The cultural value of the copy in the Museum domain

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THE CULTURAL VALUE OF THE COPY IN THE MUSEUM DOMAIN

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3D MODELS
DIGITAL COPIES
MAQUETTE
DIGITAL CULTURAL HERITAGE

The essay aims to analyse past and present methods of reality simulation critically. It proposes a non-exhaustive classification of 2D and 3D digital artefacts mainly concerning the cultural heritage field and the museum domain, ranging from reconstructing virtual environments to the most recent computer graphics trends. Moreover, the use of digital copies, sometimes accompanied by their 3D prints, was complementary to the original artefacts' vision. Starting from some well-known examples of the past up to the most recent artefacts produced in recent years, the contribution of reality simulation methods intends to reflect the different meanings that the copy can take other than its economic value. Value is not easily measurable. It refers to culture and new opportunities for dissemination.

INTRODUCTION

As defined by the Oxford Learner's Dictionaries, an artefact is "an object that is made by a person, especially something of historical or cultural interest" (Oxford Learner's Dictionaries, n.d.) The same definition can be applied in the digital domain. In the field of digital archival preservation, the value of a digital artefact is the intrinsic value of a digital object, as opposed to the information content of the object itself. Although there is a lack of a precise standard for making quantitative assessments, born-digital objects and digital representations of physical objects can have a value attributed to them as artefacts.

Digital surrogates constitute an essential opportunity for preservation and greater access to resources. However, digital surrogates may have different utilities for objects depending on the original artefact's nature and condition. In 2001, the Council on Library and Information Resources (CLIR) published a report on artefacts in library collections, stating that digital surrogates' usefulness can be determined by segregating the original materials between rare and non-rare artefacts. These can further be divided into two categories, artefacts that are frequently used and those that are not. Similar reasoning can also be extended to 3D models and different modes of use (Gwinn, 2002). The copies, both physical and digital, are produced for very different purposes. For example, to conceive reconstructions of missing parts, offer inaccessible viewpoints, monitor and assess risks due to the degradation of materials, archive copies of rare and damaged artefacts; for educational use or in tactile museums, to name a few.

The simulacrum rejects any claim to objectivity and replaces its real counterpart, assuming a completely autonomous value of its own. However, it is useful to reason about the difference in value between the original and its copy. While the former has an intrinsic value, the latter has an instrumental value. If the two are put together, the value will perhaps become more significant than that of the original.

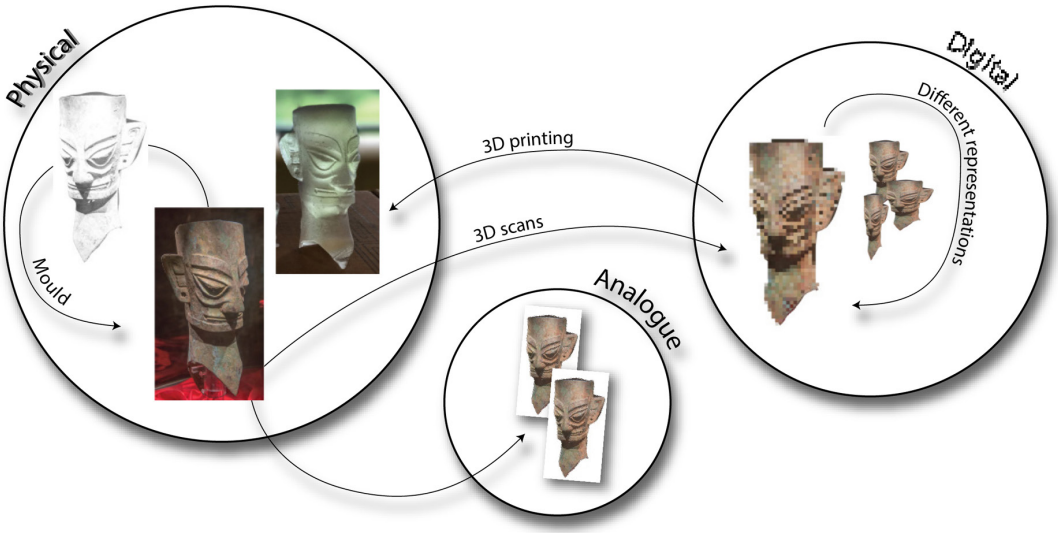

Fig. 1 A. Tomalini, *Classification of possible reproductions in the fourth industrial revolution and their relationships according to Ch'ng (2019)*, 2021, Digital composition.

