

«کسی نداده نشان در جهان چنین حمام»

(حمام گنجعلیخان)

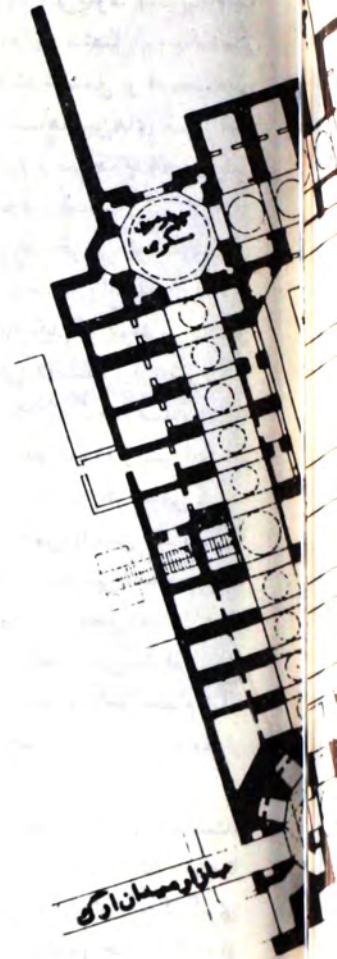
مهندس کامبیز حاجی قاسمی

مقدمه :

خوش قریحه سنتی از آنها نیز بناهایی با ارزش‌های هنری پدید آورده‌اند و بهمین دلیل هرچند امروزه این ابنیه سودمندی خود را به جهت تعمیم تأسیسات جدید شهری از دست داده‌اند، اما باید با دمیدن روح تازه‌ای در آنها در حفظ و نگهداری این میراث با ارزش کوشید. ابنیه عام‌المنفعه را معمولاً حکام یا افراد خیر برای استفاده عموم احداث کرده‌اند و بخشی از اهمیت آنها نیز ناشی از همین نکته است. دکتر باستانی پاریزی راجع به آب انبار گنجعلیخان که در کنار همین حمام قرار دارد می‌نویسد «قریب چهارصد سال است که مردم کرمان از این آب انبار سیراب می‌شوند و به بانی آن دعای خیر می‌فرستند و برای او طلب رحمت می‌کنند».

در سلسله مقالات «یادگاری از گذشته» تاکنون از مساجد، مدارس، مقابر و مزارها، بناهای وابسته به بازارها و خانه‌های سنتی نمونه‌هایی معرفی شده‌اند. بناهای عام‌المنفعه دسته دیگری از ابنیه هستند که جا دارد در این مجموعه به آنها نیز پرداخته شود. بناهای عام‌المنفعه تنوع بسیار دارند و هنوز نمونه‌های فراوانی از آنها در شهرهای قدیمی پابرجاست. این دسته بناها شامل حمام‌ها، آب انبارها، یخچال‌ها، آسیاب‌ها و ... می‌شود. اهمیت این بناها در شهرهای قدیم برکسی پوشیده نیست. در واقع زندگی و حیات شهرها در گرو وجود و کارکرد درست آنها بوده است. گرچه در معماری این بناها ذاتاً جنبه عملکردی غلبه دارد، اما باید اذعان کرد که معماران باذوق و

شمال



نقشه مجموعه گنجعلیخان
"Ganj Ali-Khan" complex

حمام گنجعلیخان :

چنانکه آمد حمام گنجعلیخان جزئی از مجموعه‌ای است که گنجعلیخان حاکم کرمان در ابتدای قرن یازدهم هجری قمری در کرمان احداث کرد. این مجموعه از یک میدان وسیع در کنار بازار، یک کاروانسرا (که برخی آنرا مدرسه خوانده‌اند)، یک

مسجد کوچک، یک بازار که تقریباً به دور میدان می‌چرخد، یک حمام، یک ضرابخانه و یک آب انبار و چهارسویی بزرگ تشکیل شده است. این ابنیه که تقریباً همه آنها بنای عام‌المنفعه هستند بانظمی دقیق و حساب شده به دور میدان بزرگ نشسته‌اند و در حالیکه هرکدام نقش متفاوتی دارند مجموعه‌ای بهم پیوسته را پدید آورده‌اند. به شهادت کتیبه‌ها ماده

نکاتی درباره معماری بنا:

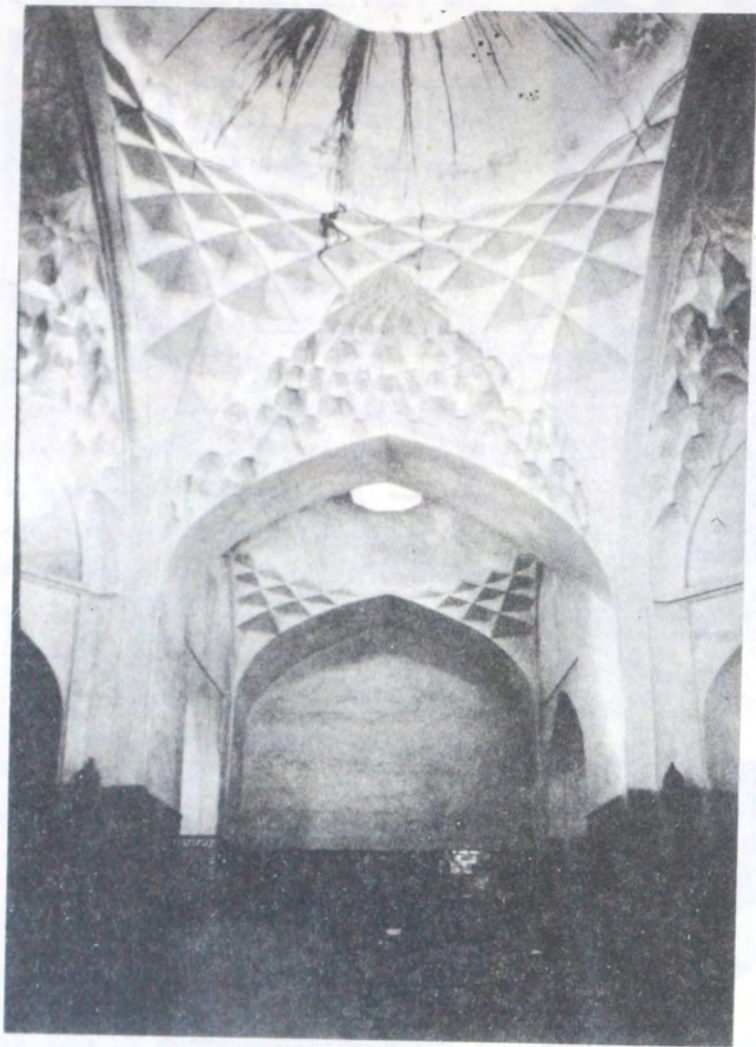
حمام گنجعلیخان مانند بسیاری از حمام‌های قدیمی به دو بخش اصلی تقسیم می‌شود. «سربینه» یا «جامه‌کن» که خود از فضاهایی متصل به یکدیگر تشکیل شده و «گرمخانه» که مشتمل بر قسمت‌های عمومی و خصوصی، شاهنشین‌های مختلف، حوضخانه، خزینة آب گرم و سرد، چاله حوض (استخر آب سرد)، نمازخانه و... است.

