AISTHESIS

DISCOVERING ART WITH ALL THE SENSES

Museo Tattile Statale Omero

Supports and publishes studies and research on sensory perception and the accessibility of the cultural heritage

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Italian autonomous national museums and digital: an imperfect alliance as yet

Marta Paraventi - art historian, journalist, academic

On This journal has recently hosted a number of important contributions, like that from Christian Greco, the Director of the Egyptian Museum of Turin, on the relationship between museums and digital. Our intention is to continue to focus on what has become a subject of strategic importance by following up on the article on the use of digital in autonomous museums, published in the May 2021 issue of "Il Giornale dell'arte", and providing supplementary data and assessments.

As a result of the Prime Ministerial Decree no. 171 and subsequent additions, there are now **forty museums, archeological sites and places of major cultural interest which have been granted special autonomy.** They differ from other state-owned museums in enjoying **scientific, financial, budgetary and organizational autonomy.** The launch of the autonomous museums in 2014 was hailed as a groundbreaking move, in terms both of the overall independence conferred and the fact that each director was appointed from an international field. From the very outset, this procedure has at times aroused a disproportionate amount of interest and occasionally failed to fulfil the good intentions set out in the call for applicants, as emerges from a quantitative and qualitative analysis of the digital innovations carried out by the various directors.

Seven years on from the launch of autonomous museums, in the midst of a pandemic, the need arose for the Digital Observatory to **monitor**, not the overall performance of the museums and their directors – clearly the responsibility of the MIC's National Museums Directorate – but the extent and quality of their digital ventures: i.e. the degree to which these institutions are equipped with a digital programme capable of developing projects and relations which are not merely an extension of "ordinary" business transferred online, but conceived in and for an ecosystem which is totally digital. The Digital Observatory's task also arose as a result of MIC (the Italian Culture Ministry, formerly Mibact) adopting a **three-year plan for the Digitalization and Innovation of Museums** (2019) and commissioning a survey on museum visitors during the lockdown which makes it clear that

the visitors themselves appreciate the museums' digital dimension. A dimension which is not to be confused with online information about events and social media marketing.

Monitoring both the social media activity and the online services available through the autonomous museums' websites (online shop, newsletter, translations, app, catalogues of the collections), but focusing mainly on specifically digital enterprises, **the results are alarming**. With the exception of the occasional example of excellence and good management, the museums are demonstrably lagging behind the times and failing to fulfil their roles (or to justify the directors' monthly salaries which are considerably higher now than they were before 2014 when they averaged about 1,700 euros net - as the then Director of the Galleria Borghese in Rome, Anna Coliva, told the "Voce di New York" in 2015

Only 40% of museums have dedicated digital services and platforms.

According to published data, the museums which adopt digital educational services and dedicated platforms in a fully integrated way account for less than 40% of the total: a little over half have a translation, in English only, of their website; if 80% of autonomous museums offer online ticket sales, only 6% are equipped to sell publications, gifts and accessories via the web. Where the collections are concerned, it is true that in the case of 63% of museums they can be consulted digitally, but the situation is far from homogeneous; virtual tours are rare and apps are few and under-exploited.

At the same time, in June 2021, the Osservatorio Innovazione Digitale nei Beni e Attività Culturali (Digital Innovation Observatory for Cultural Heritage and Enterprises) of the Politecnico of Milan published a report on **Innovation in Italian Museums** (irrespective of ownership). In it, the Observatory's director, Eleonora Lorenzini, argued that while a certain degree of approximation in producing digital content was acceptable in the early stages of the pandemic, it was now essential to invest in ad hoc products and in the expertise necessary to create, manage and promote them – all of which presupposes a logical strategy, at least in the mid-term. Unfortunately, the institutions which have devised a plan which includes digital innovation are still in the minority: just 24%, exactly the same as a year ago.

Our intention is now to concentrate on the forty museums for two reasons: precisely because the autonomy granted to their directors allows them a free hand in pursuing

policies aimed at change and improvement, and because they are the focus of media attention inasmuch as they protect a heritage of global importance and represent a major turning point in national museum policy, brought about by the Italian Culture Minister, Dario Franceschini.

