INTERNATIONAL CONFERENCE

IMMATERIALITIES

Museums between real and digital

Museo Egizio, Turin

28th November - 1st December 2023

Abstracts

28TH NOVEMBER 2023

IM/MATERIAL – Chair: Christian Greco

Resilience and fragility of matter.
Guido Tonelli (CERN)

The awareness of our fragility as human beings dates back to the dawn of time. That is why, from the very beginning, humankind has engraved signs of its vision of the world in the most enduring and persistent material forms – from the chipped flints of the earliest double-faced stones to the granite sculptures of the great Egyptian civilisation. But no material is eternal. Without proper care, even the most solid artefacts risk decay and ruin. It is the inescapable laws of physics that make us discover the intrinsic fragility of all material forms.

Why Thot matters so much for AI?
Maurizio Ferraris (Università di Torino)

What unites Thot with artificial intelligence? The fact that the latter is a gift from Thot. Without writing and the ability to record ideas, the journey from the pyramids to ChatGPT would not have developed within a few millennia. Starting with Plato's Phaedrus, in which, as we know, Socrates imagines a dialogue between Pharaoh Thamus and Thot, and Thamus condemns writing as a threat to natural intelligence. I will show that Socrates and the Pharaoh are wrong. Not only does writing not threaten natural intelligence, but it strengthens it; it enables that prosthesis of natural intelligence, which is artificial intelligence.

Spirits in the material world:
Archaeologists and the immaterial side of history
Andrea Augenti (Università di Bologna)

In the course of their fieldwork and research, archaeologists use to face especially some aspects of the past. Historical moments and historical contexts do not always leave traces in the archaeological record. We can enter or excavate a grave, but we will rarely recover a complete archaeological record of the funeral that was celebrated before (including choirs, preaching, feasting, smells and so on). Therefore, archaeologists need to find new and different ways to include what is lacking from the essential archaeological record in their narratives. One of the main goals in the future of this discipline is to communicate a more complete vision of the events of the past, even if it is a conjectural one.

Artifacts and their relations in the present, between the material and digital.
David Pantalony (Ingenium Canada)

Throughout the existence of an object, it will encounter many people, places, and things; it will leave contexts, and enter and create new ones. The provenance of an object is vastly extended and problematised when we probe its components and basic materials. Anthropologist Anita Herle has used the phrase "relational objects" to describe how objects have a history of relations that define them and how they can generate meaningful relations in the present. What does this mean for museum practices (i.e. research, display, education and acquisition)? How does this relational approach shape how we store, access, and share objects in the digital realm? In this paper, I consider a case study from the field of historic scientific instruments, a world seemingly distant from Egyptian artifacts. By taking this departure, I hope to create a fruitful dialogue between our fields at the level of objects and their biography.
Over a decade ago, I collected a "Coincidence Mixer" from a 1960s cosmic ray observatory at the Arctic - Aurora College in Inuvik, Northwest Territories. Basically, scientists used this precision electronic instrument to process high-energy particles bombarding the earth. Since acquiring this object, its research file has continued to grow through diversifying documentation, collection practices, and connections. As a museum artifact, the Mixer reveals an evolving approach to scientific instruments as part of, and gaining new meaning and value within complex material, archival, digital, geographic, and social relations – including in the present – and not simply as end products of history on a storage shelf. This electronic instrument was at first a complex migrant object in Inuvik, bringing with it know-how, concepts, and materials from early atomic physics in Canada, France, Germany, the UK, the United States, and Italy. However, for most of its existence, the Mixer was located on Indigenous Gwich'in and Inuvialuit territory, an understudied and increasingly relevant part of its biography. It was part of a deeper tradition of colonial and extractivist approaches in Western science – extraction of materials, knowledge, and data transported and used elsewhere. At the same time, the Mixer quietly accumulated local relations in Inuvik and is now in our museum storage, outside the boundaries of its original scientific network. A critical awareness of this history forces us to explore and understand the Mixer's invisible past and its more recent significant shift in function from scientific instrument to cultural artifact. Earlier this year, it was a background influence in the creation of a safe-keeping agreement with Margaret Nazon, a Gwich'in artist who went to school near the Inuvik observatory. In this paper, I explore these dynamic connections through the Mixer's material culture and biographical journey. I will draw on other case studies in our collection to illustrate a changing conception of scientific objects as points in a sea of relations and what this means for research, collection databases, and museum practice.

Egyptian Archaeology "at the Laptop's Edge".
In/tangible contexts in archaeological and museum practices.
Paolo Del Vesco (Museo Egizio)

The application of digital technologies to archaeology has been constantly growing. Topics pertaining to the new field of "digital archaeology" are published and discussed in specific scholarly journals and books and find more and more space online; even institutes of digital archaeology have been founded, and many universities offer programs in this field. The spread of digital technologies has, of course, also affected Egyptian archaeology in many ways.
How has this small revolution changed archaeological fieldwork in Egypt? Are there also downsides connected to these developments to be expected in the future or already being experienced? And how, on the other hand, are new technologies impacting museums and the dissemination of the results of Egyptian archaeology to a wider audience? Drawing on fieldwork experience in Egypt and museum experience in Italy, the paper will discuss how digital technologies are drastically changing (not always in positive ways) the excavation, interpretation, and dissemination of ancient Egypt.

Ethnographic approaches to material culture.
Of buildings and digital archives.
Luca Ciabarri (Università degli Studi di Milano)

The paper begins by presenting a few major anthropological perspectives on material culture, in which the latter is no longer seen as a mere instrumental apparatus but potentially plays a transformative role in men's actions and ideas. This discussion develops by focusing first on Nancy Munn's widely commented assertion according to which objects and "men are mutually agents of each other's definition of value", thus placing objects in a circular and intimate connection with people within specific societies. The paper then shows how these advancements in the anthropological theory of material culture have been applied to expanding fields of analysis, as far as to inform current reflections on infrastructures. An ethnographic case is shortly presented here, drawing on my field research, relating to the persistent constitutive dialogue between men and buildings in a Somaliland city undergoing reconstruction after war and institutional collapse. Such dialogue not only attests to how the values of postwar reconstruction are incorporated into and expressed by the urban landscape but also to how buildings contribute to shape horizons of action, which, though literally rooted in the soil, also refer to the elsewhere and to mobility practices. In fact, postwar urban landscape combines a new political economy in which migration and transnational connections have become pivotal for people's livelihood with a parallel restructuring of the social values and the local imaginaries of social mobility. Materiality here constructs its meanings not from mere evidence but through subtle forms of visibility and invisibility. In a second section, the paper draws on the notion of infrastructure and related ideas of affordance/potentiality and connectivity to introduce a second ethnographic case related to processes of co-construction of digital archives bearing documentation of the great Somali war-migration. Here, reflections on material culture are pushed to their opposites. On the one side, the idea of working with already made (though silent, partial, concealing, etc.) archives typical of the work of historians or archaeologists is contrasted with a reflection on the making of archives as infrastructures of communication through ethnographic research. I will argue in this respect that in the constant reconfiguration of both archives, "already-made" or "in-the-making", the two research experiences can feed each other and lead to mutual increases of knowledge. On the other side, the very notion of materiality is contrasted with the one of immateriality to show their differences as well as their inextricable connection; obviously, digital and online infrastructures imply materiality, but how can the notion of evidence, visibility/invisibility and connection, analysed with respect to material elements, be understood in relation to immaterial infrastructures?

Design for resilience: Making the future we leave behind.
Stuart Walker (Manchester Metropolitan University)

In this short talk I look at assumptions that underpin our contemporary culture; assumptions that are rapidly destroying the natural world and creating unconscionable social inequities. Key premises of this worldview are considered, and especially its missing ingredients, which have led to such harmful ways of living. This dominant worldview is not just out of balance with age-old wisdom teachings and the important human values they foster but also, as our research in the US, the UK, and China has revealed, with traditional forms of material culture that manifest those values through local materials, good work, and deep, placed-based knowledge. The talk will be illustrated with numerous precedents that have shown themselves to be resilient over centuries, if not millennia, and which span home, food, culture, play *and* spirit*. The precedents offer profound insights into what* design for resilience *means in practice and culminate in* Ten Principles of Design for Resilience.

I'm/material.
Enrico Giannichedda (Università Cattolica di Milano)

The topicality of the themes proposed in the five sessions compels one to think cross-culturally about what, in its entirety, I would call material culture. The title of my contribution, however, is intended to draw attention to one aspect, and, ironically, I have changed the opposition between immaterial and material to "I'm materialites". I am a materialist, and, in my opinion, museums need to be more materialistic than they already are. This is a position that may appear rearguard but which I consider to be topical, especially when we are talking about digitisation, virtualisation, and the like. Materiality is topical and indispensable because it allows us

to study past and infinite immaterialities, from knowledge of the physical world to individual and collective knowledge, from natural traits that can be schematised into mineral, vegetable, animal (and artificial) to knowledge related to workability. Where workability in every single situation cannot be reduced to technical gestures, but means reasoning what knowledge there is about the durability of materials over time, knowledge about functional efficacy, the communicative performance of certain processes and, therefore, style and aesthetics, but also knowledge concerning the management of the territory and relations with others. In this way, the tangible, measurable, analysable, sectionable and quantifiable can inform of the intangible. Inform what people thought, sometimes individually and more often societally, what they told themselves and, in exceptional cases, even what they told their gods and posterity. Much can be said about this, but just think of the fact that the choice of materials is an indication of what the perception was, not only of social relations but of aspects that are difficult to describe in words. First of all, what was the perception and idea of time itself?

