Strategies for the recognition and the enhancement of the cultural heritage in Sant'Antioco

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Abstract

Sant'Antioco is a small island located in the south west of Sardinia (Italy). It has been historically occupied by Phoenicians who initially founded the town of Sulki along its south-east coast, then Carthaginian and Romans later on. Finally, during the first decades of 1700, Sant'Antioco was occupied by a community of fishermen of Genoese origins coming from Tabarka, Tunisia. These many different cultural influences have determined through centuries a very peculiar cultural heritage in a pretty small territory where still nowadays different customs and even different languages live together. History, archaeology, traditional crafts, food and music are a rich heritage still alive, but yet little recognized by Sant'Antioco's own inhabitants. In this frame, and with the goal of raising awareness on the richness of the local heritage, the Departments of Architecture DIDA (Florence) and DICAAR (Cagliari) have planned several coordinated activities and integrated strategies that include: a first joint seminar opened to university students of both Faculties finalized to the documentation of the local tangible and intangible resources; the involvement of the younger population (secondary school students) with regular meetings finalized to attract and empower them toward their heritage; develop new digital tools, including serious games, in order to better spread the acquired data and reach the biggest number of people. The initial community engagement is expected to prepare the ground for a future enhancement of all local resources rotating around the cultural heritage of the island that could lead to the development of a more responsible and sustainable tourism.

Keywords: Cultural heritage; Community engagement; heritage documentation, serious games.

1. Introduction

The paper presents part of the research carried out in the municipality of Calasetta, on the island of Sant'Antioco, within the "VerSus + / Heritage for PEOPLE" project, founded by the European Commission as part of the Creative Europe Culture Program (Ref. 607593-CREA-1-2019-1-ES-CULT-COOP1) in the period 2019-2023.

The main objective of the Versus + project is to make the general public aware of the contribution of tangible and intangible knowledge that constitute the vernacular heritage for a more sustainable future (Mileto et al., 2020, Correia et al. 2014). As part of the project, two Mediterranean islands were chosen as case studies: Sant'Antioco in Sardinia and Formentera in Spain, geographically limited territories where the vernacular heritage is under pressure, subject to the transformations of contemporary life, in particular of

mass tourism. Actions of social participation, dissemination, education, communication and promotion are undertaken in the Versus + project to experiment with different operational approaches that can be adapted to different contexts and embraced by local communities in order to share with society the sustainable qualities of the vernacular heritage.

1.2. Research aims and methodologies

The objectives of the VerSus + project were implemented on the Sant'Antioco case study through a series of coordinated actions aimed at research, education, and transmission of knowledge, trying to involve different types of public. The planned activities are carried out in the municipality of Calasetta, a small town of on the island of Sant'Antioco, which, due to its cultural and environmental characteristics, is considered appropriate for the application of the strategies and actions identified.

The research activity, conducted by researchers from the Departments of Architecture DIDA (Florence) and DICAAR (Cagliari), integrates the analysis of the documentary sources with in-situ data collection. It takes into account tangible and intangible aspects of cultural heritage; cultural and social expectations; management issues and the observation of traditional and contemporary sustainable practices in the environmental, socio-cultural and economic fields.

The educational actions involve in a first step students in architecture from the Universities of Florence and University of Cagliari. From February to June 2022, students will participate in a blended thematic seminar, which as the the main objective of providing them with the necessary skills to analyze, understand, interpret and communicate the heritage values. The final results of the seminar will be the creation of a virtual serious game that aims to enhance, communicate and transmit knowledge and values of Calasetta's heritage to a wide audience of all ages: students, inhabitants, tourists, but also technicians and scholars. The game offers itself as an educational tool for the transmission of tacit knowledge through experiential learning processes, such as informal intuitions and understandings (Sheahan, 2021). It seeks to communicate beyond didactic structures, providing instead "authentic situations" that can lead to "place-based learning" (Xanthopoulos & Xinogalos, 2019). In April 2022 the students, after a series of preparation lectures on analysis methodologies, take part in a residential workshop in Calasetta. During the workshop, students and researchers will work on three domain: interdisciplinary analysis, through interviews with craftpeople and custodians of cultural heritage, observations and direct survey; digital survey with advanced technologies for creating a virtual environment fot he game; creation and implementation of the serious game on the cultural heritage of Calasetta and its potential for sustainable development.

