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Mountain of Modern Icons

The exhilarating experience of Kitt Peak. By Reyner Banham



The road to Kitt Peak Observatory west of Tucson—Highway 86—is a strange road, bordered in places by clusters of burial crosses wreathed in flowers at appropriate times. Only in the last few miles, as it loses itself in the foothills of the Quinlan Mountains, does one begin to get glimpses of the white geometries of the various telescope housings, seemingly tucked into the folds of the peak's summit. Then they are lost to view again until just before the cutoff for the gated road that leads up to the summit. This is no ordinary mountain road patched together out of earlier *ad hoc* trails, improved here, realigned there, patched back into place after rock falls. This is a purpose-built road, knowing and sophisticated, conceived and engineered in the full flowering of U.S. parkway art in the early-1960s. Detail after detail reveals its design superiority.

And increasingly as the road climbs, one comes to suspect that every turn and alignment of the road has been set out in full awareness of the incredible views that are opening out on the right, northward over the Comobabi Mountains and the inward fastnesses of the Papago reservations, most spectacular in waning afternoon light when each successive range of hills shades down from smoky purple at its crest through sandy browns to mist-brown at its base, and the farthest ranges seem to float detached in seas of pearl-brown mist.

Then, like all the best mountain roads, it pulls off a great *coup de théâtre*, passing between the sawteeth of the mountain's cresting and emerging on the other side to reveal two more stunning spectacles. One, straight ahead as the road climbs hard up the back of the mountain, is the whole range of observatory buildings, each a brilliant white geometric form caught between the pure staring blue of the sky above and the tumbled brown of the mountain below. They are spread along the top of the

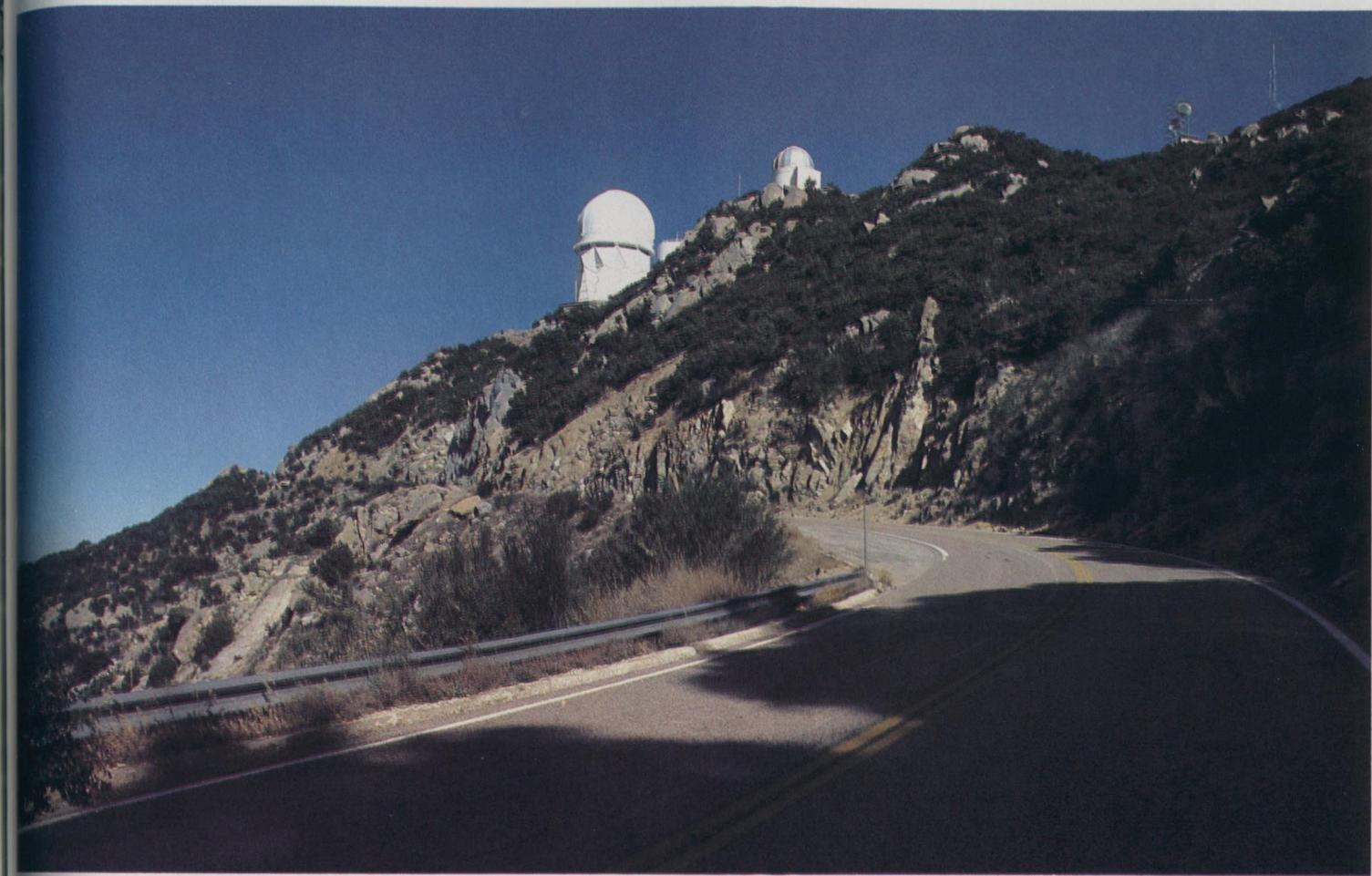
Dr. Banham is professor and coordinator of the history of art program at the University of California, Santa Cruz. This article is excerpted from his *Scenes in America Deserta*, a Peregrine Smith Book, now in paperback, published by Gibbs M. Smith, Inc., Layton, Utah. Used by permission.