A goal still to be achieved: from informative site to digital access

An analysis of their websites shows that few autonomous museums have devised sites to operate alongside the site which provides information: a website, in other words, dedicated exclusively to accessing the museum digitally, with a complex and fully articulated schedule intended to showcase the museums' contents and collections by means of formats and languages which are intrinsically digital, thus encouraging a **broader, more inclusive and better inforrmed appreciation** of the museum entirely **in online mode**. Museums which have devised such websites are the **Musei reali di Torino** (Royal Museums of Turin) with their channel ". È reale"; the **Pinacoteca di Brera** (Brera Gallery) with "Brera Plus", which ranges from the digitalization of the artworks to the streaming of concerts and other events held at the museum; the **Parco Archeologico del Colosseo** (Colosseum Archeological Park) which has opened a section on its website entirely devoted to digital and called "Parco on line", offering a report on digital and social media ventures and a video window on the restoration of the Arch of Septimius Severus; the **Gallerie dell'Accademia di Firenze** (the Accademia Galleries in Florence) which have opened a dedicated section on their site, full of digital content including podcast-focus on masterpieces (Radio Accademia), virtual tours and online training courses.

Overall, only 37% of museums have made specific provision for **online educational services and activities**, and a closer analysis reveals clear differences from museum to museum. The range spans from the **Uffizi** in Florence - which has devised a fully-fledged, complex digital presentation, diversified in terms of contents, aims and tools - to museums which have implemented relatively few means of digital interaction with the public, like serial video narratives, "il museo si racconta" ("Getting to know the museum") of the **Galleria Nazionale delle Marche di Urbino** (National Gallery of the Marche Region in Urbino), or the classic video tours of the museum accompanied by the director, such as the **Castello di Miramare in Trieste**. And only rarely do these projects aim to involve the public in digital activities: notable exceptions are the venture by the **Gallerie dell'Accademia di Venezia** (the Accademia Galleries in Venice), "Mi porto a casa il

museo" ("I'll take the museum home"), and, among the wealth of activities on offer on the **Uffizi** site, "Aspettando Primavera: un girotondo agli Uffizi" ("Waiting for Spring: a merry-go-round at the Uffizi"), a virtual tour in various languages – Italian, English, French, Spanish, and Lis, the Italian sign language – which needs to be booked in advance, and "Fabbriche di Storie" ("Factories of Stories") in which twelve of the Uffizi's masterpieces are recounted, also by foreigners resident in Italy, who interweave their experiences with the history of the works in a way that touches on universal themes (the audio files are in Italian and in the mother tongue of the various contributors, including Arabic, Farsi, Mandarin, French and Spanish). As regards the Italian sign language, **Lis**, both **Muciv (the Museum of Civilizations) in Rome** and the **Uffizi in Florence** have made a series of videos which are available online.

50% of the museums are equipped with **APPS**, but only half of these museums (8 out of 18) provide instructions on downloading the app from the website. The app of the **Museo Real Bosco di Capodimonte** is well produced and particulary useful: it enhances the beautiful exhibition "Napoli, Napoli...di lava, porcellana e musica" by allowing the visitor to listen to the music specific to each section in the background.

Few museums (just over 20%) avail themselves of this tool and in some cases make (good) use of **Google Arts and Culture**, such as the **National Archeological Museum of Naples**, the **National Gallery of Modern Art in Rome** and the **Museo Real Bosco di Capodimonte**. Noteworthy among the **virtual tours** is the one devised by the **Musei Reali di Torino**, while the **Galleria Nazionale di Arte Antica di Roma** offers virtual tours of ongoing exhibitions. The **Gallerie Estensi di Modena** provide, not a virtual tour, but a thematic exhibition, enabling the user to choose artworks freely in the museum's **online database** and group them together in an itinerary to be followed through in person.

A few weeks ago, news arrived that the Ministery of Culture has put out an internationaal call for applicants for the post of Director of the Museum of Digital Art (MAD), not yet in existence but to be based in Milan. It is still not known what form it will take, but press reports describe a museum whose function will be to promote the best digital projects of Italian museums.

Hic est magister Franciscus cecus horganista de florentia…

Mariella Martelli - organist, harpsichordist, composer, graduate in history and conservation of the cultural heritage

> Francis of the Organs, who sees
>
> with the mind more than with corporeal light…
>
> Jacopo da Montepulciano, La Fimerodia

Blind Francis, Franciscus, Francesco degli Organi, Franciscus de Florentia, **"Hic est Magister Franciscus Cecus Horganista de florentia"** - it was thus that **Francesco Landini** was remembered: one of the most important Italian musicians of the XIV century Ars Nova, born in Fiesole, near Florence, around 1335 and died in Florence on Sunday, 2 September, 1397.

