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“Mosaic - timeless art and technology”

ABSTRACTS

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“Mosaic - timeless art and technology”

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Conservazione, musealizzazione e valorizzazione: i mosaici di Lucera (FG)

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Il Comune di Lucera è caratterizzato dalla presenza di un ricco patrimonio musivo, in parte esposto a seguito di datati interventi di restauro e in parte conservato nei depositi della Soprintendenza ABAP BAT- FG. In particolare, si fa riferimento al grande mosaico policromo figurato rinvenuto nel 1899 in piazzetta Nocelli, databile al II sec. d.C., e ai due mosaici tardo antichi provenienti da Vico Granata, databili fra V e VI sec. d.C. rinvenuti nel 1911, decorati con motivi geometrici e con le iscrizioni dedicatorie degli offerenti *Bictorius* e *Justa* e *Maxima*, tutti esposti nel museo civico “Giuseppe Fiorelli”, presso il settecentesco “Palazzo De’ Nicastri – Cavalli” di Lucera. I mosaici in questione furono oggetto di strappo e ricomposizione con l’utilizzo di tecniche ritenute all’epoca come innovative.

Nel 2018, invece, in un apposito padiglione ubicato nell’area libera circostante il Convento del SS. Salvatore, attuale biblioteca e pinacoteca della città di Lucera, è stato restaurato, ricomposto e valorizzato lo straordinario mosaico policromo geometrico della basilica A del complesso paleocristiano di San Giusto, della metà del V sec. d.C. Conseguentemente allo strappo reso necessario per la realizzazione dell’invaso della Diga di San Giusto, il progetto di restauro condotta tenne conto anche delle problematiche emerse nel corso dello scavo archeologico, dello strappo e del temporaneo deposito, e dei risultati delle indagini archeometriche su campioni rappresentativi di malte, tessere originarie e su alcuni prodotti impiegati nel restauro.

Il presente contributo intende illustrare le strategie di conservazione e valorizzazione messe in atto quest’anno dalla Soprintendenza ABAP BAT-FG, di concerto con il Comune di Lucera, partendo dall’analisi dei corredi musivi esposti e non, al fine di pianificare ed avviare un’attività organica e coordinata di tutela, progettazione e valorizzazione, che valuti i mosaici citati non come beni singoli ma come elementi di un patrimonio che andrebbe riconsiderato nel suo complesso.

Conservation, museum display and valorisation: the mosaics of Lucera (FG)

The Municipality of Lucera is characterized by the presence of a rich mosaic heritage, partly exposed following dated restoration interventions and partly preserved in the deposits of the ABAP BAT-FG Superintendence. In particular, reference is made to the large figured polychrome mosaic found in 1899 in Piazzetta Nocelli datable to the 2nd century AD, and the two late ancient mosaics from Vico Granata, dating back to between the 5th and 6th centuries A.D. found in 1911, decorated with geometric motifs and dedicatory inscriptions of the bidders *Bictorius* and *Justa* and *Maxima*, all exhibited in the civic museum "Giuseppe Fiorelli", at the

eighteenth-century "Palazzo De' Nicastri - Cavalli" in Lucera. The mosaics in question were torn and recomposed using techniques considered at the time as innovative.

In 2018, instead, in a special pavilion located in the free area surrounding the Convent of SS. Salvatore, current library and art gallery of the city of Lucera, has been restored, recomposed and enhanced the extraordinary polychrome geometric mosaic of Basilica A of the early Christian complex of San Giusto, of the middle of the fifth century d.c.. As a result of the tear made necessary for the construction of the reservoir of the San Giusto Dam, the restoration project also took into account the problems that emerged during the archaeological excavation, the tearing and temporary storage, and the results of the archeometric investigations of representative samples of mortars, original *tesserae* and some products used in the restoration.

This contribution intends to illustrate the conservation and valorization strategies implemented this year by the ABAP BAT-FG Superintendence, in agreement with the Municipality of Lucera, starting from the analysis of the mosaics exhibited and not, in order to plan and start a organic and coordinated activity of protection, planning and valorisation, which evaluates the mosaics mentioned not as individual assets but as elements of a heritage that should be reconsidered as a whole.

Il complesso caso di restauro dei mosaici della palestra termale di Faragola ad Ascoli Satriano (FG)

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Nell'ambito del cantiere di restauro archeologico della villa tardoantica di Faragola, avviato dal Comune di Ascoli Satriano (FG) a seguito del rovinoso incendio avvenuto nel settembre del 2017, sono in corso i lavori di conservazione del mosaico pavimentale della palestra del complesso termale (balneum) del IV-VI sec. d.C., costituito da cinque grandi pannelli con un vasto repertorio di motivi geometrici. Un intervento decisamente complesso la cui conoscenza merita approfondimento e divulgazione.

Dopo una prima fase conoscitiva basata su una campagna di indagini scientifiche, fotografiche, l'esecuzione di riprese in 3D, di mappature dello stato di conservazione, di analisi delle tecniche di esecuzione e degli interventi pregressi, i restauratori incaricati hanno operato con il sistema della quadrettatura della superficie. Si è proceduto, quindi, al recupero, alla mappatura e alla catalogazione dei frammenti e delle tessere erratiche, alla rimozione dei depositi superficiali incoerenti e parzialmente aderenti, al fissaggio di zone contigue di tessere mobili e al preconsolidamento.

