Heritage Thinking. Approaching Communities with Communication in the Venice Countryside

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Abstract   Digital and Cultural Heritage studies reinforced the meaning to communicate and make creative use of information to express complex data. Moreover, the power of narratives and re-living memories lead to the creation of a series of emotional events. This paper focuses on a series of case-studies regarding the interplay between society and the landscapes around Venice (Italy), and the way cultural memory is encoded and interpreted. The communities' engagement is reinforced by the use of a citizen-science approach, which aims at facilitating the dialogue, sharing knowledge and involving citizens in academic research and dissemination of results.

Keywords   Digital humanities. Environmental humanities. Citizen-science. Public engagement. Venice lagoon. Landscape archaeology. Water management. Cultural heritage management. Brain computer interface. Creative industries. Media art.

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> Remember to look up at the stars and
> not down at your feet. Try to make sense
> of what you see and wonder about what
> makes the universe exist.
> Be curious.
> And however difficult life may seem, there is
> always something you can do and succeed at.
> It matters that you don't just give up.
> (Stephen Hawking)

1 Introduction

In recent decades, the landscape of Digital and Public Humanities (Terras et al. 2013; Warwick et al. 2012) highlights the dialogue across disciplinary boundaries and offers promising prospects for future research as an essential resource for knowledge preservation, exchange and dissemination (Cooper 2014; Ellison 2013; Moshenska 2017; Nussbaum 2010).

From this perspective, this article analyses, with a series of examples, the implication of digital technologies in the preservation, management and interpretation of cultural and natural heritage as a way to transform institutional cultures, methods, and relationships with audiences (Cameron, Kenderdine 2007; Ciotti 2016). Indeed, interdisciplinary projects in Digital and Cultural Heritage connects and supports multiple fields including maker culture,[1] co-created inclusive narratives and construction of cultural identity through a spatial-linguistic transformation of knowledge.[2] Digital technologies are in fact used by researchers, academics and professionals working on heritage to generate innovative ideas, to express complex information and make creative use of information and data, making knowledge more accessible and engaging for different kinds of audiences (Bartscherer, Coover 2011; Hayles 2012; McGann 2005).

Within this context, it is important to consider the Environmental Humanities, the new academic field emerged since last decade, interested in environmental issues and actual global challenges (Emmett, Nye 2017). Therefore, the relationship that people have with

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[1] For details, see the IGNITE digital roundtables on *Design Thinking & Maker Culture: Sticky Learning for the 21st Century* held online through April 2020: `https://www.youtube.com/watch?v=Iys2wAZvpQg&list=PL77mHK9JuenNSyeZtTRweXNU71nh14gD9`.

[2] For more, see the open lesson "Maker Culture: When Archaeology Meets Creativity", delivered in English by Elisa Corrò (Venice Centre for Digital and Public Humanities-VeDPH) on July 6, 2020, held online within the VeDPH Virtual Summer Camp in Digital and Public Humanities 2020 (strand 4: Digital Archaeology and Its Public). Organisers: Department of Humanities of Ca' Foscari University; Venice Centre for Digital and Public Humanities; Research Institute for Digital and Cultural Heritage. Recording available online: `https://www.youtube.com/watch?v=p2MKNhOUZXw`.

their own cultural and natural heritage appears also more relevant, as a way to identify themselves with the environment, with their values and their traditions. In this sense, each natural, historical and archaeological element represents the heritage that people have inherited from the past and that want to transmit to future generations.

In particular, this article presents several examples of community engagement, highlighting the importance of understanding the approach to communicate with people that live in environments characterised by sustainability challenges, such as lagoons and rivers, or rather by a strong relationship and management between natural and anthropic changes. The challenge, therefore, lies in promoting the engagement of society in participatory ways with the principles of heritage education, not only increasing engagement with place and memory assets, but ways to create dialogue, cohesion, identity and a sustainable development.

From this point of view, the geographical setting of the article is the Venice Lagoon and its hinterland (Italy) as a territory constantly modified over the centuries by both artificial and natural events (Corrò et al. 2021; Moine et al 2017). For instance, the existing border between dry land and the lagoon is now completely artificial and it was built to divide the lagoonal environment from fresh water (Corrò et al. 2015). Moreover, in the Middle Ages and in the Modern Era the main urge was to prevent the fluvial depositions, for Venice as well for the countryside: the city government turned its attention on this area only to fix the hydrologic balance of the lagoon, meanwhile the inhabitants continued to reclaim and to modify land and rivers to maximise its exploitation (Corrò et al. 2018).

From this perspective, the article is landscape-oriented with special attention to environmental changes due to water management activities that began in the past (detected with archaeological and historical studies) and that has an impact on the present communities and places (Corrò et al. 2019). In this sense, it attempts to document how local communities are related – culturally and emotionally – to water management. The subjects concerning the interplay between man and the environment, the key role of the hydrography in constraining land use dynamics, and the relation with culture and society reinforce the meaning of identity as defined in the Code of the Cultural and Landscape Heritage, in which the term 'landscape' is defined as "an integral part of the territory whose characteristics are derived from nature, the history of humanity or from their reciprocal inter-relationships".[3]

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[3] Legislative decree no. 42/2004, article 131, available at https://whc.unesco.org/document/155711.

