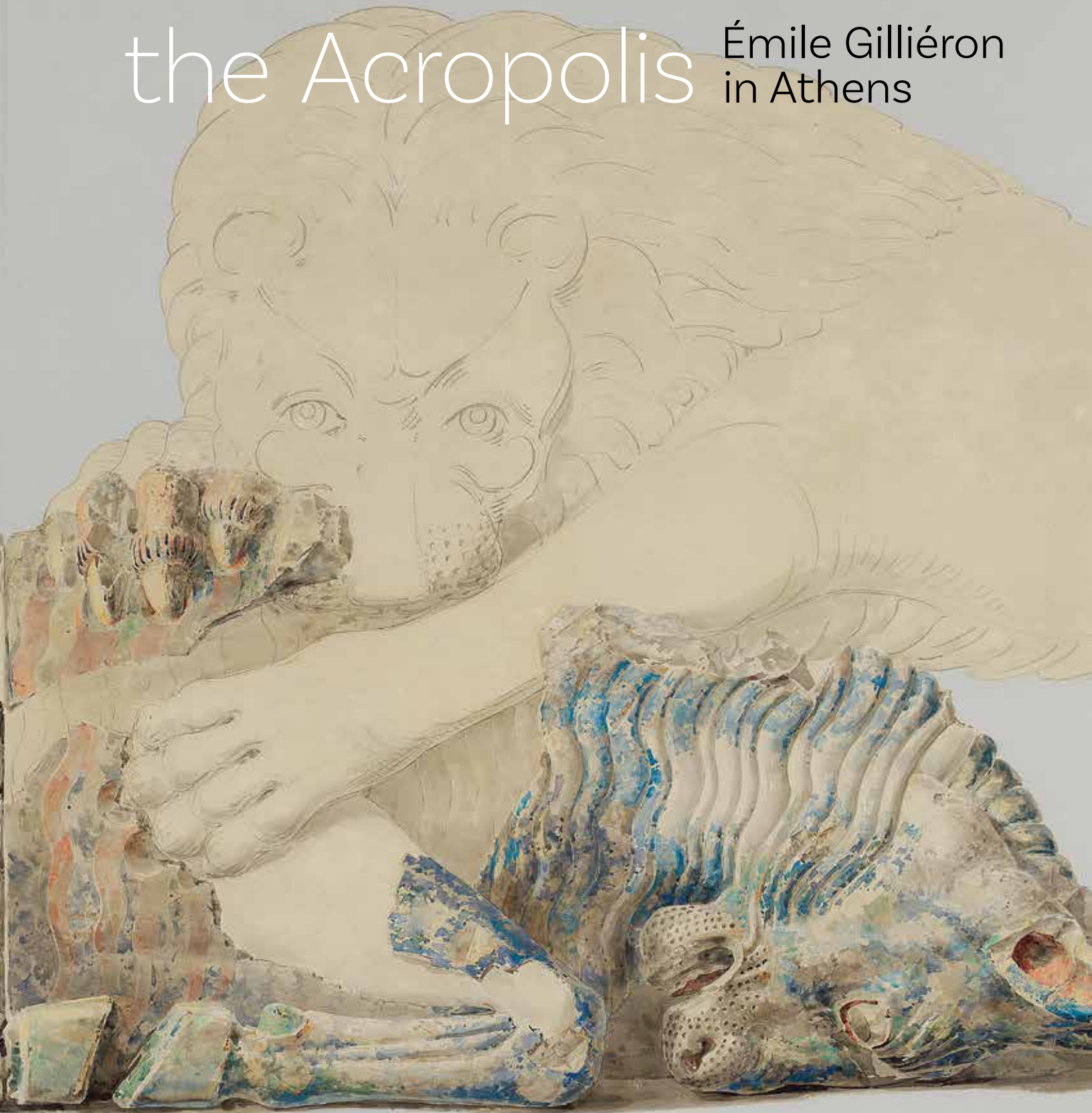
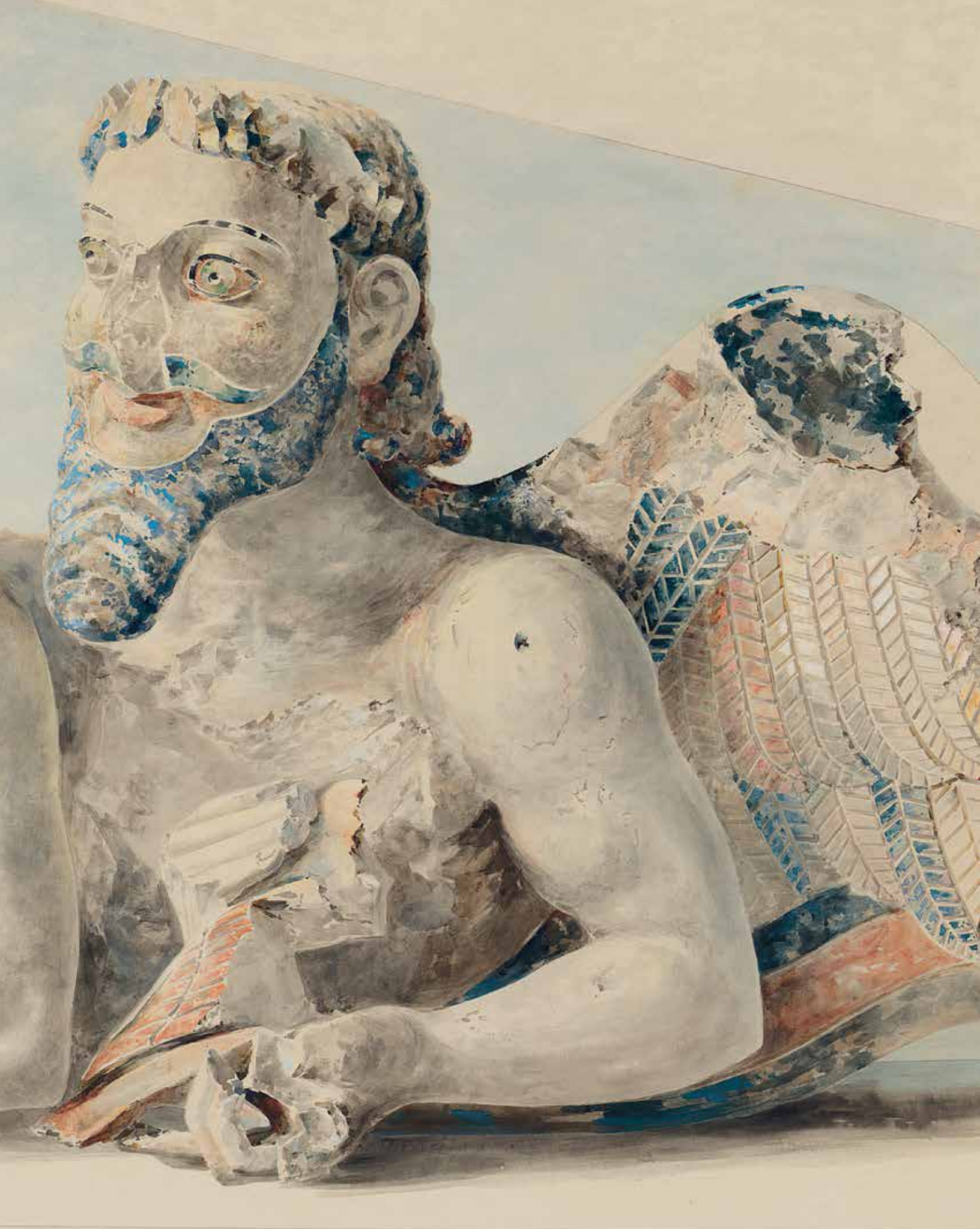


# Watercolors of the Acropolis

Émile Gilliéron  
in Athens







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Joan R. Mertens and Lisa Conte



THE METROPOLITAN MUSEUM OF ART  
NEW YORK





## Director's Note

Discovery and rediscovery are two of the most exciting and gratifying pursuits that we undertake at The Metropolitan Museum of Art. The subject of this *Bulletin* and the exhibition it accompanies are five watercolors by Émile Gilliéron père, a premier draftsman who, beginning in the late 1870s, recorded major archaeological discoveries in Greece as they were being taken out of the ground. The finds were spectacular, shedding new light on all periods and facets of Greek art. So too was the amount of color they revealed to scholarly and lay audiences, who before then had visualized Greek art primarily as white marble serenity.

In the days before color photography, hand-colored drawings and photographs were the principal means of recording and popularizing the transient polychromy on such works. The Museum's five watercolors depict, in two dimensions, architectural sculpture from buildings that once stood on the Athenian Acropolis. Plaster casts were also made to reproduce ancient works in three dimensions. The Met collection includes casts of Greek sculpture that were painted by Gilliéron and his son to record their polychrome decoration. And, lest we forget, the Parthenon was originally multicolored as well. Indeed, a celebrated model of the Parthenon made for The Met in Paris about 1889 by Adolphe Jolly probably resembles the ancient building more closely than its present-day monochromatic appearance.

Discovery and rediscovery of such works of art often include a technical component. This publication describes the impressive work of the Department of Paper Conservation in conjunction with that of Textile Conservation in recovering the condition of the watercolors following a long period when copies and reproductions had fallen out of favor.

What we do not have to rediscover is the tremendous generosity of our Museum supporters, in particular Eliot Stewart, who made possible the conservation of all the Gilliéron works on paper in the Department of Greek and Roman Art. We are grateful to her for that support, which is in honor of Joan R. Mertens, Curator, who organized the exhibition and is the coauthor of this publication with Lisa Conte, formerly of The Met's Department of Paper Conservation and now Head of Conservation at the National September 11 Memorial and Museum. We express our warmest thanks to The Vlachos Family Fund for making possible the exhibition and to The Ceres Foundation, Inc., The Prospect Hill Foundation, and Jenny Boondas for their generosity to this *Bulletin*. We also note the long-standing support of The Met's quarterly *Bulletin* program by the Lila Acheson Wallace Fund for The Metropolitan Museum of Art, established by the cofounder of *Reader's Digest*.

**MAX HOLLEIN**

Director, The Metropolitan Museum of Art



Athènes 29 Oct. 1918.

Mademoiselle Gisela M. A. Richter  
Metropolitan Museum. New York.

Mademoiselle.



Peut-être qu'au milieu des Terribles  
événements qui nous accablent ma  
demande devient une indiscretion que  
je vous prie de bien vouloir excuser.

Condamné à rester à Athènes j'ai  
exécuté à l'Acropole les aquarelles  
suivantes qui peut-être vous intéresseront.

Première Série.

I. Monstre ailé à 3 corps. Appartenant  
à la moitié droite du fronton.

(Voyez Descript. dans: Catalog. of the  
Acropolis Museum by Dickins p. 78.

L'aquarelle grandeur naturelle de  
l'original = 3 m. 25.

Prix = 1.500 Francs.

# Watercolors of the Acropolis: Émile Gilliéron in Athens

Joan R. Mertens

Athens 29 Oct. 1918  
Mademoiselle Gisela M. A. Richter  
Metropolitan Museum, New York

Mademoiselle,

It may be that in the midst of the terrible events that overwhelm us my question becomes an indiscretion that I ask you kindly to forgive. Condemned to remaining in Athens I have executed at the Acropolis the following watercolors that may interest you.

## First Series

- I. Winged monster with 3 bodies. Belonging to the right half of a pediment. (See the description in: Catalog of the Acropolis Museum by Dickins p. 78). The watercolor same size as the original = 3m.25. Price = 1,500 Francs.
- II. Introduction of Herakles into Olympos. (Catalog of the Acropolis Museum by Dickins p. 62). The watercolor 1/2 the size of the original. Height meter 0.65 by 0.96 in length. Price = 800 francs.
- III. Bull devoured by two lions. (Catalog by Dickins page 67). Watercolor executed at 1/2 the size = 2m.675. Price: 1,200 francs.
- IV. Combat of Herakles and the Hydra. Watercolor 1/2 size of the original = 2m.14. Price: 1,000 francs.

These watercolors are also executed in a relative proportion, that is to say all reduced to 1/3 of the original. It is a photograph of the group that I send as an enclosure [fig. 2; see also inside back cover]. If you wish I can send you other photographs, larger and colored.

