THE BERLIN PHILHARMONIC AS A MODEL OF PHILHARMONIC HALLS?

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1 INTRODUCTION

The construction of a major concert hall in Paris leads to questioning the role and the place of such equipment, and its filiation within a determined model. The first conclusion is that music and architecture in today's society are determinant. Each city aims at having to its own concert hall. It is a worldwide trend, and programs have been growing in the past ten years with the construction of major concert halls. Since 1963, the Berlin Philarmonic, designed and built by the architect Hans Scharoun, remains an emblematic reference. It is a remarkable piece of work that has marked the second half of the XXth century. One can then wonder about the reasons behind such an infatuation and the development of symphonic places. One can formulate the following question: "why is the Berlin Philarmonic a model for major symphonic hall?"

The concert hall is a well-studied theme; its history as a construction has been accounted for on several occasions[1,2,3,4] . However, it is relevant to replace the key milestones on a historical timeline (see Figure 1) to create the context to the question raised.

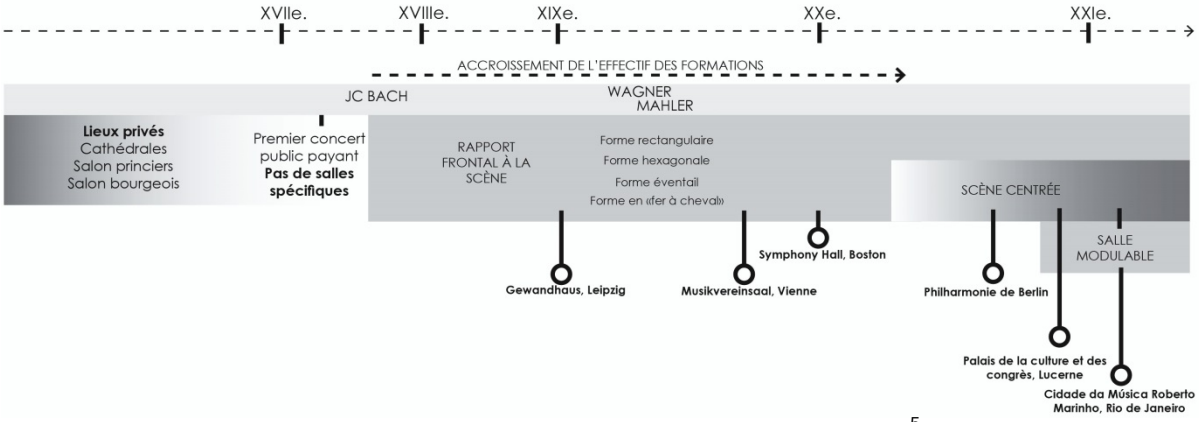

Figure 1. Historical timeline of the development and evolution of concert halls[5].

Several hypotheses arise. Is it the architecture that is being acknowledged? Is it the quality of the resident orchestra which reveals the hall? It appears that success is due to the combination of both a good orchestra and the right hall.
The objective is to elaborate a grid of analysis including the work of Hans Scharoun and the orchestra performance, in order to make the comparison with other halls of a similar kind.

2 THE BERLIN PHILHARMONIC, A TRUE MODEL?

"The philharmonic will have a major influence, it will be often copied but never equalled." O. Frei[6]

To follow up on the definition of the different terms specific to the topic of the study, the grid of analysis is defined according to two axes, dedicated to architecture and acoustics.

2.1 Context and aesthetics of the building.

Firstly, let's define the relationship between the building and the context in which it is implanted, and its aesthetics. The construction of the Berlin Philarmonic took place at a time when architects granted specific attention to plastic study. During his time, Hans Scharoun experienced on a large variety of architectural forms, developing a singular type of expression (Figure 2). This type of architecture set up a turning point in the construction of concert halls, leading to monumental productions, in contrast with classic constructions that would blend in the style of the city.

Figure 2 – Schematic representation of the Berlin Philharmonic[7]

2.2 A remarkable acoustics

The focus put on atmosphere and particularly acoustics resulted in legitimizing the work of Hans Scharoun with Lothar Cremer.

2.2.1 A singular perception

The influence of the environment on the human being is determinant. The acoustic perception differs from one person to another. In general, the atmosphere impacts on an individual, resulting in a change of behaviour. It can be physical or mental. The context impacts greatly on our perception of music. A musician or an amateur will have different expectations than a neophyte.
As a result, the Berlin Philarmonic was built using a specific sequencing of public space inside the hall, with an architectural route designed to prepare the audience to the show (Figure 3).