The present work proposes a non-exhaustive classification of the different meanings that the copy can assume, between past and present, material and immaterial, with the simple intention of making the reader reflect on the multiple declinations of the term 'copy'. The purpose is to overcome the simplistic connotation of reproduction of the original object or reduce the discussion to more immediate considerations about the different uses of replicas.

MATERIALS AND METHODS

Ch'ng's proposed taxonomy reduces the types of reproduction available in the age of the fourth industrial revolution to six categories (Ch'ng, 2019):

1. Physical to Physical
2. Physical to Analog
3. Physical to Digital
4. Digital to Digital
5. Digital to Physical
6. Digital and Physical

Henry Cole's 1867 convention mainly dealt with the first two types of reproduction: physical to physical, such as plaster casts, and physical to analogue, such as photography (Cole, 1867).

The variables increase when the fourth industrial revolution (Schwab, 2017) blurs the physical and digital line. The reproduction of cultural heritage is included within that revolution in terms of the four additional reproduction types. To these classes, one could perhaps add the transition from analogue to digital, referring, for example, to some reconstructive digital models that are based on historical photographs. The example could be considered a special case of the third category. It is necessary to provide for digitisation of the resources to work with artificial intelligence algorithms, extract the metric information and then proceed with the digital reconstruction.

In Ch'ng's classification, the boundaries between the various reproductions are evident (Figure 1). In contrast, the taxonomy presented below leans towards a strong combinatorial variable. The following criteria have characteristics that can be traced back to different proposed criteria; thus, generating a large number of possible matches.

RESULTS

These criteria are briefly described below, accompanied by several examples to facilitate a better understanding of the proposed considerations.

The dimensions of the replicas: 1D, 2D, 3D, 4D

The dimension feature aims to reason on the number of dimensions that a copy can assume, starting from the reproduction of textual documents (one-dimensional) to graphic elaborations such as drawings and images (2D), to models (3D). To these further information related to the digital sphere, the temporal dimension can be added (4D).

Although the physical reproduction of textual, graphic and spatial resources can also be included in the following classifications, with specific reference to the digitisation of Cultural Heritage, we intend to reflect on the possible adding value that such operations could generate. One of the most significant objectives that memory institutions pursue, besides fulfilling the basic functions of custody and enhancement of cultural heritage, is to make digital representations of the objects they preserve accessible to the public to facilitate the knowledge and celebration of the heritage itself (Kelley & Wood, 2018) supporting scientific research and fostering education (Biagetti, 2016).

In the digitisation of cultural heritage, ontologies are increasingly used as fundamental tools to pursue semantic interoperability, conceptualising a domain and acting as mediators for the integrated search of digital objects managed in different repositories. For this reason, all systems should refer to the ICOM CIDOC-CRM standard – the most important and extensive ontology in the cultural heritage domain. The ontology aims to facilitate the exchange and integration of descriptions, information and documentation for scientific research between heterogeneous sources of cultural heritage: museum collections, archaeological sites, monuments and scientific documentation stored in archives and libraries (Doerr, 2003). Many international research projects have dealt with these issues (Meghini et al., 2016).

In art, it is interesting to mention the very high-resolution digital reproduction of paintings. Among others, the digitisation of the painting *Girl with a Pearl Earring* by Jan Vermeer allows us to admire every single brushstroke (Figure 2). It also opens up new scenarios and interpretations in the field of research. These digital artefacts include the highest resolution Gigapixel images that allow us to appreciate the paintings of the masters with extremely high levels of definition. The results are pretty different from the purposes of the author: from a work of art conceived by the artist, we move on to a work of art for the community, facilitating that stratifi-

