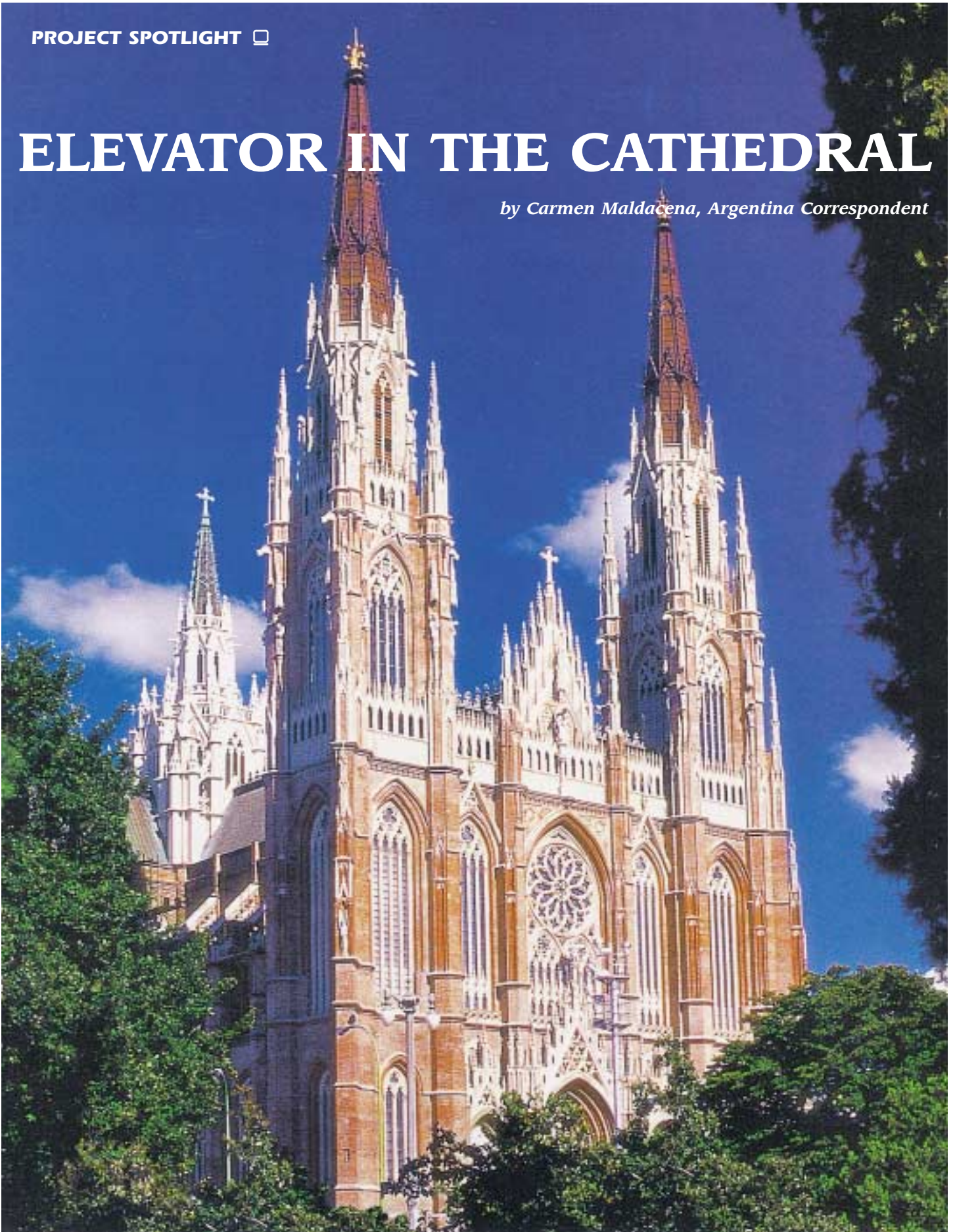


PROJECT SPOTLIGHT □

ELEVATOR IN THE CATHEDRAL

by Carmen Maldacena, Argentina Correspondent



La Plata Gothic Cathedral





“Here let us stand close, by the cathedral... Some presage of an act which our eyes are compelled to witness, has forced our feet towards the cathedral. We are forced to bear witness.” (T.S. Eliot, *Murder in the Cathedral*)

Here we are, not in Canterbury, as in Elliot’s verses, but in La Plata cathedral and the presage that has forced our feet to the cathedral is not an act of bad omen but of joy: The magnificent neo-Gothic building was furnished with an elevator to take visitors to the gates of heaven; an accomplishment we are indeed forced to bear witness.

