

# RA

restauro archeologico

Conoscenza, conservazione e valorizzazione  
del patrimonio architettonico d'interesse archeologico  
e di quello allo stato di rudere  
**Rivista del Dipartimento di Architettura  
dell'Università degli Studi di Firenze**

The knowledge, conservation, and valorization  
of all endangered, neglected,  
or ruined architectural structures.  
**Journal of the Department of Architecture  
University of Florence**

1 | 2019





# RA

restauro archeologico

Conoscenza, conservazione e valorizzazione  
del patrimonio architettonico d'interesse archeologico  
e di quello allo stato di rudere

**Rivista del Dipartimento di Architettura  
dell'Università degli Studi di Firenze**

The knowledge, conservation, and valorization  
of all endangered, neglected,  
or ruined architectural structures.

**Journal of the Department of Architecture  
University of Florence**



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

**DIDA**  
DIPARTIMENTO DI  
ARCHITETTURA

#### Editor in Chief

Roberto Sabelli  
(Università degli Studi di Firenze)  
roberto.sabelli@unifi.it

#### Managing Editor

Andrea Arrighetti  
(Università degli Studi di Siena)

#### Guest Editors

Simona Pannuzi  
(MIBAC | Istituto Superiore per la  
Conservazione ed il Restauro)

Luca M. Olivieri  
(Direttore Missione Archeologica  
Italiana in Pakistan | ISMEO)

Anno XXVII numero 1/2019

Registrazione Tribunale di Firenze  
n. 5313 del 15.12.2003

ISSN 1724-9686 (print)

ISSN 2465-2377 (online)

#### Director

Saverio Mecca  
(Università degli Studi di Firenze)

#### INTERNATIONAL EDITORIAL BOARD

*Mariarosaria Barbera*  
(Direttore Generale del Parco  
archeologico di Ostia Antica)

*Philippe Bernardi*  
(Centre national de la recherche  
scientifique, Aix-en-Provence)

*Giovanna Bianchi*  
(Università degli Studi di Siena)

*Susanna Caccia Gherardini*  
(Università degli Studi di Firenze)

*Emma Cantisani*  
(Istituto per la Conservazione e la  
Valorizzazione dei Beni Culturali | CNR)

*Giuseppe Alberto Centauro*  
(Università degli Studi di Firenze)

*Michele Coppola*  
(Università degli Studi di Firenze)

*Maurizio De Vita*  
(Università degli Studi di Firenze)

*Daniela Esposito*  
(Sapienza | Università di Roma)

*Carlo Alberto Garzonio*  
(Università degli Studi di Firenze)

*Luca Giorgi*  
(Università degli Studi di Firenze)

*Alberto Grimoldi*  
(Politecnico di Milano)

*Paolo Liverani*  
(Università degli Studi di Firenze)

*Pietro Matracchi*  
(Università degli Studi di Firenze)

*Alessandro Merlo*  
(Università degli Studi di Firenze)

*Camilla Mileto*  
(Universitat Politècnica de València)

*Gaspar Muñoz Cosme*  
(Universitat Politècnica de València)

*Lorenzo Nigro*  
(Sapienza | Università di Roma)

*José Manuel López Osorio*  
(Universidad de Málaga)

*Andrea Pessina*  
(Soprintendente della SABAP per la città  
metropolitana di Firenze e le province  
di Pistoia e Prato)

*Hamdan Taha*  
(Former Director General of Antiquities,  
Palestinian Territory, Occupied)

*Guido Vannini*  
(Università degli Studi di Firenze)

*Fernando Vegas López-Manzanares*  
(Universitat Politècnica de València)

*Cristina Vidal Lorenzo*  
(Universidad de Valencia)



Stampato su carta di pura cellulosa Fedrigoni



#### Cover photo

Stucco decoration of Stupa 61 (Period II)  
(photo by L. M. Olivieri; courtesy ISMEO).

Copyright: © The Author(s) 2019

This is an open access journal distributed under the Creative Commons  
Attribution-ShareAlike 4.0 International License  
(CC BY-SA 4.0: <https://creativecommons.org/licenses/by-sa/4.0/legalcode>).