2. Sant'Antioco: environmental and social-cultural context

The landscape of the island of Sant'Antioco is characterized by the typical shrubs of the Mediterranean scrub: juniper, myrtle, mastic, rosemary and dwarf palms. The prevalent crops are grapes, wheat and legumes, while tall trees, vegetables and orchards are scarce due to the shortage of waterways, and the scarcity and irregularity of rainfall (400-500 mm per year). The climate is indeed warm Mediterranean, with long periods of summer drought, high average temperatures, mistral and libeccio winds in winter and warm sirocco winds in summer.

Fig. 1. The tonnara of Calasetta

The presence of the sea has always strongly influenced this area. The fishing activity is undoubtedly the basis of the economy. The sea is not only a resource for fishing, but a fundamental element of the local culture, which has generated traditions, legends, habits and rhythms of life. Even the name Calasetta is linked to the sea, in fact it derives from "Cala di Seta", and refers to the byssus, a filament similar to silk that is obtained from the gnacchera, or pinna nobilis, once abundant in the surrounding sea (Rombi, 1988).

Although a large part of the economy is linked to tourism, some local products continue to be maintained. The production of wine has been for centuries one of the sources of livelihood of the populations: the vineyards occupy large portions of the territory, defined by fences, and have always been the fulcrum for a management of the landscape in an equilibrium relationship with the environment. The nature of the sandy soil has made it possible to cultivate the grapevine, that is, with its original roots, without resorting to the rootstock of American vine. This rare cultivation technique brings several advantages to the plant, such as greater resistance to drought, greater longevity of the vineyard and better vegetative-productive balance (Municipality of Calasetta, 2016).

Fig. 2. The landscape of the vineyards in the territory of Calasetta

The cultural identity of Calasetta is certainly influenced by the cultures of the Genoese and Piedmontese populations who founded and inhabited the city. The commonly spoken language is *Tabarchino*, a variant of Genovese. The *Tabarchino* language, inherited by migrants from Tabarka who founded the city, also finds expression in the stories, popular songs and serenades. The *Tabarchine* culture is alive and present in many aspects of the intangible heritage: from gastronomic traditions to popular festivals.

3. Urban development of Calasetta in Sant'Antioco

The island of of Sant'Antioco (Sulcis Archipel, nearby Sardinia, Italy) is known since pre- and early history, as testified by the many Nuragic and Phoenicians settlements and necropolis. After the Roman period it was abandoned for many centuries, due to the frequent barbarian raids, until the middle of the XVIII century when the village S. Antioco started to be repopulated and the settlement Calasetta began (Vacca, 2009).

Calasetta has been founded in 1769, after a request to the King Carlo Emanuele of Savoy made by 45 families from Liguria migrating from the Tunisian island of Tabarka. This small island in Tunisia belonged to the Lomellini family from Genoa, that established there a community of fishermen.

When the Tabarka population grew, *tabarkini* people started to look for other alike places in the Mediterranean and started consequently a migration that brought them first to occupy the island of S. Pietro, founding the town of Carloforte, and later to occupy the bigger island of S. Antioco. The King entrusted the Monastic Order of the Saints Maurizio and Lazzaro for the construction of the new settlement on the north western side of the island (Zaccagnini, 1972).

The planning of the original core of the village of Calasetta in the northern part of the island was assigned to the engineer Pietro Belly. In his project two orthogonal streets constituted the supporting axes of the future road network, corresponding to the current via Roma and via Guglielmo Marconi. The lots were positioned on both sides, equipped with dwellings, with a courtyard, barn and backyard (Rombi, 2006). Parallel to the main roads, the secondary roads were located on the slope in southern part of the village. In an east-west direction, the town would have developed for a length of 120 "trabucchi" (one trabucco equals to about 2 meters length); in a north-south direction, 60; the secondary roads were about 36 trabucchi long. Pietro Belly designed thirty-nine properties, which actually hosted the first families arrived.

