

# Mann-In-Colours. The First Italian Database on Polychromy of Ancient Sculptures

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The application of scientific surveys on classical statuary has developed rapidly in recent years thanks to the growing interest of archaeologists and scholars in the "rediscovery" of polychromy in ancient works. The project proposed here concerns the creation of the first Italian database on ancient polychromy funded by an Italian museum; it also aims to build an innovative method, on how to communicate following results, that can attract a large number of people, thanks to the use of new technologies and digital software never used in Italy for the enhancement of this field of studies. Mann-In-Colours is a three-year scientific project carried out by the "National Archaeological Museum of Naples" (MANN) in collaboration with the National Taiwan Normal University di Taipei. The project works on chromatic traces, sometimes imperceptible to the human eye but still existing on sculptures. It has the purpose to recover the original aspect of these sculptures and so to revolutionize their aesthetic perception on part of visitors in the course of centuries. From the scientific point of view the project includes chemical and physical analyses on selected Farnese Collection sculptures, allowing to recompose their pertinent chromatic sets. All collected data will be systematized in a database specifically designed by scholars made for this purpose, usable by scholars. One of its sections will be available for general public fruition.

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Photogrammetry, 3D Modelling, Database, Polychromy.

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## INTRODUCTION

*"Since the publication of the celebrated work by Quatremère de Quincy [1815] - Le Jupiter Olympien – that is to say, scarce forty years ago, the question of the polychromy of ancient monuments has not ceased to occupy the antiquarian and artistic world, without having, as yet, been determined in a satisfactory manner."*

[Semper 1851]

Although there is still a lot of work to be done, the application of scientific investigations on classical statuary has developed rapidly in recent years, thanks to the growing interest of archaeologists and scientists on the "rediscovery" of ancient polychromy [Østergaard 2010]. The project that we are going to outline here, in its general lines, concerns the creation of the first Italian database on ancient polychromy, sponsored and funded by an Italian National museum. This will be based on an inclusive strategy aimed at attracting many people; it will combine the use of never utilized digital skills in order to enhance this field of study. The keystone of the project is a huge analyses campaign on the Farnese Collection. All the results will be offered to public not only for scientific research but also to engage in carrying out "capability building" practices and techniques of approaching complex topic as this one. An innovative approach will allow individual to take up the challenge to interact with multifaceted issues, to keep a good recall of the museum experience. It will give means to understand, according to own abilities, what is offered and finally, to become agents of experience. To sum up, Mann-In-Colours wants to change museum visitor perception letting them become prosumers (pro-ducer and con-sumer) able to mix individual values with their acquired learning. If on the one hand scientific research has made great strides on the development of diagnostic investigations (invasive and non-invasive) for the research of ancient colours [Østergaard 2009], on the other hand it should work on educational tools and disclosures

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aimed at attracting, without spectacularizing. Therefore, thanks to the setting up of never experimented simultaneously digital tools, Mann-In-Colours represents an unprecedented case.

