

The Question of the Taj Mahal

By P. S. Bhat and A. L. Athawale

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ABSTRACT

This paper deals with the Taj Mahal, the magnificent marble edifice on the banks of the river Jamuna, in the southern part of Agra city. It is generally believed by historians and laymen alike that the building was erected as a mausoleum by the 5th generation Mogul Emperor Shah Jahan in the memory of his wife Mumtaz Mahal, and that the period of its construction was 1631-53 AD.

The basis of these claims has been questioned by Shri P. N. Oak in his book "The Taj Mahal is a Temple Palace." The substance of Shri Oak's thesis is that the edifice was originally built as a temple in the 12th century AD, and was subsequently used as a palace by the alien aggressors. The building again fell into the hands of the Rajput kings during the period of Humayun, and was put to use as a palace by Raja Man Singh of Jaipur. And that it was finally commandeered by Shah Jahan from Raja Jai Singh of Jaipur, and was converted into a mausoleum.

The controversy assumes importance as it questions some of the basic premises of mediaeval Indian archeology. This paper attempts to place in perspective some of the pertinent questions that arise on the subject.

I HISTORY

1. INTRODUCTION

The legend of the Taj Mahal tells us that it was built by Shah Jahan (1628-1658 AD), the fifth generation Mogul Emperor, as a mausoleum to his wife Mumtaz Mahal. And that 20,000 men worked incessantly for 22 years to complete the magnificent marble edifice.

Mumtaz died in 1631 AD, at Barhanpur where she was buried and a mausoleum was erected. Six months later her body was shifted to Agra to be buried in what is known as the Temporary Grave--which is demarcated and can be seen even today--a few meters to the southwest of the Taj Mahal. And subsequently her body was laid to rest inside the Taj Mahal.

The main supporting pieces of the above thesis are cited from the following documents, which will be discussed in detail in the course of this paper.

i) The Badshahnama¹, an important court journal of Shah Jahan, written by Mulla Abdul Hamid Lahori.

ii) The firmans (court orders) of Shah Jahan to Raja Jai Singh of Jaipur², pertaining to the acquisition of marble from the Makrana quarries in Rajasthan.

iii) Travelogue of Peter Mundy³, an employee of the East India Company, who visited Agra between 1631-1633 AD.

iiii) Travelogue of J. B. Tavernier⁴, a French merchant who visited India five times between 1638-1668 AD.

The Taj Mahal is a seven storeyed edifice with its plinth at the level of the riverbed. The courtyard in front of the building corresponds to the third storey of the edifice. The entire skeleton of the edifice is made of red stone, the top four floors being plastered with marble. It measures a height of 243 ½ ft (whereas the Qutb Minar of Delhi is only 238 ft). The marble platform (4th storey) on which the central edifice is standing has a floor area of 328 ft x 328 ft, and has four marble minarets at its corners. The marble superstructure covers an area of 187 ft x 187 ft with 33 ft chambers cut off at each corner. It has a huge central dome with an inner diameter of 58 ft and a wall thickness of 14 ft -- surrounded by four smaller copulas with a diameter of 26'8".

The central edifice is flanked with two identical red-stone buildings--the one on the western side is a mosque and the other a community hall--each having three domes. Facing the main building at the other end of the courtyard is the Main Gateway, which is a four-storeyed edifice covering a floor area of 140 ft x 110 ft. Midway between the Gateway and the marble edifice, there are two identical double-storeyed buildings, placed on either side of the courtyard known as the "Nagar Khanas" (Drum Houses). The courtyard covers a net area of 1460 ft x 100 ft.

Outside the Main Gateway is the Great courtyard, which covers an additional area of 430 ft x 1000 ft, having rows of redstone constructions, at present used as shops. Thus, the Taj Complex covers a net area of 1890 ft x 1000 ft, which is roughly equal to half the area of the Red Fort of Agra. The whole complex is perfectly symmetrical about the North-South axis, the two halves forming mirror images of each other to minutest details.

It must have been a challenging project both architecturally and financially, so much so that it made both Shah Jahan and his wife immortal. But it is surprising that in none of the hitherto known court papers of Shah Jahan--there are several of them--there is any record of the date of its commencement or of its completion, or the total period of its construction or the details of expenditure. (There is a brief remark in the Badshahnama that the expenditure incurred upon the building was Rs. 40 lakhs. And the present estimate of 20,000 workers and

22 years are based upon the writings of Tavernier, which shall be examined later.) Besides, several details of traditional Hindu symbolism can be located at various places in the Taj Complex. Therefore, it is a pertinent question whether Shah Jahan himself built the edifice, or he converted an existing building into a mausoleum.

2. Court Papers

Badshahnama, one of the most important court journals of Shah Jahan, deals with the burial of Mumtaz in two pages of its first volume (pp.403-404). A line by line translation of these pages was provided by Sri P. N. Oak⁵ in his book published in 1966. The following passages are quoted from that source.

(On) "Friday--15th Jamadi-ul Awwal, the sacred dead body of the traveller to the kingdom of Holiness, hazrat Mumtaz-ul Zamani--who was buried temporarily.... was brought to the capital Akbarabad (Agra)..."

The site covered with magnificent lush garden, to the south of that great city and amidst which (garden) the building known as the palace of Raja Mansingh, at present owned by Raja Jaisingh (Pesh az ein Manzil-e Rajan Mansingh bood Wadaree Waqt ba Raja Jaisingh), grandson (of Mansingh) was selected for the burial of the queen whose abode is in heaven.

"Although Raja Jaisingh valued it greatly as his ancestral heritage and property, yet would have been agreeable to part with it gratis for the Emperor Shahjahan. (Still) out of sheer scrupulousness so essential in the matters of bereavement and religious sanctity, in exchange of that grand place, he was granted a piece of government land (Dar' awaz aan aali Manzil-e az khalisa-e sharifah badoo marahmat farmoodand) after the arrival of the dead body in that great city on 15th Jamadul Soniya.

"Next year that illustrious body of the heavenly queen was laid to rest. The officials of the capital, according to the royal orders of the day, under the sky-high lofty mausoleum hid the pious lady from the eyes of the world, and the edifice so majestic and with a dome, and so lofty in its stature, is a memorial to the courage of sky-dimensions of the king--and a strength so mighty in resolution so firm--the foundation was laid and geomatricians of farsight and architects of talent incurred an expenditure of Rs. 40 lakhs (chihal lakh roopiah) on this building."

Normally, the above quoted passages would need no further commentary. It is explicitly stated that the "palace of Raja Mansingh was selected for the burial of the queen". That it is no ordinary building is obvious as Raja Jaisingh "valued it greatly as his ancestral heritage and property". And piece of government land

was given in exchange of that great palace (aali manzil). The transaction was clinched only after the arrival of the dead body in Agra (which explains the presence of the Temporary Grave). The body was finally buried in the "sky-high lofty mausoleum" the following year (probably soon after the palace was suitably modified). And the subsequent decorations and calligraphical work upon the building cost Rs. 40 lakhs.

