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### Virtual Retrospect 2017

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*The polychromy of ancient sculpture:  
experimental reconstructions in permanent  
museum displays*

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# The polychromy of ancient sculpture: experimental reconstructions in permanent museum displays

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**Résumé:** Les discussions critiques publiées concernant les reconstitutions expérimentales liées à la recherche sur la polychromie de la sculpture antique sont à ce jour extrêmement rares. Ces dispositifs expérimentaux se développent pourtant largement dans les expositions aussi bien que dans les publications ; et une discussion solide sur leur utilisation et leur utilité semble donc nécessaire.

Dans cet article, l'accent est mis sur le rôle de ces reconstitutions expérimentales dans la diffusion du phénomène de la polychromie de la sculpture antique auprès du public au sein des installations permanentes. Un historique des parcours muséographiques permanents y est présenté, suivi d'un bref aperçu des pratiques actuelles. Les forces et les faiblesses de ces pratiques seront ensuite discutées et des suggestions pour l'avenir présentées.

**Mots-clés:** Sculpture grecque et romaine, polychromie, couleur, muséologie, exposition permanente de sculpture, reconstruction expérimentale de polychromie

**Abstract:** There are only few published critical discussions of research based, experimental reconstructions of the polychromy of ancient sculpture. Such reconstructions now figure with increasing frequency in professional contexts (in publications and exhibitions) and a discussion of their use and usefulness is therefore needed.

Here, focus is on the role of experimental reconstructions in communicating sculptural polychromy to the public in permanent gallery installations. The history of such displays is outlined, and a brief survey of contemporary practice is given. On this background, the strengths and weaknesses of present practice will be discussed and suggestions for the future put forward.

**Keywords:** Greek and Roman sculpture, polychromy, colour, museology, permanent installations of sculpture, experimental reconstruction of polychromy

## INTRODUCTION

Visual representations of the lost appearance of the polychromy of Greek and Roman sculpture have a long history

in a variety of formats<sup>1</sup>. Published critical discussions of such reconstructions have been relatively rare over time, mostly in reviews of publications and exhibitions<sup>2</sup>; unpublished debates have taken place at academic meetings and comments have been given during visits to temporary exhibitions. Since 2003, several such temporary exhibitions have been shown<sup>3</sup>.

In a forthcoming article, I sketch the historiography of reconstructions of ancient sculptural polychromy in all formats and techniques, from Antoine-Chrysostôme Quatremère de Quincy's 1814<sup>4</sup> colour lithograph reconstruction of Phidias' Zeus at Olympia to the latest research based physical 1:1 reconstructions. I also discuss the whys and wherefores of present-day reconstruction in research and museum exhibition contexts<sup>5</sup>.

Here, focus is on the display of reconstructions in permanent physical installations of ancient sculpture, including plaster collections. Reconstructions available only on the Web are not included<sup>6</sup>; it is the physical museum context which has my interest on this occasion.

1. On the polychromy of Greek and Roman sculpture: Østergaard 2017 and Østergaard 2018. A key publication on reconstructions in general is Zimmer 2016.

2. Cf. particularly Blume-Junge 2016, 95-98. See also the remarks made in video interviews in connection with the exhibition 'Transformations. Classical Sculpture in Colour' (Østergaard & Nielsen 2014): <http://trackingcolour.com/film>

3. As Brinkmann & Scholl 2010; Østergaard & Nielsen 2014; Brinkmann 2017.

4. This is the year of first publication; it was republished in 1815. Cf. Quatremère 1814.

5. 8<sup>th</sup> International Round Table on the polychromy of ancient sculpture and architecture, Paris 2016. To be published in the 2019 volume of the C2RMF journal *Technè*.

6. As for example the work done by Bernhard Frischer on the Villa of Hadrian: <https://www.youtube.com/watch?v=zGdjf9wzHOI&feature=youtu>

To my knowledge, the subject has received no published attention<sup>7</sup>. This reflects the fact that displays of this kind are still few and far between – as are detailed reviews of permanent installations of ancient sculpture.

