THE ISRAEL PHILHARMONIC ORCHESTRA

Founded in 1936 by Bronislaw Huberman

Music Director: Zubin Mehta
Laureate Conductor (1947-90): Leonard Bernstein
Honorary Guest Conductor (1992-2015): Kurt Masur
Principal Guest Conductor: Gianandrea Noseda

Charles Bronfman Auditorium
The Lowy Concert Hall

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THE 60TH ANNIVERSARY OF THE INAUGURATION OF THE CHARLES BRONFMAN AUDITORIUM

THE INAUGURATION OF THE ZUCKER HALL

Charles Bronfman Auditorium, October 2017

The IPO is supported by
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IPO Foundation, British Friends of the IPO, Friends of the IPO in Switzerland, Austria, Australia, Milan, Germany, South America, Holland and France, and is supported and represented in the USA by the American Friends of the IPO.

The Steinway pianos played by IPO soloists were kindly donated by Mr. Josef Buchmann, Frankfurt

The Renovation of Heichal Hatarbut (Charles Bronfman Auditorium)

by architect Opher Kolker

Associate at Kolker Kolker Epstein

Heichal Hatarbut was inaugurated on 2 October 1957 in a festive concert of the Israel Philharmonic Orchestra. Leonard Bernstein conducted and the soloists were Isaac Stern, Paul Tortelier and Arthur Rubinsten. This was the peak of the campaign led by the Orchestra's Management to build a permanent home for the IPO. The Orcehstra, who made its first steps in 1936 in a hangar at the Tel Aviv Port, did not have a hall of its own for rehearsals and concerts. On its 10th anniversary, the Management requested the Municipality of Tel Aviv to allocate some land for a concert hall. The request was granted only in the early 1950s. "On 3 April 1953, the fifth anniversary of the State of Israel, the 44th anniversary of Tel Aviv and the 18th anniversary of the IPO, the corner stone of the municipal auditorium was laid on the plot east of the Habimah Theatre," read the charter of foundation. Architects Zeev Rechter and Dov Carmi were asked to submit plans for the new hall. In the meantime, the IPO went on playing at Ohel Shem, on Balfour St., located amid apartment buildings, whose residents were listening on the balconies to the sounds filtering through its thin walls, alongside groups of ticket-less music lovers who gathered in the adjacent streets. At the time, the young State was struggling politically and economically. However, the architectural trend called for large concert halls. The prevailing spirit after World War II was one of renewal and the small old halls, in the tradition of rectangular church halls (later nicknamed "shoe boxes") were abandoned in favor of large, spacious halls.

Starting to plan the structure of the auditorium, the architects were well aware of the new trends of planning concert halls worldwide. They opted for the new fan-shape configuration – the auditorium's focal point is the stage, from which it rises in expanding rows. They also decided to expand the seating capacity of the auditorium to 2750 seats. The number of fan-shaped halls is very limited and they include the Kleinhans Music Hall in Buffalo, New York, and to a large extent the Royal Festival Hall in London. The limitations of this configuration necessitated a new architectural formation, which would solve the problems revealed in these halls. The new formation was created a mere five years after the inauguration of Heichal Hatarbut and new halls were not fan-shaped any more.

In 1963 two joint halls sharing a lobby, the 2440-seat Philharmonie and a 1180-seat chamber hall, were inaugurated in Berlin, designed by Hans Scharoun in collaboration with conductor Herbert von Karajan. These halls were designed in the new vineyard formation, where the seating surrounds the stage, rising up in serried rows in the manner of the sloping terraces of a vineyard, with reflecting surfaces and no acoustic shell behind the musicians on stage. The reflecting surfaces prolong reverberation time and create a rich sound never achieved before. No wonder concert halls have since been built in this formation, especially when Yasuhisa Toyota of Nagata Acoustics is involved. This is how the Leipzig Gewandhaus (1981), Suntory Hall in Tokyo (1986), Sapporo Concert Hall (1997), Walt Disney Concert Hall in Los Angeles (2003), Copenhagen Concert Hall (2006), Shenzhen Concert Hall in China (2007), Helsinki Concert Hall (2011), Paris Philharmonie (2015) and the Hamburg Elbphilharmonie (2017), widely considered the best of them, were built (all, except the Gewandhaus, designed with Toyota as acoustic consultant). The number of seats was reduced to 1800-2400 in all these halls, in order to achieve better control of the sound quality.

