



Virtual tour. Anywhere and nowhere

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Abstract

The proliferation of virtual tours in the field of visual and multimedia communication raises a series of questions that affect various scientific disciplinary sectors, including that of representation and visual culture. The health emergency due to the Covid pandemic, which resulted in the closure of museums for a long period, has undoubtedly contributed to the spread of virtual tours with the aim of offering alternative solutions to an ever growing demand for cultural knowledge. What is a virtual tour? How, through its use, can the real experience of the modern tourist be replicated? The contribution intends to propose possible answers to these questions on the basis of some critical considerations concerning the structural and semantic aspects of a virtual tour. There is also the problem of how its predominantly visual structure can affect the process of conveying the cultural message also in relation to the behavioral adaptation actions that the 'remote visitor' must necessarily implement when deciding to venture into a virtual visit path.

Keywords

Virtual tour, virtual museum, cultural heritage, spherical panorama, visual culture



Real space vs virtual space. Ara pacis in Rome. Image by the author.

Introduction

In recent years we have witnessed a proliferation of virtual tours in the field of cultural heritage with particular reference to museums. The health emergency due to the Covid pandemic, which resulted in the closure of museums for a long period, has undoubtedly contributed to the spread of virtual tours with the aim of offering alternative solutions to an ever growing demand for cultural knowledge. Today most famous museums in the world have a virtual tour as alternative way of visit. An emblematic case was that of the Scuderie del Quirinale and the *Raffaello 1520-1483* exhibition opened on March 5, 2020 and closed immediately afterwards due to the lockdown. Alternatively, waiting for public reopening, the exhibition remained free open to the public by means of virtual mode. A recent survey by the Network of European Museum Organizations (NEMO) reports that out of 600 museums in 48 countries, 18% increased their offer with virtual tours, especially in the first year of the pandemic. Some scholars, mainly in the economic and social field, have begun to investigate this phenomenon to understand if and how the free availability of virtual tours can determine changes in the communication of cultural heritage and with what consequences [Wei 2022; Caciora et al. 2021; Kwok, Koh 2021; Li et al. 2020]. The problem, in more general terms, concerns the very idea of a virtual museum [Antinucci 2007] of which the virtual tour is one of the most recurrent forms. Form which maintains “as far as possible, the symbolic relationship with ‘traditional’ space and the material object represented in digital reproduction, because of the institutional relationship with the physical conservation site” [Canali 2020, p. 83]. The study about virtual tours, obviously, does not only concern the economic and social aspects but also the critical evaluations from the visual and multimedia communication point of view of which the virtual tour is an integral part. In this sense, it’s not important to analyze the technical aspects, i.e. how a virtual tour is created, but to highlight the semantic consequences, i.e. what a virtual tour is and how its predominantly visual structure can affect the process of the cultural message transmission. The following considerations derive from some didactic experiences organized by the author within a Master in Communication of Cultural Heritage and from a recent international experience in a Erasmus project.

Etimology

From an etymological point of view, the name virtual tour links together two terms that connote its characteristic.

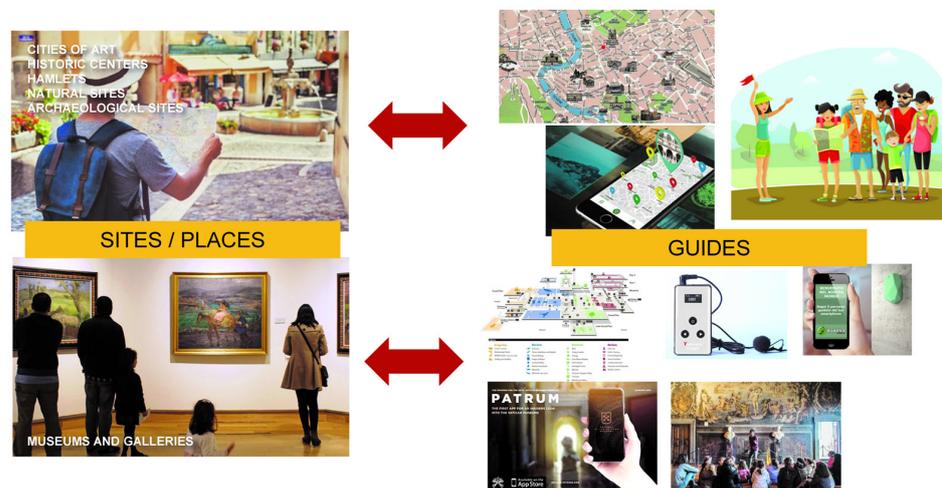


Fig. 01. Relationship between tourist activities and guides. Image by author.

