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The Conception and Architecture of the Bhong Mosque

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Abstract: This mosque, built between 1932 and 1982 and one of the winners of the 1986 Aga Khan Award for Architecture, is situated in the village of Bhong, at the southern end of Punjab, Pakistan. It is the lifetime work of the landlord of Bhong who spared no efforts and found no formal constraints to use what he considered to be the best his time could offer in the way of techniques and materials.

The impact of this enterprise was felt in various ways. One was the impulse given to local crafts at a time when, elsewhere, they were falling in disuse; the other, the role played by this complex as a structuring agent for the formation of a village core, represented by an organized market and built beyond the main gate of the complex, as a direct consequence of the activity generated by construction; and another yet, the importance gained by the mosque as an attraction for visitors due largely to its value as a local marvel.

This report describes the formal results of combining a multitude of textural devices and building techniques to add grandiosity to a project of a limited physical scale; and approaches other less obvious aspects which may have contributed to the monumentality of the structure. Thus, the analysis of the space distribution, in plan, and of the volumetric relationships, in elevations and sections, reveals geometric patterns where different rules of proportion are compatible. The question lies on whether this was the outcome of a conscious intellectual determination or the consequence of inspired intuitions in the empirical perception of the space.

Introduction

In 1986 the writer spent some time in Bhong, an estate in the Rahim Yar Khan district of Punjab, Pakistan, surveying, for the Aga Khan Award for Architecture, the complex built between 1932 and 1982 by its landlord, Rais Ghazi Muhammad.[1] The complex was dominated by a grand mosque and included a smaller mosque (built first and now used as the women's prayer hall and library), gardens, a madrasa and dormitories for students and visitors.

The landlord of Bhong was simultaneously the designer and the contractor of these works, which he always wanted grandiose. To accomplish this he followed the models, which he knew from his travels and his erudition, sent for craftsmen from all over the country and established a large workshop in the village. The end result reflects the intention of utilizing,

[1] All the information presented in this report was gathered directly by the writer. Information on the life, time and intentions of Rais Ghazi Muhammad was mainly provided by his family and household, complemented by a few interviews made in the village and in Multan. Some information preparatory to the field survey was gathered by the Aga Khan Award staff as part of the nomination process. The writer is the author of both the line drawings, draught from his measured survey notes, and the photos in this report. The professional photos of this mission were taken by Jacques Bétant and were printed in the various periodical publications which announced the 1986 Awards and in special in the book, *Space for Freedom* (Ismail Serageldin, Editor, London, Butterworth Architecture and The Aga Khan Award for Architecture, 1986, 144-154).

within a classic framework, the best of as many traditional crafts as possible; at the same time, it shows the influence of western styles and usage of materials. Construction of the complex began in 1932, and was completed with the grand mosque in 1982. The cost was estimated at more than 10 million rupees in 1986, totally financed by the landlord.

Nowadays these buildings are well integrated in their surroundings and are widely used by the local residents and by a steady flow of visitors. The madrasa was an important regional center of learning until the sixties, but its importance has declined with the diffusion of secular education. The following is a description of these buildings and of some of the spatial, aesthetic and social components of their construction.

The Place and its Architectural Character

The Rahim Yar Khan district, where Punjab meets Baluchistan and Sind, is a region of large estates and powerful landlords some of whom could, until the independence from the British, boast of artillery in their private armies.[1] It is a flat, hot and dry area, but fertile where irrigated with water channeled from the river. Bhong is the name of one of such estates covering several scattered villages, the most important being Bhong village proper where the landlord has his quarters. The village, the mosque complex and the landlord's compounds are all confined by a wall with three gates opening to the village and one, on the opposite side, to the landlord's compounds.

Excluding the urban examples best represented by the town of Multan, the architecture in the region is characterized by a rural type of one room, one storey, raw or baked earth brick buildings, opening to a court enclosed by high walls, which may take additional buildings as the need rises.[2] Villages are made of clusters of this type, but their skylines are punctuated by the domes and ornamental small minarets of their mosques. The external decoration of the houses is subdued, consisting mainly of some treatment of the main elevation and of the ventilation openings. Decoration, thus, finds other outlets in a country that is a continuous whirlwind of color and light. Means of transportation are favorites - trucks, buses, horsecarts, rickshaws, bicycles, each of them providing its own framework for color and formal variations. This popular taste for intricate, colorful and shiny decoration finds a replica in the places of power or prayer. Thus, decoration saturated three-domed mosques, with a large number of small ornamental minarets marking the entrance and the corners, are fairly common in the Islamic part of the Indian sub-continent. In this, the mosque of Bhong follows a well-defined formula, conceived to stand out rather than to blend with adjacent constructions.

The Conception of Bhong Mosque

Early in the nineteen thirties the landlord of Bhong, Rais Ghazi Muhammad, built a small mosque on the grounds of his property and, immediately afterwards, undertook the construction of a big house - henceforth designated as 'the palace' - for himself. As construction of the palace proceeded, he decided to demolish the mosque and build a larger one raised on a platform both to prevent infiltration from the ground and so that the mosque be not overpowered by the palace. This mosque is the one that now shelters the women's hall and the library. However, he apparently felt that this building was not sufficiently grandiose to compete with the palace ("the house of God should be higher than my own") and proceeded to build a larger mosque set on the same platform. This became the 'grand mosque', the main prayer hall as we see it today.

Other works followed. It is necessary to understand that the grand mosque was not an isolated building, but part of a series of construction projects undertaken by Rais Ghazi in the course of fifty years in several towns of the region. For the village he built irrigation works, a road and the market; in his compounds he built the palace, the mosques and garden, a madrasa and rooms for students and visitors, a house for family guests and service quarters (Figs. 1&2).