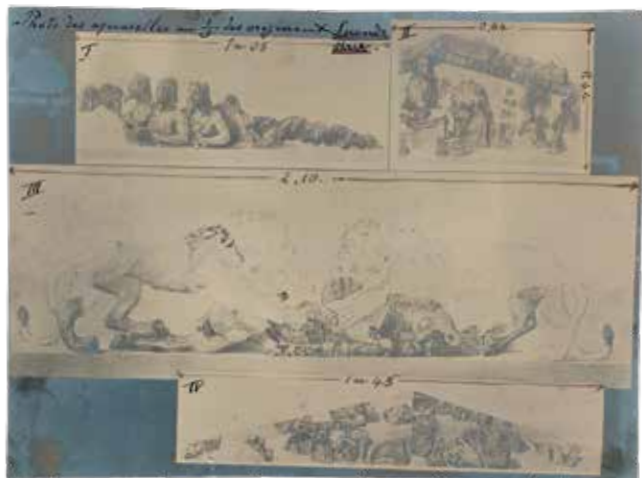
Second series. Watercolors all at 1/3 of the original.

- |     |                |                      |
|-----|----------------|----------------------|
| I   | = 1 meter 08   | Price = 1,000 Francs |
| II  | = 0.64 by 0.44 | Price = 600 “        |
| III | = 2m.10        | Price = 900 “        |
| IV  | = 1m.45        | Price = 800 “        |

Accept, Mademoiselle, my respectful salutations,  
E. Gilliéron père  
Rue Scoufa 43<sup>1</sup>

The recipient of this inquiry (figs. 1, 2) was Gisela M. A. Richter (1882–1972), assistant curator in the Department of Classical Art, as it was then known, at The Metropolitan Museum of Art. Daughter of the noted Renaissance art historian Jean Paul Richter and educated at Oxford University, she came to the Museum in 1906, was appointed the first woman department head in 1925, and, through her acquisitions and fundamental publications, established the eminence of the institution's classical collections. Since 1906, Miss Richter (as she is traditionally known) and Edward Robinson (1858–1931), the Museum's director, had been systematically purchasing two-dimensional renderings and three-dimensional copies of significant works of art that were recent or current discoveries in Greece. Robinson came to the Metropolitan in 1905 after twenty-five years at the Museum of Fine Arts, Boston, where he was the first curator of classical antiquities and became director in 1902. In New York, he was the institution's first assistant director and served as director from 1910 until 1931.<sup>2</sup> One of Robinson's strongest interests lay in questions concerning the painting of ancient Greek sculpture; by the time the Metropolitan began to buy from Émile Gilliéron, Robinson was fully familiar with his activities.<sup>3</sup>

Louis Émile Emmanuel Gilliéron (1850–1924), known as Émile Gilliéron père, was a gifted Swiss artist who received his training in Basel,<sup>4</sup> Munich, and Paris, and by 1877 was established in Athens (fig. 3). He had married in



2. Detail of third page of letter (see inside back cover), showing figs. 5, 7–9



3. Émile Gilliéron père (second from left) with workmen at Knossos, Crete, ca. 1910

1884,<sup>5</sup> and in 1885 his son, Édouard Émile Gilliéron (1885–1939), later known as Émile Gilliéron fils, was born. In Greece, Gilliéron père was quickly recognized as a skilled archaeological draftsman, notably by the Deutsches Archäologisches Institut (DAI). He worked with Heinrich Schliemann, for example, whose excavations at Troy and Mycenae revealed the rich and complex cultures of prehistoric Greece described in Homer's *Iliad* and *Odyssey*. His fame was assured when, at the 1889 Exposition Universelle, in Paris, his watercolors of finds from excavations on the Athenian Acropolis were included in the Greek pavilion.<sup>6</sup> Gilliéron is probably best known, however, for having been called to Crete in the spring of 1900 by Sir Arthur Evans, who was bringing to light the center of prehistoric Crete at Knossos, and whom Gilliéron father and son served for thirty years as draftsmen, restorers, and advisers.<sup>7</sup>

In addition to other archaeological commissions, Gilliéron père became the drawing master to the children of the Bavarian rulers of the young Greek state and also designed the postage stamps for the first modern Olympic games, which took place in Athens in 1896. The full scope of his enterprises, particularly during his early years in Greece, is only now being charted and will soon become better known thanks to the donation between 2015 and





4. Bronze Age gallery at The Metropolitan Museum of Art, 1933

2018 of four generations' worth of Gilliéron family artwork, archives, photographs, and other materials to the École Française d'Athènes, the French archaeological institute in Athens.<sup>8</sup> The story told in this *Bulletin* derives from other sources, however, most notably contemporary archaeological journals, which reported on the Acropolis discoveries almost breathlessly and in minute detail, as well as nearly twenty-five years of correspondence, in French and English, between the Metropolitan Museum and Gilliéron père and fils.

A thread that runs throughout the career of Gilliéron père and that will come to the fore in our consideration of the Acropolis watercolors is his activity as the master draftsman who was present at the discovery of major

works of art and recorded them, especially with an eye to the original colors before they were changed by exposure to light and air. At the same time, his network of connections and capacity to derive financial benefit from them were exceptional. For instance, as reported by Edward Robinson,<sup>9</sup> in the spring of 1883 Russell Sturgis, the prominent American architect, art historian, and participant in the founding of the Metropolitan, was in Athens and employed Gilliéron to make drawings in color of the sculpture recently discovered on the Acropolis.<sup>10</sup> The images consisted of both watercolors and colored photographs. The Museum of Fine Arts, Boston, acquired twenty-six of these works from Sturgis, and, in 1891, Robinson organized an exhibition there on the use of color in Greek



5. Émile Gilliéron père, *Two Lions Savaging a Bull*, 1919. Watercolor, 38 $\frac{3}{8}$  x 133 in. (97.5 x 337.8 cm). The Metropolitan Museum of Art, New York; Dodge Fund, 1919 (19.195.3)

sculpture and architecture.<sup>11</sup> That exhibition was followed by another in 1892 at the Art Institute of Chicago.<sup>12</sup> The catalogue for the Chicago venue includes Gilliéron watercolors and colored photographs lent by Sturgis, notably an image of “the winged monster with three bodies,” the first of the works that Gilliéron offered Miss Richter in 1918.

On the basis of present knowledge, about 1909–10 Gilliéron père seems to have begun shifting his work to his son, and their business assumed the name “Gilliéron et fils.” Although talented and thoroughly trained first by his father and then in Paris, the son transformed their studio into an extraordinarily successful business enterprise that worked on a much larger scale—such as reproducing sculptures and restoring major areas of the palace at Knossos—and that catered to a clientele that extended from Havana and Illinois to all of Europe. In Greece, their involvement in some artistic capacity was everywhere, and their images, in large measure, have defined our

visual impressions of the great ancient cultures of the Greek world.<sup>13</sup>

Between 1906 and 1933, the Metropolitan Museum’s Classical Department was a steady customer of Gilliéron et fils, acquiring almost seven hundred pieces. The reproductions of objects and wall decorations from Minoan Crete and Mycenaean Greece constitute by far the largest group (fig. 4) and in 2011 were the subject of the exhibition “Historic Images of the Greek Bronze Age.”<sup>14</sup> The watercolors from historical Greek sites include Hellenistic painted tombstones from the area of Volos, in east-central Greece, and terracotta metopes from a late seventh-century B.C. temple at Thermon, in central Greece. This *Bulletin* and the accompanying exhibition focus on a subject whose ramifications have been less extensively studied than the Gilliérons’ prehistoric work.

In 1919, the four watercolors that Gilliéron père had offered Miss Richter in 1918 arrived at the Museum

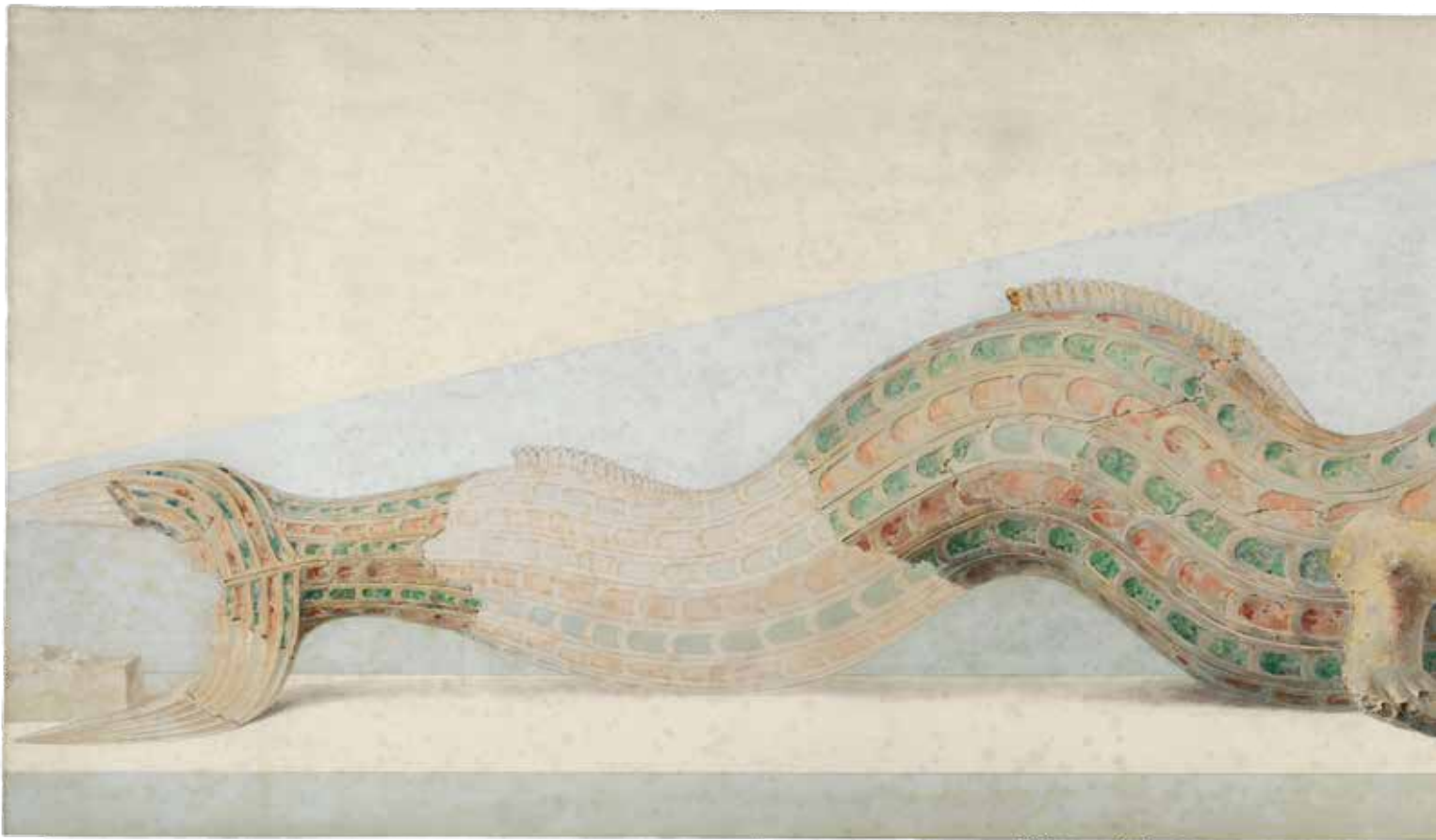




together with a fifth, whose subject, he believed, belonged to the same architectural pediment as the first piece in his original list (figs. 5–9).<sup>15</sup> The drawings show five works of Greek sculpture created during the first half of the sixth century B.C. for buildings situated on the Acropolis of Athens more than a hundred years before the construction of the Parthenon. The sculptures are made of poros, a local limestone, rather than of marble. The watercolors deserve our attention for several reasons. For one, the three large renderings, measuring as much as eleven feet in length, are tours de force of the watercolorist's art and, remarkably, were executed on one continuous sheet of paper. Furthermore, only black-and-white photography existed at the time, and any remains of color on the original sculptures could be conveyed only by verbal descriptions, photographs on which colors were painted (see fig. 24), and drawings such as these. Scholars like Edward Robinson and Gisela Richter were exceedingly interested

in ancient polychromy, but so was the wider public during the late nineteenth and early twentieth centuries. The Museum's watercolors of the Acropolis thus contribute exceptional firsthand evidence to ongoing studies regarding the discovery, publication, and popularization of early Greek sculpture from one of the undisputed centers of ancient Greece.

The watercolors yield this information all the more richly because they recently underwent extensive conservation in the Metropolitan Museum's Department of Paper Conservation with the assistance of Textile Conservation. Eliot Stewart, a generous benefactor of the Museum, provided funds to treat all forty-one of the Gilliéron works on paper in the Department of Greek and Roman Art and followed the progress personally, making this a most gratifying collaborative venture. The five Acropolis drawings were the last to be done, and the most challenging.



