

THE SPACE OF THE HALL in “MODERNISM” Type characters and construction forms

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ABSTRACT

In the twentieth century, the place of the public building was identified, in several architectures, with the space of the hall.

Starting from the generality of hall typology, it can be achieved many different types of architectures.

Through the constructive process we can research the most appropriate forms to reveal the meaning of the building.

The exact form of single elements and the exactness of the relationships between themselves define the character of the spaces, which must be the most appropriate to their function and to the context in which they are built.

In this way, we would compare three buildings of three “modernist” masters of architecture:

- Asplund’s Stockholm library assumes the constructive system of the wall.

Asplund builds a sequence of rooms distinguished by different spatial characters, in order to organize the composition and to declare the centrality of the reading great hall.

- Mies van der Rohe’s Chicago Convention Hall assumes the reticular structure as constructive system.

In this architecture, we can find the theme of inside-outside continuity and the theme of the relationship between the elements that build the space: the roof and the enclosure.

- Tessenow’s project for the “Kraft durch Freude” (“Strength through Joy”) festival hall on the German island of Rugen, assumes the trilithic constructive system, in which the main element is the column.

Through the analogy with the woods, in which the clearings are rooms, identified by the rarefaction of tree trunks, Tessenow builds the inner space of this architecture by the rarefaction of the columns, clearing a field.

Mies, Asplund and Tessenow decline the same architectural typology in three different ways, through the constructive process.

In these projects, construction becomes an expressive instrument, able to represent the character of each building and to give it a specific identity.

PREFACE

During the first semester of the Laboratory for Architectural Design III of the Faculty of Architecture (Polytechnic of Bari – DICAR), whose object of study is the special-purpose property, some paradigmatic projects of Modern Architecture have been analysed, in order to understand the rules on which the project is founded.

The aim of the course was to combine the analytic (recognition), the critical (interpretation) and the planning (synthesis) moment, in order to become correlated parts of a single cognitive process.

To achieve this aim, after having studied the twenty-nine selected buildings, an attempt to abstract a topic from each project has been done.

The synecdoche, the figure of speech in which a part represents the whole, has guided this abstraction process. In this way, we tried to deduce from these case studies some compositional principles on which specific spatial typologies are based.

In each project, the investigation aimed to recognize the part that contains the necessary and sufficient elements able to represent the spatial character of the building.

Furthermore, different spatial typologies have been compared. This has resulted in some '*families of shapes*' that have the same ordering principles in common. On these elements, exercises concerning composition and design would be made, in the second part of the course.

At the same time, thanks to this comparison, another attempt is to understand how the forms of construction could express some specific spatial characters.

The projects shown in this paper are just some of the examples that the students have analysed during the semester. Although they are different in shape, dimension and function, these buildings are brought together because they have in common the same architectural element that identifies a public building: the Hall.

Models and drawings have been produced by the students of the Laboratory for Architectural design III of the Faculty of Architecture, at the Polytechnic of Bari – DICAR, during the first semester of the academic year 2015/2016, under the supervision of professors Carlo Moccia and Anna Bruna Menghini, with the collaboration of the assistants Giuseppe Tupputi and Giuseppe Resta.

INTRODUCTION

The place of public building has been identified, by many architects of the 20th Century, as the space of the Hall. Many masters of the Modern Movement considered the Hall as the space that embodied the public building. Its civic value has always been guaranteed since, as Mies states, <<the creation of a common place presumes the sharing of common values>> [1]. However, starting from the general features of the Hall-type building, these masters of Modernism succeeded in achieving many different types of architectures, with different intended uses and with different relationship context.

The thematic characterization, through whom each project assumes his own strong identity, depends on the choice of the appropriate constructive solutions, which are in strong symbiosis with the adopted compositional rules [2].

This is one of the main purpose of this work: an attempt to clarify the relationships between the architectural elements, the adopted constructive solutions and the basic idea of architecture that guides the project and understand how the constructive process can help to represent the identity of these buildings, in the best way possible.

Festhalle by Heinrich Tessenow, Rugen, 1936.

Tessenow's project for the "Kraft durch Freude" ("Strength through Joy") festival hall on the German island of Rugen (Figure 1-2), assumes the trilithic constructive system, in which the main element is the column.