Figure 1 Visit (in 2019) to the Archaeological Group Mino Meduaco (Venice, Italy) by the Camponogara Open University class of the course "Venice, from the Lagoon to the Brenta River: Environment, Geology and History", held by Elisa Corrò

2 Engagement Strategies

The role of new technologies in the management of cultural heritage and the promising research in interdisciplinary sectors, such as design thinking, digital storytelling and creative narratives, represent the most effective tools to communicate, visualise and generate innovative ideas and make creative use of information, data and media to express complex information. Moreover, the use of a citizen-science approach, with the interplay between cultural society and local requirements, help to facilitate the dialogue, to share co-produced knowledge, to involve citizens in academic research and in the dissemination of the results (Heinisch 2020). From this perspective, to make the meaning-making actions in the cultural heritage activities more inclusive, participation and interaction processes are mainly based on the engagement of a group of people in a common activity represented by a common interest, named 'affinity place', letting them find their space and their identity (Gee 2004; 2005) **[fig. 1]**.

The following examples are part of public engagement projects and they suggest different approaches of heritage thinking applied on several academic works in the Venetian area, to improve citizen participations and the promotion of cultural diversity. They are based on synergic multidisciplinary approaches, involving public, private,

and institutional agents: geologists, archaeologists, geographers, but also digital storyteller, media artists, creative directors, architects, neuroscientists and engineers.

2.1 Immersive Technology

The concept of multisensorial experience through the use of immersive technologies is generally based on the creation of a direct engagement between the viewer and the high technological content. An immersive experience could generate a relaxed environment that raises awareness, establishing a universal way of communication. In recent years the use of immersive rooms has become useful in the private companies as well as in the public institutions. For instance, they are frequently used for innovative marketing, as a new idea of showroom for the business, and are very well distributed in every industrial sector: from digital technology to manufacturing processes and equipment, from automotive and fashion industry to industrial design. In the public institutions, especially those related to cultural heritage, immersive rooms represent the ideal way to recreate ancient environments in a very emotional way. Moreover, in archaeological museums or exhibitions, they often contribute to making knowledge even more accessible for different kinds of audiences. For instance, in the multi-sensorial experience of the ancient roman Temple of Mithras recreated at Mithraeum Bloomberg SPACE in London, where visitors enter this underground temple museum and experience seeing the walls of the ancient Temple into view, while an audio replicates bells and rituals.[4] The Fram Museum in Oslo (Norway) is another suggestive experience. In the room there are more then 10K projectors that create a glacial backdrop so that visitors feel completely surrounded when on the deck of the ship.[5] Immersive experience could be not only limited to a single room but also represented by an entire visit. For instance, the Magister Canova exhibition (Venice, Italy) was a complete immersive travel through multimedia art.[6] In the field of public art there is an innovative project that uses a parametric data sculpture approach (with machine intelligence) to create immersive installation aesthetically rendered by visual performance.[7] All of these special environments can transform a visit into an interactive experience very useful also for education, and able to influence, develop and create innovative teaching methods.

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[4] https://www.youtube.com/watch?v=7N5skF6hHM8.

[5] https://frammuseum.no/.

[6] https://www.youtube.com/watch?v=xZ6E5Q6-Tc0.

[7] https://refikanadol.com/.

The positive impact of an immersive space can be seen throughout the school, such as improving behaviour and wellbeing, and creating greater engagement.[8]

One incisive method to create participation and awareness is the use of immersive technologies to enable the creation of experiences that can bring the past to life. In this sense, the concept of immersive technology related to the landscape acquires different perspectives. Sights, sounds and even smells can be recreated to help people understand the world (and its history) as it was or might be, following the idea of a memory-scape, simply studying how people respond to immersive experiences with personal histories relating to historical events (Rogage et al. 2021; Swords et al. 2020). This is the reason why researchers are interested in how people consider their personal history, for example uploading family photos on the web connected to particular events (Severo 2009; Jones et al. 2018). In fact, in recent years, the need to strengthen cultural identity belonging to the landscape and the related environment has emerged in several interdisciplinary university projects. This has led to the creation of a strong connection with the landscape adding a giving value to the knowledge and awareness of what surrounds us. For instance, the concept of a dynamic landscape is a current research theme by Harvard University Graduate School of Design. In recent years, Harvard University actually worked on several projects related to this topic. For instance, Pulsus, an experimental installation that collects real-time data from the cityscape and reinterprets the dynamic information into interactive soundscapes to create a deep interaction with citizens.[9]

The inner sense of the interrelation between man and the environment and the perception that people have of reality is also considered a new kind of conceptual and experiential working space (Malpas 2011; McRobert 2007). There are projects focused on decentralising human position in the world, on de-habituating perception and re-sensitizing people to their being in the world. Similarly, Ephemère is an immersive installation structured into three levels: landscape, earth, and interior body.[10] The landscape changes continually, passing through a sort of cycles, so the participant may pass constant-

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8   See for instance the Atelier des Lumières: `https://www.atelier-lumieres.com/en/home`.

9   The project, realised by Harvard University Graduate School of Design in collaboration with Cambridge-based INVIVIA and the GSD's Responsive Environments and Artifacts Lab (REAL), is directed by the associate professor of Practice in Architectural Technology, Allen Sayegh. For more: `https://www.gsd.harvard.edu/2017/09/responsive-environments-and-artifacts-labs-pulsus-featured-in-domus/`; `https://research.gsd.harvard.edu/real/portfolio/pulsus/`.

10   `http://www.immersence.com/`.

ly between changes, immersed in transformation, as well as giving priority to the environment as a place that can potentially facilitate a dissolution of conventional boundaries between perceiver and perceived (Davies 2003).

