

Ancient Art, Modern Shrine

Washington (NC) — Techniques more than a thousand years old were used to build the National Shrine of the Immaculate Conception here, one of the most modern churches in the world.

The Cathedral of St. Mark in Venice, dating from 1083, Santa Sophia in Constantinople, dating from 532, and the National Shrine, which will be dedicated November 20, all embody identical structural principles. But built into the National Shrine are electronic devices which are the most modern in their field.

THE NATIONAL SHRINE: Theoretically it is constructed to last forever.

Gives the United States its first real national church built by all the Catholics of the country under the leadership of their bishops.

In the largest Catholic church in the United States.

It is the seventh largest religious edifice in the world.

In the largest shrine church in the world.

Is one of the most beautiful structures anywhere.

Has an electrical load of 2,000,000 watts, equivalent to that of a 15-story office building with air conditioning and all modern equipment.

Is heated by probably the largest single unobstructed radiant heating slab in the world.

Radiant heating, although considered quite modern, incidentally is the first form of central heating ever installed in a building, dating back to the Roman Empire.

Has an acoustical system, including a public address arrangement, that is the last word in modernity.

Has temperature controls that "anticipate" the weather.

Gives the nation's capital a magnificent new place of pilgrimage.

Two million common bricks, 1,500,000 face bricks, 150,000 cubic yards of concrete, 150 carloads of limestone and more than 60,000 cubic feet of granite went into the shrine's construction. Engineers say it is built of "everlasting materials."

Its walls are so massive that conceivably it could, without assistance, have virtually the same temperature the year around. It would take so long for outside heat to penetrate its walls that the outdoor temperature would be starting to drop before the interior of the shrine began to get warm.

But air will be circulated in the vast upper church, where the ceilings of three domes are 100 ft. above the floor, and that of a fourth dome 150 feet in height. Thus it will not be possible to rely on the great walls for temperature comfort.

In designing the mechanical

and electrical services in the Shrine, Streasenger, Adams, Maguire and Rely of Boston, recognized two basic conditions: (1) that the building be essentially constructed to last forever and, therefore, the systems put into it must serve their purposes for the distant future as well as the present time, and (2) because of the large volume, high ceilings and massive construction, they should seek to heat, ventilate and illuminate the vast areas as efficiently as possible with a minimum of wasted effort.

It was decided that the air should be heated and ventilated to a height of 12 feet above the floor and that a horizontal surface 130 inches above the floor should be illuminated.

Radiant heat was chosen to provide quick warmth within 12 feet of the floor. The ventilating system will take out the thermal excess, which must be taken into account wherever a large number of people assemble. Six miles of pipe lie beneath the 50,000 square feet of malleable floor in the upper church to provide the heat.

The temperature is controlled by thermostats grouped in units of four each. In such a unit one thermostat is in the floor, one in the wall, one in the glass of the shrine and one outside. The outside thermostat "anticipates" changes in the weather, then the four devices compensate each other, and the result is a heating system that is "ahead of the weather," and, therefore, remarkably constant.

It was originally planned to air condition the upper church of the Shrine, but it was decided that in a structure of this size such treatment was unnecessary.

There are in the upper church magnificent chandeliers that hang some 20 feet from the distant ceilings. They throw light upward, as well as downward, to dispel the shadows near the ceilings, but they are largely ornamental. Reading in the shrine will be done for light from the same chandeliers, light originating 10 to 150 feet away.

Downlights are set in four interior domes in three domes which are 100 feet above the floor the lights, appearing as round openings in the ceilings, consist of clusters of twenty-one 500-watt spotlights in each dome. In the central, or "crown," dome, where the ceiling is 150 feet above the floor, the downlight consists of a cluster of thirty-seven 500-watt spotlights plus a circle of eighteen 1,000-watt.

This lighting arrangement achieves two purposes. First, it provides adequate lighting for the missals and prayerbooks that will be read, as well as for kneeling benches, chairs and other objects. Second, it accentuates the loftiness of the Shrine's ceilings. The light will not come down as a sharp beam but be diffused and thus illuminate the domes, which in

turn will be covered with mosaics.

While keeping the radiated heat within 12 feet of the floor, more than enough height for the area in which people will move about, the engineers have also arranged to confine the human voice within 10 feet of the floor.

This latter precaution was found necessary, because it was established that low frequencies of sound should get up into the domes and particularly into the great central dome, they could reverberate for as much as 15 seconds, causing an overwhelming of sound.

To meet this situation, wires have been installed beneath the main floor with an outlet coming up under each pew. Connected with each outlet will be a system of low level speakers under the pews. There will be a speaker for each four persons.