#### NOTHING IS PERMANENT

When speaking of permanent installations of sculpture, it is of course to distinguish them from those of temporary exhibitions. The difference between the two is not just a matter of the duration of the display. Beyond the common aim of communicating a certain subject to a defined public audience, the premises are fundamentally different in several important ways. Thus, in a permanent display, emphasis will be on interpretations reflecting commonly held opinions rather than on the controversial or provoking. The point being that such an approach is needed to assure that the story told will retain its validity for a longer period of time. Investment in the infrastructure of the presentation will be similarly conceived to last. This goes for the quality of the materials and designs chosen for showcases, mountings, lighting and the whole expensive physical paraphernalia of a museum gallery.

But then again, nothing is permanent, including museum displays financed to last. Under that heading, museums with collections of ancient sculpture each have their own story to tell. The span of life given “permanent” presentations and the factors determining their modification or complete transformation is not my subject here. I will just give an example, the bare bones “biography” of the installation of ancient sculpture in the Ny Carlsberg Glyptotek: first installed in 1906, radically changed 1945-1950, modified 2006, to be radically changed by 2020<sup>8</sup>.

It is on this background that reconstructions in permanent displays must be viewed and understood.

#### CONTENT OUTLINE

I shall first trace the earlier history of the practice and then move on to more recent and contemporary practice; completeness is definitely not aimed for. In all, the time span is from the Greek Court of the Crystal Palace in 1854, at Sydenham in southern London, to the Liebieghaus in Frankfurt am Main in 2013. The formats involved are those of physical 1:1, 2D analogue and digital reconstructions in virtual reality. Some projects at present under development and concomitant technologies will also be briefly mentioned. In a final section, some recommendations will be made.

#### HISTORIOGRAPHY

##### **Beginnings: The Crystal Palace, 1854**

We must turn to the Greek Court at the Crystal Palace to find a reconstruction exhibited in a permanent context, albeit not in a museum as we understand it today<sup>9</sup>. The giant cast iron and glass structure erected for the World Exhibition in London in 1851, in Hyde Park, was subsequently sold and moved to Sydenham, about 15 miles to the south. At the reopening in 1854, the mission statement of the Directors was clearly related to the didactics of British public museums in their formative, Victorian phase<sup>10</sup>. The public was offered an extensive historical section, organised in a number of “Courts”, Assyrian, Egyptian, Greek and Roman, all combining architecture, sculpture and other artefacts, mostly as plaster casts. In the Greek Court, one of the highlights was the reconstruction of the polychromy of a section of the Parthenon Frieze<sup>11</sup>. Contemporary photographs are of course in black and white, but the painter Lawrence Alma-Tadema visited the Crystal Palace and his 1868 painting of Phidias showing his work to friends perhaps gives us an idea of the reconstruction<sup>12</sup>. We know nothing of the information provided for the visitors, but we do know that negative reactions made the person responsible, the architect Owen Jones, publish a pamphlet in its defence<sup>13</sup>. The reconstruction was on show until the Crystal Palace tragically burnt down completely in 1937; some at least of the enormous number of visitors would have seen it – in excess of 30 million entrance tickets were sold between 1854 and 1873.

##### **The Dresden Albertinum: Georg Treu, the pioneer**

The German classical archaeologist Georg Treu (1843-1921) worked in the Olympia excavations from 1875 to 1881 and then became director of the Albertinum in Dresden in 1882, retiring in 1915<sup>14</sup>. At Olympia, Treu had seen the remains of polychromy on the sculptures of the Temple of Zeus and his awareness of this came to the fore in his activity as director. The Albertinum collection of sculpture spanned from Antiquity to the 19<sup>th</sup> century and included a large collection of casts. In the cast collection, the polychromy of Archaic sculpture was highlighted by the installation almost side by side of two casts of the Stele of Aristion, one with the preserved polychromy painted in<sup>15</sup>.

