it could be built in two pieces, the north side first, then the south side. The monastery's authorities will have to be consulted. The advantage of a single platform would be to allow several areas to be worked on at the same time; this is especially important for the emergency reinforcements of those areas weakened by the detached ceiling or wall mortar.

It will also be necessary to construct clamps that will allow the areas being reaffixed to the substructure to be kept under pressure. These clamps will have to follow the shape of the ceiling, and also the shape of the two north and south lunettes.

This carpentry work can be done by local artisans according to the restorers' specifications.

As for the *opus sectile* floor, it would be preferable to clean it, to replace the grey cement mortar with a limestone mortar similar to the ancient composition, and to reinforce the areas of ancient mortar. This operation is not included in the estimate listed below.

Each operation will have to be noted and described in a report to be written after each campaign. A graphic list will accompany the text, detailing pre-operation conditions and all work done. A photographic record of all phases of the work will be kept.

These records can also be published by the restorers once the work is complete.

POSSIBLE PLANNING

In France :

- Formation of the team.
- Planning meeting.
- Gathering and sending equipment.

First mission

- Setting up of the worksite (scaffolding, gathering supplies, etc.).
- Reinforcement of the mosaics in the north and south lunettes.

Second mission

- First part of the reinforcement of the ceiling mosaic.
- Cleaning of the mosaic and final details of the north and south lunettes.

Third mission

- Second and third parts of the reinforcement of the ceiling mosaic.
- Cleaning of the mosaic and final details of the first part of the ceiling.

Fourth mission

- Cleaning of the mosaic and final details of the second and third parts of the ceiling.

- Checking all the mosaics.

In France :

- Drafting of the final report.

ESTIMATION OF WORK TIME

Four campaigns of two months each, for a total of eight months on the site, plus another month for the preparation of the site and for the drafting of the reports.

PERSONNEL

- a team of four experienced professional restorers;
- two to four Turkish intern restorers studying preservation and restoration of cultural heritage;
- one to two workers or technicians from the monastery could join the team in order to learn about restoration. These workers would thus become de facto agents keeping an eye on the mosaics and insuring their long-term maintenance.

NOTES

It seems indispensable to us to foresee combining the preservation work with a stylistic and technical study of this set of mosaics.

Moreover, the work can only be undertaken within the framework of an agreement with the religious authorities of the Saint Gabriel monastery, owners of the building.

The *Musée de l'Arles et de la Provence antiques*' Workshop on Preservation and Restoration, which is dependant on the General Council of Bouches-du-Rhône, can only participate in these missions if they are authorized by the President of the General Council, Jean-Noël Guérini.