E' evidente come il pavimento della palestra ha subito importanti deformazioni e dilatazioni del manto musivo che hanno determinato distacchi, sconnessure, fratture, sovrapposizioni e disgregazione del tassellato, che appare in ampie zone privo di aderenza al supporto. Ovunque erano presenti depositi residui di combustione superficiale; le dilatazioni hanno determinato varie frammentazioni e dislocazioni degli elementi musivi; il calore ha prodotto la disgregazione di alcune porzioni del tassellato e la decoesione superficiale, la superficie presenta strati compatti di materiale eterogeneo sovrapposti all'originale e macchie. Le lacune già rinvenute durante le pregresse campagne di scavo archeologico sono aumentate.

Tutto ciò mostra chiaramente la difficoltà operativa della ricomposizione del mosaico e del ricollocamento delle tessere nella loro posizione originaria, pertanto, il dialogo dialettico con tutti i soggetti coinvolti potrà fornire elementi utili per le complesse scelte operative da mettere in campo, al fine di restituire la leggibilità e preservare la memoria di un così rilevante patrimonio.

The complex case of restoration of the mosaics of the Faragola thermal gym in Ascoli Satriano (FG)

As part of the archaeological restoration site of the late antique villa of Faragola started by the Municipal authority of Ascoli Satriano (FG), following the disastrous fire that occurred in September 2017, conservation work is underway on the floor mosaic of the gym of the spa complex (*balneum*) of the 4th-6th century AD, composed of five large panels with a vast repertoire of geometric motifs. A decidedly complex intervention whose knowledge deserves further study and disclosure.

After an initial fact-finding phase based on a campaign of scientific and photographic investigations, the carrying out of 3D shots, mapping of the state of conservation, execution techniques and previous interventions, the restorers in charge operated with the technique of squaring the surface. We then proceeded with the recovery, mapping and cataloging of the fragments and erratic *tesserae*, the removal of inconsistent and partially adherent surface deposits, the fixing of contiguous areas of movable *tesserae* and the pre-consolidation.

It is evident that the floor of the gymnasium has undergone significant deformations and expansions of the mosaic covering which have led to detachments, disconnections, fractures, overlaps and disintegration of the patchwork, which show up in large areas without adhesion to the support. Residual deposits from surface combustion were present everywhere; the expansions have resulted in various fragmentations of the mosaic elements; the heat produced the erosion of some portions of the tessellation, the surface presents compact layers of heterogeneous material superimposed on the original and stains. The gaps already found during previous archaeological excavation campaigns have increased.

All this clearly shows the operational difficulty of recomposing the mosaic and repositioning the *tesserae* in their original position, therefore, the dialectical dialogue with all the subjects and the various professionals involved will be able to provide useful elements for the complex operational choices to be implemented in order to restore readability and preserve the memory of such an important heritage.

Il pavimento in *opus sectile* della chiesa in località Santo Venditti, presso Carlantino (FG)

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Durante varie campagne di scavo in Capitanata, condotte tra 2006 e 2007, sono stati indagati numerosi insediamenti medievali poco noti e dimenticati. E' il caso dell'insediamento monastico in località Santo Venditti presso il Fortore, nell'attuale territorio di Carlantino, dove è stato scoperto un esteso pavimento in *opus sectile*, una delle poche testimonianze di tale classe di manufatti (fine XI e inizio XII secolo). Il rinvenimento, presentato sinteticamente in occasione della pubblicazione dei primi resoconti di scavo (in una collocazione editoriale meramente locale, che esula dal circuito specialistico), attende uno studio critico mirato, volto anche a chiarirne i rapporti con la restante produzione italo-meridionale e, in particolare, con il simile pavimento di Castelpagano, presso Apricena (anch'esso poco noto).

Se il quadro dei mosaici tardo-antichi del foggiano è stato arricchito da ritrovamenti come Faragola e San Giusto, non sufficientemente indagata resta la produzione pienamente medievale.

In quest'epoca, infatti, prescindendo dai mosaici della chiesa abbaziale di Santa Maria di Tremiti, non sono attestati altri pavimenti decorati. Per questo motivo, si ritiene che il pavimento che si intende analizzare risulti particolarmente importante, oltre che per il discreto stato di conservazione e la notevole estensione, anche per la tipologia, mostrando un impianto piuttosto originale anche nel più ampio panorama pugliese.

La decorazione è incentrata sulla giustapposizione di diversi pannelli ottenuti con blocchetti di calcare chiaro insieme a lastre di diverso materiale, per ottenere un tenue effetto policromo, che formano uno schema geometrico in cui spicca la ripetizione di *rotae* costituite da cerchi concentrici (esempi di quest'ultimo motivo decorativo sono attestati in alcune chiese della terra di Bari, ma mai in numero così rilevante e secondo schemi tanto articolati).

Un'analisi approfondita e la rilettura di questo patrimonio, oltre a fornire ulteriori dati conoscitivi, potrà senz'altro suggerire future attività programmatiche di tutela e valorizzazione.

The *opus sectile* floor of the church in the locality Santo Venditti, near Carlantino (FG)

During various excavation campaigns in Capitanata, conducted between 2006 and 2007, numerous little-known and forgotten medieval settlements were investigated. This is the case of the monastic settlement in the locality of Santo Venditti near the Fortore river, in the current territory of Carlantino, where an extensive pavement in *opus sectile* was discovered, one of the few examples of this class of artefacts (dated between late 11th and early 12th century). The discovery, presented briefly on the occasion of the publication of the first excavation reports (in a purely local editorial position, that is outside the specialized circuit), awaits a targeted critical study, also aimed at clarifying its relationships with the remaining Italian - Southern production with the similar floor of Castelpagano, near Apricena (also little known).