Figure 3- Architectural route in the Berlin Philharmonic[8]

2.2.2 Comfort of listening for the audience.

Comfort of listening for the audience and the musicians is a major focus. In the case of the Berlin Philarmonic, and after the “inaugural concert”, the point was to give the impression that all other halls built previously to it were mere “tentatives” in terms of acoustic. It must be reminded however that the acoustic of a hall can be improved with time and requires adaptation both from the orchestra and the audience. The Berlin Philarmonic is a relevant example as its sonority took several years to fine tune and become the much-acclaimed reference it is today. It took a few years to the musicians to come to grip with the space of the Berlin Philarmonic. In general, the orchestra needs time to find the perfect balance and take full advantage of the acoustic of a hall.

2.2.3 Collaboration between architect and acoustic specialist.

The layout of the main auditorium owed the building its mythical status[9]: with a central stage, Scharoun created a new connection between musicians and their audience. “German architect Hans Scharoun was the first ever to offer an alternative to a front stage”[9]. The shape of the hall was the result of two problematics. The first was a social need to encourage people to listen to live music, to counterpart the development of discs. The second problematic was acoustic, urging architects and acoustic specialists to work on technical problems arising from the enlarged capacity of halls (Figure 4).

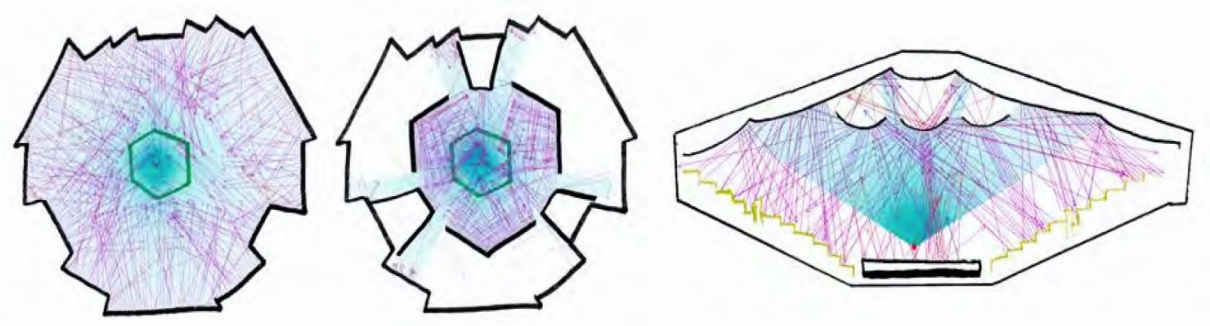

Figure 4 – Raytracing showing the different variations of early reflections.

3 WHAT HERITAGE FOR THE OTHER CONCERT HALLS?

The concert hall has become a tool to demonstrate the power of a city. It is a much-privileged means to achieve their transformation. The prestige of a concert hall is intrinsically linked to the name of its designer, the quality of its acoustic and the notoriety of its resident orchestra. As a result, the choice of the conception teams is strategic, as shown in the cases of the Luxembourg Philarmonic and the Park of Music in Rome.

3.1 The context and aesthetics of the building.

The architect is not only expected to create a building but also to contribute to the evolution of the image of the city.

The Luxembourg Philharmonic designed by Ch. De Portzamparc, is like a “pearl amidst the swamp” as it aims at magnifying a place, even though there is no real architectural achievement.

The external aspect of the building is a reference to antique Greek architecture (Figure 5a) and its composition is reminiscent the modern architecture of the Chapel of Ronchamp by Le Corbusier.

These inspirations give a sacred character to the building, which has an impact on the audience's perception. The choice of the white colour, sign of purity, adds to the monumental character of the building.