6. Émile Gilliéron père, *Herakles and Triton*, 1919. Watercolor, 38  $\frac{1}{4}$  x 133  $\frac{1}{8}$  in. (97.2 x 338.1 cm). The Metropolitan Museum of Art, New York; Dodge Fund, 1919 (19.195.5)



7. Émile Gilliéron père, *Winged Three-Bodied Creature, commonly known as "Bluebeard,"* 1919. Watercolor, 39  $\frac{7}{8}$  x 133 in. (101.3 x 337.8 cm). The Metropolitan Museum of Art, New York; Dodge Fund, 1919 (19.195.1)







8. Émile Gilliéron père, *Herakles and the Hydra*, 1919. Watercolor, 16½ x 84½ in. (41.9 x 214.6 cm). The Metropolitan Museum of Art, New York; Dodge Fund, 1919 (19.195.4)



9. Émile Gilliéron père, *Introduction of Herakles into Olympos*, 1919. Watercolor, 33¼ x 43½ in. (84.5 x 110.5 cm). The Metropolitan Museum of Art, New York; Dodge Fund, 1919 (19.195.2)





### THE SCULPTURES

The subjects are five architectural sculptures from buildings that stood on the Acropolis during the sixth and early fifth centuries B.C., in what is known as the Archaic period. By that time, the imposing rock that dominates Athens already had a long history as a fortified stronghold, palace center, and sanctuary sacred to the goddess Athena. The identification of structures and monuments on the site is hampered not only by a dearth of written evidence but especially by the virtually complete destruction wrought by the Persians in 480 B.C. as part of their campaigns to subjugate Greece. After the Persians were repulsed, in 479 B.C., the Athenians cleared the debris ultimately to make way for the Parthenon and the other resplendent marble buildings of the Classical period. As a result, the sequence and interrelation of earlier elements are extremely difficult for modern archaeologists and scholars to reconstruct.

Three of the sculptures are associated with the largest structure that had been erected on the Acropolis after the end of the prehistoric period. Datable to about 560 B.C. and dedicated to the city goddess, the so-called Hekatompedon, or “Hundred-footer,” was more than 40 meters long and 20 meters wide, built of poros limestone, and richly embellished with poros sculpture and marble gutters.<sup>16</sup> Although discussion continues as to

the correct allocation of the sculptures on the building (fig. 10),<sup>17</sup> there is a consensus that one of its pediments contained, in the center, a group of two lions savaging a young bull (fig. 11). The color now surviving on the bull reads predominantly as black with areas of red, notably where the lions’ paws have drawn blood. The lion on the left has a yellowish cast to his body, and the tufts of his mane are red. The lioness on the right shows remains of black and red. In the group at left (fig. 12), the hero, Herakles, wrestles with a sea creature almost twice his length, traditionally identified as Triton. The scales on his body are edged in low relief and painted red and black. The same colors appear on the hero’s head. The right section (fig. 13) is occupied by one of the most engaging and inexplicable creations in Archaic sculpture: intertwined reptilian tails that develop into the upper bodies of three bearded men with wings. In their hands they grasp water, fire, and a bird (and thus air). These figures are celebrated for the remains of red and now dark pigments on their heads, torsos, and tails.

The sculptures are extraordinarily impressive by virtue of their volume, scale, and masterful execution. The polychromy, preserved thanks to the porousness of the stone, reinforces these features and the figures’ impression of vitality. What the combination of the three subjects may mean has not yet been fully explained, but each, individually, expresses power and domination. The animal



10. Installation of the "Hekatompedon" pediment in the Acropolis Museum, Athens



12. Herakles and Triton, from the Hekatompedon pediment. Acropolis Museum, Athens (Acr.36)





11. Two Lions Savaging a Bull, from the Hekatompedon pediment. Acropolis Museum, Athens (Acr.3)



13. "Bluebeard," from the Hekatompedon pediment. Acropolis Museum, Athens (Acr.35)



14. Pediment with Herakles and the Hydra. Acropolis Museum, Athens (Acr.1)



15. Pediment with the Introduction of Herakles into Olympos. Acropolis Museum, Athens (Acr.52)



group descends from a long-lived tradition, introduced into Greece from the Near East, signifying the king of beasts overcoming his prey or enemies and the conflict between natural and “civilized” life. The compositions of the two lateral groups fit perfectly into the available spaces. Herakles and Triton present a conflict between a terrestrial and a marine being—a recurring theme in Archaic Athenian art—that may prefigure the contest between Athena and Poseidon, god of the sea, for hegemony over Athens. Almost immediately christened “Bluebeard” upon its discovery, the triple-bodied figure holds symbols of the air, water, and fire, personifying potent natural forces. The subjects are not integrated into an evidently cohesive program.

The two other sculptures depicted by Gilliéron come from smaller poros buildings whose structural details and locations are even less well understood. The better preserved pediment (fig. 14),<sup>18</sup> dated to the second quarter of the sixth century B.C., depicts Herakles fighting the Hydra; the many-headed creature lived by a spring at a locality called Lerna, whose historical past extended to early prehistoric times. The hero occupied the center of the

composition, although now only his legs, part of his torso, and the end of his club are readily distinguishable. His fearsome adversary has nine heads and necks that writhe from a triple coil, the ends of which fill the rightmost end of the pediment. Behind Herakles, his steadfast companion, Iolaos, watches the action at the same time as he places one foot in the car of his chariot drawn by two horses. The left corner is occupied by an oversize crab, an ally of the Hydra and indicative of the wet habitat. The polychromy is similar to that of the Hekatompedon, with a prevalence of red and black, but also touches of green. Compared with the Bluebeard pediment, the composition here is unified, but the relief is considerably lower and the execution simpler.

Roughly contemporary with the previous piece<sup>19</sup> is the fifth work (fig. 15), part of a poros pediment restored to show the enthroned Zeus and Hera, the principal Greek god and his wife, receiving the hero, Herakles, into Mount Olympos, with an additional figure to either side. The restoration has been questioned, but worthy of particular note is the quantity of exceptionally fine and intricate detail on the garments of the presiding deities as well as on the throne and footstool.





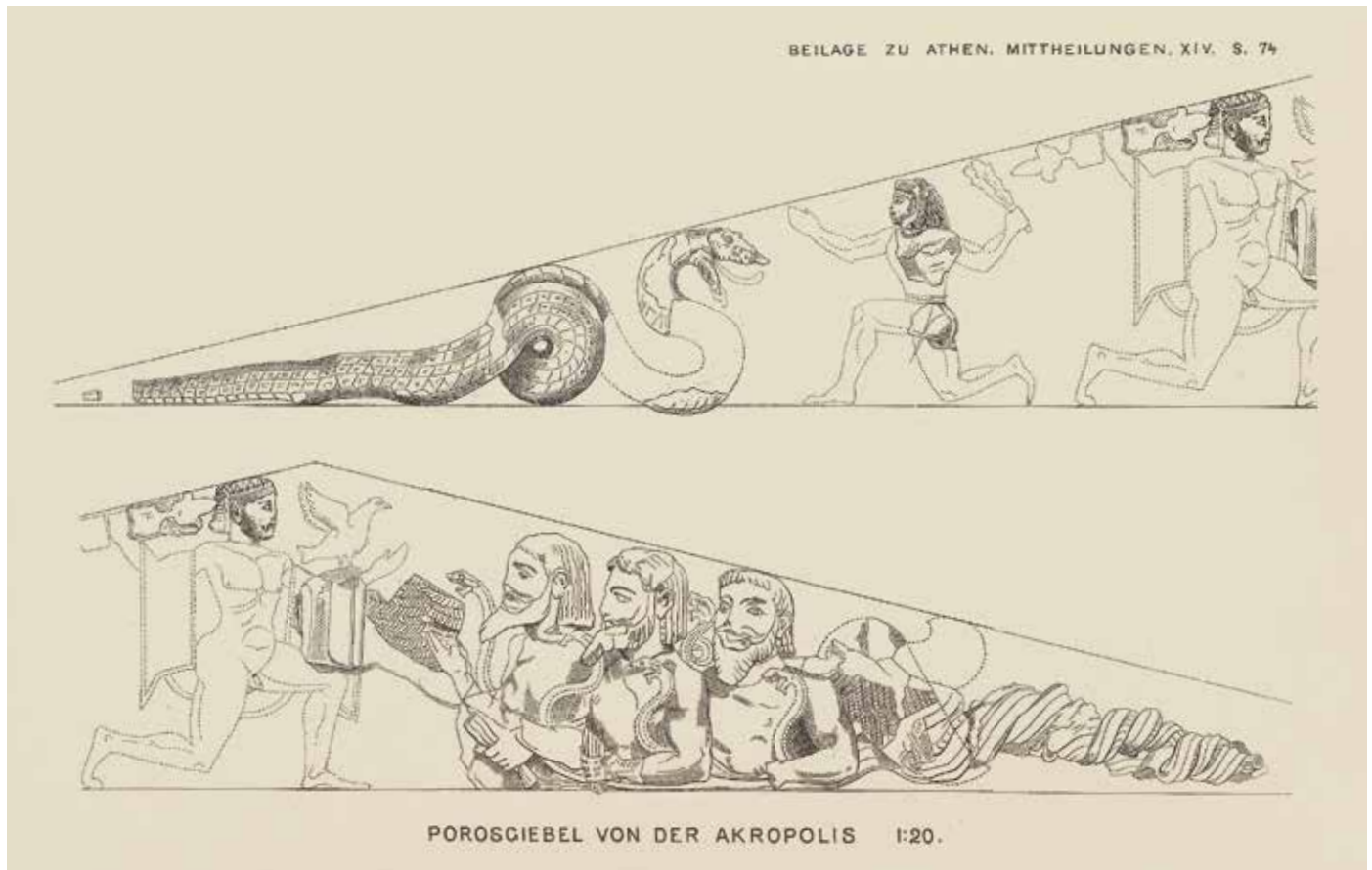
16. *General View of the Parthenon and the Acropolis from the Propylaea*, 1872–74, published in Panayotis Tournikiotis, *The Parthenon and Its Impact in Modern Times* (1994)



17. Émile Gilliéron père, *Bluebeard*, 1888 or 1889. Watercolor on paper, 39 x 114  $\frac{3}{4}$  in. (99.1 x 291.5 cm). Acropolis Museum, Athens



18. Photograph of the Bluebeard group being assembled, *Mittheilungen des Kaiserlich Deutschen Archaeologischen Instituts: Athenische Abteilung* 14 (1889), pl. II



