

# A TRIO OF GRIFFINS FROM OLYMPIA

(PLATES 90–92)

DURING the second half of the seventh century B.C., colossal cauldrons decorated with bronze griffin protomes having cast heads and hammered necks were dedicated at Olympia.<sup>1</sup> We have no idea who commissioned these large and surely expensive monuments, nor do we know anything of the occasions for their production. No ancient author refers to any colossal cauldron of this period at Olympia, not even Herodotos, although he refers to other monuments at the site and is clearly impressed by scale, as, for example, by the bronze Serpent Column at Delphi (7.170, 9.81). Pausanias would be likely to have mentioned any colossal tripod cauldrons that still stood at Olympia in his day, but all of them must have been destroyed before he visited the sanctuary. There is no additional archaeological or inscriptional evidence for the location of or occasion for any colossal tripod dedicated during the 7th century B.C. Because little remains of the cauldrons, scholars have rarely considered these colossal dedications as a whole but have dealt rather with the surviving protomes.

Three unusually large cast heads of griffins, now lacking their hammered necks, have often been linked because of close stylistic similarities. Most scholars agree that all three come from Olympia, although they are now separated, one being in Athens, the second in New York, and the third in Olympia. It is easy to see that the griffins are very close in size and appearance, and most would agree that they are all of extremely high quality. But if we wish to group the heads, a careful study of the singular technique by which they were made is of far greater importance than evaluation of their style. It is from this more objective analysis of the technical evidence that we shall approach most closely the answer to the question of whether the three protomes were made together to adorn a single cauldron.

The first of the three griffins was published in 1894 by André de Ridder, who recognized it as having come from a tripod cauldron (Pl. 90).<sup>2</sup> De Ridder did not name a

<sup>1</sup> I am indebted to Joan R. Mertens for suggesting this project, for permitting me to study the griffin in the Metropolitan Museum of Art in New York, for reading a draft of the manuscript, and for giving much useful advice. I am also grateful to Robert A. Bridges, Jr. for facilitating my study of the two griffins in Greece; to Petros Kalligas for allowing me to examine the griffin in the National Archaeological Museum in Athens and for discussing it with me; and to Giorgia Hatsi for permission to examine the griffin in the Olympia Museum. Richard S. Mason offered many criticisms and suggestions regarding the scope of the manuscript, and Harriet C. Mattusch read and commented upon more than one draft.

Works frequently cited are abbreviated as follows:

- Herrmann = H.-V. Herrmann, *Olympische Forschungen*, XI, *Die Kessel der orientalisierenden Zeit*, Berlin 1979  
Jantzen = U. Jantzen, *Griechische Greifenkessel*, Berlin 1955  
Kunze and Schleif = E. Kunze and H. Schleif, "II. Bericht über die Ausgrabungen in Olympia, Winter 1937/38" *JdI* 53, 1938, pp. 1–132  
Lullies = R. Lullies, *Greek Sculpture*, London 1960

Herrmann (pp. 44–52) lists nearly 30 cast heads and head fragments, as well as three hammered necks.

<sup>2</sup> A. de Ridder, *Catalogue des bronzes de la Société archéologique d'Athènes*, Paris 1894, no. 7, p. 5: Athens, N.M. 7582.

provenance for the griffin, but, more recently, Hans-Volkmar Herrmann was convinced by its surface condition that it came from Olympia, and, more precisely, from the bed of the Alpheios River.<sup>3</sup> Petros Kalligas has pointed out in conversation, however, that the griffin, which is now in the National Archaeological Museum in Athens, was purchased from a dealer in 1869, and that there is no specific reference to Olympia in the inventory.

In 1914, the second griffin's head in the group was found at Olympia, in the bed of the Kladeos River near the Gymnasium (Pl. 91).<sup>4</sup> It was later purchased by Walter C. Baker, who bequeathed it to the Metropolitan Museum of Art.<sup>5</sup>

The third griffin's head was found by chance at Olympia in 1938, in the south wall of the stadium (Pl. 92).<sup>6</sup> It remains in Olympia.

Already in 1938, Emil Kunze remarked upon the resemblances in size and in patina among these three heads, concluding that they had all been made in Olympia by a single master and that they had all adorned one vessel.<sup>7</sup> In fact, these heads are among the largest cast protomes which survive from the 7th century, ranging in height from 25 to 28 centimeters. Ulf Jantzen included them among his total of eight monumental cast griffin's heads with hammered necks, and he agreed with Kunze that these three must have come from a single vessel.<sup>8</sup> Herrmann's similar grouping of protomes of combined technique includes 15 additional examples from Olympia.<sup>9</sup> A 7th-century B.C. date for the three griffins is universally accepted, and, wherever in that century they are placed, they are invariably grouped together.<sup>10</sup>

Scholars have frequently made stylistic comments about the griffins, noting such details as the prominent, arching lids,<sup>11</sup> the sharp gaping beaks, the flexed and curving tongues.

<sup>3</sup> Herrmann, p. 17.