If the picture of the late antique mosaics of the Foggia area has been enriched by discoveries such as Faragola and San Giusto, the fully completely medieval production remains insufficiently studied. In this period, in fact, apart from the mosaics of the abbey church of Santa Maria di Tremiti, no other decorated floors are attested. For this reason, it is believed that the floor that we intend to analyze is particularly important, not only for its fair state of conservation and its notable extension, but also for its typology, showing a rather original layout even in the wider Apulian panorama.

The decoration is centered on the juxtaposition of different panels obtained with blocks of light limestone together with slabs of different materials, to obtain a subtle polychrome effect, which form a geometric pattern in which the repetition of *rotae* made up of concentric circles stands out (examples of this last decorative motif are attested in some churches in the Bari area, but never in such a significant number and according to such complex schemes). An in-depth analysis and rereading of this heritage, in addition to providing further cognitive data, will surely be able to propose future programmatic activities of protection and valorization.

Restauro delle colonne binate incrostate di mosaico del chiostro di Monreale. Studio sperimentale del fosfato di ammonio come consolidante superficiale per i manufatti lapidei

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Questa presentazione verte sul restauro ed il consolidamento delle colonne binate site presso il lato Est del Chiostro di Monreale e, dato che la Soprintendenza dei Beni Culturali di Palermo ha vincolato la scelta del consolidante su un solo prodotto, il fosfato d'ammonio, si è deciso di focalizzare il lavoro di questa sperimentazione sulla scelta del metodo di applicazione in grado di fornire i migliori risultati.

Per l'intervento di restauro si è partiti da una ricerca di carattere storico artistico sull'apparato decorativo volta all'individuazione delle probabili influenze che hanno contribuito alla sua realizzazione; a cui si è affiancata

una ricerca presso l'Archivio Storico della Soprintendenza dei Beni Culturali ed Ambientali di Palermo, dove è stato possibile ricostruire la storia conservativa del monumento, individuando i vecchi interventi di restauro. Particolarmente invasivo è stato l'intervento di restauro effettuato da Patricolo alla fine dell'Ottocento, durante il quale i tetti e le colonne con i loro mosaici hanno subito un sostanziale cambiamento.

A partire dalle informazioni ottenute dagli studi bibliografici e da una mirata campagna di analisi si è portato avanti l'intervento di restauro che è consistito soprattutto di una delicata pulitura per la rimozione di una pellicola artificiale adesa alla superficie.

Prima di procedere al consolidamento si è avviato uno studio sperimentale sul consolidamento di marmi con fosfato di ammonio. In particolare, è stata valutata l'efficacia del trattamento su 12 campioni di marmo di Carrara degradato artificialmente in laboratorio. In particolare si è studiato l'effetto della concentrazione della soluzione e dell'uso di due supportanti: la polpa di cellulosa e la sepiolite. Dopo l'applicazione del trattamento l'efficacia dello stesso è stata valutata mediante indagini chimico fisiche e un test di dilavamento artificiale, giungendo a scegliere in questo modo il supportante e la concentrazione della soluzione da utilizzare in pieno campo.

Restoration of a couple of columns encrusted with mosaic of the cloister of Monreale. Experimental study of ammonium phosphate as surface consolidant for stone artefacts

This presentation deals with the restoration and consolidation of a twin columns group in the east side of the Santa Maria La Nova Cloister in Monreale. Particularly as the Superintendency for Fine Arts in Palermo binds the use of ammonium phosphate as consolidant for the Cloister, in this work we studied the influence of application method on the results achievable with this material.

A deep historic research prefaces the restoration intervention in order to identify the likely influences to the realization of these columns; furthermore it was possible reconstructing the conservation history of the monument, identifying all the previous restoration, through a research in the Historical Archive of the Superintendence of Fine Arts of Palermo. The restoration ruled by Giuseppe Patricolo at the end of the nineteenth century heavily modified roofs, columns and their mosaics.

Starting from information achieved through bibliographic studies and analysis on selected samples the restoration intervention has been performed. It mainly consisted in a complex cleaning designed to remove a surface filming substance.

An experimental study on the application method of ammonium phosphate to marble samples preceded the consolidation procedure on the columns. Particularly twelve artificially decayed Carrara marble samples were treated using solution at different concentration, ranging from 0.5 to 3M, with two different supporting materials: cellulose pulp and sepiolite. Treatment effectiveness has been evaluated by means of chemical analysis and accelerated wash out tests, the achieved results led to treatment actually used on the columns.

La silenziosa rivoluzione del mosaico tra arte, conservazione e socialità

Marco Santi, Anna Caterino

Gruppo Mosaicisti Ravenna di Marco Santi, Ravenna

Il Gruppo Mosaicisti Ravenna si è sempre distinto, sin dalla sua fondazione nel 1947, per la sua duplice anima produttiva: la prima incentrata sulla progettazione e realizzazione di mosaico moderno- contemporaneo e la seconda sulle partiche di restauro, conservazione e manutenzione del patrimonio musivo nazionale e internazionale.

Fondamento nel primo ambito è l'esigenza di liberare il linguaggio musivo dalla classica decorazione narrativa a parete ed ergerlo a linguaggio espressivo dal forte contenuto emotivo e dal coinvolgente impatto sociale, ponendo grande attenzione al modo in cui le opere si relazionano con lo spazio. Attraverso il linguaggio musivo, fatto di colori, eterogeneità materica, linee, volumi e componenti ingegneristiche, si accompagna il visitatore in un'esperienza visiva artistica, che tocca le corde più intime dell'individuo umano. Il mosaico diventa il mezzo di una contemporaneità discorsiva e dialettica tra i canoni estetici e i nuovi livelli di immaginazione: irrompe e porta come risultato l'incrocio di estetiche eterogenee classiche, bizantine e contemporanee. Le opere musive hanno la funzione di reliquie di un tempo sospeso: nello stesso momento in cui la loro tecnica rimanda al mondo musivo bizantino la loro morbidezza espressiva e innovazione materica rimanda alle ricerche contemporanee del mosaico.