Today, adopting a perspective that I call materialist for simplicity's sake has several consequences. For example, it is not enough to recognise as unsatisfactory the approach of the old archaeology that studied mainly works of art, in many cases artistic handicrafts or objects that were considered exceptional only because they were rarely preserved. The same risk is run by research that reasons on the agency of objects or objects with particular lives without reasoning about habitus. Habitus is understood as significance in the historical context of origin or, if you like, familiarity or habit of people with certain artefacts and what they determined. Habitus, unlike agency, in fact, imposes the quantitative study of materials, and here the objects on display in the Egyptian Museum's gallery dedicated to material culture come to mind. Objects in quantity, all the same and all singularly different, which collectively inform of typical situations (the types we adopt in our classifications) and variants that open up important informative windows if recognised as such.

In museums of the 20th century, showcases cluttered with exhibits were a feature of the old layouts, which were later overcome by moving many objects into storage and creating didactic and informative displays. Panels in which, however, one almost never does what one would propose to a colleague. Panels tell a story or define a work and contextualise it. It is rarely suggested to look at, for example, a trace of workmanship, the formal particularities that inform the period, the very substance of the object that also testifies to choices in relation to the territory or to having been associated with others both similar and different. In many cases, the visitor is offered the solution, often a narrative and sweetened one. They are not normally presented with the problems of ancient objects but instead with their material characteristics. In fact, in museums, one never, or almost never, finds tables and graphs, macro photos, and chemical formulas that would oblige one to pay closer attention to ancient objects. Addressing materiality would highlight how the perception of moderns modern people is radically different from that of times past. Just as it would be evident that only materiality, if preserved, can offer future possibilities to the immateriality of modern peoples (and thus to research, analysis and sharing activities), obviously impossible from plaster, 3D, and virtual replicas.

In this situation, any analysis, digitalisation, and virtualisation are welcome. However, I believe we must recognise that, as with the old panels, we are still dealing with the author's proposals, which must not replace the materiality of things that incorporate a great deal of immateriality and can be analysed with new methods in the future. Materiality, in my opinion, is the heritage of museums and an indispensable instrument of knowledge.

29TH NOVEMBER 2023

IN/VISIBLE – Chair: Willeke Wendrik

Looking back, looking forward: materials science window on cultural heritage.

Admir Masic (Massachusetts Institute of Technology)

While much of the research into archaeological materials is for historical and preservation purposes, some studies are starting to approach such research with durability in mind. The research objectives in this context are to acquire a fundamental understanding of the underlying physical and chemical mechanisms responsible for the remarkable resiliency of ancient engineering materials. We maintain that ancient material processing technologies are a powerful source of inspiration for innovative design of modern functional materials with extraordinary mechanical, structural, and chemical properties. The core feature of our interest in ancient materials is their enduring behavior over long temporal scales, as a result of natural and/or cultural selection. Such utilization of ancient insights to produce durable materials can be generalized to any type of archaeological material including ancient alloys, glasses or pigments. Egyptian blue, known as the oldest synthetic pigment, is a prime example of such durable material. Besides its durability, Egyptian blue is famous for the near infrared photoluminescence properties of its main ingredient, cuprorivaite. These properties are currently being intensively studied for applications including solar cell improvement. One of the best examples of a long-lasting ancient material is Roman concrete. The understanding of underlying mechanisms responsible for its resilience would significantly impact the quality of our modern cement-based solutions. This talk weaves together history, ancient materials technologies, and modern science and engineering, to describe how we can harness the remarkable properties of the ancient materials in designing sustainable modern solutions.

Color representation in epigraphic documentation.
Krisztián Vértes (Museo Egizio)

With emerging documentation techniques, such as digital photography and – more recently – photogrammetry – it is finally possible to accurately record every inch on any surface at a micro-granular level. Therefore, today, most epigraphic practices are designed to provide the necessary synthesis of decorative elements rather than aiming for a faithful representation of the original context, including its paint scheme. In this lecture, I'd like to revisit the concept of colour documentation to offer several methods, each answering various data-driven problems related to how we perceive and translate ancient Egyptian painted remains. I want to start with the most common case, documenting wall scenes, where the painted details and the original hues are relatively well preserved. In such instances, colour photography can deliver all colour information, while epigraphic documentation is aimed to faithfully represent the painted outlines, eliminating interrupting elements, such as damaged areas and soot. Nonetheless, as demonstrated through several visual examples of a unique technique, colour representation can still play a prominent role, attributing each primary colour with a dotted greyscale pattern. Indicating colour on drawings becomes even more rewarding when dealing with fragmentary material, as is often the case with tomb documentation. While the line drawing identifies the main elements of the scene, providing essential information on a macro level, ultimately, colour coding makes these details an integral part of the composition. But what happens when colour details are not that well preserved? The colour code system, with its homogeneous greyscale panels developed for tombs, fails to properly indicate sporadic traces, further complicated by the lack of definite outlines.
A more appropriate greyscale texturing technique can be developed as a resolution, reinforcing the remaining pigment traces while eliminating most background noise. The power of this technique is validated through many examples on a wide range of visual interpretations, including a diverse range of artifacts from Abydos and traces of a Roman fresco at Luxor temple. Especially when looking at the fresco representations, one can easily get absorbed by the immense amount of colour data presented in these drawings, even with the added simplification of the greyscale colour scheme.
Although treating their material slightly differently, all these projects deal with colour by replacing the original hues with a simplified system, trusting colour photography to capture the actual colour values. But what happens when there is almost nothing left to photograph? What happens when colour traces are so sporadic and faint that no digital photo enhancement can make sense of the data they represent?! When documenting small objects in Abydos, I started experimenting with a method that would allow me to indicate extreme details of precious stones selectively, expanding on the more objective approach of colour photography. In this regard, good results could be achieved by creating enhanced colour pencil drawings on matte acetate. This technique, a cross-hatched texturing, mixing selected hues complementing the individual colour pencil lines applied to record the paint details, was expanded to specific weathered wall fragments with pigment traces. This mix of techniques reflects the ancient Egyptian painting procedure, wherein large colour panels were set down first, and fine details were added later, often working with different colour palettes. Moreover, this flexible texturing technique accentuates well-preserved areas while making less definite suggestions in poorly preserved sections. I want to dedicate the last segment of my paper to the digital extension of said technique, applied to the temple of Amun sr-s.t at Medinet Habu, where the wall scenes were comprehensively altered over the course of its long history, resulting in multiple layers of painted layers populating the same surface. Applying digital colour texturing techniques over these paint traces helped tremendously in visualising, contextualising, and separating the colour information of each sequencing stage. Since this project hasn't yet been completed, I'd like to keep the dialogue about colour representation open. However, what I can provide as my conclusion is that visual documentation, as a record-keeping process, is never objective. To stay relevant with epigraphic representation, we must be inventive and use the available toolsets to their maximum. There is no definite method that is above all, and paint representation, just like any other epigraphic challenge, will always be the subject of debate.

Beyond the visible: Uncovering the materiality of ancient objects through X-rays.
Francesco Paolo Romano, Claudia Caliri, Costanza Miliani, Danilo Paolo Pavone (ISPC-CNR Catania)

The XRAYLab group of the Institute of Heritage Science (ISPC-CNR) in Catania, Italy, is a specialised research group that develops novel mobile X-ray instruments for the non-invasive investigation of tangible cultural heritage. Our application area mainly focuses on the study of painted objects, specifically pigment use, artistic process, lost polychromies, and pigment degradation. Nowadays, X-ray technologies are well-established for the investigation of paintings because they are non-destructive, well-suited for materials identification, and have a penetration capability that enables the investigation of objects beyond their visible surface. Additionally, they are typically implemented in mobile configurations, allowing the analysis of cultural objects in their original location without the need to remove them for laboratory analysis. This is particularly important for fragile or immovable objects, such as murals, sculptures, and archaeological artifacts. In recent years, our group has introduced several novel advanced X-ray imaging methodologies for painting investigation in the framework of research projects aimed to strengthen the analytical capabilities of the European Infrastructure for the Heritage Science (E-RIHS), where XRAYLab operates as a node of the MOLAB platform. Many efforts have been applied to combine complementary X-ray imaging techniques in a holistic approach, providing more comprehensive information on the materials investigated. We use different modalities of the more general XRF

technique: i) the MA-XRF fast scanning for investigating large dimension artworks and providing the elemental distribution images of the pigment materials in the support, ii) MA-XRD imaging allowing, through the mineral phases distribution images, a pigment-specific analysis, and the identification of degradation products; iii) a 3D mapping with confocal XRF for better elucidating the pictorial stratigraphy.
In this presentation, we will discuss the investigation of paintings at different scale lengths (from the micro-to the macro-scale), different geometries (2D and 3D painted objects), and different painting techniques on different pictorial supports. We will compare results from the investigation of paintings on wood from the objects in the Tomb of Kha and Merit at the Museo Egizio Torino with the ones obtained from the investigation of the Pitsa Panels at the National Archeological Museums of Athens, highlighting the differences and similarities in the use of pigments in different historical periods and how our instruments can contribute to better elucidating the pictorial composition even in cases where it is severely degraded due to the burial environment. The same approach was also used in investigating the lost polychromies in archaeological papyri, such as the rare Satyricon from the Museo Egizio Torino and the strongly degraded Herculaneum unrolled fragments. We will also present results from three-dimensional painted objects (i.e., sculptures or pottery), where the investigation is complex and requires an advanced measurement approach.
We will summarise the results from the investigation of the Ostraka from the Museo Egizio Torino to the more complex investigation of the Cycladic figurines and sculptures at the Museum of the Cycladic Art in Athens. Finally, we will show the capability of our techniques in analysing the painting materials in iconic wall paintings, namely the Nestor Palace wall paintings (Pylos, Greece) and the frieze of the Philip II tomb (Vergina, Greece).