Cristoforo Landini, the famous humanist and Francesco Landini's great-nephew, claims that the family originated from Arezzo, though the name does not appear among the Landinian musical manuscripts.

Francesco Landini was the son of "Jacopo del Casentino, painter" (a "Giottesque" painter and member of the Corporation of Saint Luke, which represented painters and sculptors as well as other craftsmen). He was the brother of Matteo (like his father, a painter) and Nuccio, a musician, and his gifted associate.

According to the chronicler, Filippo Villani, **he lost his sight after contracting smallpox at a very early age** and from childhood began to sing, possibly with the **pueri cantores**, thanks to the tuition of the Benedictine nuns who conducted a thriving musical activity in the parish of Santa Felicità. At the time the Landini family dwelt in Vicolo del Pozzo Toscanelli in the nearby Santo Spirito district.

Landini was recognised as a highly distinguished singer, organist, organ builder, multi-instrumentalist, **inventor of the Syrena Syrenarum** (a particularly sweet-toned stringed instrument that accompanied the singing voice), as well as a composer of renown – to the point that in 1360 he was commissioned to write the madrigal "Una colomba candida e gentile" for the wedding of Isabella of Valois and Gian Galeazzo Visconti.

Among the primary sources testifying to such **variegated activity** are the "Ricordanze" (Chronicles) of the Monastero di Santa Trinità at Vallombrosa (Florence). On 26 May, 1361, the Benedictine monks made note of a payment for transporting an organ from the home of the twenty-six-year-old Landini to the monastery; payments continued until 1363 when Landini and his brother, Nuccio, were remunerated as organists (Nuccio was also mentioned as operating the organ bellows).

In 1365, **Landini became chaplain of the chapter house of the Basilica of San Lorenzo**. Consecrated in 393 AD by Saint Ambrose, it was the first Florentine basilica to have a College of Canons, and later became the official church of the Medici family. There he worked with Lorenzo di Masino (distinguished composer who set to music texts by Giovanni Boccaccio, Niccolò Soldanieri and Francesco Sacchetti), who introduced him to the leading Florentine versifiers of the day.

Lorenzo di Masino is believed to have died in 1372, and on 6 April 1373 the Chapter of San Lorenzo stipulated a notarial contract for Landini to succeed him: since Francesco was blind, the Chapter allocated 60 liras per annum to provide for his entire living expenses, describing him as "familiarem perpetuum".

In 1368, at the age of just 33, **Landini was proclaimed "Musicista coronatus"**: according to Villani, he received a laurel crown from the king of Cyprus, Pietro Lusignano, during the king's third visit to Venice under the dogeship of Andrea Contarini.

(1364, which has been suggested as a probable date for the ceremony in Venice, looks as if it can be ruled out because Petrarch was in the city at the time and makes no mention of a musical contest in his "Epistole").

In 1374, at the Convent of the Santissima Annunziata (of the Servite Order) in Florence, Landini is mentioned in an expense report penned by the musician friar and composer, Andrea dei Servi, (also known as Brother Andrea di Giovanni [?-1415] or "Brother Andrew of the Organs"): the sums disbursed were for the **building of an organ with pedal board**,

commissioned by the Father General, Brother Andrea da Faenza, at his own expense and built by Brother Domenico da Siena over a period of four and a half months.

Landini spent three days in the church supervising the two tuning operations required in putting the finishing touches to the organ, and the work was completed in time for the All Saints' Day celebrations that year.

A further "expense report" for 29 September 1379, drawn up by the same Brother Andea dei Servi, makes mention of a payment for **five motets, commissioned from Landini**. This information is important because research up to now has failed to unearth any sacred music by Landini.

In fact, we only have some examples of compositions by Landini which have been "stripped" of their secular texts and "reclothed", as it were, with a liturgical text: "Questa fanciulla, Amor, fallami pia" is a ballad by Landini (for voice and various instruments) which must have enjoyed considerable success, so much so that it was provided with a sacred text ("Agnus Dei"), preserved in the books of choral music at the parish church of Santa Maria Maggiore at Guardiagrele in the province of Chieti. Further examples are Landini's "Kyrie" (in Munich) and the organ bicinium by "Anonymous" (in the Bibliothèque Nationale, Paris).

He was also **the creator of a "cadenza",** of particular importance for the history of western polyphonic music: it consisted of a **special melodic formula,** placed in the middle of the piece, and also at the end, used for the first time in his ballad "Non avrà mai pietà" and quickly taken up by composers throughout Europe.