## SCIENTIFIC APPROACH

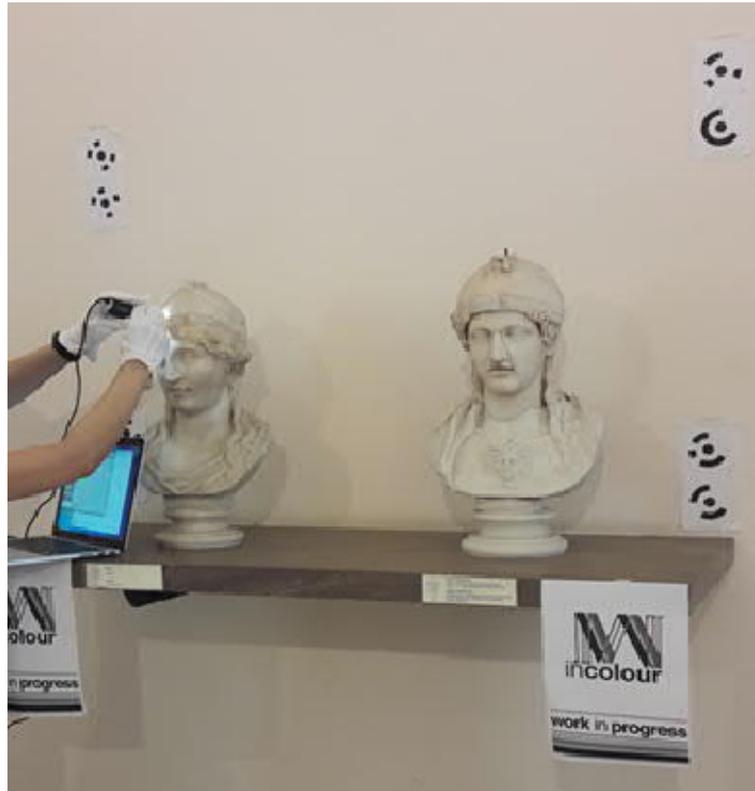
Despite recent studies on ancient colours are making great strides, we're still far from considering polychromy in Greek and Roman statuary a common topic. Many artefacts jealously guard precious secrets so: helping people to realize the original colours and shades would enable them to understand their correct meaning and the significance of the different colours employed. It would besides help to comprehend the reasons for different supplies; preparation; application and their symbolic values within a broader cultural context [Brecoulaki 2014]. For one sculpture that has preserved original colours (even partial and imperceptible to naked eye) there are hundreds that totally lost theirs, and so missing, as inauspicious consequence, their original meaning. The issue is consequently to help people to understand that Ancient Classical Past once was dominated by polychrome sculptures. Otherwise, how could we expect them to appreciate the difference between material object and sublime sculpture? And considering the ancients' everyday life: was the use of colour reserved only for few works of art or was it more widespread than we have thought so far? Had it a symbolic use? [Alfeld et al. 2016] If we fall into the fascination of these questions, it becomes clear that colours were applied for many more purposes we have considered so far, drives not only concerning client's economic status but also values for social and human narrative. Therefore, we need to come back to the originals if we really want to understand the message they conveyed to contemporary watchers: it becomes an urgent necessity, coming back (or at least try) to the original representative of classical works, whose right context follows.

In the scientific field it is a fact that copious Greek and Roman sculptures, as well as many decorative architectural elements, were coloured [Grand-Clément 2009] but the daily perceiving (and for museums is a great unsolved challenge) general idea, difficult to debunk, is a past populated by pure white marbles [Jockey 2013; Grand-Clément 2016]. For about twenty years research on polychromy has been enriched by the contribution of numerous scholars, whose interdisciplinary results convey towards the purpose of restoring philological correctness to ancient narration. Thanks to the use of sophisticated instruments and chemistry, archaeological investigation has achieved tangible results [Sandu et al. 2012; Verri et al. 2010]. Archaeology, history, collecting, philology and art history combined have devised significant guaranteed interpretation tools [Jockey 2014], expressing their full potential in terms of knowledge [Siano et al. 2010]. Obtained data, however, are struggling to fight the common interpretative lexicon and are impeded by hypercomplex terminology and theoretical superstructure and misinterpretation [Bradley 2009; Brecoulaki 2014]. Today we must oppose the myth of Winkelmann's candour, in order to be open-minded and reinterpret old-school knowledge [Gasanova et al. 2018]. Therefore, to complete this virtuous circle we'd actively involve people with multifaceted interests, schools and families. This means to eliminate physical and theoretical barriers: doing a multiverse exploration [Ainsworth 2005] and become convinced that museums always transfer proper knowledge.