Regarding cultural heritage, some scientists want to go one step further by taking into account the dimension of human environmental studies and aim to highlight the disregarded thematic that connect humanities, natural sciences and informatics. In this case, the Maurizio Forte's team, Dig@Lab at Duke University (North Carolina), is a team specialised in archaeology and new digital technologies that works in this direction, offering new projects regarding the aspects of sound-scapes or smells-capes in the 'digital cities' (Forte, Murteira 2020). Is it now possible to communicate to the present community these stories and the awareness of those places in which people live today? How could the interactions between man and environment be a way to respond to today's changes in the relationship of humans with the environment? Is it possible to increase these matters in educational programmes regarding the conservation of heritage?

2.1.1 The Immersive Experience for an Archaeological Site

The *Living History on the Edge of the Lagoon* was a project realised during the years 2018-19 by Ca' Foscari University of Venice.[11] Funded by the Veneto Region, the project involved several private and public institutions[12] for the development of new solutions for the cultural heritage of a territory that was completely transformed during the ages, due to water management. The project was focused on the use of immersive technology to promote the southern Lagoon of Venice and its mainland. This geographic context is indeed characterised today by a road network perfectly integrated with small rivers, canals and the famous Brenta River (the 'Riviera del Brenta' is, indeed, an amazing tourist attraction), and it includes the archaeological site of Sant'Ilario, an ancient monastery, one of the most ancient religious institutions of Early Medieval Venice, known as the site of many ducal burials during the Early Middle Ages (Corrò et al.

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11 POR-FSE 2014-2020-CUP: H76C18000230005. Project title: *Living History on the Edge of the Lagoon: The Variation of the Coast Line Over the Centuries with Immersive Technologies for the Promotion of Cultural Heritage* (project code: 2120-3-11-2018). Scientific director: Sauro Gelichi, Professor of Medieval Archaeology at Department of Humanities of Ca' Foscari University of Venice; fellow: Elisa Corrò, Venice Centre for Digital and Public Humanities.

12 Project partners: visiting professor Sebastiàn F. Ramallo Asensio, The 'Abdus Salam' International Centre for Theoretical Physichs, Multidisciplinary Laboratory (ICTP Mlab), DrawLight srl, Ca' Foscari Challenge School, Oikos Coccato Architettura.

2015; 2018; 2019). Within this fluvial context, the study of the territory reveals extreme anthropogenic landscape transformations over the centuries in order to maintain a strategic position in the river network. Moreover, a series of strong processes of intervention starting in the 20th century has disrupted the site for the construction of a small village still existing today.[13] Oral traditions are helping to explain when, how and where it all happened.

From this point of view, the current landscape represents the result on which these changes can be read, expressed and perceived by the inhabitants themselves. In this sense, rethinking on these relationships can only contribute to a more conscious use of the territory. Therefore, the activities planned in the project aim to fill the gap of awareness expressed by the present society.[14] Digital technologies have revealed to be the most effective tool to communicate and translate a case study as a model that can be used from an economic and cultural sector. In particular, the project focused on immersive technologies, the ideal tools to identify and become literally protagonists of the situation once entered in the room. The collaboration of this project with the University and local companies led to combine transferable skills, such as creativity, critical thinking, self-learning, developing a collaborative approach towards a sustainable heritage.

2.1.2 A Heritage for Mankind

The final event of the *Living History* project was created to foster contamination between local companies and academic research, promoting economic and social cohesion. *A Heritage for Mankind*[15] involved professors and businessmen, from cultural foundation directors to

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13 During the '70s of the 20th century the continue and complete disruption of churches and structures has served to the construction of a small village, known as 'Villaggio of Ca' Emiliani' located in the present Marghera Municipality (Corrò et al. 2021).

14 See also the virtual presentation of Elisa Corrò: "Becoming us. How Invisible Heritage can be the Story of our Awareness" at the *Eighteenth International Conference on New Direction in the Humanities. Transcultural Humanities in a Global World* (Ca' Foscari University of Venice, 1-3 July 2020). For more information: https://cgscholar. com/community/community_profiles/new-directions-in-the-humanities/community_updates/122164.

15 Event title: *A Heritage for Mankind. Research Data Translated into an Immersive Key for the Use of Heritage. From an Archaeological Excavation in the Mainland of Venice, to a Palladian Villa, to the Birth of the Riviera Del Brenta*, organised by Ca' Foscari Challenge School in collaboration with DrawLight srl on September 2019, 11th at DrawLight srl. Speakers: Alberto Gentilin (Key Account DrawLight srl), Andrea Gion (Ambassador and Academy Trainer), Elisa Corrò (fellow at Ca' Foscari University of Venice). Special guests: Mick Odelli (Founder&Innovation at DrawLight srl), Micol Lorenzato (Marketing&Communication strategist at DrawLight srl), Sebastiàn F. Ramallo Asensio (Professor of classical archaeology at University of Murcia, Spain, expert in herit-

bankers, sales and marketing directors. It was an opportunity to talk about innovation investment. The main purpose for the meeting was to make people protagonists of a project for promoting cultural heritage. The topics discussed were connected to how to: leave a legacy, narrate the past, make the landscape archaeology a current topic within the contemporary information processes, create a community of people capable of living through a healthy awareness of cultural value. As a result, the immersive technology appears to be the ideal tool to awaken individual creativity as an expression of the collective imagination. In this way it was possible to narrate a story with three mocks up that derives from the translation of the research information (data) into values, to be projected in an immersive room, creating an environment where once you enter you become the main character, experiencing real sensations. The first mock up regards the variation of the coast line over the centuries. It was based on satellite imagery, on a series of radiocarbon dates from geoarchaeological researches and on the studies of ancient cartography. It was created to describe in an artistic way the differences between the present condition and the past **[fig. 2a]**.