Nel secondo ambito, le esigenze di transizione che caratterizzano globalmente la società contemporanea chiedono agli interventi di conservazione e restauro il raggiungimento di obiettivi quali ad esempio quelli ecologici, di responsabile utilizzo delle risorse e più in generale di sostenibilità. In questo scenario si richiede un ripensamento e l'avvio di una riflessione sulle caratteristiche che rendono l'innovazione compatibile con le finalità di conservazione e di tutela, nonché la possibilità di risolvere i possibili conflitti che possono innescarsi tra innovazione e tradizione. Si presentano in questa sede casi particolarmente significativi riguardo l'innovazione nelle diverse fasi del processo di restauro conservazione e manutenzione di manufatti musivi. Rispetto alla capacità di risolvere i conflitti tra le diverse istanze di restauro, conservazione e manutenzione, quali scenari culturali e tecnici innovativi si richiedono oggi?

The silent revolution of the mosaic between art, conservation and sociality

The "Gruppo Mosaicisti Ravenna" has always stood out, since its foundation in 1947, for its dual productive soul: the first focused on the design and realization of modern-contemporary mosaic, and the second on restoration, conservation, and maintenance practices of the national and international mosaic heritage.

The foundation in the first context is the need to liberate mosaic language from classic narrative wall decoration and elevate it to an expressive language with strong emotional content and engaging social impact, paying great attention to how the works relate to space. Through the language of mosaic, composed of colors, material heterogeneity, lines, volumes, and engineering components, the visitor is led through an artistic visual experience that touches the most intimate chords of the human being. The mosaic becomes the means of a contemporary discourse and dialogue between aesthetic canons and new levels of imagination: it bursts forth and results in the intersection of classic, Byzantine, and contemporary heterogeneous aesthetics. Mosaic works function as relics of a suspended time: at the same moment their technique refers to the Byzantine mosaic world, their expressive softness and material innovation refer to contemporary mosaic research.

In the second context, the transitional needs characterizing contemporary society globally demand that conservation and restoration interventions achieve objectives such as ecological considerations, responsible use of resources, and overall sustainability. In this scenario, a rethinking and initiation of reflection on the characteristics that make innovation compatible with conservation and protection goals is required, as well as the ability to resolve potential conflicts that may arise between innovation and tradition. Particularly significant cases regarding innovation in different phases of the mosaic artifact restoration, conservation, and maintenance process are presented here. Concerning the ability to resolve conflicts between different restoration, conservation, and maintenance demands, what cultural and technical innovative scenarios are required today?

In situ X Museum X Dump? – The treatment and protection of Czechoslovak mosaics from the socialist era

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The Czech Republic has a vibrant mosaic tradition that began in the late 19th century. However, mosaics have been tainted with the stigma of "communist art" for the last several decades, as this technique was widely used in architecture built during the socialist era. Therefore, after 1989 (the collapse of socialism), society kept its hands off them, overlooking not only propaganda-free masterpieces of the past, but mosaics in general. In recent years, the perception of mosaics has slowly been changing. The activities of the Art & Craft Mozaika Association are aimed at the recognition, proper evaluation and rescue of 20th century mosaics. Over a dozen examples of successful restoration/conservation works as well as examples of saving from ultimate damage will be introduced during the presentation.

The latter half of the 20th century can be called the heyday of Czechoslovak mosaic art even though it is just this period that caused the negative connotation of mosaic art as the tool of communist propaganda. Monumental art performed in high-quality and long-term materials was a preferred manifestation of socialist culture which was meant to last eternally. Mosaics frequently appeared both on the facades and in interiors of newly constructed buildings. Smaller inter-war and early post-war studios were nationalized and in 1954 united into a central mosaic workshop incorporated into Ústředí uměleckých řemesel (ÚUŘ - Central Art and Craft Studios), which received by far the most of mosaic commissions of that time. Notably in the 1950s, some mosaics reflected the change of the political regime both thematically (adoration of folk, workers or straightforward communist symbols) and technically (socialist realism style). However, despite strict state control over art and active censorship, mosaic art differentiated in many styles and forms. The successful culture and art presentation of Czechoslovak pavilion in 1958 EXPO World Exhibition in Brussels gained international fame and caused a certain release in creation and innovations. The 1960s brought new trends both to topic (less straightforward ideology, more abstract subjects), form (abstraction) and materials (more frequent use of unprocessed stone and ceramics due to lower costs, newly developed prefabricated pressed and sintered glass). Mosaics were assembled in numerous public buildings all over the country – railway stations, schools, factories etc. The most prestigious set of mosaics was installed in Prague metro. In 1970 – 1993 (company's collapse), ÚUŘ mosaic workshop assembled over 300 works all over Czechoslovakia and also abroad. Apart from the presentation of the most famous Czechoslovak mosaic works and authors of that period, special attention will be drawn to the works of Sauro Ballardini, an Italian mosaicist who was active in the former Czechoslovakia. He is the author of a unique mosaic called "Mankind Conquers the New Space Horizons", which was saved from destruction three years ago. He also designed and assembled a large stone mosaic wall in the Florenc metro station in Prague. The mosaic will be restored in the coming years.