ridge, from the four-meter Mayall telescope like a giant pepper pot at the left, to the big oblique form of the McMath solar telescope seemingly crouched down on the mountain slope at the far right.

The other stunning sight opens up farther to the right, a great basin of the ridged plain, far below, artfully creased with blue shadows as the sun turns west. Again it cannot be as vast as it looks, but who will care at this dizzy height (over 6,500 feet) with the unmistakable turret head of sacred Baboquivari commanding the basin from behind. It is worth stopping for, and wondering at, that view, but not enough people do. They are too intent on reaching the top.

But this cunning road has another trick to play before the summit—passing through the crests once more to open up the northward prospect from a viewpoint almost twice as high as the last time one saw it. It then turns round the last knob of the mountain, under the Mayall telescope, and delivers one, elated and visually punch drunk, into the parking lot by the visitor center. With average visitor's luck, one will finish up with the car's windshield framing a view of the most extraordinary of all the Kitt Peak installations—the solar telescope—closing the far end of the ridge.

With its one vertical leg, and the long oblique leg that rises to join the vertical at its top, all staring white in the brilliant, saturating sunlight, this is to my mind and eye, the most marvelous and moving of all mankind's works in the desert. It was the only reason for my coming to Kitt Peak in the first place—the architect of the design is an old and much-admired Chicago acquaintance of mine [Myron Goldsmith of Skidmore, Owings & Merrill]—and with the wariness of my age and race, I was quite prepared to be disappointed by the physical presence after years of optical indoctrination by craftily hyped-up color photography. Too many of the wonders of this world cannot match up, in actuality, to the long-stored artificial images that one has stacked up in one's memory banks; the reality proves to be too small, too tawdry, the foreground too cluttered, the background too squalid when seen in sharp focus for the first time.



Whitewashed by the desert sun, the observatories appear and vanish in the mountain ridges upon approach. Right, the visitor center and tip of the McMath solar telescope atop Kitt Peak.

The solar telescope, however, did not disappoint—it exceeded the photographic memories because no photograph I have ever seen seems able to represent the awesomeness of the empty space behind the white cipher of the telescope. It is the same great southward view toward Baboquivari that one has seen on the way up, but the form of the ridge poses the telescope so high against the horizon that the eye connects only with that distant horizon, not with the ground of the basin out of sight below. Its huge abstract gesture, like one letter from an unknown Cyclopean alphabet, is silhouetted against an emptiness of air that is almost palpable.