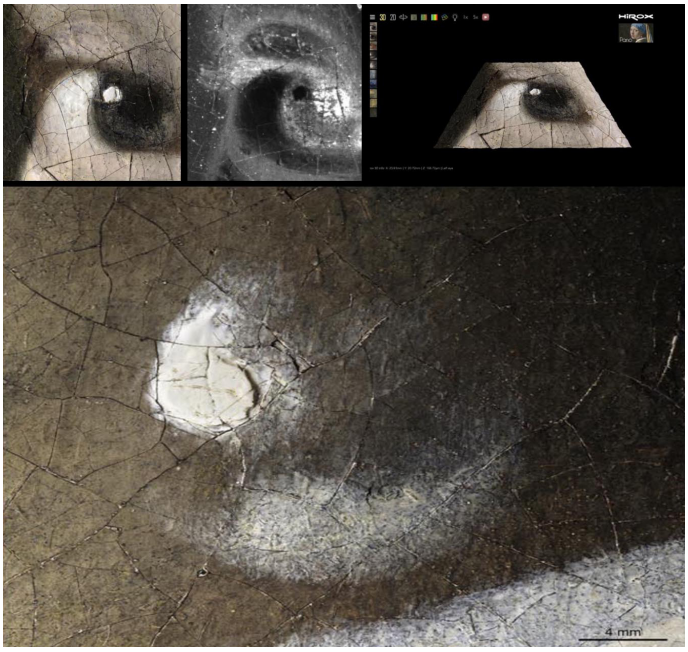

Fig. 2 M. Lo Turco, *High-resolution views of the painting Girl with a Pearl Earring by Jan Vermeer*, 2021, Digital composition. The composition allow to admire every single brushstroke of the painting but also opens up new scenarios and interpretations in the field of restoration research. Retrieved March, 31, 2021 from <http://hirox-europe.com/PEARL/3D/>

cation of information capable of defining different and less explored narratives and fruitions.

Regarding the reproduction of statues, the *Parian Marble, A Virtual Multimodal Museum* project, is worth mentioning. This case study concerns the cultural promotion and exploitation of the ancient quarries on the island of Paros in Greece, in a multi-layered project using modern technologies attempting to 'return' –albeit virtually– all the marble works that were created from the 7th to the 5th century BC to their place of origin. Through intensive experimentation with different emerging technological solutions in the three-dimensional documentation of cultural heritage assets as well as virtual and augmented reality, the project aims at a curatorial concept of breaking the restrictions of geography and time and involving European stakeholders, policymakers and citizens in the digitisation of heritage through virtual environments (Joannides et al., 2016). Regarding the fourth-dimension representation, it is interesting to describe the research work conducted by the VHLab of the ISPC - CNR In-

stitute, coordinated by Emanuel Demetrescu. The *Extended Matrix* is a formal language designed to keep track of virtual reconstruction processes. It is intended for archaeologists and heritage specialists to document their scientific activities robustly. The *Extended Matrix* makes it possible to record the sources used and the analysis and synthesis processes that led from scientific evidence to virtual reconstruction. Its adoption organises the 3D archaeological record so that the modelling steps are more fluid, transparent and scientifically complete and organised, in terms of temporal stratifications (Demetrescu & Fanini, 2017).

Moreover, replicas can lose or gain information, switching from 3D to 2D, or from 2D to 3D, possibly even including the temporal variable: famous are Van Gogh's paintings accessible in 3D or the *Monet Immersive Experience* exhibition organised in the Palazzina di Caccia di Stupinigi in 2019, proposing a sublimated experience at an unprecedented visual level, thanks to ultra-high-definition visors.

The scale factor of the replicas: reduction vs. full scale

As it is easy to imagine, physical reproductions may or may not be replicated at full scale (Sass & Oxman, 2006). In the digital domain, the conditions are different: repositories of 3D models allow to make some measurements on digital artefacts, section them, and decompose them semantically. In other cases, these artefacts are supplemented by the presence of a graphic scale or a silhouette that schematically integrates the model with the size of the human figure or parts of it, such as the hands, to deduce, albeit indirectly, the size of the real object.

A famous example of a small-scale wooden model is the 16th-century work of the architect Antonio da Sangallo. The model, of magnificent proportions, was built to illustrate the layout of the new San Pietro's Basilica to the new Pope Paolo III Farnese. With great attention to detail, the model was created as a tool for disseminating and illustrating the design idea (Bianchini, 2007).