Unlocking the past: using CT scanning to digitally reveal new insights into mummification.
Daniel Antoine (British Museum)

Recent analyses of the mummified individuals curated at the British Museum are advancing our understanding of the evolution of funerary practices in the Nile valley. Ranging from natural mummies of the Predynastic period to those of medieval Nubia, the latest generation of CT-scanning and three-dimensional visualization technology are allowing us to investigate their mummified remains without the need to unwrap them. The CT scan visualizations are also being used to digitally share new information on their mummification, biology and state of health via screens in innovative exhibitions and displays, offering visitors unique insights into ancient funerary beliefs and practices, and the lives of individuals from the distant past.

How do we make objects talk? The role of the conservation scientist in archaeological research.
Tiziana Cavaleri (Centro Conservazione e Restauro La Venaria Reale)
(ONLINE)

A lot of information can be stored in the materiality of an object. But how do we get it out? How do we make objects talk?
A complex cognitive process is necessary, which starts from observation and passes through the collection of archive data, the stylistic study, the technical data that may emerge during a restoration treatment, and the scientific investigation – also called archaeometry.
The actors in this cognitive process are heterogeneous. Extrapolating information from the materiality of an object is, in fact, a team effort between archaeologists, Egyptologists, art historians, conservators, curators, restorers, and scientists with different specialisations. Among the involved scientific figures, the conservation scientist plays a fundamental role.
The conservation scientist was born as a connecting figure between the humanistic world and the technical-scientific one linked to cultural heritage. In fact, they have mixed training, which allows them to communicate on multiple levels with different professionals.
In the process of understanding an object, they receive and refine the questions from the working group and subsequently identify the most suitable scientific analyses to apply, drawing up the so-called diagnostic plan. Today, there are several analytical techniques available in the field of archaeological research. The conservation scientist personally carries out those in which they are an expert while identifying and interacting with possible partners who can carry out the other analyses of the plan deemed necessary. For this reason, they must know the potential of any analysis. This interaction opens new lines of research, even for developing new instrumentation.
Thanks to their background, conservation scientists can also interpret the scientific data in light of some key information of a stylistic, historical, or technical nature provided by the group.
As for data, access to museum collections is fundamental, as they can promote the study of more artworks by the same author or series of objects, permitting the collection of comparative data and enhancing the potential of the cognitive process. For example, the systematic study of archaeological objects of daily use can lead to understanding how the skills of the artisans evolved (or devolved) over time, the organisation of the workshops and the division of tasks, the technologies known in a given period, and how the traditions, needs and rituals changed.
Sometimes, the object answers our question, simultaneously revealing something else. Other times, the initial interaction with the group serves precisely to reduce some questions which, based on the state-of-the-art diagnostic techniques, are impossible - or extremely difficult - to resolve. A few years ago, on some polychrome wooden coffin in the Museo Egizio, UV fluorescence imaging was used to locate any traces of old restorations: the blue UV fluorescence produced by the object showed the distribution of synthetic consolidants applied recently. In addition, it was also possible to observe a bright yellow UV fluorescence produced by the wooden dowels between the boards. The data, initially surprising, was studied further by the team and led to the understanding that the ancient

Egyptians often used acacia wood pegs to assemble the sycamore boards of the coffins, perhaps because they were more resistant and suitable for this function. On another coffin, the investigations initially focused on restoration problems, which made it possible to digitally reconstruct all the polychrome decoration of the surfaces, hidden by a blackening that could not be removed, having revealed itself to be an integral part of the original material.
Further examples will be illustrated during the speech, demonstrating how it is possible to extract information from the materiality of the finds, relating to their history and genesis and their imminent and future preservation.

The research program about the House of the Ancient Hunt in Pompeii (VII, 4, 48): Between archaeology and diagnostics.
Diego Elia (Università di Torino)

Since 2016, the University of Turin (UNITO) and the Conservation and Restoration Centre 'La Venaria Reale' (CCR), in agreement with the Archaeological Park of Pompeii, have launched an interdisciplinary research project on the House of the Ancient Hunt, a luxurious dwelling located on Via della Fortuna.
The house, like most of the buildings in Pompeii, has had "two lives": the ancient one, which lasted for more than two centuries, from its original construction until the eruption of 79 AD, and the modern one, which began with the excavations of 1833-1835 and, of course, continues until today. The house is, therefore, the result of the transformation and renovation processes that took place during the Roman period, and since the 19th century, it has also undergone a series of reconstruction, consolidation, protection, integration, and restoration works aimed at its preservation.
The research programme, initially aimed at involving students attending the Course of Conservation and Restoration of Cultural Heritage, soon developed into a broader and more articulated project entitled Da Pompei a Venaria. The project, Per un progetto di conoscenza, divulgazione, valorizzazione: la Casa della Caccia Antica, initially financed by the Fondazione Cassa di Risparmio di Torino, was then carried out in a number of stages with the participation of the University Structure in Sciences for Conservation, Restoration, Exploitation of Cultural Heritage (SUSCOR) and several departments of UNITO.
The programme is made up of various activities, the first of which is the 'knowledge plan' aiming at the detailed investigation of the historical-archaeological context (Department of Historical Studies) by means of the study and definition of the archaeological and architectural palimpsest and the identification of the main building phases.
The 'knowledge plan' also provides for the implementation of the diagnostic framework, which the CCR laboratories have already initiated. In particular, chemical and physical investigations and mineral-petrographic analyses are carried out to determine the constituent materials (Departments of Chemistry and Earth Sciences) and humidity analysis by thermography (Department of Physics; Cultural Heritage Network). A special focus is also given to analyses aimed at determining the bioreceptivity of stone surfaces and evaluating biodeteriogenic and/or bioprotective processes (Department of Life Sciences and Systems Biology). In this case, the research has two objectives: to acquire a detailed knowledge of the materials and techniques used in the construction of the structures and the making of the decorative apparatus to provide a basis for the CCR's restoration plan, which aims to re-establish suitable conservation conditions for the decorated surfaces of the house.
The project also includes promotion and communication activities. A first step was the section dedicated to the House of the Ancient Hunt within the exhibition Pompeiana Fragmenta. Conoscere e conservare (a) Pompei. Indagini archeologiche, analisi diagnostiche e restauri, held at the CCR, curated by Valeria Meirano and the speaker. Thanks also to the use of digital and multimedia products, the aim was to communicate the inter- and multidisciplinary nature of the research, which involved several disciplines and addressed restoration and conservation issues.
Undergraduate, graduate, and postgraduate students are currently involved in various educational activities, not only in the training stages concerning archaeology and conservation and restoration studies but also in other actions related to the project, such as the conception, design, and realisation of exhibitions. Currently, a new phase of the project is focusing on the detailed study of the building phases and the reconstruction of the conservation history of the house, as well as on diagnostic analyses dedicated to the phenomena of bio-deterioration and surface degradation and the recognition of the pictorial palette of the wall paintings.

IN/TANGIBLE Chair: Admir Masic

Numbers, words and images. The material culture in the digital era.
Corinna Rossi (Politecnico di Milano)

The spread of digital tools has impacted our perception, use, and representation of material culture; it has offered new opportunities and, at the same time, blurred some traditional boundaries and definitions. To navigate these uncharted waters, it may be useful to re-position ourselves by, first, redefining our philosophical categories, then the instrument to be used. To this aim, we may turn to the ancient roots of our philosophical thought and address some core concepts devoid of overinterpretations. The core issues to be addressed, in fact, are always the same.
We may describe objects through numbers, words and images. All these means have been affected by the introduction of digital tools, which offered the possibility to achieve new results but also posed new questions and doubts to be addressed. The evolution of these three realms provides the possibility to add new layers of interpretation to the study of the material culture; numbers may create parallel worlds; words on the web lose the fixed character of those carved in stone and regain the flexibility to follow the evolution of thought; and the hyper-production of images fuels the long-lasting discussion on the relationship between an object

and its representation.
This paper aims to demonstrate that a significant step forward in our comprehension of the objects and of the tools that we have nowadays at our disposal may be achieved only if we manage to successfully combine these realms towards a comprehensive description of the object itself, thus keeping the latter at the centre of our attention.

Digital twins: Trajectories of materiality at the post-digital turn.
Enrico Ferraris (Museo Egizio)

The evolution of technology has shaped our world in ways unimaginable just a few decades ago. The digital age has been a momentous turning point, radically transforming society, the economy and culture. However, a following phase, the post-digital era, marks the shift in society's focus from the shockwave caused by a technological revolution to critical reflection on the changes and new paradigms that, having passed the contrast between old and new, it is bringing to the way we live and the objects around us.
In contrast to the disruptive approach of the digital age, this new phase thus implies a transition to a deeper and more cross-cutting integration of the latest technological landscape into our daily lives.
Within this new technological landscape, the traditional barrier between the real and the digital is therefore oriented to reconfigure itself more and more as a continuum. A new intangible or conceptual space emerges that, from the interaction between the digital and the physical worlds, defines new cultural, social and economic paradigms and technological approaches that can broaden and enrich our understanding of the world around us.
Digitization processes have affected museums at the level of structures, systems, processes, and object collections. Around the latter, a critical mass of data has been generated by the digitization practices of collections and, more recently, by scientific materials investigations as part of increasingly wide-ranging archaeometric campaigns. The integration of these multiple layers of data about a single object illuminates elements of its specific history: from its production to its use, from its abandonment to its rediscovery, from its decontextualization during archaeological excavation to its re-contextualization in a museum setting and, finally, to its subsequent conservation and media history-in other words, the elements of its biography.
Digital Twins represent a revolutionary technology that has broken new ground in integrating the virtual and real worlds.These digital models, faithful replicas of objects, systems, or processes in the physical world, have found applications in various fields such as aerospace engineering, environmental and geological sciences, and medicine. They enable monitoring, simulating, and interacting with objects, opening up new opportunities for understanding and managing the world around us.
The link between materiality and memory becomes increasingly complex with the advance of digital technologies. The possibility of preserving the identity of objects through digital persistence raises fundamental questions about the nature of knowledge and perception of the past. New forms of digital representation could not only preserve but also enrich the cultural value of objects based on the quality of the data and their ability to generate and disseminate knowledge in an innovative and accessible way. Reflections on the continuum of the physical and digital worlds, materialized by the possible new relationship between the objects in a collection and their respective digital twins, foreshadow a stimulating debate between the traditional concept of preservation (of artefact materials) and that of continuous renewal (of digital twins data), as well as exciting questions about the concepts of authentic and reproduction already highlighted, in the context of another cultural and technical revolution, by Benjamin in "The Work of Art in the Age of its Technical Reproducibility" (1936).