19. Provisional reconstruction of the Hekatompedon pediment, *Athenische Mittheilungen* 14 (1889), opp. p. 74

## DISCOVERY

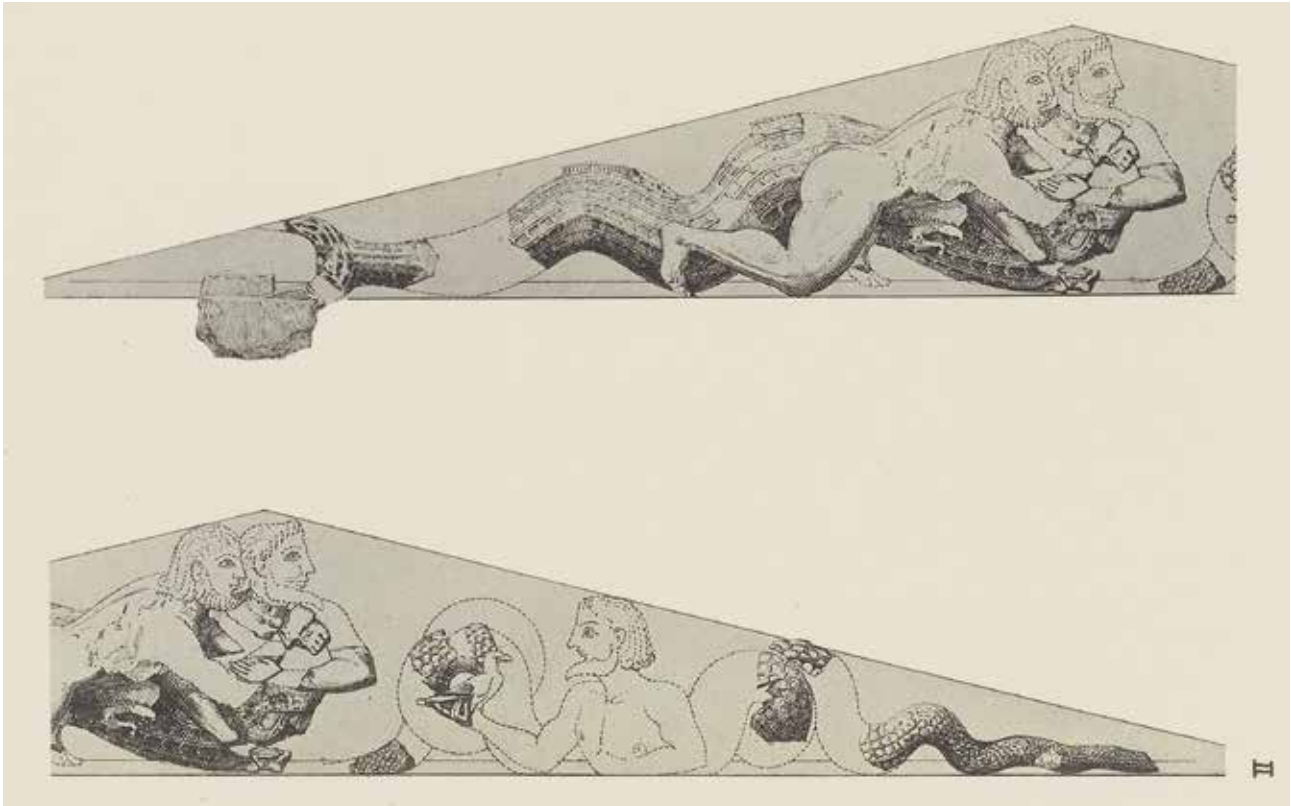
The discovery of the sculptures took place in the course of excavations on the Acropolis that began in organized fashion in 1833–35 (fig. 16).<sup>20</sup> The goal at the outset was to clear to bedrock the layers of successive Frankish, Catalan-Aragonese, Florentine, and Ottoman occupation so as to reach the ancient levels.<sup>21</sup> In the 1880s, an area of intense activity lay to the south and east of the Parthenon. Thousands of architectural and sculptural fragments came to light, providing hitherto unmatched evidence of Archaic and pre-Classical art in Athens.<sup>22</sup> These deposits constituted the fill that was required to prepare the terrain of the Acropolis for the constructions of the Classical period. In 1882, the pediment of Herakles and the Hydra was found (see fig. 14), followed in 1887 and 1888<sup>23</sup> by the pieces that soon made up the three groups of the Hekatompedon as well as the Introduction of Herakles into Olympos (see figs. 11, 12, 13, and 15). The excavators were Greek—notably Panagiotis Kavvadias (1850–1928), the director—together with Germans and Austrians. The finds excited enormous interest, prompting the major

Greek, German, French, and English archaeological institutes to publish frequent reports. It is worth noting that recent scholarship has questioned whether there was sufficient space on the Archaic Acropolis for the number of structures that would have been required for the huge quantity of architectural elements reduced to small pieces. One hypothesis is that the fill also included material brought up from the city below.<sup>24</sup>

## THE DRAWINGS

The process of sorting and putting together the sculptural fragments took place in the small museum situated on the Acropolis and was begun immediately after their discovery. The person primarily responsible for making the physical joins was the much-praised restorer Panayiotis Kaloudis.<sup>25</sup> Our focus will be on the three groups of the Hekatompedon, with our main source being the reports of the German and Austrian archaeologists written in the 1880s as well as two publications that are fundamental to understanding Émile Gilliéron père's renderings of the poros sculptures, including the ones in the Metropolitan's

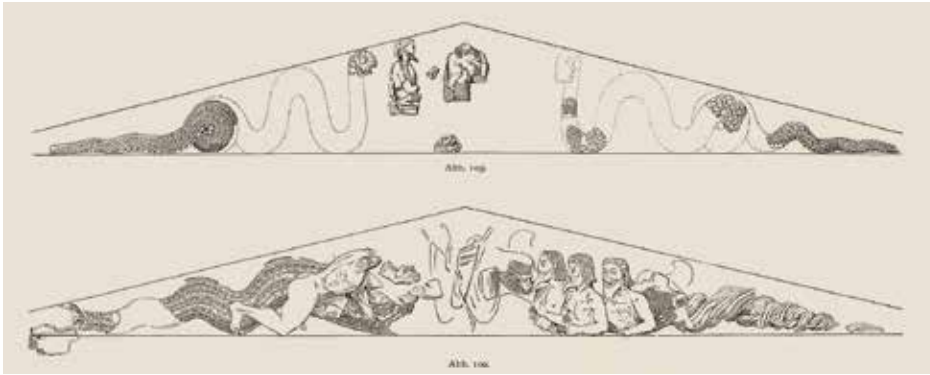




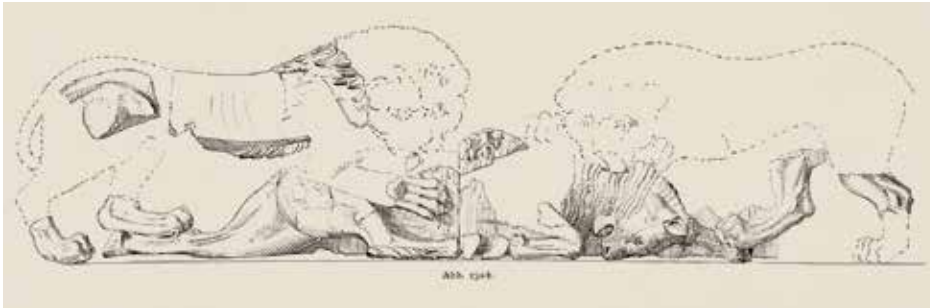
20. Émile Gilliéron père, provisional reconstructions of the Triton and Bluebeard groups, *Athenische Mittheilungen* 15 (1890), pl. II



21. Émile Gilliéron père, reconstructions of the Bluebeard and Triton groups, in Wiegand, *Die archaische Poros-Architektur der Akropolis zu Athen* (1904), pl. IV



22. Émile Gilliéron père, provisional reconstruction of both complete Hekatompedon pediments, in Wiegand, figs. 109–10



23. Émile Gilliéron père, sketch with assured placement of fragments from the Lions and Bull group, in Wiegand, fig. 230b

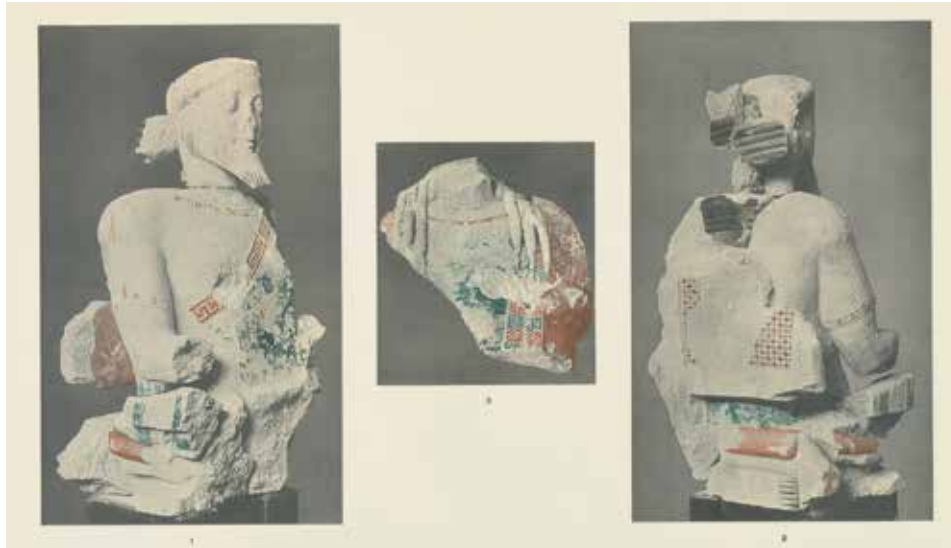
collections. What emerges is that, by the time Gilliéron père offered Miss Richter watercolors of the poros pediments in 1918, he had made many depictions of them over the previous thirty years. Indeed, in 1912 he may already have sold to the Winckelmann Institut, Berlin, reduced versions of the *Two Lions Savaging a Bull* and *Introduction* watercolors (see figs. 29, 30).<sup>26</sup> The account to follow suggests the outline of a sequence, but it is a work in progress that will undoubtedly be revised when further documentation in the Gilliéron Archive becomes available.

The point of departure is a drawing of Bluebeard exhibited today below the sculpture in the Acropolis Museum, Athens; it is signed “E. Gilliéron” and dated “188[ ],” with the unfortunate loss of the last digit (fig. 17). Since the main part of the sculptural group was found in 1888, we know that the watercolor must have been made either in that year or the next. Of one of the heads, Gilliéron made drawings as soon as it came out of the ground so as to record the original color.<sup>27</sup> The Acropolis drawing is of capital importance. First, it seems so far to be the only signed and dated representation of the poros sculptures and may be considered his first display drawing of any of them. It is worth noting the comment of German archaeologist Gerhart Rodenwaldt<sup>28</sup> that Gilliéron père never entirely got over the fact that his creative limitations obliged him to be an illustrator rather than an artist and for that reason he never signed a reproduction. Artistically, the drawing

in Athens reveals a much more accomplished rendering of the three heads of the so-called Bluebeard than of the bodies and tail, which are, in fact, rather weak.

In 1889,<sup>29</sup> archaeologist Alfred Brueckner published a photograph of the Bluebeard group clearly in the process of being assembled (fig. 18), indicated by the joins in various stages of finalization, as well as a reconstruction (not by Gilliéron) of the group as a whole (fig. 19).<sup>30</sup> The following year,<sup>31</sup> Brueckner published what he introduced as the first reconstruction of the pediment as a whole, with Herakles and Triton on the left and Bluebeard, in a preliminary stage, on the right. He credits the underlying drawing to Gilliéron (fig. 20). This illustration indicates one of the difficulties of establishing a sequence both in the reconstruction of the sculptures and their depictions, because the Bluebeard group is less complete here than in both the ostensibly earlier Acropolis watercolor (see fig. 17) and the rendering by other scholars (see fig. 19). The composition of Herakles and Triton, by contrast, is established. As noted above, the 1892 Chicago exhibition of sculptural polychromy included a drawing of Bluebeard, but it has not yet been located.

In 1904, the German archaeologist Theodor Wiegand—perhaps most famous for his excavations at Pergamon between 1927 and 1936—published *Die archaische Poros-Architektur der Akropolis zu Athen* (The Archaic Poros Architecture of the Athenian Acropolis).<sup>32</sup>



24. Émile Gilliéron père(?), hand-colored photograph of figures from the Introduction pediment, in Wiegand, pl. VIII, 1–3

He had begun the study of the poros architectural remains in 1888 as a student and, progressively, described the preserved pieces and assigned them to buildings both large (such as the Hekatompedon) and small. While his focus was on the architecture, Wiegand's attention extended to the sculpture as well. In the preface, dated Christmas 1902, he thanks Ernst Gilliéron for the images reproduced in the color plates (fig. 21),<sup>33</sup> which are clearly from finished drawings, and for the watercolor of the "Typhon group," that is, Bluebeard, which Gilliéron had already prepared before spring 1901; as there seem to be several, we do not know which one. (Gilliéron's first name takes different forms in these publications, but there is no evidence to suggest anyone besides Émile père.) Moreover, at various points in the text,<sup>34</sup> Wiegand—in addition to Carl Watzinger, who contributed a section—illustrates and discusses what he calls "sketches" that the artist made to assist in visualizing the compositions of the three sculptural units (fig. 22).<sup>35</sup> Of particular interest to us is the rendering of the animal group of two lions (in fact, a lion and a lioness) savaging a young bull (fig. 23).<sup>36</sup> This drawing includes a large fragment of the left lion's shoulder published in 1891<sup>37</sup> but omitted from some illustrations, perhaps because its size and weight made it difficult to place accurately. These sculptures were the last to enter the triad with Herakles and Triton and Bluebeard.