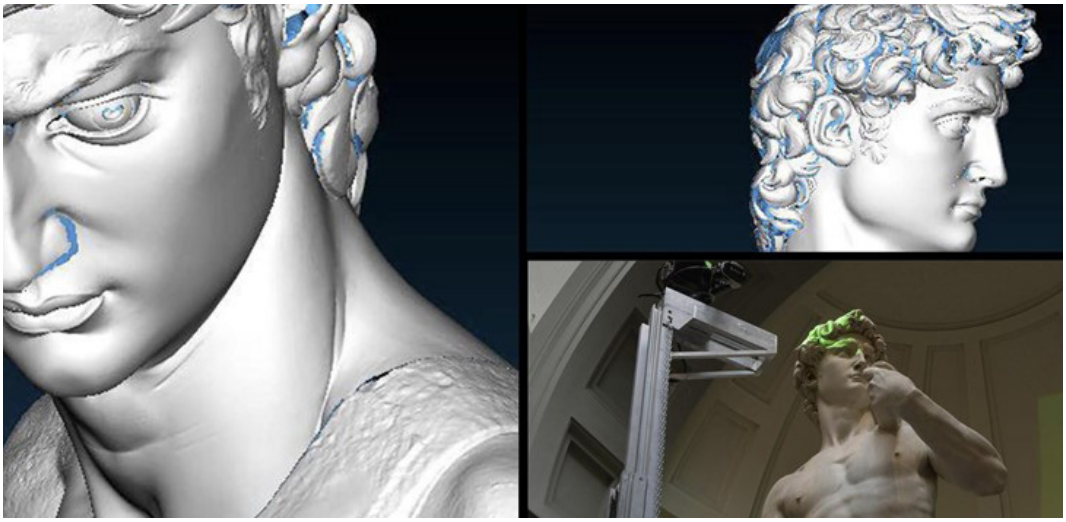

Fig. 3 M. Lo Turco, *The process of digital acquisition and 3D reconstruction of the Michelangelo's David*, 2021, Digital composition. From the project *Michelangelo's David* at Expo 2020 Dubai. Retrieved March, 31, 2021 from <https://italyexpo2020.it/memoria-e-futuro-il-david-di-michelangelo-a-expo-2020-dubai/>

The model was appreciated not only by designers as with it they could measure and visualise the proportions of their ideas[1] but also by clients who, not used to reading drawings, could visualise the architect's ideas in three dimensions.

The formal control of architecture in the study phase and the client's need to visualise it were not the only factors that led designers to rediscover the material model. Material models also helped designers to solve static and construction problems, as illustrated below.

A highly topical example is the project to digitise and replicate Michelangelo's *David* in real size through the work of a team of geomatics coordinated by Professor Grazia Tucci of the University of Florence (Figure 3). The work is divided into a sequence of phases ranging from the digitisation of the statue to its printing and the placement of the 'David's twin' in the Italian Pavilion at the Universal Exhibition scheduled for October 2021.

Scope: (some) ingredients, difficult to mix, not the whole recipe

This is probably the most articulated category and the richest in examples. Here, we cannot fail to mention the

famous fakes, copies of the originals that have fooled even the most scrupulous critics for years. Among the many, we should mention Michelangelo Buonarroti. He did not just limit himself to copying paintings by contemporary artists –such as the one he made to deceive his master Domenico Ghirlandaio– but he was also delighted, it seems several times, in making sculptures that were then put on the market as Greco-Roman originals. The most famous one is undoubtedly the *Sleeping Cupid*, now lost, which Buonarroti made for Lorenzo de Medici, Magnifico's cousin, around 1496. At the suggestion of the same client and perhaps without Michelangelo's knowledge, it is said that the statue was buried to give it an older appearance and then sold in Rome as an original piece from the Roman era.

In the field of painting, we can remember the famous Mark Landis, one of the best-known falsifiers in the United States, all the more so because he is technically 'unpunishable'. Landis did not sell but donated more than a hundred works of art, which he has faked, to the nation's museums. For making these donations, which appeared to be genuine, he used various identities, even disguising himself as a Jesuit priest. He admitted this himself, explaining that he gradually became addicted to the privileged treatment he received from museum staff. Landis' technique was incredibly simple: he chose the work to be reproduced, made a copy with a light table and then continued working by observing the photocopy of the original with quick strokes, exploiting what remained impressed in the memory. But the real trick of the artist lies in the meticulous reproduction of the signature because, as he said, 'if it is convincing enough, the painting is checked less carefully'.

Changing context drastically and moving back into the architectural field would be wrong to think that there was only one type of model. Brunelleschi and Alberti favoured models which, to ensure greater control of form, did not seduce the eye with decorative details or colours. Their models were, therefore, bare, and only the main elements were represented.