The term tour inevitably refers to the word tourist, that is to one of the most widespread human activities in the world marked by a particular attention and attraction for cultural heritage. Globalization has made the world smaller and this has led to an exponential increase in the desire to visit places and to learn about other uses and customs. Globalization has produced a deep intercultural contamination and, in anthropological terms, a real evolution of the gaze. "Just like language, one's eyes are socio-culturally framed and there are various 'ways of seeing'. People gaze upon the world through a particular filter of ideas, skills, desires and expectations, framed by social class, gender, shapes and classifies, rather than reflects the world" [Urry, Larsen 2011, p. 2].

A tourist moves within the cities of art, historic centers, hamlets, naturalistic sites or archaeological areas, and also within museums. The tourist moves, alone or more often in company, using guides (fig. 01). Whether they are maps available in info points, tour operators, multimedia devices, apps, beacons, tourists are inevitably never completely free to move. His relationship with the guide is a qualifying – sometimes even disqualifying – element of his experience of cultural growth. This theme would obviously imply further and more in-depth reflections on the role of guides in the cultural heritage communication processes also in consideration of the profound changes induced by digital technologies, but this would inevitably distance us from the focus of this contribution.

Returning instead to the etymological considerations, the definition of the term virtual is certainly more complex. In general terms, the word virtual, commonly used in physics, mathematics and technology, indicates something in contrast with the real, with the actual. The term virtual reality is commonly used to indicate the possibility of simulating real experiences by means of digital interfaces, even if, from a strictly linguistic point of view, this term is in effect an oxymoron.

Also with regard to virtual and virtual reality applied to cultural heritage, many considerations of a technical-methodological nature could be made that also concern the developments of augmented reality and mixed reality, but even this path would take us off topic.

The question we are trying to answer is in itself very simple, that is, what is a virtual tour and how it can, in some way, replicate a real experience (fig. 02).

If you want to "visit" the Quirinal Palace today, you can do it "also" while sitting quietly on the sofa. "The Quirinale virtual tours allow visitors to enter with their tablet, smartphone or computer in the Quirinal Palace, in the gardens or in the park of Villa Rosebery, exploring the rooms through immersive images". This can be read on the website.



Fig. 02. Translation of a real tour in a virtual tour experience. Image by author.

Visual and multimedia communication

In a virtual tour the physical place is therefore replaced by a series of immersive images. As is known, the image that is able to simulate immersion better than others, i.e. the sensation of being inside a space, is the so-called equirectangular one which, managed through an appropriate viewer, is transformed into a spherical panorama (fig. 03). The level of immersion, to which the level of virtuality obviously corresponds, depends on the types and characteristics of the devices used. In any case, whether they are tablets, smartphones or computers, the screen produces a certain visual deviation that significantly reduces the level of immersion [Pinotti, Somaini 2016]. One always has the sensation of being outside the space represented also because the perception of the real space in which we really are continues to prevail over the virtual space. In phenomenological terms it is important to analyze the relationship between the iconic thing (the physical image), the iconic object (what I see) and the iconic subject (external referent) in the consciousness of the image. "The iconic thing stands before my eyes in itself as a real object ... However, I don't perceive it for itself, but for what it represents: if I focus on the support, I leave the consciousness of the image". [Pinotti, Somaini 2016, p. 52]. One way to cancel this distance is to make our point of view coincide with the center of the spherical panorama using a smartphone with a three-dimensional viewer. In this case, thanks also to the use of the gyroscope, a physical connection between head movement and rotation of the spherical panorama of great perceptual effectiveness is added to the stereoscopic vision (fig. 04).