Unbelievably, it gets better as one walks toward it. At first, this is by contrast with the other buildings along the way. The average level of architectural quality on Kitt Peak is as abysmal, affected, and dated as one can see in any federally funded landscape in North America. In contrast to the heroic simplicities of the dams and structures of the Tennessee Valley Authority, or even the average overpass on any Interstate, the buildings of Kitt Peak have been senselessly “decorated”—decently plain and business-like telescope housings, for instance, have their service yard fences, or the windows of their ancillary buildings ornamented with colored diamond patterns in a style that has long disappeared from even the cruddiest motels.

The solar telescope scorns such “detailing.” Each of its legs is a very plain, very large, hollow square tube. They are both set diamondwise to the long axis of the plan, so that they meet, not flat to flat, but corner to corner at their apex where the great mirror sits to collect the sun’s light. The vertical leg is about 100 feet high, visually 50 feet thick, the mighty hypotenuse of this monumental triangle slopes away for 200 feet to the right and, having buried itself in the mountain top, continues for another 400 feet out of sight in the rock, down to the second mirror that receives the image of the sun from the collector

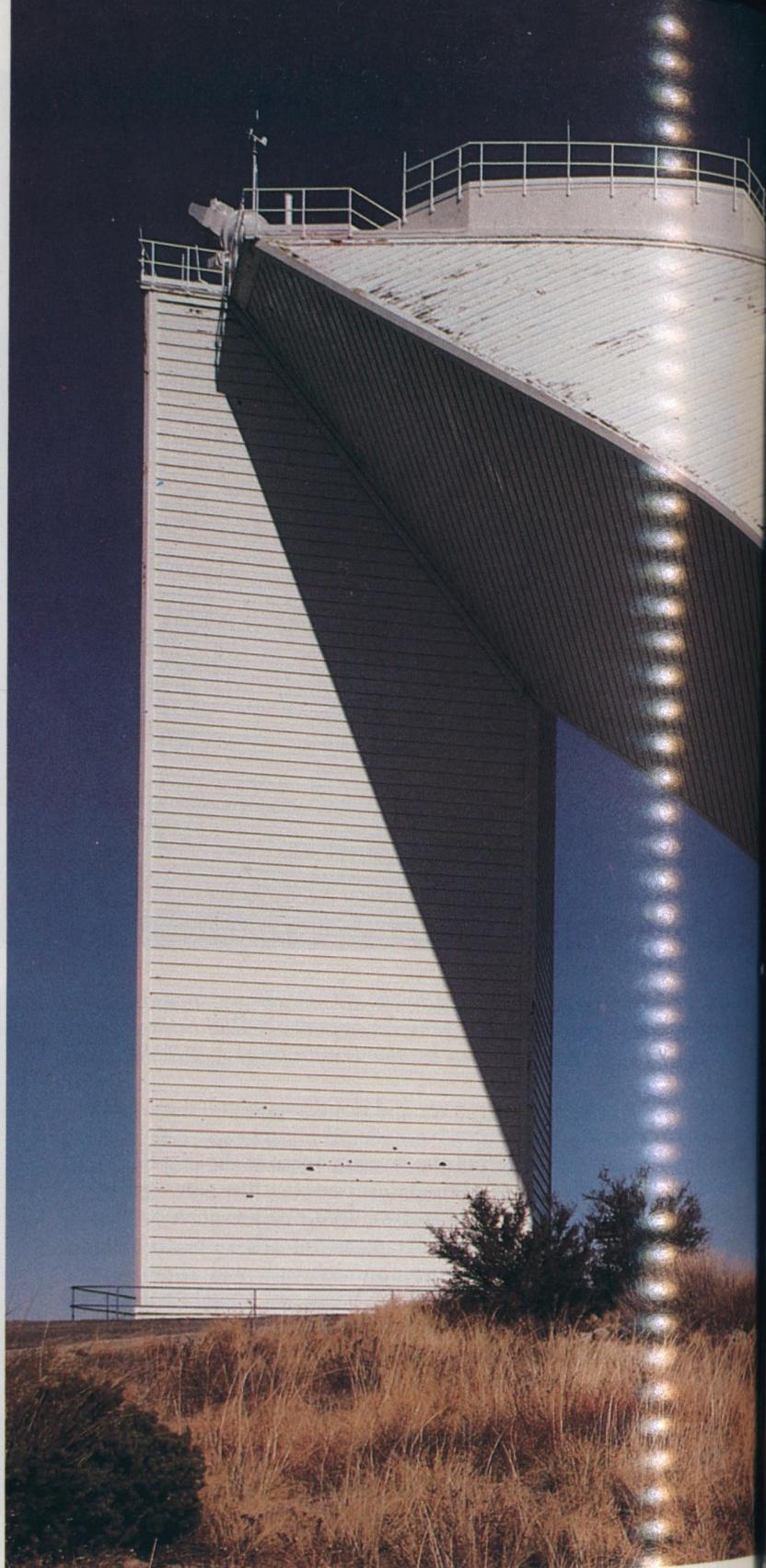


mirror on top of the vertical leg, returns it back up the tube to a focal point near ground level, whence a third mirror delivers a usable yard-wide portrait of the sun onto a flat table in a laboratory where it can be studied in an atmosphere of academic calm.

Also at ground level is an observation room where the likes of you and I are admitted to the margins of the inner mysteries of this great solar machine. It is an awkwardly shaped room with a stepped down floor and strangely faceted upper parts of glass, like a hurriedly assembled Victorian winter garden covering back into the angle of the walls of the long sloping leg. A deep way down to the left, you may think you can see the focusing mirror buried in the darks of the mountain; at eye level is the elegantly white painted chassis of a rail-mounted service trolley for the third mirror; but the nearest visitors are likely to get to a sight of the image of the sun’s face is on the little television screen mounted on the wall of the observation chamber.

Below, the interior of the solar telescope from the observation room at ground level. Right, the four-sided shaft, angled up 32 degrees from ground and pointing north.

Photographs by Allen Freeman