What then is the basis of the claim that Shah Jahan built the edifice? In the last paragraph quoted above, there occurs a phrase, "...foundation was laid..." Some historians interpret it to mean that Shah Jahan laid the foundation of a new edifice--the Taj Mahal, and the support to this view is drawn from the Persian line quoted in the third paragraph dealing with the transaction. It is interpreted as a grand palace being granted to Raja Jai Singh in exchange of the land for building the mausoleum.

From the clear and explicit reference to Raja Man Singh's palace, and the absence of any details about the duration and efforts involved in building the gigantic edifice, the operative phrase, "foundation was laid" can also be viewed as a figurative reference to the initiation of alterations in the edifice. However, the controversy makes it necessary to examine the issue more carefully.

The confusion can be resolved only by examining all other evidences including the architecture of the edifice. The details of architecture--the bulbous dome and the minarets being Mogul characteristics, etc.--are examined in the second part of this paper; but it is relevant to examine one particular aspect of the architecture at this stage.

As mentioned earlier, the Taj Mahal is a multi-storeyed edifice with its plinth at the level of the riverbed. The entire skeleton of the edifice is of brick and red-stone, with the superstructure standing upon the red-stone terrace being plastered with marble. In Mogul tombs it is customary to have two graves: the real grave containing the dead body in the basement of the building, and a well decorated cenotaph meant for the public eye on the upper floor. In the Taj Mahal the real grave is on the third storey of the edifice and the decorated cenotaph is on the fourth.

The basement floor is now completely sealed; but the floor immediately below the real grave has long corridor running East-West on the northern part of the edifice, which can be entered at either end by means of staircases from the red-stone terrace. The corridor is 5'8" wide and about 322 ft long and opens into 22 rooms (between the corridor and the river side wall) of sizes ranging from 11 ft x 20 ft, to 22 ft x 20 ft. These rooms had windows opening to the riverside, but all of them are permanently sealed with brick and mortar from inside and with red-stone slabs having floral decorations from outside. On the other side of the corridor there are at least three entrances opening to the South, which are

crudely sealed with brick and mortar. The staircases to the corridor from the floor above were detected in 1900 AD.

If the edifice was originally constructed for the purpose of a tomb, of what utility were these underground chambers conceived? And then why were they sealed subsequently? Or, was it that the edifice was originally constructed for an altogether different purpose?

Badshahnama (vol I, p. 384) records the date of Mumtaz's death at Barhanpur as the 17th Zi-it Quada 1040 AH (20th June, 1631). The passages quoted above mentions the date of arrival of the dead body at Agra as the 15th Jamad-ul Sanya 1041 AH (8th Jan., 1632). But the date of final burial of Mumtaz inside the Taj Mahal is not precisely recorded, except that it was done the following year.

That it was done certainly before the 25th February, 1633 becomes obvious from the writings of Peter Mundy (see Section 5), who finally left Agra on the date but has recorded that he had seen a rail of gold around the tomb of Mumtaz.

A completed mausoleum at Barhanpur indicates that the idea of a sepulcher in Agra must have occurred to Shah Jahan at least a few months after the death of Mumtaz. And the burial inside the Taj was complete with costly decorations and the tourists were allowed to visit by February, 1633. Even if one were to accept that the burial was done when the building was still under construction, it is unlikely that the cenotaph on the 4th storey would be decorated with gold, etc., unless the three lower floors of the edifice were complete.

How does it compare with the supposed period of construction of the Taj Mahal, 1631-53 AD? Is it plausible that beginning with the selection of the architects and building plan, the lower three floors of the edifice would be raised upon the riverbed within the span of a year?

Therefore, the translations quoted above regarding the acquisition of Raja Man Singh's palace seem to be the correct interpretation of the Badshahnama. However, there is another aspect of the question which needs to be examined. Could it be that the marble superstructure upon the red-stone terrace was erected by Shah Jahan himself?

3. Aurangzeb's Letter

In the year 1652 AD, Aurangzeb assumed charge as the Governor of Deccan. On his way, he visited Agra and inspected the Taj Mahal. In his letter written from Dholpur⁶, he wrote about the badly needed repairs to the Taj Mahal. Excerpts from the translation of the letter provided by M. S. Vats are quoted below:

"The dome of the holy tomb leaked in two places towards the north during the rainy season and so also the fair semi-domed arches, many of the galleries on the second storey, the four smaller domes, the four northern compartments and seven arched underground chambers which have developed cracks. During the rains last year the terrace over the main dome also leaked in two or three places. It has been repaired, but it remains to be seen during the ensuing rainy season how far the operations prove successful. The domes of the Mosque and the Jama'at Khana leaked during the rains...

"The master builders are of the opinion that if the roof of the second storey is reopened and dismantled and treated afresh with concrete, over which half a yard of mortar grout is laid the semi-domed arches, the galleries and the smaller domes will probably become watertight, but they are unable to suggest any measures of repairs to the main dome..."

The letter is eloquent enough. In 1652 AD, the dome of the holy tomb, the fair semi-domed arches, the four smaller domes and the domes of the Mosque and the Jama'at Khana all had developed serious defects. How does it compare with the supposed period of its construction 1631-53 AD?

And do the master builders of Shah Jahan who were "unable to suggest any measures of repairs to the main dome" appear to be the original architects of the edifice? Does it mean that the statement of Badshahnama, "Next year that illustrious body... was laid to rest... under the sky-high lofty mausoleum... with a dome" is literally true?

4. The Firmans

There are records of three firmans by Shah Jahan to Raja Jai Singh of Jaipur pertaining to the acquisition of marble². These firmans are cited as a conclusive proof of the claim that it was Shah Jahan who built the Taj Mahal.

i) dated 9 Rajab, 1041 Hijra (Jan 21, 1632)

"As a great number of carts are required for transportation of marble needed for constructing building (at the capital), a firman was previously sent to you (to procure them). It is again desired of you, that as many carts on hire be arranged as possible in the earliest time, as has already been written to you, and be dispatched to Makrana for expediting the transport of marble to the capital. Every assistance be given to Allahood who has been deputed to arrange the transportation of marble to Akbarabad. Account (of expenditure on carts) along with the previous account of amount allocated for the purchase of marble be

submitted (to the mutsaddi in charge of payment).

ii) dated 4 Rabi-ul-Awwal, 1043 Al Hijra (Sept. 9, 1632)

"Mulkshah has been deputed to Amber (Amer) to bring marble from the new mines (of Makrana). It is commended that carts on hire be arranged for transportation of marble and Mulkshah be assisted to purchase as much marble as he may desire to have. The purchase price of marble and cartage shall be paid by him from the treasury. Every other assistance be given to him to procure and bring marble and sculptors to the capital expeditiously."

iii) dated 7 Saffer, 1047 Al Hijra (June 21, 1637)

"We hear that your men detain the stone-cutters of the region at Amber and Rajnagar. This creates shortage of stone-cutters (miners) at Makrana and the work (of procuring marble) suffers. Hence it is desired of you that no stone-cutter be detained at Amber and Rajnagar and all of them who are available be sent to the mutsaddis of Makrana."