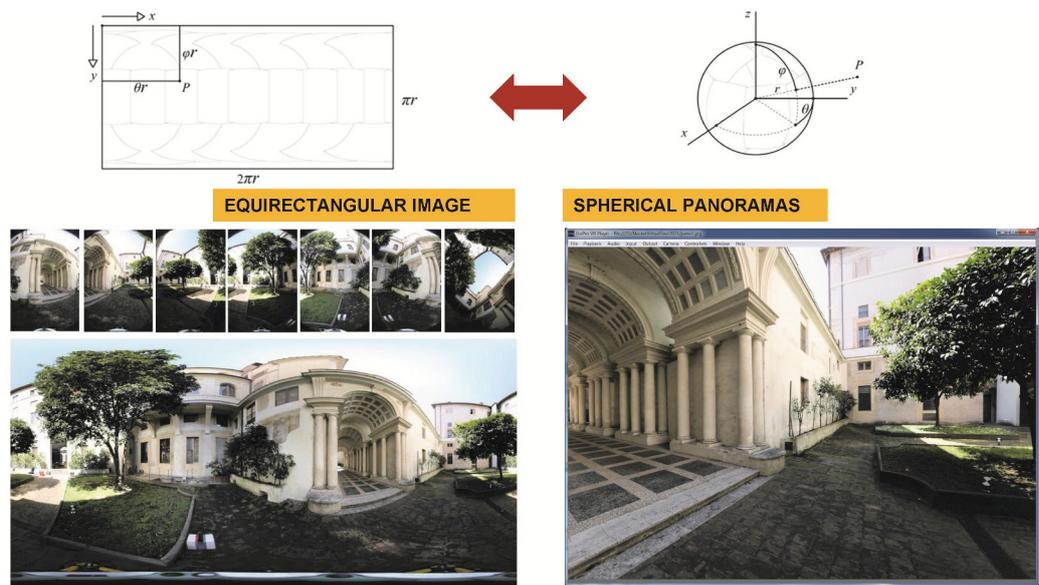


Fig. 03. Equirectangular image and spherical panorama. Image by the author.

The use of stereoscopy is historically connected to the cultural heritage communication. Just think of the numerous projects published in the first half of the 1900s [Ellison 1903] based on the use of stereoscopy for the dissemination and promotion of tourism and their repercussions from a social point of view. "Stereoscope travel guides promised to replace travelling with a new form of a virtual educational journey by a new medium. Stereoviews allowed the middle class to gain cultural capital; the knowledge and the entertainment they obtained using stereoviews allowed them to experience sites previously only available to the upper class" [Parmeggiani 2016].



Fig. 04. One hundred and half years of stereoscopic vision devices. Image by the author.

However, it should be noted that, despite the digital revolution and technological innovation, in the last thirty years there has not been a real qualitative leap in the field of three-dimensional vision. This visualization mode, in fact, although fundamental for realizing a real immersion, is still very little widespread today also in consideration of the numerous attempts and consequent failures to develop a 3D visualization technology truly within everyone's reach (fig. 05). However, the fact remains that immersion in a virtual tour, even if at a high level, can never replace the real object, much less the physical space experience. "Any visual element that is used as a signifier in a communication system will necessarily be arbitrary and will presuppose a code for its interpretation, regardless of what formal characteristics it presents" [Antinucci 2014, p. 23].

Once we become aware of our being a virtual tourist, or rather a "remote visitor" [Galluzzi 1997], and overcome the initial perplexities of living in an "other" place, a phase of behavioral adaptation begins. First of all, it turns out that the proposed experience is predominantly individual, that is, that the possibility of perceptual sharing, of interaction with the neighbor is missing. Indeed, in the case of immersion using 3D viewers, a greater realistic effect corresponds in fact to a cancellation of social interaction and sharing of the cultural experience that are normally an integral part of the tourist experience. Some recent applications have tried to mitigate this sense of loneliness by making use of short recordings of panoramic video from a fixed point taken inside the museums and which register the presence of visitors who in this way dynamically become part of the virtual space [1]. Applications which, however, have not found a real diffusion. In the most common virtual tour experiences, it is almost always alone in trying to understand and decide what to do and how to "move". On this point, the graphics and visual communication of the so-called hotspots play a fundamental role, that is, those sensitive areas of the equirectangular image, marked by interactive graphic symbols through which to activate functions. These are essentially of two types: movement and multimedia content (audio, video, photo galleries, in-depth texts, web pages, etc.) (fig. 06).