The second critical, and for our purposes revelatory, publication is the Austrian Rudolf Heberdey's *Altattische Porosskulptur* (Ancient Attic Poros Sculpture).<sup>38</sup> Begun in

1904 and conceived as a continuation of Wiegand's work, but with an emphasis on the sculpture, it appeared in 1919. Heberdey meticulously described the fragments, evaluated other scholars' observations, and examined the compositions in relation to the architectural contexts to which they had been assigned. Gilliéron père wrote Miss Richter on January 24, 1909, "At the moment, I am working at the Acropolis Museum in Athens on a copy in color of the archaic pediment (gods and goddesses) reassembled by Monsieur Heberdey (Austrian school). It will be an object of first importance for the colors of the 'poros' sculptures of the Acropolis."<sup>39</sup> He may be referring to the Introduction of Herakles into Olympos (figs. 15, 24), but in any case, he was working for Heberdey years before the publication of the book. In the front matter, dated 1917, Heberdey acknowledges the use of one of Gilliéron's drawings among his illustrations.<sup>40</sup>

A key aspect of Heberdey's volume, however, is the photographs that he published of the original sculptures. Most revealingly, he shows us the lions and bull before they were restored (fig. 25),<sup>41</sup> and one immediately recognizes a similarity to the "sketch" published by Wiegand (see fig. 23). Moreover, the photographs he included of the Triton and Bluebeard groups (fig. 26)<sup>42</sup> show the sculptures as they appeared in earlier Gilliéron drawings. Thus, Herakles and Triton in the photograph is comparable to the Gilliéron sketch published by Brueckner in 1890 (fig. 20). Again, both the Triton and Bluebeard in figure 26 substantially resemble Wiegand's reproduction of





25. Photograph of the Lions and Bull group being assembled, in Heberdey, *Altattische Porosskulptur* (1919), fig. 66



26. Photographs of the Triton and Bluebeard groups, in Heberdey, pl. III

Gilliéron's drawings (fig. 21), which we know predate 1902. While it has so far not been possible to date the photographs, the various drawings make clear that most were taken significantly before Heberdey's book was published. It therefore also becomes evident that, in addition to sketches of various kinds and preparatory water-colors mentioned by the various scholars in their texts, Gilliéron based his renderings heavily on photographs. To what extent he might have taken them himself is, at present, unknown, but the archaeologists acknowledged the images provided by the German archaeological institute in Athens. Edward Robinson, moreover, reported that Gilliéron provided Russell Sturgis with colored photographs.

In the context of the considerable visual evidence that existed for the poros pediments by 1919, a puzzling work housed today in the Museum of the Center for the Acropolis Studies, Athens, becomes important (fig. 27).<sup>43</sup> In recent years the image has not been readily accessible, but apparently it is traditionally attributed to "Gilliéron," which could mean either father or son. A recent opportunity to look at it reveals technical features that, with our present knowledge, appear unusual for Gilliéron père (see the essay by Lisa Conte in this *Bulletin*). Indeed, stylistic details such as the drawing of the reconstructed lions, the articulation of the paws, and the entire rendering of the bull suggest that the artist's identity should be reconsidered. Further scrutiny reveals that the depiction of the sculpture is very like



27. *Two Lions Savaging a Bull*, date unknown. Oil on board (?), 50½ x 139 in. (128.3 x 353 cm). Museum of the Center for the Acropolis Studies, Athens

that published by Heberdey in a photograph (see fig. 25). Given the rather large scale of the piece in the Center and its fluent execution in a distinctive style, it warrants renewed study, particularly with a view to its attribution.

The evidence that we have considered so far, albeit selectively, makes clear that Gilliéron was immediately at hand as numerous Greek and other archaeologists were working on the fragments. He documented archaeological detail but also helped to visualize large sculptural ensembles as the parts came together. And from this work he developed the images that he created for sale, such as the ones in the Metropolitan's collection. They were made to order, as indicated by comments in the correspondence; for instance, in May 1919 Gilliéron wrote Miss Richter that he was putting the finishing touches on the four Acropolis watercolors that she had requested.<sup>44</sup> Indicative also are the various sizes that were available, as in the first offer to Miss Richter. Renderings of the Lions and Bull and of the Introduction into Olympus in the archaeological institute of the Humboldt University of Berlin (see figs. 29, 30) are one-third the size of the original sculptures. Given the volume and multiplicity of the Gilliérons' enterprises, one has to question whether the use of *I* ("je") in the father's communications should be taken entirely literally, for there must have been a studio with a considerable number of artists. In any case, the Gilliéron business and its organization are wholly unknown subjects that the family archives will undoubtedly elucidate.

The watercolors in the Metropolitan are the product of a complex evolution that we have made a first attempt to outline here. Perhaps the most important questions to

pose are, what are they, and how faithfully do they reproduce the ancient originals? These questions are bedeviled, first, by the reality that the sculptures today do not show us their original appearance and polychromy<sup>45</sup> and that, to my knowledge, Gilliéron's original watercolor renderings of them upon discovery are so far unknown. Of interest also are German archaeologist Gerhart Rodenwaldt's observations that Gilliéron's sense of line was surer than that of color and that his copies reveal a subjective quality of which he was both conscious and never capable of entirely overcoming, much as he insisted on working with an archaeological expert to ensure the accuracy of his renderings. Without any question, however, at a time when classical sculpture and architecture were visualized in terms of white marble, Émile Gilliéron père's archaeological recording and his commercial representations introduced an extraordinarily broad audience to ancient Greek polychromy. At present, an assessment of the Metropolitan Museum's Acropolis watercolors, particularly of the Hekatompedon sculptures, must recognize his mastery of the media, both in the pencil drawing and in the application of color. Even with the use of technical aids to reproduce existing models or templates, the fluency of his execution over such large surfaces is exceptional, and, whether totally accurate or not, his sense of color in many areas is ravishing. An informed, accurate appraisal of the works will be possible only when the underlying documentation becomes available. The results will be all the more meaningful, moreover, as a result of the examination and treatment undertaken at the Museum by Lisa Conte and her colleagues in the Sherman Fairchild Center for Paper Conservation.









# Gilliéron's Art and the Conservator's Challenge

Lisa Conte

Émile Gilliéron's five watercolor paintings on paper depicting the early limestone pediments from the Athenian Acropolis hung in the Greek and Roman galleries for decades (fig. 28)—no precise record exists of exactly how long—before being moved to a storage area in The Met's basement that lacked temperature and humidity control, the only space that could accommodate them at the time. This likely occurred in the late 1940s—when Francis Henry Taylor, the Museum's director, appropriated numerous Greek and Roman exhibition galleries for other purposes<sup>1</sup>—and thus predated the advent of modern conservation practices, which seek to minimize factors that might lead to the deterioration of or damage to works of art. The watercolors' long exposure to light in the galleries, combined with their subsequent inadequate storage, had grave consequences for their condition, which became evident when they were examined in 2015 as a part of the conservation initiative centered on all the Gilliéron works on paper at the Museum. In particular, the three watercolor paintings of the Hekatompedon sculptures—*Bluebeard*, *Herakles and Triton*, and *Two Lions Savaging a Bull*—were seriously affected. The conservation of these works, which were discolored, stained, and compromised by mold, would require a complex, interdisciplinary collaboration to learn more about and then effectively treat them. Ultimately, the determination was made that to restore the chemical stability of the paper and to improve aesthetic unity, some would have to be washed—in other words, fully immersed

in water—a process that is risky for any watercolor, let alone for works of such unusually large size.

The first step in assessing the physical condition of the watercolors and devising an appropriate treatment was to identify the materials and techniques used to make them. This would also facilitate meaningful comparison of the Gilliéron watercolors in The Met collection to those in other museums; aid in attribution; and help determine how accurate (and thus how valuable) they are as historical records of the sculptures they depict. Unfortunately, at present there is scant primary documentation to rely on; in fact, there are no known preparatory drawings or written letters or notes from Gilliéron that might lend insight into the procedures he used to create the watercolors. Although the materials in the Gilliéron Archive in Athens, which have not yet been thoroughly studied, will help illuminate his artistic practice, until then any conclusions must be based on direct observation, analysis, pertinent correspondence, and the historical record.

Paintings attributed to the Gilliéron et fils studio in the Metropolitan and other institutions—including the Museum of Fine Arts, Boston; Ashmolean Museum, Oxford; Acropolis Museum, Athens; and the Humboldt University of Berlin—are mainly watercolors on paper. Gilliéron père produced watercolors at different scales, as is evident from the artist's correspondence with Gisela Richter (see fig. 1) and from other extant examples of the same subjects. The *Introduction of Herakles into Olympos*



29. Gilliéron père, *Introduction of Herakles into Olympus*, 1912–14(?). Watercolor, 20 $\frac{5}{8}$  x 27 $\frac{5}{8}$  in. (52.3 x 70 cm). Winckelmann-Institut, Humboldt-Universität zu Berlin



30. Gilliéron père, *Two Lions Savaging a Bull*, 1912–14(?). Watercolor, 29 $\frac{1}{8}$  x 86 $\frac{1}{4}$  in. (74 x 219 cm). Winckelmann-Institut, Humboldt-Universität zu Berlin



and *Two Lions Savaging a Bull* in Berlin (figs. 29, 30), for instance, are both smaller than The Met's watercolors of the same subjects, which are at half-scale. The Met's collection includes a third watercolor at half-scale (*Herakles and the Hydra*) and two that are full (1:1) scale (*Bluebeard* and *Herakles and Triton*). Some, like the three paintings depicting the sculptures from the Hekatompedon, are extraordinarily massive for such an unforgiving medium—nearly twelve feet in length—a testament to Gilliéron's artistic ability and fluency with the watercolor technique.

Gilliéron likely made numerous preparatory sketches to work out these compositions in terms of their form, light, and color, particularly for the first full-scale renderings. Using watercolor allowed him to depict the sculptures at a 1:1 scale in color, something impractical at the time with either photography or print techniques that utilized a single sheet. Gilliéron faced the additional challenge, especially in the years immediately after the sculptures' discovery, of keeping his representations up to date with the ongoing reconstruction of the originals by archaeologists. The watercolor of *Bluebeard*, for example, shows, among other details, one of the figure's hands holding a bird, which is not depicted in the 1880s rendering in the Acropolis Museum (figs. 31, 32).

A major question concerning the watercolors produced by Gilliéron is how faithfully they represent the sculptures they depict. Copying was part of the basic artistic curriculum in the nineteenth century, and Gilliéron's training would surely have included learning how to carefully replicate old master drawings and classical sculptures. Moreover, trained as a printmaker, Gilliéron would have been well acquainted with techniques to transfer, copy, and scale images. It was his practice to make preparatory drawings for these sorts of watercolors on location based on firsthand observations.<sup>2</sup> He would have then returned to the studio to make revisions or additional studies, likely informed not only by his notes about light, shadow, and color but also by photographs, which became a standard means of documenting archaeological objects in the second half of the nineteenth century.<sup>3</sup> Photographs would also have been useful in recording the condition of the poros limestone and how color appeared on the sculptures after excavation. The black-and-white photographs



31. Detail of The Met's *Bluebeard* (fig. 7), showing hand with bird



32. Detail of *Bluebeard* in Athens (fig. 17), showing hand without bird

of the Introduction of Herakles into Olympos in Theodor Wiegand's publication, for example (see fig. 24), were hand-colored by Gilliéron, documentation that would have been invaluable for creating his watercolors. Gilliéron produced such hand-colored photographs as early as 1883, when he was employed by Russell Sturgis to make drawings and colored photographs that were an "accurate record, in color, of the actual condition" of the Archaic sculptures.<sup>4</sup> This process of drawing and revising was repeated until a finished study of the original was achieved. When a watercolor was commissioned, Gilliéron used the study as a template for a tracing or perhaps employed another technique to transfer the contours



33. Anne Marie Carl-Nielsen (1863–1945). *Bluebeard*, ca. 1903. Painted plaster cast, 31 ¼ x 112 x 19 in. (79.5 x 286 x 48 cm). Statens Museum for Kunst, Copenhagen

of the sculpture to the paper. After that, he would have developed the composition by relying on all the documentation at hand.

Gilliéron's earliest dated watercolor of the sculptures is the *Bluebeard* in the Acropolis Museum (see fig. 17), which was made within a year of the sculpture's excavation. As its earliest known representation, his watercolor is crucial evidence because it shows the remains of the original color and the condition of the poros surface. Making plaster casts molded directly from sculptures for study collections was de rigueur in the late nineteenth century, but in cases when ancient polychromy was preserved, casts generally were not permitted because the casting process could compromise the paint. Gilliéron's finished watercolors—the studies for which were often made as soon as the sculptures had been excavated—are, therefore, among the most important documentation of the state of the sculptures at the time of their discovery. This is a central concern, because the process of excavating the sculptures, combined with their subsequent exposure to environmental conditions—particularly the change in relative humidity that inevitably occurred once excavated<sup>5</sup>—and, perhaps, some human intervention as well, transformed their appearance.

Other artists documented the Acropolis sculptures but relied on different methods. Danish sculptor Anne Marie Carl-Nielsen (1863–1945), wife of the composer Carl Nielsen, traveled to Athens between about 1903 and 1905.