The chosen scheme, following the perfect Cartesian logic of all Savoy urban plans, is based on the centrality of the main square, with the church, the adjoining parish house and the water reserve tank. The supply warehouse was located in the southern part of the settlement. It was a simple and rational pattern, ready to evolve into a more defined urban program starting by a modular road matrix, on which the development of the village was subsequently organized. The planning of Calasetta had a precise agricultural vocation, as highlighted from the housing types that were chosen, accompanied by a pressing need for military protection, due to the constant danger of pirate raids. At least in the initial stage, it did not show a dense urban structure: the housing units, square shaped, with sides equal to 2 trabucchi (about 6 m.), were positioned in the corners of the properties. This system constituted the most rational solution to optimize times and costs of construction, and ensure at the same time the efficiency of the infrastructure, above all the water supply.

Fig. 3. The centre of Calasetta

After 1767, the Sardinian government increased the population of Calasetta allowing new settlers from Piedmont to come. The arrival of more inhabitants made the original settlement of Calasetta insufficient. For this reason, the engineer Giovanni Francesco Daristo designed a new expansion plan in 1773, repeating the road matrix defined by his colleague Pietro Belly. His first project showed a new arrangement of the village, with the parish church towards south facing a second square arranged along the main axis. Later, this hypothesis was abandoned, and the church was located further north, near the port. One of the innovations introduced by Daristo was the attention reserved to the military structures. His plan shows a circuit of fortifications around the village. The pre-existing defensive tower, renewed and strengthened after his suggestion, closed the perimeter of the walls to the west, in the highest relief. From the fortress, which still exists, it was possible to control the sea, and also send coded visual signals to the garrisons stationed in Carloforte and Portoscuso. Trusting in the success of the project and the arrival of new inhabitants, Daristo did not place the protection walls too close to the town, assuring an appropriate space for future expansions. With this plan, the original thirty-eight lots were increased to fifty-one, to which were added twenty-nine more, intended for later expansion (Schirru, 2013).

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The agricultural vocation of the settlement has not changed much through time, but an evident densification started during the 19th century for touristic purposes. The courtyards got occupied with the expansion of the old houses or with new constructions, giving a new image to the urban center. Only the chromatic purism of the village, whitewashed with lime, stays still today as a landmark of Calasetta.

4. Gaming as a tool for the enhancement of cultural heritage

In our project, digital games and interactive storytelling were choosen as tool to promote, to comunicate and to engage the general public around the cultural heritage of Sant'Antioco.

The promotion and communication of cultural heritage through digital games has become a widely accepted notion and a widespread practice by many cultural institutions. Many museums are using some form of digital games to engage and attract the public and make their collections known (Mortara et al., 2014, Paliokas & Sylaiou, 2016). By exerting a strong motivational appeal (Ryan et al., 2006) games have proven their potential to inform about, engage and communicate the values of cultural heritage (Anderson et al. 2010), and to foster the interest for the places of that heritage, attracting visitors and even inducing tourism (Dubois & Gibbs, 2018).

In this context, we have developed an intensive residential grame-design workshop in Calasetta to develop short apps for gaming and interactive storytelling. This activity employs a peculiar formula of pervasive gaming which allows the players to experience "in first person" stories revolving around tangible and intangible cultural heritage, while (physically) visiting and exploring places and territory of Sant'Antioco.

The ambition of such gaming experiences is not to simply transfer information or to deploy a passivly recepted storytelling about the heritage, as is the case in traditional guided or virtual tours. It is rather to engage the user/player as a protagonist of stories, events and explorations, through devices which are typical of digital games, capable to sustain the immersion in the gameworld and its narrative universe.

Given that the gameworld and the narrative universe are in our case those related to specific really-existing places and heritage, the promise of such an approach to engagement is not only to develop interest, or to broaden the knowledge, but ultimately to kindle forms of affection, attachment and desire for the places. Digital games have certainly proven to be one possible channel through which such affection, attachment and desire for places may be encouraged and sustained (Dewailly, 1999; Plunkett, 2011; Tavinor, 2011), and how they engender or reinforce the symbolic and cultural significance of places shown in the game world, taking advantage of their affective value for the player (Murray, 1997).