#### graphic design

●●● dida**communicationlab**  
DIDA Dipartimento di Architettura  
Università degli Studi di Firenze  
via della Mattonaia, 8  
50121 Firenze, Italy

#### published by

**Firenze University Press**  
Università degli Studi di Firenze  
Firenze University Press  
Borgo Albizi, 28, 50122 Firenze, Italy  
[www.fupress.com](http://www.fupress.com)

# Indice

|   |     |
|---|-----|
| <b>An introduction: the Swat Valley and Florence</b><br><i>Luca Maria Olivieri, Simona Pannuzi</i>  | 6   |
| <b>Geological overview of Gandharan sites and petrographical analysis on Gandharan stucco and clay artefacts</b><br><i>Carlo Rosa, Thomas Theye, Simona Pannuzi</i>   | 12  |
| <b>Polychromy and gilding in the Gandharan sculptures from Pakistan and Afghanistan: samplings from Museum Guimet in Paris, Civic Archaeological Museum of Milan and Museum of Oriental Art of Turin</b><br><i>Simona Pannuzi, Fabio Talarico, Giuseppe Guida, Carlo Rosa</i> | 40  |
| <b>The characterisation of paint binders in the polychromies and gildings of the Gandharan artworks</b><br><i>Ilaria Bonaduce, Anna Lluveras Tenorio, Alessia Andreotti, Sibilla Orsini, Maria Perla Colombini, Marialaura Dilillo, Liam Andrew McDonnell</i>                 | 82  |
| <b>Investigating gilding techniques on Gandharan stone sculptures and architectural components: a preliminary note</b><br><i>Marco Zaminga, Ivana Angelini, Massimo Vidale, Luca Maria Olivieri, Giuseppe Guida</i>   | 90  |
| <b>Conservative data on polychrome stucco, stone and clay sculptures and architectural decoration of Gandharan art</b><br><i>Luciana Festa, Simona Pannuzi</i>  | 100 |
| <b>A short note on contexts and chronology of the materials from Saidu Sharif, Amluk-dara, Gumbat and Barikot (Swat)</b><br><i>Luca Maria Olivieri</i>  | 112 |
| <b>Clays and colours: tracking technologies and theories of vision in the ancient Buddhist art of Afghanistan</b><br><i>Giulia Forgone</i>  | 130 |
| <b>Collections gandhariennes et afghanes à Paris, Musée national des arts asiatiques-Guimet</b><br><i>Pierre Cambon</i>   | 142 |
| <b>The Gandharan Collection of the Civic Archaeological Museum of Milan</b><br><i>Anna Provenzali</i>   | 156 |
| <b>Investigating gilding techniques on Gandharan stone sculptures and architectural components: a preliminary note</b><br><i>Claudia Ramasso</i>  | 164 |

# Clays and colours: Tracking technologies and theories of vision in the ancient Buddhist art of Afghanistan

Giulia Forgione

University of Naples "L'Orientale"  
Italian Archaeological Mission in Afghanistan

*opposite page*

**Fig. 1**  
Tepe Narenj (Zone 14):  
Buddha images showing  
traces of restoration  
with red clay.

---

<sup>1</sup> Sculptures reported as terracotta have turned out very often, in the light of archaeological and stratigraphic data, to be accidentally baked clay. However, the question whether a genuine terracotta sculpture ever existed, and how to unquestionably identify it as such, deserves the utmost attention, also in the light of the sculptures described as terracotta from the recent excavations of the sites of Mes Aynak (A.A.V.V., 2016, p. 127) and Taxila (Samad et al., 2017; Hameed et al., 2018).

<sup>2</sup> It is commonly understood that Gandhara art refers to a vast phenomenon of Buddhist art and architecture, which, although with important regional variations, comprises a far larger area than the homonymous historic region, embracing the territories included between present-day northwest Pakistan and eastern Afghanistan. Although conventionally linked to the Kushan period (1st-3rd cent. A.C.), its beginnings had already taken shape around the beginning of the 1st cent. A.C., during the Saka-Parthian period, while its last traces date at least from the 4th/5th cent. A.C.

