

Press release

GODS IN COLOR—GOLDEN EDITION

Polychromy in Antiquity

Extended until September 26, 2021
Liebieghaus Skulpturensammlung

Frankfurt am Main, January 29, 2020. For more than fifteen years, the polychromy of ancient Greek and Roman sculpture has been captivating the public worldwide. Some three million visitors have experienced the GODS IN COLOR firsthand in the museums of cities such as Athens, Istanbul, Copenhagen, London, Malibu, Mexico City, Munich, Berlin, Rome, Vienna and, most recently, San Francisco—as well as those of renowned universities, among them Harvard and Oxford. The Liebieghaus Skulpturensammlung is now presenting a major expanded exhibition allowing a nuanced look at the disconcerting phenomenon of statuary polychromy. “GODS IN COLOR—GOLDEN EDITION: Polychromy in Antiquity” features more than 100 objects from international museum collections such as the British Museum in London, the Museo Archeologico in Naples, the Ny Carlsberg Glyptotek in Copenhagen, the Archäologisches Institut in Göttingen, and the Skulpturensammlung der Staatlichen Kunstsammlungen Dresden, as well as the holdings of the Liebieghaus, which encompass 60 recent reconstructions but also some dating from the nineteenth century, along with 22 prints.

“The polychromy of ancient sculpture is a fascinating phenomenon, and one that continues to surprise and astonish us despite in-depth research over the past decades and the publication of important results. The image of white marble sculpture and architecture still dominates our conception of antiquity today. The Liebieghaus Skulpturensammlung and a team of scholars around Vinzenz Brinkmann—part of an international research network—untiringly devote themselves to correcting this misconception once and for all. The expanded exhibition “Gods in Color—Golden Edition” at the Liebieghaus Skulpturensammlung presents the latest instructive findings as well as a résumé of forty years of intensive research into the polychromy of ancient sculpture,” Dr. Philipp Demandt, the director of the Liebieghaus Skulpturensammlung, comments on the exhibition.

Under the direction of Vinzenz Brinkmann, the head of the Liebieghaus antiquity collection, an international team of scientists have been researching statuary polychromy for some forty years. Their work has inspired new research projects on the polychromy of ancient Greek and Roman sculpture at universities and museums in many countries. The primary focus of these projects is the scientific analysis of the original paints. Within this context, the history of how scholars responded to polychromy in the period from the mid-eighteenth century to World War I—and their extensive accompanying reconstruction activities—have been subjects of particular interest. Since the exhibition GODS IN COLOR was first on view in Frankfurt in 2008, the number of reconstructions carried out by the research team has doubled, and new aspects have come under consideration, for example the polychromy of

ancient bronzes. In 2016, Ulrike Koch-Brinkmann and Vinzenz Brinkmann donated the reconstructions in their possession to the Städelstiftung.

Prof. Dr. Vinzenz Brinkmann, the curator of the exhibition and head of the Liebieghaus Department of Antiquity, explains: “Our experimental reconstructions have proven to be our chief means of gaining insights into the coloration of ancient sculpture. It is only by experimenting with the ancient painting materials and techniques on three-dimensional bodies that we can develop viable solutions to previously unknown questions. Naturally, to this end we have chosen objects whose original polychromy is well preserved. It must be added that any reconstruction always represents no more than an approximation and can never reproduce the original appearance in its entirety—nor can it achieve the artistic sophistication of the original in every detail. To the contrary, the reconstructions are the results of a scientific and thus a schematic process, but one which has the great wealth of archaeological and scientific findings of four decades of research to draw on.”

Experimental reconstructions and the most recent findings on the polychromy of ancient sculpture

Originally, the painted decoration of an antique sculpture not only enhanced its appearance from the aesthetic point of view and increased its lifelike impression, but also provided the ancient viewer with important information about the identity of the figure depicted. Over the past decade, research has focused increasingly on this aspect. In the process, new interpretation proposals have been developed not only in the context of large-scale Greek bronzes, but also for numerous marble sculptures. In the ancient world of the eastern Mediterranean region, the use of color was par for the course. For the Greeks and Romans, however, the painting of sculpture was far more than superficial decoration. Rather, polychromy had means of its own for expanding the formal and narrative structure of the artwork. It was only through the dimension of color that artists achieved the desired vibrancy of expression.