The firmans conclusively prove that Shah Jahan did acquire marble from the Makrana quarries. But does it also prove that he was the original builder of the Taj Mahal?

The marble walls of the cenotaph chamber, the border of the door arches and the top border of the entire edifice are replete with Koranic inscriptions which can be attributed only to Shah Jahan, even if he was not the builder of the edifice. It is said that fourteen chapters of Holy Koran are inscribed on the walls of the Taj Mahal. In addition, there is commendable amount of inlay-work and flower carving in the Taj Mahal. All these would require considerable amount of fresh marble.

The body of Mumtaz arrived at Agra and was buried in a temporary grave on the 8th of January, 1632. In the firman written barely a fortnight later, Shah Jahan refers to a previous letter and orders Jai Singh to arrange for the transportation of marble "in the earliest time". That is, the acquisition of marble had begun at about the same time when the body was shifted to Agra. As noted earlier, the lower two floors (and all the other buildings in the Taj Complex) are completely of brick and red stone. Even the skeleton of the marble superstructure is made of brick--for example, the Central dome has a wall thickness of 14 ft, of which only 6 inches on either side is of marble and the rest of 13 ft is of brick. Therefore, if the edifice were to be raised from the foundation onward--not to speak of the selection of architects and building plan, etc.--it is unlikely that the work involving marble would have begun so soon. (It is noteworthy that a completed mausoleum at Barhanpur indicates that the idea of a sepulcher in Agra must have occurred to

Shah Jahan only a few months after the death of Mumtaz.) Therefore, it is only reasonable to attribute the acquisition of marble to the alterations in an already existing edifice--the palace of Raja Man Singh.

5. Peter Mundy

He was an employee of the East India Company, and visited Agra three times between 1631 and 1633. His last visit was between 22nd Dec, 1632 and 25th Feb, 1633. He has noted in his Travelogue (pp. 208-213):

"Places of note (in and about Agra) are castle, King Akbar's tombe, Moholl's tombe, garden and bazare...

"The king is now building a sepulchre for his late deceased queen Taje Maholl... There is already about her tombe a rail of gold... the building is begun and goes on with excessive labor and cost, prosecuted with extraordinary diligence, gold and silver esteemed common metal and marble but ordinary stones..."

Mundy uses two phrases, "The king is now building a sepulchre..." and "The building is begun..." which can be understood as Shah Jahan was actually erecting an edifice.

But he also states that the Taj Mahal was already a centre of tourist attraction (in 1632-33 AD) comparable with Akbar's tomb and the fort. The cenotaph on the fourth storey was complete with a gold railing around it, and the tourists were allowed to visit the grave. "The building is begun", declares Peter Mundy, and the work in progress had much to do with "gold and silver... and marble". Was it the erection of the edifice or was it calligraphy and decorations?

6. J. B. Tavernier

Great importance is attached to Tavernier's (a French merchant) records about the Taj Mahal, as he was an impartial foreigner. His writings form the most important basis of the claim that Shah Jahan was the original builder of the Taj Mahal. He visited India five times between 1638-1668 AD. Excerpts from his Travelogue (Book I, pp. 110-111):

"I witnessed the commencement and accomplishment of the great work on which they expended 22 years during which 20,000 men worked incessantly..."

"It is said that the scaffolding alone cost more than the entire work, because, for want of wood, they had all to be made of brick as well as the support of the arches."

Tavernier made his first appearance in Agra in the winter of 1640-41 AD (Dr. Ball's Introduction, p. xiv) nearly a decade after the death of Mumtaz and makes the claim that he was an eye-witness to the commencement of the Taj Mahal. In the light of the discussion so far, it is superfluous to comment upon this part of the claim. But was he a witness to the completion of the building?

The marble walls of the cenotaph chamber are full of Koranic inscriptions⁸, which ends with the name of the calligrapher and the dates "...written by the insignificant being Amanat Khan Shirazi in the year 1048 Hijri and the 12th year of His Majesty's reign." (i.e, 1639 AD)

That is, the calligraphical work was complete at least a year before Tavernier first visited Agra. Therefore, if at all he had seen any work going on in the building, it can only be the last stages of decorations, not to speak of the erection of the edifice.

He then makes the other important claim that 20,000 men worked incessantly for 22 years to complete the building. This statement seems to be the basis of the claim that the building was constructed between 1631-53 AD, though, obviously, it does not tally with his claim about its commencement. Nor does the supposed date of completion (1653 AD) tally with Tavernier's claim of seeing it completed. It is true that he visited India during 1651-55; but he did not visit Agra during that trip. His route, according to V. Ball, was Masulipattam-Madras-Gandekot-Golconda-Surat-Ahmedabad-Surat-Ahmedabad-Golconda-Surat. It is probable, as noted earlier, that he had seen the decorative work completed in the Taj during his first visit to Agra in 1640-41 AD. However, the validity of his claim can be more conclusively examined by comparing it with the expenditure incurred upon the building (Rs. 40 lakhs) as claimed in the Badshahnama.

If the above amount is assumed to have been spent purely upon the labour charges to the exclusion of material costs, then the average salary of a worker comes out to be three-quarters of a rupee per month. Obviously, the lowest paid worker would be getting only a small fraction of this amount. Compare it with Tavernier's own account (Book I, p. 46) of contemporary labour charges "...you pay each attendant for everything only 4 rupees a month, but up to 5 rupees when the journey is long."

Surprisingly, he then goes on to quote a rumour, that the brick scaffolding alone had cost more than the entire work! Is this claim reliable? Can the cost of brick

scaffolding be more than that of the marble edifice? If at all it is true, then the "entire work" can only mean the alterations in the building and not the erection of it.

That is, the claims of Tavernier regarding the commencement of the edifice, the duration of the work and the labour involved are unreliable; but the rumour he quoted appears to be closer to truth.

7. Other Records

(i) Havell⁹ quotes a Persian manuscript having the name of several chief craftsmen working in the Taj Mahal as drawing monthly salaries ranging from Rs. 200/- to Rs. 1000/-. The name of the chief calligrapher (Amanat Khan Shirazi) listed in the manuscript is also inscribed inside the cenotaph chamber (Section 6). And, therefore, the manuscript seems to be authentic (Table 1).