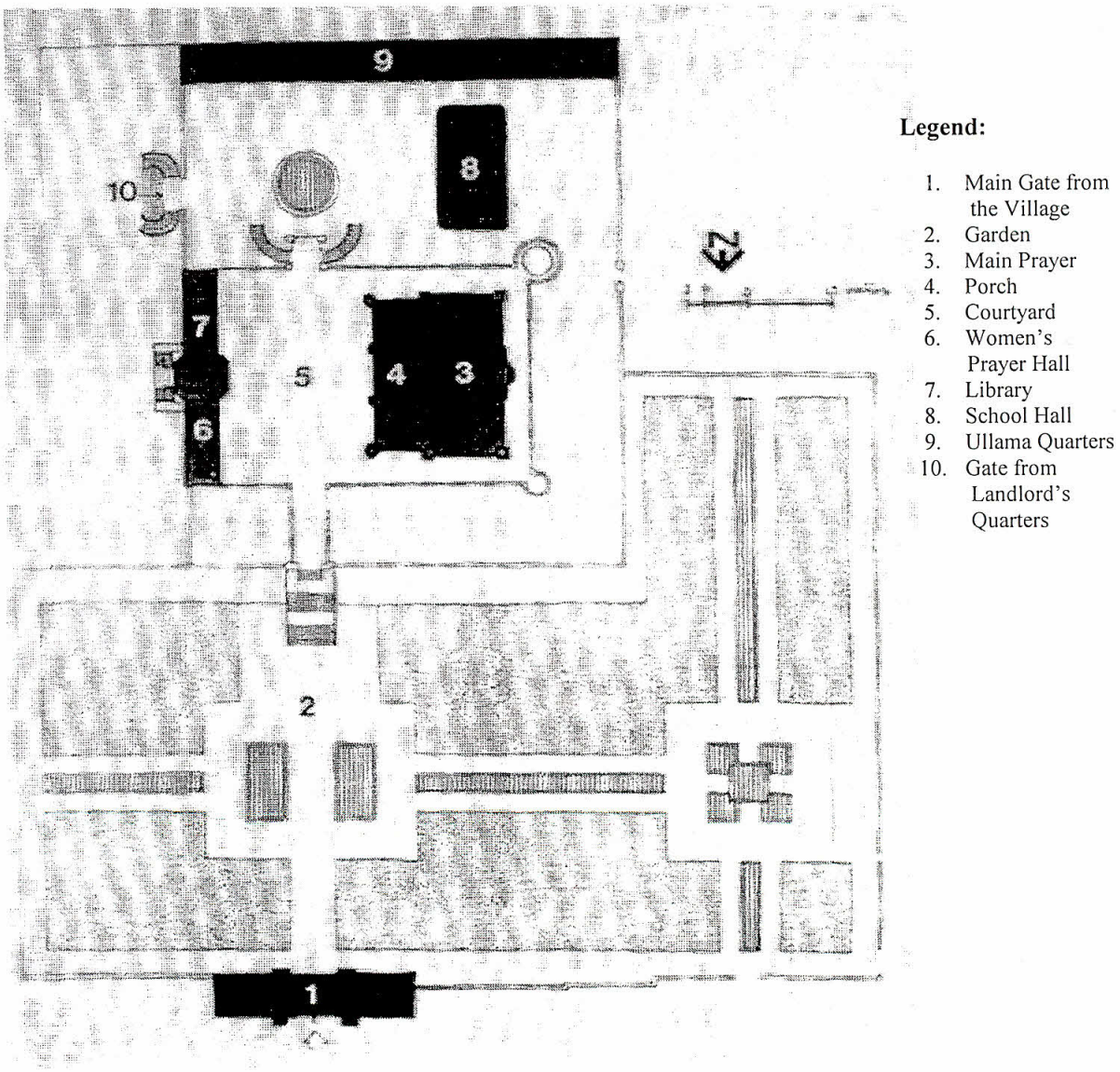


Fig. 1: Bhong Mosque Complex, Pakistan (Plan and Garden).

Rais Ghazi is known to have expressed his desire that the grand mosque be a superlative undertaking. For this purpose he applied the models set by the grand religious architecture with which he was familiar in the country and abroad, engaged craftsmen from various parts of the country and established a workshop in the village which, at its peak, counted more than one thousand workers, over two hundred of them being skilled craftsmen. Two generations of craftsmen where trained here, and some of them have later been employed in the restoration of monuments by the government (Fig. 3).



Fig. 2: The mosques' gardens and main gate of the complex seen from the palace.

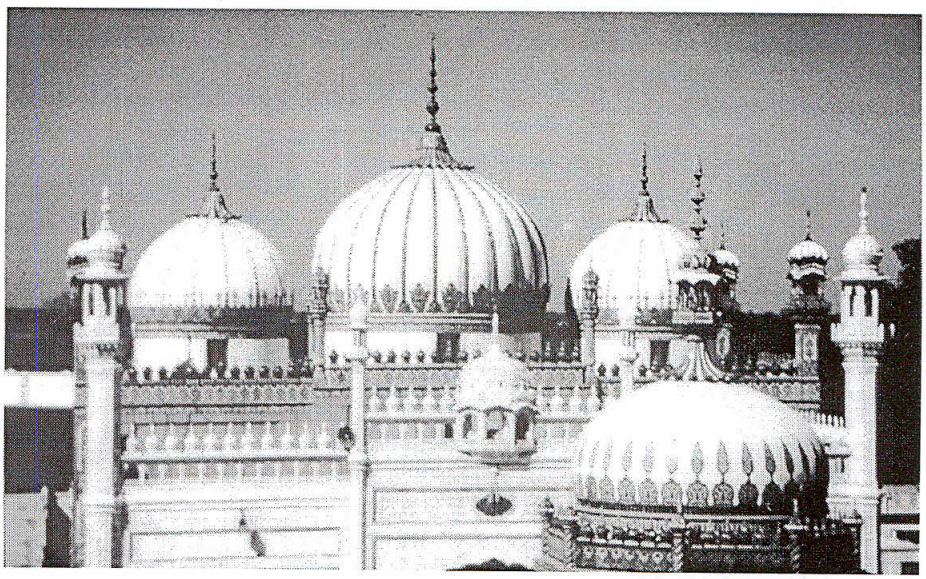


Fig. 3: Traditional craftsmanship.