The examples presented in the exhibition illustrate the different conventions that governed polychromy in the archaic (650–480 BC) and classical (480–330 BC) periods. Objects and figures were colored in such a way as to resemble their models in nature. Where the choice of colors did not correspond to reality, it served to support the narrative content. The standing figure of a naked young man (*kouros*) or richly bejeweled maiden (*kore*) were characteristic of the Greek sculpture of the archaic period. Figures such as the *Kouros of Tenae* (original: Greece, ca. 560 BC, marble, Staatliche Antikensammlungen und Glyptothek, Munich) served to decorate graves and sanctuaries. The generic color reconstruction of 2015 unites the surviving traces and details of the polychromy of several statues: the hair of the head is styled with ribbons, that on the breast and around the genitals possesses an ornamental quality, and the ear jewelry emphasizes the aristocratic origins. The colors are evidently indebted to the Egyptian tradition—the blue indicating the hair and the light brown skin color of the skin, for example, are found on Egyptian sarcophagi and reliefs.

Ancient written sources describe the wealth of color and form characterizing the garments of the neighbors to the north and east, which fascinated the Greek artists. The splendidly colorful costume of the so-called *Persian Rider* from the Acropolis (original: Athens, 500/480 BC, Acropolis Museum, Athens) is especially well preserved. The diamond pattern of the trousers in the color reconstruction of 2008/2019 exhibits sophisticated rhythmic alternations between the strongly contrasting shades of red, blue, yellow, green and brown; the tunic features an imaginative and complex tongue ornament. This clothing style of the peoples

to the north and east was used around 480 BC on the west pediment of the Temple of Aphaia on Aegina to make a kneeling archer recognizable from a distance. The rich garment ornamentation of the *Persian Rider* and the *Aeginian Archer* testifies to the Greeks' fascination with the costumes of the horse people—the Amazons, Thracians, Scythians, Trojans and Persians. Textile finds from the kurgans of the Pazyryk in the Altay Mountains now in the collection of the Hermitage in St. Petersburg show how colorful the original garments were. The third and most recent reconstruction of the archer, produced in 2019, corresponds more closely to the color scheme and decoration techniques of these original textiles. The Greeks also adopted the use of gold sequins, examples of which have survived well intact on Scythian fabrics.

The decorative elements of the garments played a key role in helping ancient viewers understand the figures depicted, as is illustrated in the exhibition by three reconstructions of female figures from archaic-period Athens: the funerary statue of *Phrasikleia* (original: Greece, ca. 540 BC, marble, National Archaeological Museum, Athens), the so-called *Chios Kore* (original: Athens, ca. 520/500 BC, marble, Acropolis Museum, Athens) and the so-called *Peplos Kore* (original: Athens, ca. 520 BC, marble, Acropolis Museum, Athens).

Dating from 2010/2019, the reconstruction of the *Phrasikleia* represents a young woman wearing sandals, a long, richly patterned dress, jewelry, and on her head a floral crown consisting of lotus buds and blossoms. The bright red gown is adorned with a red and yellow scattered pattern and decorative borders. The rosette petals of the appliqué are made of gold and lead tin foil. The 2012 reconstruction of the so-called *Chios Kore* depicts a girl in a long skirt and a kind of undergarment made of a fine fabric forming multiple folds. The Swiss artist Émile Gilliéron already painted a watercolor documenting the vestiges of vibrant blue and red paint on the original statue when it was excavated at the end of the nineteenth century. Investigations carried out in 2010 did in fact bring the pigments azurite and vermilion to light. The modern researchers moreover found the lead yellow and light-yellow ochre their predecessors had observed back in 1904. Whereas the costume of the so-called *Chios Kore* thus offers direct insights into the fashions of the late sixth century BC, the decorative pattern and lotus flower ornament of the *Phrasikleia* make symbolic reference to the cycle of life and death.

The so-called *Peplos Kore* wears a tight-fitting outer garment without folds over an undergarment. The archaeologists equated the former with the so-called *peplos* (a women's dress style in ancient Greece) and erroneously called the figure the *Peplos Kore*. In fact, however, the garments—and with them the figure's true significance—only became clear with the aid of the polychromy. Recent research has enabled a complete understanding of the figure's complex color scheme. The exhibition presents a new, revised reconstruction of the so-called *Peplos Kore*. Indications of the steps preceding the painting process have now been discovered, as have weathering traces of the paint. The polychromy—in particular the animal-frieze garment (*ependytes*), a crown of feathers meanwhile lost (vestiges of its mounts are still visible on the head), the weapons and the immobile body—gives the figure its true identity. The statue mistakenly designated the *Peplos Kore* is actually a marble representation of a *xoanon*, an ancient wooden cult image of the goddess Artemis.

