

## **SCIENTIFIC REPORT \_ ESF SHORT VISIT GRANT**

(ESF activity entitled “Court Residences as Places of Exchange in Late Medieval and Early Modern Europe (1400-1700)”)

### **PURPOSE OF THE VISIT**

The accepted submission I made to the ESF, for a short visit grant, to participate in the PALATIUM Workshop “Virtual Palaces Part II. Lost Palaces and their Afterlife. Virtual Reconstruction between Science and Media” in Munich, 13-15 April 2012, made it possible for me to attend this event.

My main goal was to be able to obtain greater insight in reading historical architectonic structures and to understand about their physical space (meantime disappeared), rhetoric representations and how to better inform the scientific community on the investigations’ results. It was also very important to cross ideas with other professionals (art historians, archaeologists, computer engineers, animation designers, etc.) who have been working on issues involving this workshop divided by sessions: “typology and use of virtual models of residential architecture”, “sharpness and uncertainty in the virtual model”, “digital modeling as a tool for research” and “virtual identities”.

As an architect, my vision will always be more focused on issues like metrics, ratios, geometry, materials and construction systems, and I am used to work only with architectural drawing software’s. I expected (and so it happened) to understand more about how to organize and adapt different types of information and how to deal with the uncertainties of virtual reconstruction in search for the visualization of what was the architectural concept of a residence/palace in its several phases of existence.

It was equally a major opportunity for presenting the ongoing (just started) research on the architectural virtual reconstitution of the Palace of Vila Viçosa in southern Portugal. The (accomplished) purpose was to make a short presentation sharing the possible methods I have been using and compare them with some case studies that I have been analyzing, framing the study of the palace (from nowadays until the first half of 16th century) in the research project named “All his Worldly Possessions. The Inventory of the fifth Duque of Bragança, D. Teodósio I”, that I am part of.

## **DISCRIPTION OF THE WORK CARRIED OUT DURING THE VISIT**

During the workshop there were several reports of how the virtual reconstructions are important to the study of residential and courtly architecture, especially if it has disappeared with time (either because the building no longer exists, or because the original architecture underwent subsequent renovations). Issues like how to deal with uncertainties or how to virtually complete the palaces when there is insufficient data describing them were discussed on.

The researchers were interested on debating solutions of how to visually distinguish between what results from investigation based on historical sources (written, visual, pictorial, archaeological, etc.) or what is imagination (created by comparison or deduction), only introduced on a virtual reconstruction to complete the model. There were quite a few options shown and analyzed.

One of the major problems under consideration was how to take advantage of digital technologies to achieve the virtual reconstructions that art historians, and other researchers in this area, seek. The question raised by the computer engineers was how to improve the use of technological tools for visual representation, facilitating their use by professionals who have never had training in technical architectonic design.

The workshop was also an opportunity to discuss the preferences between using virtual reconstructions that look more realistic or visions that are more abstract or even rely on the graphical animation (comparable to modern computer games). On this, one can always debate the use of videos that show these constructions of architectural objects in their surrounding scenery or landscapes, sometimes including people and the representation of the environment in everyday life. The other option is to select still images where one can choose what can be seen, allowing the author to show the spaces that are best reconstructed and avoid views that reflect the most uncertain points of reconstitution. It is obvious that this is also allowed in reconstitution videos, but because it is an increasing tendency for such videos to become interactive and the choice of route can be administered by any person, this is an important point in the discussion.

Then, there is the question that the main intention of the virtual reconstruction of a palace that might have disappeared with time, is to use them to further the studies around them and when the investigation deepens it must be acknowledged by the scientific community. The most common method is through the publishing of articles or

books. Thus, whatever the software used or the method followed, it is always necessary to crystallize the visualization in specific frames which, by itself, it is an interpretation of the researcher.

Moreover, it is also important to illustrate, the evidences and paths followed to reach the final reconstructed images. This is of great importance such as, equally, it is the need to reach the general public, expressing to them the knowledge developed by the scientific community so that people can feel more proximity to the historical realities that no longer exist. This is a constant concern, at least, a common view among those involved in the workshop.

All these materials were presented over two intense days, divided by sessions already named above. Members of the workshop's organization presented the various speakers, fitting them in their research work and academic fields. Then, the researchers were able to make their presentations, followed up by a few moments of questions from the audience with comments and exchanges of opinion.

It was very interesting to see the different working methods and their different results, sometimes also dependent on the research budget and time available. From my side, I showed a different kind of exertion, only by being an architect working on a palace that still exists physically. The reconstruction that is sought is the visualization of how its' architecture was in a specified temporal interval. The process involves the integration of descriptive and historical sources and the metric and geometric analysis of the structural elements that constitute it, being another way of working, in approach to archeology.

It really became a prospect of an interdisciplinary forum, discussing the contribution of virtual reconstructions to scientific knowledge.

## **DISCRIPTION OF THE MAIN RESULTS OBTAINED**

The general opinion is that the visualization of knowledge about the lost palaces is an important tool to produce even more research and to display its' investigation. But this is a new area / field among historians. There are still different opinions being discussed about how to take advantage of it and how to get best results.