Speaking of movement in a virtual tour is, once again, an oxymoron since in this type of multimedia experience we are basically still. Even in stereoscopic viewing mode, indeed especially in this case, movement is effectively inhibited.

We therefore speak of movement simulation to discover almost immediately that this is generally not of a continuous type but of a discrete type, that is, for points that correspond to the different spherical panoramas centers.

In general, different dimensional degrees of movement can be recognized in virtual reality (fig. 07). To one dimension, namely the point-like one, typical of the spherical panorama; two-dimensional, continuous or discrete, i.e. along paths (pseudo-free or constrained, or by points); three-dimensional, that is, the one that theoretically should most of all simulate movement in physical space; in four dimensions when temporal stratifications of space visualization are added together:

In a virtual tour, the most used dimensional degree is the multiple point-like one, that is, formed by a series of points of view suitably connected to each other according to the communication project, that is, what the layout is in the real world. Behavioral adaptation is also implemented through the progressive awareness of being able to move differently by moving further and further away from the comparison with what one is commonly and usually led to do during a real visit.

Reference has been made several times in this text to behavioral adaptation because it evidently plays a fundamental role in ensuring a high level of effectiveness of the communication project and therefore of cultural education. In most cases, technology represents an obstacle when it requires a level of concentration that inevitably distracts attention from the visit path, effectively making the cultural content useless. The technology must therefore be as permeable, transparent and intuitive as possible with respect to the primary channel of attention. In this sense, the integration of hotspots into the virtual space for the multimedia content use can be an enrichment on the one hand but also a disturbing factor that can influence the process of behavioral adaptation on the other:

The effectiveness of these hotspots, both of movement and multimedia content, is usually delegated to a pictogrammatic image which in virtual tours generally relates perceptually with the virtual space with the aim of reducing its visual impact and therefore its possibility of distracting attention (fig. 08). On the other hand, the hotspot cannot hide itself because in this case its capacity as a visual attractor capable of activating multimedia contents would be lost. This ambiguity is typical of the pictogram, "an image designed to be seen but not observed. Image that often interacts at an unconscious level of our mind, conditioning our behaviors and our social relationships" [Paris 2020, p. 182].



Fig. 05. Two examples of no spread 3d glasses. Image by the author.

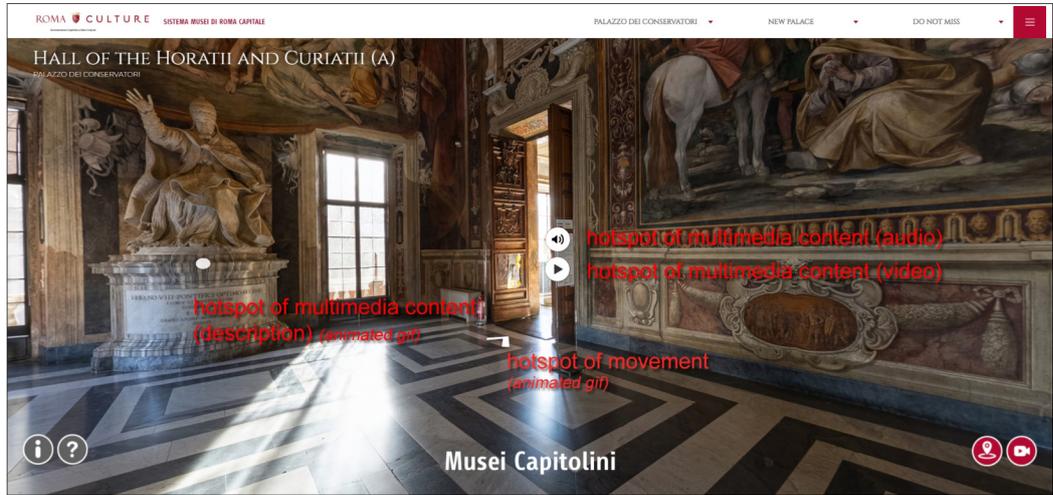


Fig. 06. Hotspots of movement and of multimedia contents. Musei Capitolini Virtual tour. <https://tourvirtuale.museicapitolini.org/eng/index.html>. Image by the author.

