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MISSION  
SAN JOSE DE TUMACACORI  
CHOIR LOFT PROBLEM



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# THE TUMACACORI CHOIR LOFT PROBLEM

By Frank Pinkley and J. H. Tovrea

A most interesting theory has recently been developed in connection with studies of the mission at Tumacacori National Monument. It is given here for what it may be worth and we freely admit that it may not check out when more evidence turns up. As the evidence now stands, this theory accounts for some facts which have been puzzling us for the past twelve or fifteen years.

That there have been changes of plan in the construction of Mission San Jose de Tumacacori can be shown, we think, beyond the least question of a doubt. The evidence also points strongly to the fact that there was reconstruction after certain parts of the building had been erected; that is, not only was the plan itself apparently changed here and there before the actual construction of some parts of it had been effected, but certain changes of plan were made which entailed tearing out and rebuilding some portions of the structure. At some future date, after the publication in these pages of Mr. Beaubien's report on his excavations of 1935, an extensive report will probably be prepared which will cover a complete study of all these changes. Working, however, under our regular policy that as soon as we get a new theory or fact we might as well pass it along for criticism and suggestions, we are offering here one of the details which later may be more completely developed and incorporated in the study of all the changes which are indicated in the mission walls.

We believe that Mission San Jose de Tumacacori was under construction for many years longer than the present written records would indicate and was, as a matter of fact, never completed. The modern method of putting large gangs of expert workmen on a construction job and pushing it through to speedy completion was not in use in the old days at Tumacacori. This was due in part to the time and country. The men who worked on this job were undoubtedly drawn from the local community and must be allowed time off to attend to their own work, such as planting, handling and harvesting their crops. The work might also have been stopped at various times and for considerable periods by financial difficulties. The Apache Indians, with their constant menace of raids and forays, no doubt caused their share of delays. We can also turn to the experience of the California Missions where we find many of the present structures took from six to ten years in the building. This factor of an extended period of construction would account for revision of plans and changes in the work during the erection of the church such as might not occur in our present times, and we must, therefore, be willing to look for such changes and make allowance for them.

The present study deals with the right hand or east wall of the church as one enters the front door, and covers and distance from the

front wall some twenty-five feet to the north, and from the floor to the roof. The present condition of this wall is shown in Plate 2. The view is from the west side of the room looking east and shows the large buttress to the east of the entrance doorway at the right side of the picture. To the left of this buttress can be seen the entrance archway to the Baptistry and further to the left is the pilaster which once carried a choir loft arch. Above the archway to the Baptistry is a doorway opening from a second story passage in the tower on what was once the choir loft floor.

The choir loft arch was standing as late as 1889 and we have a picture of it taken that year from a point about under the triumphal arch at the front of the nave. Above and a little to the left of this pilaster will be seen a peculiar curved effect in the wall construction where the plaster has broken away enough to expose it. Closer inspection will show that this curve is roughly centered on the curve of the Baptistry archway. From the high point of this curve, a little below the choir loft doorway, a horizontal line can be seen running to the left and meeting a vertical line which falls vertically parallel to a tangent to the left end of the curve. This triangle, if you will pardon the slightly inaccurate expression, has been the source of hours of study, worry and conjecture on our part. It was originally filled with a grouting of lime mortar, stones and an occasional brick bat. About half of this filling has long ago broken away and disappeared, the remainder is still embedded in the wall. It is totally different from any of the wall construction near it and lies in what appears to have been a plain piece of wall. An examination of the opposite wall of the church discloses the same condition on that side although the plaster, being in a much better condition, covers most of the triangle.

Mr. Beaubien's report on his excavations of 1935 will disclose the plan of foundations which he discovered under the present floor of the church. (See Plate 1.) One of these foundations occurs on each side of the room directly under each of these triangles.

The facts as stated above caused us to begin this study on the possibilities of the church having had two choir lofts or having been planned for a choir loft which was never built, the plan having been changed to a smaller loft whose arch was still standing in 1889, and which we shall refer to hereafter as the "late loft."