Remarks about the quality of the acoustics of Heichal Hatarbut were made already in 1957. Ha'aretz music critic back then, David Rosolio, mentions this in his newspaper article. IPO musicians complained about it as well and endeavours were made to improve the acoustics. Three years after the inauguration of the hall the pyramid ceiling, designed by Arnon Adar, one of Israel's leading stage designers, was installed. Later on, reflecting boards were added at the back of the stage, but the sound quality was not improved. It may be safe to say that at the time the hall was built acoustical engineering was a new field and most halls were designed following an empirical format, which has traditionally been used for many years without precise measuring means. The first endeavor to determine the acoustical quality of concert

Photo by Mali Goldfarb

halls was in 1966, when Leo Beranek (who was also consulted regarding the acoustical problems at Heichal Hatarbut) published his book Concert Halls and Opera Houses: Music, Acoustics and Architecture, a textbook of acoustical design of concert halls. He graded a hundred concert halls around the world, including Hiechal Hatarbut in Tel Aviv and Binyenei Hauma in Jerusalem. The IPO, who has performed throughout the world in acoustically improved venues, came to the conclusion that Heichal Hatarbut needed an overall renovation and above all an improvement of its acoustical quality. The years that have passed since its inauguration did not make it better: it was no longer up to safety rules, there was a severe shortage of public toilets, the air conditioning system was outdated (with no ventilation in the foyer), the main air conditioning device was installed above the stage, thus substantially reducing the space and making it difficult for the musicians to hear their own playing, the seats in the auditorium became worn out and were squeaking, the space between the rows of seats proved to be too small, but, mainly, the backstage area was too limited: dressing rooms, rehearsal rooms, administrative offices, the music library, conductor and soloists rooms were all crammed in two small floors with the instrument boxes always in the way.

Heichal Hatarbut is one of the major, if not the most important, architectural works in the history of Israeli architecture. It is comprised of three horizontal ceilings embracing the hall on all sides, concealing its huge dimensions. The ceilings are connected by columns which are placed away from their edges, thus giving them a continuous and light ragged look. Dark glass screens with gray frames emphasize the horizontality of the ceilings and give the whole building a light, hovering feeling. The architects, Zeev Rechter and Dov Carmi, designed the building as a side wall of the recently built public square, which was part of the Geddes Plan for Tel Aviv. The building endows the square with a monumental dimension with its simplicity, the horizontality of the ceilings and the sparseness of its designing means. The entrance to the building is on the public square level, thus bringing the public space directly and continually into the foyer. The wide ascending staircase, typical of classical buildings, placed inside the foyer, after the entrance doors, are part of the special upward development toward the doors and galleries of the auditorium. The foyer inner spaces are complex and enable viewing and meeting other people during intermissions and before concerts. The human "procession" on the stairs and in the galleries creates a dimension of movement and festive dynamism.


Photo by Mali Goldfarb

The transparency of the foyer walls and its surrounding balconies takes the event out to the adjacent streets and public square. At night, when the building is lit up and the lamps above the stairs are shining and glittering, the event taking place in the building becomes a celebration. The hall has become an Israeli cultural icon, where artists aspire to perform.

No wonder that the decision to renovate the hall met with resistance from the public and mainly from the architectural community, fretting that a much necessary massive renovation would change the original character of the building and mar its architectural quality.

