Multimedia and Architectural Disciplines

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Abstract

The research, carried out in the Faculty of Architecture of Palermo, Rome "La Sapienza" and Rome III, with a wide number of researchers not all tutors, had allowed to verify the physical and architectural peculiarity of the Villa Savoye, from its initial shaping. The computer aid, in the architectural field, seems to allow a new approach to the study of the three-dimensional space and we think, within the paper, to analyze the phases and the methodology of the work.

Generality

Now days are concerned by the "media" that have produced a "world of images", which in the future is going to increase. The computer, in this "world", is the necessary "tool" to manage the "images" and, within the architectural field, it"ll be able, by a similar methodology, to deal with the three-dimensional reality of the building and it"ll point out the way it "erects". The research deals with several topics that are put together to describe the Villa Savoye of Le Corbusier 1926-28. The building was chosen because it is, for his author, a sort of "melting pot", in which all the events of the age where called and converted into a new architectural solution. The research furthermore, has scripts, images, scientific informations, computer animation and everything which help to describe the villa, within his natural context.

We think, according to the knowledge of the computer programs, to start from the critical analysis of the villa and to resume it; then to rebuild the building with the iconographical data and to emphasize the architectural subjects, finally to "erect" the volume and his surrounding, by the computer animation. The initial part of the research will deal with the bidimensional aspects of the villa, while the second one, that deals with the thee-dimensional processing, better than the films or photos, will be able to realize the "architectural" results.

The computer tool

The computer, supplied by programs to manage different "sections" (as images, texts, sound and films) is the new cognitive tool open to the users. All the informations, subdivided in sections and subsections, ecc., will be inserted in the main memory, following a pattern that we can call "tree". This "tree" is a set "course" that puts together not homogeneous sections in a way that explains the deep meanings of the entire work. The "tree" is resumed in a "general menu", that can be achieved at any time during the "course".
To overcome the forwards and backwards "course" along the "tree"; in a second phase of the research, we’ll connect some "key words" and "icons" to the single "sections". This further connection, among the parts, should make possible to "sail" inside and outside the architectural volume and his informations. The user could decide his own "course", thanks to the independence of the single sections, subsections, etc. This second phase can be represented as a "net", where each junction coincides with a "portion" of the sections.

Articulation of the research

The research is organized in several "sections" because of their different meanings.

1. The analytical section that studies a building, can’t end only with the historical issues, that often deal the "architecture" in wide forms, and take up, as they are, toward a general information. It is necessary that the whole critical-documents can be finished with thee-dimensional references. On the other side it is possible, by analytical methods to study the "architectural components" (L. Quaroni, D. De Sanctis, F. Dal Co, R. Meyer, ecc.) that descend directly from the critical results. The topic is of recent date and is concerned with the educational studies.
These methods point out the "meaning parts of the building", their interrelations and the one with the building. The method could stop the previous idea that a project is a formal expression or an intuition, without its own rules (that are similar to every logical construction).

2. The section, that deals with the "architectural subjects", descends from the previous one; this can be memorized in the computer, mixing the specific critical-informations with all the iconographic documents, pictures, diagrams, and perspectives. That’s a traditional moment of the research: the novelty is the try to collect the text with the widest available data on the single subject.

3. The last section deals with the graphic representation of the building aided with the CAD. It puts together the results of the previous two sections under a thee-dimensional reconstruction. The reconstruction works with several frames, connected in a "film course", that is able to "animate" the building construction and all his characters. The "animation" support the perception of the space and the components, in a natural sequence that are invisible throughs a film view: this because the film, usually, shows the final results. The thee-dimensional representation, therefore, becomes a tool to investigate the space.

**Methodology**

The methodology of the research tries to prepare a result that, besides the peculiarity of the architectural subject and the scientific data, can be managed by different users, even not architects. There main passages are: Preface, Site, Project, Building. Preface: herewith are put together the general informations on the authors of the research. Site: it describes the site where the villa is located, near Paris, with a wide range of data and the specific informations to reach and visit it. There is a short historical summary to fit the villa into his age and pictures of several other buildings (of the same time) to emphasize the architectural differences.
Project: it is a compendium of the project datas of the villa Savoye. It starts with the Le Corbusier’s description of the villa plus some other technical data. It comes out, for example, that the building is small, but the interior space is very distinct. It goes on with the same critical reviews of the most important critics of the Modern architectural history: they are showed the chapter with the photos and notes. They are considered as fundamental documents to be aware of the villa. There are four of the five projects, made by Le Corbusier, before the final erection of the building, that are connected with the architectural evolution of the Master of the moderne architecture. Among these informations, very important is the analysis of the "architectural subjects" and, in detail, the meaning of the "ramp" within the organization of the villa. The analysis, as we said is a bidimensional approach, easy to be read by the architects or experts, that can image the final volume of the villa.

Building: it starts with the interpretation of the "arch. components", done by the overlap of analytical outlines on the project drawings. The part is usefull to see the single components and their relations. For example it comes out that the "ramp", within the geometrical center of the building, modifies the "traditional" structural and functional layout of the villa. We ought to remember that the villa Savoye is one of the first buildings made in concrete. The drawings from the "opera completa", some details and the pictures represent the interior and the exterior of the villa. The computer animation, at the end, puts in a natural sequence everything: the architectural and the written information in a three-dimensional solution. The animation, opposite to the films that filter and hold the space throught a lens, leaves open the "vista" and lets the mind to move across the entire space. The last section with the interior design of the living room, in the original settlement and in the last organization, with the Le Corbusier furniture, is made to render the dimension of the room.

Conclusion
The research on a so famous building as the villa Savoye, just when goes to the complex meanings, transformed by Le Corbusier in a architectural pattern, should be a new instrument; different but not substitutive of the traditional one

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