Materials aspects of mosaics produced in socialistic Czechoslovakia

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In the Czech Republic, over 300 mosaic works from the socialistic era (1948-1989) can be found. In the course of time the status of these mosaics has shifted from contemporary artworks to historic monuments. Since they have not been considered “historic enough” and due to the controversy they may raise (the connection with the past oppressive regime), quite low attention has been drawn to their characterization and conservation. Thus little is known about their materials composition and degradation processes. Understanding these issues can bring a significant benefit to design proper conservation and restoration strategies.

The production of mosaics was state-controlled under socialism. Most of the mosaic works were created in a specialised state mosaic workshop of the Ústředí uměleckých řemesel (Central Art & Craft Studio). Over the years, the studio staff developed standardised procedures for assembling mosaics. Tesserae were generally applied *alla prima* to reinforced concrete slabs in the studio, and the panels were subsequently assembled on site into the final unit. Typical tesserae materials were either stone of various geological origins (both hewn and unhewn) or mosaic glass. Czechoslovakia was one of only three countries in the world where local mosaic glass was produced.

The aim of our work was to characterize some of the Czechoslovak socialistic mosaics from the materials point of view. We focused on the materials which fixed the tesserae – i.e. the mosaic mortars and other binders. A wide range of analytical methods (scanning electron microscopy, light microscopy, thermal analysis, x-ray diffraction, infrared spectroscopy and gas chromatography) was used to characterize the composition and properties of socialistic mosaics’ mortars.

The results of the analyses showed that architectural mosaics (i.e. mosaics on the facades or internal walls of buildings) were fixed mainly with mortars based on blended Portland cement containing blast-furnace granulated slag and sandy aggregate. However, alternative methods of fixing mosaics using acrylic resin (A. Paderlik’s “Barricade Soldier” mosaic) or fusing transparent glass tesserae to an aluminium or glass support using polyvinyl butyral film have also been developed. A waterproofing coating consisting of a mixture of fatty acid derivatives was identified on the mosaic “Architect’s Reason and Sense” (by M. Sladký). This mixture was apparently prepared artificially from waste products of agricultural production.

10th May 2024

**Mosaics of Felix Romuliana, Galerius’s Palace,
the end of 3rd – the beginning of the 4th century AD, Zaječar, Serbia**

Maja Živić

National Museum “Zaječar”, Serbia

Felix Romuliana is a unique Sacral - Memorial Complex, the Palace for the eternal life of the Emperor Caius Valerius Maximianus Galerius (293 – 311) and his divine mother Romula. This magnificent place is situated in Emperor’s birthplace, near the City of Zaječar, in Eastern Serbia (Roman province of Dacia Ripensis - Coastal Dacia) and named Romuliana after his mother Romula. It has been declared UNESCO World Heritage Site in 2007.

The court complex is walled by a unique double fortification, formed from the remains of the older fortification nested into the younger fortification. Galerius could have started building the older fortification only after his great victory over Persians in 298 AD, while building of the younger fortification started in 305/6 AD. The pilaster with representation of tetrarchs in medallions testifies that 305 AD, the year in which Galerius was

proclaimed Augustus, is the year which we can count as the beginning of building of the palace. The whole complex was probably supposed to be completed by celebration of the 20th Anniversary of Galerius' reign (*vicennalia*) and his voluntary abdication in 313 AD, what prevented his death in 311.

Remains of mosaic carpets in the Palace cover approximately 1.800 m². They are the most impressive visual expression of the idea and political concept of the Tetrarchy as well as testimony of Galerius's adoration of the God Dionysus. The most important mosaics: Dionysus on a feast, the Labyrinth and Venatores were removed to the National Museum "Zaječar". The others are covered with sand, except one mosaic in the round entrance hall of stadium of the Palace. National Museum "Zaječar" and Republic Institute for the Protection of Cultural Monuments in Belgrade asked UNESCO for permission to create protective structures over 325 m² of mosaics in the entrance hall (*vestibulum*) of the palace for their presentation and got an affirmative response.

My neighbourhood's mosaic: a tool for Barcelona's mosaic conservation

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In 2017, Barcelona hosted the 13th International Conference for the Conservation of Mosaics (ICCM) in which the Archaeological Service (Barcelona City Council) took place as the local authority organiser. As a benefit for the citizens, our service developed the project My Neighbourhood's Mosaic which is a participatory conservation project aimed at discovering, highlighting and conserving the mosaics in the city.

The City Council is the public administrative body responsible, among other things, for the conservation and maintenance of the goods of public domain in the local context. Conscious of Barcelona's rich public and private mosaic heritage, it became essential to obtain the citizens' commitment and complicity in order to ensure its preservation.

By means of the creation of a website and by getting together various institutions and academic organisms, added to an important number of volunteers, it was possible to implement the project before the beginning of the ICCM Conference. This project is about conservation of mosaics through a combination of didactics and participation that can be resumed under the slogan "knowing for loving, loving for valuing and valuing for conserving".

Barcelona's mosaic heritage covers a wide chronological lapse and comprises productions that are representative of various historical periods. Works made of mosaic can be found in museums or historical buildings but also in civil buildings. Seven years after launching the website we can make a balance of the results from the different main topics of the website: Participatory Inventory, Mosaic Techniques, Conservation Tips, Itineraries and Interviews with Mosaicists. At the same time, we are wondering if it makes sense to continue and in which direction.

Nevertheless, the project is dynamic and permanently renewed so it led us down unexpected but also interesting roads. Our contribution intends to explain the project and its evolution so that it may be assessed as a tool for heritage conservation.