Not only is the sound kept close to the floor, but a magnetic time delay unit will be worked out which eventually will pace sound emanating from the sanctuary. Under this arrangement, the voice in the pulpit will be taped automatically and will be carried from the low level speakers in intervals of a fraction of a second as the voice is carried toward the back of the church.

In this way a person sitting in the last pew will hear the speaker at the same time he would have heard his voice normally, if the voice would carry that far from the sanctuary, which it will not. Despite the minute time delays, the person in the last pew seems to hear the speaker's words in synchronization with his lips and gestures.

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Thru The Looking Glass

Color In Fashion

By LOUISE WILSON

When the first courageous snow pokes its head thru the American designers are giving us a pollster's hit than a brisk run for our money, pastels. With the turning of particularly in the accessory leaves each Autumn, vs race field. Judith McCann, creator of Wingsback earrings and Shu-von necklaces just came out with Hoopons, simple circles copy the Christmas colors in o-oval rings suspending lightly from the curve above the ear-lobe. It is a game of "Follow the leader" with Mother Nature. . . . or protective coloration?

Hoopons range from tailored ovals to elaborate faceted pendant drops of iridescent crystals with prices beginning at \$2.00 and up, up, UP!

A local cosmetic firm has just produced Stop Sign to be applied underneath the eyes to hide shadows or brown spots and freckles from the face. In light, medium and dark, Stop Sign sells for \$1.50. Many will welcome it.

One who doesn't need it is Mrs. Eric Smith a lady who wears colors beautifully, everything from royal blue to the chic black and white costume she wore last Tuesday presiding at the Holy Angels Guild meeting.

MOTHER OF 8, and grandmother of 15, Mrs. Smith always looks beautifully groomed and dressed. She's urging everyone to save the evening of February 22nd for the Annual Fashion Show at the Manger Ballroom. It promises to be a colorful, fashionable spectacle.

BY THE WAY, Faberge has a fabulous new perfume, "F" imported from France and generally available throughout the country.

Mrs. Charles F. Fitter, visiting the House of Dior in Paris last month reports seeing hats resembling inverted fur waste-baskets, single customer made hats of three or four different fabrics all in the same shade, voluminous coats over starkly simple dresses.

Leaving early to catch a plane home, Peg Fitter, as beautiful as any model and more modest than most, collided with a man-nequin just as a haughty clown-ager sped her thru her org-gnette, glanced down at her program, up again at Peg, then exclaimed to a neighbor, "What number is that?"

WHILE FRANCE continues to import more stores where items mentioned are available, telephone BAKER 5-4210.

December will be here before we know it and on November 20, we'll look through the "Looking Glass" for holiday fashions and gifts of beauty with a quick glance at latest styles in Christmas cards. Your general field will be answered in future columns.

Estimate of stores where items mentioned are available, telephone BAKER 5-4210.

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Hoopons, something new in earrings.

Loyola Plans Medical Center

Chicago (NC) — Loyola University will proceed with plans for a medical center on the far northwest side of the city despite the decision of Mercy Hospital to withdraw.

Father James F. Maguire, S.J., Loyola president, announced the decision in his annual report to the university's citizens board at a luncheon at the Chicago Club.

A teaching hospital will be built as soon as the university raises three million dollars, the amount needed in addition to funds currently available, Father Maguire said.

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Bake Sale Mapped By Dryden Group

Dryden — A Tureen Supper will be served to members and guests at the meeting of the Dryden Rosary Society, held at the home of Mrs. Fred Cape on Thursday evening, November 5.

Revelation of the Rosary was followed by the general business meeting.

Mrs. Russell Ryan, chairman of the annual Spaghetti Supper which is to be held on Wednesday, Nov. 11, in the Dryden School Cafeteria, discussed plans and asked for volunteer helpers.

The president reminded members of the forthcoming Bake Sale to be held on Nov. 21, with Mrs. Calvin Seaw, as chairman.

Rev. Thomas K. Cleary closed the meeting with a prayer.

Rosarians Sponsor Benefit Sale

Cornwall — The benefit bake sale sponsored recently by St. Mary's Rosary Society netted about \$275. It was announced at the monthly meeting of the organization last week.

The meeting, conducted by Mrs. Helen Quattrini, president, opened with Benediction and recitations of the Rosary in the church. The Rev. James Halley served as moderator for the meeting.

SUCCESS OF the bake sale is due in large part to the work of the co-chairmen, Mrs. Betty Gales and Mrs. Margaret Basage. Refreshments were served by Mrs. Rachel Grimaldi and her zone committee. Prayer by Father Malley closed the meeting.

Italy Honors Prelate — The Italian government will honor Auxiliary Bishop John J. Krohn of the Cleveland diocese for his work in resettling Italian immigrants in the Cleveland area.

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