5. Conclusions

The digital games and interactive storytelling choosen to promote, comunicate and engage the young generations around the cultural heritage of Sant'Antioco contain the data acquired though interviews to citizens, artisans, administrators, and through an intense *on site* activity of mapping architectural, natural and intangible local traditional heritage.

The set of research activities launched on Sant'Antioco is intended not only to deepen and systematize the heritage of vernacular knowledge, but also or to share this knowledge with a wide audience, in an inclusive and active way, targeting especially young generations. For this reason, the used strategies provide for different types of involvement (active, remote, creative) and different tools (traditional, digital, gaming).

These activities, conceived for the VerSus + project, will create a corpus applicable beyond the project itself to many different contexts.

References

Anderson, E. F., McLoughlin, L., Liarokapis, F., Peters, C., Petridis, P., & de Freitas, S. (2010). *Developing serious games for cultural heritage: a state-of-the-art review. Virtual Reality* 14, 4, 255–275. https://doi.org/10.1007/s10055-010-0177-3

Cabras, M., & Rivano Poma, P. (1980). *Calasetta. Storia e Floklore letterario*, Tipografia.

Correia, M., Dipasquale, L., & Mecca, S. (eds.) (2014). VerSus. Heritage for tomorrow. Vernacular knowledge for sustainable architecture. FUP. 288 pp.

Dewailly, J. M. (1999). *Sustainable tourist space: From reality to virtual reality?* Tourism Geographies 1, 1, 41–55, https://doi.org/10.1080/14616689908721293

Dubois, L. E., & Gibbs, C. (2018). *Video game–induced tourism: a new frontier for destination marketers.* Tourism Review 73, 2, 186–198

Horowitz Murray, J. (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Simon and Schuster.

Mileto, C., Vegas, F., Correia, M., Carlos, G., Dipasquale, L., Mecca, S., Achenza, M., Rakotomamonjy, B., & Sanchez, N. (2020). *The European Project VerSus+ / Heritage for People. Objectives and Methodology.* In The International Archives of Photogrammetry, Re-mote Sensing and Spatial Information Sciences. XLIV-M-1-2020. 5 pp.

Mortara, M., Catalano, C. E., Bellotti, F., Fiucci, G., Houry-Panchetti, M., & Petridis, P. (2014). *Learning cultural heritage by serious games. J*ournal of Cultural Heritage 15, 3 (May 2014), 318–325. https://doi.org/10.1016/j.culher.2013.04.004

Paliokas, I., & Sylaiou, S. (2016). *The Use of Serious Games in Museum Visits and Exhibitions: A Systematic Mapping Study.* In 2016 8th International Conference on Games and Virtual Worlds for Serious Applications (VS-GAMES), 1–8. https://doi.org/10.1109/VS-GAMES.2016.7590371

Pinna, D. (1994) "L'isola di Sant'Antioco dal Medioevo ai giorni nostri", in Le isole sulcitane, a cura di N. Sciannameo , pp. 106-111.

Plunkett, D. (2011). *On place attachments in virtual worlds. World Leisure Journal 53*, 3 (September 2011), 168–178

Rombi, B. (1988). *Un anno a Calasetta*, ECIG.

Sheahan, J, Davies, H & Hjorth, L (2021) *The Art of Tacit Learning in Serious Location-Based Games*. Front. Educ. 6:686633. doi: 10.3389/feduc.2021.686633

Ryan R. M., Rigby, C. S., & Przybylski., A. 2006. *The Motivational Pull of Video Games: A Self-Determination Theory Approach*. Motiv Emot 30, 4 (December 2006), 344–360. https://doi.org/10.1007/s11031-006-9051-8

Tavinor, G. (2011). Response to Plunkett: on place attachment in virtual worlds. *World Leisure Journal* 53, 3 (September 2011), 179–185

Toso, F. (2001) *Isole tabarchine: gente, vicende e luoghi di un'avventura genovese nel Mediterraneo*.

Xanthopoulos, S., & Xinogalos, S. (2019). *Investigating Key Structural Elements in Location-Based Mobile Serious Games*. Odense, Denmark: European Conference on Games Based Learning, 943–XXIV.