It lists the names of a chief architect (Ustad Isa), a dome expert (Ismail Khan Rumi), two pinnacle experts, four calligraphers, four inlay workers, five flower carvers, six master masons, etc. The net salary of 20 of these craftsmen exceeds Rs. one lakh per year. It further weakens the claim of Tavernier, since it reduces the average salary of the rest of 20,000 workers to less than half the amount calculated above.

It is also noteworthy that the chief architect (Ustad Isa), the chief mason (Muhammad Hanief) and the chief calligrapher (Amanat Khan Shirazi)--each was drawing the highest salary of Rs. 1000/- per month. If the chief architect were the one who conceived and designed the Taj Mahal, it is unlikely that he would be treated at par with the chief mason and the calligrapher. Note also the fact that among the names listed, the architect and the dome expert are vastly outnumbered by the masons, calligraphers, flower-carvers and inlay workers.

(ii) Fray Sebastian Manrique¹⁰, a Portugese traveller who also visited Agra at about the same time (winter of 1640-41) as Tavernier did. Excerpts from his Travelogue:

"On this building as well as other works, 1000 men were usually engaged as overseers, officials and workmen; of these many were occupied in laying out ingenious gardens, others planting shady groves and ornamental avenues; while the rest were making roads and those receptacles for the crystal water, without which their labour could not be carried out.

"The architect of these works was a Venetian, by the name Geronimo Veroneo, who had come to this part in a Portugese ship and died in the city of Lahore just before I reached it... Fame, the swift conveyor of good and evil news, had spread the story that the Emperor summoned him and informed him that he desired to erect a great and sumptuous tomb to his dead wife, and he was required to draw up some design for this, for the Emperor's inspection... The architect Veroneo carried out this order... He (Shah Jahan) told Veroneo to spend 3 crores of rupees, that is 300 lakhs, and to inform him it was expended."

Manrique quotes a prevalent story about the architect Veroneo (who died before the arrival of Manrique) and the expenditure of Rs. 3 crores. But this seems to be a boneless legend, since it is enormously at variance with the Persian manuscript (which records the name of Ustad Isa as the chief architect) and the official account of expenditure (Rs. 40 lakhs) as recorded in the Badshahnama.

But Manrique seems to be an eye-witness for the work inside the Taj Complex, since he is very specific about the nature of the work in the gardens. He does not say anything about the work upon the edifice, which also tallies well with the inscription inside the cenotaph chamber that the calligraphical work was complete by 1639 AD.

He mentions the number of workers to be around 1,000. This is significantly different from the claim of Tavernier; but it tallies well with the expenditure upon the building, as stated in the Badshahnama. If it is assumed that a thousand workers worked in the Taj Complex for a decade since 1632 AD, making allowance for the salaries of the chief craftsmen mentioned in the Persian manuscript, the average salary of the rest of 1000 workers comes out to be Rs. 25/- per month. Compared with the contemporary labour charges, this claim appears to be more reasonable than that of Tavernier. (The actual number of workers would certainly be fluctuating and their average number over the decade could be substantially lower than what Manrique had seen in 1641.)

TABLE - 1

Taj Mahal - Details of Monthly Salaries

(From a Persian Manuscript placed in the National Library, Calcutta, as quoted by E. B. Havell, pp. 31-33)

1. Ustad Isa (Agra/Shiraz)	Chief Architect	Rs. 1,000
2. Ismail Khan Rumi (Rum)	Dome Expert	Rs. 500
3. Muhammad Sharif (Samarkhan)	Pinnacle Expert	Rs. 500

4. Kasim Khan (Lahore)	Pinnacle Experts	Rs. 295
5. Muhammad Hanief (Khandahar)	Master Mason	Rs. 1,000
6. Muhammad Sayyid (Multan)	Master Mason	Rs. 590
7. Abu Torah (Multan)	Master Mason	Rs. 500
8. - - - (Delhi)	Master Mason	Rs. 400
9. - - - (Delhi)	Master Mason	Rs. 375
10. - - - (Delhi)	Master Mason	Rs. 375
11. Amanat Khan Shirazi (Shiraz)	Calligrapher	Rs. 1,000
12. Qadar Zaman	Calligrapher	Rs. 800
13. Muhammad Khan (Bagdad)	Calligrapher	Rs. 500
14. Raushan Khan (Syria)	Calligrapher	Rs. 300
15. Chiranji Lal (Kanauj)	Inlay Worker	Rs. 800
16. Chhoti Lal (Kanauj)	Inlay Worker	Rs. 380
17. Mannu Lal (Kanauj)	Inlay Worker	Rs. 200
18. Manuهار Singh (Kanauj)	Inlay Worker	Rs. 200
19. Ata Muhammad (Bokhara)	Flower Carver	Rs. 500
20. Shaker Muhammad (Bokhara)	Flower Carver	Rs. 400
21. Banuهار	Flower Carver	- - -
22. Shah Mal	Flower Carver	- - -
23. Zorawar	Flower Carver	- - -
24. Pira (Delhi)	Carpenter	- - -
25. Ram Lal Kashmiri (Kashmir)	Garden Expert	- - -

8. Age of the Taj Mahal

Modern techniques of archaeometry are used to determine the approximate age of historical buildings with reasonable accuracy. Marvin Mills¹¹ of New York reports about the Carbon-14 dating of the Taj Mahal: "Another item of evidence concerning the alleged date of the Taj is adduced from a radiocarbon date from a piece of wood from a door on the north facade of the Jumuna River's bank. The sample was tested by Dr. Even Williams, director of the Brooklyn College

Radiocarbon Laboratory. The date came to 1359 AD with a spread of 89 years on either side and 67% probability, Masca corrected."

That is, it can be said with 67% certainty that the particular door was made during the period 1270-1448 AD. However, the radio-carbon dating of a single door is not a conclusive evidence about the age of the building for two reasons; the sample itself might be contaminated. And that there is a possibility of the door being a subsequent replacement of the original one in the ancient edifice. Therefore, to arrive at a conclusion, more such samples need to be examined.

To sum up: The statement of Badshahnama about the acquisition of Raja Man Singh's palace for the burial of the queen is clear and explicit. The numerous underground chambers and Aurangzeb's exhaustive list of defects in all the three major buildings, including all the five domes of the marble edifice give the distinct impression that the edifice was already ancient and was built for an altogether different purpose. The statement of Peter Mundy that the cenotaph (which is on the fourth storey of the edifice) was complete with costly decorations in 1632-33 AD, and that the Taj Mahal was already a centre of tourist attraction, only support the above claim. The radio carbon test result, though not conclusive about the date, makes the above conclusion more emphatic.