Notre-Dame of Paris, material and immaterial.
Lindsay Cook (The Pennsylvania State University)

In 2019, a catastrophic fire destroyed the medieval roof and 19th-century spire of the cathedral of Paris and damaged its medieval and modern stonework. I contend that the fire brought about not only dramatic changes of state, but also significant changes of status. My paper explores the relationship between the material Notre-Dame of Paris and its purportedly immaterial digital counterpart in the form of a digital double (double numérique), sometimes understood as a so-called "digital twin" or "digital shadow."
In the aftermath of the fire, the damaged fragments were consciously interpreted and thus deliberately described as "vestiges" (vestiges) rather than "rubble" (gravats). Consequently, they were systematically recovered, sorted, catalogued, and preserved. Due to the way the charred remains of the roof, spire, and stonework were treated after the fire, I argue that they underwent a process art historians Cynthia Hahn and Holger Klein have termed "relic-ing," transforming them into architectural relics. As architectural historian Robert Ousterhout demonstrated, there is a history of architectural fragments being understood as relics. Moreover, there is a tradition of understanding fragments of Notre-Dame, specifically, as such, from the gallery walls and storerooms of French and American museums to the Michigan Avenue façade of Chicago's Tribune Tower. All of this speaks to the perceived aura, or even outright sanctity, of the seemingly mundane matter that once constituted the cathedral.
In 2010, the architectural historian Andrew Tallon spearheaded the production of a general laser survey of the cathedral, collecting roughly a billion data points and fixing them in digital space as X-Y-Z coordinates. In 2014, the heritage preservation company Art Graphique & Patrimoine (AGP) generated a laser survey of the cathedral's wooden roof. In 2019, the Centre national de la recherche scientifique (CNRS) began assembling these surveys in its own digital interface, along with a complete laser survey AGP made shortly after the fire. Subsequently, the architects overseeing the

reconstruction and the numerous companies and scientific laboratories making the architects' vision a reality have relied upon the digital double to shore up, conserve, and rebuild the cathedral identically (à l'identique). Drawing from Thiofrid of Echternach's (d. 1110) treatise Flores epytaphii sanctorum, Abbot Suger's (d. 1151) De consecratione and Gesta, and recent art historical and philological studies, I will argue that the laser surveys produced in the early 2010s have been treated like contact relics since the fire. Crucially, the laser surveys have an indexical relationship to the "living" form of the cathedral, as it were. They are, in other words, more like the Veronica than the shroud of Turin. Moreover, the composite, synchronic digital model assembled by the CNRS is like a reliquary, as dazzling to contemporary beholders as a golden, gem-encrusted shrine would have been to medieval ones.
In this case, architectural relics, contact relics, and reliquary are all working in concert to repair the aura of Notre-Dame. The role of the material vestiges themselves ("relics"), the laser surveys ("contact relics"), and the digital double containing them ("reliquary") in the rematerialization of the cathedral since the fire places the whole endeavor to reconstruct Notre-Dame on a plane between the material and the immaterial, as if in the liminal space Abbot Suger famously articulated as "neither completely in the slime of the earth nor completely in the purity of heaven."

Open world, open minds: sharing culture in new ways.
Anaïs Aguerre (Culture Connect)

In the twenty-first century, the development and democratization of technologies such as 3D scanning and photogrammetry are radically changing the way cultural heritage is recorded. As a result, and as noted by Brendan Cormier in Copy Culture: Sharing in the Age of Digital Reproduction, "a parallel world of digitized monuments [...]" and artefacts "[...] exists on stand-by." What does that really mean for the museum and heritage sector charged with the study, preservation and sharing of our cultural heritage and its 'transmission' to future generations? What truly lies behind the immense promise that digital technologies offer to the field of historic preservation and more broadly to the building of tomorrow's heritage? Why does this transmission in a connected and digital world require global dialogue and open access? Reflecting on her experience as ReACH project director, Anaïs Aguerre will share the context in which the ReACH initiative was born, its ambitions, achievements and some of the ethical questions it raises in our digital and connected world.

Doppelgänger: Archaeology and artistic research on virtual objects.
Felix Sattler (Universität Bonn)

In the doppelgänger motif, following Sigmund Freud's explanation, a secret original content surfaces that is uncanny to the self. While a negative connotation dominates most literary, philosophic, or psychoanalytic readings of the doppelgänger, there are also positive and productive attributions. For Freud, the doppelgänger offered the self the possibility of self-observation and self-reflection, "enabling it to treat the remaining ego like an object". (Freud, 1919/2012 p.17). Further, and more important for the thoughts collected in this paper, Freud also argues that the Doppelgänger explains a regression to individual phases in the evolution of the self, allowing access even to phases that precede a fully formed, independent self. I would like to propose to appropriate Freud's interpretation of the doppelgänger as a methodological toolbox for a better understanding of some contemporary artistic practices of (virtually) replicating archaeological artifacts. These contemporary artistic positions and the objects resulting from them are not simple repetitions of popular motifs. Instead, the artists often target a different understanding of the original finds as well as the larger (western, white, male, etc.) epistemology surrounding them. The finds are mostly removed from the direct access of artists and are out of the question for a material transformation. That is one reason why replication seems to be the only available medium of choice. The other reason I would like to further elaborate in my contribution and in light of more recent theories, such as those of Deleuze, Rheinberger, and Latour/Lowe, lies in the particular quality of replicas to act as intentionally artistically differentiated repetitions of the original content vs. its im/materiality. I will show that the process of making offers the possibility of letting repressed, uncanny or uncomfortable knowledge emerge. The premise is a dissociation of the apparently belonging together of material similarity of the original and the replica and the narratives associated with them. My contribution explores the question of why this engagement with copies often triggers an uneasiness (Freud's uncanny). How these practices of unearthing the "uncanny" work and how they challenge (and sometimes attempt to heal) deeply established academic, institutional, and political narratives is the key research question of my contribution.
In my presentation, I will introduce a small series of artistic projects that produce or adapt physical or digital replicas of archaeological provenance. They range from a spectacular and widely regarded stunt to scan the Nefertiti head and make its data publicly available (Nora Al-Badri and Jan Nikolai Nelles Nefertiti Hack, 2016) to a simple experimental setting that compares two Aegean Bronze Age seats by creating an immaterial, virtual 'third object' (Moritz Wehrmann, Felix Sattler A Dialogue of two Thrones, 2017), and a study that digitally preserves rubble of sites while negating its reconstruction (Andrea Malanski Ruin in Reverse, 2017). I would like to demonstrate – through these examples and along the relation between real and symbolic, actual and virtual, and material and immaterial knowledge – the potential of repeated regressions that allow us to look past original finds and the narratives of origin as well as original narratives associated with them. Had the production of replicas long been a realm of specialised and institutionalised workshops, often based at the museums holding the originals, the present age of affordable 3D scanning/printing and widely available tools for modifying digital data has enabled the world wide web as a global sphere of the production, dissemination and

discussion of replicas and competing interpretation. Now, museums could function as sites of re-entry of these virtualised objects into a sphere where original and doppelgänger re-join, co-exist – and maybe depart together.

Digital heritage within mixed reality environments.
Eugene Ch'ng (University of Nottingham Ningbo China)
(ONLINE)

The concept of the metaverse via XR technologies proffers additional dimensions for research and communication beyond the physical and digital space we are used to. These dimensions are necessarily related to extensions of the physical into virtual environments and vice versa. In the Information Age, the notion of spaces and additional dimensions present opportunities in terms of how the richness of information can surpass physical limitations, and such opportunities are both empowering and transformative in many respects. In the age of social media, our constant exposure to multiple forms of realities has desensitised and normalised us, adapting us to accepting visual information on displays and how we manipulate, consume, and perceive content. The extent to which we can accept different modes of realities is a long process of inquiry. The recent advent of generative AI has also increased the permutations and combinations of possibilities. Such opportunities are important for cultural heritage sites, and protected cultural heritage monuments and objects that are strongly unmodifiable and often distant and inaccessible. The talk presents the concepts above in view of multiple real-world projects and provides an overview of reality technologies' role in transforming how we study, interpret, and communicate cultural heritage that spans thousands of years of objects, monuments, environments, behaviours, and text.