**Il mosaico pavimentale del Salottino di porcellana di Maria Amalia di Sassonia,
presso la Reggia di Portici: interventi e studi effettuati dal corso di restauro
dell'Accademia di Belle Arti di Napoli**

Manlio Titomanlio

Accademia di Belle Arti di Napoli

La Reggia borbonica di Portici, oggi sede del Dipartimento di Agraria dell'Università di Napoli Federico II, dei Musei delle Scienze Agrarie e del Museo Ercolanense, conserva -tra i tanti tesori- il mirabile mosaico pavimentale del Salottino di porcellana di Maria Amalia di Sassonia (i cui rivestimenti in porcellana sono stati spostati nella seconda metà del XIX secolo al Museo di Capodimonte). L'Accademia di Belle Arti di Napoli con il suo corso di restauro, grazie ad un accordo quadro stipulato alla fine del 2019 con il centro Musa (Centro Musei delle Scienze Agrarie) si sta occupando della conservazione di questa pavimentazione. L'intervento che si sta svolgendo sul mosaico è stato fondamentale per restituire e valorizzare un importante esempio del patrimonio archeologico e storico-artistico della Reggia. In particolare si tratta di un tessellato policromo costituito in gran parte da porzioni musive di epoca romana, molto probabilmente provenienti dagli scavi di Ercolano, che furono reimpiegate per decorare il pavimento del Salottino cinese di Porcellana della Reggia. Oggi l'intera pavimentazione risulta l'unico elemento decorativo della stanza e presenta numerosi piccoli interventi di rifacimento, volti ad arginare i danni che molto probabilmente si ebbero già a partire dalla fine del XIX secolo. Il restauro iniziato di fatto nel 2020 è attualmente in corso ed è prossimo alla fine. Nello specifico si sono effettuate operazioni di pulitura e di fissaggio di tutte le singole tessere distaccate oltre ad una serie di studi mirati al rilievo di tutti i momenti esecutivi del pavimento, tentando di ricostruire tutte le vicissitudini della stanza da quando è stata decorata per allestire il Salottino di Porcellana fino agli ultimi restauri effettuati alla fine del ventesimo secolo.

**The floor mosaic of the porcelain lounge of Maria Amalia of Sassonia, at the Palace of Portici:
restoration interventions and studies carried out by the restoration course of
the Academy of Fine Arts of Naples**

The Bourbon Palace of Portici, today home to the Department of Agriculture of the University of Naples Federico II, the Museums of Agricultural Sciences and the Ercolano Museum, preserves - among the many treasures - the wonderful floor mosaic of the porcelain lounge of Maria Amalia of Sassonia (whose porcelain coverings were moved in the second half of the 19th century to the Capodimonte Museum). The Academy of Fine Arts of Naples with its restoration course, thanks to a framework agreement stipulated at the end of 2019 with the Musa center (Museums of Agricultural Sciences center) is taking care of the conservation of this flooring. The work being carried out on the mosaic was fundamental in restoring and enhancing an important example of the archaeological and historical-artistic heritage of the Palace. In particular, it is a polychrome tessellatum consisting largely of mosaic portions from the Roman Era, most likely coming from the excavations of Herculaneum, which were reused to decorate the floor of the Chinese porcelain lounge of the Palace. Today the entire flooring is the only decorative element of the room and has numerous small remaking aimed at stemming the damage that most likely occurred as early as the end of the 19th century. The restoration which actually began in 2020 is currently underway and is nearing completion. Specifically, cleaning and fixing operations were carried out on all the individual detached tesserae as well as a series of studies aimed at surveying all the executive moments of the floor, attempting to reconstruct all the vicissitudes of the room since it was decorated to set up the Porcelain sitting room until last restorations carried out at the end of the twentieth century.

Monitoraggio microclimatico, analisi diagnostiche, e attività sperimentali propedeutiche al restauro del mosaico del sito archeologico ipogeo di via Sigismondo a Rimini

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In accordo con il Codice dei Beni Culturali e del Paesaggio la conservazione del patrimonio culturale è assicurata mediante una coerente, coordinata e programmata attività di studio, prevenzione, manutenzione e restauro.

Questo lavoro è tratto da una recente tesi di laurea incentrata sul restauro in situ del mosaico pavimentale datato al IV secolo d.C. del sito archeologico ipogeo della Camera di Commercio di Rimini. L'intervento di restauro è stato preceduto e supportato da una approfondita campagna di indagini conoscitive volte a comprendere il microclima esistente, i materiali costitutivi del mosaico (tessere e malte) e le forme di degrado organiche e inorganiche presenti. Una volta compresa la natura dei materiali messi in opera in antico, del microclima e delle alterazioni presenti, in accordo alla norma UNI 11488:2021 (Conservazione del patrimonio culturale - Linee guida per la classificazione, la definizione della composizione e la valutazione delle caratteristiche prestazionali delle malte da restauro) sono state formulate e testate in laboratorio due diverse malte da restauro. La prima volta al risarcimento delle lacune non consustanziale con mantenimento a vista dei sottofondi e per la creazione di un nuovo cordolo contenitivo del tessellato perimetrale del mosaico, la seconda per l'allettamento di tessere antiche, volta al risarcimento consustanziale di piccole lacune.

Microclimatic monitoring, diagnostics and experimental activities to support the restoration intervention of the mosaic located in the hypogeum archaeological site in Sigismondo's street, Rimini

According to the Cultural Heritage and Landscape Code, the conservation of cultural heritage is ensured through coherent, coordinate and planned study, prevention, maintenance and restoration activities.

