Building Case Study

Berlin Philharmonic

intro to design theory · part 1 of 2
by erik van der putten · fall 2012
Berlin Philharmonic
Also Known As: Berliner Philharmonie
Building Type: Concert Hall
Building Location: Berlin, Germany
Architect: Hans Scharoun 1893 - 1972
Constructed: 1960 - 1963
Project Year: 1956 - 1963
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Diagram 1: Reverberation of Concert Hall Form
Introduction

A result of a competition entry in 1956, the Berlin Philharmonic challenged the traditional archetype of a square or round performance space to produce an internationally acclaimed acoustic environment. Designed by German born architect Hans Scharoun (1893-1972), the building is a physical manifestation of the social and cultural context that Scharoun was constrained to during the Nazi regimes reign between 1933 and 1945. By understanding the political-architectural struggle that Scharoun cautiously navigated through during the Nazi regimes reign, through the lens of architectural theory on form and body, it will be revealed that the Berlin Philharmonic can not only be appreciated for its amazing acoustic environment, but also for its architectural and social creativity and the innovation that it resulted in.

In the lead up and during World War II, building materials would become increasingly sparse. Already an accomplished architect, Scharoun would be forced to reduce the scale of his buildings, only being able to secure small single-family dwellings during this time. Additionally, Nazi bureaucracy and their stringent elimination of every external expressionistic element of the modern movement to align with their totalitarian state ideologies, would further force Scharoun to develop an architectural approach that radiated from the interior outward, eventually limiting the building’s overall exterior expressiveness and necessity for articulation.
Diagram 2: Equality of Space through Radiated Distance

- stage centre
- orchestra centre
- combined
- ground
- level 2
- level 3
- level 4
With a Focus on Form

The result of the Nazi influences on shaping the trajectory of spatial exploration along with a specific political intent is clearly manifested within Scharoun’s Berlin Philharmonic. Scharoun’s intent for the concert hall was to create a space of economic and social equality. Through the manipulation of the traditional rectilinear or circular-crescent shaped performance spaces of the past, which had resulted in a hierarchy of good and bad seats (from both an increased distance from stage and poor angles),⁵ the resulting hybrid concert hall intended to eliminate or reduce, the economic hierarchy that would be expected. Scharoun intended to accomplish this equalization by arranging the seats around the stage (Diagram 2), reducing the average distance of the furthest seat by close to half. The resulting socialistic intention had other implications, and in reference to David Orr’s examination of the choices of form, some of them unintended, unforeseen and possibly ironic.⁶ The configuration of the audience around the orchestra stage combined with the programmatic needs to maintain performance access to the stage resulted in audience access points that were required to navigate around the envelope of the concert hall (Diagram 3 & 7). With the traditional concert hall requirement of maintaining views by terracing successive levels of seating, Scharoun likely realized the potential of the resultant space, and the potential to use this space to create access points that allowed each area of seating to become accessible. The conclusion was likely an accentuation of the resultant spaces, increasing the tiered sectional distance and qualities of the seating. This ‘vineyard terracing,’ resulting from the organization of
Diagram 3: Private, Public, Stacked

private - public

private - public stacked
altering the previously understood interior volume in a new way that is unique to each individual (Diagram 6). Here, the built form becomes an orchestrated piece within itself, clearly uniting form and body.

Ironically, the concert hall develops multiple readings attached to the individual body, much like the allographic scores of music that are performed from within. The complex tiered interior angular forms are readily comprehensible from a fixed interior position. However, as the body moves through the space and the perspective perception changes, so too does the visual and spatial interrelationship of angular forms, altering the previously understood interior volume in a method of spatial organization that is now regarded as one of the many reasons why the concert hall performs acoustically outstanding. Accompanied with Scharoun’s goal of reducing the size of the audience into segmented groups that corresponds more closely in size (or area) to that of the orchestra, Scharoun produced a highly articulated space (Diagram 4).

The complexity that results from the concert hall access points and the interior articulation of the tiered seating elements begins to see practical applications that correspond to the formal complexity that Greg Lynn discusses in Architecture Curvilinearity. From an acoustics perspective, there is a natural requirement of the interior of any concert hall to have no parallel faces that could create acoustic hot spots (Diagram 4 & 5). The jaggedness that is required to produce an acoustically beneficial space must then be balanced with the requirement of seating, where the insertion of seating acts as a smoothness applied to the interior.