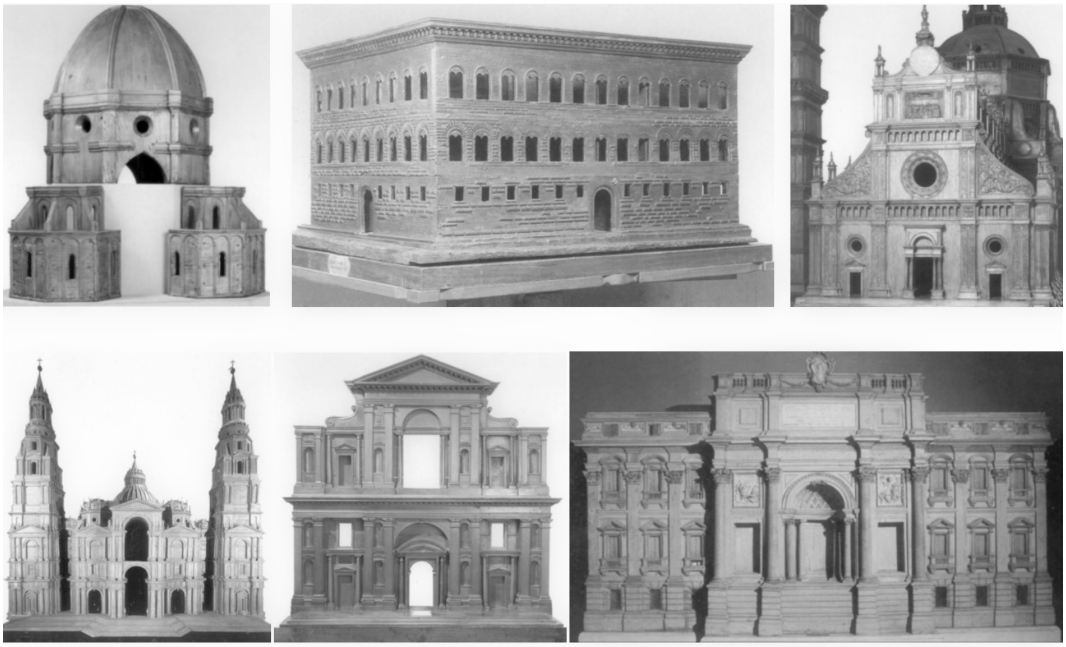

Fig. 4 M. Lo Turco, *A selection of some of the wooden models carefully classified by Barlozzini (2003, pp. 149-154)*, 2021, Digital composition. First row, from left to right: Filippo Brunelleschi, dome and abside of Santa Maria del Fiore, Florence, (probably between 1420 and 1452); Giuliano da Sangallo, façade of Palazzo Strozzi, Florence (1489-1490); Cristoforo Rocchi, Giovan Pietro Fugazza, Pavia cathedral, (probably between 1493 and 1526). Second row, from left to right: Antonio da Sangallo il Giovane, Basilica di San Pietro in Vaticano, (1539-1546); Prospero Sagari (il Clemente), façade of Reggio Emilia Cathedral, (1583); Nicola Salvi, Fontana di Trevi, Rome (1735).

On the contrary, models such as those of Sangallo il Giovane or the designers of the Baroque period had to be distinguished by their ability to represent even the smallest details (Figure 4).

Therefore, different models, as the research work of the historian Ludwig H. Heydenreich also points out (Pacciani, 1987), can be divided into three categories:

- experimental creative study model: used in the creative phase to fix the designer's ideas, characterised by approximate finishes and materials with a high degree of malleability.
- technical model for the building site: used to communicate with the workers the technical solutions to be adopted. They are usually partial models of the building but are very detailed.
- representative model that prefigures the reality in power: these are models used to communicate with the client. They are usually very detailed, representing in scale the entire building.

About the study models, we mention the famous rope and weights model used by Antoni Gaudì to calculate the load supported by each parabolic arch of the Sagrada Familia building in Barcelona. For Nervi (1935, model for Aviorimessa), it became a way to verify the form's stability and prototype prefabricated structural systems in iron-ore cement (Barazzetta, 2017).

A second and more recent example is the construction of the scale model of Brunelleschi's dome. The studies undertaken by Prof. Ricci had led to the formulation of a complex construction procedure, which was verified in 'theoretical' terms and tested from the point of view of craftsmanship. For this reason, the experiment of constructing a large-scale model (1:5) using small bricks ideally in scale (1:2.5) was devised. The construction technique was centred around adopting traditional ancient technologies, strictly identical to those used at the time of the Royal Dome's construction. The construction method formulated by Prof. Ricci made use of elementary tools used by Brunelleschi: the rope, the plumb line, the mobile partial ribs, hooks and brackets (Ricci, 2014).

The safeguarding, conservation and valorisation of tangible and intangible assets require a plurality of constantly integrated skills. The knowledge of design and construction methods and techniques is an indispensable fundamental asset to intervene with awareness on existing heritages. More and more, this knowledge, preserved in dedicated archives and library funds, is being organised and distributed on digital platforms (Novello & Bocconcino, 2018).

The Department of Structural, Building and Geotechnical Engineering (DISEG) of the Politecnico di Torino preserves an extensive collection of construction models: historical models used between 1865 and the end of the 19th century as teaching aids for the training of civil engineers students (Figure 5); the cultural richness of this repertory of models has prompted many studies and the preparation of the exhibition *L'arte di fabbricare– Giovanni Curioni e la nascita della Scienza delle*

