Entrance lobby on the ground floor, its luminous volume penetrated by the column cages that run through the building.
Planning for the Sendai Mediatheque began in 1994 when they held a competition for the design of the building. The plans for the facility called for a multifunctional building including library, gallery, and visual media center. The scope of the project changed to encompass a larger sphere of functions that would allow it to operate as a comprehensive mediatheque serving the needs of an ever changing information and technology environment. The competition was won by Toyo Ito who envisioned the space as liquid and thought of the columns as seaweed drifting through an aquarium.
The conceptual thinking behind the project was the blending of real and conceptual. The building is composed of 13 independent steel-ribbed shafts (tubular columns: mainly steel-tube truss construction) and 7 steel-ribbed slabs (“honeycomb” slabs: sandwiched steel-plate construction), giving each floor a different floorplan. Basement (b1) structures feature seismic energy-absorbing mechanisms.
The tubular column structures serve as light wells, with rooftop devices to reflect sunlight down the tubes into the building. The vertical connector “pipelines” serve as a network for cables, wiring, elevators and stairways. Each vertical shaft varies in diameter and is independent from the facade, this allows for a free floor plan that changes from level to level.
The verification of hypothesis: the computer simulation of the structural analysis.

“If it is impossible to create or prove, even though a concept is so excellent in the structural design, it has no value at all. It has to be proved technologically that it is safe for any natural phenomenon such as earthquakes or gravity and so on. It also has to be verified that it is possible to realize it from the view point of construction and economics. Especially, in case of a special structural system which has never been done before, a structural analysis by computer simulation for the technological verification is the most important action in the structural design. In the first stage, I made a rough estimate of the hypothetical model with a technological judgment using a basic simulation and then at the point where I had the certainty that the hypothesis was correct, I determined structural forms, structural members and basic details and also set up a design criteria for the several technological objectives. Moreover, at the real design stage for this project, I verified the safety of this structure for higher-level mechanical objectives through the action of receiving a structural evaluation from The Building Center of Japan. In addition, I received a certificate of ministry authorization (for the whole of chapter 3 in the Building Standard Law of Japan). These broad verifications for the structure are possible only because of the full use of a computer simulation as a design skill.”

- Mutsuro Sasaki (Structural Engineer)