30TH NOVEMBER 2023

DE/CODED Chair: Maria Luisa Catoni

Revealing the unperceived: 3D scanning and post-processing analysis of cuneiform tablets for philological and historical purposes.
Stefano De Martino and Filippo Diara (Università di Torino)

This paper focuses on the latest scanning technologies applied to small archaeological finds with curved surfaces, particularly cuneiform tablets. This work is inscribed into the European Project ITSERR—Italian Strengthening of ESFRI RI Resilience. The aim of this work is to create a 3D dataset of the cuneiform tablets collection preserved in Turin: this requires the development of a virtual environment suitable for sharing archaeological and textual semantic data (through specific ontologies) with stakeholders and other users. We have started to scan cuneiform tablets preserved in the Museo di Antichità (Musei Reali of Turin). We have chosen tablets of different sizes and states of preservation; some of them preserving the impression of seals. These acquisitions were performed with a portable structure-light scanner produced by Artec 3D: Space Spider. The conducted 3D documentation is a useful tool for philologists but also supports other research, such as features of the materiality of tablets and metrological analysis. The latter was extremely useful for understanding micrometric signs of fingerprints and for a better reading of the seal impression. The greatest part of seal impressions was done before the writing (like a watermark), and thus, they are not always detectable to bare-eyed due to cuneiform signs written above. In this regard, 3D scanning and post-processing analysis could help the analysis of these barely invisible features impressed on tablets. For this reason, this work is also based on how 3D post-processing analyses can help to understand unperceived and almost invisible features concealed in clay tablets. Analysis of fingerprints and depths of the signs can tell us about the worker's strategies and then people beyond the artifact. 3D models were investigated by applying specific filters and shaders. Through the dynamic displacement of light and shadows, digital light manipulation can reveal particular details that can be deeply analysed with specific post-processing operations. A Radiance Scaling filter can be applied to better enhance the readability of cuneiform signs; the MSII (Multi-Scale Integral Invariant) filter is a powerful tool for revealing hidden and unperceived features such as fingerprints and sealing impressions (stratigraphically below cuneiform signs).
The collected data related to fingerprints and seal impressions will be handled in a relational database to initiate a new scenario of comparative analyses on these particular features. Then, the creation of a Common Data Environment (CDE) will help the data-exchange process to project collaborators.

Progetto Sekhmet. New strategies and technologies applied to the study of the greatest sculptural production in Ancient Egypt.
Alessia Amenta (Musei Vaticani)

The Egyptian Antiquities Department of the Vatican Museums has set up the interdisciplinary 'Progetto Sekhmet' in collaboration with the Museo Egizio in Turin and Dr. Hourig Sourouzian, Director of the Colossi of Memnon and Amenhotep III Temple Conservation Project at Kom el Hettan. It is a research and study project on the sculptural production of the hundreds of Sekhmet statues in granodiorite, produced during the reign of Amenhotep III for his funerary temple at Kom el-Hettan. We are undoubtedly facing a gigantic series production, notwithstanding "a great variety of representations, the range of proportions, the differences in workmanship and the inconstant degree of details or inscriptions, not forgetting the great variety of dark stones used". The grandiose display of statues of the goddess Sekhmet, daughter of the Sun god, formed a powerful defensive chain inside the temple for the celebration of the Sed-festival of the king.

The project began during the restoration of the Vatican Sekhmet statues when the results of the relative scientific investigations led to extensive reflection and efforts to deepen the understanding of this extraordinary series of production of Sekhmet statues, which are now widespread all over the world. This gives a total of almost 800 statues, not counting fragments. To check the evidence in this list, we also include some unfinished statues; they represent the crystallisation of a specific moment in space and time, in which the data from the execution techniques, the dimensions and proportions of the statue, the recovery of a possible reference 'model', the phase of execution and the site of the working cross each other. The starting point for this team project is to extract as much information as possible from the Sekhmet statues themselves, as we have no ancient text documentation concerning their display and the 'assembly-line' for their construction and no sure archaeological evidence for any atelier. Lacking such documentation, our guiding thought was 'making the statues speak'. The project builds on the research and development of innovative investigative methods based on formal and technical archaeological evidence. The team is also developing software called 'Seek-hmet', entering into the field of Statistics and Artificial Intelligence (AI), in order to cluster the statues and cross-check and compare all data from the statues on multiple levels. Its very name underlines the purpose of the software, which is to study and research how much more information can possibly be obtained from each of the hundreds of Sekhmet statues. Only systematic cross-checking of all the data will enable an understanding of the process that led to the construction of the most gigantic production of statues with a single theme of humankind.

The digital resources created by the 15cBOOKTRADE Project for the study of early printed books as historical sources. An evidence-based re-assessment of the impact of the printing revolution.

Cristina Dondi (University of Oxford)

The 15cBOOKTRADE was a project led by Cristina Dondi at the University of Oxford, funded by a European Research Council Consolidator Grant (2014-19). It was set up to assess the social and economic impact of the invention of printing with movable type in Europe (1450) on the development of early modern European society, using a bottom-up, evidence-based approach: examining the half a million books printed before 1501 (known as incunabula) which still survive today in 4000 libraries, mostly in Europe and the US. We now have tens of thousands of records capturing the distribution and use of books over a 500-year period and precise prices for almost any text printed in the first 30 years since the introduction of the new technology.

The principal resource we work with is Material evidence in Incunabula (MEI), an international database specifically designed to record and search the material evidence of 15th-century printed books: ownership, decoration, binding, manuscript annotations, stamps, prices, but also a place to record documentary evidence external to the book. The collaborative enterprise of over 650 European and American libraries contains over 60,000 high-quality records and the identification of over 20,000 private or institutional book collections, which, today, are mostly dispersed.

MEI introduced an innovative approach to the recording of provenance: the application of geographical (GeoNames) and temporal indicators to every element of provenance to track the movement of books over space and time. Now, we are in a position to visualise this movement and understand patterns and trends in the use and survival of early printed books.

Each of the MEI fields has been devised with clear historical questions in mind, questions which, until now, we were unable to answer. Now, we can begin to address them. To offer one example, scholars of books and libraries are aware of the tremendous impact that the secularisation of religious institutions had on the dispersal and formation of libraries. Historical collections in France, Great Britain and the United States would not be what they are today without the vast mobility of books triggered by national policies with regard to religious institutions and their libraries. In MEI, we are finally capturing the extent of the impact, direct and indirect, intended and unintended, of this political phenomenon.

The quality of the data is paramount. The work necessary to reach this level of historical detail is, in fact, huge. It requires the specialist skills of book cataloguers with palaeographical knowledge to be able to read ownership inscriptions in Latin, Greek, and any European vernacular language, who can date and locate a binding or a decoration style to 15th-century Italy, or 16th-century Germany or 17th-century England, who can identify a coat of arms, distinguish different types of marginal annotations, from corrections, comments, to censorship, who know how to trace back the history of a book using booksellers and auctioneers catalogues and library acquisition registers.

Further, it requires the development of an appropriate database system not only to record but also to retrieve valuable data intelligently. Finally, it necessarily relies on extensive collaboration and a vast logistical plan that coordinates the integration of data produced by hundreds of different libraries into one searchable database.

At the end of the 15cBOOKTRADE project, the team organised a large exhibition in the Correr Museum of Venice: Printing revolution and society 1450-1500. Fifty years that changed Europe. The purpose was to share our unexpected results with the widest possible audience, as they relate closely to the ongoing digital transition.

Dondi continues coordinating contributions to the database from many people and institutions in various countries over several years. She is currently the recipient of a large new grant to work on incunabula in the United States, funded by the Italian Fondo Italiano per la Scienza (FIS): an outline of its objectives will be presented at the conference.

Turin Papyrus Online Platform. The papyrological material of the Museo Egizio digitally assembled.
Susanne Töpfer (Museo Egizio)

Since 2017, the Museo Egizio in Turin has been working to digitise their collection of papyri, containing over 1,000 complete manuscripts and more than 20,000 papyrus fragments. With the onset of the digital age, it has become much easier to deal with vast amounts of data. Disciplines such as philology and papyrology need digital tools and repositories to document, process and publicise information about papyrus material, the ancient text they carry, and their context. While papyrology – the study of written material between the Hellenistic and Arab periods – is already in the "digital vanguard", Egyptian philology and, most notably, the study of hieratic texts has so far been extremely slow in catching up. This is what I am about to change with the Turin Papyrus Online Platform. The aim of the paper is to present the concept, structure, and content of the "Turin papyrus online platform" (TPOP). TPOP is an open-access repository; it shall facilitate all stages in the workflow, from the conservation of the papyrus material and the recording of data to their online publication. It is a multi-user platform, enabling the community of experts based at different European locations to contribute data. Furthermore, at the front end, it will automatically adapt to the needs of different users, from the interested layman to the highly specialised philologist and papyrologist.

(Information) design and (digital) humanities.
Paolo Ciuccarelli (Politecnico di Milano)

While digital humanities quickly recognised the opportunities in connecting with design-related disciplines, information design started to look at digital humanities more recently, first as a domain of application and then as a mode of inquiry, which, in fact, shows key similarities with design research processes and practices: Within information design, data visualisation especially is often framed as a language, or a medium on its own, where translation processes mediate the understanding of data and information; on the other side, digital humanities have embraced artifact-driven approaches where prototyping and iterating are crucial in the research process, thus leading to what seems to be a natural convergence between the two disciplinary areas.
This presentation delves into a decade-long collaborative journey, spanning from the foundational partnership between the DensityDesign Research Lab at Politecnico di Milano and the Stanford Humanities Center to the exploration of the language of design at the Center for Design, Northeastern University. Through an array of research projects developed at Politecnico di Milano and Northeastern University, I'll elucidate the guiding principles underpinning the design and development of digital tools as shared outcomes ensure a fruitful research collaboration and produce mutual learning. Both the final outcome and the research process will be described, with the former being often less relevant than the latter. The resulting research outcomes range from tools enhancing scholarly inquiry to interfaces and experiences that aim at engaging a broader public with humanistic contents, as in the projects developed by The Visual Agency to mediate Leonardo's Codice Atlantico or render the original corpus of figurative materials assembled around Dante's Divina Commedia accessible. From literature to philosophy, design and (digital) humanities proved to be able to produce transformative research outcomes that wouldn't have been possible otherwise, making the claim of an interdisciplinary approach plausible and desirable. A drift towards the relationship between design and (computational) sociology will close the talk, highlighting potential commonalities

