

Eventi

Ai Confini del Disegno: One-Day Seminar on the New Technologies for the Representation of Cultural Heritage

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On January 10th, 2018, one-day seminar dedicated to the new technologies for representation, knowledge and enhancement of architectural and artistic heritage was held in Gorizia, Italy. The initiative was funded by the Intra-University PhD Program in Civil-Environmental Engineering and Architecture of the University of Trieste and the University of Udine and by the Fondazione Cassa di Risparmio di Gorizia, and organized –as vice-coordinator of the PhD program– by Alberto Sdegno, the well-known scholar of the history of architectural representation and lecturer active on the experimental fronts of drawing.

As it is known, the topic is that dealt with by several international conferences (now held at approximately ten-year intervals) on Digital Heritage and Built Heritage, in the fields of Digital Humanities or in those of Computer Graphics and Computer Vision. Compared to these vast international encounters on the most recent technological advances, the small meeting held in Gorizia asserted its own *rationale*, offering a point of view closer to the real sense of the applications and of ongoing research. It offered a precise “on-site” verification –in the midst of extant territorial realities– of the most widespread theories and techniques addressed

to the topic. The one-day seminar was intended, first and foremost, as an occasion for bringing together ongoing research and territorial vocations, that is, as a meeting between different players of built and artistic heritage: practicing professionals –represented especially by the Chamber of Architects (in the person of Diego Kuzmin) and the Board of Graduate Surveyors (in the person of Luana Tunini)– local administrators and entrepreneurs of the area, with a selected group of experts in the field and with students from secondary schools, the university and the PhD program. The meeting, therefore, called for an adequate variety of communications, attained mainly by dividing the one-day seminar into two sections: a morning opening conference, held in the basilica hall of the former Archiepiscopal Seminary, now the Aula Magna of the seat of the single-cycle degree course in Architecture of the University of Trieste, and in an afternoon itinerary of guided tours: starting from the Advanced Modeling 3D Lab/Architecture laboratory (of the University Pole of Gorizia), then passing through several sites in Gorizia at which there are installed –or being implemented– advanced display systems for museum communication.

The tour started by testing the products of the Advanced Modeling 3D

Lab/Architecture: especially some applications for the survey of three-dimensional elements and others for navigation in augmented and virtual reality conceived for the use of spaces which were reconstructed on the basis of perspective analysis of painted scenes –especially that of Veronese’s *Feast in the House of Levi*– or no-longer-extant historical architectural works –such as the *Pavillion de l’Esprit Nouveau* in Paris– as well as several tactile maps created in the context of the *Gorizia conTatto* project, with a theme dedicated to the haptic enjoyment of works of art. The *Gorizia conTatto* project –coordinated by the local sections of Italia Nostra and the Unione Italiana Ciechi e Ipo vedenti (Italian Union for the Blind and Visually Impaired)– also involves several institutions hosted in Gorizia which were also included in the visit. More precisely, at the Fondazione Palazzo Coronini Cronberg, curator Cristina Bragaglia presented the touchable reproduction of two mid-eighteenth century “character heads” by Franz Xaver Messerschmidt, alongside the original ones displayed in protected showcases. A similar work of haptic translation of visual figurative objects has been undertaken at the Church of St. Ignatius, visited with an introduction by Maddalena Malni Pascoletti (for Italia Nostra).

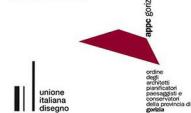


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Here the tactile planimetric map of the building is only the first part of an investigation making use of the perspective reconstruction method –at the PhD school of Gorizia– of the magnificent quadratura of the fresco on the wall behind the high altar; a work by Christoph Tausch –student of Andrea Pozzo– dating from the first half of the 18th century. From this process –as Alberto Sdegno explained– a new and concrete joint *mise en scene* will be realized, both of the solid architecture of the church, as well as of its expansion depicted in the fresco.

In this kind of “translation,” what is at stake is the enhancement of places and works of art; it is perhaps for this reason that the last stop on the tour of Gorizia was the Castle, the most important monument of this city crossed by the Isonzo River. Here the presentation by Diego Kuzmin provided a general outline of the urban history of this place, up to the controversies concerning the current layout of the castle, heavily “restored” in the 1930s.