We do not know whether Treu informed visitors of his intentions, but he did so elsewhere, most famously in his programmatic lecture “Sollen wir unsere Statuen bemalen?”

7. Zimmer 2016, 6 reflects on it.

8. The 2006 installation: Thau 2006, Moltesen 2006, Østergaard 2006.

9. On the Crystal Palace in the context of this article: Nichols 2015

10. Nichols 2015, 8.

11. Nichols 2015, 168 fig. 5.1.

12. Nichols 2015, 111; Prettejohn 2009.

13. Jones 1854.

14. On Treu and the Albertinum see Knoll 1994.

15. Knoll 1994, 71 fig. 53.

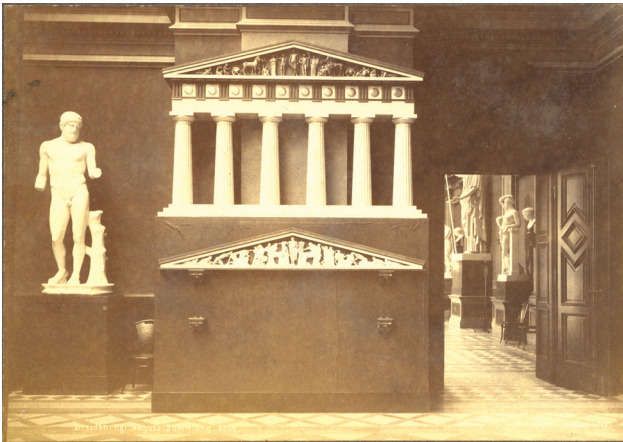


Fig. 1. Dresden, Albertinum. 1:10 scale model of the east front of the temple of Zeus at Olympia with reconstructed polychromy and of the west pediment as installed in the Olympia-Saal of the Albertinum in Dresden 1886. Photo from 1891, Courtesy of the Albertinum.



Fig. 2. Dresden, Albertinum. 1:10 scale model reconstruction of the east front of the temple of Zeus at Olympia. Painted plaster on wood. The "attempt" to show the polychromy, from 1886. Painted by Robert Diaz under the direction of Georg Treu. Dresden, Albertinum, inv. Abguss-ZV363. Museum photo, courtesy of the Albertinum.

from 1884: "Colours clarify and beautify the forms when seen at a distance; the plaster casts next to them appear as hard silhouettes against the background with vague inner lines"<sup>16</sup>. This is the first instance of the intended juxtaposition of an original in a monochrome state (albeit in plaster) and a polychrome reconstruction, accompanied by an assessment of the difference in basic visual effect.

In the Olympia-Saal, casts of both the pediments of the temple of Zeus at Olympia were installed. At the entrance to the gallery, Treu set up a polychrome reconstruction of the east front in scale 1:10 (fig. 1, 2). Underneath it was a similar scale model of the west pediment, without polychromy. The text underneath the reconstruction simply stated "Model of the east side of the temple of Zeus at Olympia. Scale 1:10". The element of reconstruction was not even mentioned, so presumably this information was given verbally, during gallery lectures<sup>17</sup>.

#### **Adolf Furtwängler and the Munich Glyptothek: The Aeginetans**

From 1896 to 1907, the classical archaeologist Adolf Furtwängler (1853-1907) directed the Glyptothek in Munich. Like Treu, he had excavation experience, working at Mycenae, Olympia and at the temple of Athena Aphaia on Aegina. His positive assessment of polychromy in Greek sculpture and architecture was very much in tune with the position taken by the Glyptothek from the moment it was conceived by Ludwig I of Bayern, his agent Martin von Wagner and the architect Leo von Klenze. The museum building designed by Klenze and completed in 1830 has representations of ancient