La Plata City

La Plata – capital city of the Province of Buenos Aires, the largest and richest Argentine Province – was founded in 1882 by Dr. Dardo Rocha, putting an end to a long period of political disagreements among Argentineans. Architecturally, La Plata epitomizes the social hygienic and urbanistic ideals of the 19th century becoming one of the first cities in the world to be born according to a previous city-planning project that has been kept authentic and unchanged through the years in its design, palaces and monuments.

La Plata resembles a checkerboard overlapped by a diagonal pattern of green boulevards spotted by parks and wooded areas. On account of these characteristics, the city was declared a provincial and municipal patrimony in 1998 and proposed Cultural Heritage of Mankind at the

United Nations Educational, Scientific and Cultural Organization (UNESCO) – in an unprecedented case in Argentina. To this aim and already by the end of the 20th century, several projects such as the completion of the cathedral, the Teatro Argentino, the stadium and the improvement of the Museum of Natural Sciences were accomplished to enhance this city of 700,000 people located on the flat shore of the River Plate and embraced by the fertile pampa.

The Cathedral

The building of the La Plata gothic cathedral started in 1885, and though opened in 1932, it remained with incomplete towers for more than a century as it was believed their weight plus that of the ornaments might collapse the whole building. In fact, the ground beneath the partially built towers supported the building pressure just to the allowable limit. In 1992, the joint decision of municipal, provincial and Catholic church authorities led to the constitution of the Fundación Catedral (Cathedral Foundation). Its goal would be to take all required steps towards the completion of the cathedral. The works – totally carried out by local industry and artists – was developed in three stages: restoration and conservation, basement reinforcement and construction of the two great lateral towers. A special organization – Unidad Ejecutora Catedral (Cathedral Executive Unit) – was created to that aim.

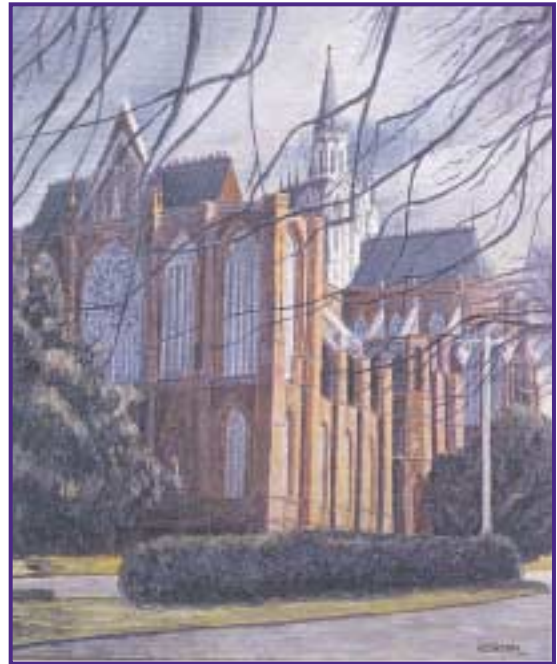
Continued ►

ELEVATOR IN THE CATHEDRAL

Continued

Regarding basement reinforcement, it was necessary to modify the existing foundation by means of high-pressure injection micro piling. This technique resulted in the construction of small section piles of pumped-concrete (15 centimeters diameter) with a high-resistant steel central tube (50-60-millimeter section). The 113 piles were buried 12 meters beneath each tower foundation plan. The towers have a 63-meter-high base built of brick, a second section 20 meters high in a stone-like material and the last section is 30 meters high totally made of copper.