In short: the one-day seminar in Gorizia highlighted the fact that the real issue at stake for what regards the subject in question is essentially a matter of “re-mediation,” that is, of the translation of systems of values by means of different media: painting, sculpture, photography, cinema, museum exhibitions, videogames, etc. Being an essentially media-related issue –relating to multi- and trans-media– the most relevant aspect today is not only that of the technological innovation of IT devices –an aspect that is experiencing unprecedented developments– but, above all, that of the concrete sense of their material applications, in the places physically experienced by “re-mediation.” It is perhaps for this (media-related) reason that today, in terms of repre-

sentation technologies, the (very inclusive) tradition of research represented by the UID (Italian Union for Drawing) scientific society (which for the last forty years has dealt with research and university teaching while attempting to embrace the whole spectrum of practices ranging from survey and representation of the built environment to communication), has a good advantage. The UID –officially represented by its president and vice-president– thus provided the one-day seminar with a disciplinary framework, through the morning opening conference entitled *At the borders of drawing: experiences of virtual models and immersive spaces*. The conference was introduced by the president of the UID (Vito Cardone) who stressed the relevance of the conference’s disciplinary framework, which was then further specified in the following lecture by the vice-president, Mario Centofanti. He recalled the status of the performance formulations (scientific and practical) to which the representations of cultural heritage should abide, at least those that emerge from important political documents, that is, the 2003 UNESCO Charter on the Preservation of Digital Heritage, the 2009 London Charter for the Computer-Based Visualisation of Cultural Heritage, as well as the principles elaborated in the International Forum of Virtual Archeology held in Seville, Spain in 2011.

In this framework, the opening conference featured the very clear exposition of many invited papers presented by young professors from Italian and foreign universities who, introduced by Alberto Sdegno, described their own activities of research in the sector.

In his presentation, Sdegno highlighted the pervasiveness of the new technologies of representation which, in fact,

Fig. 1. Poster of the event.

Fig. 2. Gorizia University Pole, view of the Lecture Hall of the where the conference was held.

Fig. 3. 3D helmet tested during the Virtual Reality session at the end of the conference.



are increasingly becoming part of our daily habits, from workplaces to museum spaces. Among the examples offered by Sdegno, there was a reference to the new communication devices – often endowed with 3D virtualization technologies– that allow us to quickly visualize a hypothetical furnishing plan proposed by means of online shopping interfaces, as well as the now common possibility of reproducing, with a perceptible flagrancy, a real environment through the use of environmental simulators and interactive games.

The conference sought to delineate a variegated panorama starting with the traditional tools of graphic representation and reaching the forms of spatial simulation proper to augmented and virtual reality, without neglecting that “mixed reality” –a successful mix of the other two– whose applications are destined to see flourishing developments in the coming years. In any case, in Gorizia, it was above all referential and historical-artistic realities to be dealt with. For example, Palladio’s Olympic Theater which – analyzed and surveyed by Giuseppe Amoroso of the Politecnico di Milano through new 3D mapping technologies– revealed a morphology that is more easily comparable with the results of the Vitruvian tradition. Or the city of L’Aquila, with the restitution of its appearance prior to the earthquake through the INCIPIT project –related to the construction of information paths in augmented reality– presented by Stefano Brusaporci and Pamela Maiezza. Particularly precise with regard to the referential performance of the survey was the comparison presented by Domenico Visintini, of the University of Udine. On one case sample, Visintini presented the comparison of various aero-photogrammetric shooting technologies with drones used in ima-

ge-based stereometric surveys, as well as different techniques for processing the acquired data, verifying for each the specific degree of accuracy in the construction of the 3D digital model. A section of the conference was dedicated to the restitution of works documented only by images and to the intermedial communication of large images. With his contribution, Leonardo Paris (of Sapienza University of Rome) demonstrated the remarkable possibilities for the use of panoramic (spherical) photographs –including images of public domain present in the network– for the restitution of 3D virtual models of the reconstruction even of buildings and monuments –even those no-longer-existing– with an acceptable accuracy in the extrapolation of analytical data. Then, Pedro-Manuel Cabezas Bernal, from the Universitat Politècnica de València, in presenting some applications of digital photomosaics related to significant pictorial works with archi-

tectural subjects, showed the possibilities for the acquisition and processing of extremely high-resolution gigapixel images, in order to make them suitable for use on the web, in real time. On the fundamental theme of surveying techniques known as Structure from Motion –which create 3D mesh models starting from sets of photographs– the contribution of Andrea Fusiello, professor of computer science at the University of Udine, provided a useful comparison between the algorithms used by the most popular photomodeling softwares. A comparison from which Fusiello pointed out the characteristics of the Zephir software, developed by his research team, rich in innovative elements in respect to other, widespread systems in the sector, and usable even by inexperienced operators.

In the last of the academic lectures, Alessandra Meschini, Daniele Rossi, Ramona Feriozzi and Alessandro Oli-

vieri, from the University of Camerino, presented their research in the field of mixed reality which, using augmented and virtual reality apps, includes even physical models and concrete, designated sites as a real interface. On this occasion, the Ascoli group showed a stereoscopic navigation system with the use of 3D viewers offering the conference's participants the possibility to use a helmet for the immersive exploration of an architectural environment. This was the opening of the final section of the conference, dedicated to the direct presentation of equipment for an extremely variegated audience, for which the SoluTOP company described a typical series of digital survey tools – from 3D laser scanners, to GPS poles, up to photogrammetric drones– which were then made available in the afternoon, as part of the visit to the University Laboratory. The one-day seminar was concluded with a wish for an increasingly direct and situated experience.

Autore

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