<sup>4</sup> «Παράρτημα τοῦ Ἀρχαιολογικοῦ Δελτίου. Τυχαῖα εὐρήματα», Δελτ 1, 1915, pp. 88–89.

<sup>5</sup> New York, M.M.A. 1972.118.54. See D. von Bothmer, *Greek, Etruscan and Roman Antiquities. An Exhibition from the Collection of Walter Cummings Baker*, New York 1950, no. 8, p. 7: purchased in New York in 1948.

<sup>6</sup> Olympia, B 145. Herrmann, p. 49. The left ear (B 4315) was not found until 1959, this time in the north wall of the stadium.

<sup>7</sup> Kunze and Schleif, p. 114.

<sup>8</sup> Jantzen, no. 77 (Olympia), no. 78 (New York), and no. 79 (Athens), pp. 19, 65–66. The other griffin's heads in Jantzen's "monumental" group are smaller, ranging in height from 0.172 to 0.22 m.; the only one that is attached to its neck measures 0.50 m. in height.

<sup>9</sup> Herrmann, G 92–G 109, pp. 44–52. Herrmann's largest complete heads are those in New York (0.258 m.) and Olympia (0.278 m.). The next in size is 0.225 m. (G 95), but the average height of all 12 complete heads is somewhat smaller: 0.193 m. Among his collection of detached ears, two of the largest ones, both including part of the base, are 0.13 m. tall, slightly less than those considered here, all of which were measured without the base (Olympia, left ear is 0.135 m. tall; New York, right ear, bent at tip, 0.125 m.), and one is actually larger, 0.18 m. tall. Of the 19 ears that Herrmann assigns to this group, however, 15 are smaller, between 0.067 and 0.118 m. in height, and other detached ears range from 0.070 to 0.097 m. tall, again including part of the base. See Herrmann, pp. 39–51; pl. 73.

<sup>10</sup> First half of the 7th century: Kunze and Schleif, p. 114. Middle of 7th century: see especially Jantzen, p. 66; F. Eckstein, review of Von Bothmer (footnote 5 above), in *Gnomon* 31, 1959, p. 640. Third quarter of the 7th century (New York griffin): J. R. Mertens, *Greek Bronzes in the Metropolitan Museum of Art*, *BMMA* 43, 1985, no. 9, p. 21.

<sup>11</sup> Eckstein ([footnote 10 above] p. 640) incorrectly notes only two upper eyelids on the New York head: triple eyelids are a distinctive feature of all three heads.

Among the more specific points is Kunze's observation that the knob on the Olympia head is slimmer than that on the New York head. Paul Jacobsthal actually drew a parallel between the knob of the former and Rhodian spindles.<sup>12</sup> It was once said that even though a griffin may have lost its inlaid eyes, the strength of its gaze remains.<sup>13</sup> More recently, Herrmann has suggested that the three griffins were made in a Corinthian workshop, the head still in Olympia having served as the inspiration for the ones now in Athens and New York.<sup>14</sup> This head, he feels, is the finest of the three, reflecting most closely the artist's original idea, whereas the head in New York looks softer and has lost the precise forms of the original design.<sup>15</sup> Nonetheless, it is easy to assume, on the basis of style, that one artist could have made all three heads for one huge cauldron.

A glance at some of the numerous griffin protomes from Olympia reveals infinite variations in size, proportions, surface treatment, and technique. Both the overall modeling and the incised details may be careful or cursory. For example, scales are not standardized: instead, they are represented in a wide range of sizes that do not depend upon whether the head they adorn is small or large. They may be punched or hand drawn, represented as full circles, as partial circles, or in horseshoe shape, and they may be arranged on the griffin's head in many different patterns. Large scales may appear on a small head, or vice versa. Their rendering was clearly determined by which tools were available when needed.

Beaks, tongues, eyes, ears, spirals, and knobs provide more opportunities for variety. The edge of the beak may be flat or raised, plain or incised with fine hatching. The lower mandible may be smooth or defined with widely spaced incised lines that radiate outward from the tongue. The eyes of griffins are almost always large, but the shapes vary enormously, and although they are usually hollow, sometimes the iris and pupil alone are hollow, and sometimes they too are solid. Rims may be incised, stepped, or rendered in relief. Ears range from short and thick to tall and slender.<sup>16</sup> Spiral locks, incised, in relief, or sometimes added, appear between the eye and the ear or on the neck; short or long, they may end in a loose curl or in one that is tightly rolled. There may be one large knob or three small ones. The base of the neck may end at an angle, or it may be straight across, and it may be defined by a border or a collar, although more often it is not. Many different approaches are also seen in the casting of the protomes. Castings may be thin or thick, rough or clean, with or without the clay core, flawed, repaired, neatly or sloppily incised and decorated.<sup>17</sup>

<sup>12</sup> Kunze and Schleif, p. 115. P. Jacobsthal, *Greek Pins*, Oxford 1956, p. 44.

<sup>13</sup> E. Buschor makes this comment in reference to the demonic life imparted through the eyes of the New York griffin: *Die Plastik der Griechen*, Berlin 1936, p. 17.