The texts, which he wrote himself, frequently resort to **senhal**, a rhetorical device typical of medieval poetry, used to disguise the recipent of the verses (e.g. Lena which recalls Maddalena).

Landini made extensive use of rhetorical figures, rendered musically with some specific and highly effective devices, to achieve an expressive balance between the text and the music – a clear example, ante litteram, of the well-known "madrigalism" effects of the sixteenth century. These rhetorical figures include: **Catabasis** (a falling melody to symbolize the fall of tears in conjunction with the word "Piangete" ("weep") – a much loved compositional topos and one used by great composers of a later date, such as Mozart in his famous motet "Ave Verum Corpus" at the word "perforatum"; **Contrarium** (the counter

movement of vocal parts to symbolize opposite feelings); **Parrhesia** (on the word "petra" – "stone" – Landini makes use of a hard, dissonant cluster of two adjoining notes, performed by two distinct vocal registers, to depict the hardness of heart of the loved one in refusing to return the poet's affection); **Suspiratio**, rendered musically by means of **Hoquetus** (the several voices of the polyphonic composition alternately sound and rest, to produce an effect evocative of sighing and uncertainty), while repeated beats are used in association with the words "sì d'amor per-cosso" ("so beaten by love").

Landini's work as an organ builder continued with a number of high profile commissions: in 1387, he was called upon to help with the construction of a **new organ for Santa Maria del Fiore in Florence.**

He died in 1397 at the age of 62 (leaving 300 florins for intercessory prayers) and Giovanni Mazzuoli succeeded him in his duties at the Chapter of the Church of San Lorenzo in Florence.

Landini's remains now lie in the southern aisle of the Church of San Lorenzo. His tombstone depicts him without the laurel crown, unlike the precious miniature in the **Squarcialupi Codex,** in the Biblioteca Medicea Laurenziana, which shows him wearing his laurel crown and holding his inseparable "organetto", known also as a "portative organ" (an aerophone instrument of small dimensions, capable of very expressive dynamic effects, which rests on the left leg, while the right hand plays the reduced keyboard and the left works the bellows sending air to the pipes).

The sumptuous **Squarcialupi Codex** was the property of "M° Antonio di Bartolomeo Schuarcialupi horganisto" of Santa Maria del Fiore, in the service of Lorenzo the Magnificent, and it has passed down to us, in addition to numerous compositions by Landini, this splendid **portrait of the composer** framed in the illuminated initial of his madrigal for three voices "Musica son che mi dolgo" (folio 246). Landini is depicted seated, with his left knee supporting the portative organ, painted in gold leaf, in the upper part of the page, and counterbalanced in the lower part of the manuscript by a female figure (perhaps representing Santa Cecilia, or an allegory of Music?) with her own organetto, also in gold leaf, in confirmation of the great honour conferred on Francesco Landini, the much revered, blind organist.

The temart project: methodologies and technologies for 3d printing of tactile reproduction

Maria Stella Busana – Professor of Roman Archeology, Cultural Heritage Department of the University of Padua and Francesca Farroni Gallo - archeologist specialized in museum accessibility

The TEMART Project (TEMART – Technologies and materials for artistic production, cultural heritage, furnishing, architectural and urban decor, and the design of the future) is a research project funded by the Veneto Region within the context of the Por-Fesr (2014-2020) proclamations, and which has involved the business world (four Innovative Regional Networks: 3M Net, the project leader, Venetian Cluster, Euteknos, Luce in Veneto) and research bodies through the Univeneto Foundation (Universities of Padua, Venice "Ca' Foscari", Verona, IUAV) with the aim of strengthening links between research and local enterprise.

The main part of the TEMART project has focused on **industrial case studies**.

The Cultural Heritage Department of the University of Padua, on the other hand, has conducted **groundbreaking research on archeological and artistic artefacts**. The work was carried out in conjunction with research groups from Padua University's Department of Industrial Engineering and from Verona University's Department of Computer Science and from the Department of Environmental Sciences, Computer Sciences and Statistics of Venice Ca' Foscari University, acting in synergy with three business consortiums: 3M Net, ECOR and Venetian Heritage.

The sub-project, promoted by the Cultural Heritage Department, coordinated by Professor Maria Stella Busana, was carried forward by Giovanna Baldissin, Giuseppe Salemi, Monica Salvadori, Emanuela Faresin, Francesca Farroni Gallo, Cecilia Rossi, Clelia Sbrolli e Luca Zamparo.