The work upon the building might have started in 1632 AD and must have lasted as the inscription inside the cenotaph chamber indicates--for nearly a decade. The records of Tavernier regarding the date of commencement, total duration of work and labour involved are not reliable.

The firmans, if viewed in isolation, can mean that Shah Jahan was actually erecting the marble superstructure. But in the light of other evidences, the acquisition of marble could only be for the purpose of alterations in the edifice. The Persian manuscript listing the names of several craftsmen and their salaries, and the rumour quoted by Tavernier, further support this thesis.

It may be relevant to discuss another pertinent point at this stage. Usually the court historians do not spare an opportunity to indulge in needless hyperboles to enhance the glory of their paymasters. But in the 1600 pages of Badshahnama, only two pages deal with the burial of Mumtaz and only one paragraph can be construed as dealing with the construction of the Taj Mahal. If Shah Jahan were to undertake so challenging a project like the Taj Mahal, does it not merit greater attention in the Badshahnama than the single paragraph quoted above? And that the date of Mumtaz's burial more than a casual reference?

II - ARCHITECTURE

The discussion upon the historical evidences raises many pertinent questions regarding the architecture of the building. Does the edifice look like a palace or like a Mogul tomb? Is not the dome--the bulbous dome--a characteristic of Mogul architecture? Do the minarets and the single pointed arch not have religious significance in Islamic architecture? The discussion upon the Taj Mahal cannot be complete unless one finds satisfactory answers to the above questions.

Many historians (Havell, Batley, Kenoyer, Hunter, etc.), from time to time, have pointed out that the architecture of the Taj Mahal is not in the traditions of Saracenic style but resembles that of a Hindu temple. But this view has largely gone unnoticed primarily because it runs against the grain of some of the accepted premises of Indo-Saracenic architecture.

The single pointed door arch had great religious significance in Saracenic architecture as it represents the one and the only God of Islam. Such arches are commonly seen in the Islamic architecture of Bagdad and surrounding places, and hence it is generally believed that the single pointed arch and the arcuate style (as against the trabeate style) of constructing it are exclusive innovations of Saracenic architecture. And that it arrived at India as a resultant contribution of Afghan invasion at the close of the 12th century.

It is also generally believed that the bulbous dome seen in the Taj Mahal, migrated to India from Samarkhand, subsequent to the establishment of Mogul dynasty by Babur in the 16th century. There are significant differences between the Arab domes seen in Bagdad and Egypt and the dome of Taj Mahal, the bulbous dome of Samarkhand forming the link between the two. Since the arcuate style of constructing the arches and domes is believed to be exclusively of Saracenic origin, it is also believed that the bulbous dome originated outside India.

These premises were originally propounded by the well-known British historian James Fergusson¹² who conducted the pioneer work in the field of Indian archaeology for nearly five decades from around 1835 AD. His assumptions--widely accepted today--preclude the question of the Taj Mahal being a Hindu construction. However, the historical evidences discussed so far, call for a thorough examination of the architecture of the edifice, notwithstanding the assumptions.

9. The Arch And The Dome

It is not necessary here to go into the debate whether the single pointed arch (and the arcuate style of constructing it) was exclusively of Saracenic origin.

Even if it were so, it was well assimilated into the Hindu architecture by the middle of the 14th century. In the latter half of the 14th century the rulers of Vijayanagara (1346-1563 AD) in South India employed the single pointed arch in their construction. Therefore, it is not unreasonable to assume that it was used in the Hindu architecture of North India several decades earlier. This tallies well with the approximate period of construction of the Taj Mahal, as suggested by the radio-carbon dating (i.e. 1359 AD).

However, the assumption that the bulbous dome originated in Samarkhand requires a closer examination. The initiation and development of medieval architecture of Samarkhand is attributed to Timurlung (1394-1404 AD), the 6th generation predecessor of Emperor Babur. He invaded India in 1398 AD and after sacking Delhi and surrounding cities, carried off a large number of architects and other craftsmen as captive labour to build his capital Samarkhand. A passage from his autobiography (Malfuzat-i-Timuri) would be illustrative:

"I ordered that all the artisans and clever mechanics who were masters of their respective crafts should be picked out from among the prisoners and set aside, and accordingly some thousands of craftsmen were selected to await my command. All these I distributed among the princes and amirs who were present, or who were engaged officially in other parts of my dominions. I had determined to build a Masjid-i-Jami in Samarkhand, the seat of my empire, which should be without a rival in my country; so I ordered that all builders and stone masons should be set apart for my own especial service."¹³

It is important to note that the approximate period of construction of the Taj Mahal is around 1359 AD, whereas Timurlung invaded India in 1398 AD. Could it be that the bulbous dome was prevalent in India during that period and migrated to Samarkhand through the captive architects?

There are several important points which need to be considered in favour of the above conjecture:

(i) Similar buildings of the same period: There are several (more than a hundred) Jaina temples in the sacred mounts of Sonagarh (Bundelkhand) and Muktagiri (Berar) which contain the bulbous domes as well as the single pointed arches. Fergusson (p.62) attributes these temples to the 16th and 17th centuries, but it is important to note his uncertainty about their true antiquity: "So far as can be made out most of these temples date from 16th and 17th centuries, though a few of them may be older. Their original foundation may be earlier, but of that we know nothing, no one having yet enlightened us on the subject, nor explained how and when this hill became a sacred mount.

In fact, Fergusson here uses his own assumption (about the origin of the bulbous dome) as the touchstone to determine the period of the superstructure though he could not reconcile their foundations to the same period.

(ii) The Lotus Canopy: various kinds of domes were used in the ancient temples of Mount Abu, Girnar, Udayapur, Mylass, Carla, etc., some of them as old as the 4th century AD. All types of domes in these temples are topped with an inverted lotus flower, its stem forming the pinnacle of the building. The bulbous domes of Sonagarh and Muktagiri also contain the lotus canopy. And every single dome in the Taj Campus contains a similar lotus canopy. Havell (pp.23-26) traces the constituent elements of the Taj dome to the Hindu Shilpa Shastra, and the lotus canopy to the 'Mahapadma' in the 'stupi' (pinnacle) of the 'vimana' type of temple dome.

It is noteworthy that the lotus is a sacred flower of the Hindus associated with their gods and goddesses, whereas it does not seem to have any special significance in Islamic culture, and the Saracenic architecture of Samarkhan, Persia, Bagdad and Egypt do not contain the lotus canopy over the dome. Even the Humayun's tomb, widely believed to be the prototype of the Taj, does not contain the lotus canopy.