The second digital content aimed to define a change of mentality in understanding the landscape: from a land with water issues during Middle Ages to a suitable spot for Renaissance Villas. The concept was instilled with a series of positive stimuli related to sensations, sounds and impressive visualisations to describe the extreme event **[fig. 2b]**. The third prototype imparted the changing of water level figures during the ages in an abstract form, in contrast with the materiality and the physical concreteness of the ancient monastery mosaics **[fig. 2c]**.

From this point of view, using historical, archaeological and geological data in a new environment contributes to making the past-present connection more accessible, bridging the gap between the academic world and the local community, and finally reinforcing the perception of a heritage that is intangible. This project has reinforced the linguistic knowledge conversion, simplifying technical language to transform the heritage into an experience that eases knowledge forwarding.

age, landscape and interactive museum exhibition). For a presentation of the event see
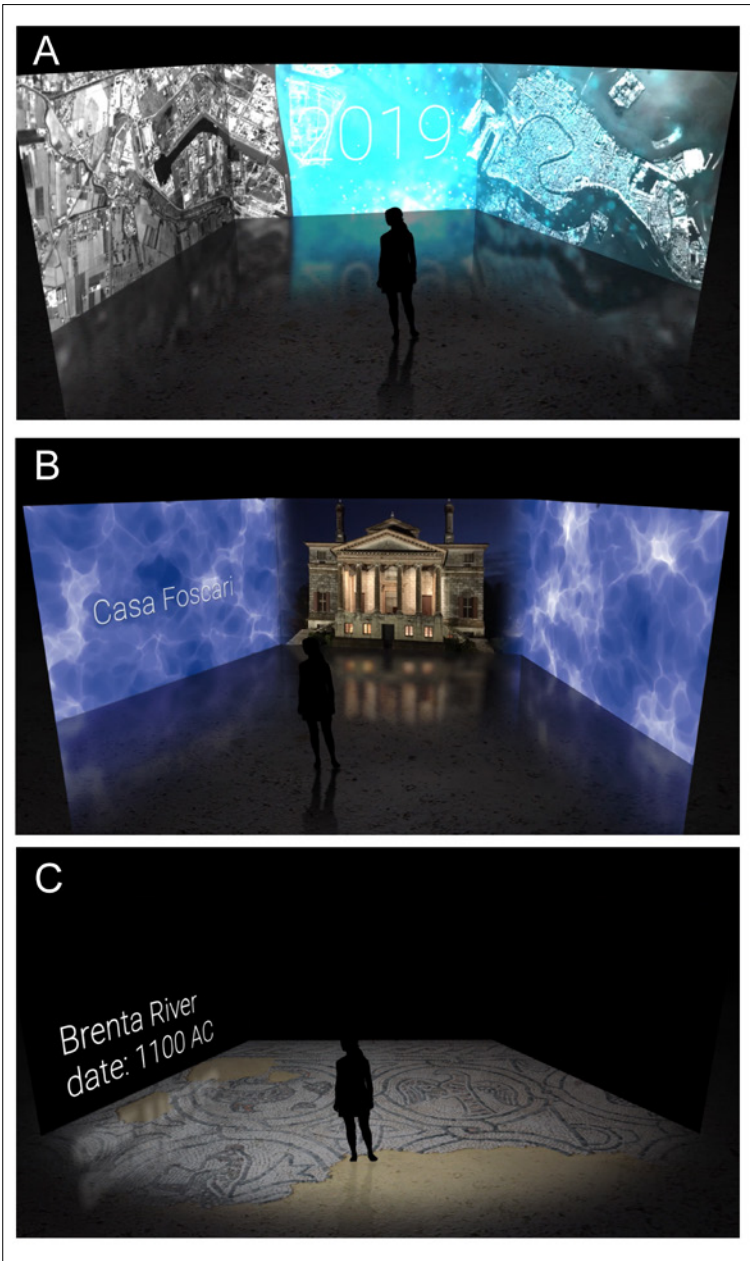https://www.youtube.com/watch?v=H1UhlMT0j4c.

Figure 2ac Protoypes realised with Abode Creative Suite during Living History Project in 2019 in collaboration with DrawLight srl (www.drawlight.net): a) water changes; b) Villa Foscari-Brenta River; c) Sant'Ilario archaeological site

2.2 Emotional Approach: Exploring the Influence of Culture on Human Consciousness

How can we create a deeper relationship between the general public and the cultural landscape? In the last decades, the Brain Computer Interface (BCI) technology (Nijholt 2019) has been used to explore the state of mind in several disciplines. In particular, the brainwaves are studied to analyse mindset recognition, creating electroencephalogram (EEG) patterns in response to visual images (Bobrov et al. 2011) and identifying emotions in children with special educational needs (Lekova et al. 2018). EEG are also analysed to detect specific state of minds, as mental alertness (Sawicki et al. 2016), cognitive distraction (Sena et al. 2016) and learning ability in normal and virtual reality conditions. Moreover, in cultural sectors they are used to study the real involvement, for instance in archaeological site, and to define the embodiment in artistic expressions, such as dance and somatic practice (gestural dialogue) (Hieda 2017), theatre (Oskooyee, Banerjee, Gupta unpublished), music and performance (Paradiso 1999).