With the view of effecting a research based on a list of strong points around which to set a working program, given the vastness of the Museum's archaeological collections, it was decided to select some of museum's masterpieces, partly belonging to the Farnese Collection [Gasparri 2009], thus guaranteeing unity and completeness. We chose also specific masterpieces to join selected iconographic types specimens, to make the data set immediately comparable. From philological and iconographic point of view the Farnese is ideal for a research project on this topic, since we can refer, for example, to many replicas of the same model and to its variations (cf. Venus Marina) [Becatti 1971; Carrella 2008]; on the other hand, however, it conceals large contradictions and complexity, which are typical of private art and archaeological collections, created in ancient epochs: transfers from one location to another, stylistic restorations, prolonged displays in unsuitable environments... just to cite the most macroscopic criticalities. Given the fact that further displacement would damage them, investigations started in situ with visual examination using video microscope and taking macro and microphotography (Fig.1); just in case of a real and undisputable evidence of trace, we carry out physical investigation and technical imaging with different types of radiation such as "ultraviolet" (UV) fluorescence, "fluorescence" (UV-FL) and "visible-induced luminescence" (VIL) [Verri 2009], ending with chemical investigations like XRF/XRD [Lutterotti et al. 2016] and Raman spectroscopy [Vandenabeele and Edwards 2005], indispensable inspections to recognize pigments [Siddall 2018; Beckhoff et al. 2006]. Invasive non-destructive technique is also carried out taking microscopic samples for microscopic cross-sectional analysis [Calza et al. 2015]; more specific analyses are processed at the Centro Interdipartimentale Grandi Strumenti of the University of Modena and Reggio Emilia<sup>1</sup>.

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<sup>1</sup> <https://www.cigs.unimore.it/index.php>



*Fig. 1. Optical petrographic microscopy analysis. Athena INV 6304 – Museo Archeologico Nazionale di Napoli  
– Photo C. Barandoni (© Museo Archeologico Nazionale di Napoli)*

All the data acquired will converge into a finalized purpose database; for the first time an Italian National Museum supports and funds a single-topic digital catalogue, available in two ways: the former is a restricted area for scientific purposes and accessible only to scholars (after registration); the latter is available to general public and contains a selection of open data, modulated with a simplified language, appropriate for general public. The cross-examinable via "query" scholar's database, will report: description, history, provenance; references, survey's results, archival and documentary data. Each investigated masterpiece will be entered as follows:

- 1) Inventory number, material, measures
- 2) Inventories, origin, collectible history, current location
- 3) Conservation status
- 4) Polychromy analysis results
- 5) Drawings and prints
- 6) Bibliography

Uploaded sculptures are being subjected to a photographic and photogrammetric campaign thanks to which we will have 3D models, available for further scientific and study purposes; if traces of colours are particularly manifest, through augmented reality, we will try to replace them to indicate their original polychromies, those of course, verified by chemical analysis [Doménech-Carbó and Osete-Cortina 2016]. Into the database we will initially upload artefacts belonging to the National Archaeological Museum but, hopefully, this project will also host other museums contributions, becoming a factual tool of knowledge. This will offer the chance to host other cultural Institutions to to supplement the project with their own researches, encouraging worldwide specific cooperation. Research streamline is based on association and comparison model between different explored elements. Starting from simple query, it is possible to retrieve entire sets of analyses and focus on the presence of a given "colour" in reference to a precise iconography. The obtained statistics, whose elaboration is both qualitative and quantitative, are indicative also to highlight occurrences, allow chemical-physical classification of pigments; describe and statistically analyse each marker, till the iconographic comparison of each marker. From general queries (provenience, material and context) to specialist ones (pigments), we can

obtain results expressed in percentages and statistical data to check the frequency of a "colour" within the collection but also examine the context of a specific association between colour and kind of artefact. It is a structured cross-reference research, pledging material for further studies.