In this regard, it is necessary to clarify another point. There are many Hindu religious symbols seen in the Taj Mahal, which are often attributed to the religious tolerance of Shah Jahan, under whom the Hindu craftsmen enjoyed considerable freedom. But the Persian manuscript (Section 7) lists the names of Ustad Isa and Ismail Khan Rumi as the chief architect and the dome expert respectively. There is some ambiguity about the nativity of Ustad Isa (as to whether he was a citizen of Agra or of Shiraz), but the dome expert, as the name suggests, was from Rum which means the area around Bagdad and Mesopotamia. Is it plausible that the dome expert from the heartland of Islam, built the dome according to the Shilpa Shastra with a lotus canopy?

(Incidentally, what was this dome expert doing in the Taj Mahal? He was drawing a stately salary of Rs. 500/- per month, and if Aurangzeb's letter (Section 3) is to be believed, he did not even carry out the badly needed repairs to any of the five domes of the marble edifice!)

(iii) Arrangement of Domes: In architecture, even minor details normally embody certain meaning, and it would be more so in the case of gigantic domes which form the most important aspect of such buildings. Do the arrangements of numerous domes in the Taj Complex have any special significance?

A well-known authority on Indian architecture E. B. Havell (pp.22-23) points out: "... the arrangement of the roofing of the mausoleum itself consists of five domes... this structural arrangement is not Saracenic, but essentially Hindu. It is known in Hindu architecture as the *pancharatna*, the shrine of the five jewels, or the five-headed *lingam* of Siva... A typical example of it is found in one of the small shrines of Chandi Sewa at Prambanam in Java, which has an arrangement of domes strikingly similar to that of the Taj." (According to Sir Stanford Raffles, the Chandi Sewa temple was completed in 1098 AD.)

In front of the marble edifice, at the other end of the courtyard is the main Gateway which contains 22 mini-domes arranged on top of two parallel walls--one facing the Taj Mahal and the other facing the outer southern gate. (According to the legend, it represents the 22 years it took to build the Taj Mahal. The legend has its origin in the records of Tavernier, which is already examined in an earlier section, and is found baseless.)

It is noteworthy that the two rows of mini-domes are separated by more than 100 ft. (The floor area of the main Gateway is 140 ft x 110 ft.) And that the number derives its significance from the *Ekadasa Rudra* (Eleven forms of Siva?).

The central edifice is flanked with two identical buildings, each having three huge domes. Could it be that they derive their significance from the Trinity of the Hindus? There seems to be no special significance attached to the number of domes in Saracenic architecture. In India there are mediaeval mosques which can be classified as having one, three, five, ten, eleven or even fifteen domes. However, the triple domed version seems to be a distinct Indian contribution to Saracenic architecture as such buildings are scarcely seen outside India.

(iv) The Direction of the Mosque: Normally mosques are built facing the Holy Mecca, the direction in which the faithful is commanded to turn while he prays. But the mosque inside the Taj Complex is facing the cardinal West instead of the Holy City. Marvin Mills¹⁰ of New York states: "... by the ninth century, they (Muslims) were able to calculate the direction of Mecca within two degrees from any city... the mosque that is part of the Taj complex faces due West whereas Mecca from Agra is 14 degrees 55 minutes south of West."

Therefore, the fact that the Taj Mahal contains the bulbous dome, in itself is not sufficient to attribute its authorship to Shah Jahan. On the other hand, the fact that the domes having lotus canopy needed repairs in 1662 AD, the arrangement of the dome in the marble edifice, the main gateway and the adjacent buildings and also the direction of the mosque give rise to speculation that the bulbous dome was part of temple architecture. The temples of Muktagiri and Sonagarh further substantiates this conjecture, indicating the possibility of the bulbous dome existing in India before the Mogul invasion in the 16th century.

10 The Minarets

In the mediaeval architecture of Persia and Bagdad, the minaret had a functional utility--to give call for the prayer to the faithful--in a mosque. Several of the mediaeval mosques in Gujarat do contain such minarets. But in the northern Gangetic plain, during the first four centuries of Pathan architecture, the minaret

was not part of the building, with the sole exception of the mosque of Ajmer. (The mosque of Ajmer was one of the two earliest buildings built by the invading Afghans, and subsequently its minarets fell off due to the faulty construction.) Says Fergusson (pp.219-20): "...minarets...so far as I know, were not attached to mosques during the so-called Pathan period. The call to prayer was made from the roof; and except the first rude attempt at Ajmer, I do not know an instance of a minaret built solely for such a purpose, though they were, as we know, universal in Egypt and elsewhere long before this time, and were considered nearly indispensable in the buildings of the Mughals very shortly afterwards."

However, the style and the purpose of the minarets of the Taj Mahal appear to be quite different from those of the Saracenic architecture of Persia or Bagdad for two reasons:

(i) The marble edifice, which is a mausoleum, has four minarets at its corners, whereas the adjacent mosque for which a minaret would have been of functional utility does not have any.

(ii) In pure Saracenic architecture, the minaret normally rises from the shoulder of the edifice to well-above the dome. In the case of the Taj Mahal, they stand separated from the edifice and are shorter than the domes.

Therefore, the purpose of the minarets is not functional but decorative, and the inspiration behind them is not Saracenic.

In fact, the "era of minarets" seems to have begun with Shah Jahan himself. Among the buildings of his predecessors, only one--the southern gateway to Sikandara (Akbar's tomb) in Agra--contains four marble minarets. But there is good reason to believe that those are subsequent additions (probably by Shah Jahan himself) and not part of original design. Apart from the contrast of the marble minarets standing on top of red-stone gateway, to quote Satish Grover¹ "the location of the minarets over the parapets flanking the main entrance, is to say the least unusual and a clear case of fortuitous addition rather than comprehensive design. These minarets were certainly built either as experiments before erecting those at the Taj or immediately thereafter--more probably the latter."

Therefore, it is reasonable to speculate that the minarets of the Taj Mahal were not inspired by the Saracenic architecture; but on the other hand, it is from the Taj Mahal that the subsequent Mogul architecture adopted the concept of decorative minarets.

11. Hindu Symbolism

In addition to the lotus canopy over the dome, there are many other symbolic and sculptural details in the Taj Mahal which are quite appropriate in a Siva temple.¹⁴ Some of them are quoted below:

(i) Recess above the entrance: In the southern entrance to the outer precincts of the Taj Complex (i.e., the Taj Gunj gate facing the main gateway), above the door arch, there is a small arched recess. It is customary in Hindu Forts (for example, the Nagardhan Fort, Nagpur) to place an idol of Lord Ganesa in a similar recess above the main entrance. Could it be that the recess above the Taj entrance also contained a similar idol, which was subsequently removed by the iconoclastic invaders?

