Chapter 1
Swimming in the Liquid Age: A Disciplinarily Reflection on Computer-Based Visualization of Architectural Heritage

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ABSTRACT

Aim of the chapter is to present a critical reflection on computer-based visualization of the architectural heritage and investigate on its relationship with other disciplines, starting from interdisciplinary experiences and from examples of other subject areas, in particular the archaeological one. In particular digital tools are used indifferently and simultaneously in dissimilar research fields, and scholars of different fields work and publish together. A clear definition of the ontologies, principles and procedures for advanced surveying, modeling, and visualization could allow the interdisciplinary collaboration. But cornerstone is the awareness of the disciplinary characteristics of the architectural heritage’s issues for its critical digital representation.

INTRODUCTION

The growth of digital technologies has affected numerous disciplines involved in cultural heritage study. In particular the ease of use, the flexibility, and the potentialities of digital applications, made digital tools used indifferently and simultaneously in dissimilar research fields. Computer scientists, engineers, architects, archaeologists, surveyors, scholars of arts and humanities work together, participate in the same conference, publish books together on topics of interest to different types of scholars. Undoubtedly interdisciplinarity is an important aspect, which can promote results of particular value and high levels of innovation.

Furthermore today there is the awareness that these technologies cannot be seen as mere aid instruments for surveying or visualizing, but they can favor a development of research methodologies.

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This chapter aims to present a critical reflection on computer based visualization of the architectural heritage and its relationship with other disciplines, starting from interdisciplinary experiences and from examples of other subject areas, in particular the archaeological one. The purpose is not to belittle the value added by an interdisciplinary approach to research, but to understand what could be the contribution of scholars of architecture in the current global context.

BACKGROUND

The International Arena

Digital surveying, modeling, and representation have produced important methodological changes in those disciplines that concerns the study, analysis, protection, and exploitation of cultural heritage. Technologies of laser scanning and photogrammetry, and advanced software of modeling and data analysis, have focused the process of historical and critical knowledge on the use of complex 3D models. Thanks to their characteristics of geo-referencing, interactivity and extended media experiencing, digital models favor new epistemological approaches to architectural disciplines. At the same time models are vectors for heritage’s communication and exploitation.

The cultural heritage studying has found place in many international conferences, and it is the subject of several associations and of interdisciplinary publications. We remember the initiatives of “CIPA – The International Committee for Documentation of Cultural Heritage” (http://cipa.icomos.org/) and the “Digital Libraries Initiative” of Digital Agenda for Europe of European Commission (http://ec.europa.eu/digital-agenda/).


Moreover scientific social networks like Academia.edu (www.academia.edu) and ResearchGate (www.researchgate.net) – that are based on paper’s repositories – favor the diffusion of knowledge inside and outside fields, the meeting between scholars, and their updating. And these websites could be intended as one of the epiphanies of the “digitality” in our age of online continuous flux of information (The Onlife Manifesto, 2015).

In any case it is evident how the technologies and digital instruments – intended both as tools and as methodologies – are a common shared substrate across disciplines. This idea also involves the concept of “digital heritage”, and often it is intended as a cornerstone on which academic fields are making an “ecosystem” growing.