The main aim was the **validation of protocols** to obtain replicas with a view to exploiting the artefacts to the full: a) a fairly mechanical reproduction for use by everybody, and b) a reproduction for use by people with visual impairments.

Hence the focus of the project was on **digital surveys through scanning** and **3D print reproduction** of a number of artefacts which differed in terms of technical and material characteristics but were alike in their considerable formal and chromatic complexity.

The availability of 3D reproductions actually facilitates the temporary loan of the originals or the display of artefacts housed elsewhere, and enables the creation of inclusive tactile routes.

Though aware that direct contact with an original work of art or an archeological artefact is undoubtedly the more meaningful experience, the exploration of replicas through touch is also an excellent opportunity to discover the work, especially for the visually impaired.

In order to contribute to the debate on an extremely topical theme, and to be guided in the methodological and technological decisions pertaining to the TEMART project, two pieces of research were planned right from the outset. They were conducted by Francesca Farroni Gallo and Clelia Sbrolli and designed to explore the specific needs of the users of the reproductions: on the one hand, a survey of the practices adopted in museums in Italy and abroad, paying attention also to the public's response and to any problems which emerged; on the other hand, tactile tests on the two series of casts of the Donatello reliefs exhibited at the Museo Antoniano of the Basilica del Santo in Padua, with the participation of the Italian Union for the Blind and Visually Impaired of Padua.

The survey enabled us to examine 55 museums with tactile itineraries, 44 in Italy and 11 abroad, and to specifically classify them. What emerged was a considerable variety of approaches which can be grouped into four categories:

- itineraries with original works (mainly statuary and ceramics)
- tactile stations with reproductions or casts, adopting a range of methods to highlight the different concepts to be conveyed
- itineraries with reworkings of the artworks to make them accessible to people with visual impairments (mainly tactile panels of paintings)
- mixed itineraries, including original artworks and reproductions/casts or reworkings.

The sample of foreign museums, although limited, included 6 museums which had opted for itineraries with reproductions and casts, 4 with originals and reproductions, and only 1 with reworkings of the artworks.

The Italian situation is different: 11 museums provide originals, 13 have a mixed itinerary with originals and casts, 10 offer a route with reworkings of the artworks, 8 museums have devised a tactile itinerary with reproductions and casts, while only 2 offer routes with just reworkings of the artworks. The reproductions are usually created using 3D printing and manual finishing techniques to obtain replicas which are as realistic as possible, not least to the touch.

The choice of one type of itinerary rather than another is often dictated by the museum's permanent collection: in Italy the high percentage of tactile access to the originals is partly determined by by the predominance of **statue collections**; **painting collections** require reproductions capable of decodifying a pictorial language inaccessible to the visually impaired.

A recent project in the Veneto Region may serve as an example.

In 2019, as part of the "Antenati Altinati" exhibition, the National Museum and Archeological Area of Altino and the Associazione Lapis carried out a project entitled **"Tocchiamoli con mano"** (Let's touch them with our hands"). Within the exhibition area, the use of part of the original Roman funerary monuments, together with a "tactile panel" reproducing a Roman funerary relief, meant that it was possible to organize monthly visits and workshops for people with visual impairments, temporarily blocked due to the pandemic.

The experience of the tactile tests organized with members of the Padua branch of UICI (Italian Union for the Blind and Visually Impaired), while highlighting the difficulty of drawing up common guidelines, due both to the exploratory capacities of each member and the different materials used for the replicas, provided information essential to taking informed decisions about the project.

This experience enabled us to test the clarity of the historical casts, which turned out to be greater if supported by an initial explanation and/or by simplified tactile panels, and to realize that reproductions on a scale of 1:1 were preferable, possibly supplemented with didactic supports, detail enlargements or simplified versions. It also became clear that it

was more important for the reproduction to be made in materials which are pleasant to touch than in the original material, though the original matrial can be present in the form of a small block to make the experience more complete.

As regards **accessibility**, the TEMART project focused specifically on one case study: the bronze relief panel of the Dead Christ, made by Donatello around the middle of the fifteenth century and now placed on the high altar of the Basilica del Santo in Padua. The choice fell on this particular work becuse of its exceptional artistic merit and because of the difficulty of fully appreciating it since the altar is not accessible to the public.