From this perspective, it is particularly relevant the approach used by different scientists to explore whether there is a place in human consciousness in which it is possible to recognise the levels of emotional intensity. First of all, in 2016 Ellen Pearlman[16] (2017) created the first full opera in which a performer wore a wireless brainwave headset. It was during that emotionally powerful and immersive experience that it was possible to map emotional categories and create patterns to different mental status. Regarding the use of EEG, 'the Brain Opera' directed by Joseph Paradiso[17] was another tracking general public's feelings through an interactive installation of musical instruments (Paradiso 1999). Moreover, thanks to Harvard University Graduate School of Design research it is possible to understand the relationship between perceived emotions from the related environment and the actual state of mind based on stimuli triggered by the environment. In particular, with *Chroma* project it is possible to measure people's emotional state in a city or place through feelings, colours and emotions.[18]

Those are all experimentations, especially used by designers and architects. But is the emotional approach really useful for a public use in cultural heritage? It is clear that the power of narratives, re-

[16]   School of Creative Media, Hong Kong City University, director of the Volumetric Society of New York and president of Art-A-Hack™ based in Brooklyn, New York.

[17]   MIT Media Laboratory of Massachusetts Institute of Technology.

[18]   The project *Chroma: Colors and Emotions in Cities. Genome of the Built Environment: Measuring the Unseen* was realised by Harvard University Graduate School of Design. For more information see https://research.gsd.harvard.edu/real/portfolio/chroma/.

living memories and visual experiences leads to the creation of a series of emotional events. This concept is used by neuroscientists as the "constructing emotions approach" (Feldman Barret 2011; 2017). In fact, they have recently demonstrated that emotions are a kind of dynamic state of mind directly connected with the environmental and cultural context. Without a cultural context, only a partial description of what is happening is available, the whole history is not known, the complete picture is missing. It is in the completeness of the picture, in the totality of the story, that emotions are truly captured. From a neuroscience and psychological point of view, this approach is directly connected with the place in which a person lives and to the natural and cultural evolutions of that territory. In this sense, today's personal life is the result of environmental crafting.

2.2.1 An EEG Headset for Cultural Heritage

EEG systems that use advanced signal processing algorithms could be a valid instrument for scientists who want to go one step further by taking into account a deep dimension of knowledge and aim to highlight the disregarded thematic that connect humanities, environments, neurosciences and human behaviour. The headset is indeed able to measure data through brain signals with a monitoring method that can record the electrical activity of the brain (Nicolas-Alonso, Gomez-Gil 2012). Through the measure of strengths between different brain regions it is able to classify the emotional state. With this kind of headset, a person's real-time attitude can be used in an immersive experience or in a specific place to create a stronger engagement. For instance, during the event *Living History: 8 kms Over the Centuries*,[19] a walk-through Venice's countryside history, the potential of this kind of technology was evidenced to general public **[fig. 3]**.

The main aim of this experience was to bring attention to the intangible mental connection that people have with the cultural landscape and make it tangible with these devices, through the change of mental state based on the environmental context. In particular, the walk passes through a natural landscape nearby the historical river, a fascinating villa on a reclaimed area, and an archaeological site completely invisible due to natural and artificial transformations. In this sense, the walk was characterised by a travel through time and by a dialogue across the boundaries of human behaviour and know-

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19 The event was organised on 9 June 2019 by Elisa Corrò, Department of Humanities of Ca' Foscari University of Venice and Ca' Foscari Challenge School, in collaboration with Nordic Walking Association within the project *Living History on the Edge of the Lagoon* (POR-FSE 2014-20).

Figure 3 Details of the event: *8 kms of Living History* with the explanation of the potential of a brain sensor (in this case Muse headband: https://choosemuse.com)

ledge preservation. Moreover, the adoption of a more emotional storytelling experience contributed to giving new ways to understand, interpret and spread information, and establishing (with the headset) a universal way of communication. This could be a valid solution to produce innovative programs that engage communities, individuals and professionals with culture.

2.3 Visual Narrative

Storytelling is the best vehicle to create interest, empathise and stimulate imagination (Johnsson 2006). In recent years it has been used to create inspiring narrations in several sectors, both academic and professional, as well as from the specialists in marketing sectors. As far as the marketing professionals are concerned, this is obviously a very important subject. It is indeed a much debated topic even in the *Content Marketing World* (CMW), one of the largest content marketing events organised every year by the Content Marketing Institute.[20] In the 2018 edition of CMW, Joe Lazauskas, head of content at Contently,[21] highlighted that all people as human beings, are, in a way, programmed for stories (Lazauskas, Snow 2018). Moreover, he also explained how the neural activity of a brain can gradually intensify during a narration, underling in this way the strong connection between the consciousness and the mind.[22] According to other au-

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[20] https://contentmarketinginstitute.com/, https://www.contentmarketing-world.com/.

[21] Contently is a company that creates storytelling for several brands. For more information see https://contently.com/.

[22] https://www.youtube.com/watch?v=RAPdMVJ2MDc.

thors, since the beginning, knowledge was transmitted through storytelling (Sandelowski 1994). From this perspective, (digital) narrations are participative stories. Thinking of ancient Greek orality, for instance, the narrator did not tell the story alone, but was helped by the participants, with voices, songs and more. In other words, it was the power of oral tradition. In this sense, Eric Havelock has interpreted classical poetry, from Homer to Plato, focusing on the communication changes, especially in the passage from oral to written traditions due to political issues at the end of the 5th century AD. He specified how poetry transmitted orally had been the vehicle for the dissemination of all scientific, legal, historical, religious and philosophical knowledge (Havelock 2019). The engagement of human behaviour in compelling narratives has been also recently studied by neuroscientists that point out a positive increasing in neural brain activity in the listening processes of a story (Zak 2015). In this way, people are more engaged in cooperative behaviours, attitudes and beliefs. In this sense, according to Eric Goodstadt, president of Manifest, and Sacha Reeb, chief creative officer at the Content Marketing Agency,[23] an emotional visual media experience could improve the process of narration even more. Visual storytelling is indeed able to involve the use of graphics, images and videos to engage with viewers through the emotions, communicating more directly and transmitting the knowledge in an innovative way.