The ghost in the machine – AI's impact on cultural heritage.
Harald Sack (FIZ Karlsruhe - Leibniz Institute for Information Infrastructure)

Over the past decade, deep learning methods have made remarkable advancements. This progress can be attributed to various factors, such as massive parallelisation through the utilisation of Graphics Processing Units (GPUs) for massive parallelisation. This shift in hardware has significantly accelerated the training of deep neural networks, allowing researchers to tackle increasingly complex problems. Another critical factor contributing to the success of deep learning is the acquisition of vast training datasets sourced from the World Wide Web, which has become a treasure trove of information. As a result, these models have become adept at capturing intricate patterns and representations in various domains. Furthermore, the development of efficient and reusable neural network architectures has also played a crucial role in the advancement of deep learning. Putting everything together, these evolutions have paved the way for the achievement of human-like or even superhuman performance in specific domains. Notably, the emergence of pre-trained large language models has demonstrated the capability to grasp the intricate semantics of natural languages, yielding exceptional outcomes in classification, prediction, and generation tasks. Similarly, in the realm of image generation, models such as Stable Diffusion and Dall-E have showcased their prowess.
Tasks that once demanded human expertise for their execution are now on the brink of being supported or entirely taken over by machine intelligence. In the subsequent sections, we will illuminate some recent breakthroughs in AI-assisted search and retrieval systems within the domain of cultural heritage. One such example is the development of a multimodal search system for Iconclass, incorporating vision-language pre-trained machine learning models.
However, it is paramount to approach the application of these cutting-edge generative AI models in scientific and research contexts with due diligence. One must remain mindful of potential inaccuracies and hallucinations these systems can inadvertently produce.
It's worth noting that deep learning and large language models

constitute only a specific subset of artificial intelligence, falling under the broader category of machine learning. Symbolic knowledge representation represents another distinct subdomain of AI, distinguished by its mathematical rigour and formalism. In this realm, any inaccuracies or inconsistencies in underlying assumptions can be readily identified and rectified.
Knowledge graphs built upon ontologies present a viable avenue for enhancing the explainability of black-box statistical deep-learning systems. Furthermore, they possess the capacity to flag false or counterfeit information. As a result, future information systems are poised to embrace hybrid solutions that amalgamate symbolic and sub-symbolic AI approaches to combine the strengths of both paradigms, offering not only reliable but also trustworthy results.

UN/PERCEIVED Chair: Maria Elena Colombo

Objects as mirrors of self: using museum objects for psychotherapy.

Ali Coles (University of South Wales)

How can museum objects aid the psychotherapeutic process of self-exploration? I will discuss how the encounter with museum objects, facilitated by a psychotherapist, can enable insight and recovery for adults with serious mental illness.
Research has indicated that people naturally engage in self-exploration as they interact with museum objects, and that these objects can evoke widely differing and deeply personal responses. As an Art Psychotherapist (with previous career experience within the museum sector) I have developed museum-based psychological therapy groups for adults with complex and enduring mental health difficulties, drawing on this understanding of the power of museum objects.
I will describe the structure of the groups and use clients' creative and verbal responses, along with quantitative outcome data, to indicate the value of working in this way. I have found that museum objects can aid the therapeutic process of self-exploration both individually and in relation to others. The museum objects can function as symbolic 'containers' for difficult emotions and experiences and can facilitate reflection on one's internal world by acting as an external relational object, opening up a space for 'mentalising'. The physicality and the value attributed to museum objects can enable focus, clarity and a sense of validation, and the process of interacting with objects parallels the psychotherapeutic concept of 'holding in mind'. Different levels of relating to objects allow clients to self-regulate in terms of the depth and intensity of engagement with the therapeutic process.
From an interpersonal perspective, 'joint attention' to objects by group members evokes a key process in childhood development which fosters bonding and attunement. Recognition of shared experiences as reflected in objects can help to develop mutual understanding and trust, whilst the recognition of differing perspectives can support psychological flexibility and the attainment of new insights.
I will relate this work to the concept of museums as enduring institutions which take care of objects and prevent them from being 'lost', which has powerful resonances with the emotional 'holding' which psychotherapists seek to provide. The physical museum environment creates a sense of 'containment', alongside that generated by the psychotherapist, which is crucial for the safe expression and exploration of psychological material. The way in which museum objects are 'framed' echoes the 'therapeutic frame' which provides a boundaried mental space for clients to share shameful or distressing thoughts, feelings and experiences. Furthermore, the orderly nature of museums contrasts with the disorganised nature of traumatic memories and the chaotic lives which clients might be experiencing; the way in which museum objects are organised, documented, displayed and interpreted can be linked to the way in which a psychotherapist helps clients to give expression to, make sense of, and organise traumatic experiences.
Finally, I will discuss how psychotherapists working in museum settings might choose to actively challenge the 'myth of neutrality' within museum exhibitions, using this as a way of exploring feelings around knowledge, certainty, trust, power (and abuse of power) and difference.

Be phygital! Designing accessibility at MAXXI through participatory and emancipatory practices.

Sofia Bilotta (Fondazione MAXXI)

This speech recounts the first-hand experience of the MIXT– Museums for All project, an initiative at the MAXXI museum between 2019 and 2021.
Based on a participatory and emancipatory approach as defined by Disability Studies, MIXT is a phygital itinerary dedicated to Zaha Hadid's architecture, which has been co-designed by a team of deaf and visually-impaired people with different educational backgrounds, museum professionals, and IT staff.
The individuals with disabilities were members of associations supporting disabled people's rights: ENS CR Lazio (The National Agency for the Deaf – Regional Council of Lazio) and UICI (Italian Union of Blind and Visually Impaired People) Rome section, while Federazione Nazionale delle Istituzioni Pro Ciechi (National Federation of the Institutions supporting Blind People) supported technical productions.
More than 40 people were involved in the project, funded by the European Union, POR FESR Lazio 2014-2020, public announcement n.7 "Beni Culturali e Turismo".
The experience of the phygital path comprised two narrative methods: MAXXI to be heard and MAXXI to be looked at. The former was based on the mediation of the participants with visual disabilities, and the latter on the

mediation of deaf people. Both methods enabled visitors to discover the museum architecture from new perspectives and preferred access needs through a mobile device on loan from the Museum infopoint or browsing the website https://mixt.it/.
The digital dimension of the project allows people to access the contents before coming to the museum or as remote users. The physical itinerary inside the museum (11 areas from the hall to Gallery 5) is articulated with tactile models and maps, Braille captions, participants' stories, and video guides in Italian and International Sign Language on screens. The itinerary is a tool inspired by Universal Design for the orientation and discovery of the architecture that all museum visitors interact with daily.

Progetto "Giovani visioni al museo"
The "Young visions at the museum" project.
Alessia Fassone (Museo Egizio)

The Giovani Visioni al Museo ("Young Visions at the Museum") project is aimed at girls and boys between the ages of 18 and 29 who are Not [engaged] in Education, Employment or Training (NEET).
The project is the result of a collaboration between the Museo Egizio and the Visionary Movement, supported by the Department for Youth Policy and Universal Civil Service by the Presidency of the Council of Ministers.
Giovani Visioni al Museo aims to be a motivational support for young people who, for various reasons, have lost or have yet to orient their educational and/or work choices based on their passions or interests. For this reason, the whole project is monitored and supported by professionals with experience in relational and group dynamics, and they follow participants throughout the steps of the course.
The project took place from April to December 2022, divided into eight modules of 4 weeks each. Every month, a group of around 15 people had the opportunity to explore the museum with a task: they had to identify, among the objects on display in two specific Galleries (Deir el-Medina and the Tomb of Kha and Merit), a special topic stimulating a personal narrative.
The result of such an elaboration (video, slideshow, graphic, short tale...) is available to museum visitors through a QR code in a panel devoted to the project in the Deir el-Medina Room.
Thematic talks (Visionary Pills) of 15 - 20 minutes were organised within each module and in the fixed project steps. Speakers launched discussion topics to start the debate among participants (Visionary Time), moderated by Visionary Movement volunteers. The meetings at the Museum were assisted by an Egyptologist, who was able to answer any curiosities and guide participants in choosing an artifact to talk about.
In order to offer all participants further opportunities to deepen their understanding of the topics and the experience, short free classes were activated by IED (Istituto Europeo di Design) and Scuola Holden, with a final certificate of attendance, useful for curricular purposes.
The goal is to make the museum a place of potential training for relationships, observation, listening and communication by increasing self-awareness and involvement in community life.
Participants showed great personal engagement, expressed with creativity and great artistic and communication skills. The contents that they have created are accessible both through the QR code in the museum space and from the dedicated website Le visioni - Giovani visioni al museo - il protagonista sei tu. Each work reflects the participant's interests, emotions, and expressive skills. In total, 67 young people were involved in the 2022 edition, university students, graduates, unemployed, and precarious workers. One of them is currently cooperating with the Museum's graphics department.

