PALATIUM
Court Residences as Places of Exchange in Late Medieval and Early Modern Europe (1400-1700)

PALATIUM-Science Meeting 4258
"Virtual Palaces, Part II. Lost Palaces and their Afterlife. Virtual Reconstruction between Science and Media"

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Final Report

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1) Summary (up to 1 page)

Nowadays palaces and other courtly buildings play a similar role for constructions of national or regional identity to the one, medieval cathedrals played in the beginning of the nineteenth century. The international scientific network of PALATIUM is aiming to secure the knowledge about this important part of the European and non-European cultural heritage.

Palaces and residences of medieval and pre-modern times had undergone a more or less serious change over the last two to eight centuries. So from a historical point of view we always have to deal with reconstructions. Virtual reconstructions play a decisive role in the exploration of residential and courtly architecture. Especially in the communication of scientific results, "non-built" media such as reconstruction drawings, maps, pictures and film play an important part. Whether it is the reconstruction of a historical condition, the explanation of usage contexts, the tracing of parent networks of relationship or the communication with different clients, the research is necessarily bound to rely on virtual reconstructions representing lost missing states of all kinds. Thus, the notion and understanding of courtly architecture is greatly influenced by such models.

The range of virtual models has considerably expanded through the use of digital techniques. Technology is increasingly used for the review of theoretic models and for representation purposes. Especially the digital integration of entire academic workflows, of databases, thematic maps, GIS techniques, CAD drawings, and video has highly innovative potential. The question arises as to the qualities, possibilities and limitations of different techniques for reconstruction. New perspectives for science and for the medial presentation of research results result from the use of virtual models. Being used to overwhelming visual impressions from the industrial film, advertisement and internet, the society's skill to evaluate or to analyse 3D-media hasn't grown at the same rate. So there is a gap between the increasing role and professionalism of virtual visual reconstruction of history and the theoretical background. Though theory of media is dealing with the matter, users from the historical fields haven't discussed much the scientific impact yet.

The workshop that took place in Munich in Germany was the second part of a series of conferences on "Virtual Palaces". The first workshop in Leuven in 2011 dealt with recording and surveying of existing palaces, interiors or ruins and the questions of maintenance and development of digital techniques in this field. Organized by The Institute for Art History at

the Ludwig-Maximilians-University Munich and the Institute of Archaeology, Cultural Heritage and Art History at the Otto-Friedrich-University Bamberg, the Munich workshop aimed to discuss the virtual reconstruction of lost palaces and its theoretical impact. It is one of first attempts of this type within a special arthistorical context.

As a main result it became clear, that virtual digital reconstructions became a complex current media of historical reconstruction, researchers and art historians have to take serious. The scientific impact of digital models has to be planned very carefully and the theoretical basis and the parameters have to be discussed in every single case. Specially the question, in which way the recipient should get a convincing and intriguing picture or being incised to consciousness and own analysis by pedagogic scientific referencing, is a crucial point. So is the question of maintenance of the data, the access to the data basis through flanking systems and whether a digital model is open to later change.
In the long term, digital modelling might well replace other analytical and synthetical methods of the historical sciences. Virtual palaces are becoming a most important part of the scientific reconstruction of the past.


2) Description of the scientific content of and discussion at the event (up to 4 pages)

As an introduction the history of the main building of the Ludwig-Maximilian-Universität München, where the workshop took place and its appearance in public media had been displayed. As all media, digital 3D-reconstruction and film follow own rules of construction that may easily contradict historical evidence by going too far in reconstruction or by replacing and transfer historical items for artistic reasons. We started displaying a short section of the movie "Die Weiße Rose". Here we watched a scene with a Gauleiter´s speech that had originally been performed in the Deutsche Museum. Thus the film is changing this place to the ceremonial hall of the main building of the LMU. Having seen the film, it is difficult not to imagine the event at the location of the still existing staircase. This example makes it obvious, that the model maker has a vast responsibility because of the power of imaging, especially in the field of scientific reconstruction.

In the first session the typology and use of virtual models of residential architecture had been discussed. The keynote lecture emphasised on the fact that virtual reconstruction always is based on the mind's imagination. It gave an overview of historical types, uses and target groups of traditional virtual models in the context of courtly architecture and showed its importance and individuality in the History of Art.
The question, who is using virtual models in the scientific field had been underlayed with a statistics based on an analysis of literary sources including websites and e-publications on current projects. Especially in Italy and Spain e-publications on virtual models build part of the research on the architecture of palaces, whereas most northern European countries stick to traditional publications in the historic field. There, e-publications on virtual modelling are mainly an issue for computing specialists with their totally different target groups.
There is a rich tradition of model making coming from the building archaeology though. Linked to the conservation field it is both descriptive and analytic as models of this kind try to show fragmentary evidence in its spatial context and thus to explain complex architectural situations. The Czech and German Bauforschung show examples of making historic fabric readable. Therefore virtual models are a useful tool for non-destructive archaeological research as well as for defining the historical impact and cultural wealth of palaces. Also analytic pedagogic models for public use can fulfil basic scientific rules.