On the other hand, the approaches to storytelling for cultural and educational contexts are also concerned with the importance of an entertainment experience. The significance of narrative structure has to be combined with people's levels of interest, empathy and imagination (Schell 2005). In this sense, in storytelling is relevant to focus on curiosity, tension and to the creation of stories to be emotionally resonant to hold audience's attention. Therefore, the adoption of a more emotive storytelling experience is considered by many authors a way to engage with cultures a wider audience, as the prototype storytelling experience applied at the Ancient Agora of Athens (Roussou et al. 2017). For instance, visual historical drama-based narrative (Tolja 2013) or a comic narration have the potential of encouraging interactions and facilitating a deep knowledge transfer during, for instance, a visit experience. In fact, in the *Emotiv*, an EU-funded heritage project, they use emotional storytelling to dramatically change the experience on heritage sites.[24] From this perspective, the application of digital media tools to engage people with storytelling represents the best solution to communicate with different demograph-

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23 See their intervention, "#CMWorld 2019 - Visual Storytelling at its Best - Eric Goodstadt & Sacha Reeb", in CMW 2019: https://www.youtube.com/watch?v=j83sKBN8pLk&t=349s.

24 https://emotiveproject.eu/.

Figure 4   One of the strips realised for *Before Marco Polo. The Origin of Venice* by Francesca Zamborlini (cartoonist)

ics (D'Eredità et al. 2016). In this complexity, storytelling represents a significant source to tell a story, to explain historical events and to reflect on significant moments in our present.

2.3.1   *Before Marco Polo. The Origin of Venice*

An ongoing project of digital storytelling is the comic-based digital animation of the origin of the city of Venice [fig. 4]. *Before Marco Polo. The Origin of Venice* is indeed a project created by Ca' Foscari University of Venice[25] for the exhibition *Venice and Suzhou. Water Cities along the Silk Roads*.[26]

The 8-minute story is set in a growing Venice from its origin, and reflects its urban landscape and the historical events during the ear-

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25   Principal investigator: Sauro Gelichi in cooperation with Stefano Gasparri, Elisa Corrò (digital storyteller), Carlo Beltrame, Claudio Negrelli and Francesca Zamborlini (cartoonist), in partnership with Ca' Foscari University of Venice (Department of Humanities and Venice Centre for Digital and Public Humanities), Centro Studi Archeologia Venezia (CeSAV) and Fondazione Ca' Foscari.

26   At the moment the project is suspended due to the current pandemic situation.

ly Middle Ages. The animation is based on comic strips that represents some dramatic episodes of the life of Duke Justinian Partecipazio and the usurper Caroso, combing tense moments, such as the theft of St. Mark's relic, with dark scenes related to the clashes with the Narentan pirates. With this animation, starting from drawings by a cartoonist, it could be possible to bring back the past (reconstructed by written sources) and help to explain it: under a Venice of brick and stone lies another city.

2.3.2   *Villa dei Leoni: Historical Heritage*

During COVID-19 times, collaborative projects are very important to preserve the dissemination of the cultural heritage. With *Villa dei Leoni: Historical Heritage*[27] the Mayor of the District of Mira (Venice, Italy), in collaboration with Ca' Foscari University of Venice,[28] wanted to highlight the cultural heritage, identifying the elements of the landscape that have been at the centre of many studies, also linked to the enhancement of places, in relation to their development.

2.3.3   Venice River Collection

A new challenge in the cooperative learning is the creation of a blogsite assigned to a specific territory. The improvement of the quality (in terms of more liveable) of these landscapes around Venice today recalls another key word – resilience – that is the need to 'equip' the city to overcome extreme events and the continuous stresses connected with climate change. From this point of view, in this context, the 'everyday landscapes' are also the most vulnerable ones, on which more attention needs to be paid. In the works of adaptation to climate change we are creating new 'everyday landscapes', working on those that are not only degraded but also more vulnerable. But with what results? With what involvement of the local populations? Can adaptation projects improve the quality of the cultural landscape? The Venice River Collection blogsite[29] is public-oriented, with the story of a specific site and its travel through time until the present, and with a beautiful gallery of images via Instagram.[30] Each story is about a particular topic, from preservation to conservation,

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27   The outcome of the project will be available soon.

28   Scholars involved: Sauro Gelichi (Department of Humanities), Elisa Corrò and Franz Fischer (Venice Centre for Digital and Public Humanities).

29   https://discover-venice.github.io/VeniceRiverCollection/.

30   See https://www.instagram.com/riverofvenicecollection/.

and is guided by the slogan: "remember to preserve memories, connect and collaborate".

2.4 Citizen-Science Approach with Open Data

The landscape reflects multiple aspects of society, interpreted as the first producer of the landscape. There are elements that play a basic role both in the territorial governance process and in the community's safeguarding and awareness, such as the influences of anthropic activities on the feature of the landscape. However, it seems that people are increasingly struggling to recognise its importance and preservation, overwhelmed by the 'green' and 'plastic free' trends.

One of the attempts to improve the involvement of people is to use open data to describe a territory, searching information, together with citizens, among the wide range of data that are available online: from Google Maps to National Statistical Demographic Institute. In this way, it is possible to create not only a description but also, through the use of digital and media technologies, a data visualisation-story of the landscape in such a creative way.