(ii) The Rajput Welcome Signs: The walls of the main gateway and the "kitchen" in the great courtyard are marked with typical Rajput welcome signs, such as the "gulab-dani" (rose-water cans) and "ilaichi-dani" (cardamon pots). The Rajput palaces at Deeg (Bharatpur) and Jaipur also contain similar welcome signs.

(iii) Ganesa Torana: On the main gateway, the entire border at waist-height is decorated with what is called the "Ganesa Torana" (the elephant trunk and the crown can be clearly identified). It is noteworthy that animate decorations are taboo in Islam.

(iv) Other sculptural details: Upon the marble walls of the central edifice, there are sculptural details of flowers in the shape of OM and bell flowers which is of great significance in the worship of Lord Shiva.

(v) The pinnacle: On top of the central dome of the Taj Mahal, there is a copper pinnacle which measures a height of 32' 5 ½". On the eastern red-stone courtyard, in front of the community hall, there is a figure of the pinnacle inlaid in black marble which measures a length of only 30' 6".

There is reason to believe that the copper pinnacle is not the original one. The Shahjahannama of Muhammad Salah Kumbo mentions that the pinnacle was pure gold¹⁵. But by 1873-74 it was already of copper and when it was taken down for regilding, the words "Joseph Taylor" were found engraved on the copper¹⁶. Captain Taylor was the British official who carried out the repairs to the Taj Mahal in 1810 AD. Therefore, it is reasonable to assume that the original gold pinnacle was removed by either Joseph Taylor or his predecessors. The discrepancy between the lengths of the pinnacle and its figure in the courtyard supports this conclusion. However, because of the similarity between the copper pinnacle and its figure in the courtyard, it can be assumed that the original shape remains unaltered.

The end of the pinnacle branches into a trident, its central tongue extending farther than that of the other two. On closer observation, the central tongue appears to be in the shape of a "Kalasha" (water pot) topped with two bent mango leaves and a coconut. This is a sacred Hindu motif. Could it be that the trident pinnacle was symbolic of the deity Lord Shiva worshipped inside?

The symbols listed above are directly Hindu and some of them--the animate decorations such as the cobra twins and Ganesha--"torana" are taboo in Islam. It is likely that these details, not being very obvious, are only those that have survived the alterations in the building.

An alternate explanation attributes the Hindu symbolism to the benevolent religious tolerance of Shah Jahan, under whom the Hindu craftsmen enjoyed complete freedom to express their talent in their own traditional style. However, regarding his religious tolerance, his own court journal *Badshahnama* has an altogether different commentary to make: "It has been brought to the notice of His Majesty that during the late region many idol temples had begun, but remained unfinished at Benaras, the great stronghold of infidelity. The infidels were now desirous of completing them. His Majesty, the defender of the faith, gave orders that at Benaras and throughout all his dominions at every place, all temples should be cast down. It was now reported from the province of Allahabad that 76 temples had been destroyed in the district of Benaras."¹⁷

12. General Layout And Plan

(i) Numerous rooms in the edifice: It has been discussed in an earlier section that there are two floors below the real grave containing numerous rooms. Obviously, these rooms did not have any utility in a mausoleum, and their presence is not explicable unless it is accepted to be an ancient edifice built for an altogether different purpose. They do not appear to have been living rooms, but were they meant for storing provisions and other materials of a vast temple complex?

(ii) The Nagar Khanas: Midway between the main gateway and the marble edifice, on either side of the courtyard, there are two identical buildings known as the "Nagar-khanas" (Drum Houses).

Is it plausible that Shah Jahan, who was very "scrupulous...in the matters of bereavement and religious sanctity" (Section 2) built these drum houses? Music is taboo in Islam--there is a mosque nearby. And a mausoleum is certainly not a place for festivity!

On the other hand, drums are important accompaniments in the worship of Lord Shiva.

(iii) The Gow-Shala: within the precincts of the Taj Mahal, to the east of the Main Gateway, at the extreme end of the courtyard, there is a cow-shed known as the "Gow-Shala". What could have been the purpose of a cow-shed in a mausoleum? Or was it part of the temple complex?

It is possible that it was not part of the original plan--as it disturbs the symmetry of the complex--but because of its Sanskrit name, the "Gow-Shala" appears to have been introduced by the Hindu rulers, who were using the edifice as a palace or temple.

To Sum Up: The arrangement of the domes, the lotus canopy, the trident pinnacle, the numerous rooms in the building, the direction of the mosque and its triple domes, the "Gow-shala", the "Nagar-khanas," and the surviving Hindu symbolism indicate that it was originally built as a temple complex. The purpose of the minarets is not functional but decorative, and the inspiration behind them does not appear to be Saracenic. The graves and the Koranic inscriptions upon the marble wall, of course, should be attributed to Shah Jahan.

The whole argument about the Taj Mahal being a Mogul construction hinges solely upon the assumption about the origin of the bulbous dome, which certainly is debatable. Havell had emphatically asserted (pp.1-38) that the prototype of bulbous dome existed in the Buddhist stupa and the carvings of Ajanta several centuries before the Mogul invasion. He did not question the claim of Shah Jahan building the Taj Mahal, but asserted that from purely architectural considerations, the inspiration behind the edifice was neither Arab, nor Persian, nor European but Indian--"more Indian than St. Paul's cathedral and Westminster Abbey are English". (p. 13)

III--SUM TOTAL

The discussion on the historical evidence indicates that the Taj Mahal was already ancient at the time of Shah Jahan. And the discussion upon the architecture leads to the conclusion that the general layout of the Taj Complex resembles a Shiva temple. The whole thesis of Shah Jahan himself building the edifice rests upon the premise that the bulbous dome originated in Samarkhand and migrated to India after the advent of Babur.

The discussion cannot be complete unless we examine two other questions: What is the plausibility of Shah Jahan constructing the edifice, and how did the legend come to be?

There is universal agreement about the architectural splendour and grandeur of the Taj Mahal. It was conceived by an inspired mind which knew the meaning of beauty, and it signifies the culmination of a mature style in architecture. It is a testimony to the peace and prosperity of its period.

The Moguls were rich in wealth and taste and seem to have had the leisure to undertake a project of this kind. But what about its style? Does it appear to be in the tradition of the style developed and perfected by the successive rulers of Mogul dynasty? Listen to James Fergusson (pp. 307-308): "It would be difficult to point out in the whole history of architecture any change so sudden as that which took place between the style of Akbar and that of his grandson Shah Jahan--nor any contrast so great as that between the manly vigour and exuberant originality of the first, as compared with the extreme but almost effeminate elegance of the second. Certainly when the same people, following the same religion, built temples and palaces in the same locality, nothing of the sort ever occurred in any country whose history is known to us."