In the second section those conditions for the building of scientific digital reconstructions had been discussed. A main issue that determines the scientific model is the question of how to handle sharpness and uncertainty of the historical evidence and how to display them in the digital reconstruction.

Depending on the density of archaeological or historical knowledge, every model includes parts of different historical and architectural sharpness. The thoughtfully prepared and communicated principles, lying behind the high-end Pergamon model allow the users to take part in the archaeological discussion on the reconstruction of the place. Especially on this example it became obvious that there is no "pure" model making. As the style of the Pergamon model is strongly influenced by neo-classicism, the message is not only a scientific but also a characteristic one that fits perfectly in the traditions of classical archaeology and architectural theory. The sketchy and colourful illustrations of Angkor Thom on the contrary want to show the richness of life and represent this way a broader cultural context. The presentation showed a very interesting way of dealing with uncertainty by revealing the sources and the reconstruction process for every detail openly. It offers different versions for the reconstruction of very uncertain parts, so one can see the implications of different assumptions. The comic-like drawings make it easy for the viewer to take them for an outline reconstruction and to keep his judgement. The digital world makes it possible to give access to all these layers simultaneously and to form an interactive base for communication.

Virtual reconstructions can be understood and implemented as knowledge spaces. They can contain individual information such as construction data, source extracts, surveys and documentations in a multidimensional context. Visually presented space is thus enriched by a variety of meta-information. This way it acts as a metaphor for the space-organized "interface", which refers to underlying science base. Especially where rich literary sources are available, like in the Wittenberg-project, the digital model can focus on a variety of different aspects and need not stay static.

The high-end model of Dresden residence displays the different ways of filling gaps in the knowledge and shows how the model making itself contributes to this process.

Digital reconstruction is largely dependent on various media aspects, including the where the money comes from and the why someone wants to have a reconstruction made. There are significant differences between models that are reconstructed on the results of building archaeology and those that are based on written sources, furthermore, the conditions and background of the projects and the different parties that are involved in the model making define even the theoretical and aesthetic approach.

There are many specialised types of digital models that fulfil different purposes and have their own conditions, their typical customers, producers and recipients. Typically digital models of palaces are made by specialised freelance architects or computing specialists. Their historical knowledge differs, so heritage and marketing institutions make sure to build teams including researchers and historians. The projects show a wide range of expenditure and thus of more or less scientific impact.

If the reconstruction of a palace should fulfil scientific purposes, the recipient has to be enabled to look behind the completeness of the model and to trace the reconstruction back to the incomplete knowledge of reality and the data bases. Furthermore, the often vast collections of data that is necessary to build a model should be maintained and stored by public institutions.

The short presentations by junior researchers show clearly how a methodological awareness influences the scientific quality and usefulness of a reconstruction.

In session III digital modelling had been discussed as a tool for scientific research. Having the new air borne landscape scans at hand, also the landscape context in with architecture stands can be modelled. This leads to new possibilities for scientific research like the analysis of

historic views from and to castles or the reconstruction of medieval ballistics on the base of mappings of the missiles. To locate and geo-reference historical evidence and dislocated or lost objects in architectural and landscape models is an appropriate kind of research tool. So is the database reference of digital models to historical literary sources. This is especially true for the reconstruction and visualisation of historical events. So far the attempts to show historical events in relation to space and framing architecture are few and low cost like the displayed reconstruction of the Lisbon festival of 1581. The most convincing though far more artistic solutions come from the popular film and play station industries. Increasing the speed of the digital model making by using parametric constructions based on simplified principles enables us to build and try lots of variations.

The photorealistic reconstruction of lost appearances of the western aisle of the Louvre in Paris showed the power of images and how important reconstructions like that are for the art historical analysis and comparison. There is no longer a use in judging by photographs of today's situation only.