But he also followed the models of his time and it is a curious mixture that which is seen between traditional forms borrowed from the great structures of Lahore or Iran, used in the mosques.[3-8] The styles of the western early forties, more boldly adopted for the guest houses, the market and the ancillary constructions, but appearing in the grand mosque as well, where the decoration of the porch blends traditional decoration with western materials (Figs. 4 & 5).

The palace itself is a hybrid of colonial architecture, local decorative techniques and modern materials and it gives an important contribution to the understanding of the grand mosque, insofar that it often appears as an experimental ground for solutions consolidated here.

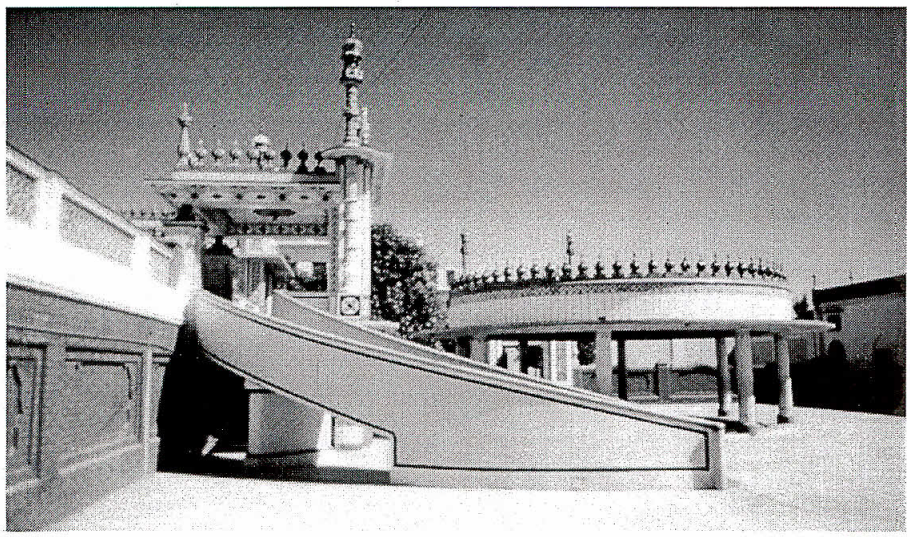


Fig. 4: Southern entrance.



Fig. 5: Detail of southern entrance gate.

Layout Principles and Proportions

The massing of the two mosques and their roofscape of domes and ornamental minarets dominate the ensemble. The mosques are set on a platform raised some three meters from the ground; part of the space under the platform is used for storage and provided occasional living quarters for laborers during construction. They define the eastern and western sides of a courtyard accessible, from the other two sides, by stairways. On the south side, the stairs lead to a forecourt, at an intermediate level, with a covered round ablution pool, a schoolroom and the 'ullama quarters. On the west side of this intermediate court, a flight of stairs descend to the madrasa and student/ visitors rooms, and on the east to a distribution space with the gates to the palace, family guests quarters and the mosque garden. The stairs on the north side are the main access to the mosque garden and the great gate to the village.

Both mosques have large windows and doors on all sides and are oriented so that they benefit from seasonal southwest to northwest winds. Direct light is regulated by wood shutters, and fanlights with colored glass on wood tracery in the western side of the main prayer hall. The mosque garden is organized along two perpendicular axes defined by water ponds. The main axis connects the courtyard with the main gate to the village and is intersected in the middle by the secondary axis which leads to the side entrance of the garden and from there to the madrasa and to a secondary gate to the village. The whole is pleasantly grassy and shaded by large trees. The ablution area is set in a covered recess of the wall, to the left of the main entrance, and consists of a row of taps and footrests along a shallow trough.

Some spatial relations are easily identifiable when looking at the plans. Thus, for example, the axial system connecting mosques, garden and its main gate; the proportion of the platform based on a relation of 2:3 as is that of the courtyard in which the width of the platform becomes the length of the courtyard the buildings cover about half of the floor area; and so forth. At a certain point of the study of these buildings, although having no more than a layman's knowledge on the subject of numbers and their mysteries, the writer attempted to sketch the geometric relationships which appeared potential in the survey drawings.

Knowing that the small mosque had been the first, a basic module was defined by the square in which the central volume - the entrance hall is inscribed. From its center two orthogonal lines were traced, the transverse axis of the small mosque and the longitudinal axis of the grand mosque; with its diagonals a basic grid was established. It was verified that all the definition points for the emplacement of the buildings fit precisely within this grid, to form in turn larger orders of squares, polarized by the grand mosque. Furthermore, and still within this grid, the part of the platform with the grand mosque and the space around including the central courtyard forms a rectangle with the proportions of the golden section (Fig. 6).