The work is taken from a recent degree thesis focused on the in situ restoration of a floor mosaic dated to the 4th century AD. The mosaic is located in the hypogeum archaeological site of the Chamber of Commerce in Rimini (Italy). The restoration intervention was preceded and supported by an in-depth campaign of investigations aimed at understanding the indoor microclimate, the materials constituting the mosaic (tesserae and mortars) and the organic and inorganic forms of deterioration present.

Once the mosaic materials, the indoor microclimate and the deterioration forms have been understood, in accordance with the UNI 11488:2021 standard (Conservation of Cultural Heritage - Guidelines for the classification, for the identification of the composition and for the valuation of the performance characteristics of the restoration mortars) two different restoration mortars were formulated and tested in laboratory. The first one aimed at compensating non-consubstantial lacunae with visible maintenance of the substrates and for the creation of a new containing curb of the perimeter tessellate of the mosaic. The other mortar useful for the bedding of ancient tesserae aimed at the consubstantial compensation of small lacunae.

Proposal of a new multidisciplinary protocol for mosaic diagnostics: the Apulian case

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The project aims to combine the results obtained by advanced methodologies for diagnostic to the study of medieval Apulian mosaics from artistic and historical point of view for their conservation and restoration. The first case-study will focus on the famous medieval large pavement mosaic located in the Otranto Cathedral depicting the Tree of Life (XII sec.). The project objectives will be achieved with the aid of non-destructive and non-invasive diagnostic techniques, commonly used in mineralogical studies, in close collaboration with archaeologists and art historians for their valorization. The characterization of the geomaterials and artificial glass, commonly found in medieval mosaics, will be executed in situ by means of spectroscopic techniques (XRF, FORS, Raman). The mobile laboratory available at the Department of Earth and Geoenvironmental Sciences (University of Bari Aldo Moro) will allow the chemical and mineralogical characterization of the mosaic tesserae. With the collaboration of Brindisi-Lecce Superintendence the possibility to collect the back part of tesserae and bedding mortar will give the chance to have a full characterization with petrographic and more accurate lab analyses. All collected data will lead to the creation of a complex information database. The interdisciplinary methodological approach of the research project will contribute significantly to the historical reconstruction of cultural heritage, providing an original critical interpretation of artworks through the historical study of the processing techniques, the interaction between different artisan workshops, and the influence on the territory of important cultural centers and the main commercial, military and pilgrimage routes. The information obtained will also be able to form a strong basis for defining good practices useful for conservation and be of support for any restoration phases when necessary. The protocol developed with this case-study will be applied to other medieval mosaics in Brindisi and Bari.

Ancient mosaics craftsmanship - The LOD mosaics and other discoveries

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The excavation and conservation of the Lod mosaic in Israel lead to a number of important discoveries about the mosaic-making process in antiquity. First of all we discovered the huge lack of information and the need of more research in the matter.

In this article we will try to classify the methods and techniques for the lay-out of antique mosaics based on recent discoveries and mainly on the research done on the Lod mosaic following the stages of mosaic production: planning, mortars production and application, outlines for the mosaic composition, preparatory designs for the lay-out of the *tesselatum* (*paradeigma* and *sinopiae*), lay-out of the mosaic by the mosaicists.

L'arte musiva nel Salento (XIX-XX secolo): dalla bottega artigianale allo stabilimento industriale dei F.lli Peluso a Tricase (LE) e Lecce

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La famiglia Peluso, originaria di Tricase, ha scritto una pagina importante sia per la storia dell'arte musiva che per la storia dell'industria di Terra d'Otranto (le attuali province di Lecce-Brindisi e Taranto) e non solo. Basti ricordare che Giuseppe fu tra i promotori e primo presidente dell'Unione degli industriali della provincia di Lecce che si costituì nel dicembre del 1926.

Antonio, Ippazio Luigi, Michele e Giuseppe Peluso (di Paolino, 1819-1893, calzolaio), fratelli mosaicisti e industriali. In particolare Michele (Tricase 1870, Lecce 1947) e Giuseppe (Tricase 1872, Lecce 1944), dopo aver lavorato nella bottega artigiana dei fratelli maggiori e appresa la tradizionale arte del mosaico si trasferirono, verso alla fine degli anni ottanta dell'Ottocento, da Tricase a Lecce. Qui aprirono presso il molino a vapore dei fratelli Chillino, un piccolo opificio per la produzione di mosaici e opere in "litocemento armato effetto mosaico".

I documenti finora ritrovati (soprattutto quelli dello stato civile), indicano Antonio (Tricase 1853-1918) come mosaicista e stuccatore oppure "maestro di pavimenti" e Ippazio Luigi (Tricase 1856-1915) come pittore e già da questa prima distinzione si comprende bene quale dei due fosse l'ideatore delle opere di bottega (attiva a Tricase in via Alladini) e chi ne fosse realmente l'esecutore materiale. La prima formazione dei fratelli Peluso avviene intorno alla fine degli anni sessanta dell'Ottocento e la loro prima stesura musiva è datata 1871 eseguita nella già citata Chiesa matrice di San Michele Arcangelo in Castiglione d'Otranto (LE).

I Peluso aveva un'organizzazione di bottega ferrea; il lavoro veniva coordinato sempre dal fratello maggiore Antonio che firmava i contratti con la committenza. Ippazio Luigi, si occupava anche di altri lavori artistici. Ad Antonio ed Ippazio Luigi si affiancano nella produzione musiva i due fratelli minori Michele e Giuseppe che aprirono un opificio a Lecce e trasformano la bottega artigianale dei fratelli in uno dei più importanti stabilimenti industriali del meridione d'Italia per la lavorazione del "litocemento" e di manufatti in cemento applicati all'architettura.