We note that the foundations under the floor are adequate to support a much heavier choir loft arch than the late one. The indicated width of the old loft pilaster along the church wall, too, is much greater than the late pilaster. The indications are, then, that the old loft arch was heavier and that the pilaster was thicker from front to back and probably extended further from the wall than the late arch.

We believe the curved line on the wall will explain this for we



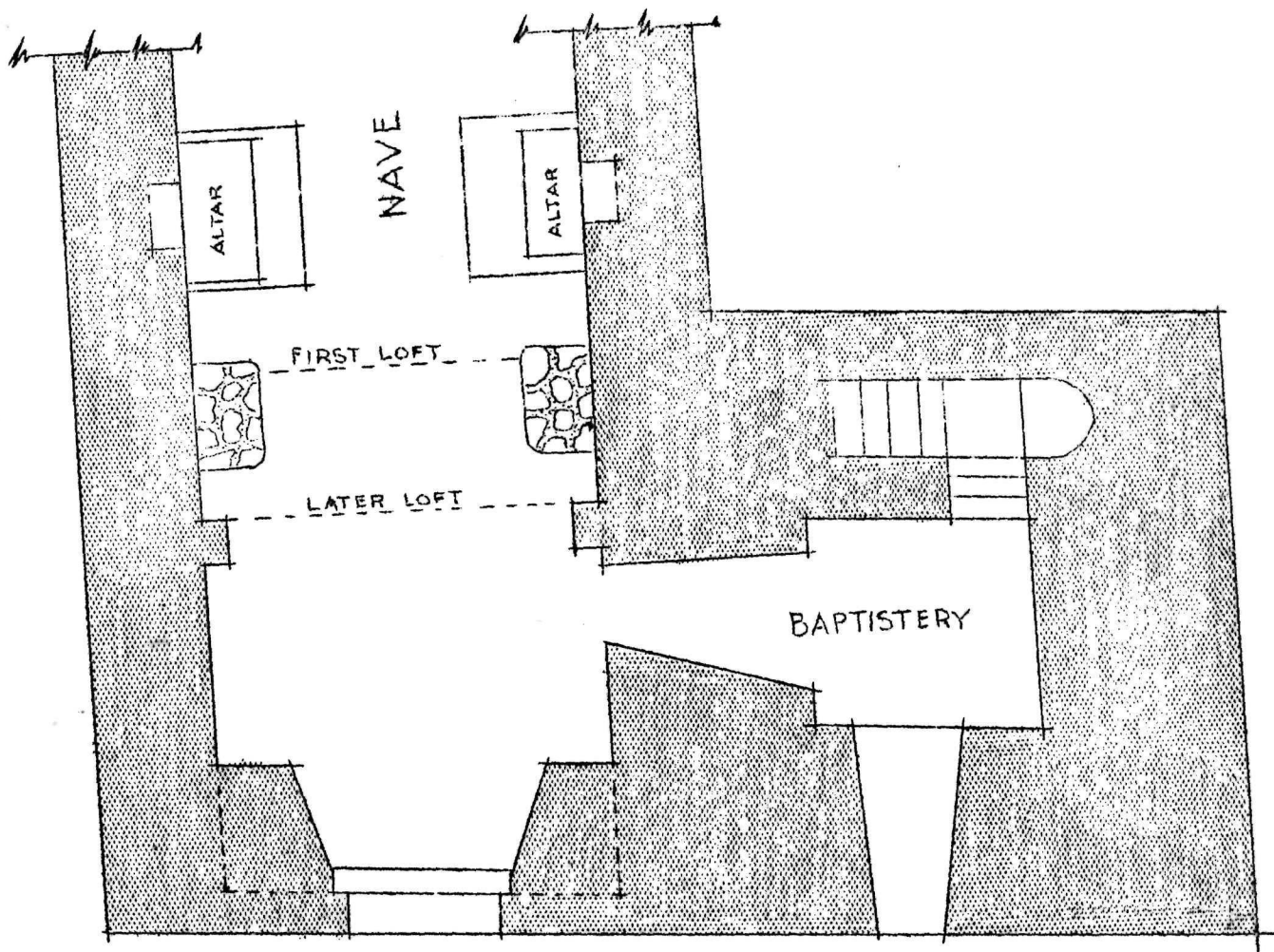


PLATE 1-PLAN.