In May 2002, following a long process of selection, the Jerusalem based firm Kolker Kolker Epstein was chosen to carry out the project. The architects were faced with a complicated problem: how to save the original form and architectural quality of the building, designed and built in the 1950s, while adjusting it to our time as a modern facility equipped with modern systems, but especially how to improve the acoustics without altering the original structure. Another challenge they faced was adding designated areas for technical facilities and devices, rehearsal rooms, the music library, storage rooms for musical instruments and other rooms that were very necessary for the daily activity of the orchestra and the team in charge of other spectacles at the hall. But the biggest challenge they faced was the construction of another multi-purpose hall. The additional 400-500 seat auditorium was designed, among other things, as a rehearsing hall for the orchestra as well as hall for chamber, ancient and contemporary music, which appeal to a more limited audience. At first, American acoustician Larry Kirkegaard, who was involved in the renovation of the Royal Festival Hall in London and Carnegie Hall in New York, was hired to improve the acoustics. He wanted to add volume to the auditorium in order to increase the ratio of number of seats to hall volume, which would make the reverberation in the auditorium longer. The architects tried to improve the distance between audience and stage by moving the stage to the center of the auditorium and adding seats on both sides and at the back of the stage. Another bold attempt was to create a low stage for the orchestra, which, along with hanging set devices would enable opera productions and musicals. These ideas were confirmed by the Local Committee, but an Appeal Committee ruled that these changes are fundamental and require a town planning scheme. This would have delayed the whole project for many years, therefore a decision was made to put a stop to the current plans and start anew. At the time, Kolker and Epstein worked with renowned architect Frank Gehry, who had completed the Disney Concert Hall in Los Angeles. Gehry hired the services of Japanese acoustician Yasuhisa Toyota, who is responsible for the wonderful acoustics of the Disney Hall. Maestro Zubin Mehta approached Toyota, who hadn't been involved with renovating halls before, with the request to be the acoustical consultant of the project. Toyota agreed and the planning team resumed work, this time with conservation restrictions determined by the Appeal Committee in mind. The main objective was to make the hall a world class venue, in compliance with Maestro Mehta's request and Toyota's declared goal, without altering the exterior of the building and the original design principles. Toyota, too, wished to increase the volume of the auditorium, but he came up with a simpler solution: the historical pyramid ceiling, made of concrete, was removed, thus revealing extra volume of ca. 30 percent, which was hidden behind it. In order to preserve the original look of the auditorium, the architects and Toyota decided to reconstruct the pyramid ceiling with an "acoustically transparent" net, which lets the sound into the space above it and at the same time conceals all the technical devices and screens hanging above it. Toyota has conceived the early reflection theory. Early reflections are signals that have bounced off the walls, ceiling and floors and arrive at our listening position later in time, mixing with the direct signal and reinforcing it (vineyard style halls function this way). Therefore, reflecting surfaces were erected in the central part of the auditorium, reflecting panels were added to the side walls, the stage was extended and risers for orchestral musicians were installed. All these enhanced the acoustics considerably. Before the first IPO rehearsal in the nearly completed hall, Toyota tested the result by smashing blown brown paper bags while his assistant measured the duration of the reverberation and was satisfied with the end result. The opening trumpet fanfare of Mahler's Fifth was indeed the triumphal fanfare heralding the end of the renovation and successfully reaching the goal.

The renovation of the auditorium was indeed the main goal, but others goals were also reached. The entire flooring had to be replaced, which led the way to the addition of much needed backstage area under the ground. The restrictions of the Appeal Committee and the Conservation Department of the Tel Aviv Municipality prevented additional exterior construction. The only option was to add the necessary space under the building. This was a heroic engineering action, credited to Eng. Daniel Shaham. During the early construction stages a deep basement was dug underneath the entire building. Each of the supporting columns was supported by a hydraulic system in order to prevent the building from sinking. At a certain point, the whole structure was "hovering" over a supporting mechanism and the sinking was measured continually. No sinking, cracking or malformation were detected and additional 4000 meters were constructed, containing the lower level of the stage risers, piano storage room (from which the pianos are raised to the stage for concerts), music library, locker rooms, rehearsal rooms and Green Room. On the east side (Huberman St.) an underground corridor was created, lit from above by lighting bodies installed in the sidewalk. It leads to the newly built IPO Foundation Sela Club, which can host 200 people. A central air conditioning system was installed in the new basement. The glass screens around the building were replaced, the foyers were tiled with new tiles resembling the original ones, fire and smoke detectors were installed, accessibility for the disables was made possible, including new elevators for the public, the musicians and instruments. A lifting system for stage sets, screens and sound system was installed above the stage for shows other than concerts. Dozens of toilets were added in the upper levels and the basement. As mentioned earlier, a new small hall was also built. The Zucker Hall (named after Uzi Zucker and Rivka Saker, the donors) was originally supposed to be a rehearsal hall for the orchestra to use when the main stage is occupied by other shows. It was meant to be built in the space between Heichal Hatarbut and Gan Yaakov on its west side, but the renovation of Gan Yaakov in 2009 made it impossible. Since the required size of the hall was too large for the basement to hold, the solution was found when the public square and the parking garage were built. The designers of the parking garage were asked to keep a distance of 18 meters between the northern walls of the parking garage and the foundations of Heichal Hatarbut. The new underground hall was designed for this 60-meter long space. Here, the architects were free of the conservation restrictions and could design a multi-purpose hall.


Photo by Mali Goldfarb

The Zucker Hall was designed as a Black Box Theatre, which enables a variety of shows, seating arrangements and stage facilities. Its square floor, 16x20 meters, is identical in size to the stage of the main auditorium. Two of its sides, east and west, have fixed galleries, 80 seats each, for listeners to orchestral rehearsals. A folding gallery of 200 seats can be pulled out of the eastern wall and another 100 seats can be added on the hall floor. As for now, the hall is limited to 400 seats, due to safety regulations. The hall can host frontal shows and shows in which the stage is surrounded by the audience. The ceiling is a complex technical contraption, divided into three parts which descend all the way down to the floor (12 meters), enabling to hang lighting, sound and set systems all over the ceiling.