arts and crafts in its pediment – including a sculpture painter, the "circumlator"<sup>18</sup>. The sculpture being painted is archaic in style and clearly refers to the jewel of the collections: the "Aeginetans", being the sculptures from the pediments of the famous temple of Athena. In the Room of the Aeginetans, Klenze's opulent interior decoration included an impressive wall painting of the temple as it would have looked. Furtwängler took the cue in connection with the publication of his excavations at the temple: no doubt inspired by Treu's example, a model of the east front was produced, with a reconstruction of the polychromy he proposed, and shown, in his publication. It was set up in the gallery in 1905, next to the originals, just as in the Albertinum<sup>19</sup>. All this wonder was destroyed in World War II, but a copy of the pediment reconstruction survives in Basel, in the Abguss-sammlung des Antikenmuseums.

"MODERN TIMES" I: THE UNIVERSITIES

#### **University of Cambridge: The Faculty of Classics, Museum of Classical Archaeology**

Specialising in Greek vases, Robert M. Cook (1909-2000) was reader and subsequently Laurence professor of classical archaeology at the University of Cambridge from 1946 to 1976. As such, he was also curator of the University's Museum of Classical Archaeology<sup>20</sup>. Its cast collections included the so-called "Lady of Auxerre" and the "Peplos Kore". In 1978,

18. On the building Vierneisel & Leinz 1830; the pediment: 545-552.

19. Interior of the "Aegineten-Saal", 1910: Vierneisel & Leinz 1980, 201 fig. 4. On the reconstruction: Kader 2003, 246.

20. <https://www.classics.cam.ac.uk/museum/collections>

16. Treu 1884, 36.

17. Kader 2003, 246-247.



the advent of an extra cast allowed Cook to undertake the production of a restored reconstruction of the polychromy of the latter; the date of a similarly restored reconstruction of the “Lady of Auxerre” is not given on the museum website. The reconstruction of the “Peplos Kore” is exhibited next to a cast of the original and is highlighted on the museum’s website; to my knowledge, no information on the scholarly basis of the reconstruction is available. At the time of writing, the information given about the reconstructed polychromy of “Peplos Kore” does not reflect the present state of knowledge. No information is available for the ‘Auxerre’ reconstruction<sup>21</sup>.

**University of Oxford. The Cast Gallery of the Ashmolean Museum of Art and Archaeology**

In 2009, the Ashmolean Museum commissioned from the Vatican Museums a reconstruction of the polychromy of the Augustus Prima Porta like the one produced in 2003<sup>22</sup>. The reconstruction was prominently exhibited in the context of a temporary exhibition at the museum. Subsequently, the reconstruction has been transferred to the Cast Collection in the immediate proximity of a monochrome plaster cast of the original. It cannot be found on the museum’s website and the brief text provided under the reconstruction does not explore the ramifications of its polychromy. It is none the less mentioned as a highlight on the collection’s webpage<sup>23</sup>. In fact, a visitor viewing original Greek and Roman sculpture – or casts – is nowhere made aware of their original polychromy<sup>24</sup>.

**Eberhard-Karls-Universität, Tübingen. The University Museum’s Cast Collection**

The University of Tübingen is home to a collection of original classical antiquities as well as a considerable cast collection; both collections form part of the Institute of Classical Archaeology. At the institute, research on the polychromy of ancient sculpture has been taking place since the early 2000s and reconstructions springing from these endeavours have been on permanent exhibit; a 2015 experimental reconstruction of a warrior’s head (K11) from the pediments of the temple of Athena Aphaia on Aegina is highlighted on the Cast Collection’s webpage<sup>25</sup>.

Photographs of the present display shows reconstructions placed next to monochrome casts of the original (Aristion Stele; Saburoff Head) or isolated (“Peplos Kore”); in the case of the latter, an earlier text identifying the dress as a peplos is accompanied by a more recent one with a completely different dress identification as revealed by closer examination. There is no reference to these relatively recent, well-published investigations or their implications<sup>26</sup>.