## Abstract

New, targeted and comparative studies are under way on clay sculptures recovered in Afghanistan, thanks to a collaborative project between the Italian Archaeological Mission in Afghanistan and the Archaeology Institute of Afghanistan. The specific target of the preliminary analyses are the sculptures from the Buddhist site of Tapa Sardar, which have been excavated between the 1960's and the 1970's by the Italian mission in the Ghazni area, and those, only partially published, that have been brought to light at Tepe Narenj, a site in the Kabul area under excavation since 2004 under the aegis of the Archaeology Institute of Afghanistan. Our aim is to analyse their physical, technical, stylistic and iconographic features, in order to identify patterns that might be associated to a coherent aesthetic system. This would be of fundamental importance to the understanding of the ideological frames of reference that shaped the art-making process in a period of great artistic vitality and innovations, which roughly spans the second half of the first millennium A.C.

## Introduction

The use of pliable materials such as clay, stucco and, only in rare cases yet to be ascertained, of terracotta was central to the history of art of Afghanistan, and, broadly speaking, of Central Asian regions<sup>1</sup>.

Around the 4<sup>th</sup>-5<sup>th</sup> century the use of clay, very often combined with stucco (a term used here in a conventional manner), predominated over stone (in particular schist and limestone), which apparently had long been the main medium of a refined Buddhist art known as art of Gandhara<sup>2</sup>.

In particular, in the history of excavations, Afghanistan has yielded numerous clay artifacts, which, although sharing the same formal principles and the basic clay-sculpting skills, attest to a strong local character and a great experimentation of techniques and materials.

However, despite the considerable evidence, we still know very little about their material, technical, technological, iconographic and iconological aspects, as well as the aesthetic values of reference of this vast figurative repertoire.



Fig. 2  
A bodhisattva image of  
Late Period from Tapa  
Sardar (TS 1500).



<sup>3</sup> The corpus of the clay sculptures from the Tapa Sardar site has been entirely published on the portal *Buddhist and Islamic Archeological Data from Ghazni, Afghanistan. A Multidisciplinary Digital Archive for the Managing and Preservation of an Endangered Cultural Heritage*, <<http://ghazni.bradypus.net>> (03/19), to which I refer the reader for details on the materials not included in the illustrative section of this work.

The study of utilized materials and procedures is an essential key to understanding the known productions in relation not only to production contexts but also to original archaeological contexts. This makes it possible not only to simply identify the nature of the materials, but to investigate formal and ideological aspects of an aesthetic, iconographic and iconological nature, fundamental for reconstructing and interpreting unified figurative programmes.

The extensive documentation on the clay sculptures from Tapa Sardar<sup>3</sup>, which provide a high stratigraphic reliability (Taddei, 1968; Taddei and Verardi, 1978; Verardi and Parapatti, 2005), and the availability of accurate documentation on the sculptures found at the Tepe Narenj site (Paiman and Alam, 2013), in combination with preliminary studies already underway, have made it possible to reveal and analyse, in a scientific and comparative perspective, significant elements of the use of different clays and their original polychromy, of which they retain numerous though often minimal and scarcely considered traces.

### Tapa Sardar and Tepe Narenj: observations on clays

At both the Tapa Sardar and Tepe Narenj sites, the use of different types of brown, yellow or red clay is attested, the red one being used above all for the more superficial layers of the modeling, especially during a relatively late phase of the life of the two sites, dating from around the end of the 7<sup>th</sup> century to the beginning of the 8<sup>th</sup> century.

Tapa Sardar's Late Period production is so far one of the most remarkable and well known. Made of red clay, it is datable from the end of the 7<sup>th</sup> century, based on archaeological data and stylistic comparisons with the sculptures of Fondukistan, a site excavated by DAFA in the 1930's, dated to post 689 A.C. on the basis of numismatic findings (Hackin et al., 1959, pp. 49-58). At Tepe Narenj, in addition to two types of production, distinguishable according to the colour of the clay (yellow or red), evident restorations done in antiquity with red clay of works originally made with yellow clay coated with one or more layers of stucco, underline the succession of two artistic phases and a stylistic change, in concomitance of which the use of red clay seems to become predominant (Fig. 1).