این دو بخش اصلی به صورت ظریفی توسط «میان در» به یکدیگر متصل می‌شوند. در واقع «میان در» از یک سو دو بخش حمام را به یکدیگر پیوند می‌دهد و از سوی دیگر طرح خاص آن سبب می‌شود که هر بخش بتواند دمای خود را - که کاملاً متفاوت با دمای بخش دیگر است - حفظ نموده و نیز امکان دید مستقیم از یک بخش به بخش دیگر متفی گردد. ورودی حمام نیز نقش مشابهی را بین سربینه یا رختکن و فضای بیرون حمام ایفا می‌کند. هرچند سردر پرکار و پرتیزی که بر روی محور میدان قرار دارد هر بیننده‌ای را به درون دعوت می‌کند اما طرح ورودی مانع دید و عبور مستقیم به داخل حمام شده و از تبادل حرارتی سربینه با فضای خارج نیز به مقدار زیاد می‌کاهد.

سربینه یا جامه‌کن در واقع فضای اصلی بناست، جایی که معمار بنا تمامی توان خود را به کار بسته تا فضائی عالی و باشکوه طراحی نماید. او با به کارگیری نظمی کامل و تناسباتی نغز و ترکیبی حساب شده از سطوح کاشیکاری پرنقش و نگار رنگارنگ و سنگ‌های مرمر و سقف‌های گچی پرشکنج سفید و همچنین با استفاده از صدای آب که حاصل فوران فواره‌ها در حوض‌های متعدد است و نیز نورپردازی

سردر ورودی حمام در بازار





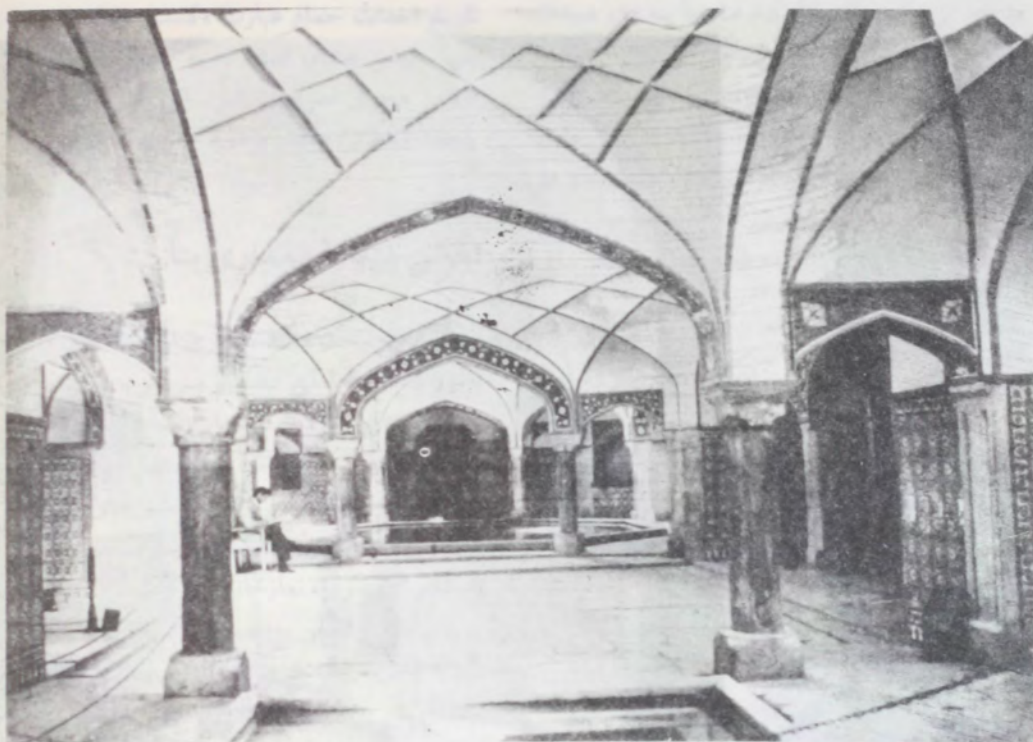
فضای سربینه

دید سربینه از ورودی

عرضه می‌دارند. به طور کلی در حمام همه فضاها به بلوری تراش خورده می‌مانند و همچون جواهری نفیس جلوه می‌کنند. این خلوص و کمال نه تنها در شکل قاعده فضاها بلکه در حجم کلی آن‌ها و همچنین در طرح سقف‌ها - که از هندسه‌ای ناب پیروی می‌کند - نمودار

خود حوضچه‌ای با فواره در مرکز خود جای داده‌اند. فضاهای کناری از پشت هم به یکدیگر مرتبطند. به این ترتیب سربینه در عین اینکه فضایی یکپارچه و واحد جلوه می‌کند دارای گوشه‌های دنج و تودرتویی است که هریک استقلال تمام دارند و فضاهایی مناسب برای استراحت، عبادت و گفتگو به مخاطب

خاص، فضایی دلنشین، آرامش بخش و مسحورکننده آفریده است. سربینه متشکل از یک فضای میانی وسیع و غرفه‌ها یا فضاهای کوچکتر در گرداگرد آن است. فضای میانی سقفی بلند و پرکار و حوضی در میانه دارد و فضاهای کناری کفی بلندتر از فضای مرکزی و سقفی کوتاه‌تر از آن دارند. آنها نیز به نوبه