**Christian-Albrechts-Universität, Kiel. Antikensammlung, Kunsthalle Kiel**

Over several years, Bernhard Schmaltz investigated the polychromy of the Athens Acropolis Kore 682, taking as point of departure the clues provided by the earliest evidence of the preserved traces of colour. These were the water colour depictions by Guilleron and a very early cast in the Kiel collection. The results were used for a restoration of the missing parts of the statue and a reconstruction of its polychromy (fig. 3). It has since then been on permanent display, with casts of other archaic and classical sculptures in its close proximity; near the reconstruction is a detailed



Fig. 3. Kiel, Antikensammlung. Reconstruction of Athens Acr. 682 on permanent display. Reconstruction directed by Bernhard Schmaltz. Photo courtesy of the Antikensammlung.

21. <https://www.classics.cam.ac.uk/museum/collections/peplos-kore>; <http://museum.classics.cam.ac.uk/collections/casts/auxerre-goddess-0>. The curator of the collection informs me that the information given on the reconstructions will be revised shortly.

22. As Liverani 2004, 234-252.

23. <https://www.ashmolean.org/cast-gallery-21>

24. There is a display currently on Egyptian blue found on a hellenistic female head (permanent display AN1956.315); the curator is Alexandra Sofroniew. I thank the anonymous reviewer for this information.

25. <https://www.unimuseum.uni-tuebingen.de/de/sammlungen/originalsammlung-der-klassischen-archaeologie.html>; <https://www.unimuseum.uni-tuebingen.de/de/sammlungen/abguss-sammlung.html>; <http://www.uni-tuebingen.de/fakultaeten/philosophische-fakultaet/fachbereiche/altertums-und-kunstwissenschaften/institut-fuer-klassische-archaeologie/institut.html>. A version of the

‘Bunte Götter’ exhibition was shown there in 2014 and an important seminar on reconstructions held in that connection, cf. Zimmer 2016.

26. My thanks to Verena Hoft for images. For the ‘Peplos Kore’, see Brinkmann 2010.

text describing the circumstances of the reconstruction. The kore is highlighted on the collection's webpages, but with a minimum of information<sup>27</sup>. In the Roman gallery, the Antikensammlung has installed its cast of the Augustus Prima Porta in a position of high visibility. Nearby is a reconstruction of the polychromy of an element of the statue, namely the Cupid riding a dolphin. The text which accompanies the statue and the reconstruction briefly mentions the original polychromy – and illustrates it for the visitor by showing the reconstruction suggested by Ludwig Fenger in 1886. The paradox here resembles that of the Cambridge “Peplos Kore” and the Ashmolean's Prima Porta reconstruction: polychromy is highlighted, but the present state of knowledge on the subject is not communicated. The encouraging thing is that visitors' comments make the curators aware of the interest in the reconstruction; the reconstructions are therefore prominent on the Web – but not explained “on the ground”. Why is this so?

“MODERN TIMES” II: THE MUSEUMS

#### The Glyptothek, Munich<sup>28</sup>

The reconstructions of the polychromy of the “Aeginetans” shown in the 1830 wall painting of Leo von Klenze's design and in Adolf Furtwängler's 1905 scale model of the temple's east front were destroyed in World War II. The 1960s saw the rebirth of the Glyptothek, with interiors in shades of grey and white<sup>29</sup>. Polychromy returned only in the 1980s, due to the investigations of the Aeginetans by Vinzenz Brinkmann and Ulrike Koch-Brinkmann under the auspices of the director at the time, Raimund Wünsche. In 1986, this led to an experimental, research-based reconstruction of the polychromy of the famous archer, “Paris”, from the west pediment<sup>30</sup>. In 1992, it formed the point of departure for a revised version. “Paris” returned to the limelight, as the center piece of the first large scale exhibition on the polychromy of ancient sculpture: “Bunte Götter. Die Farbigekeit antiker Skulptur” opened in the Glyptothek in 2003, in collaboration with the Ny Carlsberg Glyptotek in Copenhagen and the Musei Vaticani in Rome.