In this method, one could not account for two narrow strips along the long sides of the platform. Then, when a verification was made with a module based on the diagonals of the grand mosque, it was realized that the perimeter of the platform coincided with the intersection of one of these diagonals with the long axis of the small mosque's footprint; and that, again, the major points of both buildings' footprint were coincident with the nodes of this grid. This meant, furthermore, that both this and the square grid were compatible as it also happened with other proportional relationships tried (Figs. 7 & 8). Similar verifications were made for the vertical proportions of the ensemble resulting in precise location of main features, using both 45° and 30° diagonals, and similar coincidence of main nodes, forming a contour which equaled two golden rectangles (Fig. 9). There is an approximate correspondence between the major modules in height and in plan but not conclusive enough, even taking into account possible imprecision in the survey drawings or during construction.

It is not impossible that the designer, who was a cultivated man, regulated the dimensions of the ensemble by a set of proportional rules in line with these. It seems that no preliminary drawings were made; and nothing was known of any notes recording his possible speculations. But it is as well possible to admit that "divine proportion" is an *a posteriori* result of "divine intuition", or the particular quality of understanding the place of buildings in a space by just looking at it.

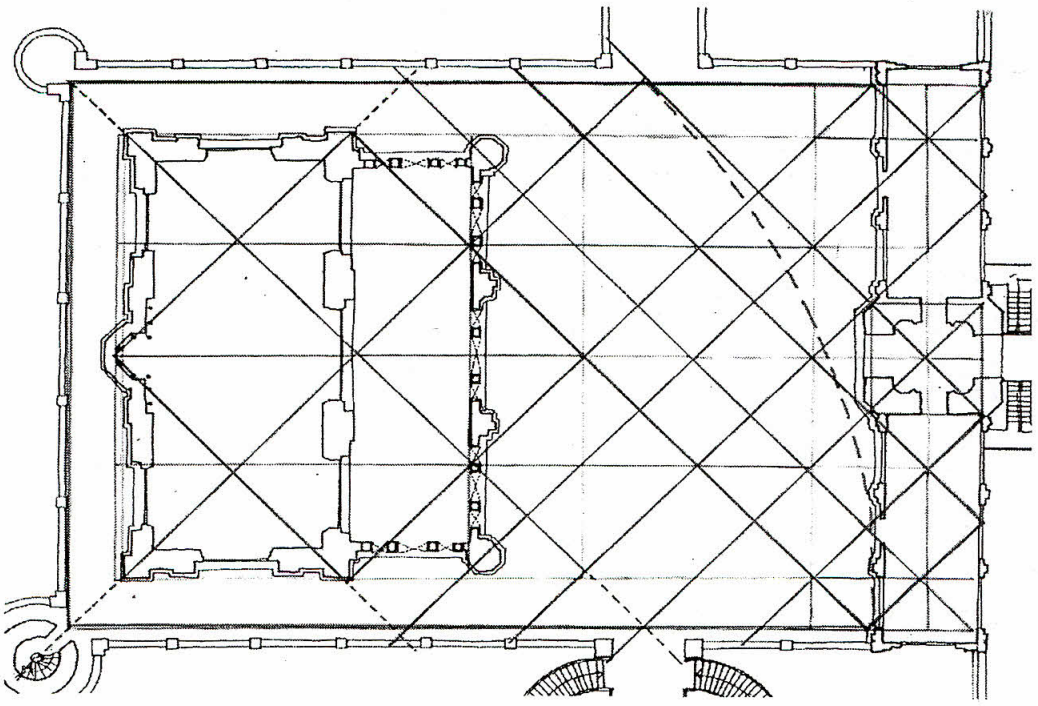


Fig. 6: Verification with diagonals of basic square circumscribing the main entrance of the first mosque. Notice geometric progression of squares, in yellow, and golden section in red.

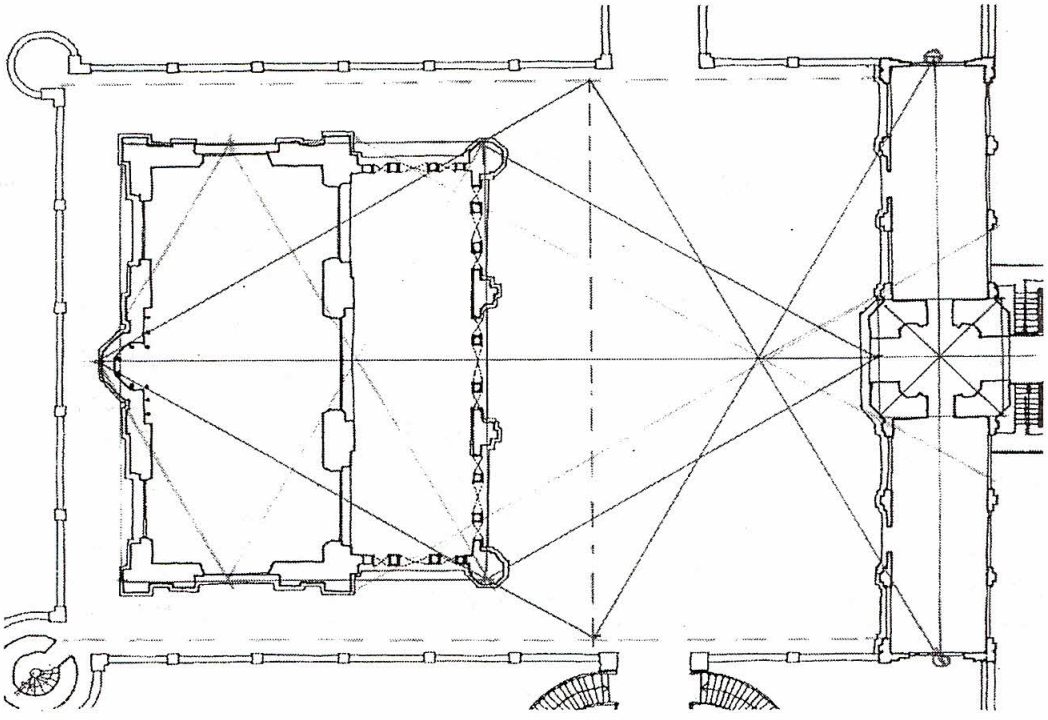


Fig. 7: Verification with diagonals focused on the mihrab of the grand mosque.