## COMMUNICATION STRATEGY

Parallel to the diagnostic investigations, Mann-In-Colours is open to satisfy general public needs to be constantly engaged in museums behind the scenes activities [Brinkmann 2010; Graham 2012]. For this purpose, we set up to an expert room (i.e. an open laboratory, Fig. 2) where small groups of visitors are invited in, to observe investigations closely. The same opportunity is offered to virtual visitors that can watch work-in-progress, simply connecting to the website of the project (under construction) where videocasts and podcasts are uploaded. A museum wanting to carry out its cultural role must work without preconceptions and fears to face today's needs to build a virtuous circle of knowledge. This project's aim is not only the premise of a scientific research, which is its *conditio sine qua non*; the National Museum wants to channel resources to correct the understanding of its collections, and specifically reestablish the original significance and plural meanings of statues in ancient times. The relationship with public is as essential as the scientific approach. To combine them the museum constantly facilitates access to the sites of the surveys, granting free access to the Expert Room; it explains – with basic language – results and analyses techniques; designs educational workshops and thematic activities for different categories of visitors (adults and children) and last but not least, wants people and specifically kids to have fun coming and visiting experts at work. On the website of the project, along with the 3D models we will upload short movies so users may profit with minimum effort and maximum delight; it represents a pedagogic accomplishment trying to break down cultural divide and support inclusion. A specific section is entirely devoted to host audio and video podcasts that can be used during visits. Some of them are specifically designed for disabled people. To underline the importance of combining different media, we cite FOR this purpose the project by MAP-GAMSAU about the Treasury of the Massaliots in Delphi<sup>2</sup> [Jockey 2012]. Beside the material produced by scholars and museum personnel, this section will host visitors' contributions, consenting them to play the role of storytellers: with their videos visitors will act as special heritage advocates, fulfilling the role of active citizens, enthusiastically involved in the cultural heritage sector. This is a critical conceptual step forward to stimulate user to a commitment that concerns him/her in person, making him/her feel somewhat responsible of an enrichment process, less anonymous, more empathic. As underlined above, visitors won't be any longer just eyed up as consumers but as truthful producers of experience, feeling happy to be a part of a community.



Fig. 2. Expert Room, Numismatic Section, first floor Museo Archeologico Nazionale di Napoli. Left: Marine Venus INV. 111387. Right: Lovatelli Venus INV. 109608. Photo C. Barandoni (©Museo Archeologico Nazionale di Napoli)

<sup>2</sup> "Le trésor des Marseillais – 500 avant J.-C., l'éclat de Marseille à Delphes", la Vieille Charité, Marseille, 2013.

Via these actions, a virtuous connection will be started between scholars and general public more and more mindful and conscious. The creation of a virtuous multilayered path is particularly functional for a Museum whose aims, amid others, is to develop a sense of familiarity with places called “museums” among people that usually don’t come and visit [Rose-Greenland 2016]. It is a refined and progressed form of smart marketing to establish a connection, based on mutual trust (museum-visitors); the obtained results should bring to an increase of acquaintance, efficiency and effectiveness. In fact, continuity over time produces not only data but involvement, satisfaction and positive feedback (as if we were in front of buyers who do not just want to consume a product but want to taste it) [Soren 2009]. In this ideal frame the Archaeological Museum of Naples becomes a place of living an experience, not only a structure to visit, a place thanks to which visitors can implement their quality of life.

## CONCLUSIONS

Mann-In-Colours is a project of high scientific value, whose purpose is the knowledge of the polychromy of several ancient Greek and Roman artefacts, displayed in the national Archaeological Museum of Naples. If we had thought only about scientific research, the project would have had no social value, which for us is the priority together with investigations. Science and community, with structured and organic means and methods, united by a path of knowledge and inclusion: that will bring enrichment for both protagonists. The works of art in the National Museum will have a new occasion to tell ancient relationship with their belonging context.

Modulating a project that belongs to everyone means being able to narrate in multiple forms, satisfy need for knowledge but also to become a part of something bigger. A project that really aspires to define itself as *inclusive* should be concretely available to people, be their casual users or scientific scholars. Involvement, public but scheduled and participatory, will encourage visitors feeling be co-protagonist. Taking part in different steps of the project will motivate them to visit the museum again. Emotions and evocations will be warmly invited to be shared through the museum and project’s social networks, telling a story of stories, accessible to everyone. These are the prerequisites for an all-encompassing project that wants to be defined as such. This is the only policy, giving visitors dignity and considering them not only a number and an undefined source of profits. It means supporting personal human development and enriching the museum experience with a permanent dialogic relationship. Archaeology and museums become part of a person’s daily life from which instead they are usually excluded.

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