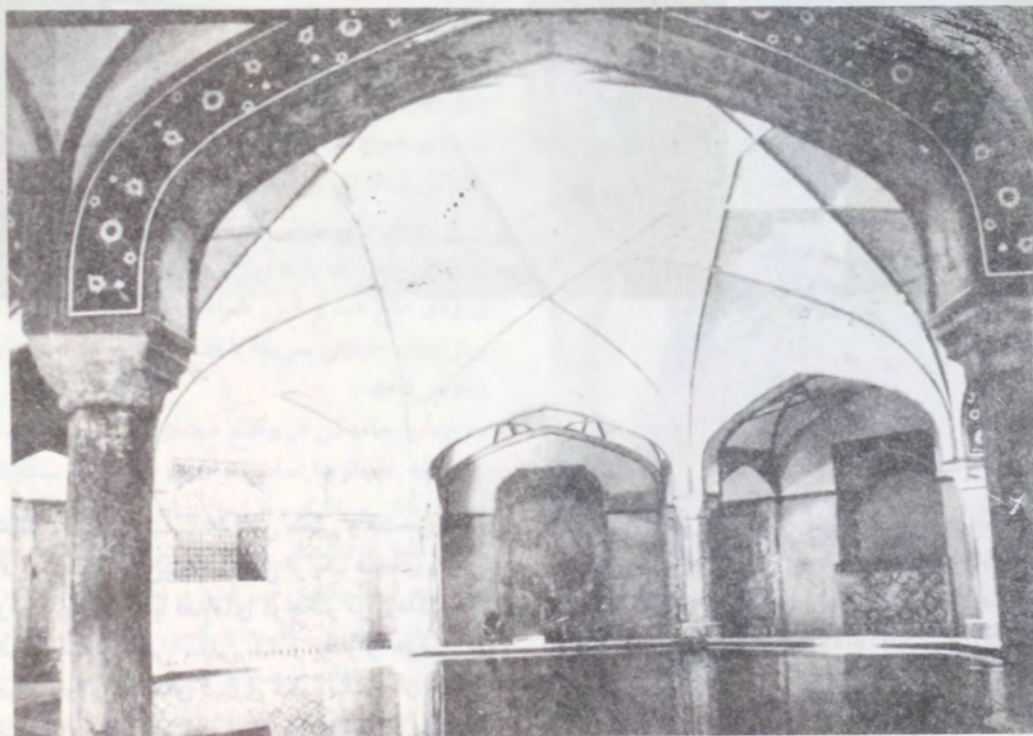


می‌گردد. سقف‌ها اغلب رسمی بندی دارند و جالب اینکه رسمی سقف هر فضا با فضاهای دیگر متفاوت است و تنها بعضی فضاها یا جزء فضاهای متقارن، رسمی‌های یکسان دارند که این خود تأکیدی بر تقارن فضاها و نیز کل مجموعه قلمداد شده، نظم درونی مجموعه را دو چندان می‌نماید. در مقابل این تأکید بسیار بر نظم فضاهای داخلی، بی‌نظمی جداره خارجی بنا قابل تأمل و درنگ است.

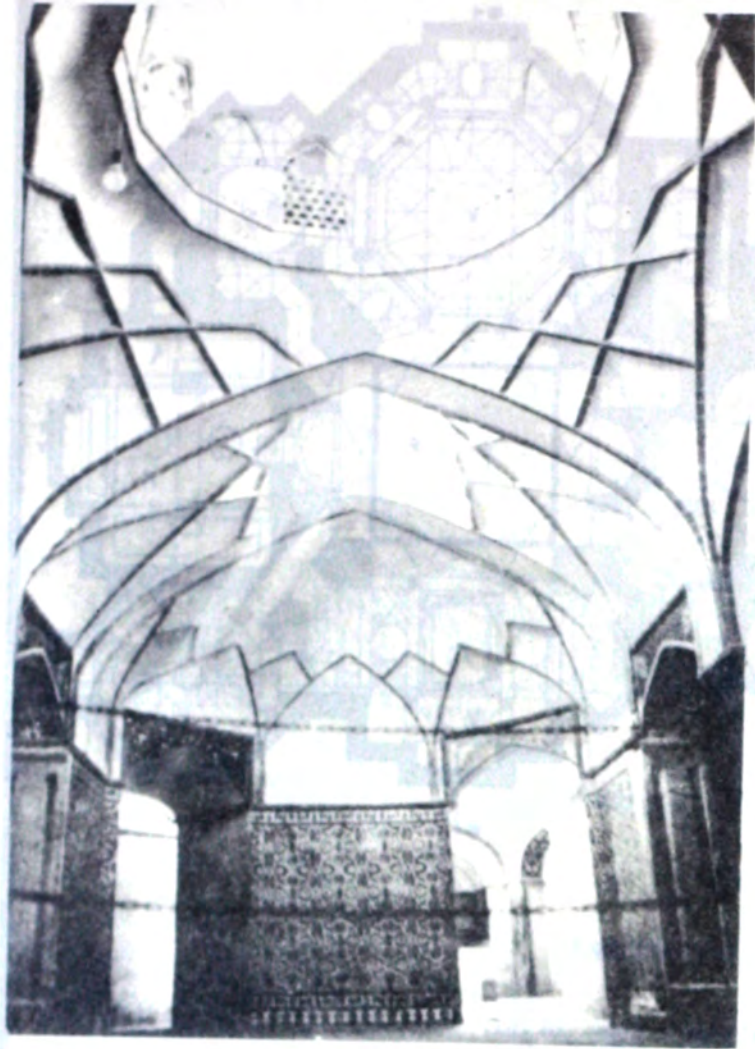
نور فضاهای حمام همه از سقف تأمین می‌شود. این نورپردازی به طریقی استادانه انجام شده و از این نظر نیز فضاها تنوع و گونه‌گونی جالب توجهی پیدا کرده‌اند. نکته مهم در نورپردازی فضاها آنست که نورگیرها معمولاً در مرکز و یا دورادور سقف‌های پرکار جواهرگونه جای گرفته‌اند و بدینگونه کاملاً با هندسه سقف هماهنگی پیدا کرده‌اند. به عبارت دیگر در میانه و یا گرد سقف نقطه یا نقاطی نورانی واقع شده‌اند که جواهر سقف را متلاله نشان داده، سایه روشن زیبایی بر روی آن ایجاد می‌کنند. قرارگیری حوض آبی نیز درست در زیر این نورگیرها برجلوه و اهمیت آن‌ها می‌افزاید.

سواى آنچه آمد که بیشتر به طرح معماری حمام باز می‌گشت، نکات تکنیکی بسیاری می‌توان در این حمام تشخیص داد و از آن‌ها یاد کرد نکاتی همانند چگونگی کاستن از تبادل هوای داخل و خارج حمام، چگونگی شبکه آبرسانی به خزینه، گرمخانه، سرینه، حوض‌ها، حوضچه‌ها و فواره‌های متعدد آن‌ها، چگونگی گرم کردن هوای داخل حمام، چگونگی آب بندی مخازن آب و گرم کردن آب و بسیاری نکات فنی دیگر که بدون آن‌ها کارکرد حمام ممکن نمی‌شد. با شعری که در یکی از غرفه‌های حمام نوشته شده و توصیفی در خور از آن است به این مختصر خاتمه می‌دهیم.