<sup>14</sup> H.-V. Herrmann, *Olympia: Heiligtum und Wettkampfstätte*, Munich 1972, p. 85; Herrmann, Type III, G 104 (Olympia), G 105 (Athens), and G 106 (New York), pp. 49–50; Corinthian workshop: p. 160; head in Olympia as inspiration for the other two: pp. 118, 130.

<sup>15</sup> Herrmann, pp. 131–132, 160.

<sup>16</sup> See footnote 9 above; the Table (p. 552 below) gives the comparative height of the ear cavities. Herrmann, pp. 44–46, 49–51.

<sup>17</sup> An unusual bronze patch that was poured directly into a casting flaw in the neck of a griffin from Olympia is fine testimony to the range of technical devices that were available to 7th-century artists: Berlin, Pergamonmuseum OL. 5986. I am grateful to Max Kunze for allowing me to examine the griffins in the Pergamon Museum.

TABLE: Measurements of griffin protomes (dimensions are given in meters)

*Average measurements*

Opening at back	0.40–0.45
Th. back edge	0.003–0.004
Max. th. tongue	0.002
W. tongue	0.019–0.022
L. of section of bead and reel	0.0035–0.004
Diam. of beads and nail heads	0.0025–0.003

*Specific measurements*

	Height	W. tongue
Olympia	0.278	0.022
New York	0.258	0.019
Athens	(0.175)*	0.021

\*without knob

*Ears*

	H. ear	W. ear	H. ear cavity
Olympia left	0.135	0.027	0.131
Olympia right	—	0.028–0.029	0.128
New York	0.125	0.031	0.127

*Knobs*

	H.	H. ovoid	H. lower molding	H. crowning element	Lower diam. stem
Olympia	0.07	0.029	0.001	0.009	0.017–0.018
New York	0.07	0.022	0.002	0.007	0.014
Athens	—	—	—	—	0.015–0.017

Scholars have often noted the remarkably close stylistic similarities among the three monumental griffin protomes in Olympia, Athens, and New York, and it might reasonably be proposed that all three griffins were made from a single set of molds.<sup>18</sup> A technical examination of the three heads shows that this was definitely not the case. A highly individualistic technique, however, was used to produce all three griffins, and to make them very close in size.

In short, the three heads were formed from nearly identical groups of waxes, features were added separately to each one, the same two tools were used to punch the scales on all three heads, and then all the heads were pinned to necks in the same way. This is more objective evidence than that provided by purely stylistic observations, and it will allow us to

<sup>18</sup> Use of a single set of molds to produce one group of griffin protomes has been proposed by D. E. L. Haynes, "The Technique of the Erbach Griffin-Protomai," *JHS* 101, 1981, pp. 136–138.

conclude that the three griffins were made as a distinct group and that they were intended for the ornamentation of one dedication.

A general description of one griffin easily fits all three. Each griffin's scaly head has a large, menacing beak, opened wide. There is a protruding rim along the hooked upper mandible and a sharply angled edge on the lower mandible. The upper mandible arches sharply downward to an elegantly hooked tip, overhanging the smaller lower mandible with its slight downward curve. A flat, narrow tongue rests on the lower mandible, its end curling gracefully but tautly upwards, as if reaching for the palate.

Huge, drooping eyes dominate the head. The inner corners are deeply recessed; the upper lids rise above the beak. As is usually the case with cast bronzes, the inlaid eyes have been lost, and the sockets are now hollow. We might imagine that the whites were inlaid with bone having a circular depression for a copper iris, and a metal pin, the pupil, holding the parts together.<sup>19</sup> The exaggerated arch of the bulging upper lid is articulated with three pronounced folds, the top one merging into the crown of the head, the lower two rising to sharp ridges. The puffy lower lids join in a loop over the bridge of the upper mandible. A shallow triangular depression between the eyes broadens into the crown, which is surmounted by a tall knob consisting of a straight stem topped by a bulbous ovoid and a small sphere. The cheeks and the sloping crown are covered with a pattern of scales. The ears are slender and pricked like those of an alert horse but more elongated. They have delicately curved outlines, concave interiors, and rounded tips. Below their knobby bases, a broad roll of flesh forms the back of the head, widening slightly behind the lower mandible. Attached to this neck roll with pins are segments of a narrow bead-and-reel molding that originally encircled the entire back of the head.<sup>20</sup>

The three huge griffins are extraordinarily close in size: the head in Olympia is 0.278 m. in height, that in New York, 0.258 m., although its right ear is bent. The head in Athens now measures only 0.175 m., but it has lost its knob, and if it is given one of the same height as those on the Olympia and New York heads (0.07 m.), its full height becomes 0.245 m. (see Table, p. 552 above).