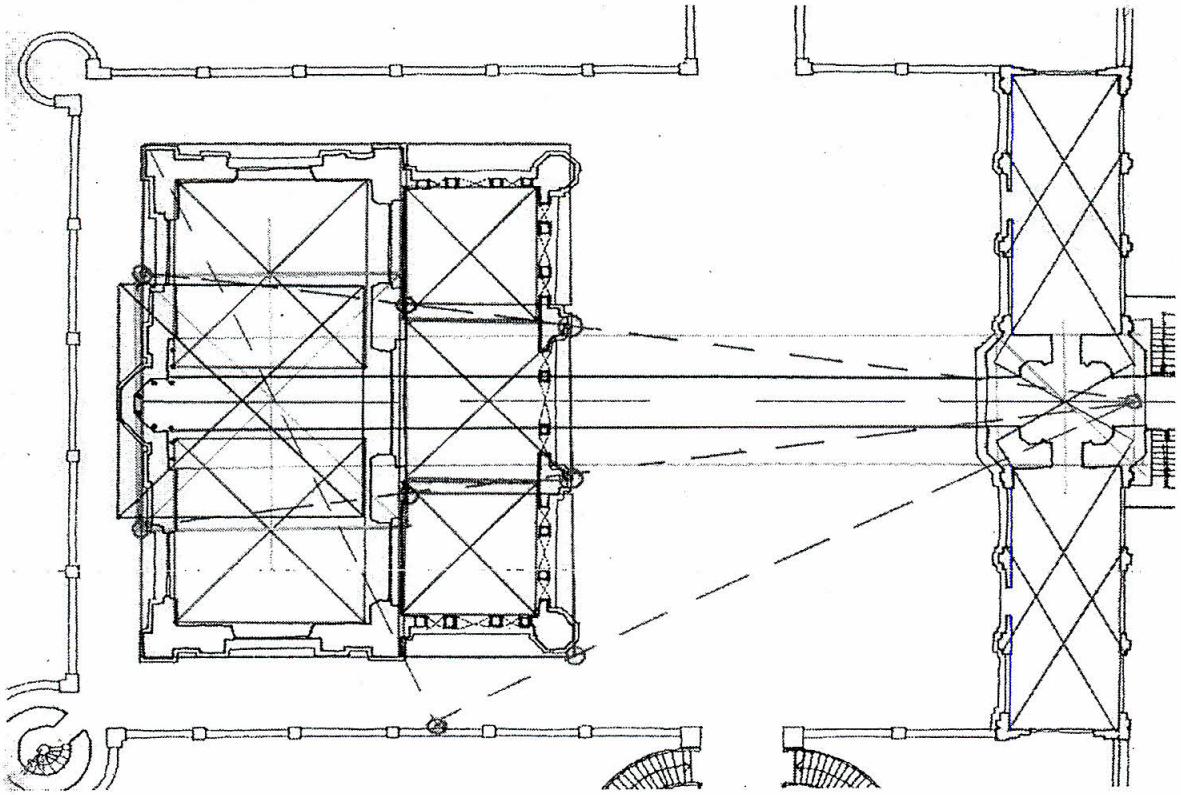


Fig. 8: Verification with polar relations between basic squares.

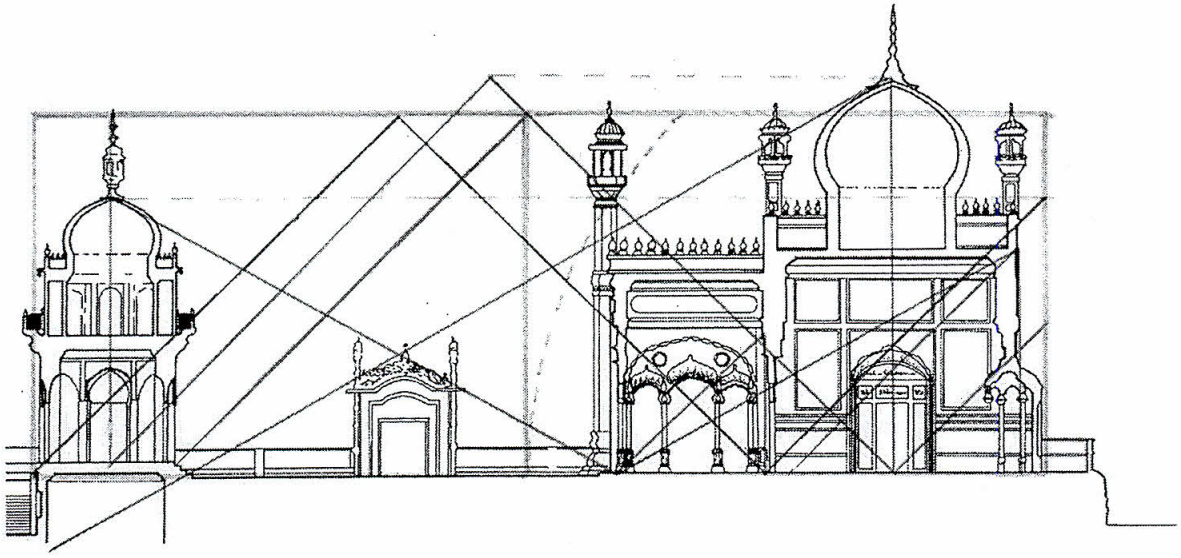


Fig. 9: Verification of height relations. Notice golden sections in yellow.