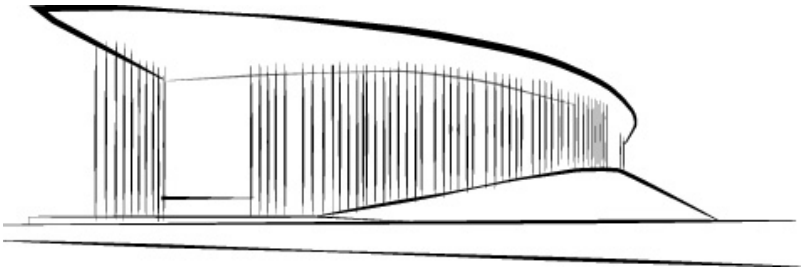

Figure 5a – Front wall of the Luxembourg Philharmonic

As for the Park of Music in Rome, it stands as "three uncommon creatures", as Renzo Piano described it, located on a part of the city previously used for the 1960 Olympic Games.
The building is situated in a remarkable located, including emblematic and powerful elements. (Figure 5b)
The architect may have different sources inspirations, according the context of the project and his own personality; he is always aiming at translating a feeling of monumentality. In both projects mentioned here above, there is always a reference to the Berlin Philharmonic.

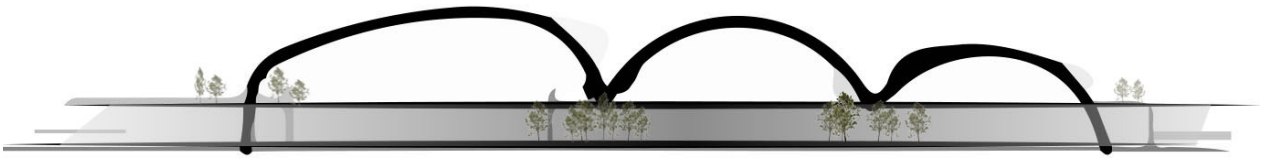

Figure 5b – Side view of the Park of Music in Rome

3.2 Ambiances and acoustics

3.2.1 The route

Inspired by the work of Hans Scharoun, the access to the halls of the Luxembourg Philarmonic and the Park of Music in Rome (Santa Cecilia) was designed and built in a different manner. In the first case, the route of the audience is organised around a suspended bridge. The spatial construction is a modern version of a sacred place such as an antique temple or a so-called classic music hall (Figure 6a). In the second case, access to the hall is designed as an urban walk around vestiges and remains, creating a form of dialogue with the surroundings (Figure 6b).

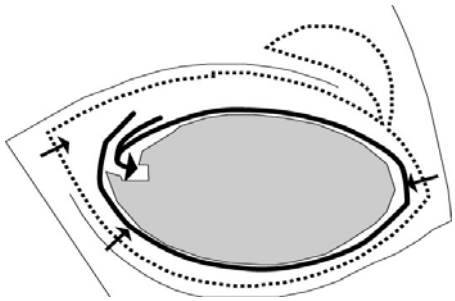

Figure 6a - Route in the Luxembourg Philharmonic

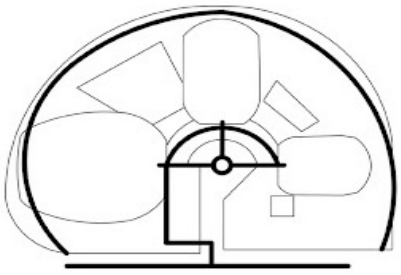

Figure 6b - Route in the Park of Music in Rome

3.2.2 The concert hall

The creation of Ch. De Portzamparc has a smaller capacity than the Berlin Philarmonic, which allows using a cubic form, revealing the acoustic assets of a classic rectangular concert halls and the quality of a Shakespearian theatre. The acousticians' team is constituted with J.P. Lamoureux and A.Y. Xu.

The Santa Cecilia hall in Rome is a version of the work made by H.Scharoun in Berlin. The architect has collaborated with music composers Luciano Berio, Pierre Boulez and the National Academy Santa Cecilia of Rome, who were at the head of the Park of Music. The architect also collaborated with Helmut Müller, the acoustic specialist of the music hall of Lingotto in Torino. Both men worked closely at elaborating different tests to come up with acoustic graphics, completed by electronic simulations and large-scale models.

4 WHAT ABOUT THE PARIS PHILHARMONIC?

4.1 The context and aesthetics of the building

The project comes in “completion” of a large and rich urban programme started in the 1970’s. It stands alongside several major cultural equipments of Paris, such as the Zenith, the City of Sciences, the City of Music, the CNSM and the Great Hall. The context is derived from the existing programme.

