

## TOKYO CATHEDRAL

One may be excused for thinking that the creative potential of the plain old hyperbolic paraboloid was pretty thoroughly explored in every contortion and combination by 1960, especially in ecclesiastical architecture. Thus the prospect of a big cathedral of 1965 using eight of them may not seem especially exciting. Yet Kenzo Tange has shown before that he can inject new life into forms and techniques which have become hackneyed or even tiresome in others' hands, and this time he has produced something much more remarkable than exciting. He has made of the eight warped planes a majestic space in repose.

At the base the plan is the shape of a kite with blunt corners, but each straight side wall in fact consists of two hyperbolic paraboloids. As each wall rises its outer edges are vertical and parallel but its centerline, where the two h-ps butt together, caves in overhead until by the time it reaches the top the wall has folded into a right-angle, pointing inwards. The four walls thus form between them a cross. It is in the conventional proportions of the crucifix, and it is glazed. It is a crucifix sky-light: a window onto Heaven, you might say.

Of course that's not all there is to it. Tange's statements nowadays are never so bald that they can be described easily in words. He starts with a strong concept, a regular form, and works it over, introducing sub-themes and unexpected erratic breaks. Sometimes these disturb the image, yet he seems to want this and he knows when to stop before the vision dissolves into confusion.

The unexpected twists here are, as usual, essentially Japanese. The original concept of a kite underfoot transmuting into a cross overhead might be of a fairly universal sort of

character. Something similar is the basis of Pietro Belluschi's design for a twin project on the other side of the Pacific: another St. Mary's Roman Catholic cathedral proposed for San Francisco. In Belluschi's case the final formal image is, as one expects in our Western Style, an inevitable and logical consequence of the conceptual idea. In Tange's case there is nothing inevitable in the development from idea to image and there are things which happen for no logical reason. Tange is determined not to let geometry rule him. He loves it but wants to master it. And he comes out of the conflict almost completely successful. In short, he gains mastery but loses geometry.

Tange has come gradually to this position. Very few living architects have had anything like the experience with plastic form that he has gained during the last fourteen years. He was in the forefront of that brave quest for engineered excitement in the fifties. His very first building to be completed, the charming, dilapidated Children's Library at Hiroshima, designed in 1951, had the pure and simple geometrical concept of a trumpet-bell sprouting from the ground, a curtain-wall dropping from its rim. His Ehime Convention Centre of the next year played around more with its circular geometry, and in the Olympic Games stadia of 1964 he carried this personal contest with geometry to its strongest conclusion so far. In those mighty metal tents - surely the most creative tension structures yet erected he achieved characteristically Japanese forms spontaneously, without compromising modern architecture.

The Tokyo Cathedral is much less obviously constructional, and the twist given to the geometry is just at the finish, in the oblique cuts to the tops of the warped planes. These unexpected angles cause the skylight cross to be depressed in the middle and to soar nobly in the corner behind the altar.

This corner is further accentuated by being 'glazed' with a course translucent marble that glows dull gold. All the shapes are arbitrary. They were sculpted by Tange on study models. The effect of the erratic dip in the centre of the skylight system is to extinguish the effect of a cross when viewed from below except from directly under the center. The result once again is a triumphant combination of modern international technology and Japanese feeling. It has not, of course, a hint of the precious shibui or the Japonica, or any sort of tradition-mongering, all of which are anathema to Tange. Except for the fugitive cross in the sky it is also at the present time quite innocent of any iconography, although some stained glass is proposed. No doubt this is inevitable, but it is quite unnecessary. Tange, who is by no means a Catholic, has made a Catholic space, as well as a Japanese space, by means of great height and a basic severity of form and finish, tempered by sensitivity at every turn and in every detail. The whole is as serene a blend of old and new, of East and West, as the face of the Japanese girl in the black and white coif of the nun who met us at the door.

The hyperbolic paraboloid may have a special fascination for Kenzo Tange because of its inbuilt, resolved inconsistency of curves and straight lines. While it is a universal and pure form it also has a touch of the perversity which marks many Japanese traditional forms. Its blending of straights and curves echoes faintly but clearly a repetitive theme in Japanese building: the line of the pagoda, of the lintel over a temple gateway, of the optimistic uptilt at the ends of the shrine roof.

Externally the shell concrete of these twisted walls has been given by Tange a rich covering of stainless steel. The trays of the steel are in comparatively short lengths and are lapped. The cover pieces, about a foot apart, are in

single lengths reaching a hundred feet and more to the top, accentuating both the height and the straight-line components of the warped planes. But internally the immaculate concrete of the shells is left naked. Its grey, even texture reflects the familiar austere idiom of modern Japan and a grading of light that reveals the curved surfaces of the same warped planes.

The uniform greyness of stripped concrete links the nave to the other interior spaces. Long, wide corridors lead down from either side and round the corners of the kite to an irregular central space in the crypt, leading to open-ended chapels. The windowless darkness is stabbed now and then by a flood of light from an invisible source spilling down a far wall. This is in fact daylight claimed from outside the walls of the cathedral overhead by a variety of snorkles that break through the roof of the podium.

Externally the building complex consists of three independent elements, and rather too clearly independent. In the foreground of the approach is a freestanding campanile, splay-sided, tall and tapered, in bare concrete. Behind this is the podium housing the crypt and offices, faced with heavily pebbled precast blocks. Above the podium rise the steel roof-walls of the cathedral itself.

The monumental form of this major element is an uncomplicated complement of the interior. It is understated and unexplainable. It poses mysterious questions and promises answers to be divulged inside - which is in the best cathedral tradition when, as here, the promises are fulfilled.