Materials, Structure and Texture

When construction begun, there were no roads, no electricity and none of the majority of the materials employed. These were brought in bulk via the river (then located a mile away and later diverted) and then carried by ox cart to the construction site. Bricks and wood, except for some Burmese teak, were from the region. Marble came from Peshawar and Quetta, except for black marble, which was imported from Europe. Glass and mirrors came from Karachi.

A construction site was set and craftsmen were sent for from several places. The construction site consisted of several workshops some of which have now been incorporated into the farmhouse complex of the landlords. The landlord -architect closely supervised all aspects of design and construction (e.g., he would have the craftsmen make samples of their work, and only after approval would they proceed to the final job).

The master mason was from Bekanir, in Rajasthan, India, as were the masons for marble work; other masons were from Multan. Multan also provided most of the special crafts (glazed tiles, glass mosaic, woodwork, painting, etc.). Karachi provided painters and calligraphers; Bhong itself provided craftsmen for the artificial stonework and the majority of unskilled laborers. It is estimated that at the peak, more than two hundred qualified craftsmen were working for the whole complex (mosques, palace and ancillary buildings) which, with apprentices and unskilled labour, brought the total work force to about 1000 men.

The structure was based on baked bricks and cement mortar for foundations and walls and for the domes. Flat roofs, such as that of the grand mosque, were made of reinforced concrete. The materials used for the finishes were of a great variety: marble, and onyx in columns, tympana and floors, artificial stone, marbleized cement tiles, local hand-crafted glazed relieves and tiles, imported industrial glazed tiles, terrazzo tiles, colored glass, mirrors, precious wood, mother of pearl and painted frescoes.

Externally, the two mosques are treated in very different ways. Whereas the first and smaller mosque is almost entirely covered with glazed tiles of many origins and in many combinations (Figs. 9 & 10), the walls of the main mosque are treated in lusterless materials: marble, in the porch, and marbleized cement tiles covering the bulk of the building (Figs. 11 & 12). In this, the predominant ornamentation is confined to underlining the main angles with Multan glazed tile work, which is also used for the minarets and for the decoration of the white washed domes on both mosques. In the porch, however, detailed decoration is multiplied by a great variety of materials, techniques and combinations, extending to the interior in an ever-increasing complexity of patterns, sheen and preciousness of materials (Figs. 13 & 14).

The interiors are predominantly treated along traditional models. In the smaller mosque painted calligraphy and floral motifs on the walls and ceiling co-exist with marbleized industrial tiles (Fig. 15); but in the grand mosque, in which the whole spectrum is used, from wall painting to mirror work, gilded tracery, etc, innovations, both of materials and of forms, tend to concentrate on the porch and blend with the traditional in an elaborate decorative fabric. The richly decorated interior of the grand mosque, however, makes exclusive use of traditional materials and crafts (Figs 16-18).

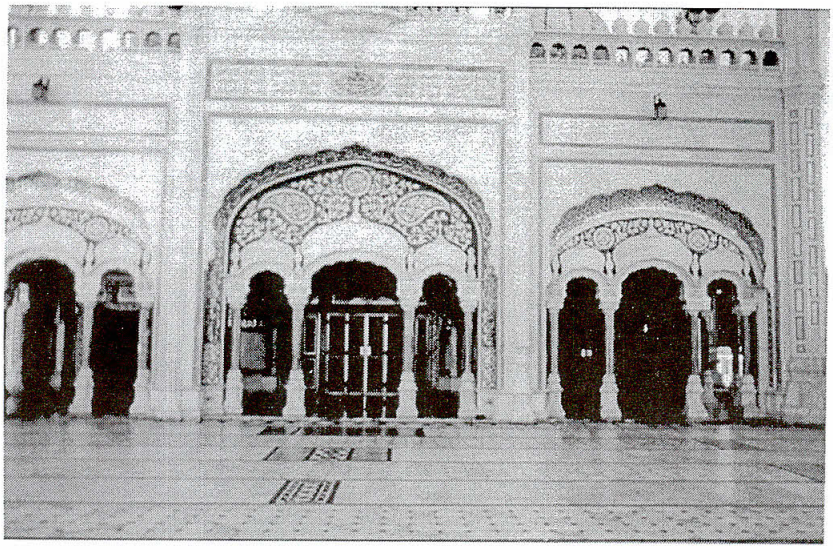


Fig. 10: Courtyard elevation of smaller mosque.

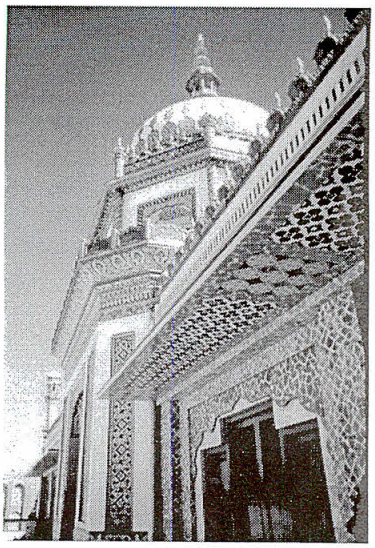


Fig. 11: Courtyard elevation of grand mosque.