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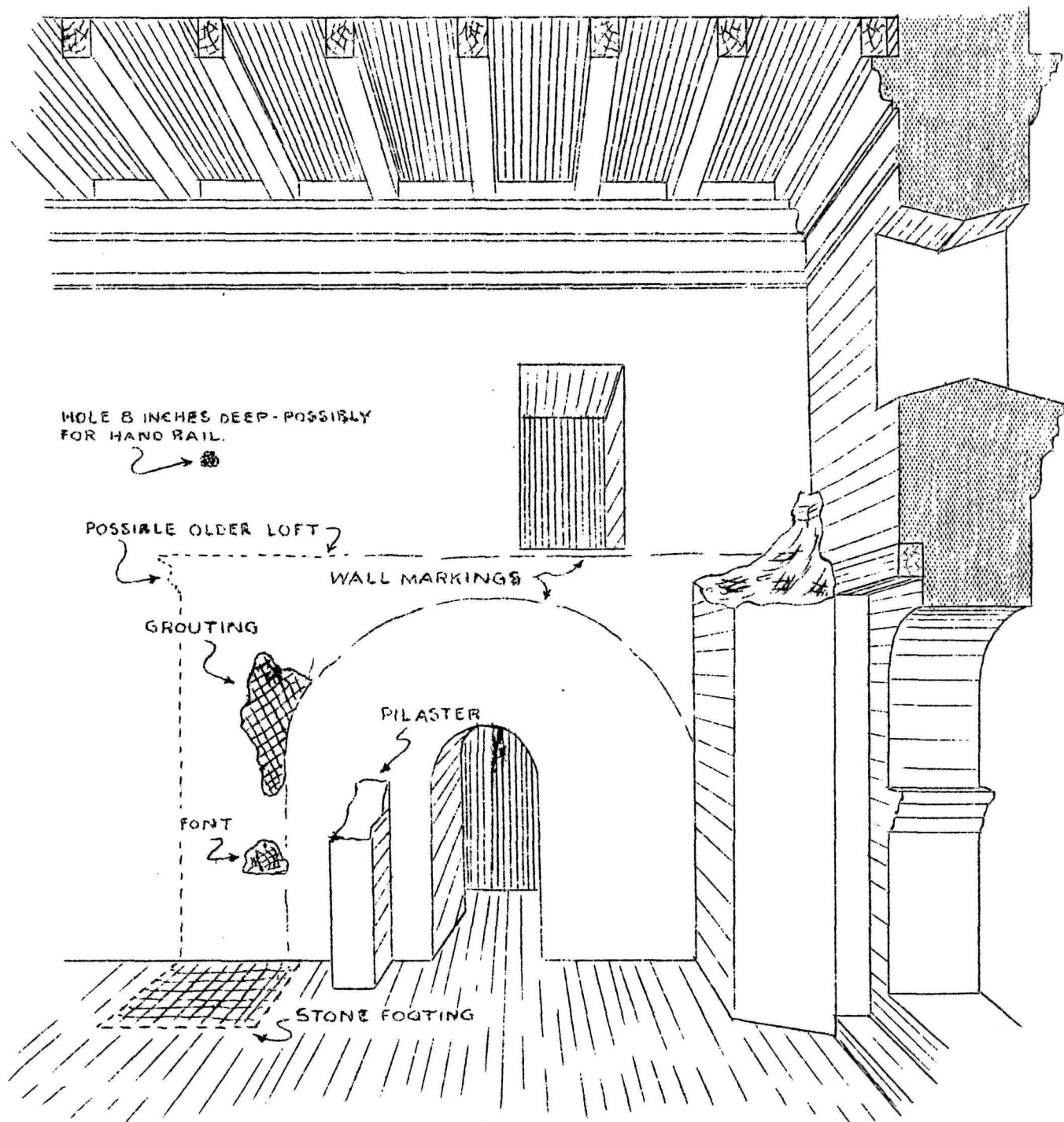