In the project of 1936, for the Festhalle, inside a seaside colony in Rugen, Heinrich Tessenow proposes a building covered but open on the sides, supported by monumental columns of four orders. It is a real covered square whose roof is conceived as a large "sovereign shelter", that consists of an almost square flat roof whose side is 125 metres long.

The Hall of the celebrations is a << majestic and monumental refuge in the surrounding nature where [...] the reference model used is that of one of the most natural and ancient spaces used for large meetings, namely the *Waldlichtung* (wood clearings) >> [3].

Through the analogy with the woods, in which the clearings are rooms, identified by the absence of trees or shrubs, Tessenow builds the inner space of this architecture by the reduction of the columns that rids a field, a place embodying an inner soul.

The discretization of the elements that constitute the building is absolute.

There is no concept of volume in this architecture. The function of the roof (as a structure that covers) is to delimit the place, tracing the boundaries in the sky, while the function of the columns is to create a place with well-defined character a hypostyle hall, which is in continuity with the natural space of the surrounding wood.

Four concentric rows of supporting elements create the large space of the hypostyle hall and support the roof. The arrangement of the columns has its own rhythm and proportions. In fact, moving towards the centre, the supports become stronger and the distances between the columns increase.

This model, whose supports reduce towards the interior space and in which the rigid geometry of the grid is altered by developing a method of geometric control at the poles and introducing, through complex overturnings and projections, three additional focus external to figure, reminds of Therisirion of Megalopolis [4].

Being in the centre of the Hall, the clearing appears as an interior space, obtained by the reducing the supporting elements.

The light, unhindered from the forest of columns, invades the central field and radiates it defining its space. It is a *room* where a large number of people can meet, which keeps the evocative power of a primeval place and acquires a big civic value in relation to the area of the surrounding nature, which gives to the room its spatial features.



Figure 1 Festhalle by Heinrich Tessenow, Rugen, 1936. Picture of the model.