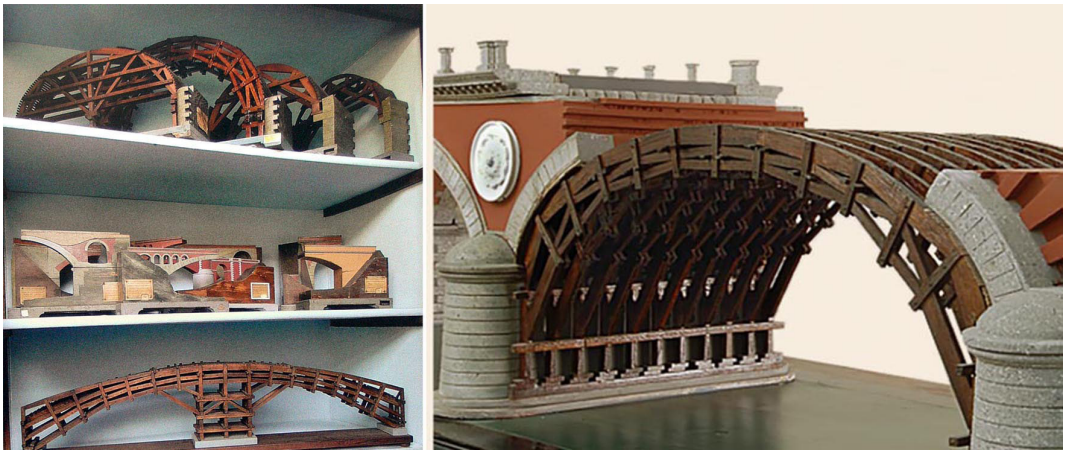

Fig. 5 M. Lo Turco, *Models for education purposes*, 2021, Digital composition. On the left, a collection of construction models, historical models used between 1865 and the end of the 19th century as teaching materials. On the right: a model of the Isabella Bridge, in Turin (1874). Retrieved March, 31, 2021 from < https://www.biblio.polito.it/eventi_culturali/2018/l_arte_di_fabbricare_giovanni_curioni_e_la_nascita_della_scienza_delle_costruzioni_alla_scuola_di_applicazione_per_gli_ingegneri_di_torino>

Costruzioni, hosted in the Corso Duca degli Abruzzi building between 2018 and 2019 (Novello & Bocconcino, 2020).

The art of copying, the legal one, is an indispensable tool for learning. Let's only think of the imitative drawings made in many drawing studios or the representations that schoolchildren produce during visits to museums in an attempt to grasp their secrets: light, colours, rules of perspective.

Digital invasions is a nationwide bottom-up project, unique in its innovation in digital, co-creative, inclusive and participatory cultural communication and dissemination.

Within these initiatives, the results of the *#DIGITALINVASIONS* 3D pilot project stand out. The project had been active since 2015 and involved the Museo Archeologico Regionale 'Antonio Salinas' in Palermo, the Museo Civico di Castello Ursino in Catania, and the 'Campanarazzu" archaeological site in Misterbianco in 2016. The project, aimed at the *in situ* acquisition of 3D models of artefacts, and museum collections, was carried out through the involvement of students from Catania and Palermo.

The 3D models of the collections were obtained through the application of SfM (Structure from Motion) techniques: the models with acceptable errors in the reconstruction of the surfaces' geometry were delivered to the relevant museums to enhance and disseminate the collections online.

The growing number of international 3D cultural heritage digitisation projects adopting crowdsourcing methodology has led to the development of a systematic operational methodology aimed at digitising museum collections or sites of historical and artistic significance understudy. This process demonstrates that the visitor can become a co-creator of museum digitisation, and is becoming an active part of the process (Handler Miller, 2008).

If well organised, this kind of policy would support museum realities in the actions of digitisation of collections, a decisive step in the process of Cultural Heritage preservation (Mandarano, 2019; Bonacini, 2011), with the conviction that the reuse of data and images of art through platforms connecting visitors, experts, scholars, enthusiasts, can activate the production of personalised content for the benefit of co-creative processes of cultural and economic value for all (Bonacini et al., 2017).

Geometry (plus) information

This category reflects on the digitisation processes oriented to the restitution of the geometric/dimensional/material aspects of the objects to explore more advanced functionalities of semantic enrichment for a new fruition. In the field of the metric survey, the objective is the digital reconstruction of the surveyed object congruently with the prefix levels of metric accuracy: the most recent Building Information Modeling methodologies applied to the Heritage field are providing useful indications to classify the graphic contents (LOG – Level of Geometry) and information (LOI – Level of Information) in a single database, consistently with the prescriptions of the current regulations. In this case, the digital copy of the surveyed artefact keeps track of the various data elements collected during the integrated survey experience: archival data, previous restoration work, stratigraphic consistency, analysis of degradation, description of the different methods of direct and indirect metric survey, to mention the main ones.