Sculptures also received a polychrome finish in the Hellenistic period (330–30 BC). In several cases, the researchers have been able to prove that the naked areas of the human figure were painted with a reddish-

brown or light brown hue. As we have learned from the reliefs of the so-called *Alexander Sarcophagus* from the royal necropolis of Sidon (original: Lebanon, ca. 320 BC, Archaeological Museum, Istanbul), the color scheme was determined to a decisive degree by the contrasts between radiant blue, intense red and golden ochre.

Gilding played an extremely important role, occupying ever larger areas of the surfaces and serving as a painting surface itself. The precious material was used again and again to represent jewelry on humans and animals alike. Gold and silver plating and colored stone inlays enhanced the splendor and light reflection of the ancient works. Remnants of leaf gilding on garment hems of Greek sculptures give rise to speculations that the edges of ancient garment fabrics were piped with gold threads. The traces of gold on the marble figure of the so-called *Small Herculaneum Woman* are an example. The late classical original of this work no longer exists, but dozens of late Greek and Roman replicas have come down to us. The figure of a young woman sports a hairstyle made up of several braids woven together in a tight knot. She is in the act of pulling her mantle tightly around her with both hands. The color reconstruction of 2019 is based on examinations of the polychromy on a replica found in Delos in 1894 (original with polychromy: Delos, 2nd century BC, marble, National Archaeological Museum, Athens) and uses the cast of the eponymous replica discovered in Herculaneum in 1706 (original from which the cast was made: Herculaneum, 1st century AD, marble, Staatliche Kunstsammlungen Dresden, Skulpturensammlung). The reconstruction combines the traces of polychromy documented since the excavation. Particularly the color scheme of the mantle reveals the sculptor's intent: the fine greenish fabric is transparent everywhere where the mantle stretches across the body's curves and protrusions.

One section of the exhibition revolves around a three-year research project carried out in cooperation with scholars from Frankfurt's Goethe University and concluded in January 2020. The aim was the development of physical models as well as an interactive digital publication for communicating the research and reconstruction of the polychromy of ancient Greek sculpture to specialists, students and a broader public. A statue from the Frankfurt *Group of Muses* was chosen as the object of this case study. This figure presumably comes from the sacred island of Delos dedicated to Artemis and Apollo (*Standing Muse from the Thermal Baths of Agnano*, originally from Delos, 2nd century BC). It bears a wealth of information—however difficult to see—about its original polychromy. The researchers compared it to a marble statue of the *Small Herculaneum Woman* type which was erected on Delos around the same time (ca. 120–100 BC) and whose polychromy has survived in better condition with a marble statue of the *Small Herculaneum Woman* type which was erected on Delos around the same time (ca. 120–100 BC), and whose polychromy has survived in better condition.

Since the first excavations in the eighteenth century, the representation of naked skin has presented scholars with difficulties. Apart from the disapproval brought about by the then-modern sense of aesthetics, the generally poor state of the skin color has played a decisive role in scholars' neglect of the matter. The exhibition devotes itself to this topic in color reconstructions realized according to the latest scientific findings, for example those of the so-called *Treu Head* (original: Rome, 2nd century AD, marble, The British Museum, London) and the *Portrait of the Roman Emperor Caligula* (original: AD 37–41, Ny Carlsberg Glyptotek, Copenhagen). New examinations of the *Treu Head*—a depiction of a female deity—at the British Museum encompassed a large number of paint analyses that yielded precise information about the painting technique and the pigments used.

For the representation of the skin, the ancient artist employed calcite mixed with not only red and yellow ferric oxides but also a small amount of Egyptian blue, which lends the skin a somewhat cooler touch. As is also the case with the *Portrait of the Roman Emperor Caligula*, pink madder lake was used for the space between the lips and the corners of the eyes. The *Treu Head* bears key significance in the current polychromy discussion. Evidently the light female skin was characterized with the aid of paint, while the precious marble served merely as the support material.