The models change our view about the past, both as researchers and as citizens. There was an awareness of the fact that these virtual reconstructions can (and should) change the standard tools used in teaching art/architecture history. They allow students to earn a visual consciousness that becomes more attractive and coherent than the interpretative variations that teaching based on literature allows. It is clear that the purpose of these models should be to recover the measures, spaces, and architectural language of buildings (palaces, in this case), helping to reflect on the construction processes and materials that were applied, and clarifying their different stages of existence.

The greatest care to have is how to fill the gaps in information in order to complete the illusion of historical reality. Moreover, to close the model one always detects subjects in respect of which no data exists and that requires further investigation, recognizing that the endurance of descriptions is not always sufficient.

It was also not neglected that there is a habit among all history researchers in studying the literature which is in the form of paper or, even if digital, is constituted by written documentation. For many years, historians have only written and rarely used images - the appearance of the studied buildings remained on the reader's imagination. Now, with virtual reconstructions, the words are to be completed and interpreted by a visualization that can be variable in its interpretation, but it certainly helps to deepen the knowledge about the object under study.

To achieve the desired images, there is a common difficulty to all historians with regard to the communication of their ideas (which they want to see virtually represented) towards professionals in the areas of technological design. These, in turn, have difficulty perceiving what historians want to - if two-dimensional technical drawings (plans and elevations), isometrics or three-dimensional illustrations. Actually, what matters is to give / show the effect of how the building was in its aesthetics, morphology, typology and landscape. With this achievement, one creates a new object of study, that the present generation should get used to include in their research methodology. But drawing the architectural objects that no longer exist is to take risks, more than usual - the usual has been to maintain the historical projections in written form, not compromising with any kind of appearance. It is with this new process that scholars have to deal with.

Obviously, the technical work of restoration may be too expensive and this is a problem that can be seen when you look at what are the countries where this approach is increasingly being used. It is always the countries with more economic resources that are more advanced in the use of these technologies.

Anyway, there is the overall notion that, even with the most vulgar and freely software available, researchers are increasingly interested in knowing how to work with these tools, and computer engineers are eager to create software that can easily be usable. Regardless the disciplinary paths intersect and it is increasingly inevitable that teams should be constituted in an interdisciplinary way - something that is considered excellent by the speakers of this meeting.

Among the several presentations different sorts of results have been shown, which also derives from the case study in question. For the sort of work I have been pursuing, I was able to confirm some thoughts, understood and elucidated myself about how to defend my research methodology.

One of the main results obtained was that it is always important to distinguish between what is visualization of the building's remains from what is made as interpretative reconstitution. By means of different colorations or through superimposing transparencies, discriminating from each other, seems to be the best system of doing it. Another major conclusion is the need for a great sense of balance between drawing too much detail (which can make uncertainties more evident) and have a reduced amount of detail (which can make the reconstruction too abstract). Lightning can (and should) be used to transmit shadows that give real character to objects, and can also help to obscure places where there is imprecision of information (as opted and described in multiple presentations). The recourse to color is something that historians prefer, but in debate, we came to the conclusion that colors can assign aesthetic values, (symbolic / semiotic) that can tamper with the understanding of the architectural object. Searching for a realistic visual appearance, containing material and other imagined elements, is to risk being criticized much more easily. If, on the other hand, the reconstitution is done in animation mode (comic style), somewhere between a cartoon and photorealism (as in the animated cinema), uncertainties and imagination are more accepted as such and the models become more perceptible in their search for historical reenactments. It is a better tactic to frame the interpretations of the imagination. There is also a more abstract and linear kind of drawing that the modernist designers and architects tend to prefer: the volumes, shapes, architectural design and their aesthetic languages are equally assigned to virtual models, but there are no commitments in respect of building materials or colors qualifying the various elements. It is, probably, the best way to deal with the reconstructions of historic buildings when there is no more information than some archaeological remains or if it is an architectural object that had various stages of construction overlapping each other. A more abstract vision, but with

enough information about its' architecture, requires less imagination and avoids interpretative errors.

Digital reconstructions are increasingly becoming one of the key resources of the research teams in the field of art and architectural history. One can say that, despite the advanced technology that already exists, in this kind of researches this is something that is still maturing. Renderings and movies announce certain capabilities that are now being assumed and that make it undeniable to take up these tools as something in growing development.

With all the presentations I could foresee some problems that my present work may have, dealing with uncertainties and show how the virtual model that will be created, with these elements and possible options already being discussed by my research team.

#### **FUTURE COLLABORATION WITH HOST INSTITUTION**

Since my research work about the Palace of Vila Viçosa is just beginning, one can always come to share the final results with the host institution of this workshop. It would be interesting to find the scholars who were present at this meeting, maybe in another conference or seminar. Also, as "Virtual Palaces Part II" was so interesting, certainly I will be aware of meetings organized by the same institution.

#### **PROJECTED PUBLICATIONS /ARTICLES RESULTING OR TO RESULT FROM THE GRANT**

At the end of the workshop, it was mentioned the possibility of achieving an online publication associated with the site PALATIUM Network. For this, were responsible for contacting the authors, requesting the articles on their presentations. So, I will be waiting for news on this matter.