2.4.1 *Archeohistory*

In summer 2020, *Archeohistory*, a public engagement project for young students that alternate school and work, was started.[31] During this project was also tested a simulation regarding the aspects of communication with digital technologies through open data.[32] The objective of this test was to create a narration and a collection of data to be processed in data visualisation open-source programmes available online. The second part of the test aimed to compare the present with the past, through the materiality of old pictures, going to

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31 Project dedicated to the relationship between technology and archaeology of the Institute "Martino Martini" of Mezzolombardo (Trento, Italy) that involved several professors and researchers of different disciplines of Ca' Foscari University of Venice (Department of Humanities).

32 For the aspects regarding the innovative communication in archaeology with digital technologies: *Water Matters. Digital Solutions and Communication Strategies for a Better Understanding of Past Extreme Events*. Seminar delivered in English by Elisa Corrò (Venice Centre for Digital and Public Humanities) on April 22, 2020, held online within the VeDPH Seminar in Digital and Public Humanities 2019-20 series. Organisers: Department of Humanities; Venice Centre for Digital and Public Humanities; Research Institute for Digital and Cultural Heritage (Research for Global Challenges); International Center for Humanities and Social Change at Ca' Foscari University of Venice. Recording available online: https://www.youtube.com/watch?v=bdMJPiKIGXo&list=PLzkDEscu2r2roGC_1Cbm1CZ_RcJvMYA70&index=7.
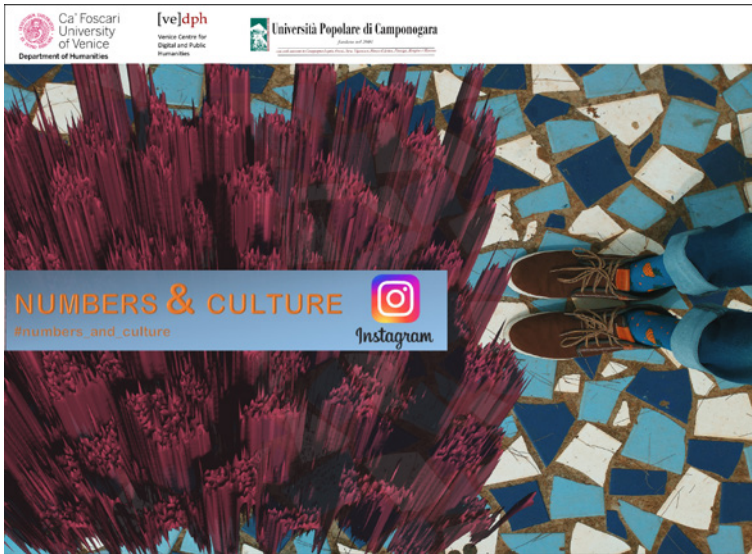
libraries etc., but the COVID-19 emergency has forced to replan each single phase of the starting project. However, this test was very useful for researchers of multiple disciplines to understand how much people are related to the land in which they live, the perception they have and how well they know it.

2.4.2   *Numbers&Culture*

The currently underway project aims to promote cultural heritage fostering the contamination between academic world and the community, especially during a period of pandemic situation. *Numbers&Culture* involves a school belonging to the Venice countryside and several partners.[33] The challenge focuses on an interdisciplinary research that includes: an open data search on the web as a

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[33]   Scientific director: Sauro Gelichi, Professor of Medieval Archaeology at Ca' Foscari University of Venice; fellow: Elisa Corrò, Venice Centre for Digital and Public Humanities. The project is organised by the Department of Humanities and the Venice Centre for Digital and Public Humanities of Ca' Foscari University of Venice, in collaboration with the Institute A. Gramsci and the Open University of Camponogara (Venice, Italy) and ArcheoScuola (www.archeoscuola.it). For more information see https://www.unive.it/pag/14024/?tx_news_pi1%5Bnews%5D=10203&cHash=1344bb6b80e64812a14f4d01e92c63c8.

way to describe with numbers the features of the present landscape; a collection of historical memories; a past-present comparison of the landscape changes by uploading pictures on Instagram through the hashtag of the project.[34] Thanks to a team of researchers, the class analyses their research data in real time, with a series of data visualisation processes. The collection of information will be used to map and to increase the value of cultural assets. The final result, a documentary, was presented in the final event **[fig. 5]**.[35]

In this sense, the project is based on the need to give a greater awareness of cultural heritage, strengthening the sense of belonging to a territory and directly involving the community that lives there in an interdisciplinary experience. The characteristics of the target – students at a secondary school – aim to strengthen the pre-adolescent cognitive potential connected to the academic opportunities in the field of Digital Humanities, with unconventional strategies for the humanistic world, and engage a wider audience, indirectly involving the family in the activities of the students.

3   Discussion

The general overview presented in this article take into account different key points regarding heritage sector. Firstly, this paper tries to reflect on which (hi)story to tell in modern society, especially in this period of pandemic emergency. What is the meaning of the past in the globalised world? It seems that this point could be a very delicate element, not only between locals, but at various levels (in planning, design and management). According to the studies of Serge Gruzinski (2016), in which he tried to analyse the sense of the past in the globalised world and the social context on which history acts, is globalisation now a limit for culture, or, on the contrary, has every society his own relation with its history (Hartog 2003)? Landscapes have changed in the last 40 years, also from the point of view of the perception that individuals have of their own cultural references. With this in mind, an enormous challenge opens up, and forces those who deal with these issues to build new value systems also to protect and safeguard, because it is important that locals recognise this knowledge and endorse it.