She began by making a sculptural model of *Bluebeard* in clay (fig. 33), from which a plaster cast was then taken and painted, relying on Gilliéron's watercolors as a source for the ancient polychromy.<sup>6</sup> Neither work was accurate in all respects, however, and Carl-Nielsen's model could not achieve the accuracy of a cast made directly from the original. Gilliéron's watercolors, for their part, also contain certain embellishments. He added color and line freely to the figure of Herakles, for example, where yellow, blue, and pink washes intermingle to articulate volume, supplementing the extant rosy paint (fig. 34), and in *Two Lions Savaging a Bull* (fig. 35), for which he relied on graphite lines to delineate forms as they may have appeared in antiquity. It is worth mentioning that Gilliéron's work for The Met did include reproductions of sculpture in three dimensions, notably of the Korai ("maidens") found in the early 1880s. Gilliéron's correspondence with Miss Richter, moreover, indicates that he could provide her with plaster copies painted with the polychromy either as it was upon discovery or as it existed in antiquity.<sup>7</sup>

In addition to their accuracy, another important question regarding the watercolors, and one with particular relevance for their conservation, is the materials the artist used to make them. By the late 1880s, and certainly by the 1910s, when Gilliéron executed The Met's works, there were many suppliers from whom he could have obtained a wide variety of colors and supports, but not the







appropriate oversize papers. In 1910, for example, Gilliéron wrote to Miss Richter that the completion of a watercolor (not among the five examined here) was delayed because it required a large paper not widely available. “I wrote to different producers,” he noted, “that all replied, ‘we do not produce these sizes.’”<sup>8</sup> Ultimately, Gilliéron contacted mills in England, historically a significant producer of artist’s papers.<sup>9</sup> The largest size traditionally made by hand with a mold, called “Antiquarian,” is approximately 31 x 53 inches.<sup>10</sup> It requires numerous people to dip the mold into the vat with the paper slurry and then transfer the newly formed sheet from the mold to another surface, such as felt, to dry, a process known as couching. Larger single sheets were not manufactured until the advent of machine-made paper at the turn of the eighteenth century, when Frenchman Louis Nicolas Robert (1761–1828) invented a machine that could make continuous rolls of paper to support a growing demand for wallpaper.<sup>11</sup> Before that time, large-scale drawings or prints were pieced together from individual sheets. Robert’s invention was soon followed by the cylinder mold machine, which, in addition to lowering costs and affording a greater range of sizes, was able to impart watermarks and textures suggestive of wove or laid handmade papers.<sup>12</sup>

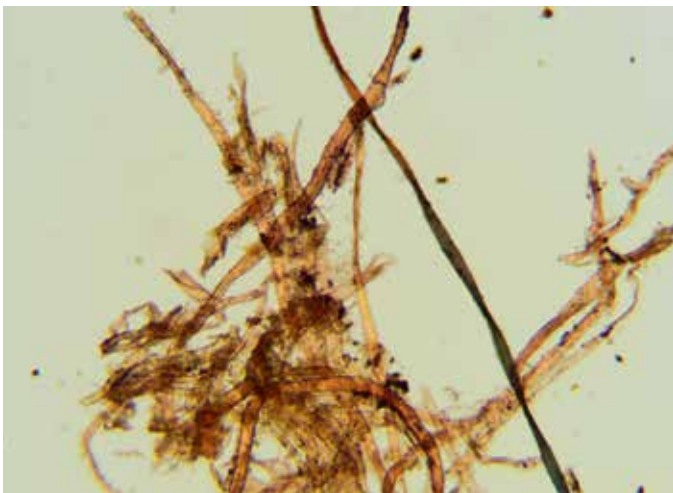
The quality of any paper, whether hand- or machine-made, is determined mostly by the processing of the fibers, fiber content, sizing (a substance added during manufacture to modify a paper’s resistance to water), and any added fillers. Aside from environmental factors, the fiber and sizing are among the factors with the greatest influence on a paper’s longevity. Physically and visually, four of the five Gilliéron watercolors appear to be from the same paper roll, judging from their color, texture, weight, and, most notably, small linear impressions that are evident in strong raking light. These lines, a characteristic manifestation of a machine-made paper, would have been embossed during manufacture. The paper Gilliéron used to paint *Herakles and Triton* is unique, however; a thicker sheet with no distinguishable imprint, it has a pleasing, random texture that is the result of being dried against felt.

Following these preliminary observations, fibers from three of the watercolor papers were sampled—two with the well-defined texture (*Bluebeard* and *Two Lions Savaging*

*a Bull*) and the unique sheet of *Herakles and Triton*—and then analyzed using optical microscopy and a chemical stain, which revealed a mixture of fiber types. *Herakles and Triton* consists of mostly cotton fibers, while *Bluebeard* and *Two Lions Savaging a Bull* have the same combination of softwood with some cotton fibers, suggesting that they are indeed from the same paper roll (figs. 36–38). The distinct qualities of each, such as texture and sizing,<sup>13</sup> would have affected the painting process, influencing, for example, how pigments dispersed and settled on the paper. We can safely assume that the initial colors of Gilliéron’s paper would have been a creamy white, an essential feature that enables light to reflect through layers of transparent watercolor wash and provides highlights in areas held in reserve. Gilliéron was sensitive to the qualities of his papers and chose them purposefully for their specific visual and physical characteristics.

Watercolor is among the least-forgiving artistic media, and mistakes are difficult to mask, so Gilliéron’s confidence with the technical properties of wash was paramount. It is especially challenging to achieve continuous tones over large working areas, as in the pale blue background wash of *Bluebeard*, although doing so was essential given the scale of his works. The watercolor medium involves the use of pigments bound in gum, dispersed in water, and applied by a brush to a paper support. Gilliéron likely used some commercially available supplies, such as paints prepared in pans as dried cakes or as tubes of moist colors; the latter became available in the mid-nineteenth century and would have permitted him to apply saturated media over larger areas compared to what watercolor cakes allowed. He may also have mixed some of his own paints, given his prodigious output and the large scale of his works. Although our knowledge of ancient polychromy is still evolving, we know that ancient palettes contained pigments such as cinnabar, iron oxides, azurite, Egyptian blue, and realgar.<sup>14</sup> Gilliéron’s palette, for the purposes of comparison, used some modern pigments, including, as revealed by recent analysis, zinc white, cadmium yellow, and cerulean blue.<sup>15</sup>

In terms of how Gilliéron constructed his compositions, we do not have his own observations as a guide, but the works of art themselves offer helpful clues. To



36–38. Photomicrographs of paper fibers from *Two Lions Savaging a Bull*, *Bluebeard*, and *Herakles and Triton*

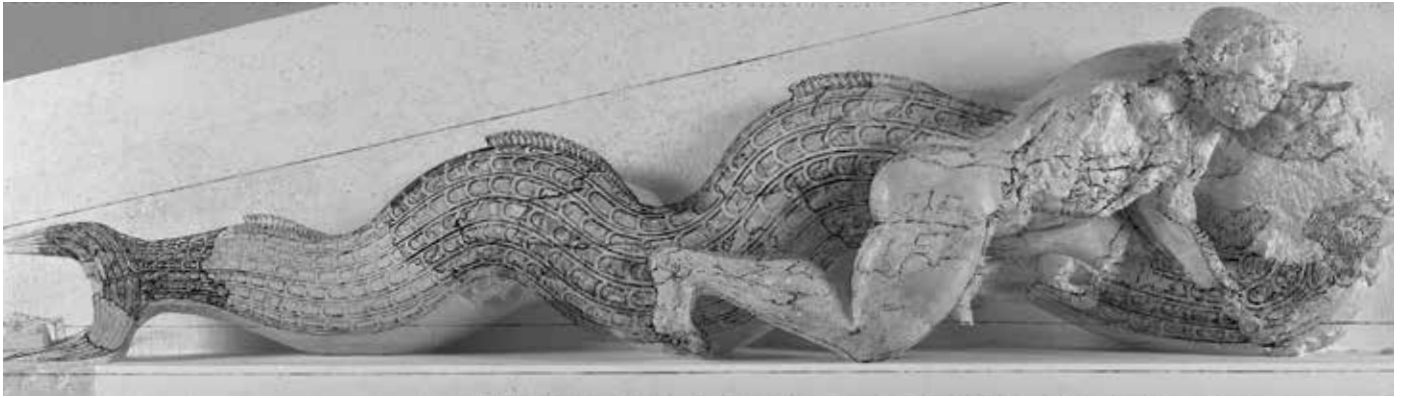
render large and long three-dimensional objects in two dimensions on paper, he would have likely employed some combination of the variety of drawing instruments available in the late nineteenth century, from a drawing frame and optical devices such as the camera lucida to dividers, calipers, and the pantograph. All these devices facilitated copying, reducing, and enlarging drawings; measuring to scale; and capturing other technical elements, such as proportion, ratio, and perspective. The simplest and most common way to copy drawings was tracing, in which a stylus with an agate or steel point registers the lines of a composition on tracing paper by leaving a blind impression.<sup>16</sup> By the mid-nineteenth century tracing paper was available in rolls, so that a single sheet could enable the transfer of large-scale works, whether through pricking and pouncing or as a substrate for a stencil. There are, however, no blind stylus or other impressed marks on the Acropolis watercolors that would help clarify how the designs were transferred.

Before beginning a painting, Gilliéron secured his paper to a solid surface to prevent cockling (bulging or puckering) from the application of his watery washes. Holes for attachment are evident along the edges of all his papers. He then outlined his compositions in graphite using one of the methods noted above. Following the placement of the broad contours, he applied mostly thin layers of wash, using both diluted and concentrated pools of color to shape his forms and both wet-on-dry and wet-on-wet techniques. In *Herakles and Triton*, for instance, flat fields of red and green color were applied wet-on-dry to the creature's tail in areas Gilliéron had reconstructed. There is no blending, and no brush marks are apparent. By contrast, he expertly blended layers of different concentrations of color, wet-on-wet, with additional marks dabbed on with a dry brush to articulate the degraded and irregular layer of ancient paint that remained in extant areas of the tail. Gilliéron's rendering of the ancient paint is particularly compelling. In *Two Lions Savaging a Bull* he deftly suggests a network of cracks and paint loss in the bull through the absence of media. Equally evocative of his mastery are the saturated remains of blue paint methodically dispersed over the paper surface and the distinctive way he depicted the edges of breaks in the limestone



39. Detail of *Two Lions Savaging a Bull*, showing Gilliéron père's representation of a break edge





40. Digital overlay of *Herakles and Triton* onto the original sculpture



41. Digital overlay of *Two Lions Savaging a Bull* onto the original sculpture (detail)

(fig. 39). With a small brush, he rendered these lines mostly in shades of black, achieving an almost calligraphic quality. Gilliéron was not a watercolor purist, however; he layered over it with a waxy drawing medium to add textural effects and to imbue his compositions with a sculptural weight, as evident in *Bluebeard* and *Herakles and Triton*.

As to the question of accuracy, with the assistance of modern digital overlay technology, which allows for direct comparison of the watercolors with the sculptures themselves, we know that Gilliéron was, in fact, able to depict the sculptures accurately at different scales. Superimposing the watercolor of *Herakles and Triton* (fig. 40) onto the sculpture shows how faithfully Gilliéron rendered its contours and proportions. The watercolor does not depict the head of Triton, which was not joined with the sculpture until the late 1930s,<sup>17</sup> but that does not diminish the

overall precision of the work. Comparing the version of *Two Lions Savaging a Bull* in The Met collection and the one in the Humboldt University of Berlin, which are effectively identical except in scale, to the sculpture shows that the positions of the fragments do not perfectly align. The lion's torso relative to the calf is in a slightly different position, for example, as is one of the fragments with tufts of fur on the lower right edge of the belly (fig. 41). Aside from the arrangement in space, however, the painted fragments are accurate representations of their stone counterparts.<sup>18</sup>

With this increased understanding of the artist's preferred materials and techniques and confirmation that they are accurate records of the sculptures they depict, we can begin to establish a corpus of works attributable to Émile Gilliéron père, especially since the majority of his watercolors are unsigned. Among the five works in The



42. Detail of *Two Lions Savaging a Bull* (fig. 27)

Met collection, numerous similarities are evident; each has the distinct break edges, careful articulation of the irregular stone surface, and the stylistic uniformity of the depiction of the ancient paint. In contrast, the attribution to Gilliéron père of *Two Lions Savaging a Bull* in the Museum of the Center for the Acropolis Studies, Athens (fig. 27) is now questionable because of the many material and stylistic inconsistencies it presents compared to the other known works by the artist of the same subject. Foremost, it is a painting on board rather than paper, and it is executed with distinct colors and paint as compared to the Berlin and Met versions. The calf is rendered in shades of opaque, muddled green instead of the brilliant blue

Gilliéron generally used to portray the colors as they appeared when excavated. Moreover, the application of the paint is loose, brushy, and imprecise (fig. 42) compared to the deliberately articulated forms in Gilliéron's securely attributed watercolors, which give a sense of the precarious condition of the paint on the surface. Aside from color, Gilliéron's watercolors also give an indication of the condition of the poros limestone, portraying its three-dimensionality in perspective. By contrast, the painting in Athens is flat, Gilliéron's characteristic break lines are absent, and the draftsmanship does not comport with his control and force.