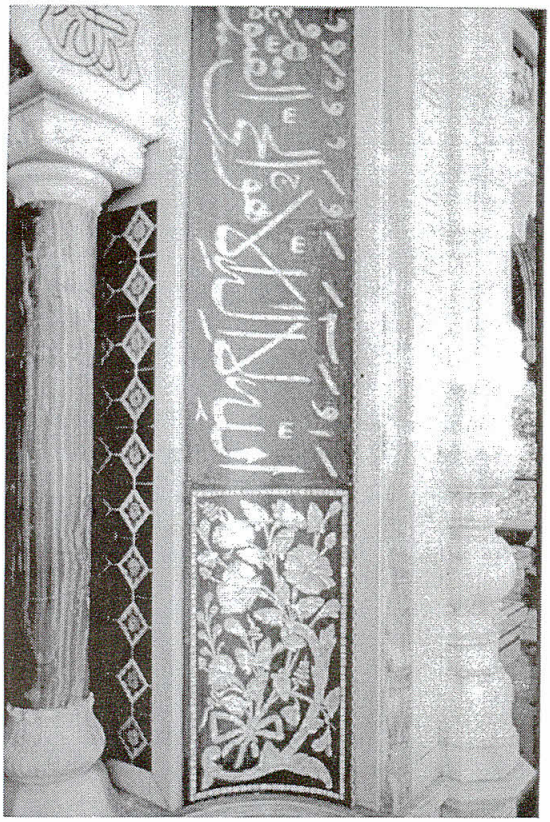


Fig. 12: Onyx, white marble and artificial stone with mother of pearl inlays, at the porch.

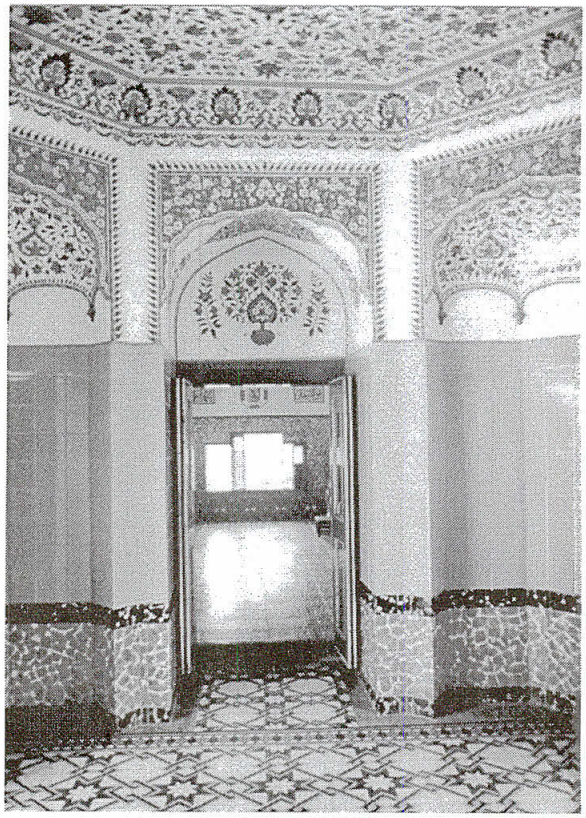


Fig. 13: Central hall of smaller mosque.

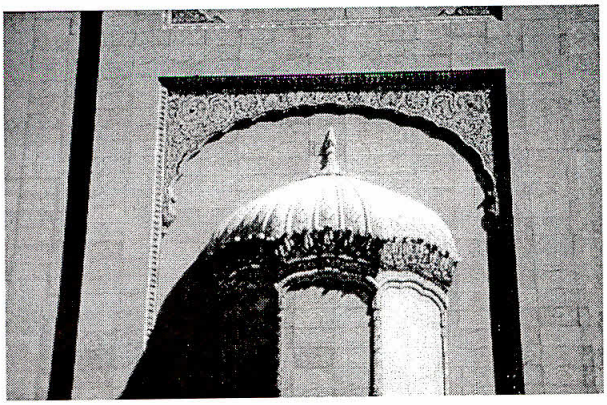


Fig. 14: Marbleized cement tiles and traditional glazed Multan tiles in qibla of grand mosque.



Fig. 15: Detail of side elevation of porch of grand mosque.

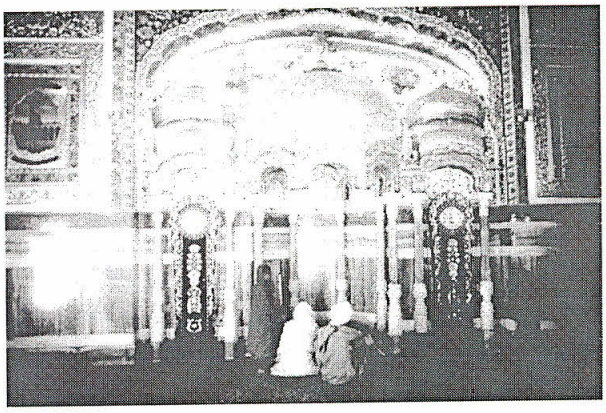


Fig. 16: Mihrab of grand mosque.

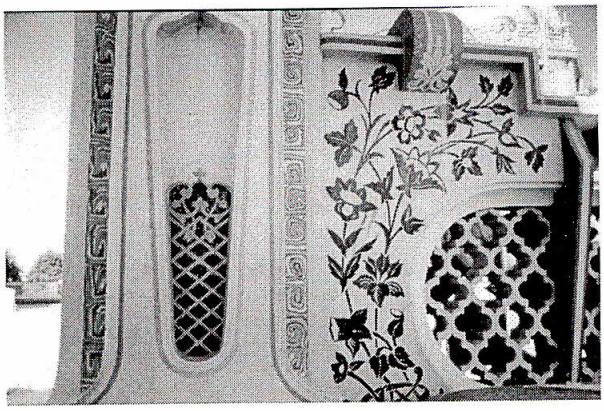


Fig. 17: Artificial stone at the southern entrance court.