There are a few notable differences among the three griffins. For example, from the front, the head in New York looks wider than the others, even though the circumference around the back of the casting is about the same as that of the head in Olympia.<sup>21</sup> The extended tip of the New York griffin's tongue looks thicker than that of the Olympia griffin and arcs closer to the palate. The ears on the head in Olympia do not quite match. But these

<sup>19</sup> Ample evidence for the popularity of this practice is preserved in hammered bronze protomes, helmets, shield devices, and other armor at Olympia. The bronze is not cut out but is instead hollowed out to receive inlays. Thus the pin forming the pupil secures the entire inlaid eye to the bronze sheet. See, for example, the mid-7th-century hammered-bronze griffin protome with a bone eye and silver pin for the pupil, Olympia Museum Inv. Br. 3177, H. 0.57 m., once part of a dedication standing at least 3.5 m. high: Herrmann, G 48, p. 28; H.-V. Herrmann, "Archaische Zeit 2: Greifenkessel," in *Die Funde aus Olympia*, A. Mallwitz and H.-V. Herrmann, edd., Athens 1980, no. 32, pp. 64–65, pl. 32.

<sup>20</sup> Jantzen (p. 65) suggests that the molding originally represented the griffin's long spiral locks.

<sup>21</sup> Both openings are *ca.* 0.40–0.45 m in circumference.

are minor variations, and viewers glancing at the cauldron on top of its tripod stand would hardly have noticed them.

All three griffins are relatively thin hollow castings, thickening near the ends of the beaks.<sup>22</sup> All three have surface imperfections: cracks and pits caused by bubbles and other flaws in the casting. There are now no clear signs that the flaws were repaired or concealed, except for one possible repair with a broad-headed pin on the head in New York. Otherwise, the flaws may have been filled with a perishable material like wax, which has since disappeared. Tongues, ears, and knobs are solid. The griffin in Athens has lost its knob, both ears, and the raised end of its tongue, the back of the head, part of the left side, and most of the neck roll. The left side of the head is broken along the rim of the upper mandible and appears to be bent inwards. The other two heads are complete castings, except for the ear that is missing from the griffin in New York, and each of them has a flat finished edge around the back opening.

The eyes of the griffins were cut into the wax models from the outside, and shallow ledges were left inside to hold the inlays in place. Inside the head, slight indentations mark the upper and lower lids, the bases of the ears, and the neck roll. The knobs, ears, and tongues cannot be identified from within, for they were attached to the wax model in wax from the outside.

Since the three griffins look so much alike, investigation of the method of their production assumes particular interest. The interior of each head clearly shows how the bronze reproduces the surface of the wax and thus records the process by which the artist prepared his models for casting (Pl. 90:d).<sup>23</sup> It is immediately evident that all three heads were made in the same way. Furthermore, because they are also so close in size, we can deduce that they were made at one time from matched groups of waxes.

The artist began his work on each head with several slabs of wax, one for the interior of the beak, two for the sides of the head, and probably also one for the lower mandible (Pl. 91:d).<sup>24</sup> He bent one slab into the shape of the open beak, adding melted wax at the back on the heads in New York and Athens to reinforce the sharp angle. To either side of the palate the artist attached nearly vertical slabs of wax, leaving a protruding edge along the palate that he would later cut and shape into the sharp rim along the edges of the upper mandible. Inside, he added melted wax to fix the sides of the head to the palate. Through the large opening that he left at the neck of each griffin, the artist could reach one hand inside the model and thus easily bend and shape the vertical wax slabs to form the head. On the heads in Athens and New York, a rough area inside the crown that stretches from front to back attests to the joining of the wax slabs. A few bronze blobs inside the palate of the head

<sup>22</sup> The thickness of the griffins at the back edge is in the range of 0.003–0.004 m. R. Lullies (no. 4, p. 54; and *idem*, "Griechische Plastik," in *Die Griechen und ihre Nachbarn*, K. Schefold, ed., Berlin, 1967, no. 14, p. 162) inexplicably refers to the Olympia head as being solid cast, but perhaps he means to say that it was cast in one piece.

<sup>23</sup> The interior surfaces of all three heads are partly obscured by accretion. This is most pronounced inside the lower mandibles, and even takes the form of a peculiar wishbone-shaped projection in the New York head.

<sup>24</sup> De Ridder ([footnote 2 above] p. 5) thought that the Athens griffin had been made in two pieces, one piece being the lower mandible, and the other the upper mandible with the top of the head.

in New York reproduce wax that had been heated enough to drip from the top of the head while work was in progress.

The wax slabs used to shape the head of the griffin in Athens were not joined firmly enough to the upper mandible, for the bronze did not fuse properly during casting, and there are large cracks just above the rim on both sides of the head (Pl. 90:d). On the right side, at the back of the crack just above the beak, there is a cut edge, as if an attempt was once made to patch the imperfection. The griffin in Olympia also has such a split, but a much smaller one, on the rim of the beak directly below the right eye.

When the wax head had been given its shape, the model would have been stabilized by pouring in the core material. Then the artist added the details to each head separately. Differences among the griffins illustrate the artist's solutions to the problems presented by each slightly different wax model. On the head in Athens, a neat incised line separates the eye from the lower lid; on the head in New York, this line is more distinct beneath the right eye than it is beneath the left. On the head in Olympia, however, the heavy lower lids fall away slightly from the curve of the eyes, and deeper lines were cut to rim the eyes.