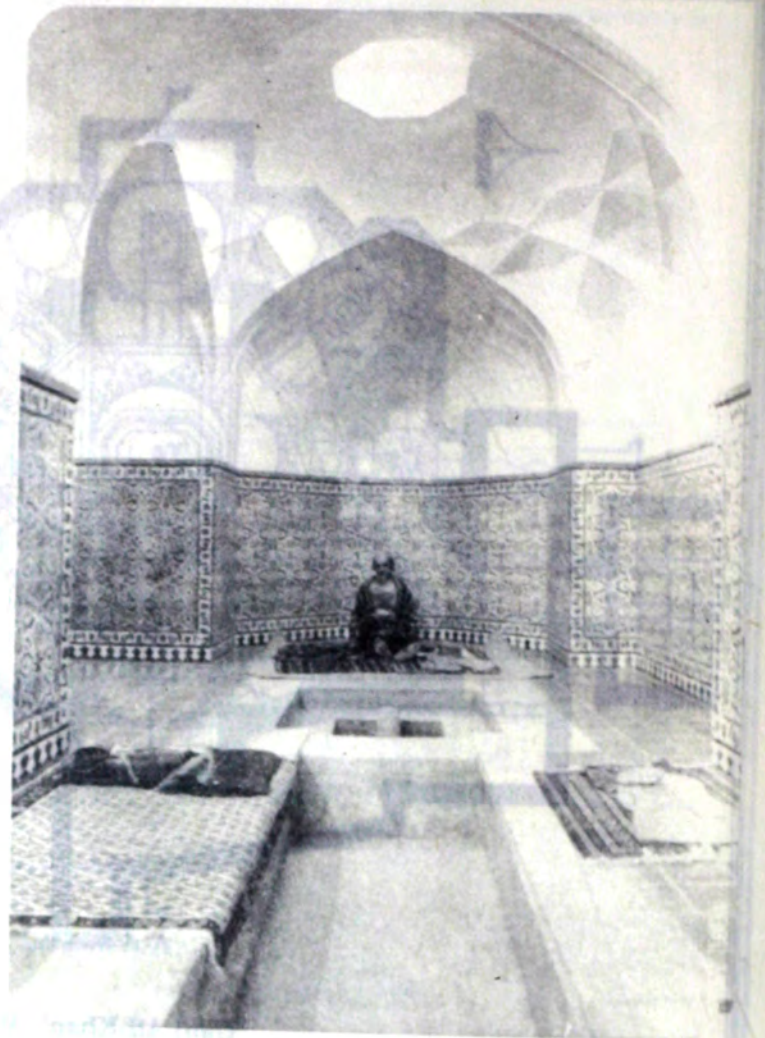
تصویر بالا - فضای گرمخانه



تصویر پائین - بخشی از گرمخانه



بخش دیگری از گرمخانه



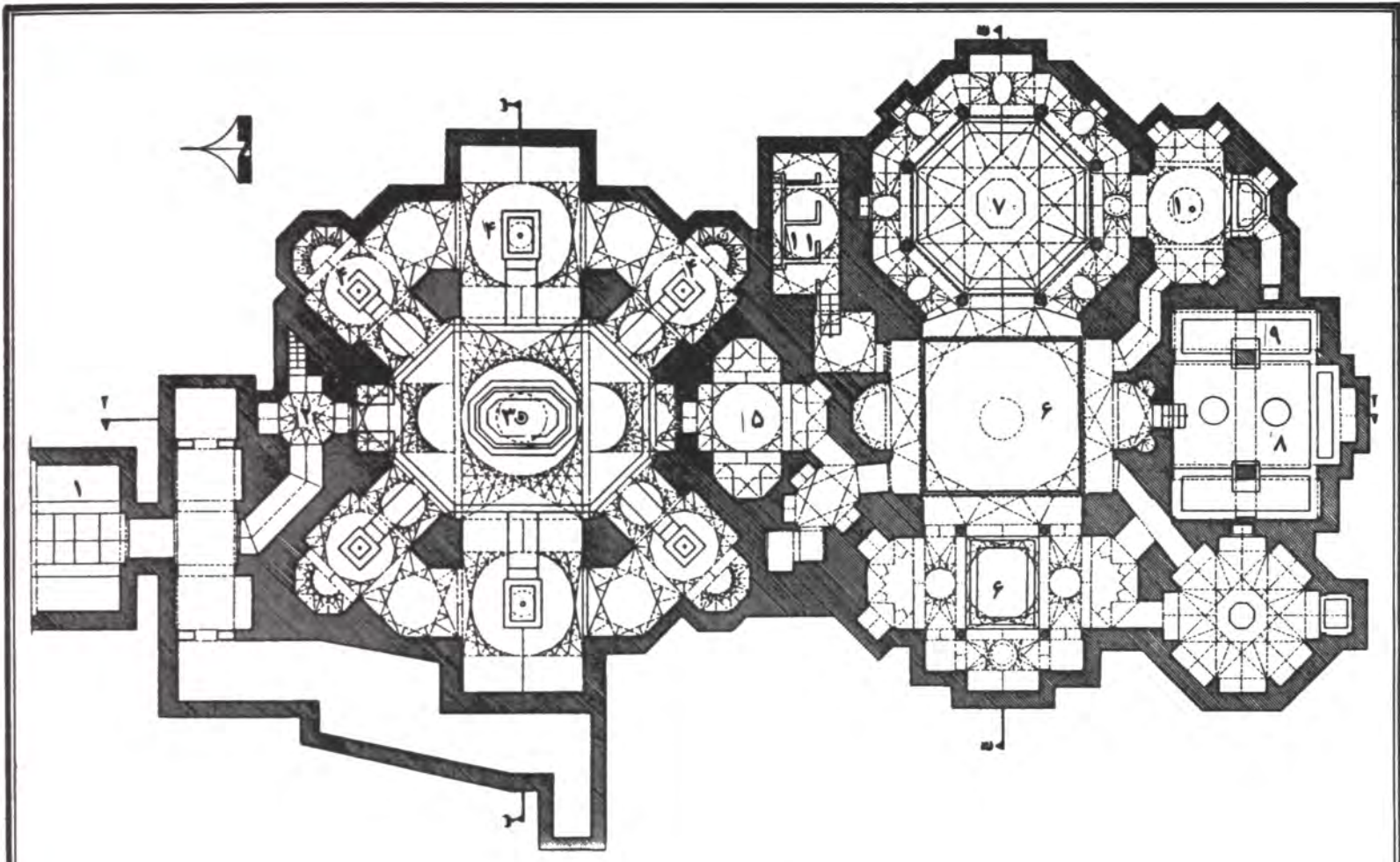
یکی از غرفه‌های سرینته

یادداشت :

۱- برای اطلاعات بیشتر تاریخی رجوع کنید به:
 - باستانی پاریزی، محمدابراهیم: گنجعلیخان، چاپ
 دوم، تهران، انتشارات اساطیر، ۱۳۶۲

به راستی که حمام گنجعلیخان کرمان با آنهمه زیبایی
 خیره‌کننده و پرمعنا، نه گرمابه تظهير تن و جسم که
 حمام روح و جان است.