Fig. 6 M. Lo Turco, *Images from the temporary exhibition Invisible Archaeology*, 2021, Digital composition. The process of measuring, 3D reconstruction and printing of ancient Egyptian jewellery and the analysis of the remains contained in mummified animals from Ciccopiedi, 2019.

In the museum field, the most recent trends are moving towards creating copies of objects expressly designed to be complementary to the vision of the real object, constituting a valuable ground for the construction of effective and engaging narratives. There is a specific attempt to balance the passivity of the vision through an emotional approach that involves the visitor in an informative journey in which, despite the inactivity of the fruition, the visitor is somehow participating because emotionally involved (Gabellone, 2020, p. 167). A more recent example is the temporary exhibition *Invisible Archaeology* organised by the Fondazione Museo delle Antichità Egizie in Turin.

The use of digital copies, sometimes accompanied by their 3D prints, complement the viewing of the artefacts in the collection (Figure 6). Through the radiological scanning of the mummies, it was possible to acquire the metric information of the jewellery of the ancient Egyptians. Subsequently, 3D prints of the physical copies were produced

Fig. 7 M. Lo Turco, *Le Tre Grazie and its copy*, 2021, Digital Composition. On the left, *Le Tre Grazie* (1812-1816), in the Hermitage Museum, St Petersburg. On the right, *Le Tre Grazie* (1815-1817) held by the Victoria & Albert Museum, London.

and displayed next to the original artefacts, fully respecting their actual size and replicating their colours and materials by taking inspiration from similar objects found in other tombs (Ciccopiedi, 2019 pp. 54-59).

Consistency and replicability

This category is included in the variety of the examples described above. We would add only a brief reflection on the value that physical copies can represent: think of the copies of *Le Tre Grazie* that Antonio Canova remade for an English patron (Figure 7) who had greatly appreciated the first version of the work (now in the Hermitage in St. Petersburg) or the preparatory copies of some important statues, jealousy preserved and exhibited in the most important museums in the world; or the large number of Greek sculp-

tures exhibited in museums that are actually copied from the Roman era.

There were two ways of obtaining physical replicas: making a cast and using the reporting points technique. The original is covered with a protective substance, and the liquid plaster is poured into a mould to obtain a negative form. By subsequent pouring, 'positives' can be obtained again: duplicates, again in plaster, faithful to the original. A completely different method is the reporting points technique. The procedure consists of creating a spatial reference system around the statue to be copied (even simple plumb lines), measuring the coordinates of some points of the sculpture (the most prominent, at the beginning) and carrying them over to a block of marble equipped with a similar reference system.

This method is very ancient. Its origin can be traced back to the grids applied to stone blocks in the Egyptian and Greek archaic periods. These grids made it possible to reproduce sculptures with very similar proportions and postures. This method is sometimes accompanied by copying with casts: an original is duplicated in plaster and then the first copy is reproduced on marble.

A third method has been added in contemporary times: think of 3D printed copies of fossils that can be freely manipulated without the risk of defacing precious artefacts dating back millions of years. Much has been said about digitisation procedures and the possibility of integrating such virtual models with additional content. In the physical sphere, too, such processes can give rise to 'augmented' models. In this connection, we mention the workshop *Il Disegno per le mani* (Drawing for the hands) conducted under the scientific coordination of the professors Anna Marotta and Annalisa Dameri of the Department of Architecture and Design of the Politecnico di Torino, under the patronage of our section UICI (Italian Union of the Blind and Visually Impaired) of Turin. The exhibition displays the tactile sheets created by the students using the stereo plastic relief printing technique, commonly known as *Minolta*, consisting of fourteen tables describ-

ing the current conformation of the building. The fourteen sheets describe the current conformation of the building: from the plate that illustrates the location of the Castle in the urban fabric and its relationship with the river, the park, the hill, to the description of the articulation of the volumes and their composition; followed by the elevations and sections of the courtly area, of the towers, up to the detail of some main elements, such as the composition of the openings, the decorative apparatus of the courtly rooms. In this case, the classic two-dimensional drawing is augmented by the informative, physical component that allows the visually impaired to perceive the architecture with their hands.

Modality of fruition: in-person, remote, geo-referenced, in VR/MR/AR

Finally, the last categorisation refers to the fruition modes. The first one is the in-presence, referring to the more classic fruition of physical copies or digital artefacts that integrate the experience through the use of physical objects, in line with the most innovative experiences referable to the phygital heritage: the digital experience does not replace and filters the physical one, but on the contrary, it feeds its value even more and enriches the on-site experience (Petrelli et al., 2013). Particularly interesting and innovative is the relationship between the physical object and its (complementary) digital representation (Lo Turco, 2019) by fusing the digital skill of cultural learning, entertainment and storytelling with heritage artefacts, activity, or environment (Luigini & Panciroli, 2018). Heritage constitutes a fascinating field that can give meaning to new and dynamic digital experiences (Nofal et al., 2017).