From 2003 onwards, the first ‘Paris’ reconstruction was installed in a corner room leading to the galleries showing the Aeginetans – and a small-scale (1:3) model of the ‘Paris’ set in the relevant part of the pediment, with polychromy reconstructed, was set up nearby to approximate the view from the distance originally experienced. The reconstructed segment of the pediment with the archer is now in the

gallery of the west pediment. Information to visitors on the role of colour in the Aeginetan pediments is otherwise briefly mentioned in a general text on the west pediment and in a similar text on the museum's multimedia app<sup>31</sup>. The earlier, ground-breaking contribution made by the museum to knowledge of the polychromy of the temple and its architecture receives no mention.

#### The Antikensammlung, Kassel

In 1991, the collection's director Peter Gercke made public a very bold project of restoration and reconstruction of two famous sculptures: the “Kasseler Apollo” and the “Athena Lemnia”<sup>32</sup>. First shown in a temporary exhibition, the reconstructions were then installed next to the originals in the galleries of the museum. They were as controversial as they were ground breaking.

At the Ny Carlsberg Glyptotek, the Kasseler Apollo reconstructions were shown in 1992 at an exhibition of casts of all existing evidence of the statue type; they caught the attention of the public to an unexpected degree. Both the Apollo and the Athena reconstructions were then later shown at the Glyptotek's “ClassiColor” exhibition in 2004, and the Apollo in the 2014 exhibition “Transformations”. Most recently, the reconstructions have been moved to a new location in the museum restaurant<sup>33</sup>.

#### The Ny Carlsberg Glyptotek, Copenhagen

At the Glyptotek, the ‘Tracking Colour’-project was initiated in 2008 to investigate the polychromy of Greek, Etruscan and Roman sculpture in the collections. In connection with the project, physical 1:1 reconstructions of four sculptures were produced, three of which have been on display in the permanent installation. For three years, the glass walled project work space was also in one of the galleries.

A fundamental decision was that of showing the reconstructions in the galleries at all. The same goes for positioning them in the physical proximity of the originals, rather than in some separate section. It seemed the obvious thing to do, allowing the visitor to experience and explore two vital aspects of the relation between the two: the reconstruction as being so strikingly different from the monochrome appearance of the originals, and the evidence of the originals as being the point of departure for the reconstructions. In the detail, the reconstructions were installed in the only two different ways possible: side by side with the original (fig. 4, 5), or in the immediate vicinity, but not in immediate visual contact (fig. 6). The latter solution requires the observer to turn from the original to see the reconstruction, and vice versa.

27. <http://www.antikensammlung-kiel.de/>; <http://www.museen-am-meer.de/museen-am-meer/die-museen/antikensammlung/>; Schmaltz 2009; Schmaltz 2016.

28. <http://www.antike-am-koenigsplatz.mwn.de/de/glyptothek-muenchen.html>

29. Vierneisel & Leinz 1980.

30. Wünsche 2011, 240-243.

31. <http://www.antike-am-koenigsplatz.mwn.de/en/multimedia.html>. I thank Astrid Fendt for this information.

32. Gercke & Schmidt 1991.

33. I thank Dr. Rüdiger Splitter for this information.





Fig. 4. Copenhagen, Ny Carlsberg Glyptotek. 2006 installation of the archaic sphinx head IN 2823 next to a cast combining the head with the torso from Thasos and a reconstruction of the polychromy of the combined cast. Reconstruction by Vinzenz Brinkmann and Ulrike Koch Brinkmann 2005. Photo: Ana Cecilia Gonzales, courtesy of the museum.