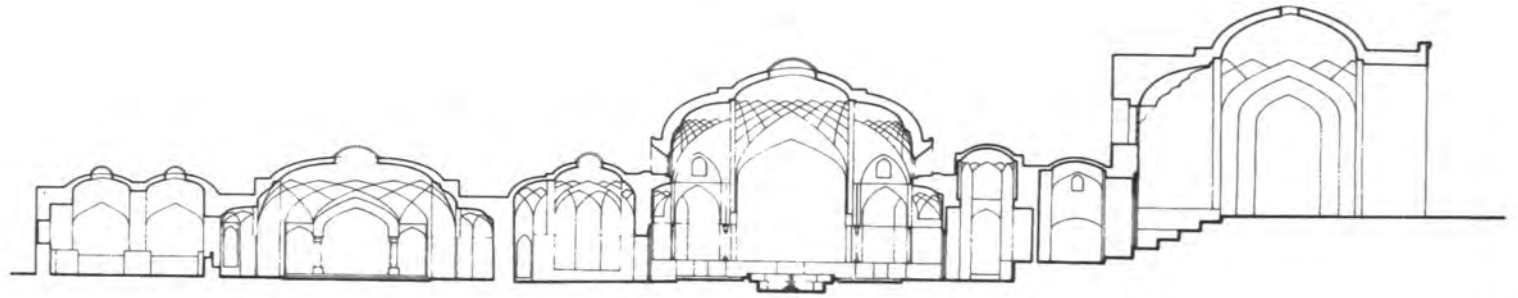
صحن او بس دلگشا و سقف او به زآسمان
 جام‌ها در وی بسی روشن‌تر از خورشید و ماه
 قلین او که لب ریز است از آب حیات
 مژکه در وی غوطه زد چون خضر شد بی اشتباه



"Ganj Ali-Khan" "Hammam" plan مقطع افقی حمام

- ۷- چاله حوض (حوض آب سرد برای آبتنی)
- ۸- خزینه آب گرم (برای شستشوی بدن)
- ۹- خزینه آب سرد (برای شستشوی بدن)
- ۱۰- شاهنشین و غرفه خصوصی
- ۱۱- سرویس بهداشتی

- ۱- سردر
- ۲- هشتی ورودی
- ۳- سرینه
- ۴- غرفه‌های کناری سرینه
- ۵- میان در
- ۶- گرمخانه

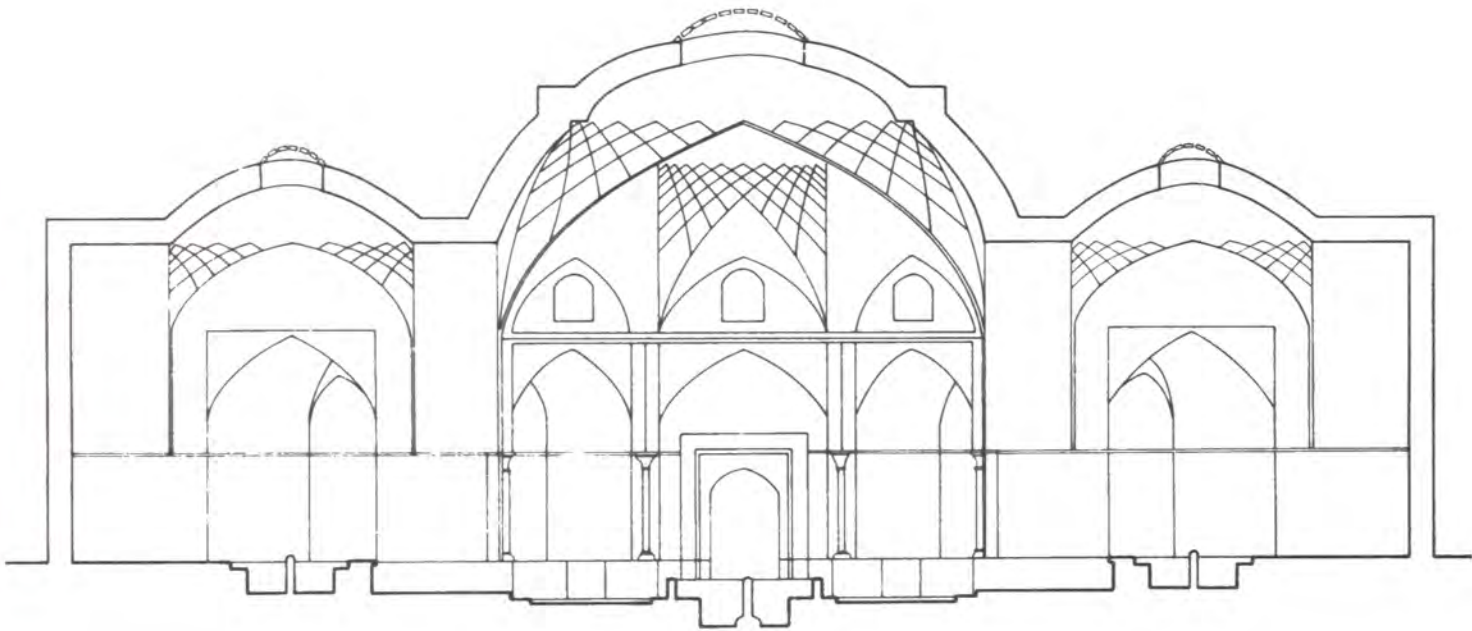


مقطع عمودی طولی - برش آ-آ

Longitudinal section - Section A-A

Name of spaces (see plan)