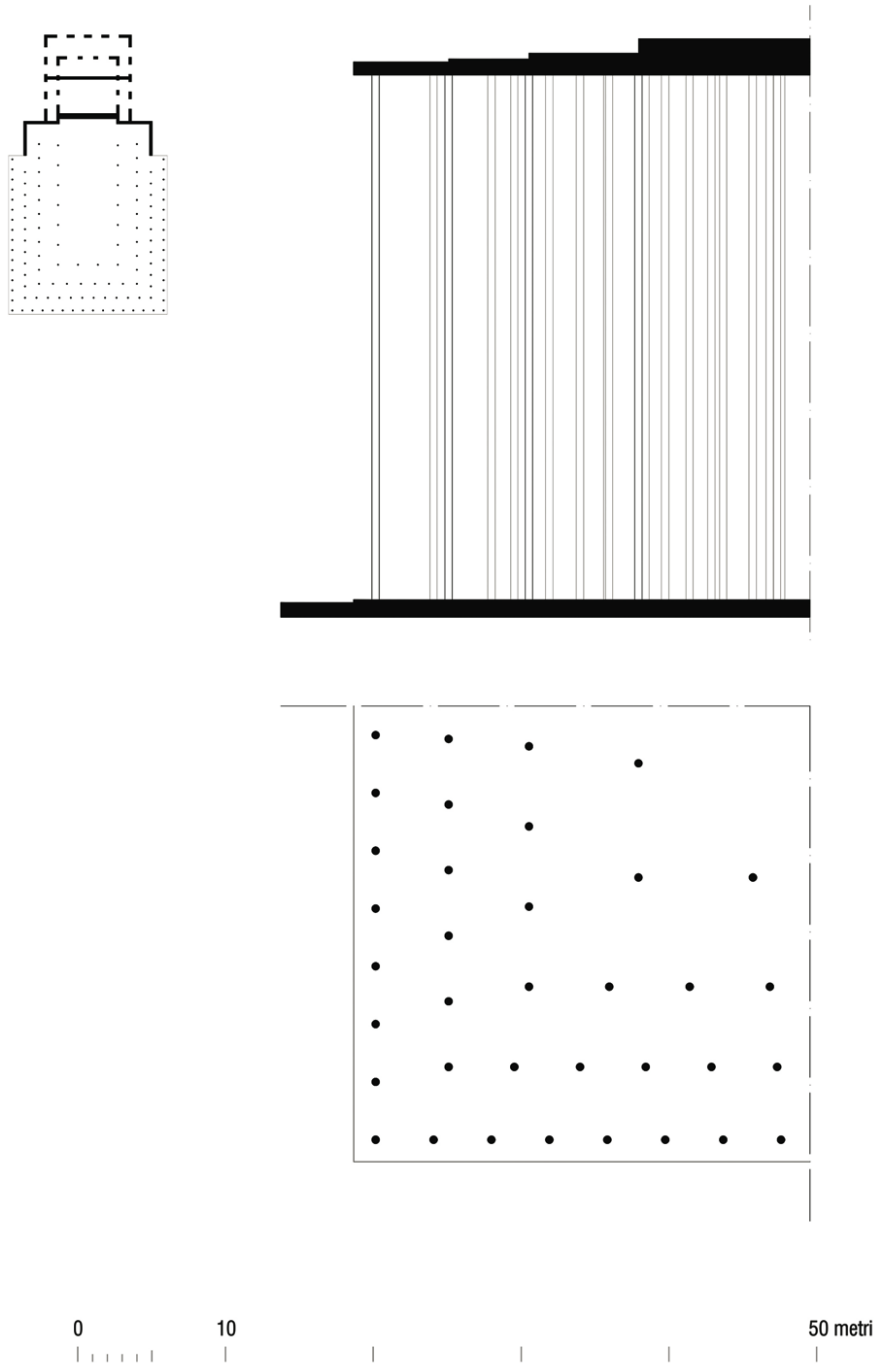


Figure 2 Festhalle by Heinrich Tessenow, Rugen, 1936. Schematic plan of the entire building and drawings (plan and section) of the selected part.

Convention Hall by Mies van der Rohe, Chicago, 1953-1954.

The Convention Hall by Mies (Figure 3-4) consists of a steel skeleton-frame building, characterized by finite and discontinuous elements. Through the construction process, it is possible to determine the proper connections. Thus, the construction plays its role in defining a stable relationship between the elements [5].

According to Mies, the Hall corresponds to the construction of the central space through two elements: the enclosure and the roof [5]. The changes in the structural relationship linking the supports and the covering result in a change of the Hall space.

In order to understand better some relationships it is useful to compare the design solutions Mies originally adopted with those he developed later. Mies had to face two fundamental issues while designing the Convention Hall: the structural form to use in order to build a roof with a side of 220 metres (the truss structure) and the nature of the supporting elements that had to relieve the enormous weight of the roof to the ground through few discrete points.

In his first draft, Mies uses the *tree-shaped* supports, whose shape develops in continuity with the truss structure of the roof. In this way, the large suspended covering identifies the space of the Hall and plays a predominant role in the definition of the space characters of the same. In this hypothesis, the instability of the floor where the trussed columns lie, is avoided through hoop reinforcement by connecting horizontally together the bottom part of all the pier walls.

In the final version of the project, Mies clearly distinguishes the supports from the covering by completing the unity between the roof and wall (built in continuity with each other through the truss system used also the sides of the building) and isolating this stereometric volume, supported by eight concrete pillars with tapered section.

In this solution, the wall, which develops in continuity with the roof, turns horizontally to the base, to stiffen the structure. In this way, the sharp shadow line that results from the large distance between the columns defines the building entrance. While entering the hall, people cross this shadow-line and get into a compressed space that further expands incredibly.

Inside the hall, the continuity of the roof and of the truss wall frame gives unity to the Convention Hall. Outside, the power of the volume characterizes the building that appears as a compact solid building made of metallic structure and marble that infill the exterior walls.