It showed also, that for scientific use the image as a result of research is less interesting than the principles on which the reconstruction is based such as overlaying historical evidence, historical plans, analogies and the probability of plan. On such principles the visualisation of Ruben's Palace projects for the Antwerp Nieuwstadt is based. The extreme approach to the creative use of varying and experimental digital models for research is of high value also for educational use. Building Italian style palaces in northern places and compare their plan and architectural features with the surrounding houses from different times makes it perfectly clear why there is such thing as a regional building tradition and makes it easy to value it. Students who learn history of architecture this way practise their skills in architectural drawing and 3D-construction and get a deep insight in the principles of historic architecture and town planning at the same time.

How important virtual models could become both for heritage preservation and for historical research became obvious with the comparison of the 1970ties 1:1-reconstruction of the palace of the Hungarian kings at Visegrád with the actual virtual one. From today's perspective, the 1970ties buildings, standing on the remaining medieval ruins, look more like highly artificial modern inventions of architectural tradition than like a scientific historical reconstruction. Nowadays digital models replace the real reconstruction of the existing palace and leave the site untouched. The importance of this difference in handling reconstructions for heritage preservation is obvious. This example shows also the importance of constant working on and developing of historical reconstructions. Every generation at least has to build new and revised models.

The close link between research and model making afford a prudent organization and management of larger reconstruction projects like the Dresden Zwinger project. Unfortunately most of the current projects leave it open what to do with the enormous collections of data, that is necessary for the making of the reconstructions. Future projects should value the scientific achievements that are gained by the architectural revision of even well known historic data. A crucial point for further scientific use is how the collections of data could be used as a knowledge space for research on residences and how expensive digital models could be extended or changed later on. The imaginary worlds that are created by the extensive use of digital reconstructions, computer networks, external knowledge bases and internet references and the development of interactive games and internet tools must be accompanied by the scientific discourse.

In session IV we asked for the possibilities of building up cultural identities by the help of virtual reconstructions. Residential places and culture still radiate strong identity pulses, even in places where a large part of their context is lost. The open-source and internet based and

thus interactive project of reconstructing pre-earthquake Lisbon piece by piece is a promising way to fill gaps in the memory of a community.

As the example of the national Spanish research on the Habsburg Palaces shows, the reconstruction of different historical situations and of the evolution of the sites is a constitutional part of the activities of the authorities in charge. Like other similar institutions responsible for the preservation of palaces and other architectural heritage, they play an important role in shaping and spreading cultural and national identity.

They also lead to more independence and better preservation conditions of sites by offering a computer layer for experiencing various aspects of Palaces and other built heritage. This can be displayed on computer stations and projections in different surroundings such as the site itself, far away museums, exhibitions and even handhelds for individual use and is able to build new points of regional anchorage. Furthermore the digital model makes the non-verbal exchange across the borders easier.

In cases of politically initiated projects, the model makers are inclined to emphasise the sheer impressive and beautiful aspects of the architecture, sometimes with missionary intense. The aim to heal broken and fragmented history and to convince people according to a special cultural policy stands in the foreground, not the scientific purpose with its critical and open approach. Virtual models couldn't replace authentic fabric or substantial relics of course, nor could they rewind time and reverse losses. But certainly they could be a medium to work on the shock of having lost heritage or to fill gaps in the cultural history of a society. A scientific attempt would always be aware of the different historical models behind the virtual reconstructions.

3) Assessment of the results and impact of the event on the future direction of the field (up to 2 pages)

From the first two sessions it became clear, that there is no principal difference between a digital model and more traditional forms of models such as imagination, isometric drawings or analogue models. What differs (apart from some more technical aspects) is the way of perception and state of consciousness in using it. The digital model still is a new media and there is neither a consensus about the theoretical foundations nor a very conscious way of looking at the outcome so far.

Furthermore it became obvious, that every digital reconstruction has its own style

Not only the technical possibilities and restrictions make digital models datable, but also the intellectual background and the idea of history of the contractors who are involved can easily be detected. Thus virtual models are a very interesting object for art historical research.

The controversy discussion about what is "allowed" in digital modelling and what is not emphasised the need of making the parameters and paradigms that determine a digital model clear.

The seemingly incomparable variety of approaches to the using of digital models as a tool for research showed clearly that we are just at the beginning in this field.

Historic research should not only build digital models, but should use them for the architectural and spatial location of historical evidence and for joining in rich models with collections of data and various access for scientists and other users and recipients.

To make sure that existing models can be used for further scientific use, they

This is especially important if models of palaces are used as points of anchorage for cultural and political identities. In the field of virtual identities, that is the increasingly used possibility of building up a regional or national identity by using virtual models (examples are the reconstruction of pre-earthquake Lisbon or the reconstruction of the palaces of Matthias Corvinus in Hungary).