Fig. 5. Copenhagen, Ny Carlsberg Glyptotek. 2006 installation of the reconstruction on marble of the polychromy of the portrait of Caligula IN 2687. Reconstruction by U. Koch-Brinkmann, V. Brinkmann and J.S. Østergaard 2003. Photo: Ana Cecilia Gonzales, courtesy of the museum.



Fig. 6. Copenhagen, Ny Carlsberg Glyptotek. 2006 installation of the reconstruction of the polychromy of the archaic lion IN 1296. Reconstruction by U. Koch-Brinkmann and V. Brinkmann. Photo: Ana Cecilia Gonzales, courtesy of the museum.



Our deliberations took place within the confines of the museum staff and remained unpublished – as is so often the case. This also goes for another vital component, namely the information offered to the visitor. When the project work space was in the gallery, it allowed us to provide vital information on polychromy research and reconstruction processes both in text and images. Subsequently, information on the reconstructions had to conform to the formats of the signage in the gallery, and to the resources made available by the higher echelons of museum management. This interface is one which it is vital to integrate when preparing the installation of reconstructions. Convincing demonstration of the importance of the presence of reconstructions near the originals will be decisive.

#### The British Museum, London

The Department of Greece and Rome and the Department of Conservation and Scientific Research at the British Museum have been leaders in polychromy research for more than a decade<sup>34</sup>. To communicate some of the results, the Information Gallery next to the Parthenon sculptures was enriched in 2008 with a section entitled 'A Parthenon metope: history and reconstruction'. It includes a video with a reconstruction of the polychromy as part of the story<sup>35</sup>. Further texts and images document the full polychromy of the Parthenon sculptures as originally created. This digital virtual reality, 2D visual and textual reconstruction is an element of the (very) permanent display of the Parthenon sculptures. In the Duveen Parthenon gallery itself, the fact that all the sculptures were originally polychrome is not communicated to visitors.

#### The Liebieghaus Skulpturensammlung, Frankfurt am Main

The pioneering research done by Vinzenz Brinkmann, Ulrike Koch-Brinkmann and their team at the Munich Glyptothek now has a new base in Frankfurt. The Stiftung Archäologie established by them has been transferred to the Städel Stiftung, and the research-based reconstructions of the former Stiftung are therefore now in the hands of the latter. Activities continue as hitherto, with the title 'Liebieghaus Polychromy Research Project' and under the direction of Vinzenz Brinkmann<sup>36</sup>. The focus of the project is on communicating the polychromy of ancient sculpture to the widest possible audience by means of the travelling exhibition 'Bunte Götter. Die Farbigekeit antiker Skulptur', and on investigating the polychromy of ancient bronze sculpture<sup>37</sup>.

Since 2013, in the permanent display at the Liebieghaus, a reconstruction of the polychromy of the Archaic 'Chios Kore'

has been on view, surrounded by originals of the period – the 'Chios Kore' herself is of course at the Acropolis Museum in Athens. An accompanying text explains the basis of the reconstruction. Despite the absence of the original, this reconstruction has a powerful communicative effect, drawing in the surrounding marble originals.

#### The Acropolis Museum, Athens

In 2012, as president of the Acropolis Museum, Dimitrios Pandermalis launched the 'Archaic Colors' initiative. A section on the polychromy of archaic sculpture was integrated into the permanent display of the archaic sculptures from the Acropolis, with pigments, 1:1 physical reconstructions and explanatory texts. One of the reconstructions was of the 'Peplos Kore' which also served as a 3D canvas in an online interactive digital game on the museum website – together with several other activities<sup>38</sup>.

In 2013, the annual Round Table on ancient polychromy was hosted by the Acropolis Museum. Dimitrios Pandermalis gave an unpublished opening lecture on the polychromy of sculpture from the Acropolis and ended it by concluding that: 'White marble is a catastrophe'. For the polychromy researchers present, it was a historic moment promising further developments<sup>39</sup>.