To date, it has not been possible to provide a conclusive answer to the question of how the polychrome enhancement of bronze statues related to marble polychromy. The research team undertook extensive initial approximations of the original appearance of bronzes, with the famous *Warriors of Riace* (originals: Greece, 5th century BC, Museo Archeologico Nazionale, Reggio di Calabria) and the original *Bronze Sculptures from the Roman Quirinal Hill* (originals: Greece, end of 4th or 3rd century BC, Museo Nazionale Romano, Rome) as examples. In the reconstructions of the two *Riace Warriors*, the illusion of suntanned skin was achieved with numerous layers of a much-diluted bitumen lacquer containing a bit of red pigment. The extremely lifelike impression is brought about by the elaborately made stone inlays for the eyes, nipples inlaid in copper, and lips and teeth covered with silver sheeting. Within the framework of the scientific investigations and recasts of the originals as well as the making of the reconstructions in the years 2012–2016, *Warrior A* turned out to be a portrayal of Erechtheus, son of the goddess Athena, and *Warrior B* of the Thracian king Eumolpos, son of Poseidon, god of the sea. The examinations of the so-called *Quirinal Bronzes* in the same years (2012–2018) confirmed the conjecture that the two figures represent heroes from the Greek Argonaut saga: Amycus, king of the Bebryces, and Polyceuces, an Argonaut and son of Zeus, who encounter one another in a boxing match.

Research network and latest analysis techniques

Over the past decades, information about the original ancient marble sculptures has been obtained with the aid of scientific methods, and has in turn served as the basis for the production of experimental reconstructions. The participating scholars have also reevaluated ancient written sources on statuary polychromy. Apart from precisely made plaster casts, copies of ancient sculptures have been produced in marble and, most recently, as 3D prints. These copies have then received polychrome finishes using authentic historical painting materials. In 2020, the long series of three-dimensional physical reconstructions is entering its thirtieth year. Ulrike Koch-Brinkmann and Vinzenz Brinkmann undertook their first experimental color reconstructions on copies of originals back in 1989. This work was based on their own scientific investigations, but also and above all on the results of numerous research projects implemented on the international level. At important museums such as the British Museum in London, the Louvre in Paris, the Acropolis Museum in Athens, the Pergamonmuseum in Berlin, the Ny Carlsberg Glyptotek in Copenhagen and the Metropolitan Museum in New York, archaeologists, conservators and scientists have worked together successfully to further the research into the polychromy of their own respective holdings. What is more, a large number of extensive independent research and dissertation projects have been realized.

Methods of scientific investigation have been developed further and refined. The visible-induced infrared luminescence (VIL) imaging technique has been developed, for example, and thermographic imaging methods optimized. The researchers have also profited extensively from the new development of portable,

non-invasive analysis techniques with whose aid myriad color measurements have been carried out on the objects. Over the past years, this has led to a tremendous increase in knowledge about the pigments used in antiquity. X-ray fluorescence, a portable method for the nuanced ascertainment of a material's metal content, has enabled the rapid identification of a large number of inorganic pigments without taking samples. UV-VIS absorption spectroscopy is capable of identifying both pigments and colorants such as plant dyes. It thus comes into play for the determination of nearly all inorganic, but also organic materials. The measurement, which amounts to an optical fingerprint, also encompasses the physical ascertainment of the antique material's hue. Particularly in the context of reconstructing ancient polychromy, this chromatic definition permits an extremely precise approximation of the original appearance. Based on these new technical means of making light visible, but also the scientific analysis of pigment traces, the team around Vinzenz Brinkmann have arrived at detailed results and more precise forms of communication over the course of many years of work. For their work they have received support from the German Research Foundation, the Stiftung Archäologie, and the Leibniz Prize project of Prof. Dr. Oliver Primavesi, from Salvatore Settis, the government of the Republic of Italy, the Städtischer Museums-Verein and, most recently, the German Federal Ministry of Education and Research as well as the Goethe University of Frankfurt am Main with Prof. Dr. Dirk Wicke.

Exhibition dates: January 30, 2020 to January 17, 2021 – extended until September 26, 2021

Press preview: Wednesday, January 29, 2020, 11 am

Curator: Prof. Dr. Vinzenz Brinkmann (Head of the Department of Antiquity and Asia, Liebieghaus Skulpturensammlung)

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Location: Liebieghaus Skulpturensammlung, Schaumainkai 71, 60596 Frankfurt am Main

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Digitorial®: Ideal preparation for the exhibition: a multimedia Digitorial is available at buntegoetter.liebieghaus.de

Audiotour: The audio guide offers an insightful tour of the exhibition Gods in Color—Golden Edition. On the way, the image of antiquity as a vibrantly colorful age comes alive in numerous sculptures and

reconstructions. The 60-minute app contains audio tracks on some 30 works of art, enhanced with illustrations. The tour is available free of charge as an app for the operating systems iOS and Android. At the museum, the audio guide is available for rental for 4.50 EUR (8 EUR for two audio guides).

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