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# Warning: Trains Coming. A Masterpiece Is at Risk.

By VICTORIA BURNETT

BARCELONA, Spain — With its soaring but impossibly slender columns and masonry that resembles heavy frosting, Antonio Gaudí's unfinished masterwork La Sagrada Familia seems as if it might suddenly collapse on itself, like a surreal cake.

But the architect in charge of efforts to complete the church, one of the most visited monuments in Spain, says the building is indeed threatened — by a train tunnel that, if built as planned, would be dug within a few feet of its foundations. "The project could cause irreparable damage to the Sagrada Familia," said the architect, Jordi Bonet, 81, who leads a group of 20 architects. "The slightest shift could cause ceramics to fall from the vaults. It could provoke cracks."

"What would possess someone to build a tunnel like this next to the heaviest building in Barcelona, the

## Tunneling 130 feet deep could damage a Spanish monument.

most visited monument in Spain?" he asked.

In a workshop below the building, he paused next to a plaster model of the unbuilt facade and whipped out a tape measure to show how the tunnel, for a high-speed rail line, and a protective outer wall would pass about five feet from the church's foundations. Mr. Bonet said the huge, delicately balanced structure was especially vulnerable to a major construction project.

He feared that the excavation, 130 feet below ground, could cause the water-logged earth to subside under the weight of the building, opening cracks in the rippling exterior or unsettling the willowy 215-foot pillars that support the nave.

Jordi Prat, the government official in charge of Catalan railroads, said other routes under the city had been rejected because they involved digging directly beneath dozens of buildings. He added that as the project proceeded, engineers would test for

any potential threats to structures above ground.

Joan Escuer, president of the Catalan College of Geologists, said more thorough research was needed to establish the true risk of damage to the church. Digging under Barcelona was complicated, he said, because the subsoil varied from one part of the city to another.

"There is no such thing as zero risk," he said in a telephone interview. "It is very unlikely the Sagrada Familia will collapse with the construction of the tunnel. But it is not unlikely that it could be damaged or suffer cracking."

Mr. Bonet rejected the government assurances. "This is a badly designed project," he said. "They say, 'We will fix things as we go along.' You cannot do that. It's absolute recklessness."

And once the trains, which will halve the five-hour journey to Madrid from Barcelona, start running, Mr. Bonet warned, the vibrations could shake loose colored tiles embedded in the ceiling or fragments of bright Venetian glass that decorate the sculpted bell towers. Standing on a scaffold 215 feet above the nave, he pointed to the shimmering mosaic pattern set in the ceiling.

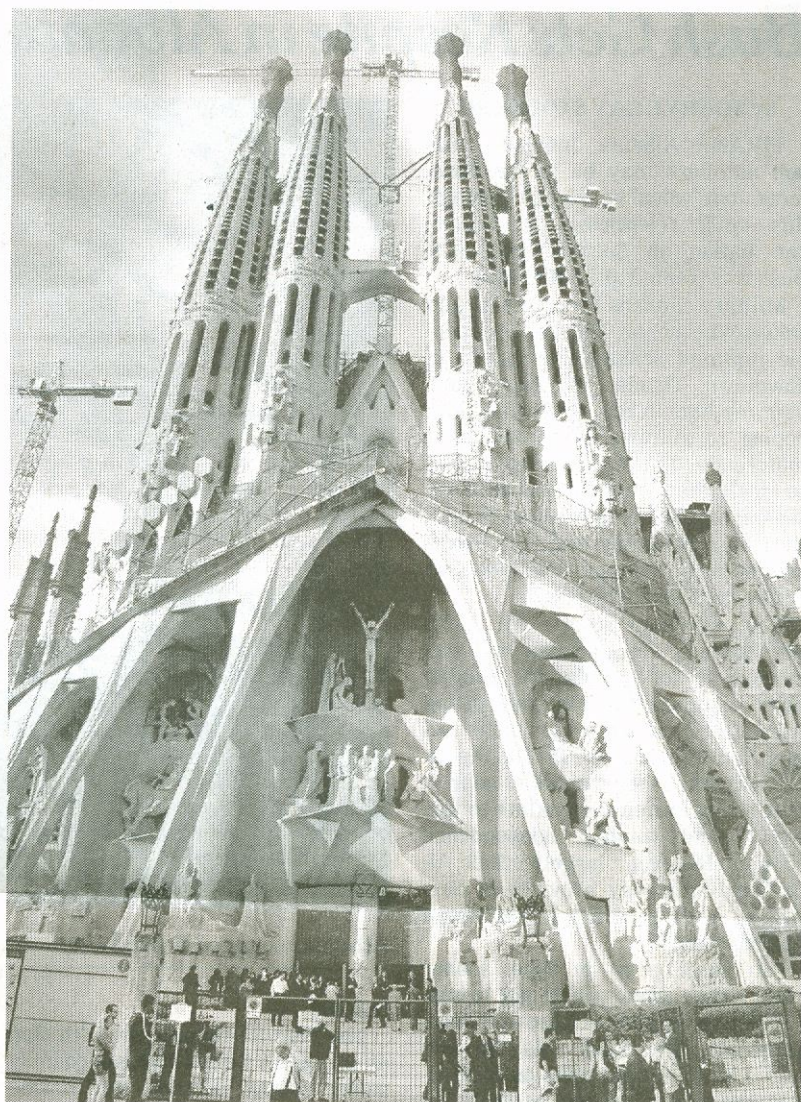
"The tiniest crack could prompt stones to fall down, and from 200 feet, with people underneath, that would be dangerous," he said.