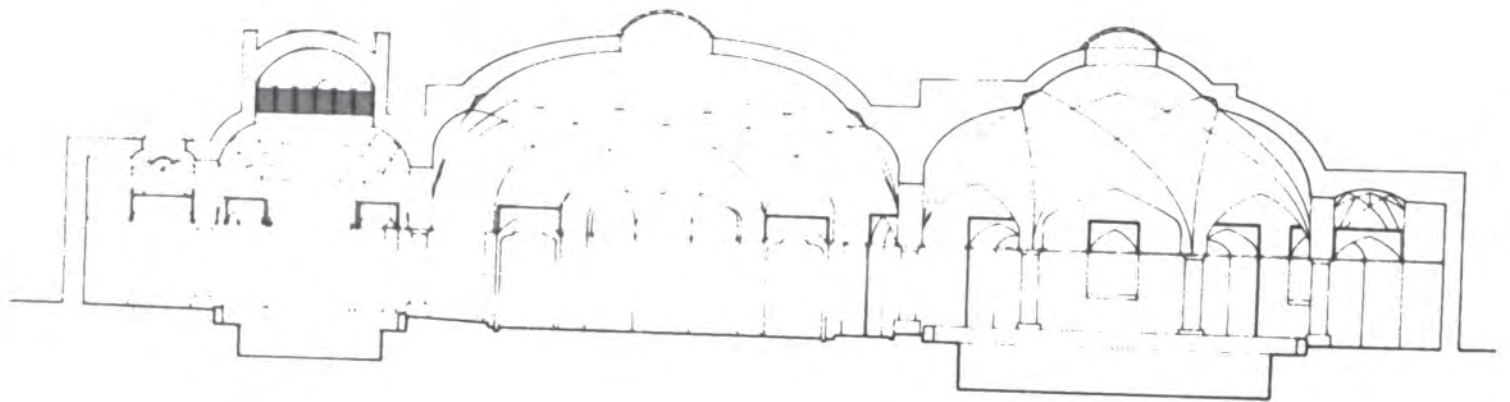
- | | |
|---------------------------------|-------------------------------------|
| 1- Entrance | 7- Chaleh- houz |
| 2- Hashti | 8- Khazineh (hot) |
| 3- Sarbineh | 9- Khazineh (cold) |
| 4- sub-chambers of the Sarbineh | 10- Shah neshin and private chamber |
| 5- Mian-dar | 11- Services |
| 6- Garm-khaneh | |



مقطع عمودی از سرینه - برش ب - ب

Section Through "Sarbineh"— Section B-B





مقطع عمودی گرمخانه - برش ج - ح
Section Through "Garm Khaneh" - j-j section



Space definition :

- 1- Sarbineh : A cloak room
- 2- Garm-Khaneh : The Main space used for washing the body.
- 3- Shahneshin : Private chamber
- 4- Chaleh-houz : Garm-khaneh complementary space, with cold water pool
- 5- Khazineh : a bathing pool.
- 6- Miandar : an airlock.

Note :

* by M.E. Bastani-Parizi,
Assatir Pub., Tehran,
1362

All the rooms in this bathhouse have been designed as carefully as a jeweller cuts precious stone. This purity and perfection can be seen not only in the plan of the bathhouse but also in the shape and space of all the different rooms and sections. Most of the ceilings worked out by "Rasmi bandi". The "Rasmi" of each ceiling is different except for a few smaller rooms which have been similarly designed to create symmetry that adds to the order of the building. In contrast to the order seen in the internal areas of this building the external walls have been designed with less order or arrangement.

All the rooms receive light through the ceiling. The skylights have been expertly designed lending a variety of shade and light to the different rooms. The interesting point about the lighting is that all the skylights have been placed in the center or on the circumference of each ceiling conforming completely to the geometry of the ceiling. The placement of a pool in the center of the room adds to its beauty and importance.

Other than the above mentioned items which are all related to the architectural design of the building, There are many technical points to take into consideration. Such as :

- The exchange of cold and warm air between inside and outside.

The water circulation system inside the "Khazineh", "Garm-khaneh", "Sarbineh", the different pools and fountains,

- The heating system,

- The insulation used for the reservoirs and the water heating system.

The efficiency of the "Hamam" depends on such technical elements.

inscription of the following phrase:

"None has yet seen such a bath in the world"

Architectural Characteristics :

In resemblance to the other public baths of Iran, the Ganj-Ali Khan bath is divided into two main sections. The "sarbineh" (1), a complex of linked spaces, and the "Garm-Khaneh" (2) which is constituted of public and private sectors, "Shahneshine"s (3), "Choleh-hauz" (4), "Khazineh"s (5), a prayer hall... ect. These two main sections are delicately linked by a "Miandar" (6). This architectural element not only links the two different spaces, but also its keeps their high and low Temperature at the required level. It also excludes the possibility of a direct view from each sector into the other. The main entrance of the bath plays a simmlar role between the "Sarbineh", the cloakroom and the exterior spaces. Although the decoration of the portico which is situated on the axis of the "Meidan" invites all who visit this complex, its design blocks the direct view inside the bath and greatly reduces the exchanges of temperature between the inner and outer spaces of the bath.

The "Sarbineh" is the main section of the building and therefore the architect has made every effort to design a magnificent and beautiful area, by making use of order and a caluculated composition of tiled surfaces, a wide variety of colors and designs, multi-shaped ceilings, different shades of marble, the sound of running water produced by the fountains in the pools and beautiful lighting; the architect has created a peaceful and magical surroundings. The "Sarbineh" consists of one large central room surrounded by smaller areas. The central section has a high ceiling and a pool in its center while the surrounding have higher floors and lower ceilings. These are as inter-connected. Therefore although the "Sarbineh" seems to be one single space, it actually consists of many smaller rooms and quiet corners suitably designed for socializing, resting or praying.

traditional houses and Bazar related buildings. Commodious buildings are another group which need to be discussed in the present series.

These buildings, Whose numerous examples may still be seen in our old cities, have different varieties. The importance of these buildings which include public baths, "Ab-anbars", mills, ice-houses, etc. is not denied by anyone so, it should be noted that the existance of our cities depended on the preservation and efficiency of such buildings. Although the architectural design of these buildings were based on their function, the tastes of their traditional architects turned them into buildings of artistic value. As a result, although they may seem to have lost their traditional function in the propagation of the modern urban instalations, their rehabilitation is a necessary task.

Commodious buildings were generally built by dominant rulers or generous people for common use and it seems that this causes a fraction of their importance. Dr Bastani Parizi in his discription of the "Ganj-Ali Khan" "Ab-anbar", Which is near to the "Ganj-ali Khan" bath has written: "It is close to 400 years that the inhabitants of Kerman Have been taking water from this "Ab-Anbar" and praying for the well being and good health of its founder."

The Ganj-Ali Khan Bath

The Ganj-Ali Khan bath is situated among a complex built by Ganj-Ali Khan, the dominant ruler of the city of Kerman, in the first half of the 11th century H.G. (15th century A.D.).

The complex is composed of a large "Meidan" and its encircling bazaar, a "carvansaria" (beleived by some to be a madrassah), a small mosque, an "Ab-Anbar", a bath, a coinage mint and a "Char-souqe". These buildings which have different functions, in general are regarded as commodious buildings set around the "Meidan" in order of making a consecutive complex. According to the plaques, the date of the construction of this bath is 1020 H.G. (1584 A.D.). Its architect Ostad Mohammad soltani, a traditional architect of Yazd, present's this date using "Abjad" numerals through the

Supervised by Ostad Reza :

- 1- Rebuilding "Taviseh" of, the "Alchagh mosque" in Tabriz.
- 2- Repairing the "Saffi Bazar" in Tabriz.
- 3- Building the Agricultural buildings in Ardebil, Mamaghan, Pars-Abad.
- 4- Connecting the roof of the "Khaleh Oofi mosque" to the "AlChagh mosque" rear" jame mosque", Tabriz.