The solid-cast tongues were modeled separately in wax and then attached. Each tongue was made from a narrow strip of wax, rectangular in section, that was fixed to the center of the lower mandible. In all three, the maximum thickness of the tongue is approximately 0.002 m., but the width varies from 0.019 to 0.022 m.<sup>25</sup> The tongue of the griffin in Olympia was attached a little to the right of the center of the lower mandible.<sup>26</sup> In an apparent attempt to rectify the error, the wax was indented deeply just to the right of the back of the tongue, with the result that the tongue actually appears to be centrally placed.<sup>27</sup> The projecting rim along the edge of this griffin's upper mandible shows other discrepancies. Besides blending into the hooked tip of the beak at a different point on either side, the profile of this rim forms an angle on the left side of the head but is more rounded on the right side. Furthermore, the lower lids do not match, and some adjustment was made by shaving down the one on the right side with a flat blade.

The knob, preserved on the heads in New York and Olympia, consists of an ovoid resting upon a tall cylindrical stem. A molding defines the base of the ovoid, that on the head in New York being the more pronounced. The Olympia ovoid has angled sides, the New York, curved. Only the griffin in New York has a second molding at the top of the knob to set off the crowning element. This crowning element might be described as a broad, straight-sided nub on the griffin in New York, a pronounced if roughly modeled sphere on the one in Olympia. The surviving knobs are both 0.07 m. high but differ in the diameters of the stems and the heights of ovoids, moldings, and crowning elements.<sup>28</sup>

Why are the two knobs of equal height, but otherwise different in appearance and in measurements? The artist must have started by making a series of waxes of exactly the same

<sup>25</sup> New York, 0.019 m.; Athens, 0.021 m.; Olympia, 0.022 m.

<sup>26</sup> On the left, the tongue is 0.045 m. from the edge of the lower mandible, and on the right only 0.04 m.

<sup>27</sup> This adjustment is not visible on the interior of the bronze.

<sup>28</sup> See Table, p. 552 above, for a comparison of the dimensions. Eckstein ([footnote 10 above] p. 640) suggested that the differences between the two preserved knobs, like the varying sizes of the three heads, reflect the technique.

size, each of which he modeled separately into a knob. Then he attached the solid wax knobs to the wax models, and finally covered the completed griffins' heads with clay molds for casting.

Of the three ears remaining to the three griffins, two belong to the head in Olympia, but they do not match: the left one resembles the ear of the griffin in New York more closely than it does its mate. Thus the left ear is flatter and has a more rounded tip than the right, which has a stronger curve around the back, a deeper opening, and a more pointed tip and is set upon a more pronounced base (see Table, p. 552 above).

These measurements lead to interesting conclusions. The artist did not make a mold for an ear and then copy it, even though in this way he could easily and quickly have made ears for all the griffins. Instead, he modeled each wax ear by hand, just as he made the knobs, and attached them in pairs to the wax heads. This was the logical way to proceed, simply because left and right ears curve in opposite directions, so that two molds, not one, would have been needed. It is clear that although the three protomes were made as a group, each was a separate production. To the ordinary viewer, discrepancies in size and proportions between the ears on a single head could hardly have mattered.

Careful study of the griffins' knobs and ears has revealed certain variations. In contrast, the unexpected similarity in the sizes and patterns of the scales is startling. It can be explained by the fact that the artist used the same two punches to incise the scales on all three heads, perhaps because he made them all at once. He marked the wax models with regularly placed scales, using the same general pattern on each head. He used a punch with a diameter of 0.003 m. between the eyes and as far back as the knob, and from the lower eyelids to the edge of the upper mandible. On the head still in Olympia he punched the small scales directly below the eye, but on the head now in Athens he extended the small scales as far back as the neck roll. He used a punch with a diameter of 0.0045 m. for the larger area on the crown of the head and for the neck roll. On the griffin in New York, a few scales in awkward locations were drawn by hand. The beak, the eye ridges, and the lower lids on all three heads are smooth, as is the back of the head behind the bead-and-reel molding.

This narrow molding made of hammered bronze originally encircled the back of each head, following the neck roll just behind its greatest swelling. The molding was attached by small nails whose convex oval heads neatly replace occasional beads in the design.<sup>29</sup> Six nails remain in their original positions on the New York head, the heads of five of them preserved on beads in the molding. Four nails still hold parts of the bead and reel of the Olympia griffin in place; three more lie right behind the molding, their heads not concealed. It is quite possible that all the nails, those holding the molding in place as well as those behind it, aided in the attachment of the cast heads to their hammered necks and that the

<sup>29</sup> The molding is well preserved on the New York griffin, less well on that in Olympia. The griffin in Athens has lost most of its neck roll and so retains none of the molding. Each section of the bead and reel is between 0.0035 and 0.004 m. long. The beads and the nail heads are 0.0025 to 0.003 m. in diameter. The nails in the Olympia head are rectangular in section and pointed; all but one of those in the New York head are round, their ends cut straight across. The shafts of the nails are *ca.* 0.002 m. thick. The maximum preserved length of any nail is 0.005 m., but most are either broken or bent.



join between head and neck was effected along the decorative molding. No scales were incised behind the molding, which suggests that this part of the head was not visible.