The two new sections were built in separate steel pieces in the factory and then assembled on the jobsite and precisely screwed one on top of the other up to 112 meters. The upper section was covered by small, 0.8-1.2-millimeter-thick copper plates using a special alloy so that after some oxidation, the new construction would match the older central spire. The total weight of the plates is 50 tons.



A "Before"



Transparent "Gothic" shaft



Detail shaft top



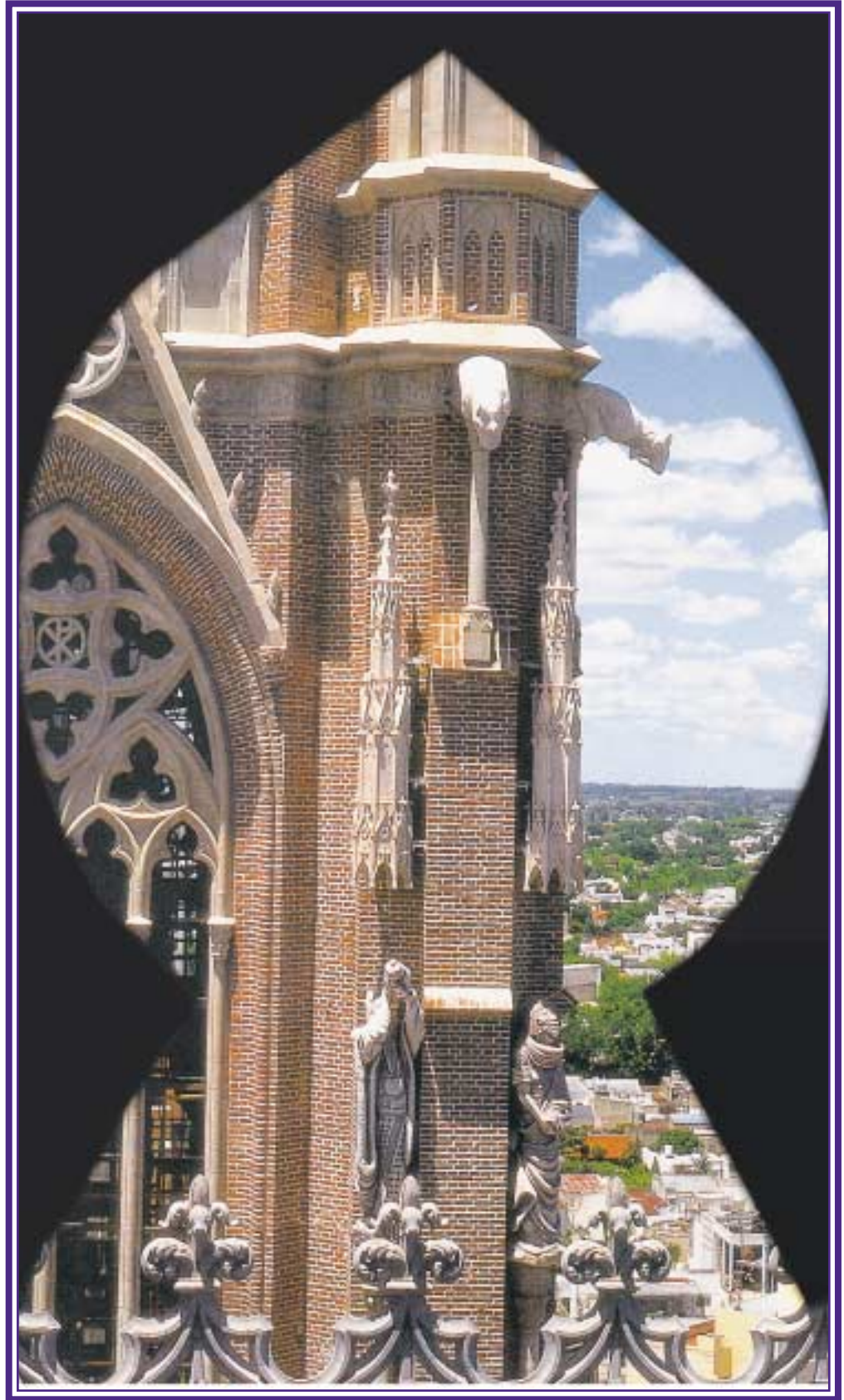
Suspended machine room

The 180-square-meter stained-glass front rose window made up of 25,000 pieces – entirely manufactured by local artists at the cathedral workshop, the bell system made up of 25 units, and the addition of 180 gargoyles, six 40-60-meter-high buttresses and more than 200 pinnacles with 800 needles completed the cathedral. Although neo-Gothic in style, the inclusion of latest generation technology has turned it into an intelligent building. A computerized center controls the bells' music, the visitors' guiding system, electrical circuits and safety devices. Last, but by no means least, a modern elevator unit was installed for visitors to admire the city and the top cathedral decorations.

A Trip to Heaven

The elevator in the cathedral, which was provided by Fujitec Argentina, is certainly the main attraction. The visitor starts the tour in the museum located in the basement. The atmosphere is one of mystery and antique with stony walls, brown-yellowish lighting and even a slight musty air. A narrow, dark corridor leads to one of the towers where a panoramic elevator waits for passengers with wide open stainless steel and glass automatic doors. Many pairs of expectant eyes enter the car that swiftly climbs up the gothic tower into light. There is no shaft blocking the eyes and the tracery windows and through them to the outer arches and statues perched on pinnacles.

After traveling past two service stops – technical access to the organ and roof – the unit stops at the lower balcony – a circular room that allows a 360° view of the cathedral roof and ornamentation – located at 42 meters corresponding to the tower base. But our trip ends up at the gates of heaven, in the upper balcony built inside the top of the tower, a new section at 63 meters. The view is unique: stone gargoyles, copper fish and rosettes, and the saints' faces seem near at hand, portrayed against the blue sky. On a more earthly level, the city develops its geometric pattern towards the lion-colored River Plate.