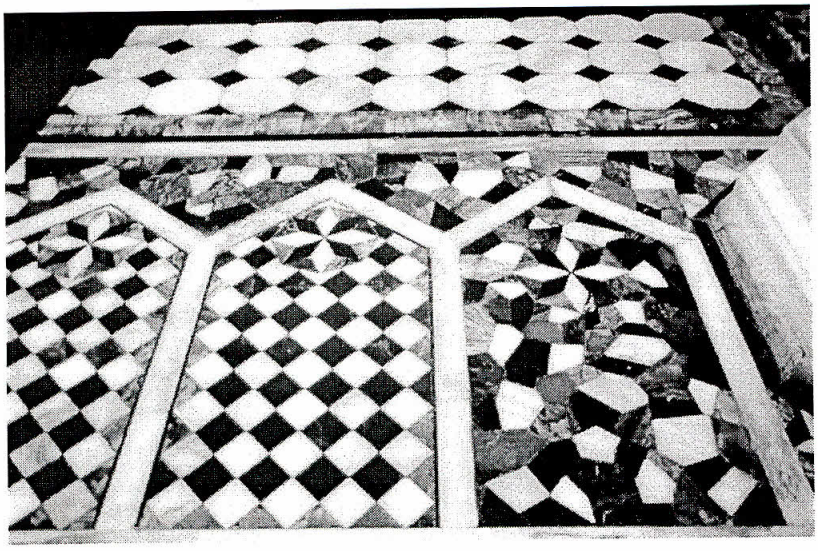


Fig. 18: Detail of onyx inlays of courtyard floor.

Conclusions

The ideas that seem to identify mosques in this region are that their bulks be imposing, that they carry the visible signs of their function (domes and minarets), that sheen and color abound, and that they be in every respect visually entertaining or edifying for the quality and diversity of materials, the ingenuity of their treatment and dramatic overall effect.

The intention of this project, as repeatedly stated by the descendants of Rais Ghazi, was to create a monument to the greater glory of God. In the basic framework of traditional models, materials and crafts adopted for the mosques, the architect wove a decorative composition dictated by his fantasy and his interpretation of traditional as well as of western models of his time. The ultimate purpose was grandiosity. and this was associated to such values as bulk and preciousness of materials, represented by, among other things, rarity, complexity of technique, sheen and color.

Therefore, forms, styles and materials appeared often associated regardless of their rank in a conventional hierarchy of 'more noble to less noble', in which, for instance, carved marble and fresco paintings are at the top, whereas cement tiles and standard glazed tiles are at the bottom. Techniques and materials usually associated with lower grade construction were developed to a rather refined point, as it for example happened with artificial stone and the variety of inlay work it allows. On the other hand, in a culture favoring the saturation of surfaces, standard patterned materials, such as industrial glazed tiles, may appear to an unprejudiced mind as an irresistible proposition to treat both large areas, as in the case of the interiors of the gates and the exterior of the small mosque, and interstitial spaces, as it happens in the porch and, to a large extent, in the main gate.

It is often difficult to trace the line separating naive exuberance from sheer ostentation, but one admires the ease with which the architect mixed contradictory elements. In some instances it seems that there is a purposeful design against an established order as for example when, in the courtyard floor, a line of medallions, made in regular diamond patterns of black and white marble, ends with a medallion with the marble elements disposed at random, as if the pattern had exploded.

It is hard to imagine that all or most of the proportional rules verified *a posteriori* on the survey drawings were intentionally applied by Rais Ghazi. It becomes easier to accept that what can now be verified with a ruler and a compass corresponded to an intuition; to an instinctive sense of volume and proportion which made of him, more than the promoter of an enterprise, the architect of his own dream. Subjective as this reading may be, however, it brings forward the role and nature of inspirations as part of the process of creating structures transcending limitations of functional prescription. So, the quality of this complex results not only from an imaginative use of textural applications but also from its understanding as part of a system of proportional forms.

Revisited twelve years later, the mosque complex performs well as a religious center and a focal activity point, as well as a reason of pride, for a community, which seems to have prospered with its existence.

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مفهوم عمارة مسجد بونج

فرناندو فاراندا

جامعة لفسوفونا

لشبونه , البرتغال

ملخص البحث: يقع المسجد والذي بني بين سنة ١٩٣٢ – ١٩٨٢م والحائز علي جائزة الاغاخان للعمارة لعام ١٩٨٦م في قرية بونخ الواقعة في جنوب البنجاب في الباكستان . كان المسجد ثمرة جهود أحد وجهاء قرية بونج والذي كرس كل جهده في استغلال افضل ما يقدمه عصره من تقنيات ومواد بناء.

كان لهذا المعلم آثار عدة في الساحة المعمارية والتي من بينها: الاهتمام بالحروف المحلية في الوقت التي نبذها الكثير,والدور الذي لعبه المجمع كعنصر في تكوين قلب القرية, وبالإضافة إلى حركة البناء الملموسة آن ذاك جلب المسجد أنظار الزائرين لكونه أحد المعالم القيمة.

يشرح التقرير نتائج استعمال العديد من الطرق ذات الملمس وتقنيات بناء ,وذلك لإضافة بعض الفخامة إلى مشروع محدود في إمكاناته يتطرق التقرير إلى بعض الأمور البديهية التي ما قد ساهمت في تفخيم البناء . حيث تظهر الدراسات التحليلية للتوزيع الفراغي للمسقط الأفقي والواجهات والمقاطع أنماط ونسبا هندسية ذات تناسق.

السؤال هنا هو ما إذا كان ذلك نتاج قرارات اتخذت عن قصد آم كانت ادراكات ومشاعر حسية لذلك الفراغ.