We do not yet know what motivated this phenomenon, already observed previously at Tapa Sardar, but the idea that aesthetic needs determined this change appears for the moment the most plausible. Both types of clay are widely available, for example, in the Kabul area, but it is clear that, from a certain point on, red clay became the preferred material at many sites in different regions.

At the same time there was a general renewal of artistic manifestations, expressed stylistically in a greater standardization of forms. It suffices to examine Tapa Sardar's Late Period sculptures (Fig. 2, 3; Filigenzi, 2009, fig. 3) and the Fondukistan figures, especially the bodhisattvas (Hackin et al., 1959, fig. 174, 175), in addition now to those from Tepe Narenj (Fig. 4; Paiman, 2013, pl. XXIII, b), to ascertain their notable formal affinity.





**Fig. 3**  
A bodhisattva image  
of Late Period from  
Tapa Sardar (TS 1561).

There is a typical lengthening and thinning of the forms, visible even more in the shape of the torso, hands and feet, this last characterized by the second toe being longer than the others, a new or at any rate less pronounced element in the previous phase (Fig 5). Among their salient features are also a strong decorativism and geometric abstraction, which can be found especially in the faces and drapery, far from the almost naturalistic vision of the previous productions.

Recent experiments with the clays at Tepe Narenj, for restoration purposes, have been of great interest. They have revealed the reduced plastic and cohesive capacity of red clay, which proved to be more difficult to work with. This data was confirmed by the comparative chemical-physical analyses, which, by extending an already planned program for the activities of the Italian Archaeological Mission in Afghanistan, were carried out on some clay samples from both Tapa Sardar and Tepe Narenj.

The preliminary results of the analyses revealed, in addition to the presence of plant and mineral elements (data already familiar from other sites, see Fondukistan), generally employed to augment the compactness of the mixture, the use of vegetable glues in the red clay mixtures. The initial idea, now confirmed, is that the vegetable glue could increase not only the adhesiveness of the mixture itself, but also that of the coating layers, such as gilding or colour rendering.



**Fig. 4**  
Tepe Narenj (Zone 14):  
bodhisattva image in  
pensive position  
(to the right).

This also reinforces the hypothesis that their qualities, and therefore the need to satisfy certain aesthetic features, took precedence over the plastic qualities of the material used.

*opposite page*

**Fig. 5**  
Tepe Narenj (Zone 14):  
bodhisattva image, detail

**Fig. 6**  
Head with traces of red  
paint on the face from  
Tapa Sardar (TS 1831).

**Fig. 7**  
Head with traces of red  
paint and gold leaf on the  
hair and on the face from  
Tapa Sardar (TS 1870)

### **Polychromy and the non-naturalistic use of colour**

Polychromy is one of the main aspects of visual language, especially of Buddhist art, in which colour does not have a simple decorative value but contributes to creating distinct iconographic types that reflect the intrinsic qualities of the characters represented and participate in transmitting specific 'philosophical,' moral and intellectual messages, which we are not always able to decode.

Moreover, the application of colour was the culmination of a true process of vivifying the image, realized according to detailed prescriptions, where nothing was left to chance. Hence there was an undeniably strong magical, symbolic value of images created according to established codes.

However, we still know very little about the use of colour, both because the evidence is fragmentary and because the traces are not always visible to the naked eye or systematically documented. The question becomes even more delicate when we come upon a non-naturalistic use of colour, in which we can also classify the very common practice of gilding.

The non-naturalistic use of colour, especially red, has already been report-

ed several times in the history of studies on the art of Afghanistan, for example at Tapa Sardar, where the red appears to have been used on the face (TS 1831, Fig. 6; other examples are: TS 1869, TS 1872), on the hair (TS 1870, Fig. 7, see also TS 1868) or to outline the eyebrows (Verardi, 1983, p. 489) of Buddha or divinity figures, or at Bamiyan, for the hair (Hackin, 1933, 51 no. 30, fig. 77). In these instances, however, with the exception of the eyebrows, it could be the bolus, a very liquid red clay mixture, with adhesive capacity, which was spread on the body of the figure to enable to adhere and to enhance the gilding.