In the light of preliminary research into the condition of the panel, and following a visit with Padua UICI members, the working party decided to proceed with a **digital survey and subsequent 3D, 1:1 scale, print of the panel in different materials**, as well as producing **a detail on an enlarged scale**. Experiments were carried out at the same time with different surface treatments, with a view to achieving results which were both hygenic and pleasant to the touch.

Specifically, the **panel of the Dead Christ** was obtained by using three different technologies and obtaining three-dimensional models with different characteristics: **laser blade scanning**, performed by Ecor International; **structured light scanning**, carried out by the Cultural Heritage Department of the University of Padua, which obtained the most complete survey and the one especially suitable for three-dimensional, physical reproductions; and **conoscopic holography microprofilometry**, using a prototype from the Department of Computer Sciences of Verona University which proved effective in acquiring details and assessing the state of conservation of the panel.

The processed files were used to create 1:1 scale prototypes in both metallic and polymeric materials and to assess the technologies to be used in the surface treatment stages, such as the varnishing of the polymetric reproductions and the finishing of the metallic ones.

The scanning carried out with a structured light scanner has been described by Giuseppe Salemi and Emanuela Faresin in an article due for publication in the review "Il Santo", "Percorsi tattili per i beni archeologici e artistici in Italia e all'estero: il progetto TEMART e il Cristo passo di Donatello" ("Tactile routes for the artistic and archeological heritage in Italy and abroad: the TEMART project and Donatello's Dead Christ"). This technique enabled

us to acquire data by projecting onto the object patterns of light which, by changing according to the morphology of the panel's surface, made it possible to determine a trio of coordinates x, y, z, where z is the distance of the point from the instrument. During the scanning, the chromatic information is also recorded, making possible a very high resolution, photo-realistic, 3D model, which can be used for various purposes and reworkings.

As explained by Nicolò De Marchi in the above-mentioned work, the subsequent printing involves first the transformation from real to digital and then again to tangible. The risk is that, in moving from one stage to the next, some details of the work may be lost or rendered without the necessary faithfulness to the original. The 3D relief file is divided into planar sections in an operation known as "slicing", where the thickness of the sections is determined by the capacity of the system which effects the slicing: the more accurate the printer, the thinner the strata. Once the printing is finished, a number of operations are required to clean the surfaces, remove the support structures, or assemble the various parts.

To reproduce the Dead Christ, the Industrial Engineering Department of Padua University decided to use Polyjet technology, which is comparable in terms of function to two-dimensional inkjet printing. Similar to normal printers, **Polyjet technology** uses small nozzles to spray tiny droplets of polymer to form the first layer. The operation is repeated each time to create successive layers of polymer. The material solidifies layer by layer under UV light. This technology requires a support to hold up the geometry of the print before the reproduction is complete. Polyject technology makes use of a gelatinous support which can be removed with a simple jet of water once the reproduction is finished.

The most critical issue was the size of the panel, too large to be produced with a single print of the machine in question. Careful research work resulted in the panel being printed in several sections and only later joined together along lines which were already present in the work, such as the drapery or the outlines of the main figures. This solution made it possible to disguise the joins between the various parts to the point that they are all but imperceptible.

Additional printouts were made by the Computer Science Department of Verona University and Ecor.

Venetian Cluster then ran positive and negative samples to test the feasibility of mass reproduction based on industrial products.

The procedures carried out as part of the TEMART project demonstrate how an interdisciplinary approach makes it possible to test different methodologies and technical options so as to identify the best solutions for making 3D reproductions of cultural heritage artefacts to be enjoyed by people with visual impairments.

Si auspica di poter realizzare in futuro test di verifica finale dei prototipi con i partecipanti dell'Unione ciechi e ipovedenti di Padova della prima visita, non attuati a causa dell'emergenza sanitaria, per poter capire l'effettiva bontà delle riproduzioni realizzate e quali di queste offrono i risultati migliori, al fine di individuare, sempre più nel dettaglio, un **protocollo applicativo** utile alla realizzazione di **riproduzioni accessibili dei beni culturali**.

It is hoped that it will be possible in future to carry out final tests on the prototypes with the members of the Padova branch of the Union of the Blind and Visually Impaired who made the initial visit. So far the tests have not been conducted because of the pandemic, but they will prove extremely helpful in understanding the effective usefulness of the reproductions and identifying those which offer the best results. That feedback will allow us to devise, in ever greater detail, an **application protocol** for creating **accessible reproductions of items of our cultural heritage.**

Aisthesis. Discovering art in every sense