The back of the head remained open, and when the core was poured it was surely extruded through this hole and through the eye cavities to join the mold. Thus chaplets would not have been needed to stabilize the core during casting. Nonetheless, inside the head in Athens, just in front of the base of the right ear, there is a bent metal pin which may be a chaplet.<sup>30</sup> An irregular red spot visible below the left ear of the head in New York appears to be the head of a sharply pointed pin that remains inside. Unusually small for a chaplet, the nail may have been inserted into a flaw after casting, its head then flattened and partially concealed by hammering. Below the right eye of the head in Olympia, accretion may conceal a single rectangular chaplet. Below the left ear, there is another nail, 0.002 m. in diameter, and more substantial than the pins holding the bead and reel in place, but only 0.01 m. in front of the bead and reel. It is possible that these few nails were associated not with the casting of the griffins but instead with the finishing and the joining of heads to necks.

Certainly one master made these three colossal griffins, and no doubt others as well, as part of a single commission. It is not similar style but exactly the same method of production that shows that the griffins must have been made by one person at one time. This artist made groups of wax slabs, all of the same size, put them together, cut holes for the eyes, and shaped the heads so that they would closely resemble one another. He made the tongues separately out of wax strips, rolled and cut knobs from another set of waxes, and made ears from a final group of waxes. The close similarities in the eyelids, tongues, and knobs, in the rims along the upper mandibles, and in other features indicate that the master worked over the surfaces of all the griffins within a short period of time. He even used the same two punches to make the scales on the wax model of each griffin: a small one for the area below the eyes and a larger one for the rest of the head. Since he worked each griffin separately, slight differences in dimensions and appearance were bound to result. They are minor, but they firmly establish the individuality of each griffin and at the same time forestall any argument that they might have been made from the same set of molds.

All three griffins were found without necks, the heads in Olympia and New York both retaining a flat finished edge 0.002 to 0.006 m. wide at the back of the casting, probably to facilitate attachment to the neck. There is no reason to doubt that these heads were once attached to hammered necks.<sup>31</sup> But the three heads are far too heavy to have been supported by sheet-bronze necks alone. The New York griffin, for example, weighs six pounds, five ounces, even without one ear. Therefore, we must assume that each neck was filled with a material that was strong enough to balance the head in an upright and stable position.

<sup>30</sup> L. 0.004 m., Th. 0.003 m.

<sup>31</sup> Jantzen (p. 67) believes that bronze artists did not learn to cast large pieces hollow until the end of the 6th century and sees this as the reason for placing cast heads on hammered necks.

A hammered neck found near the Olympia head was at first assigned to that griffin, but the two pieces are of different proportions and do not actually join: Olympia B 431, L. 0.49 m. See Kunze and Schleif, pp. 113–114, and footnote 33 below. Furthermore, the scales on the neck, consisting of double punched lines, are not the same as those on the head.

Wood is likely to have been used for this core, being relatively lightweight but still strong enough to support the cast bronze head.<sup>32</sup>

Jantzen restores the three griffins to a height of approximately 0.80 m., basing this measurement upon the proportions of another griffin in his "monumental" group with much of its hammered neck preserved; Mallwitz prefers 0.65 m.<sup>33</sup> We cannot, of course, reconstruct the exact measurements, but even the most conservative calculations make it clear that a cauldron decorated with protomes of this size would have been colossal. If we assume that the protomes were between 0.65 and 0.80 m. tall, that they were as much as one half the height of the cauldron, and that the cauldron was about one half the height of the base, then the whole monument stood between 4.60 and 5.60 m. high. This is between two and a half and more than three times the height of a man and significantly larger than the usual tripod dedications.<sup>34</sup>

The tripod cauldrons that were dedicated in Greek sanctuaries generally ranged in size from less than 10 centimeters to 3.5 or more meters in height.<sup>35</sup> Some were colossal. For instance, Herodotos describes a bronze cauldron decorated with griffin protomes that was made on Samos during the 7th century B.C. at a cost of 6 talents. The cauldron was supported not by a tripod base but by three kneeling bronze figures that were seven cubits high, or approximately three and a quarter meters.<sup>36</sup> The addition of a cauldron half that height and protomes one quarter of that height would yield a height of about five and three-quarters meters for the dedication.

<sup>32</sup> Pausanias describes an early image of Dionysos Kadmos at Thebes as a log covered with bronze (9.12.4) and refers elsewhere to the practice of riveting together sheets of metal to form statues known as *sphyrelata* (3.17.6). This method of making large bronze figures, which preceded the introduction of cast bronze statues, is illustrated by three small statues from Dreros in Crete, which were surely originally supported on wooden cores. See P. Cellini, "Osservazioni tecniche sugli sphyrelata di Dreros," in J. Papadopoulos, *Xoana e sphyrelata: Testimonianza delle fonti scritte* (Studia Archaeologica 24), Rome 1980, pp. 99–100; I. B. Romano, *Early Greek Cult Images*, diss. University of Pennsylvania, 1980, p. 365.