The workshop leaves us to state, that the international standards in building models of lost palaces are on its heights. Most researchers in this field use virtual reconstructions to countercheck their thesis and there are digital projects on most palaces of main national and international importance. The future will bring the further development of tools for interactivity and data interchange. If it can be ensured that scientists get access to collections of reconstructions and the data and evidence they are based on, virtual models can really become interactive knowledge spaces that could serve both Science and Media.

4) Final programme of the meeting

**FAKULTÄT FÜR GESCHICHTS- UND KUNSTWISSENSCHAFTEN**
**DEPARTMENT KUNSTWISSENSCHAFTEN**
**KUNSTGESCHICHTE**

ORGANIZATION STEPHAN HOPPE UND STEFAN BREITLING; CONTACT / REGISTRATION SEBASTIAN.FITZNER@KUNSTGESCHICHTE.UNI-MUENCHEN.DE

# Virtual Palaces

Part II. Lost Palaces and their Afterlife. Virtual Reconstruction between Science and Media

**FRIDAY  13 APRIL 2012, LMU UNIVERSITY, GESCHWISTER-SCHOLL-PLATZ 1, LECTURE ROOM A 119 (MAIN BUILDING)**

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| 8.30–9.00 | OPENING | REGISTRATION |
| 9.00–9.20 | INTRODUCTION TO THE WORKSHOP |
| | **STEPHAN HOPPE** (LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN) |
| | **STEFAN BREITLING** (OTTO-FRIEDRICH-UNIVERSITÄT BAMBERG) |
| 9.20–9.40 | INTRODUCTION TO THE LOCATION OF THE WORKSHOP: THE LMU MAIN BUILDING, ITS HISTORY AND ITS APPEARANCE IN PUBLIC MEDIA |

**SESSION I. TYPOLOGY AND USE OF VIRTUAL MODELS OF RESIDENTIAL ARCHITECTURE**

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| 9.40–10.30 | KEYNOTE LECTURE |
| | **HUBERTUS GÜNTHER** (LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN): *RESEARCH AND TEACHING BY MEANS OF COMPUTER VISUALIZATION* |
| 10.30–11.00 | COFFEE BREAK |
| 11.00–11.30 | **SANDER MÜNSTER & THOMAS KÖHLER** (DRESDEN UNIVERSITY OF TECHNOLOGY): *3D MODELING AS TOOL FOR THE RECONSTRUCTION AND VISUALIZATION OF "LOST" BUILDINGS IN HUMANITIES. A LITERATURE-BASED SURVEY OF RECENT PROJECTS* |
| 11.30–12.00 | **MICHAEL RYKL** (CZECH TECHNICAL UNIVERSITY IN PRAGUE): *ÜBERBLICK ÜBER DIE ROLLE VIRTUELLER REKONSTRUKTIONEN IN DER BAUFORSCHUNG UND BAU-GESCHICHTE IN TSCHECHIEN* |
| 12.00–14.30 | LUNCH BREAK |

**SESSION II. SHARPNESS AND UNCERTAINTY IN THE VIRTUAL MODEL**

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| 14.30–15.00 | **DOMINIK LENGYEL & CATHERINE TOULOUSE** (BRANDENBURG UNIVERSITY OF TECHNOLOGY COTTBUS): *THE EXPLORATION AND THE DEFINITION OF METHODS AND CONVENTIONS IN THE VISUALISATION OF UNCERTAINTY ILLUSTRATED WITH THE ANCIENT CITY OF PERGAMON* |
| 15.00–15.30 | **THOMAS CHANDLER** (MONASH UNIVERSITY, MELBOURNE): *VIRTUAL VISIONS AND MOVING MODELS: TESTING DIGITAL RECONSTRUCTIONS OF THE ROYAL PALACE AT ANGKOR THOM, CAMBODIA* |
| 15.30–16.30 | COFFEE BREAK |
| 16.30–17.00 | **LEONHARD HELTEN** (UNIVERSITY HALLE-WITTENBERG), **ANKE NEUGEBAUER** (STIFTUNG LEUCOREA WITTENBERG) & **JOHANNA REETZ** (STATE OFFICE FOR PRESERVATION OF MONUMENTS AND ARCHAEOLOGY SAXONY-ANHALT, HALLE): *CHRONOTOPOS WITTENBERG. REVIEWING TOWN, CHURCH AND PALACE* |
| 17.00–17.30 | **MARC GRELLERT** (TECHNICAL UNIVERSITY DARMSTADT) & **FRANZISKA HAAS** (TECHNICAL UNIVERSITY DRESDEN): *BETWEEN SCIENCE AND ILLUSION. FILLING GAPS IN "COMPLETE" VIRTUAL MODELS* |