■ An Architectural Heritage : The Ganj-Ali Khan Bath

Kambiz Hadji-Ghasemi,
M.Arch.

Coming up under this title in every issue of SOFFEH is the result of a team work by students in the course on the introduction to Islamic Art and Architecture. An exercise of this course is a complete documentation of a building from the Iranian Islamic period. The purpose of the documentation is to bring the students into direct contact with the buildings of the past and drawing their attention to its spaces and details. In other words, it is to make an acquaintance with the traditional architecture of this country.

The selected building for this issue is the "Ganj-Ali Khan" bath in the city of Kerman. This building which is among the most important historical buildings of Iran was built during the Safavid dynasty in an invaluable historical complex. During the previous years, the Ganj-Ali Khan bath has been restored and rehabilitated into a museum.

The documentation of this building has been concluded by Mr. Mohammad-Reza Esmailzadeh, Mr. Mohammad-Reza Seirafi, Mr. Mohammad-Reza Motahari and Mr. Shahram Behzadpour in the academic year 1363 (1984 A.D.).

Introduction :

In the previous issues this article has presented different examples of the traditional architecture of Iran such as mosques, religious schools, tombs,

The above named mosque is the Ostad's last work. Work on the mosque's roofs, dome and minarets will be carried out soon.

List of works done by Ostad-Reza :

Built by Ostad Reza :

- 1) 50 public baths including
 - Mafi-0- dolleh bath in Meshkin Shahr,
 - Dah- Navardi public bath,
 - Mamaghan public bath
 - Litvan , Harris, Deh- Barnlo public bath, ...
- 2- A stone dam built outside Takab. The bottom of the dam is 18 meters thick and the top is 10 meters thick. This dam is 100 meters long.
- 3- Dr. Kazem-Zadeh's private house in Tabriz.
- 4- The dome of the mosque in the Sanatti Sharif University campus, Tehran.
- 5- The "Imam Reza (greeting on him) mosque" outside Tabriz.

Restored by Ostad Reza:

- 1- The Salamat-Abad bridge in Bijar.
- 2- Restoring over 300 public baths including "Sanjagh" "Seffead" and "Nokhost" public baths, the "Khan" public bath near Tabriz bazaar that was originally built in the Safavid period and has unfortunately been destroyed and replaced by the "Safavid Timcheh".
- 3-The "Kabood mosque".
- 4- The dome of the "Kabood mosque.
- 5- The "Kolahdooz chaharsoogh" in the Tabriz bazar
- 6- Restoring many parts of Tabriz bazar.
- 7- The "Ayatollah Shahidi mosque" next to the "Kabood mosque".
- 8- Repairing the "Bani Akram mosque" in Tabriz.

We asked the Ostad how many builders and architects he had trained. He answered : "Being an apprentice requires a lot of patience and natural talent My apprentices couldn't endure the hard work and usually left me. "After this he remembered a story which he told us : "Once when I was twenty years old, While accompanying my father and a group of learned men in the presence of "Sheikh-Ol Aemmeh" who was the judge, the Sheikh asked my father : Which of your children shall serve the people like you? "My father pointed at me with his broken walking stick and said : "Haj Sheikh, my son Reza. I shall have to serve him as an apprentice for 30 years. "At the time my father was a great Ostad and I had not yet begun studying Architecture therefor I was surprised at what my father said. Later on I realized that he had seen inside me something I was not yet aware of myself.

Of the Ostad's children only two of his sons followed their father's steps. When we asked why, he replied : "When I became well-known and wealthy in Azarbaijan about 51 years ago I bought this house. Next to it was a vacant plot of land , and a lot of unsuitable people gathered, there. This was an unfit environment for my children's upbringing and had a negative effect on them.

The Ostad believes that becoming an "Ostad" in every way needs a lot of time and an architect must know the four elements (water, air, earth, fire) very well. Not being familiar with the four elements is harmful to the building and makes it unsuitable for people.

We asked Ostad-Reza what he thought was the most important thing for a student of Architecture today. He answered : "Obtaining experience. Students should practice. "We asked him about the Architecture of today. He said : "Building materials have changed. This building I'm living in is made of mud-bricks but they are not used anymore. Work done with mud-bricks is much different from work done with cement. By changing building materials we have weakened our knowledge. Today if there is no cement and iron a builder can not work. I built the 19.8 meter diameter dome of the "Kabood mosque" with old materials because the building is very old. The dome is very strong. But in the building of the "Imam Reza (greeting on him) Mosque" outside Tabriz I used concrete because this building belong to this era and I believe it will stand for thousands of years.

"My father took me to the 'Jame' mosque to his brother Haj Sheikh Hossein who was the prayer leader to study religious sciences. After studying for a short while I realized that to gain a high position in this field one must acquire a lot of knowledge but on the other hand while dealing with religious matters there are many different views and opinions to take into consideration. Therefore I realized that it would not be possible for me to obtain perfection in this field. So I turned to science and crafts then started to work by studying the qualities of water, air, earth and fire. After that I decided to follow in my father's footsteps. This decision brought me great fame.

The Ostad's first job assisting his father was the restoration of a bridge in the "Salamat-abad" village in Bijar that he turned to building public baths. He built two in Shabestar. He also built many public baths in other towns of Azarbaijan including Meshkin-shahr, Mamaghan, Litvan, etc. Ostad Reza says that because of winning great fame in building baths people came to him from all different areas of Tabriz asking him to build for them.

After this he was asked to restore the "Kabood mosque" in Tabriz. He says: I started work on the "Kabood mosque" by studying the qualities of different materials. I noticed that stones were being placed in plaster. I told the builders that the stones had not been baked by fire therefore they absorb a lot of water. The stones used should come from a plaster-kiln. I suggested they build a mill and also a plaster-kiln. This way I got hold of stones that would absorb less water and with them I built a dome for the mosque that will stand for thousands of years. The Ostad considers this dome as the best work he's ever done.

He says : "An architect is never free while designing a building for the agreement of the employers is always a very important factor but in the "Kabood mosque" I used strong bricks therefore if not ruined by an earthquake it will stand for thousands of years."

Ostad Reza has done a lot of work from building, restoration and design to supervising different projects. His speciality is building public baths. Here we have a list of the Ostad's work. This list though incomplete may be considered a first step towards recording all the work ever done by this great master-builder.