It should be remembered that Fergusson was the pioneer in the field of Indian archeology and was the first--and considered the most authoritative--historian to propound that the bulbous dome originated in Samarkhand. But at the same time he found that the difference between the styles of Akbar and Shah Jahan so unique, that it was the only one of its kind in the human history. Having said this, he does not discuss the possibility of some of those buildings belonging to an altogether different era, but a few pages later (p. 316) makes a brief but startling remark about the Taj Mahal, "When used as a Baradhari, or pleasure palace, it must always have been the coolest and loveliest of garden retreats, and now that it is sacred to the dead it is the most graceful and the most impressive of the sepulchres of the world."

That is, the version of the Badshahnama as quoted at the beginning of this essay--that Shah Jahan had acquired a palace for the burial of his queen--was known to Fergusson during the middle of the 19th century. (The above statement occurs repeatedly in his books published in 1855, 1867 and 1876.) He also found its style too uniquely different to reconcile with that of Shah Jahan's immediate predecessors. And yet, the doyen of Indian archaeology glossed over the issue of its antiquity and attributed it to Shah Jahan! Why then did Fergusson not question the claim--if at all there was any single cogent claim at the time--and thereby perpetuate the legend of Shah Jahan himself building the Taj Mahal?

The legend had originated at the time of Shah Jahan himself--as both Tavernier and Manrique testify, though their versions do not match with each other--and drew powerful support from the writings of Fergusson save the above quoted

sentence. The above sentence not only appears in all the three major publications of Fergusson (1867 and 1876), but also was quoted in the 9th edition of Encyclopaedia Britannica (1875)--where it remained until the 11th edition in 1910--and also in "Murray's Handbook (for travellers) to India and Ceylon" (1891). In 1896, Syad Muhammad Latif¹⁹ wrote that the building "was originally a palace of Raja Man Singh but now it was the property of his grandson Raja Jai Singh. His Majesty gave the Raja a lofty edifice from the Khalsa estate in exchange of this building; and the spot was used for the mausoleum of the deceased empress."

Meanwhile the legend also grew, as can be made out from the numerous writings of the period though the details pertaining to the construction of the edifice, such as the identity of the architect, expenditure, duration of construction, etc., did not go beyond vague conjectures. In 1905, Moin-ud-din Ahmed²⁰ quoted from Badshahnama (Vol. II, pp. 325-6) that the gold railing around the tomb "was made under the supervision of Bebadal Khan, Master of king's kitchen". But the identity of the architect of the edifice remained unsolved. The 22 basement rooms were detected in 1900 AD, and Moin-ud-din Ahmed discussed them in his book (pp. 35-36) and stated that, "The real object of building them remains a mystery."

In fact, by the turn of the century, the legend had grown so powerful that it made all the evidences to the contrary appear irrelevant. Even though the discovery of the sealed underground chambers was a powerful reason to re-examine the legend carefully, the 11th edition of Encyclopaedia Britannica (1910) chose to omit the above statement of Fergusson from its columns--apparently because of its incongruity with the powerful legend. It mentioned the name of Ustad Isa as the Chief architect. By 1913, E. B. Havell, while emphatically asserting that the architecture of the edifice is Hindu, and not Saracenic, does not at all discuss the possibility of Shah Jahan acquiring the edifice. By 1931, the letter of Aurangzeb discussing the serious defects in the Taj Mahal was published ("Marakka-i-Akbarabad" by Said Ahmed, 1931), which was translated by M. S. Vats of Archaeological Survey of India in 1945. But the legend survived the publication.

To revert back to Fergusson, why did he not question the legend, though he had very good reason to do so? Obviously, he was labouring under the burden of his own assumption that the bulbous dome was a resultant contribution of Mogul invasion upon India during the 16th century. In this respect, his own uncertainty about the antiquity of the temples of Sonagarh and Muktagiri [Section 9 (i)] is also quite significant. Fergusson himself recorded (p. 286) this uncertainty and inconclusiveness, while discussing the basis of his assumption:

"It is probable that very considerable light will yet be thrown upon the origin of the style which the Moguls introduced into India, from an examination of the buildings erected at Samakhand by Timur, a hundred years before Babar's time (A.D. 1393-1404). Now that the city is in the hands of Russians, it is accessible to

Europeans. Its buildings have been drawn and photographed, but not yet described so as to be available for scientific purposes..."

Therefore, it can be said with certainty that the legend of Shah Jahan building the Taj Mahal rests purely upon the erroneous assumption about the origin of the bulbous dome. (In fairness, Shah Jahan himself never claimed that he built the Taj Mahal.) And that the architecture of the Taj Mahal, to put it in the words of Havell, "more Indian than St. Paul's Cathedral and Westminster Abbey are English."

What then is the true age of the Taj Mahal?

Though it was put to use as a palace, its architecture is not that of a residential mansion, but of a temple. Obviously, it was converted into a palace, and Raja Man Singh was not the one to effect the conversion. It is not unreasonable to speculate that the edifice acquired his name due to his pre-eminent position in the Mogul Court and his fairly long occupation of the building. The fact that the edifice required elaborate repairs in 1652 AD, also indicates that it belonged to a period earlier to Raja Man Singh. The radio-carbon dating--though not conclusive about the date--further reinforces the possibility of the Taj Mahal being a couple of centuries older than Shah Jahan. However, a conclusive dating can be done only by several radio-carbon tests of different samples from the edifice. And it is almost certain that the sealed underground chambers would reveal enough evidence about the original purpose and the true age of the edifice. The historical antecedents of the building can be traced only by considerable diligent study of the documents pertaining to several centuries prior to Shah Jahan.

However, if radio-carbon test result quoted above can be treated as a pointer, it raises certain important questions regarding Indian archaeology.

- i) Was the bulbous dome an exclusive innovation of Indian architecture, and migrated to Samakhand through the architects taken captive by Timurlung?
- ii) If the architecture style could produce so fine a piece as the Taj Mahal in the 14th century, how long ago did the style originate? Is it true, as Havell has asserted, that the bulbous dome had its origin in the Buddhist stupas and the carvings of Ajanta (which was at least a thousand years before the initial Afgan invasion)? If so, it brings us face to face with the other assumptions of Fergusson that the single pointed arch and the arcuate style of constructing the arches and domes--the Taj Mahal answer to both these characteristics--have arrived at India only during the 13th century AD after the initial Afgan invasion.

Thus, the question of antiquity of the Taj Mahal has powerful bearing upon the study of Indian archaeology. It raises certain pertinent questions about the origin, development, influence and classification of one of the important streams of

mediaeval architecture. And since an architectural style carries with it the stamp of the contemporary epoch, the above questions have bearing upon the study of Indian history as well. Therefore, it calls for a thorough re-examination of the Mogul architecture--particularly that of Shah Jahan, which Fergusson found it so difficult to reconcile with the style of that period.

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