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Diagram 4: Radiance of Noise & Space
With a focus on Body

The absolute focus, care and attention dedicated to the concert hall program and its socialistic ideals can be seen reflected and projected to the exterior of the building. Built upon his experiences with the Nazi totalitarians, Scharoun’s inverted design process is clearly manifested and reflected in the general shape the exterior takes as it responds to other, less important, programmatic elements (Diagram 1). Essentially, Scharoun takes the concept of viewing the body from the outside in and changes the projection to the inside out, which was generated out of necessity only a few years before. However, this is not as a result of the ‘idea’ of projection itself being questioned, as Anthony Vidler discusses the body’s evolution in *The Building in Pain*, but resulted because the exterior projection was scrutinized and restricted so heavily during the Nazi regimes.

sectional organization to create a space that functions to allow the viewer to observe the orchestra’s performance. This combination of smoothness and articulated section and planar elements (Diagram 4) results in a space that is understood as a homogenous whole, emerging from a central origin (the stage), while also maintaining an inherent complexity, represented in the dynamic visual understanding as the body changes its location in space. This also contributes to a smoother acoustical interpretation of the orchestrated performance, all of which can be traced back to the original intention of creating equality within the concert hall.\(^9\)
Diagram 5: Audience & Stage Relationships

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space. The build-up and anticipation that is created by the spectator is one where, as part of the audience, they are intended to watch the performance as a collective whole. Here, as mentioned previously, Scharoun’s socialistic intent of reducing the audience into smaller sized groups in relation to the orchestra’s size changes the power dynamic (Diagram 5). It results in an unexpected experience, for a viewer who is accustomed to being part of a larger body observing the smaller (possibly a reference to Nazi Germany’s relationship to Jews). Now, the observer is part of a body that is of equal size to the orchestra, and through this relationship, Scharoun intends to create a more equitable space.

However, for the orchestra, the power dynamic is not reduced but intensified. No longer are they only

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**Diagram 5**

- **Legend**
  - Negative space
  - Building extents
  - Stage
  - Hall seating extents

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reign. As seen in Diagram 3, the building’s exterior form only yields substantially to major programmatic elements, such as the requirement for a concentrated and controlled foyer, the requirements of an additional auditorium and the requirement for the service spaces that support the orchestra. The remaining spaces are composed of the circulation and audience oriented spaces (landings, stairs and washrooms) distributed, in general, evenly around the exterior.

The reverberation that is created through the buffer spaces transmitting the concert hall to the building facade is also formally comprehensible within the interior of the lobby spaces. The traditional hierarchy of a concert hall proposes that the final destination, which is also the raison d’etre of a concert hall, is the main performance space. The build-up and anticipation that is created by the spectator is one where, as part of the audience, they are intended to watch the performance as a collective whole. Here, as mentioned previously, Scharoun’s socialistic intent of reducing the audience into smaller sized groups in relation to the orchestra’s size changes the power dynamic (Diagram 5). It results in an unexpected experience, for a viewer who is accustomed to being part of a larger body observing the smaller (possibly a reference to Nazi Germany’s relationship to Jews). Now, the observer is part of a body that is of equal size to the orchestra, and through this relationship, Scharoun intends to create a more equitable space.

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Diagram 6: Seating Orientation

individual

groups
perceived from the front, but now they are subjected to an encompassing surveillance, enveloped by the audience whose power is not equalized but perceived to be intensified collaboratively (Diagram 6). The once partially obscured conductor, with his back to the audience is now also viewed from the front. The result is a sensation that draws distinct connections to the development of bio-power within the concert hall, a form of power discussed by Jeffrey Nealon in *Once More With Intensity*.  

Interestingly, Scharoun may have been aware of this and in response, altered the orientation of the seats so that not all seats are specifically oriented to the center of the orchestra stage, but rather in some cases, overlook other audience seating, who then overlook the stage. In this sense, the audience is not only responsible for controlling the orchestra, that in-turn controls them through music, but also for controlling itself through self-observation. It could be argued that the audience-orchestra relationship is mitigated by the fact that the orchestra more or less voluntarily subjects themselves to this temporary intensified scrutiny that results from the juxtaposition; however, the dominant relationship of power is still largely unidirectional.
Diagram 7: Volumetric Hierarchy

Diagram showing the volumetric hierarchy of a building, with sections labeled as section 1 and section 2. The diagram includes concert hall, major circulation spaces (foyer & stage lift), minor circulation spaces, and service spaces.
requirement helped mute the traditional economic hierarchy that develops as distances increase from the stage. From the perspective of the people and politics of the time, the social restructuring of the audience, and inverted power from the core to the periphery possibly plays on the inversions of German politics after Germany’s collapse from sole leader back to the people. With a political intent at his core, Scharoun had an amazing ability to articulate space in response to social ideals, many in line with Germany’s refocused post-war political aspirations. This amazing ability would allow him to produce historically significant buildings which would eventually result in Scharoun emerging as one of Germany’s most eminent architects.11

Conclusion

As discovered through the diagramming process, there is no doubt that the Berliner Philharmonic is the result of a concentrated effort to establish an altered social hierarchy within the space of a concert hall, which further radiated outward and manifested itself in the building’s exterior as well as in section (Diagram 7). Scharoun’s technique of articulating the exterior programmatic elements after the interior elements developed during the design of small homes, much of that occurring during Nazi influence, is clearly found to eminent within the resulting formal and spatial organization.

Although the building’s overall compact form likely resulted from the original intent of locating the building in a more urban environment, the height of the resulting stacked spaces developed from a circulation requirement.
References

1. German: Berliner Philharmonie
2. wikipedia.org/wiki/Berliner_Philharmonie
4. wikipedia.org/wiki/Nazi_Germany
7. acoustics.salford.ac.uk/acoustics_info/concert_hall_acoustics

Images