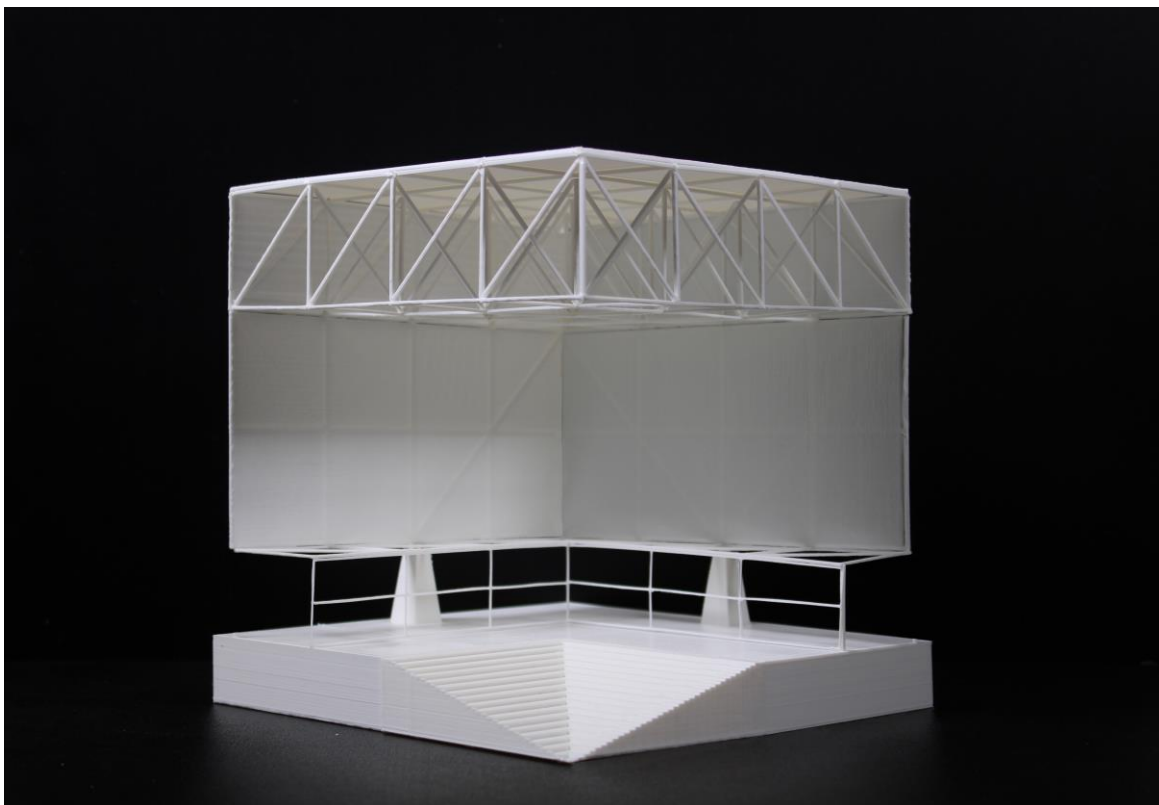


Figure 3 Convention Hall by Mies van der Rohe, Chicago, 1953-1954. Picture of the model.