At Tapa Sardar this became a dominant feature starting from Early Period 2, at the turn of the 5<sup>th</sup> century, as attested by the Niche 76 sculptures, which still retain traces of gilding (Fig. 8; Verardi and Parapatti, 2005, pp. 415-416), and by numerous ancient restoration interventions that adapted part of the original iconographic programmes to the new concept of the sanctuary. Many sculptures of the ancient phase (Early Period 1), usually made of yellow clay and covered with a white surface layer (defined as lime milk, but whose composition needs to be ascertained; see Verardi, 1983, p. 490), in fact preserve the visible traces of a second white coating, covered in turn by a red layer (Fig. 9; Verardi, 1983, fig. 30).

Even at Tepe Narenj some heads retain traces of red colour on their faces (Fig. 10, 11), in all likelihood also in this instance the bolus. More explicit gilding remnants were found on the drapery of a Buddha or bodhisattva



**Fig. 8**  
Tapa Sardar: Niche 76.  
© Italian Archaeological  
Mission in Afghanistan.

*opposite page*

**Fig. 9**  
Head with traces of  
ancient restoration from  
Tapa Sardar (TS 1869).

**Fig. 10**  
Head with traces of red  
paint on the face from  
Tepe Narenj.

**Fig. 11**  
Head with traces of red  
paint on the face from  
Tepe Narenj.

**Fig. 12**  
Head with traces of red  
paint on the face and  
blue paint on the hair  
from Tepe Narenj.

**Fig. 13**  
Head with traces of blue  
paint on the hair and  
on the eye outline from  
Tepe Narenj.

figure, part of a set of figures that surrounded the inner perimeter of a hall or porticoed courtyard (Paiman, 2013, 71 no. 12).

Another example from Tepe Narenj shows traces of red colour on the face in conjunction with the traces of blue on the hair (Fig. 12).

The non-naturalistic use of blue is particularly documented at the Tepe Narenj site, both for the hair and to outline the eyes, above all of the Buddha figures in yellow clay coated with one or more layers of stucco (Fig. 13, 14), dating from the end of 484 A.C., based on numismatic findings; the presence of the same elements on a donor figure remains to be verified.

We do not yet have chemical-physical analyses that confirm whether the blue is the original colour or a degraded black, but, as emerges from a preliminary comparison with other productions, the seemingly incongruous use of blue appears to be very common in clay sculptures, as well as in other media.

It is hard to say whether even in the Gandharan stone tradition we can speak of a non-naturalistic use of blue, due to the fragmentary nature of the evidence. What is certain is that this feature, never highlighted or analysed in its symbolic meaning by previous studies and only recently brought to our attention (Filigenzi, in collaboration with Paiman and Alram, in press), seems to mark a powerful innovation, already introduced with the first clay experiments.

An example is the bodhisattva from Tepe Maranjan, found in the 1930's and now housed in the Kabul National Museum, assigned by recent studies to the 4<sup>th</sup> century *ca.* (Kuwayama, 1991; Filigenzi, 2010). Despite the damage suffered and modern restorations, the figure still retains traces of its blue colour, already reported by the excavators, to highlight the eye outline (Fig. 15; Hackin et al., 1959, 10, fig. 7-9).





In the Hadda production too, especially on the lower eyelid line of a bodhisattva head, now kept in the Musée Guimet storerooms (Inv. MG 26837), traces of blue are preserved, recently identified thanks to an inspection by the director of the Italian Archaeological Mission in Afghanistan, Anna Filigenzi, and the generous collaboration of Pierre Cambon, chief conservator of the Musée Guimet.

Clear traces of never reported blue are preserved on the hair of the figures found at the Fondukistan site, some of them now kept at the Musée Guimet, especially a Buddha *paré* figure, a seated Buddha and two *nāga* princes, found in the Niche D (Hackin, 1940, fig. 16-18; Hackin et al., 1959, fig. 171, 172, 174).