**SHORT PRESENTATIONS BY JUNIOR RESEARCHERS**

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| 17.30–17.45 | **MARCO ANTONIO RICCI** (UNIVERSITY OF VIENNA): *AL-KHAWARNAQ: TOPOS AND RECONSTRUCTION OF A LOST EARLY ISLAMIC PALACE* |
| 17.45–18.00 | **ANA CATARINA GONÇALVES LOPES** (ESCOLA DE ARQUITECTURA DA UNIVERSIDADE DO MINHO/CENTRO DE HISTÓRIA DE ALÉM-MAR): *VIRTUALLY REBUILDING THE PALACE OF VILA VIÇOSA: FROM NOWADAYS UNTIL THE TIME OF D. TEODÓSIO I (THE FIRST HALF OF 16TH CENTURY)* |

**SATURDAY  14 APRIL 2012, LMU UNIVERSITY, GESCHWISTER-SCHOLL-PLATZ 1, LECTURE ROOM A 119 (MAIN BUILDING)**

**SESSION III. DIGITAL MODELLING AS A TOOL FOR RESEARCH**

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| 9.30–10.00 | **SVEN HAVEMANN** (GRAZ UNIVERSITY OF TECHNOLOGY) & **OLAF WAGENER** (HEIDELBERG UNIVERSITY): *CASTLES AND THEIR LANDSCAPE – A CASE STUDY TOWARDS PARAMETRIC HISTORIC RECONSTRUCTION* |
| 10.00–10.30 | **LAURA FERNANDEZ-GONZALEZ** (UNIVERSIY OF EDINBURGH): *RE-CREATING EPHEMERAL ARCHITECTURE : THE LISBON FESTIVAL OF 1581* |
| 10.30–11.00 | COFFEE BREAK |
| 11.00–11.30 | **SABINE FROMMEL** (ECOLE PRATIQUE DES HAUTES ETUDES, PARIS) & **GIANCARLO DE LEO** (ROME): *THE PROJETS OF PIERRE LESCOT FOR THE RECONSTRUCTION OF THE WESTERN AISLE OF THE LOUVRE* |
| 11.30–12.00 | **PIET LOMBAERDE** (UNIVERSITY COLLEGE ANTWERP) & **MARC MUYLLE** (UNIVERSITY COLLEGE ANTWERP): *VISUALIZATIONS OF RUBENS'S PALAZZOS IN THE ANTWERP 'NIEUWSTADT'* |
| 12.00–14.00 | LUNCH BREAK |
| 14.00–14.30 | **GERGELY BUZÁS** (KING MATTHIAS MUSEUM, VISEGRÁD) & **JÓZSEF LASZLOVSZKY** (CENTRAL EUROPEAN UNIVERSITY, BUDAPEST): *THE VIRTUAL RECONSTRUCTION OF THE MEDIEVAL ROYAL PALACE AT VISEGRÁD (HUNGARY) AS A CASE STUDY* |
| 14.30–15.00 | **DIRK WELICH** (STAATLICHE SCHLÖSSER, BURGEN UND GÄRTEN SACHSEN, DRESDEN) & **PETER HEINRICH JAHN** (STAATLICHE SCHLÖSSER, BURGEN UND GÄRTEN SACHSEN, DRESDEN & IKKM WEIMAR): *BACK TO THE FUTURE – THE VISUALIZATION OF PLANNING AND ARCHITECTURAL ASPECTS OF THE DRESDEN ZWINGER OR LEARNING CURVE "RECONSTRUCTION"* |
| 15.00–16.00 | COFFEE BREAK |

**SESSION IV. VIRTUAL IDENTITIES**

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| 16.00–16.30 | **GAGO DA CÂMARA, HELENA MURTEIRA & PAULO SIMÕES RODRIGUES** (UNIVERSITY OF ÉVORA): *CITY AND SPECTACLE: A VISION OF PRE-EARTHQUAKE LISBON* |
| 16.30–17.00 | **JOSÉ LUIS SANCHO** (PATRIMONIO NACIONAL, MADRID): *VIRTUAL MODELS OF THE SPANISH HABSBURG ROYAL PALACES. DEALING WITH PATRIMONIO NACIONAL RESEARCH AND PUBLIC* |
| 17.00–18.00 | CONCLUSION |

*Court Residences*
as Places of Exchange in Late Medieval
and Early Modern Europe 1400 - 1700
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