What storytelling can do for museum engagement.
Rossana Damiano (Università di Torino)

For decades, narratives have been acknowledged as a compact and effective format for information sharing. From cognitive and social science to anthropology and communication, scholars have pointed out the unique capability of stories to engage the audience while transmitting not only mere data but, more importantly, cultural values. With the advent of digital media, the ease of replicating narrative contents, re-mediating them from one format to another, has emphasised the pervasiveness of stories, giving new life to the practice of imitation widespread in literary tradition since the classical era.
While the formal elements of stories have been scrutinised in depth by semiotic structuralism in the last century, in recent years, the pivotal role of character for audience engagement has come to the foreground: investigated by drama studies since Aristotle, character is now acknowledged by media aesthetics as the narrative entity by which the process of identification occurs, the medium through which the reader, the visitor and the spectator feel the emotions triggered by the narrated events. The power of identification, vividly described by Plato in his "Ion" ("when I speak of horrors, my hair stands on end and my heart throbs"), can today be recorded and measured thanks to the large availability of tools for capturing human emotions, among which face expression recognition stands out as the most widely studied and applied.
In cultural contexts, the increasing availability of data in digital form, be they the output of digitisation or more sophisticated paradigms, paves the way for the manipulation of this data by Artificial Intelligence to create - and support the creation of - ever-new narratives. These narratives, in turn, can be conveyed to the audience using different formats and media to meet different user needs and preferences, relying on automation for the conversion. Within the framework of intelligent narrative generation, the (allegedly) passive role of the audience gives way to a more active

role, where the audience can voluntarily and intentionally participate in the construction of the story or be observed by the narrative system more or less intrusively to tailor the story on their emotional response.
Although motivated by the legitimate goal of gaining and maintaining audience engagement in cultural contexts, the narrative generation framework sketched above raises questions that deserve further investigation. On the one side, the possibilities (and limits) of the intelligent generation of stories from cultural data must be carefully examined in terms of feasibility and effectiveness, not to forget the ethical aspects called into question by the capability of narratives to convey implicit values to emotional engagement. On the other side, the form and type of audience involvement must be studied in relation to a number of contextual factors, including the museum type and goals, which may orientate the design of the experience towards forms of embodied, first-person interaction or, rather, towards external forms of participation relying on second- or third-person interaction.
In this talk, I will discuss the role of Linked Data in leveraging the bulk of knowledge delivered by narratology, making it available to algorithms. First, I argue that an explicit representation of narrative patterns and the agency of characters provides the requisite of transparency that is the natural antidote to the ethical issues brought by the manipulation of emotions and grants the necessary control to curators. Secondly, I will examine some relevant case studies in museums and other cultural contexts to discuss the factors that can affect the design of user involvement and the ways to measure its effectiveness.

Transmedia storytelling as a human-centric and participatory approach to cultural heritage.
Filippo Gilardi (University of Nottingham Ningbo China)

The notion of Transmedia Storytelling is defined by media scholar Henry Jenkins as "a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience". Although this term was initially introduced to analyse fictional stories in the entertainment industry, it is now applied to many fields, including in the museum context. The paper interrogates the use of transmedia storytelling as an effective method to integrate technologies in heritage practice as it is a strategy of storytelling that fosters active, rather than passive, audiences who participate in the meaning-making process during consumption and, therefore, negotiate cultural values in their everyday life.
This paper will, therefore, explore how heritage practices can be enhanced by the implementation of Transmedia Storytelling techniques and to engage active audiences. As will be argued, bottom-up approaches, through advancing transmedia storytelling, can also facilitate the development of culturally sustainable communities. That is, in terms of the various identities inhabiting them, as well as unveiling novel information, which may otherwise go unnoticed in the wake of top-down approaches. Finally, the paper takes as a case study the collaboration between a Sino-foreign university, the University of Nottingham Ningbo China (UNNC), and a local community museum, the Ningbo Bang Museum. Students studying at UNNC had the opportunity to create transmedia narratives about the individuals featured in the museum, with a focus on community engagement and develop what it may be called a Transmedia Exhibition".

UN/CONNECTED Chair: Enrico Ferraris

Curating the Digital.
Haidy Geismar (University College London)

We are in a moment of intense critique and reflection of the history and legacy of ethnographic and colonial collections. By wondering if social media is the next ethnographic collection, I propose that the reckoning with difficult histories and power imbalances of ethnographic collection be channelled not just to the past but also used as a mode of continued reflection on the future of museums and collections. Further, I contend that we apply the lens of contemporary critical museum anthropology, which has focused not simply on the collection and exhibition of material culture in museums but on the structures of power, colonial histories and legacies, and social and political relations that these collections engender to our contemporary relationship with digital culture.
Perhaps, paradoxically, I also propose that we take seriously the analytic issues raised by digital, and especially social media – questions of scale, the everyday, normativity, class, language, as well as corporate control and surveillance – as an important heuristic to understand contemporary collecting of cultural practice and everyday life in museums. Is there any mileage left to the conception of the ethnographic collection? Or is it so tainted by the colonial project that it is no longer viable? If so, should we be satisfied with the ways in which corporate social media has supplanted the space of knowledge of the everyday both as the form and object of enquiry?

Architecting Digital Transformation: Insights from Rijksmuseum's Journey – IT's Perspective: Managing Change and Shaping the Digital Future of Museums.
Rob Hendricks (Rijksmuseum Amsterdam)

In 2013, following a decade-long renovation, the Rijksmuseum reopened its doors, unveiling not just a refurbished building but a new approach to exhibition, education, and visitor reception. With its world-renowned collection and this innovative strategy, the museum's popularity soared, tripling its visitor numbers. However, the Rijksmuseum soon faced a new challenge: adapting to a rapidly digitising external world. This presentation

delves into the museum's ongoing journey of digital transformation. Many museums and institutions excel in creating outstanding digital products, while others struggle. A key question arises: Are these institutions truly embracing the steps to integrate new technologies and trends in a structured manner, or are they merely reacting on an ad hoc basis? Trying to keep pace with digital developments without a structured approach to innovation often results in impressive products that mask an organisation's diminishing capacity to absorb disruptive shocks. Digitalisation, as this presentation argues, is not synonymous with digital transformation. Approaching this challenge from both an IT and a strategic organisational viewpoint reveals the weaknesses in the organisation. When digital technology becomes mainstream, business units often adopt it for product development, but this siloed approach hampers organisational innovation. IT departments are roped in for technical solutions focused on new products, which can lead to a tangled, inflexible technological mess that hinders the organisation's progress. For instance, a broader perspective than mere website or app optimisation is required to genuinely improve the customer journey. Keeping pace with the digital expectations of customers, researchers, employees, and the organisation becomes increasingly challenging. The Rijksmuseum's experience highlights a proactive approach to these challenges. Starting with a bold decision to move to the new emerging cloud technology ten years ago, the museum has adopted a pragmatic model of just enough architecture and capability thinking. This largely bottom-up process has laid a solid foundation, allowing the museum to effectively translate its strategy into goals and prioritise projects. This presentation sheds light on the choices made by the Rijksmuseum, emphasising that digital transformation is an ongoing process. It challenges familiar notions of digital transformation, often narrowly conceived as either digital repair or the production of digital products. Instead, the Rijksmuseum's approach represents a fundamental rethinking of realising business strategy through digital means. Key aspects of this transformation include the transition from strategy to project portfolio, the development of value streams and the formation of federative teams. A more proactive operating model was designed for IT, focusing on running, growing, and transforming simultaneously. These strategies underscore the museum's commitment to continuous adaptation and innovation, preparing it to embrace future technological disruptions, such as genAI, the metaverse, super apps, and beyond. By delving into these themes and drawing on the Rijksmuseum's journey, this presentation aims to provide conference attendees with valuable insights, actionable strategies, and a deeper appreciation for the complex yet rewarding process of architecting digital transformation in the realm of cultural heritage institutions. In conclusion, the Rijksmuseum's journey illustrates that digital transformation is not a destination but a continuous process of adaptation and strategic realignment, vital for staying relevant in an ever-evolving digital landscape.

National Museum of Digital Art, Milano. The Future Meeting the Past.
Ilaria Bonacossa (Museo Nazionale di Arte Digitale Milano)

The Museum of Digital Art is one of the newest autonomous museums established by the Minister of Culture with DPCM No. 123 on June 24, 2021. The museum was entrusted to the direction of Ilaria Bonacossa, an art historian, curator, and former director of Artissima in Turin, and the Museo Civico Villa Croce in Genova. It will be based in Milan, in the Art Nouveau spaces of the former Albergo Diurno di Porta Venezia, a public bath abandoned since 1984, designed by architect Piero Portaluppi in 1925 and owned by the City of Milan, which has bestowed the building for 30 years to the Ministry of Culture.
The renovation of the spaces, transformation into a contemporary museum, and the set up of the institution will be completed by 2026 to create a digital hub for avant-garde art experiments in synergy with MEET - Digital Culture Center. The museum will present temporary installations created ad hoc in the historic spaces and implement a new national collection of digital art, developed in fieri, to document the history of contemporary art through its digital transformations. The aim is to disclose practices developed with universal technologies capable of uniting generations and communicating through art the possibility of becoming digitally aware citizens. Important problems linked with the preservation and storage of digital art need to be addressed, as well as issues related to collecting digital art and presenting it to the public in a broad time frame of a national Museum.

1ST DECEMBER 2023

UN/CONNECTED Chair: Paolo Del Vesco

Museums and the negotiation of agency in transitional digital societies.
Pier Luigi Sacco (University of Chieti)

As our societies transition into more digitally mediated forms of engagement and experience, cultural institutions like museums must adapt to new expectations around agency and participation. Traditional museum pedagogies cast visitors as passive receivers of curatorial wisdom; digital visitors, however, see themselves as empowered agents who can shape their own meanings. We will explore strategies for museums to negotiate these competing imaginaries and argue that,
instead of doubling down on didactic authority, museums should find ways to cede some curatorial control and invite visitors to co-construct exhibition narratives. Through participatory programming, crowdsourced content creation, and digital storytelling platforms, museums can nurture visitor agency while upholding their educational missions. Done thoughtfully,

power-sharing is not an abdication of expertise but an opportunity to cultivate critical publics. This negotiation promises to make museums more responsive civic institutions in our emerging digital society.