At Tapa Sardar, even if there are no conspicuous traces, this particular use of blue cannot be excluded. Some of the statues, because of possible contact with the fire, which may have altered the original colours, need to be verified; among these we can list some heads, namely from Vihāra 17 (TS 574, TS 867, TS 1029), which housed the figure of a colossal Maitreya Buddha against the wall opposite the entrance, flanked by bodhisattva figures and other characters, and by rows of Buddhas under arches with attending deities on the side walls, from Vihāra 37 (TS 1272, TS 1500), from Vihāra 23 (TS 1145?), and a head of which we only have excavation photos (Fig. 16). In addition to these mention can be made of fragments of wall paintings found in Room 52, where we see a Buddha in three quarter view, with likely traces of blue on the eye outline (Silvi Antonini, Taddei, 1981, fig. 5) or bodhisattva figures with what seems blue hair (Fig. 17; Silvi Antonini, Taddei, 1981, fig. 2, 3).

The site that yielded the most representative specimens is Mes Aynak, where the extraordinary preservation of polychromy confirms that the blue was used here in a very marked way both to outline the Buddhas' eyes and those of the faithful who looked on him, and to highlight their hair (Engel, 2011, pp. 37, 46-47; AAVV, 2013, p. 132; AAVV, 2016, p. 184). The surviving evidence shows that the non-naturalistic use of blue is also combined with gilding.

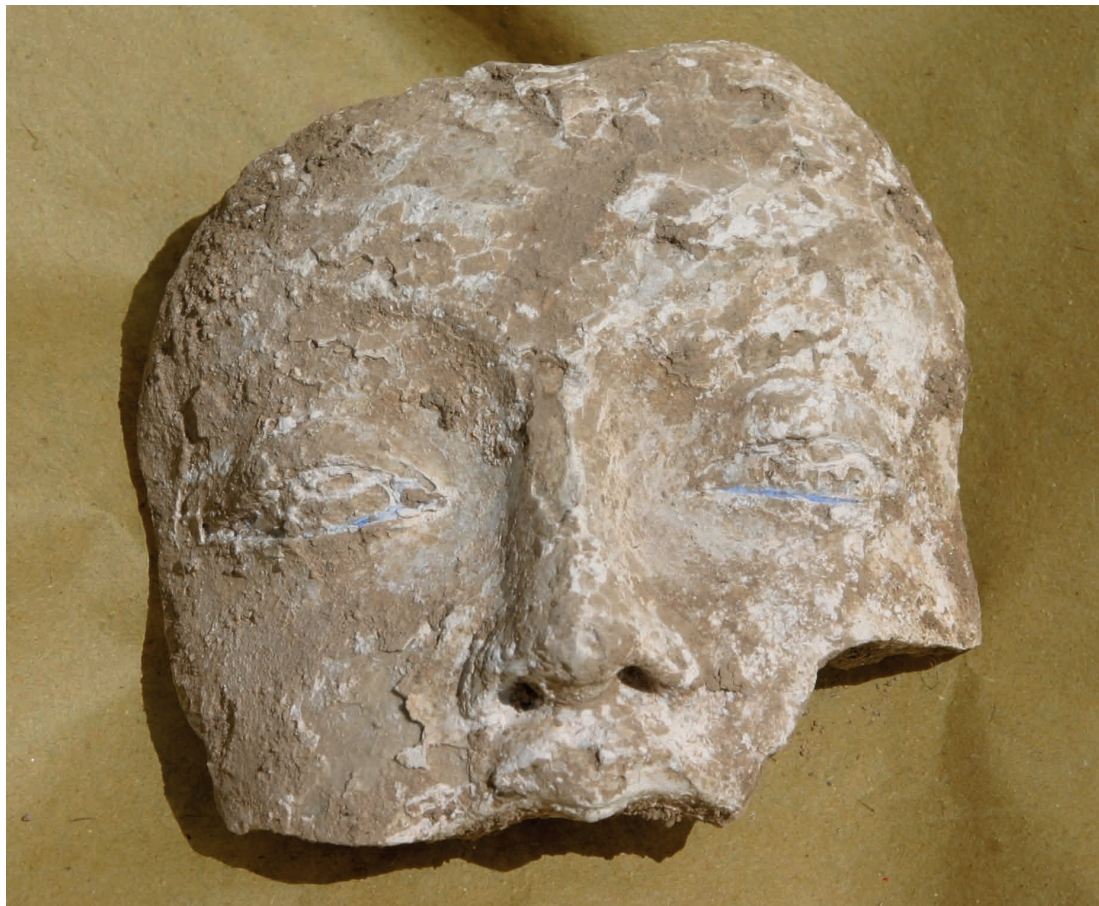


Fig. 14  
Head with traces of blue  
paint on the eye outline  
from Tepe Narenj.