Therefore, the digital transformation for a museum is a unique opportunity to create an ecosystem of socio-cultural relationships that extend without barriers between the physical space of the collections and the online space.

The ways of invading the digital sphere can also be divided according to different levels of immersiveness. According to

the geographer Edward Soja (1996), the "Firstspace" is understood as the physical environment, and the "Secondspace" is the layer of media images and representations (Soja, 1996). The "Thirdspace", therefore, is the simultaneous experience of these two spaces, to which the experience of Augmented Reality can be traced. Virtual Reality experiences can be traced back to "Secondspace", also through different levels of immersiveness. Third place also refers to those AR experiences in the territory, geo-referenced and mainly usable through smartphones or tablets (Kosari, & Amoori, 2018). Mixed Reality experiences can also be traced back to similar modalities: an example is the Kennin-ji museum in Kyoto, organiser of an entirely virtual exhibition: thanks to the Microsoft Hololens the visitor can see the folding screens of the *God of Wind* and the *God of Thunder* painted more than four centuries ago by Tawaraya Sotatsu, considered among the most ancient and sacred treasures of Japanese culture.

The exhibition, which took place in 2018 in both the Kennin-ji Temple and the Kyoto National Museum, gave a new light to the temple, bringing (virtually) in other works of art that cannot normally be admired together.

Thanks to the interesting and original narration and 3D guidance of a hologram depicting the Zen monk Asano-san, visitors had the opportunity to understand the historical and artistic context of ancient Japan, as to be involved in an immersive experience that, in a few minutes, transports the visitor to a time that no longer exists.

CONCLUSIONS

The essay critically reflects on some topics of extreme relevance, between false, fake and copy, trying to understand if in the contemporary age a copy can have a proper value compared to the authentic object. Technology evolves rapidly and at the same time, art changes itself and the criteria according to which it must be read. The

relationships that the artefact has with its author or with the historical period to which it belongs, do not seem to have the effectiveness of the past, as the contemporary meanings of authenticity and authorship have changed (Casarin, 2015).

The ongoing health emergency has required the cultural ecosystem to go off the rails, and in many cases, to adapt to alternative methods and languages to cross physical boundaries and enter people's homes. Thus, after the news of the closure, in a very short period, thanks to digital technology, websites and social channels were opened, strengthened and redesigned (*Youtube*, *Facebook*, *Instagram* is the most trendy, but watch out also for *LinkedIn* and *Pinterest*) to bring visits and tours, collections and workshops, stories and tales to people's homes.

While waiting for the openings, this particularly delicate moment for the museum institution can become a not-to-be-missed opportunity to show that it is not only a place for heritage conservation but a service to the global society and local communities without distinction as well as a natural cure to quarantine isolation. Virtual tours, open collections, digital exhibitions, guided tours, streaming video clips, workshops and remote games are the central answers that cultural institutions can propose, skilfully mixing different ingredients with high-quality results.

Museums must no longer be places where people only understand what they already know. Museums must acquire their prestige among the community for the values that the stories they contain. This is what Christian Greco, director of the Museo Egizio, likes to call biographies of objects (Greco, 2019) and which can even more easily be recounted and digitally returned to their original contexts, thanks to the communication capabilities and immediacy favoured by new technologies (Bonacini, 2020, p. 274).

Now, it is more necessary than ever to build a bridge between reality and imagination, finally understanding that even the emotional (and cognitive) value of a narrative, espe-

cially digital (Beale, 2018) should not be considered a secondary activity compared to others (Pietroni, 2019, pp. 1, 2). In a period in which the artistic value and the market value do not always coincide and, above all, that a judgment of falsity is not said to be forever, it is crucial to keep in mind the 'cultural value of the copy', whatever form it takes.

NOTES

1 "*debbo dire che molto frequentemente mi è venuto fatto di concepire opere in forme che a tuta prima mi parevano lodevolissime, mentre invece, una volta disegnate rivelavano errori, e gravissimi, proprio in quella parte che più mi era piaciuta; tornando poi di nuovo con la meditazione su quanto avevo disegnato, e misurandone le proporzioni, riconoscevo e deploravo la mia incuria; infine, avendo fabbricato i modelli, spesso, esaminandone partitamente gli elementi, mi accorgevo di essermi sbagliato anche sul numero*". L. B. Alberti, 1485, De re aedificatoria, Firenze. 1989, (libro IX, cap. XI, p. 478).

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