Diasporic Heritage: a worldwide digital discourse.
Maria Elena Colombo (Museo Egizio)

Living in the digital age has presented museums with unprecedented challenges and opportunities. The advent of social networks has radically transformed the dynamics of interaction between people and cultural institutions, giving rise to a continuous and often demanding revolution, especially for museums with a diasporic heritage. Social networks offer museums an unparalleled platform to connect with a global audience. However, the very nature of these virtual spaces presents unique challenges. Digital presence does provide the possibility of constant connectivity, but this connection also means exposure to cultural contexts radically different from the origin, along with interpretations and rooted identity issues worldwide. A crucial second aspect involves the often unexpected and, at times, controversial comparisons that online communication can generate. The complexity and depth of the origin and management of collections can be challenging to convey fully through brief messages or images. It is essential to consciously address political or politicised instances, considering the specificity of decolonisation, which, for example, significantly differs between the Italian and British contexts. The diversity of social platforms adds an additional layer of complexity. Each platform has its own rules, distinct audience, and characteristic tone. Audiences on these platforms can vary in terms of age, location, and cultural perspective. Maintaining a consistent and relevant presence across different platforms becomes a logistical and creative challenge. Perhaps it is time for social platforms to generate connections within the museum, fostering participatory dialogue and extending an ontological position beyond the institution. Despite these complexities, social networks remain a powerful tool for museums with a diasporic heritage. Metaphorically, they constitute a "zone of contact," as Clifford liked to say about museums, and can act as catalysts for reconciliation and intercultural dialogue. The challenge now is to navigate these dynamics with wisdom and creativity, fully leveraging the potential of social networks for authentic and meaningful communication.

The Rise of the Algorithmic society and the Strategic Role of Arts and Culture.
Luciana Lazzeretti (Università di Firenze)

Illustrating the development of artificial intelligence (AI) and the changes it has generated in the economy, society, and culture, this paper continues the debate concerning the digital revolution and the rise of the algorithmic society. Examining technological, economic, and social transformations and the role played by culture in terms of risks and new opportunities, the author reviews the issues surrounding the economics of innovation and the interaction with culture, creativity, and local development to establish a future agenda for research. Commencing with a historical overview, the author discusses how culture and creativity allow us to face the challenges of the new digital revolution and provides insightful antidotes to the risks generated by the rise and evolution of an algorithmic society. The key elements of the art of imagination and human intelligence era are examined together with their mutual interactions and relationship with AI as they continue to remain intertwined.

Digital Collections and online collaborative communities: insights from Wikimedia Commons.
Enrico Bertacchini (Università di Torino)

The growing importance of digitisation has brought about a profound change in the enhancement, preservation, and protection of cultural heritage, as well as the need to understand which resources, tools and methods are necessary to facilitate its documentation, enjoyment and accessibility. However, while much of the digital transition of cultural heritage discourse has often focused on the opportunities and challenges cultural institutions face, a growing attention must be devoted today to understanding the role of grassroots and collaborative initiatives in contributing to this process.
Online collaborative communities dedicated to cultural heritage have blossomed in the last two decades as platforms that harness collective intelligence and human expertise to safeguard, disseminate, and engage with digital heritage content. These experiences have emerged from the convergence of needs and attitudes expressed by cultural institutions, heritage professionals, and individuals sharing interests and passions for heritage. By embracing digital technologies, they foster accessibility, participation, and co-creation of historical content. In addition to the collaboration through experts' communities of practice that involve representatives of institutions and professionals, several cultural institutions have started adopting a participatory approach, triggering their audience's involvement, activation, and expansion. The use of digital technologies has amplified the opportunities for participatory processes through new forms of interaction with audiences. It enables communities of people and organisations to participate in defining or revising the representation of heritage and territories operated by museums through co-design and co-curating exhibitions or by using and creatively reinterpreting the heritage of institutions through hackathons, crowdsourcing initiatives, storytelling, and online campaigns. Digital public history initiatives or Wikimedia—GLAMs cooperation epitomise online collaborative communities that bridge the divide between heritage professionals and the wider public.

This presentation aims to explore from both a theoretical and empirical viewpoint how to conceptualise collaborative digital heritage communities and their contribution in producing, exchanging, and disseminating knowledge related to GLAM's digital collections. In particular, using images from museums' collections available on Wikimedia Commons as a case study, we offer empirical insights into how digital reproductions of museums' collections are used, viewed and re-used by collaborative communities. The presentation contributes to the scientific debate on the opportunities and challenges that collaborative projects can offer through open access and re-use of digital content to enhance cultural heritage.

Otherness on display: objects, images and the archival silence at the Museum of Anthropology and Ethnography of the University of Turin (MAET) between digitisation and critical analysis.

Erika Grasso (Università di Torino)

This paper is driven by the research and curatorship of the ethnographic and photographic collections preserved at the Museum of Anthropology and Ethnography of the Museum System of the University of Turin (MAET). Due to its nature and history, the MAET presents the criticalities typical of European and Western museum institutions born between the second half of the 19th and the first half of the 20th century with the illusion and claim of documenting and 'exhibiting' human diversity from both a biological and cultural point of view. Moreover, the MAET has copious archival deficiencies that make the reconstruction of the history of its collections and the contexts of production and acquisition of many artefacts complex (and in some cases impossible). The work of curating and studying the holdings undertaken in recent years has brought to the fore the role of 'archival silence' in both the past production of knowledge about otherness and models of communication and displays of cultural diversity. Forgotten memories and failed processes of critical enquiry into heritage have meant, among other things, the production and reproduction of the evolutionist (when not openly racist) paradigms with which the museum was founded. The need to investigate the holdings through a critical ethnography of the museum and archive thus clearly emerges. From this point of view, the digitisation of the collections has made it possible for an in-depth investigation of corpora of non-European provenance (in particular, those from Africa) and the initiation of the reconstruction of production and acquisition contexts that were completely ignored in the past. In this sense, objects and photographs, in their new "immaterial" nature, are subject to a further change in status: from being museum finds kept in repositories to a vehicle for reflecting on those "silent" processes of history reconstruction, where subjectivities considered "other" by the (white, Italian and academic) collective were excluded. But not only that, subject to new forms and possibilities of fruition, this heritage can reach wider segments of audiences and go through new re-significations by the subjects (individual or collective) who may feel represented by it.

Digital data and object biographies: expanding meanings and materialities in the born-digital realm.

Chiara Zuanni (University of Graz)

Drawing on the notion of object biographies, the paper will consider the liminal spaces that emerge between digitisation, data modelling, data-driven research, and online publication of cultural heritage content. This latter can take many forms, from online collection portals to digital exhibitions, from gamification and storytelling applications to digital supports for the visit and social media communication. In turn, digital interpretation and engagement programmes affect the experiences and understandings of heritage audiences, who engage with this content, sometimes sharing it and discussing it more widely. Audiences also produce their own digital objects during a museum visit or interaction with cultural heritage online: from photos to social media posts, they produce a lot of data that allow insight into their encounter with an exhibition and its objects.

The paper will highlight how all these digital objects not only reproduce and share information about an object but also expand its possible meanings in the digital realm. The affordances of the digital medium, negotiated in the digitisation and design choices informing digital representations and interpretation formats, shape these new objects. Digital objects are also witnesses to the encounters between curatorial expertise, current technologies, and the museum's visions and become part of new chapters in an object's life history. Similarly, user-generated content during a museum visit not only contributes to contemporary audience research but also enriches histories of reception, showing how new relationships and narratives are continuously emerging around an object.

In order to develop its argument, the paper will draw on a series of case studies, with a particular focus on examples of museum digital projects during the COVID-19 pandemic. In Spring 2020, many museums found themselves quickly developing new digital solutions to maintain a relationship with their audiences. In this context, both long-term digitisation strategies and the sudden adoption of new digital media and formats led to various online offers for cultural heritage. For example, a database of museum digital initiatives I created during the pandemic includes around 1000 projects from ca.45 countries (https://digitalmuseums.at/). These projects allow us to observe how the specific situation of 2020, alongside the technologies available at the time and the different digital skills and expertise of different institutions, led to a variegated range of digital initiatives, in turn, prompting a diverse audience response. The paper will frame the digital projects developed during COVID-19 in the context of the history of museum digital transformation, and it will ask what meanings and values can be traced in an ever-changing scenario of both ephemeral and meaningful digital representations. Ultimately, I will ask how each

digital instance of a museum object has the potential not only to reveal information about the object but also to highlight the circumstances that led to its development – contributing, therefore, to documenting an encounter between objects, museum staff, and visitors in a specific moment in time.

In short, this paper departs from the idea that digital objects find themselves at the intersection of histories of collections, knowledge, and technology, as well as contemporary events and socio-political contexts, to explore which forms of meanings and values emerge in the liminal space between an object and its digital reproduction and how these relationships could become part of an object biography. In doing so, museum theory and digital practices will be explored in order to uncover the multiple connections prompted by a digital object.

The scientific committee consists of:

Christian Greco, Maria Elena Colombo, Enrico Ferraris, Paolo Del Vesco
Museo Egizio, Turin

The participants are entitled to free admission to the Museo Egizio during the opening times of the museum:

Monday **9.00 – 14.00** (closed in the afternoon)
Tuesday — Sunday **9.00 – 18.30**

Please present your badge at the entrance

The participants are entitled to 20% discount at the Museum Shop.
Please present your badge at the cash desk.

Organizing Committee: Virginia Cimino
Federico Zaina

Contact: +39 011 5617776
virginia.cimino@museoegizio.it
federico.zaina@museoegizio.it

MUSEO EGIZIO
1824 —— 2024

Sala Conferenze
Via Accademia delle Scienze 6 | TORINO

museoegizio.it