If you look up to the right, however, up in the diamond-shaped opening at the top of the tube is the primary mirror, the heliostat, squat in the massive arms of the trunnion mounting that brings its face always to the angle that sends the beam of sunlight square down the center of the tube. It does not reflect that beam directly into the visitor's eyes—mercifully the observation chamber is just out of the direct beam; but even so, one is close enough to the edge of the beam for some of the surplus light, as it were—scattered by minute irregularities of mirror and atmosphere—to spill in our direction. Looking up at the mirror, you seem to be looking—only this is *not* seeming because a photograph shows the same effect—into a tipping bowl full of the light of the sun, a bowl spilling the most astoundingly white light that you will ever see emanating from a man-made object,

the pure essence of the white light that glows on San Xavier. It is a humbling sight. Not eerie, like the cold Cherenkov light in the depths of an atomic reactor, nor spectral like the luminescence of the glowing mist over the Great Soda Lake. This is the raw, outspoken glare of the giver of energy and light, to be looked upon only because one is not staring quite directly back into this frightening eye of power, but near enough for that five-foot disc of raw light 200 feet above one's head to trouble the sight and disturb the depths of the consciousness.

In that bowl of light we see the sun trapped for the purposes of modern science, much as men of earlier civilizations tried to trap the image of the sun for their no more arcane purposes and magics. We, of course, do not see our rituals as arcane; it seems perfectly proper to spend huge sums of money to create a device



that enables us to lay out the sun's face flat on a table and then scrutinize its features, marks, and blemishes in order to haruspicate next year's weather or scry the ultimate substances of the universe. No doubt it seemed equally proper to the ancient Indians—to whom this, like Baboquivari, was a sacred mountain—to scrutinize this same sun through their own artifacts and concepts in order to come to terms with their own very different universe.

However, I still have a slightly queasy feeling about the arguments and casuistries that were apparently used to persuade the Papagos that the Kitt Peak installations were not a sacrilege upon their sacred peak—"It's pretty much the same thing really, our way of looking at the sky and yours"—because it is not only untrue, but because it desperately undervalues the magnificence

of what the solar telescope is, and what it does.

I cannot find it in me to apologize in any way for the solar telescope. It is a supreme product of the culture to which I belong—the culture of scientific inquiry, technological enterprise, and engineering precision. I identify with it, not just because one of its designers is known to me, but because it belongs to my generation and people, the clever folks who came out of World War II determined to make over Western culture according to a different rationality, however terrifying some of its byproducts might be. If we seemed naive and sounded glib, then look upon what we have wrought on Kitt Peak, which is neither slick nor silly. And it is not so much that it seems to lord it over other, more "primitive" cultures, but that it really does put down some of the more meretricious or hermetic aspects of our own. □