The recurrence of this iconographic feature (with its iconological meaning) is therefore attested starting from the most ancient phases of clay sculpture, up to the most recent productions, such as that of Fondukistan. This fact is important because it suggests that the non-naturalistic use of blue becomes, at a certain point, a true *topos*, not only in sculpture but also in painting, and over a vast area.

The use of blue colour to outline eyes is also sporadically reported in the literature about Bamiyan, but not documented by specific photos (Hackin, 1933, 50 no. 20; Klimburg-Salter, 1989, pp. 192, 195, pl XLI, fig. 48), while clear evidence can be found also in the pictorial productions of Xinjiang, in particular in Qizil (examples in Herbert, Yaldiz, 1982, pp. 82-97).

These data forcefully suggest the association of blue with notions of peace and purity as constitutive features of the Buddha's appearance, but also with the transfiguring power of divinity and its contemplation, which is reflected in the eyes of the faithful. This is explained in the context of Buddhist speculation on the symbolism of light and on the *darśan* (vi-





**Fig. 15**  
The bodhisattva from Tepe  
Maranjan: detail of the traces  
of blue paint on the eye  
outline.

sion, contemplation), where attention to the eyes and the concept of colour have fundamental value (Filigenzi, in collaboration with Paiman and Alram, in press).

We therefore begin to see a continuous enrichment of the iconographic repertoire, which, in addition to incorporating traditional models, uses new contributions from local tradition and a vigorous experimentation of techniques and materials, which led to the creation of new artistic codes, inherent to specific philosophical and religious concepts.

With clay sculpture and the possibilities offered by plastic materials, some themes and aspects seem to be more prominent, for example gigantism, gilding, and the luminous, transcendent aspect of Buddha's nature.

It is therefore essential to probe this topic through programmed, comparative studies, with the aid of chemical-physical analyses aimed at solving open issues and lacunae, starting from the vast scientific documentation available, to shed light on problems that also concern less documented sites, from an archaeological point of view, such as Mes Aynak.

### **Acknowledgments**

Special thanks go to Anna Filigenzi, director of the Italian Archaeological Mission in Afghanistan and to Zafar Paiman, director of the Tepe Narenj excavation, who made this work possible. Also, on behalf of the Italian Archaeological Mission in Afghanistan, I would like to thank Pierre Cambon, chief conservator of the Musée Guimet for his collaborative support to our enquiry into colours. Photos nos. 1, 4-5, 10-15: copyright Zafar Paiman, in particular photo

n. 15 taken at the Kabul Museum. Photos nos. 2-3, 6-9, 16-17: copyright Italian Archaeological Mission in Afghanistan. The remaining photos are copyrighted by the Italian Archaeological Mission in Afghanistan.