Perched saints and gargoyles

Continued ►

ELEVATOR IN THE CATHEDRAL

Continued

The Cathedral Elevator

This very special elevator opened to public use in March 2002. Fujitec Argentina had to meet the short deadlines with great effort as most of the equipment was manufactured in Japan and brought to Argentina by plane. As already mentioned, there is no conventional shaft but a structure made of bolted T-iron beams and screwed to the inner steel skeleton of the tower. The machine room – located at the very narrow top of the tower – consists of an iron platform laid across the four vertical shaft beams with a polycarbonate roof and a surrounding wire netting. It can be reached by a spiral stairway. The machine occupies most of the machine room with the governor and the controller located on each side. The controller is prepared to allow changes in the stop pattern directly from the cathedral central computer. The counterweights are lined with highly polished stainless steel as well as the car and the door panels complete with safety glass. In the case of energy failure, the elevator runs by means of a generating set that operates automatically. A telephone system connected to an in-house police guard reinforces Fujitec's electronic safety devices.

Future developments will include the installation of another unit traveling from the first floor up to the 25 bells located in the left tower. It will provide an additional attraction to the already numerous visitors that average about 50 on weekdays and 300 on holidays. 🌐



Fujitec's Exceldyne 2 geared machine

Technical Data	
Equipment Type: Exceldyne 2	Door Opening Width: 800 millimeters
Elevator Type: Observation	Door Opening Height: 2,000 millimeters
Speed: 60 mpm	Car Dimensions: 1,350 millimeters (W); 1,700 millimeters (D); 2,400 millimeters (H)
Capacity: 10 passengers (750kg)	Car Weight: 2,050kg
Front Stops: 6 (GF, 1-5)	Controller: Up/down selective
Travel: 61,245 millimeters	Machine: Geared, 9.5kw
Total rise: 67,485 millimeters	
Doors: automatic, 2 panels, central opening	



Glass and stainless steel car with door operator



Fujitec up/down selective controller