■ An Introduction to the Masterbuilders of Traditional Architecture

"Ostad Mohammad-Reza Memaran Benam" or "Ostad Reza"

In the last issue of "Soffeh", with the intention of recognizing the important role played by the traditional master-builders in producing valuable masterpieces we introduced "Ostad Hadji Ali-Akbar Akhond", a traditional Architect from the city of Yazd. In this issue we intend to present another great master-builder of this land, "Ostad Mohammad-Reza Memaran Benam", Known as "Ostad Reza" Although this Ostad is from Tabriz, he is a well known to all Iranian artists.

This article is the result of an interview which took place at the Ostad's home in Tabriz on the 18 th. of Bahman, 1372. Unfortunately at the time the Ostad was suffering from heart disease and Bronchitis therefore the interview had to be shortened.

It is sad to see that except for a single interview arranged by Radio and Television no suitable measures have been taken to preserve the knowledge and experiences of this great Ostad of traditional persian architecture. It is up to the administrators of the Cultural Heritage Organizations and also the schools of Architecture to make an effort to preserve the experiences of the great master-builders of our time who are our only link to the true meaning of "Mimar".

Here I would like to thank the cultural Heritage office in Tabriz for helping us in every way. A video film of this interview is available at the archives of the faculty of Architecture, Shaheed Beheshti University.

According to his identification papers Ostad "Mohammad-Reza Ostadan Benam" was born on the first of Mehr, 1282; although he himself claims to be 85 years. old. He was born at No.5515 in the Ghareh-Aghaj, Darband and rajviah area of Tabriz. His father was Bak.-Kazem one of the skilled builders of Tabriz. He has three wives, ten sons and six daughters.

Ostad Reza became interested in Architecture at the age of twenty and Learned Architecture from his father who lived to be 115. According to Ostad Reza he has worked as a master-builder for 105 years and has done a wide variety of work from fine detailing to building structures. We asked him how he became interested in Architecture and building and this was his reply :

■ The Bibliographic List of Iranian Cities.

Bahram Ghadiri, M.A.

The pigeon towers are not only enormous in size, but also unique in regards to their variety of forms. In the more developed examples one is confronted with a space filled with the sound of music rather than an architectural space. In addition to the above mentioned characteristics, one should also note the application of different techniques and sciences (mathematics, geometry, physics, zoology and animal behaviour).

Today, the pigeon towers of Iran, although highly regarded for their historical, economical, cultural and artistic values; are facing a speedy devastation for different sorts of reasons. The aim of this article is to present a number of guidelines for their restoration and conservation.

In the previous issues of SOFFEH, with the introduction of the goals and subtitles of this bibliography, a section of the list of research sources were presented to our readers.

These included :

- 1: Research sources of the Iranian historical geography in the order of their compilation.
- 2: A bibliographic list of the geographical history of Iran.
- 3: A bibliographical list of urban design and settlements of Iran.
- 4: A bibliographic list of architecture and urban design of Iran.
- 5: A bibliographic list of Iranian city management.
- 6: A bibliographic list of Iranian cities.

In the present issue, the bibliographic list of Iranian cities, arranged in alphabetical, is presented to our readers. Due to the extent of this section, the letter is published. We hope to present the following sections of this research in our future issues.

■ The Great Louvre (1983-1993)

Saeid Mashayekh-Faridani,
M.Sc.

Among the great projects of the eighties which were constructed in France none has been more spectacular and interesting than I.M.Pei's extension of the Louvre, in other words his glass pyramid. Pei who is infact the first foreign architect to have worked on the Louvre during the previous three decades concluded his task with great satisfaction. Giovanni Lorenzo Bernini, the famous Italian artisian, sculptor and architect who had been previously invited to the Louvre in 1665 faced a storm of national fanaticism and thus forced to leave paris.

With an inspiration from the four thousand years old pyramid of Cheops, the Egyptian Pharaoh, and the study of contemporary technology, Pei managed to present a modern, light and translucent composition of steel and glass. The glass gem designed by I.M.Pei in the center of the Napoleonic square of the Louvre resulted in the construction of a fine enterace which guides a large number of the visitors in to the Great Louvre every day.

During the extention, the total area of the exhibition halls were doubled, resulting in a total area of 186000 Sq.meters, turning the Louvre into the largest museum of art in the world. This article aims to present the fine characteristics of a building which is beleived to be the prime example of the competent and yet presumptous contemporary architecture which aims to restore and rehabilitate the traditional forms of architecture.

■ Pigeon Towers of Iran

Dr. Morteza Farhadi

In addition to the underground water canals which are among the most astonishing acheivements of mankind throughout the history of this planet, the pegin towers of Iran is the second and most important agricultural instalation in the previous decades.

The pigeon towers whose exact area of domain is not yet recognized are truely unique in the world. One should truely consider their largeness, structural complexity and architectural beauty. These buildings which facilitate the production of the finest brand of natural fertilizers, although attracted the watchful eyes of western travellers who passed through or near the city of Isfahan; have miraculously remained a mystery to Iranian researchers even those who have specially wrote articles on the city of Isfahan, throughout the history.

■ Visual Balance in Centric System (vs. Descart System)

Dr. Mahmood Razjouyan

Those who are involved with the different aspects of design are also involved with visual balance. As a result, the number of theories explaining and analysing this subject in the different artistic fields are not a few. Whenever we study this subject in depth, we reach the conclusion that the presentation of a scientific theory is not a simple task. Also, with the consideration of the long intervals between their presentation, one would surely notice the appearance of a certain scientific poverty.

The present article, with the aim of taking part in the first struggle against this lack of adequate research, presents visual balance as a young theory based on the discoveries of the Gestalt psychologists after considering a number of old theories. The author hopes that this theory would be a base point for others to continue.

It should be noted that visual balance is a subset of "Mental Balance" which itself deals with the relation between Form & different types of Meaning. However, this article just deals with representational meaning of form and temporarily disregards the other types of meaning to avoid confusion.

■ Urban Planning and the World Heritage List of Cities.

Translated by
Bahram Ghadiri, M.A.

The present article is the translation of the ninth chapter of "Management Guidelines for World Cultural Heritage Sites" by Bernard M. Feildon and Jukka Jokilehto, a book published in 1993 by the International Center for the study of the Preservation and Restoration of Cultural Property, Rome.

It is evident that the application of the guidelines of this chapter, however abstract they may seem, open new frontiers for architects and those interested in this field.

■ The China Bank, I.M. Pei

Saeid Mashayekh-Faridani.

Until the present day, architects have designed and constructed a large number of unique skyscrapers throughout the world. However, according to Peter Blake, the China Bank, designed by I.M. Pei and Associates should be regarded as a particular case due to its modern form and structure. The present article aims to introduce this building to our readers.

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