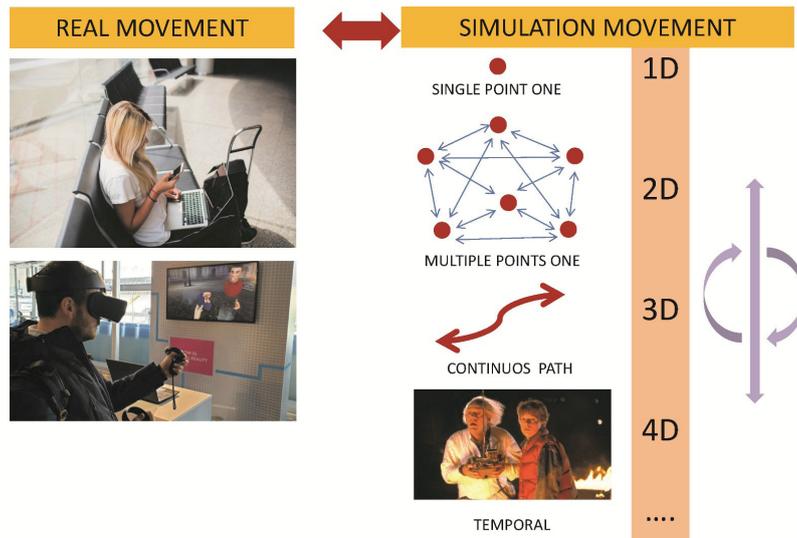


Fig. 07. Dimensional degrees of movement in the virtual reality. Image by the author.

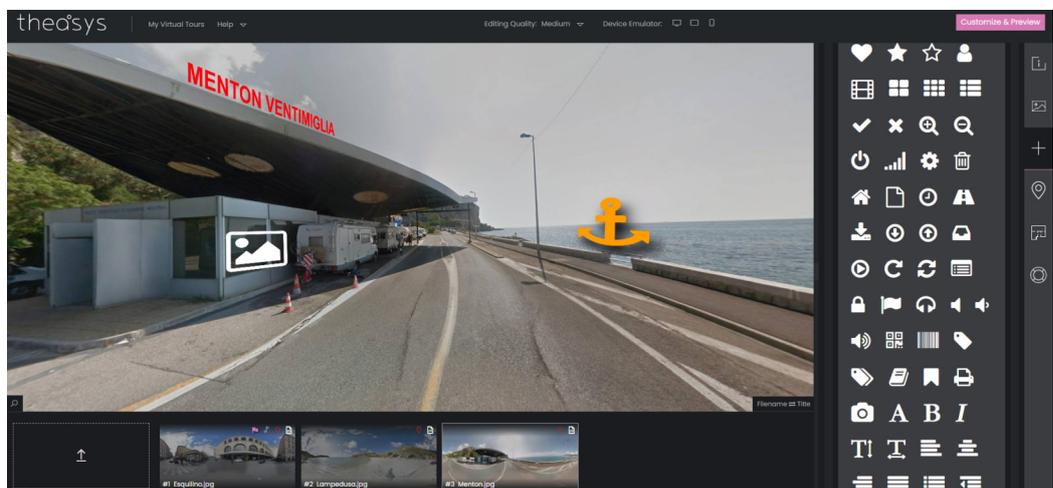


Fig. 08. Pictogrammatic images for hotspots on theasys platform. <https://www.theasys.io/>. Image by the author.

Conclusions

The digital revolution has brought about an anthropological change from different points of view, from the social to the cultural one, from the economic to the psychological one. One of the most involved sectors is undoubtedly that of visual and multimedia communication on which numerous multidisciplinary and interdisciplinary contributions converge.

The virtual tour whose social impact is increasingly evident – also as a consequence of two years of health emergency – although strongly anchored to an analogue culture condenses in itself numerous problems of technological innovation that affect not only economic and social aspects but also and above all of the semantic characterization of the visual language. In this sense, the proposed analyzes resulting from the experience gained in the courses of Design and Cultural Heritage Communications are an attempt to focus on some specific aspects of a scientific disciplinary sector that has always been linked to the themes of representation and visual culture. To the question, what is a virtual tour, we could finally answer: a digital medium that is not able to replicate the experience of a real tourist but that is able to offer an alternative, certainly with something less but also with something more.

Notes

[1] <https://coperniko.com/gallery/orbis-tour/desktop/pinacoteca/>

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