Mosaic art in Salento (19th-20th century): from the artisan shop at the industrial plant of the Peluso brothers in Tricase (LE) and Lecce

The Peluso family, originally from Tricase, wrote an important page both for the history of mosaic art and for the history of the industry of Terra d'Otranto (the current provinces of Lecce-Brindisi and Taranto) and beyond. Suffice it to remember that Giuseppe was among the promoters and first president of the Union of Industrialists of the province of Lecce which was established in December 1926.

Antonio, Ippazio Luigi, Michele and Giuseppe Peluso (di Paolino, 1819-1893, shoemaker), mosaicist and industrial brothers.

In particular, Michele (Tricase 1870, Lecce 1947) and Giuseppe (Tricase 1872, Lecce 1944), after having worked in the artisan workshop of their older brothers and having learned the traditional art of mosaic, moved, towards the end of the 1880s, from Tricase to Lecce. Here they opened a small factory for the production of mosaics and works in "reinforced lithocement with mosaic effect" near the Chillino brothers' steam mill.

The documents found so far (especially those of the civil status) indicate Antonio (Tricase 1853-1918) as a mosaicist and plasterer or "paving master" and Ippazio Luigi (Tricase 1856-1915) as a painter; from this first distinction it is easy to understand which of the two was the creator of the workshop works (active in Tricase in via Alladini) and who was actually the material executor. The first formation of the Peluso brothers took

place around the end of the 1860s and their first mosaic draft was dated 1871 and was carried out in the aforementioned Mother church of San Michele Arcangelo in Castiglione d'Otranto (LE).

The Peluso had a strict workshop organization; the work was always coordinated by his older brother Antonio who signed the contracts with the clients. Ippazio Luigi was also involved in other artistic works.

Antonio and Ippazio Luigi are joined in the mosaic production by the two younger brothers Michele and Giuseppe who opened a factory in Lecce and transformed the brothers' artisan workshop into one of the most important industrial plants in southern Italy for the processing of "lithocement" and of concrete products applied to architecture.

Stesure pavimentali musive del XIX-XX secolo in chiese, palazzi e ville del Salento: processo di produzione, tecniche di posa in opera e provenienza dei materiali lapidei

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La ricerca volta all'individuazione, nel territorio salentino, delle stesure musive pavimentali che decorano gli ambienti di palazzi, ville, abitazioni, chiese e cappelle, ebbe inizio nel 1992 e i risultati furono presentati in occasione di precedenti conferenze.

Gli esiti di questo primo censimento furono la scoperta di circa settanta pavimenti musivi; dei quali si cercò di identificare la mano dell'autore. Negli anni successivi, a seguito di altre ricerche, sono stati individuati altri duecento mosaici e, soprattutto, sono stati approfonditi gli aspetti legati all'identificazione dei maestri-artigiani che li eseguirono.

In questo lavoro verranno illustrati i più importanti pavimenti a mosaico presenti nei palazzi e ville della città di Lecce, tenendo in considerazione i caratteri iconografici, i materiali costituenti le tessere, con le loro relative aree di provenienza, nonché le tecniche di posa in opera.

A tal scopo sono state eseguite indagini attraverso l'osservazione diretta di alcune compagini musive staccate, l'esecuzione di analisi chimiche e mineralogico-petrografiche e le testimonianze orali dei pochi maestri mosaicisti ancora attivi, che hanno consentito l'individuazione delle aree dove vi erano le rocce colorate da cui ricavano le tessere.

Nella città di Lecce, tra il 1875 e il 1940, sono attivi i maestri mosaicisti Antonio e Ippazio Luigi Peluso, Michele e Giuseppe Peluso (fratelli più piccoli dei già citati), Giuseppe, Vito e Antonio Nicolardi tutti originari di Tricase in Provincia di Lecce. Essi realizzarono nel capoluogo salentino oltre centocinquanta stesure musive (attualmente ne sono state censite novanta), che decorano gli ambienti di sontuosi palazzi e ville.

Floor mosaics 19th-20th century in churches, palaces and villas of Salento: production process, execution techniques and provenance of stone materials

The research, started in 1992, is aimed at identifying, in the Salento area, the floor mosaics that decorate the rooms of palaces, villas, homes, churches and chapels. Some results of this research, were presented in previous congresses and workshops regarding mosaic topics.

The first results of this census were the discovery of about seventy floor mosaics and the identification of the authors who realized them. Other researches, performed in the following years, allowed us to identify further two hundred floor mosaics and, above all, to deepen the aspects linked to the identification of the master craftsmen who executed them.

In this work, the most important floor mosaics, present in the palaces and villas of the city of Lecce will be illustrated, taking into account the iconographic characters, the materials constituting the *tesserae*, with their relative areas of origin, as well as the execution techniques.

For this reason, investigations were performed through direct observation of some detached mosaic groups, execution of chemical and mineralogical-petrographic analyses of *tesserae* and the oral testimonies of the few master mosaicists, still active, which allowed identifying the provenance of the coloured stones from which the *tesserae* were obtained.

In the city of Lecce, between 1875 and 1940, the master mosaicists Antonio and Ippazio Luigi Peluso, Michele and Giuseppe Peluso (younger brothers of the aforementioned), Giuseppe, Vito and Antonio Nicolardi, all originally from Tricase in the Province of Lecce, were active. They created over one hundred and fifty floor mosaics (ninety have currently been registered) which decorate the rooms of sumptuous palaces and villas of Lecce.