Gaudí began work on La Sagrada Familia, or the Holy Family, in 1883 and only 15 percent of it was complete when he was killed in a street-car accident in 1926.

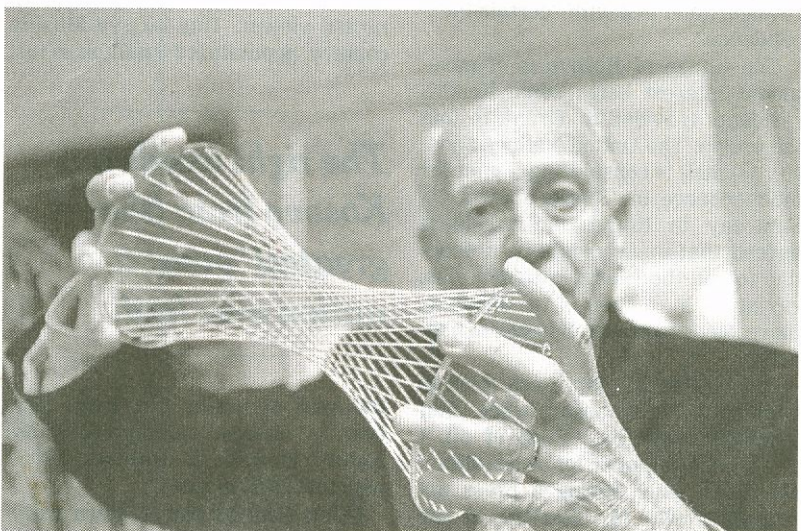
It was eventually decided that the master had left sufficient plans to compete the church. But in 1936, during the Spanish Civil War, an anti-clerical mob set fire to Gaudí's workshop, destroying blueprints and breaking hundreds of plaster models. Mr. Bonet's father helped salvage the models and became one of Gaudí's successors on the project.

Work finally resumed in 1952, but financing depended largely on donations, and progress has often been slowed by a lack of money. Part of Gaudí's vision has been humbled by the spread of Barcelona itself. The site is flanked by two subway tunnels (which, being shallow, cause minimal distress, Mr. Bonet says) and plans for a grand esplanade leading to the church were foiled in the 1970s, when apartment houses rose opposite the main entrance.

Hundreds of residents are also campaigning against the tunnel, saying that it will damage their homes. Academics from overseas have joined the protest. "To consciously endanger a World Heritage site is an act of thoughtless vandalism," J. Mark Schuster, professor of urban cultural policy at the Massachusetts Institute of Technology, wrote to Mr. Bonet. World Heritage sites are cultural and national places designated



Cesar Rangel/Agence France-Presse — Getty Images



Stefano Buonamici for The New York Times

Antonio Gaudí's uncompleted church in Barcelona, top, is a World Heritage site. Jordi Bonet, chief architect of an effort to complete the building, says harm to it from a planned railroad tunnel could be irreparable.

by Unesco, the United Nations Educational, Scientific and Cultural Organization.

The government says the project could begin next spring, and despite the potential dangers, Mr. Bonet remains philosophical about La Sagrada Familia's future.

"Gaudí said that everything is providential," he said with a shrug. "This is the Expiatory Temple of the Holy Family, and by expiatory we mean that everything is achieved through sacrifice and tribulation."

As for the church's completion, the only thing Mr. Bonet is sure of is that

he will not be around to see it. Computers have made the work much faster, and Mr. Bonet says technology is changing so rapidly that, for all he knows, helicopters rather than cranes will be used when it comes to building the central 550-foot cross.

The financing has improved, and spending on the church currently runs about \$1.35 million a month. "What is the point in worrying about whether it will take another 20, 30 years to finish?" he said as he crossed into the gloom of one of the tight, spiral staircases. "Gaudí never saw it finished. Why should I?"