The building is shaped like an urban object, in the likes of a hill or an observatory of the surrounding urban landscape. The location and volume of the building allows it to take advantage of the bordering flows of circulation, making it attractive and visible, in particular from the nearby highway (a major traffic way in Paris).

4.2 Ambiances and acoustics

4.2.1 The route

The current musical context led the architect, J. Nouvel, to design the project as a full-fledged complex. The route holds a predominant place in the global layout and encourages encounters. The objective is to create a place that can be opened at all times, a place not only designed to listen to music but also to go for a walk or meet people.
Unlike in many other music halls, the route is not only designed as a transition way to listening to music but has become a social place during daytime.

4.2.2 The concert hall

The main hall is built on the central stage model. This choice was made not only according to the large capacity of the hall but also as a means to demystify music and favour a closer connection with the musicians. The atmosphere created by the suspended sky in the auditorium is peaceful and relaxing. However, the technicality of the panels is complex and can generate problems of cost and usages, as it required great skills and specific knowledge to handle. As a result, the panels suffer from low maintenance and remain as they were when installed. The acoustician is H. Marshall associated with Nagata firm.
The architect also seems to have paid great attention to harmony, with music but also with the context of the building, in particular with the City of Music designed by Ch. De Portzamparc.

5 OPINIONS OF MUSICIANS

The musicians who have contributed to this study (credited in acknowledgments) are part of the National Orchestra of Bordeaux (ONBA). They were selected on their experience in performing in major music halls, in particular the Berlin Philarmonic.

They were asked a series of questions based on two different parts. The first is their own criteria of appreciation of a music hall and their perception/sensation when performing. The second is the notoriety of the halls. The objective is to illustrate the questions raised in this paper.

The first part of the questionnaire revealed that the connection with the audience and the sharing of music were the key factors of appreciation of a hall. Performing music is about creating a connection with people, even if it is not in a closed location. “Symbolically, people are not coming to see us, we are going to greet them. It is a form of opening” (C.Millet). However, it appears that the concert hall offers an additional comfort for everyone.

There were three elements of satisfaction that were often mentioned (Figure 7a). The first one is the comfort of listening. All agree to say that the sound must not be dry, it requires a certain volume to create a pleasant experience of listening with a homogenous sound. The music must be clearly audible to the audience and the musicians alike.

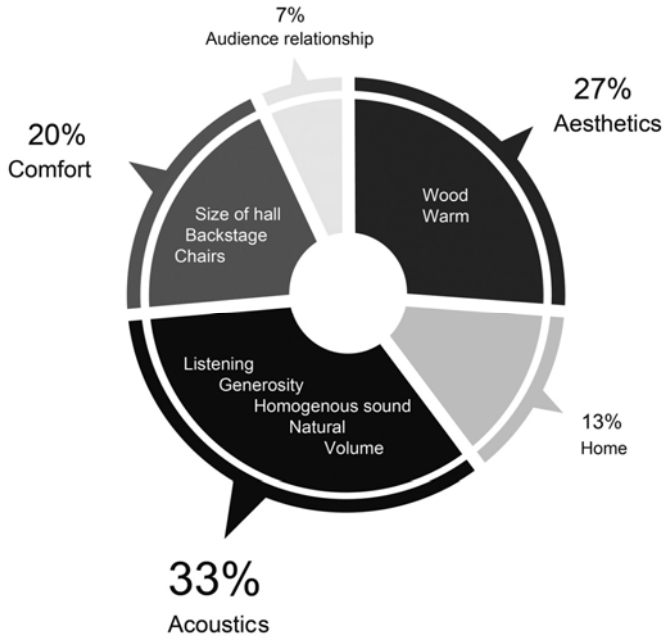

Figure 7a - Elements of satisfaction (first part of the questionnaire)

The aesthetics of the building is the second element. The usage of wood is generally perceived as creating a feeling of warmth. The size of the hall, the backstage and the quality of the chairs are also important.
The third element is the acoustic of the hall, as it allows the musician to share their music with generosity and create a feeling of well-being. The auditorium is perceived as an instrument of work, to facilitate the performance, both individual and collective. The symbiosis experienced by the orchestra will generate emotions in the audience.

The second part of the questionnaire revealed a top listing of the following halls (Figure 7b). The most notorious hall is unanimously the Berlin Philarmonic, then the Gasteig hall of Munich, the Claudio Santoro theatre in Brasilia, the Palace of Music in Strasbourg, the arenas of Orange, the Theater of Châtelet, the auditorium at the City of Music in Paris, the Liszt hall in Budapest etc.