PLATE 2.  
 EAST WALL.

think it indicates the line of vaulting of a groin vaulted choir loft. Groin vaulting would account for the extra thickness of the choir loft arch, because there would be a thrust against it and its thickness would help to keep it from overturning. This would also account for the two large buttresses in the south corners of the nave, for they would help to carry the thrust of the vaulting against the front wall of the church. Groin vaulting would likewise account for the grouting of lime mortar and stones remaining in the triangles in the walls of the church, for the vaults might have been formed of lumber and filled with the grouting, not unlike we would handle the job with concrete today, in which case the builders might have dug back into the church wall in order to give this grouting a chance to key into the wall, thus getting a better hold against the corner thrust. They might at the same time have keyed the grouting into the choir loft arch itself and when that arch was destroyed or taken down a section of this grouting fell out, accounting for the missing piece which is now gone from the church at the front of the loft.

It will be noted on the plan shown in Plate 1 that the axis of the passage into the Baptistry is not centered on the Baptistry. The inside end of the passage is centered on the axis of the Baptistry but the outside end is not centered between the present pilaster and the corner of the church, but is centered between the supposed older choir loft pilaster and the corner of the church as is shown in Plate 3. This, to us, is strong evidence for an older choir loft. It would be hard, with the labor then at hand, to build an arched passageway, keyed with adobe bricks, having a large arch at one end and diminishing to a small arch at the other. It would have been considerably harder to move the outer end of the passage a foot or more to the left and then bring the arched ceiling through, diminishing from a large end to a small end on that warped line. Yet they went to this extra amount of trouble and care. We think the desire to center the outer end of the passage on the center of the transverse vault of the choir loft while leaving the inside end centered on the axis of the Baptistry, is the only possible cause for this peculiarly shaped passageway.

Assuming that we have guessed the intent of the builders, the next question is, was it ever carried out? There is a possible theory that one builder planned a future reconstruction of the inside of his church when he should have better skilled workmen or more funds to make it possible and planted the two foundations and the two groutings in the wall for the future larger and heavier choir loft arch to rest against, covered them with his church floor and finish plaster and never afterward found the opportunity to use them. This would also entail his warping the passageway as described above and which would then not be symmetrical with the shorter choir loft which he would then build. We do not believe this theory but offer it here as one possibility.

Another theory would be that the longer and heavier choir loft was planned while the building was under way and the warped passage was

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## TUMACACORI CHOIR LOFT PROBLEM! (CONT.)

built to fit that plan; that the attempt at the groin vaulted arch failed and the padre, finding that he could not execute it because of lack of skill or funds, tore out the pilasters; left the foundations and groutings in the walls to puzzle us these hundred odd years later; gave up the groin vault entirely; moved his choir loft arch back to the right a few feet, thus decentering his Baptistery entrance; and, with a much lighter arch than was first planned, built a beamed floor in his choir loft. The pilasters of the later loft are not bonded to the walls which would check with this theory.

Another theory would be that the present walls are older than we think they are; that they are the walls which were unroofed in the raid of 1765 and re-roofed in 1781. This theory would suppose that the burning roof crashing in in 1765 bore down the groin vaulted choir loft; that in the reconstruction of 1781 they had not the means or skill to rebuild the vaulted loft and so, clearing away the debris of the old loft, they erected the new as their best effort.

This last theory in itself is a fine one, but we cannot square it with the entry in the burial record in 1822 where the transfer of the bodies of the two priests from the old church to the new, which would certainly indicate that the "new" church, which was still unfinished in 1822, could not have been the "old" church which was re-roofed in 1781.

We have asked Custodian Caywood to do some ring growth research on the headers of the various openings in the present church and see if we can get any time factor along that line of study.

In the meantime we are putting this problem of the choir loft of Tumacacori into the record on the evidence we have and leaving the question open to argument.