## TREATMENT

Today the value of preventive conservation is widely accepted as the most effective means of promoting the long-term preservation of a work of art, unlike when the Gilliéron watercolors were first exhibited and put into storage. Noninterventive approaches are the norm, and attitudes toward proactive treatments have become increasingly conservative, especially in museums.

There are, however, exceptional cases when treatment is the best approach and may need to be pursued assertively because of the poor condition of an object. Cleaning, in particular—whether it be the removal of unwanted surface accretions, staining, or a varnish—must be undertaken cautiously because it is not reversible. Developing a protocol for a treatment requires technical knowledge of an artist's materials and techniques, an appreciation of whether the treatment is appropriate to the work's aesthetic, and a candid assessment of the risks inherent in the proposed methods.

For The Met's Gilliéron watercolors, a treatment plan was devised by a team of conservators and curators, who were instructed based on the Museum's earlier

conservation of works by the artist. None of those was of the same scale, however, and thus they did not present quite the same technical challenges as the Hekatompedon watercolors. It eventually became clear that two of the three large-scale watercolors—*Two Lions Savaging a Bull* and *Herakles and Triton*—had to be washed owing to their severe disfigurement. To improve the health of the paper, they would be submerged in a bath of chemically modified water to remove soluble deterioration products. The conservation of these works is the focus of this discussion.

Over the years, dirt, grime, and other accretions had accumulated on the frame and glazing of the two watercolors, obscuring the images (fig. 43). Once this superficial layer was removed using a High-Efficiency Particulate Air (HEPA) vacuum and cloths moistened with a mixture of deionized water and ethanol, the severity of their condition became apparent. Paper is hygroscopic (it has a strong affinity for water) and readily absorbs moisture from the air. Accordingly, over time, the watercolors' papers were absorbing atmospheric pollutants, which, in turn, catalyzed chemical degradation. In addition, the sustained high humidity, warm temperatures, and poor ventilation



43. *Herakles and Triton* framed and in storage at The Met



of the storage environment, in combination with the cellulose content of the paper, created conditions that were, regrettably, optimal for cultivating mold. Stains, discoloration, and foxing had pervaded and transformed the papers to varying degrees based on the relative positions of the three watercolors, which were stacked one in front of the other near a vent and against a masonry wall.

*Bluebeard*, which was in the middle, was buffered by the frames on either side of it, sparing it from the degree of damage that the other two sustained and thus limiting the conservation treatment it required.

Surface cleaning the watercolors to remove the mold was an unquestionably necessary but complex step. First, a containment space was professionally erected around the framed objects. A hygienic mold decontamination and dry cleaning—consisting of vacuuming the surface of the paintings with a HEPA vacuum and then applying an alcohol-water solution as a preventative measure to neutralize any remaining spores—was then carried out by two paper conservators and a valiant curator. Removing unsightly mold spores had an immediate aesthetic effect, but there were also imperceptible benefits, such as preventing the spread of mold to other parts of the collection.

This initial cleaning was revelatory. Once the colors and paper became visible, it was evident that the most severe damage was localized along the right edges of the pictures where they had been exposed to sustained moisture. In this area, *Herakles and Triton* and *Two Lions Savaging a Bull* were marked by large brown stains, and their backing boards were distorted, exerting uneven tension on the watercolor papers. *Bluebeard* was in better condition; the relation between its colors and paper was undisturbed by any notable damage.

Following this initial cleaning, the next step was to transfer the watercolors to the Paper Conservation lab for additional treatment. At some time after they had entered the Museum, all the Hekatompedon watercolors had been pasted by the Museum to rigid backing boards, a technique once commonly used to display prints and drawings. Historic backing boards, which tend to be made from materials containing impurities that can break down to form acids, are often removed during conservation treatment because proximity to such poor-quality

materials can lead to discoloration and embrittlement of paper by chemical reaction. A common method of removal is to humidify the object to soften the adhesive so that the layers can gently be separated, but because of the amount and strength of the adhesive used to mount the Hekatompedon watercolors, humidification was not possible. The paper was ultimately separated from the backing boards using various tools (including a bespoke Teflon spatula, scalpel, and Japanese lifting knife), a time-consuming and physically challenging process (fig. 44). Because of the inherent risks involved, only *Herakles and Triton* and *Two Lions Savaging a Bull* were separated from their boards, since in those cases it was absolutely necessary to treat the localized distortion, embrittlement, and staining of the papers, all treatments that were not possible while they were still mounted. The stained right edges of both works retained the contours of the misshapen boards even once the watercolors were released from them. The paper was rigid from the uptake of contaminants but also from the adhesive, which had become soluble and penetrated the paper fibers, causing it to be cast into the deformed shape.

The perilous state of the watercolors meant they were not exhibitable, and even storage was an issue, since they could not be rolled or framed owing to the distortion of the paper. Considering the condition of the works and the lack of less invasive treatment options (such as blotter or suction washing, which would limit the amount of water in contact with the media), an extraordinary plan was envisioned that would require the complete immersion of the works in water—the only viable method, it was determined, to remove the highly varied decomposition products and reintroduce pliability into the paper. The risks were well understood; washing is an irreversible treatment that could have a transformative effect on the paper size and the appearance of the pigment, and testing could only approximate the watercolor's actual behavior in treatment.

Washing alone would not be extraordinary; many conservation treatments for paper involve immersing it in aqueous solutions. Watercolor paintings, however, present special challenges because of the significant risk that the pigments would be washed away. Old watercolor



44. Removing the backing from *Herakles and Triton*

paintings tend to have more stable colors because gum arabic, commonly used as the paint binder, can become insoluble over time.<sup>19</sup> Nonetheless, extensive spot testing was carried out on the paper itself as well as on every constituent medium—including each color of wash, graphite pencil, and crayon—to understand their sensitivities to the solutions that would be used in treatment. Although most of the components were ultimately determined to be able to withstand immersion, a few discrete areas of watercolor media proved somewhat sensitive to the solutions tested, swelling when wet. To ensure that they would be able to tolerate the water bath, a light and imperceptible polyvinyl acetate resin coating was applied to these areas using a stencil and airbrush.

Methods for washing works on paper are continuously evolving to increase their cleaning efficacy while minimizing potential change to the works themselves. Modifying

acidity (pH) and conductivity<sup>20</sup> by adding a salt is one way that solutions for treatment can be optimized to meet those ends. Most washing treatments used in paper conservation involve the addition of a salt, but analyzing the interaction among pH, conductivity, and the physical effects on the paper to target cleaning is a relatively new approach.<sup>21</sup> In this case, the bath solution contained deionized water with ammonium hydroxide and acetic acid to form ammonium acetate, a neutral salt. This formula helped keep the pH of the solution stable despite the large volume of water required for the bath. It also improved overall cleaning and, crucially, by targeting a specific conductivity, reduced the swelling of the paper fibers, thereby reducing the physical risk of pigment loss.

Before proceeding with the bath, an appropriately sized tub had to be built because one did not exist. The only lab at The Met with adequate space was in Textile



45. Constructing the bath used for conservation treatment



46. Humidification of *Herakles and Triton*



47. *Herakles and Triton* being lowered into the bath



48. Removing air bubbles and submerging the watercolor



49. *Herakles and Triton* drying on felt



Conservation, in a facility historically used to wash large tapestries. Under the guidance of textile conservators, a custom-size bath, measuring approximately  $12\frac{1}{2} \times 3\frac{1}{2}$  feet, was constructed using L-shaped steel bars and polyethylene sheeting (fig. 45). Before that, however, the watercolors had to be transported from the paper lab to Textile Conservation, which again proved a complicated endeavor. Because the backings had been removed during the earlier stages of conservation, the watercolors had to be rolled to move them safely, but they could be rolled only so far because of their damaged edges.

For the washing process, the tub was filled with about six inches of deionized water conditioned with the ammonium acetate solution. The paintings were each unrolled onto a nonwoven polyester material that would support the paper when wet, and the paper was humidified by spraying it with a water-alcohol solution, which facilitated the absorption of water (fig. 46). (Prior to washing, paper is conditioned with moisture to lessen mechanical stresses imparted from contact with water.) At that point, each watercolor was placed in the bath, an effort requiring the hands of six conservators (fig. 47), and air bubbles



50. Local treatment of stains

beneath the paper were gently worked out, taking care to limit contact with the media, so that the paper could be fully submerged (fig. 48). The initial placement underwater was nerve-racking. Although the colors had been tested, it was the “moment of truth,” and mercifully the media remained stable. Each watercolor was submerged for approximately two hours, until it appeared that no further contaminants were being released. During that time, fresh deionized water was added along with the ammonium acetate solution as the water containing the paper’s impurities was siphoned off. Finally, the water was drained, and the paper was gently lifted onto blotters to absorb the excess water and discoloration still in the sheet (fig. 49).

There are numerous methods for drying works on paper, depending on the desired flatness of the paper or delicacy of the media. The goals of drying are twofold: to restore the mechanical properties of the paper and the original dimensional characteristics that were altered while it was wet. The watercolors were allowed to partially air dry on the blotter before being placed between wool felts. Even before they were covered to fully dry, however,

the overall brightening of the papers was immediately apparent, as was the elimination of the stains that had marred the right margins.

Washing the watercolors not only removed the disfiguring stains and restored pliability, it had ancillary benefits, such as the overall reduction of discoloration, acidic compounds, and any backing-board adhesive still embedded in the paper fibers. The elimination of degradation products elicited a pronounced shift in the color of the paper, and the significant distortion and staining were successfully removed from *Two Lions Savaging a Bull* and *Herakles and Triton*. Nonetheless, the papers had been severely disfigured, and it was inevitable that certain indications of their age and history would remain. For example, there were localized areas in the paper of *Two Lions Savaging a Bull* that were brighter after treatment because the paper had aged unevenly and therefore washed differently. Less acceptable was the obstinate fungal staining throughout *Herakles and Triton*, which affected its legibility and also set that work apart from the other two watercolors of the Hekatompedon pediment. In an attempt to bring the three large watercolors into aesthetic harmony,





51–52. Details of *Herakles and Triton* before and after treatment

the fungal staining was treated locally with chelating and reducing agents (fig. 50) to make the reduction of the staining more effective before the watercolor was washed a second time. The overall effect of this process, which became fully apparent after drying, was a visible reduction in the staining, bringing this watercolor essentially in line with its counterparts in terms of aesthetic

appearance (figs. 51, 52). Today, a century after their acquisition by the Metropolitan Museum, these five watercolors can be displayed again. Following their successful rehabilitation, they serve as powerful testaments to Gilliéron's achievement and skill and once again are a compelling part of the history of the Hekatompedon pediment and its excavation.