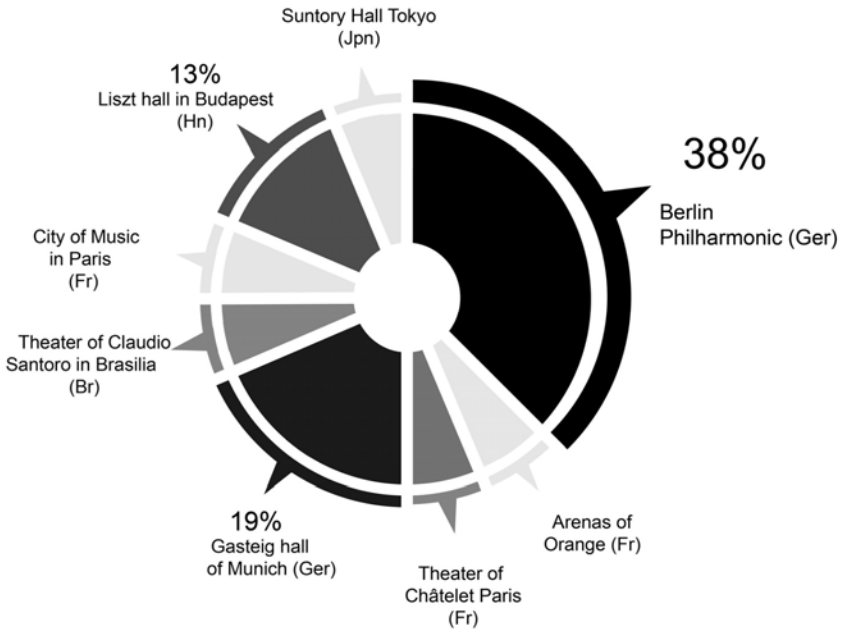

Figure 7b – Top list of the concert halls (second part of the questionnaire)

All musicians agree to say that the Berlin Philarmonic is a mythical hall as it represents perfection. This is due to the quality of the hall but also to the performance of the resident orchestra. The atmosphere is warm and friendly. It is easily accessible for the audience (to purchase tickets) and there are also performances from amateur musicians.

6 CONCLUSION

Architecture is the keystone of an era, it testifies of a culture. Historically, concert halls would blend in the urban landscape as a reflection of the architectural trend of the time, defined as the “correct architecture”. After 1963, with the creation of the Paris Philarmonic, concert halls adopted a new style of architecture to stand apart. As a result, the notion of monument in the city is expressed differently but the original objective remains the same.
The Berlin Philarmonic is the magnificent result of a work focused on visual and auditory atmosphere, the architect being in charge (most likely) of the visual part, and Cremer of the auditory part. Their collaboration from the early stages of the work was an asset. They were both able to find their own means of expression, Cremer moderating some of Scharoun’s wildest intentions, while Scharoun forced Cremer beyond technical boundaries. This resulted in unsurpassed innovation and the resolution of technical problems.

However, it could appear that their collaboration was only fruitful for the pair Cremer – Scharoun. According to Andrew Todd[9] «both the architects and the clients agree to say that the true motive to the project was the quest for the perfect acoustic”. Nonetheless, when looking at the other music halls, it seems that all acoustic problems were solved at the Berlin Philarmonic.
Even though they were built by some of the greatest architects, these buildings are remembered for their monumental character, and innovation seems to be left aside. The architect blends in the predefined model and fails to put his personal touch.

The Berlin Philharmonic stands apart in terms of architectural performance but the close connection that Germany has created with music could also be part of the success. During the interviews conducted, the most frequently mentioned halls were in Germany and Japan and praised for their

spatial quality. But it is worth noting the interest of the people for music, their enthusiasm for the performances clearly visible.
In France, on the other side, the relationship to culture and music in particular represent a hindrance to the development of music projects. Music is perceived as a non-accessible world and the separation between professionals and amateurs is clearly made. There is not room for everyone. Conservatories own its responsibility, as they tend to create an "elite". On the opposite side, the Berlin Philarmonic offers the possibility for amateurs to perform, which shows a sign of opening and a will to erase boundaries. Moving forward, the need for profitability of music halls might lead to the development of the concept in France.

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