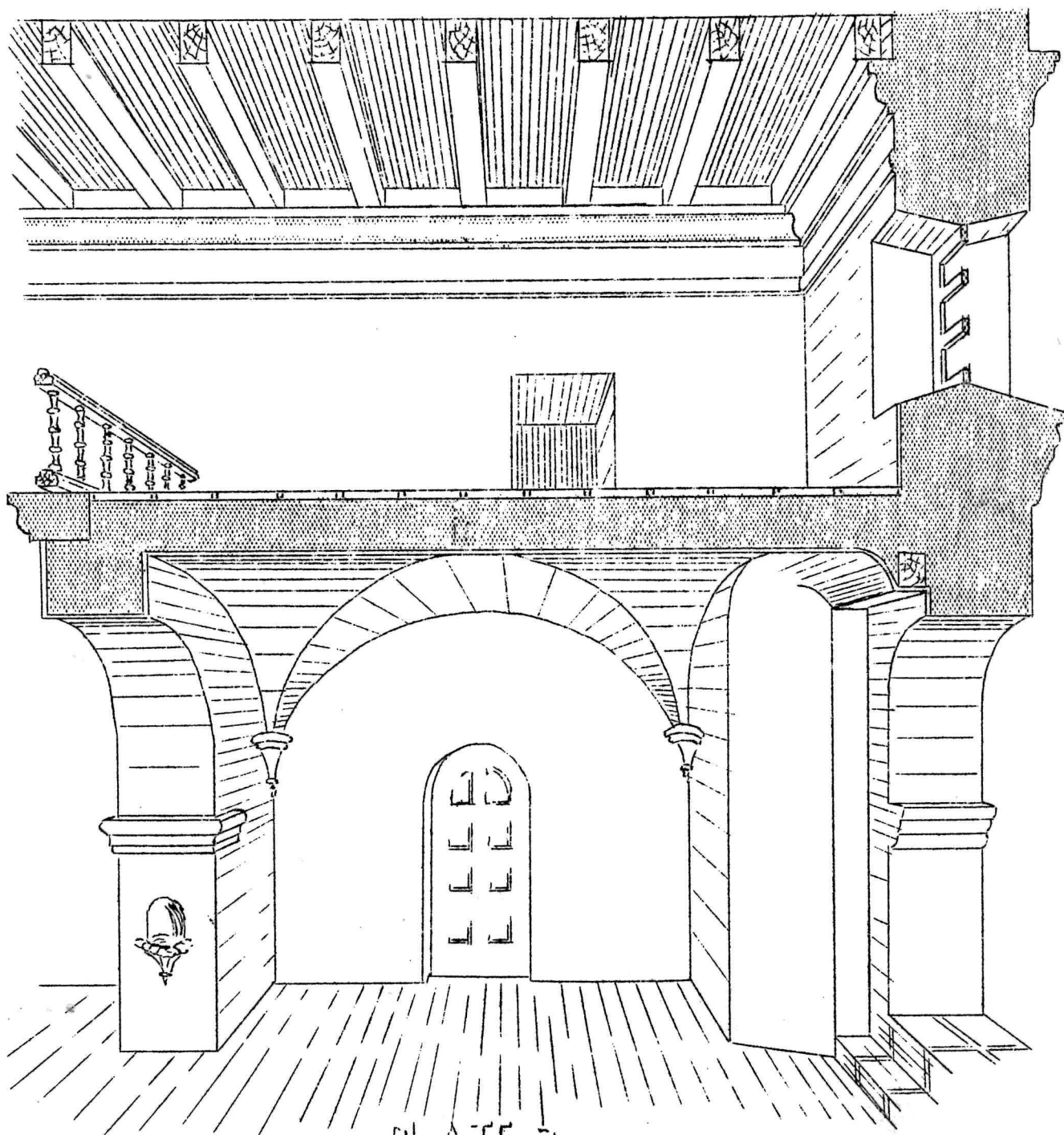


PLATE 3.  
THEORETICAL GROIN VAULTED  
CHOIR LOFT.