#### The National Archaeological Museum, Athens

The program for the meeting at Bordeaux included a paper on an experimental display for the temporary exhibition<sup>40</sup>. Unfortunately, the speakers were prevented from informing us all about this truly remarkable initiative because it has been delayed. Some evocations of the sculptural polychromy are yet present in the galleries of that much-loved museum: a painted cast of a kore by the staff entrance, a painted reproduction of the stele of Lyseas just near the original (500 B.C.)...

#### CONCLUSIONS: RECONSTRUCTIONS IN PERMANENT DISPLAYS

The questions are: What can reconstructions in permanent displays not do, what can they do and what does the latter require<sup>41</sup>? And, of course: should reconstructions be on display in permanent installations display at all, and if so, how?

There is complete consensus that reconstructions can never recreate the appearance of the original. This is reflected in the

38. Pandermalis 2012; <http://www.theacropolismuseum.gr/en/content/archaic-colors-1>

39. There is now a 2D animation of the colour reconstruction of the frieze, sponsored by Samsung. It's three large TV screens showing a video of the colours. I thank the anonymous reviewer for this information.

40. E. Leka, N. Kiritsis, N. Roumelioti, Dans l'atelier du peintre antique: restituer la polychromie des sculptures au musée national archéologique d'Athènes.

41. As Blume-Junge 2016, 95-98. Cf. also Zimmer 2016, 6; Østergaard 2017, 164-166; Østergaard 2018.

34. [http://www.britishmuseum.org/research/research\\_projects/all\\_current\\_projects/ancient\\_polychromy.aspx](http://www.britishmuseum.org/research/research_projects/all_current_projects/ancient_polychromy.aspx);

35. [https://www.youtube.com/watch?v=EW5DMs1g\\_OE;](https://www.youtube.com/watch?v=EW5DMs1g_OE;)

36. <http://www.stiftung-archaeologie.de/>; <http://buntegoetter.liebieghaus.de/en>

37. Most recently Brinkmann *et al.* 2017.

scholarly terminology in use: the words are “experiment”, “approximation”, “attempt”, “experimental research”, “experimental archaeological project and ‘cognitive didactic object’”<sup>42</sup>.

What the presence of reconstructions in a permanent display can do is to:

- contribute decisively to the visitors’ awareness of the presence of colour in ancient sculpture;
- communicate the limitations of the reconstructions in relation to the originals, as well as the dynamic development of our knowledge<sup>43</sup>;
- generate understanding of, interest in and support for polychromy research.

To achieve these positive effects, it goes without saying that the reconstructions must:

- be based on scholarly evidence and on rigorous and transparent methodologies of interpretation;
- be accompanied by information making clear the aims and means of the reconstruction.

Furthermore, reconstructions meeting these criteria may be shown in a number of valid formats and techniques which may supplement each other, reflecting a variety of aims and contexts.

It will be evident from the above, that on the conditions outlined, I strongly recommend the permanent display of reconstructions in relevant galleries. If the original is in the gallery, the reconstruction should be installed in a way which allows the visitor to visually compare the two. This requires that such reconstructions are incorporated in the planning and design of the gallery as a whole – including the strategy of communication of content to the visitors. The amount of information needed for understanding a reconstruction, or the media available to carry that information, does not differ substantially from that required for the originals<sup>44</sup>.

Where there is a will, there is a way.

42. It is correspondingly unfortunate when the visitor is told that “this is how it was”; cf. the Ara Pacis Museum’s virtual reality initiative at [http://www.arapacis.it/it/mostre\\_ed\\_eventi/eventi/l\\_ara\\_com\\_era](http://www.arapacis.it/it/mostre_ed_eventi/eventi/l_ara_com_era)

43. Zimmer 2016, 6. I do not share her opinion the negative effects on a lay public.

44. One main challenge in the information provided is to meet critics “not convinced” by the polychromy of this or that reconstruction, thus applying aesthetic criteria which reconstructions do not lay claim to.

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