

literally millions of measurements and cuts. The dynamics of Gehry's design are so complex that this phase will continue for another eight to nine months.

To accomplish this monumental task, Gehry has pioneered the use of a highly complex computer program used in aerospace and developed for use on the space shuttle and other high tech aircraft. Gehry's office was the first to recognize the computer program's potential for architecture, and convinced IBM to convert the "solid modeler" program to architectural use. Says Stegeman, "In its current form, Disney Hall would not be possible without this program. Its complexity would simply be overwhelming."

While this computer work goes on, and concrete continues to be placed, Nicholas and Stegeman are busily preparing for the next major phase: the standing of the steel for the hall itself. About 5,500 tons of steel will be ordered next month and, in August 1994, workers will begin standing steel for the hall. As the steel goes up, it will be quickly followed by work on the outside flower-like wrapper of limestone, metal, glass and plaster.

As the hall's exterior begins to take shape, the interior is also receiving its fair share of attention. The walls, ceiling, seats, wood paneling, columns, public areas and musicians' areas are all undergoing refinement by Gehry.

The Los Angeles Philharmonic, too, remains very involved in this process. Both Music Director Esa-Pekka Salonen and Executive Vice President and Managing Director Ernest Fleischmann make frequent visits to Gehry's studio, and have been intimately involved in virtually every aspect of the design process, including the all-important work on Disney Hall's acoustics.

ACOUSTICS RECEIVE TOP ATTENTION

The acoustical quality of Disney Hall has always been of paramount concern. In presenting her gift in 1987, Lillian Disney's one requirement was that Disney Hall be an acoustically superb concert hall. That goal has never been far from the minds of all involved in this project.

"We have every confidence in our acousticians, Dr. Nagata and Mr. Toyota," commented Fleischmann recently.

"They have been responsible for some of the best-sounding halls in the world, which happen to be in Japan. Acoustics may be an inexact science, but with Nagata and Toyota, the risks are minimal.

"What is more, their collaboration with Frank Gehry and his colleagues has been excellent — unlike some recent architect/acoustic relationships that held up construction on more than one concert hall."

Acoustic tests have been performed throughout the entire design phase, first involving extensive two- and three-dimensional computer analysis of early design schemes, followed by laser ray testing of Frank Gehry's models. Finally, highly advanced tests were conducted on a giant, detailed model built to scale, at 1/10th the size of the actual hall. Devised to determine the presence of detrimental sound effects, these state-of-the-art tests used over 100 microphones placed throughout the hall to record and analyze pumped-in music pitched up one octave to correspond to the 1:10 model. A series of tests was concluded in September, with all signs looking positive.

"The final test, of course, comes in fall, 1997, when the musicians, critics and public all weigh in with their collective judgments," noted Nicholas. "The successful completion of these tests, however, gives me confidence that we are well on our way to building a hall second to none."

— A. Elmajian

Question & Answer with Fred Nicholas



Fred Nicholas is president of The Hapsmith Company, a local real estate development firm with interests in Northern and Southern California. Fred is a member of the board

of directors of the Los Angeles Philharmonic Association, a member of the Board of Governors of the Music Center, and serves as chairman of the Walt Disney Concert Hall Committee. He is responsible for the supervision of all activities related to the development of the concert hall. Fred previously served in a similar capacity for the construction of Los Angeles' Museum of Contemporary Art and the Temporary Contemporary.

Q: You've been immersed in Walt Disney Concert Hall for six years now. How does it feel to visit the site and see tangible proof of all your hard work?

A: Wonderful! This is an incredible building, both in its design and its mission to nurture the mind, body and soul. When I visit the site, I am reminded of how much Disney Hall will mean to the civic, economic and cultural life of Los Angeles.

Q: What has been the highlight of the project for you?

A: Getting to know the Disney family. I have tremendous respect for the entire family. Walt's widow, Lillian, and their two daughters, Diane Disney Miller and the late Sharon Disney Lund, have shown such generosity to their community. Their monetary gifts have been, of course, unprecedented. What I find equally impressive, however, is their unflagging support for the project. Every step of the way, including through some very difficult circumstances, they have been guided by one principle — what is best for Southern California.

Q: How do you feel about the progress now being made?

A: We're right on track. There is still a great deal to be done, of course, with every step of the way impacting the next one. It's a little like juggling a dozen balls in the air at once — it's exhilarating, exciting, and more than a little stressful.

Q: How do you keep the balls from dropping?

A: I have working with me a very talented and complete team of consultants. Our project manager, Fred Stegeman, is doing a terrific job of overseeing the entire design and construction team. The Music Center has also put together an overview committee with responsibility for ensuring that the project stays within budget. Our executive architect, Dworsky Associates, is doing exemplary work, keeping us right on schedule. And, I am working with a sensational group of people at Frank Gehry's studio — a first-rate team of very talented, very dedicated individuals.

Q: Any final thoughts?

A: My goal has always been to create a hall that would make the Disneys proud. Lillian, Diane and Sharon were so generous in their gift and so modest in their requests of us. They simply asked that we build a concert hall that pays honor to Walt's innovative and artistic nature, and one that serves their Southern California community. This concert hall will fulfill their dream.