For a 4th-century B.C. wooden tropaion decked with armor, now in the Munich Antikensammlungen, see B. Kaeser, "Tropaion mit westgriechischer Rüstung," *MJb*, ser. 3, 38, 1987, pp. 233–234, fig. 9:f.

<sup>33</sup> Jantzen, no. 72, p. 65. Lullies (p. 54) agrees. A. Mallwitz proposes a length for the neck of only 0.39 m.: *Olympia und seine Bauten*, Munich 1972, p. 49. Herrmann (p. 131) advises against attempting exact reconstructions.

For the spreading base of a hammered griffin's neck with rivets for cauldron attachment, see Olympia B 431, Herrmann, pl. 62:1. This is the neck that was once thought to belong with the Olympia head: see Lullies, no. 4, p. 54, and footnote 31 above.

<sup>34</sup> For a general sense of the proportions of protomes, cauldrons, and tripod bases, see an 8th-century tripod cauldron in Delphi: C. Rolley, *Museum of Delphi: Bronzes*, Limoges n.d., p. 11; a late 8th-century tripod cauldron with 12 protomes from Salamis in Cyprus: C. Rolley, *Les bronzes grecs*, Fribourg 1983, p. 70; a reconstruction of a 7th-century tripod cauldron at Olympia: A. Furtwängler, *Olympia*, IV, *Die Bronzen*, Berlin 1890, no. 814b, p. 129, with figure, and Herrmann, p. 192, fig. 5; and a 6th-century tripod cauldron with four protomes in Châtillon-sur-Seine: C. Rolley, *Greek Minor Arts: The Bronzes* (*Monumenta graeca et romana* V, i), Leiden 1967, no. 134, p. 14, pl. 45.

<sup>35</sup> *Die Funde aus Olympia* (footnote 19 above), pp. 56–57; no. 17, p. 45, pl. 17; no. 32, p. 64, pl. 32.

<sup>36</sup> See Herodotos, 4.152. The early large cast tripod legs at Olympia retain their cores, probably to give them greater strength. The later tripod legs, whether cast or hammered, are more slender, suggesting the use of auxiliary support for the cauldrons.

Herodotos refers to several other dedications of unusual size or capacity. In the 7th century, Gyges sent six golden cauldrons to Delphi, each one weighing 5 talents, or about 300 pounds (1.14). In the 6th century, Kroisos sent two even larger cauldrons to Delphi, one of gold and one of silver. The gold one weighed  $8\frac{1}{2}$  talents and 12 minae, or about 500 pounds. The silver one, reputedly made by Theodoros of Samos, held the contents of 600 amphoras, or about 5,400 gallons, and was used as a mixing bowl at the festival of the Theophania (1.51).<sup>37</sup> The Lakedaimonians made for Kroisos a bronze cauldron, with small figures around the rim, that held the contents of 300 amphoras, about 2,700 gallons (1.70).

Ariantes of Scythia was responsible for the production of a bronze cauldron that was six fingers thick and had the capacity of 600 amphoras. For the sake of comparison, Herodotos adds that this cauldron, which stood at Exampaia, was six times the size of one that Pausanias, the son of Kleombrotos, set up at the mouth of the Pontos (4.81).<sup>38</sup>

It was this same Pausanias who is said to have had an inscription placed on the golden tripod that topped the Plataian dedication at Delphi. The Spartans quickly replaced his self-congratulatory couplet with the names of all the Greek cities whose men had helped to defeat the Persians at Plataia (Thucydides, 1.132). Herodotos describes the monument as a golden tripod balanced upon a three-headed bronze snake, dedicated to Apollo at Delphi in 479 B.C., and made with a tithe of the spoils from the Greek victory at Plataia (9.81). The tripod was removed during antiquity (Pausanias, 10.13.9), but 5.35 m. of the bronze column survive, which must be nearly the full height.<sup>39</sup> Scholars cannot agree upon a reconstruction of the original appearance of the Serpent Column from what is left of it. Whether the tripod straddled or crowned the column, however, the whole monument stood at least six meters in height, and probably quite a bit more than that.

All these large cauldrons were expensive undertakings. The dedication at Olympia from which we have only three colossal griffins was surely no exception. In fact, this dedication, standing between 4.60 and 5.60 m. in height, may well have been among the largest of those erected during the latter part of the 7th century. Judging from the literary descriptions of other such dedications, we may even imagine that our protomes were part of the decoration for more than one huge cauldron.

We do not know whether this was a private dedication, like those of Kroisos at Delphi, or a public monument, like the Serpent Column. Maybe the patron was local, wealthy but unknown outside the immediate region. In any event, the size of the Olympia dedication was comparable to that of the six golden cauldrons that Gyges dedicated at Delphi during

<sup>37</sup> The cauldron must have been filled during the festival: W. W. How and J. Wells, *A Commentary on Herodotos I*, Oxford 1912, p. 57.

<sup>38</sup> It may not be true that one arrowhead was handed over by each Scythian man, and that these were used to make the cauldron: *ibid.*, p. 331.