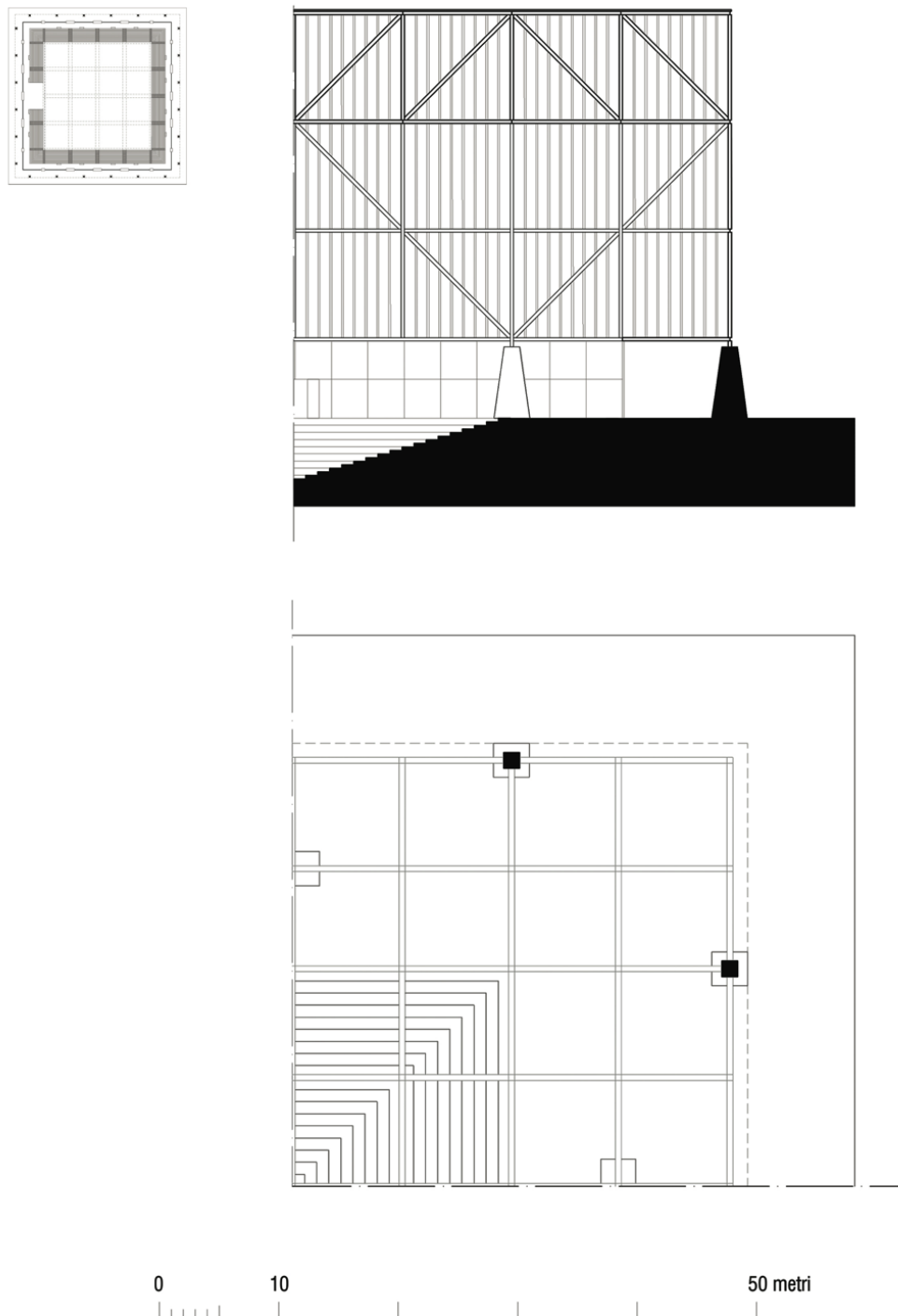


Figure 4 Convention Hall by Mies van der Rohe, Chicago, 1953-1954. Schematic plan of the entire building and drawings (plan and section) of the selected part.

Public library by Gunnar Asplund, Stockholm, 1920-1928.

The composition of the Library of Stockholm designed by Asplund (Figure 5-6) uses the wall construction system.

The first sketch Asplund drew up is different from the second one, which later will be realized. The differences between the first and the definitive design idea show some essential steps, useful, also in this case, to understand the themes on which the sense of this building is based.

Both projects share, of course, the same system: a large central cylinder enclosing the hall, surrounded by three or four wings.

The first project depicted a central domed room and the surrounding walls rose until the height where the dome itself was installed. Because of this small difference in heights between the two parts of the building, they cannot be seen as two separate and independent volumetric units, from the outside.

In his second design hypothesis, Asplund greatly reduces the external volume of the exterior walls of the building and, at the same time, substituted the dome with of a tall vertical drum that imparted monumental stature to the room. In this way, the elements that compose the building and the principle of the composition can be clearly distinguished.

Moreover, Asplund builds a sequence of rooms connoted by different spatial characters, hierarchizing the composition and affirming the centrality of reading room.

As a director, Asplund composes a narrative sequence, where each space builds an atmosphere of its own. He also paid special attention to the passages from one place to another until they are exact and they express the relationship between themselves.

The hall thus represents the end of a ritual path, punctuated by a series of concentric areas, which achieve its objective in the entrance at the centre of the building.