# Notes

## WATERCOLORS OF THE ACROPOLIS

1. Émile Gilliéron, Athens, to Gisela M. A. Richter, The Metropolitan Museum of Art, New York, October 29, 1918. Departmental files, Greek and Roman Art, The Metropolitan Museum of Art, New York.
2. Walter Muir Whitehill, *Museum of Fine Arts Boston: A Centennial History*, 2 vols. (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1970), vol. 1, pp. 146, 166, 167; Winifred E. Howe, *A History of The Metropolitan Museum of Art*, vol. 2, 1905–1941: *Problems and Principles in a Period of Expansion* (New York: Columbia University Press, 1946), pp. 8, 10.
3. Thayer Tolles, Marica F. Vilcek Curator of American Paintings and Sculpture, The American Wing, generously made available to me her extensive documentation of Edward Robinson's work on ancient polychromy, for which I express my great thanks.
4. In the tribute delivered by the eminent German archaeologist Gerhart Rodenwaldt on Gilliéron's death, he specifically mentions the artist's training in Switzerland as an engraver and the value for fine drawing that Gilliéron himself attributed to this skill. See G[erhart] Rodenwaldt in "Archäologische Gesellschaft zu Berlin," *Jahrbuch des Deutschen Archäologischen Instituts*, *Archäologischer Anzeiger* 38–39, nos. 3–4 (1923–24), col. 358. I particularly thank Dr. Christina Mitsopoulou for this reference.
5. See "Émile Gilliéron," in Dieter Wunderlich: *Buchtipps und mehr*; <http://www.dieterwunderlich.de/Emile-Gillieron.htm>.
6. Ingeborg Kader, "Täuschende Spielereien: Kolorierte Abgüsse im 19. und frühen 20. Jahrhundert," in *Bunte Götter: Die Farbigkeit antiker Skulptur*, by Vinzenz Brinkmann et al., exh. cat. (Munich: Staatliche Antikensammlungen und Glyptothek, 2003), p. 248.
7. Kenneth Lapatin, *Mysteries of the Snake Goddess: Art, Desire, and the Forging of History* (Boston: Houghton Mifflin, 2002), pp. 120–21.
8. Christina Mitsopoulou and Olga Polychronopoulou, "The Archive and Atelier of the Gilliéron Artists: Three Generations, a Century (1870s–1980s)," in *MNHMH / MNEME: Past and Memory in the Aegean Bronze Age; Proceedings of the 17th International Aegean Conference, University of Udine, Department of Humanities and Cultural Heritage, Ca' Foscari University of Venice, Department of Humanities*, 17–21 April 2018, ed. Elisabetta Borgna, Ilaria Caloi, Filippo M. Carinci, and Robert Laffineur, *Aegaeum*, 43 (Leuven, Paris, and Bristol: Peeters, 2019). I thank Christina Mitsopoulou for an ongoing dialogue both by email and in person that has provided Lisa Conte and me with much valuable information.
9. Edward Robinson, "From the Report of the Curator of Classical Antiquities," *Annual Report of the Museum of Fine Arts, Boston* 16 (1891), pp. 12–13. I am indebted to Thayer Tolles for also bringing Russell Sturgis's commissions from Gilliéron père to my attention.
10. See Russell Sturgis, "Recent Discoveries of Painted Greek Sculpture," *Harper's New Monthly Magazine* 81 (September 1890), pp. 538–50.
11. Note also Robinson's extensive article, "Did the Greeks Paint Their Sculptures?," *The Century* 43, no. 6 (April 1892), pp. 869–83.
12. *The Art Institute of Chicago: Catalogue of a Polychrome Exhibition Illustrating the Use of Color Particularly in Graeco-Roman Sculpture*, exh. cat. (Chicago, 1892), esp. pp. 23–25.
13. Christina Mitsopoulou, "Creation, Diffusion, Perception and Reevaluation of Archaeological Knowledge: The Case of the Gilliéron Artists," paper delivered at CIDOC 2018 Conference, ICOM International Committee for Documentation, Heraklion, Crete, September 29–October 5, 2018; [http://network.icom.museum/fileadmin/user\\_upload/minisites/cidoc/ConferencePapers/2018/CIDOC2018\\_paper\\_154.pdf](http://network.icom.museum/fileadmin/user_upload/minisites/cidoc/ConferencePapers/2018/CIDOC2018_paper_154.pdf).
14. Organized by Seán Hemingway, the exhibition was on view from May 17 to November 13, 2011. See *The Met* (New York, May 17, 2011); <http://metmuseum.org/blogs/now-at-the-met/features/2011/historic-images-of-the-greek-bronze-age>.
15. Gilliéron to Miss Richter, May 16–19, 1919.
16. Jeffrey M. Hurwit, *The Athenian Acropolis: History, Mythology, and Archaeology from the Neolithic Era to the Present* (Cambridge: Cambridge University Press, 1999), p. 107; Christina Vlassopoulou, *The Acropolis of Athens: The Monuments* (Athens: Archaeological Receipts Fund, 2017), pp. 95–97; Fabrizio Santi, *I Frontoni arcaici dell'Acropoli di Atene* (Rome: "L'Erma" di Bretschneider, 2010), with a good summary in English.
17. William Bell Dinsmoor, "The Hekatompedon on the Athenian Acropolis," *American Journal of Archaeology* 51, no. 2 (April–June 1947), pp. 109–51, pls. 27–28, esp. pp. 145–47.
18. Hurwit, *Athenian Acropolis*, p. 116.
19. Ibid.
20. Alexander Papageorgiou-Venetas, *Athens: The Ancient Heritage and the Historic Cityscape in a Modern Metropolis* (Athens: Archaeological Society at Athens, 1994), p. 270.
21. Vlassopoulou, *The Acropolis of Athens*, pp. 25–30.
22. Nancy L. Klein, "The Architecture of the Athenian Acropolis before Pericles: The Life and Death of the Small Limestone Buildings," in *Cities Called Athens: Studies Honoring John McK. Camp II*, ed. Kevin F. Daly and Lee Ann Riccardi (Lewisburg, Pa.: Bucknell University Press, 2015), pp. 137–63.
23. P. W. [Paul Wolters], "Miscellen. Litteratur und Funde," *Mittheilungen des Kaiserlich Deutschen Archaeologischen Instituts: Athenische Abteilung* 12 (1887), pp. 267, 386–87.
24. Klein, "The Architecture of the Athenian Acropolis before Pericles," pp. 156–57.
25. Alfred Brueckner, "Porosskulpturen auf der Akropolis: I. Der Typhongiebel," *Mittheilungen des Kaiserlich Deutschen Archaeologischen Instituts: Athenische Abteilung* 14 (1889), p. 68 n. 1.
26. Information from Dr. Birgit Schiller, Deutsch-Griechische Gesellschaft Berlin e.V., October 30, 2018, and November 1, 2018. See also Veit Stürmer, "Gilliérons minoisch-mykenische Welt," in *Theater der Natur und Kunst*, exh. cat. (Berlin: Winckelmann Institut, 2000), vol. 2, p. 81.
27. Paul Wolters, "Poroskopf von der Athenischen Akropolis" (1888), *Antike Denkmäler*, vol. 1 (Berlin: Verlag von Georg Reimer, 1891), p. 16 and pl. 30. See also Theodor Wiegand, *Die archaische*

*Poros-Architektur der Akropolis zu Athen*, 2 vols. (Cassel: Th. G. Fisher & Co., 1904), pp. 79–81.

28. Rodenwaldt in "Archäologische Gesellschaft zu Berlin," col. 359.

29. Brueckner, "Porosskulpturen auf der Akropolis: I. Der Typhongiebel," pl. II.

30. Ibid., ill. facing p. 74.

31. Alfred Brueckner, "Porosskulpturen auf der Akropolis: II. Der grössere Tritongiebel," *Mittheilungen des Kaiserlichen Deutschen Archaeologischen Instituts: Athenische Abteilung* 15 (1890), p. 87 and pl. II.

32. See note 27, above.

33. Wiegand, *Die archaische Poros-Architektur der Akropolis zu Athen*, pls. I, IV, and VIII.

34. Carl Watzinger, "VI. Die archaischen Tiergruppen," in Wiegand, *Die archaische Poros-Architektur der Akropolis zu Athen*, pp. 215–16.

35. Wiegand, *Die archaische Poros-Architektur der Akropolis zu Athen*, pp. 105–6.

36. Watzinger, "VI. Die archaischen Tiergruppen," pp. 215–16.

37. Ibid., pp. 214–16, fig. 231. Henri Lechat, "Les sculptures en tuf de l'Acropole d'Athènes," *Revue Archéologique* (July–December 1891), pl. 14 bis.

38. Rudolf Heberdey, *Altattische Porosskulptur: Ein Beitrag zur Geschichte der archaischen griechischen Kunst* (Vienna: Alfred Hölder, 1919).

39. Gilliéron to Miss Richter, January 24, 1909.

40. Heberdey, *Altattische Porosskulptur*, p. VIII.

41. Ibid., pp. 87–89, figs. 66–68.

42. Ibid., pl. III.

43. Vlassopoulou, *The Acropolis of Athens*, pp. 96–97. I express particular thanks to Dr. Vlassopoulou for making it possible to examine the original.

44. Gilliéron to Miss Richter, May 16/29, 1919.

45. Information on ancient polychromy is easily available from the catalogues accompanying ongoing international exhibitions entitled "Gods in Color" and organized by Vinzenz Brinkmann with different local collaborators. The two catalogues in English were published in conjunction with exhibitions held at the Arthur M. Sackler Museum, Harvard University (2007–8), and the Fine Arts Museums of San Francisco and Legion of Honor (2017–18).

## THE CONSERVATOR'S CHALLENGE

1. Carlos A. Picón, "A History of the Department of Greek and Roman Art," in *Art of the Classical World in the Metropolitan Museum of Art: Greece, Cyprus, Etruria, Rome*, by Carlos A. Picón et al. (New York: The Metropolitan Museum of Art, 2007), p. 15.

2. Although we do not have information about these poros sculptures, Gilliéron wrote Miss Richter that he made sketches of other sculptures from the same period shortly after they were discovered and that these helped him depict the remains of color. See Gilliéron to Miss Richter, November 12, 1911.

3. Peter G. Dorrell, *Photography in Archaeology and Conservation*, 2nd ed. (1989; Cambridge: Cambridge University Press, 1994), pp. 4–6.

4. Edward Robinson, "From the Report of the Curator of Classical

Antiquities," *Annual Report of the Museum of Fine Arts, Boston* 16 (1891), p. 12.

5. Russell Sturgis, "Recent Discoveries of Painted Greek Sculpture," *Harper's New Monthly Magazine* 81 (September 1890), p. 542.

6. Ingeborg Kader, "Täuschende Spielereien: Kolorierte Abgüsse im 19. und frühen 20. Jahrhundert," in *Bunte Götter: Die Farbigkeit antiker Skulptur*, by Vinzenz Brinkmann et al., exh. cat. (Munich: Staatliche Antikensammlungen und Glyptothek, 2003), pp. 248–50.

7. Gilliéron to Miss Richter, November 11, 1911, and January 28, 1912.

8. Gilliéron to Miss Richter, November 8/21, 1910.

9. Ibid.

10. "Old English Paper Sizes," in BAPH: British Association of Paper Historians; <http://baph.org.uk/reference/papersizes.html>.

11. Leonard B. Schlosser, "A History of Paper," in *Paper — Art & Technology: The History and Methods of Fine Papermaking with a Gallery of Contemporary Paper Art*, ed. Paulette Long and Robert Levering (San Francisco: World Print Council, 1979), p. 16.

12. Michel Joly, "Mold-made Papermaking: The European Tradition," in *Paper — Art & Technology*, ed. Long and Levering, p. 29.

13. Microchemical testing indicates that all three papers are starch sized.

14. Vinzenz Brinkmann, Ulrike Koch-Brinkmann, and Heinrich Piening, "Ancient Paints and Painting Techniques: Methods of Investigation," in *Gods in Color: Polychromy in the Ancient World*, by Vinzenz Brinkmann et al., exh. cat. (San Francisco: Fine Arts Museums of San Francisco, 2017), pp. 90–91.

15. Rebecca Capua, "The Gilliéron Paintings on Paper, from a Conservation Perspective," in *The Met* (New York, May 24, 2011); [https://www.metmuseum.org/blogs/now-at-the-met/features/2011/the-gilliron\[sic\]-paintings-on-paper-from-a-conservation-perspective](https://www.metmuseum.org/blogs/now-at-the-met/features/2011/the-gilliron[sic]-paintings-on-paper-from-a-conservation-perspective).

16. Maya Hambly, *Drawing Instruments, 1580–1980* (London: Sotheby's Publications, 1988), p. 15.

17. Oscar Broneer, "The Head of Herakles in the Pediment of the Old Athena Temple," *Hesperia* 8, no. 2 (April–June 1939), pp. [90]–100.

18. Different sources report the dimensions of the sculpture as ranging from 4.8 to 6 meters in length. In Gilliéron's October 29, 1918, letter to Miss Richter offering *Two Lions Savaging a Bull*, he annotated the photograph of the subject to show that the length he was working from was approximately 6 meters. These differences in size relate at least in part to the history of the sculpture's evolving reconstruction and are perhaps also a function of the variations among the fragments in space. See Fabrizio Santi, *I Frontoni arcaici dell'Acropoli di Atene* (Rome: "L'Erma" di Bretschneider, 2010), p. 110.

19. Vincent Daniels, "Factors Influencing the Wash-fastness of Watercolours," *The Paper Conservator* 19, no. 1 (1995), pp. 31–40.

20. Conductivity is the ability of a solution to pass an electric current. The conductivity of water depends on the concentration of ions; conductivity increases with greater ion concentration.

21. Amy Hughes and Michelle Sullivan, "Targeted Cleaning of Works on Paper: Rigid Polysaccharide Gels and Conductivity in Aqueous Solutions," *The Book and Paper Group Annual* 35 (2016), pp. 35–36.



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Joan R. Mertens and Lisa Conte



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Agnez, Mademoiselle, mes  
respectueuses salutations.

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