<sup>39</sup> During the 4th century after Christ, the column was moved to Constantinople and erected in the hippodrome. A serpent's upper jaw is in the Istanbul Archaeological Museum: inv. no. 18, L. 0.338 m. For possible reconstructions of the whole monument, see W. Gauer, *Weihgeschenke aus den Perserkriegen (IstMitt-BH 2)*, 1965, pp. 75–96; B. S. Ridgway, "The Plataian Tripod and the Serpentine Column," *AJA* 81, 1977, pp. 374–379.

the 7th century. The importance of the dedication at Olympia can be judged from its similarity in size to monuments deemed worthy of mention in the literary testimonia.

No ancient author has commented upon this particular dedication at Olympia. Nor have we identified its base, which must have been close in size to the base of the Serpent Column at Delphi.<sup>40</sup> Maybe the dedication at Olympia was taken down, its original importance eclipsed by the construction of such works as the enormous Temple of Zeus and the even more famous cult statue by Pheidias, which was destined to become one of the seven wonders of the world. We can only guess at the appearance and cost of the 7th-century monument, at its placement, and at the date of its destruction.

The group of three like protomes from Olympia, although they are among the largest of their class, provide only a hint of the scale and grandeur of the original dedication. But, at the same time, the griffins open an entirely new field of inquiry, for in them we have recognized the technical idiosyncracies of an individual artist. The details of the process, imprinted as they are on the finished bronze protomes, provide the objective information that links the griffins. With this indisputable evidence in place, we may at last state with authority that these three griffins are representatives of an individual artist's distinctive style.

CAROL C. MATTUSCH

GEORGE MASON UNIVERSITY  
Department of Art and Art History  
Fairfax, VA 22030

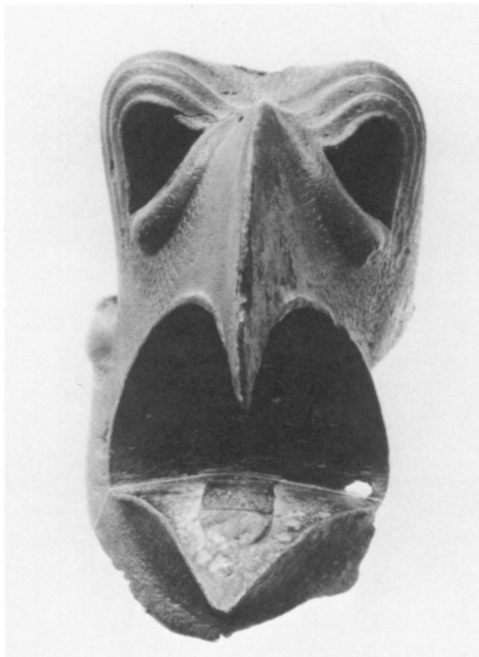
<sup>40</sup> The base of this monument was *ca.* 2.20 m. in height, its top 2.48 m. in diameter: Gauer, *op. cit.*, p. 77.



a. Athens, N.M. 7582 (photo National Archaeological Museum)



b. Athens, N.M. 7582 (photo DAI Athens, neg. no. N.M. 4154)



c. Athens, N.M. 7582 (photo National Archaeological Museum)



d. Athens, N.M. 7582 (photo National Archaeological Museum)



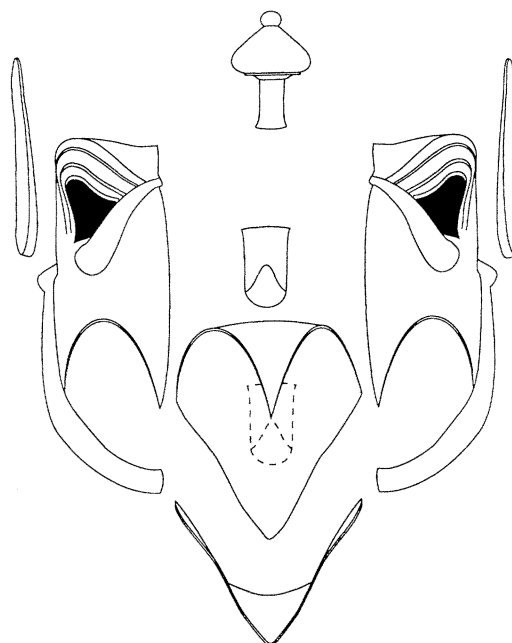
a. New York, M.M.A. 1972.118.54 (photo Metropolitan Museum)



b. New York, M.M.A. 1972.118.54 (photo Metropolitan Museum)



c. New York, M.M.A. 1972.118.54 (photo Metropolitan Museum)



d. New York, M.M.A. 1972.118.54, computer-generated drawing from digitized photograph (drawing Avrim Katzman)



a. Olympia, B 145 + B 4315 (photo DAI Athens, neg. no. Ol. 4964)



c. Olympia, B 145 + B 4315 (photo DAI Athens, neg. no. Ol. 4963)



b. Olympia, B 145 + B 4315 (photo DAI Athens, neg. no. Ol. 946)