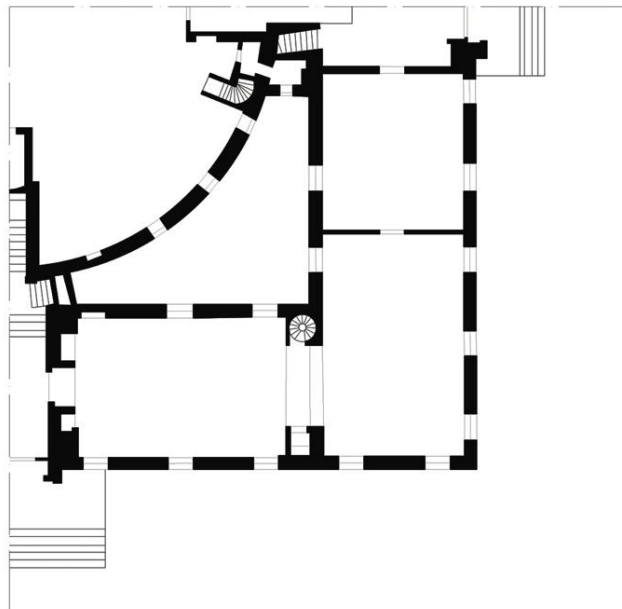
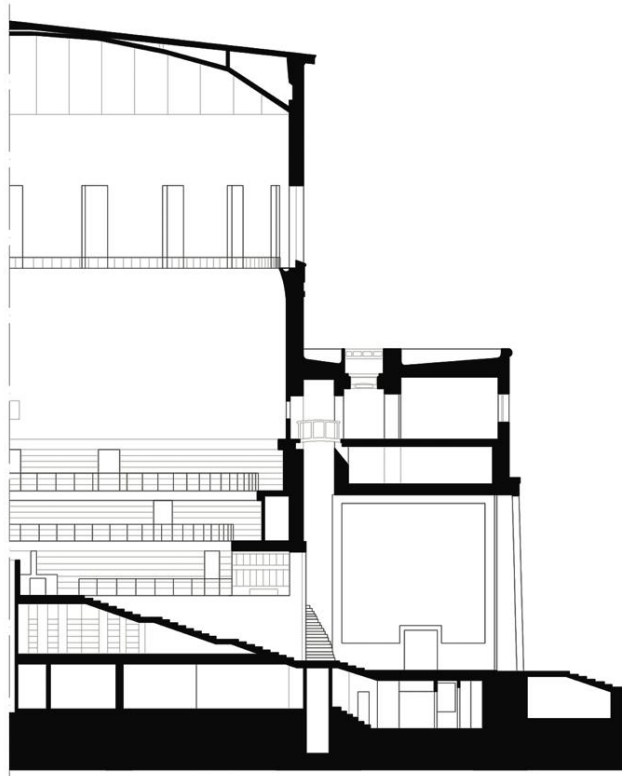
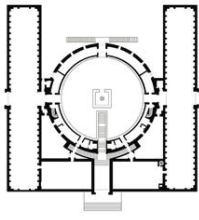
The changes between two different versions of the project explain how the designer devoted his work to search solutions to the building's practical and organizational issues and to establish harmonious relations between the elements.

In the initial assumption, the corridor leading to the central hall follows a projective nature and it extends continuously from the entrance gate of the building to the ramp leading to the stack hall. In the second and final version, Asplund separates clearly the atrium space from the central Hall, by introducing an interstitial space between them.

In the final project, the entrance to the building is allowed through the large portal after rising on a small external podium outside. The atrium defines the first space entering the building. The atrium provides the opportunity to access, through a smaller portal, which is similar to the entrance portal (it is important to emphasize the value of the repetition of the portal, in relation to the idea of ritual sequence of spaces), to a staircase that leads into the centre of the large reading hall. Access is also allowed to the circular staircases located in the interstitial space separating the drum from the volume of surrounding walls: a very narrow and high *spazio dell' orrido* (space of horrid).

The elimination of the continuity of the projective corridor at the entrance of the central room, the introduction of a consecutive second portal – signing the passage from one space to another - the clear separation between the exterior surrounding wall and the central hall, by adding an interstitial space and also the raising of the drum (and the consequent elimination of the dome that because of its structure is not suitable for such high drums) aimed to identify and distinguish the elements composing the building. These interventions also aimed to organize and size the elements in the appropriate balance.

As Muratori says, << it is interesting to observe the architect's precision in dealing with the attacks of the various parts, its refined sensitivity in finding the precise shapes of the steps, placed in an energetic relationship between them, in order to give a significant character also to the technique >> [6] and to the building.



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Figure 5 Public library by Gunnar Asplund, Stockholm, 1920-1928. Schematic plan of the entire building and drawings (plan and section) of the selected part.



Figure 6 Public library by Gunnar Asplund, Stockholm, 1920-1928. Picture of the model.

CONCLUSION

Tessenow, Mies, Asplund and Khan constructed buildings having different architectural forms, declining in different ways the Hall in the building using, in any case, the most appropriate constructive solutions.

The building process gives its specific feature to each building. The designers search the most convenient forms to convey the function of the building.

The perfect shape of the single elements, the ornaments, and the proper relation of its elements, the proportions, determine the character of the spaces, which must be the most appropriate according to the function and the surrounding space.

The construction process becomes a powerful means of expression, which is able to represent the building features [7]. In this perspective, the construction process becomes a poetic moment, the act that expresses the form and its underlying idea.

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