Secondly, has digital led to an evolution of society in the cultural heritage? As highlighted in this article, the use of digital technologies can promote a critical thinking, creating new experiences to transfer and facilitating students' and citizens' learning. This is very

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34   #numbers_and_culture.
35   https://www.youtube.com/watch?v=JztY7MJsRVE&t=1s.

important for future construction of institutional and professional identities, and on visitors' experiences within a possible changing in museum practice and archaeological sites. From this point of view, digital technologies are essential for public engagement and the use of immersive and BCI technologies could be a way for (global) communication of memories, feelings and sensations during site-specific visits, becoming very useful techniques for research and education, not only for dissemination.

For the Venetian area, that is so unique, shifting the focus directly on people and to the community itself, making them become protagonists, appears the best solution to express the sense of a very complex and extraordinary landscape like the Venetian one. Is it possible to shift something towards another focus? From a marketing point of view, look at the Swatch company, for example, which transformed the budget-friendly, function-oriented watch-industry into an emotionally-driven fashion statement, or Starbucks which revolutionised the coffee industry by shifting the focus away from selling coffee for everyday use to the emotionally charged atmosphere in which customers enjoy their coffee (Chan Kim, Mauborgne 2015). In this way, not only citizens and the people are included in the research, but also companies and associations in there.

Moreover, from an academic point of view, communities approaching allows to use digital content in a creative and innovative way, to support research and teaching, to enhancing planning possibility and creating cultural paths to support research and dissemination, to develop ability to stimulate the process of learning and research, and the development of skills for cooperative learning. The use of a citizen-science approach facilitates the dialogue, sharing co-produced knowledge and values, and involving citizens in academic research and dissemination of results. In addition, knowledge transfer helps multiple fields including maker culture, co-created inclusive narratives and the construction of a cultural identity.

The other significant point that emerged from the research is that a multidisciplinary approach is absolutely the best solution to be adopted. This approach is based on a continuous dialogue between different skills, often going beyond the boundaries of single disciplines. In this sense, digital and public humanities are an intersection of disciplines that offer promising prospects for future research and an essential resource for knowledge preservation, exchange and dissemination. In this way, it will be possible to improve the general awareness of such environmental and societal threats for a better scenario of the future, through the production of new knowledge. For all of these reasons, embrace the possibilities of interactivity: allow participants to play around with different perspectives, create their own personal stories about an issue, allow them to construct parts of the narration. These are ways to engage not only the public but also stakeholders.

This is an important time for communications about cultural heritage. We are entering a new era of digital transformation and it is vital for the cultural heritage sector that digital culture secures its place within that future. How can we make and accept meaningful connections? What are the main needs of institutions and the broader community? This article has highlighted four points regarding a good communication:

1. the importance to find an affinity place with an engagement in a common activity;
2. find a way to listen and engage locals and give them interactive/digital alternatives. Experiences and research approaches should be tangible, processes-focused, visible (publishing), viable (foster collaboration and inclusive mechanism, not individual proposal but of the entire team) and adaptable (to changing conditions or shifting contents into a specific methodology, as games);
3. create a dynamic and personalised narration, because learning is considered a process of interactive meaning-making, in which learners continually reshape themselves. This is a very important point to be adopted especially during this pandemic period. The use of a citizen-science approach aims at facilitating dialogue, sharing coproduced knowledge and values, and involving citizens in academic research and dissemination of results;
4. find the right technology. There are indeed many other ways to create participation, especially thanks to digital tools and in particular immersive technologies that could be the best solutions to experiment the way to identify with the environment.

4   Conclusion

The final outcomes of this article are both scientific and technological, related to digital communication and public engagement, proving that the main need is to create a knowledge-based heritage for future generations as a resource for regional development and to grow methodologies for an efficient involvement of citizens. Thus, it is necessary to develop dynamic, multidisciplinary and innovative ideas and make creative use of data, media and tools to express and digest complex sets of information, and, therefore, to develop innovative applications that enable communities, individuals and professionals to engage with cultures of the past: from heritage sites to family memories, giving new ways to understand, interpret and share information and models of the past.

In this sense the engagement is based on the different forms of interaction between different cultures and situations that can create differ-

ent expectations of the engagement. For instance, in storytelling, the listener's role is to create vivid, multi-sensory images, actions, characters, and events of the story in mind, based on the listener's own past experiences, beliefs, and understandings. The completed story happens in the mind of the listener that becomes, therefore, a co-creator of the story as experienced. In this sense, the expectations about listener interaction and the nature of the story itself vary widely.

In this way the landscape history could be a community resource, proposing ways and practices through which the meaning-making processes in the cultural heritage activities can be more inclusive, and contributing to making knowledge even more accessible and engaging for different kinds of audiences towards the scientific community and the public.

To conclude, two important aspects can be highlighted: shifting the focus directly to people and to the community itself, making them become protagonists, and recognise the role of good communication. Communication is indeed a process by which information is exchanged between individuals through a common system. This may sound simple, but communication is actually a very complex subject. The transmission of the message can be affected by a huge range of things, such as our emotions and the cultural situation. An effective communicator understands their audience, chooses an appropriate communication channel and encodes the message to reduce misunderstanding by the receiver(s).

Finally, promoting the interactions between man and environment as a way to respond to today's changes in humans' relationship with the environment can maybe improve people's quality of life. To achieve this, it is important to consider that research could go beyond the academy, including public, private and institutional agents, paying attention to the management of cultural heritage and the intersection between environmental humanities and digital technologies.

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