Yasuhisa Toyota was in charge of the acoustical design again, facing the challenge of making the hall suitable for all forms of shows, ranging from a full orchestra to a solo recital. His test, the famous brown bags and a chamber quartet including a French horn playing various pieces in a range of dynamics, was successful and he was satisfied with the result.

שיפוץ היכל התרבות (צילומים: שי סקיף)
Renovation of the Auditorium (Photos: Shai Skif)

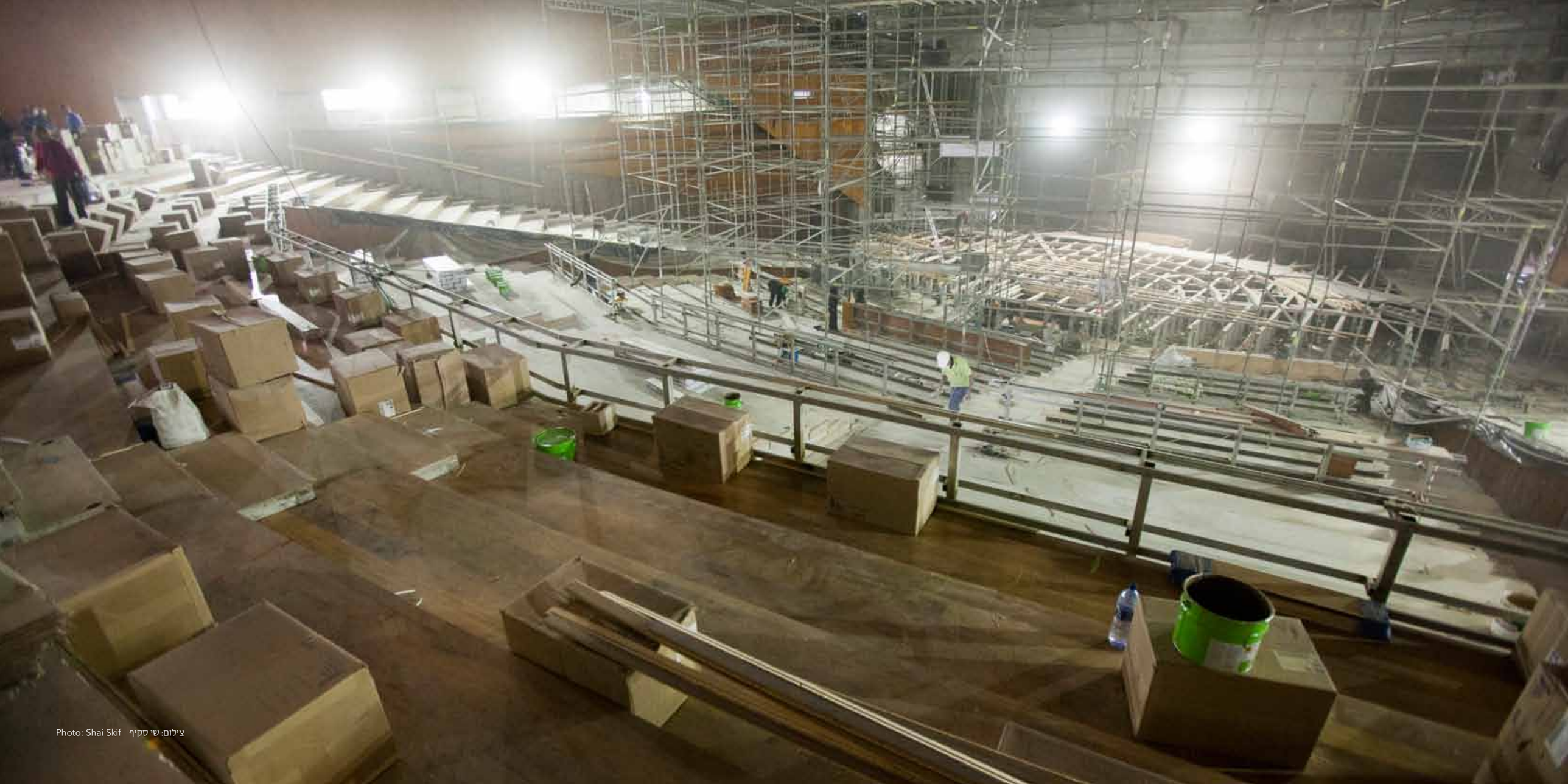
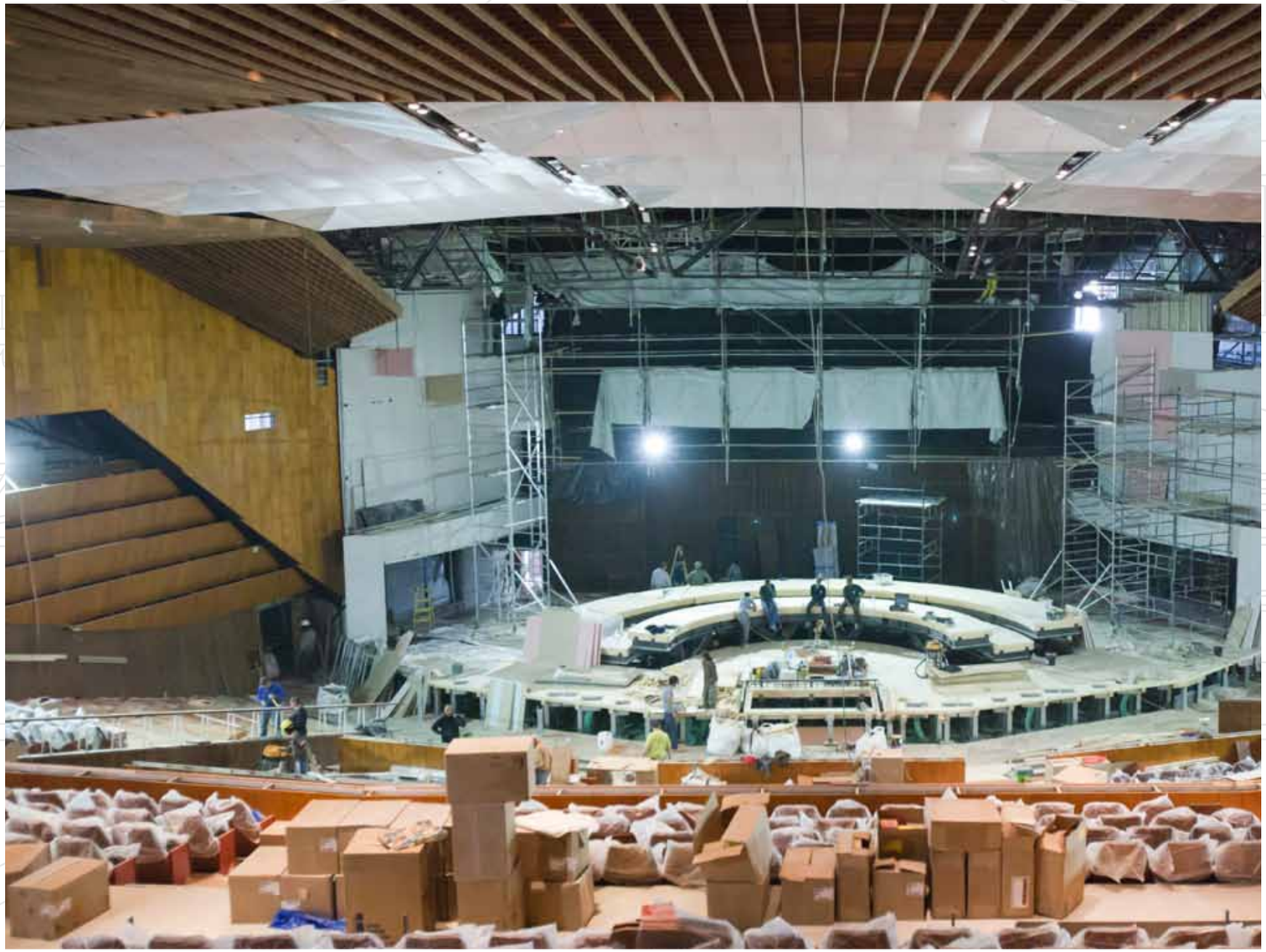


Photo: Shai Skif צילום: שי סקיף

הקונצרט הראשון בהיכל המשופץ (צילום: שי סקיף)
First concert at the renovated Auditorium (Photo: Shai Skif)



שיפוץ היכל התרבות (צילומים: שי סקיף)
Renovation of the Auditorium (Photos: Shai Skif)

היכל התרבות בבנייה (צילום: פריאור)
ארכיון התצלומים ע"ש מאריי ס' כץ, התזמורת הפילהרמונית הישראלית
The Auditorium under construction (Photo: Prior)
Murray S. Katz Photo Archives of the IPO

פרדריק ר' מאן (מימין) וצבי הפטל בקונצרט בהיכל התרבות שטרם הושלם (צילום: יצחק ברז)
Fredric R. Mann (left) and Zvi Haftel, concert before completion of the Auditorium (Photo: Isaac Berez)