**Fig. 16**  
Head with traces of  
blue paint on the hair  
from Tapa Sardar.



## References

- A.A.V.V. 2016, *Afghanistan. Rescued Treasures of Buddhism*, Prague.
- A.A.V.V. 2013, *Recent Archaeological Works in Afghanistan, Preliminary Studies on Mes Aynak Excavations and Other Field Works*, Kabul.
- Engel N. 2011, *New Excavations in Afghanistan – Mes Aynak, Published at occasion of the exhibition “Mes Aynak – Recent Discoveries Along the Silk Road” at National Museum of Afghanistan*, Kabul.
- Filigenzi A. 2009, *The Buddhist Site of Tapa Sardar*, in *The ISIAO Italian Archeological Mission in Afghanistan 1957-2007, Fifty Years of Research in the Heart of Eurasia. Proceedings of the symposium held in the Istituto Italiano per l’Africa e l’Oriente*, eds. A. Filigenzi and R. Giunta, Rome, pp. 41-57.
- Filigenzi A. 2010, *Review Article: The Buddhist Monuments of Kabul*, «Indo-Iranian Journal», 53 (2010), pp. 301–329.
- Filigenzi A., Giunta R. (eds.) 2009, *The ISIAO Italian Archeological Mission in Afghanistan 1957-2007, Fifty Years of Research in the Heart of Eurasia. Proceedings of the symposium held in the Istituto Italiano per l’Africa e l’Oriente*, eds. A. Filigenzi and R. Giunta, Rome, pp. 41-57.
- Filigenzi A., in collaboration with Paiman Z. and Alram M. (in press), *Afghanistan’s pre-Islamic Archaeology: Vulnerability, Resilience and Perspectives*. In Proceedings of the 23rd Biennial Conference of the South Asian Archaeology and Art, held at the Cardiff University 4th-8th July 2016, ed. A. Hardy.
- Hackin J. 1933, *Nouvelles recherches archéologiques a Bamiyan* (Mémoires de la Délégation Archéologique Française en Afghanistan 3), Paris.
- Hackin J. 1940, *The Buddhist Monastery of Fondukistan*, «The Journal of the Greater India Society», 7-8, pp. 85-91.
- Hackin J., Carl J., Meunié J. 1959, *Diverses recherches archéologiques en Afghanistan (1933-1940)* (Mémoires de la Délégation Archéologique Française en Afghanistan 8), Paris.
- Hameed A., Shakirullah K., Samad A., Kenoyer M. J. 2018, *Bhamāla Excavations 2015-16: A Preliminary Report*, «Ancient Pakistan», 29, pp. 171-184.





**Fig. 17**  
Fragments of a wall painting from Tapa Sardar (TS 1800).

Herbert H., Yaldiz M. 1982, *Along the Ancient Silk Routes: Central Asian Art from the West Berlin State Museum* (An exhibition lent by the Museum für Indische Kunst, Staatliche Museen Preussische Kulturbesitz, Berlin, Federal Republic of Germany), New York.

Klimburg-Salter D. E. 1989, *The Kingdom of Bāmiyān. Buddhist Art and Culture of the Hindu Kush* (Series Maior 5), Naples - Rome.

Kuwayama S. 1991, *The Horizon of Begram III and Beyond: A Chronological Interpretation of the Evidence for Monuments in the Kāpiši-Kabul-Ghazni Region*, «East and West», 41, pp. 79-120.

Paiman Z., Alram M. 2013, *Tepe Narenj à Caboul, ou l'art bouddhique à Caboul au temps des incursions musulmanes / The Tepe Narenj Buddhist Monastery at Kabul, Buddhist Art during the First Muslim Raids against the Town* (Publications de l'Institut de civilisation Indienne, Fascicule 82), Paris.

Samad A., Kenoyer J. M., Hameed A., Shakirullah K. 2017, *Preliminary Report of Bhamala Excavations 2012-13*, «Frontier Archaeology», 9, pp. 11-29.

Silvi Antonini C., Taddei M. 1981, *Wall Paintings from Tapa Sardār, Ghazni*, «South Asian Archaeology», 1979, pp. 429-438.

Taddei M. 1968, *Tapa Sardār First Preliminary Report*, «East and West», 18, pp. 109-124.

Taddei M., Verardi G. 1978, *Tapa Sardār - Second Preliminary Report*, «East and West», 28, 1-4, pp. 33-135.

Verardi G. 1983, *Osservazioni sulla coroplastica di epoca kuṣāna nel Nord-Ovest e in Afghanistan in relazione al materiale di Tapa Sardar, seguite da una precisazione sulla natura e la data delle sculture di Ushkur*, «Annali: Rivista del Seminario di Studi Asiatici e del Seminario di Studi Africani», 43, pp. 479-503.

Verardi G., Parapatti E. 2005, *From Early to Late Tapa Sardār. A Tentative Chronology*, «East and West», 55, 1-4, pp. 405-444.

### Electronic resources

*Buddhist and Islamic Archeological Data from Ghazni, Afghanistan. A Multidisciplinary Digital Archive for the Managing and Preservation of an Endangered Cultural Heritage*, <http://ghazni-bradypus.net> (03/19).