Unfinished Hair and the Installation of the Pedimental Sculptures of the Temple of Zeus at Olympia*

Paul Rehak

INTRODUCTION

In speaking to her students about how to analyze Greek sculpture, Bruni Ridgway consistently emphasized the importance of “looking at the evidence with fresh eyes,” and “letting the sculptures speak for themselves.”1 This pair of principles can be applied fruitfully to many areas of study, not just sculpture, and I continue to find them essential both in teaching and in research. In this paper, I would like to apply these guidelines to a renewed examination of some sculptures from the temple of Zeus at Olympia, as a small token of gratitude and deep affection for a teacher, mentor, colleague, and friend.

In 1970, the publication of her book, The Severe Style in Greek Sculpture, put our understanding of this difficult and critical period of Greek sculpture on a new footing.2 Central to that study was a discussion of the decoration of the temple of Zeus at Olympia, the erection of which is conventionally dated between ca. 470 and 457 B.C.,3 making it one of the few closely datable monuments of the period and thus a landmark in discussions of the development of sculptured metopes and pediments.

The subjects of the pediments and metopes are well known, thanks to a later description (ca. A.D. 170) by the traveller Pausanias. The east pediment depicted the preparations for the fateful race between Pelops and Oinomaos for the hand of Hippodameia;4 the west pediment illustrated the battle between Lapiths and Centaurs at the wedding feast of Pirithoos, with the prominent participation of Theseus of Athens.5 Twelve metopes, six over each porch (an innovative location), showed the deeds of Herakles, which may have achieved their canonical number at this time. The temple also had marble lion-headed waterspouts, which can be considered part of the building’s sculptural program.6

A careful description of the pedimental fragments, including their find-spots, condition of their backs, and indications of repairs, was given in the main publication by G. Tren.7 Both pediments received lavish photographic documentation in the model collaborative study by Ashmole and Yalouris in 1967;8 for visual points of comparison the reader is directed to these excellent photographs by A. Frantz, cited in the notes.

The immense scholarship on the sculptures has been summarized in H.-V. Herrmann’s 1987 book on the Olympia sculptures.9 Although a new configuration of the pediments has been on display in the Olympia Museum since 1984 (Fig. 21.1: diagrams of both pediments), details of interpretation, and the original arrangement and history of the pedimental reconstructions, continue to invite scholarly attention and debate.10

The marble has been identified as Parian, save for several additions and replacements to the west pediment corner figures in Pentelic.11 It is generally assumed that all the figures were carved on the ground, and then were hoisted into position.12 But the corollary assumption, that the statues were finished when they were installed on the building, has never been thoroughly examined, even though C. Blümel pointed out many years ago that the backs of many figures were unfinished and that work had not reached its final stages.13 The issue is important because the heads show a wide range in the treatment of hair that is scarcely ever mentioned in studies of the Olympia sculptures. The consensus among scholars is that some obviously unsculptured coiffures were meant to be completed in paint, and this trait has even been taken as a general characteristic of the Severe Style.14 If we take a new look at the technical aspects of the Olympia heads, they may tell us a rather different story.

Four different degrees of finishing of hair can be identified, ranging from fully carved (group I) to the opposite extreme, where the hair has simply been roughed out and left as a mantle of marble without carved detailing, presumably to be finished in paint (group IV). There are, however, two intermediate degrees of finish: heads that are nearly complete, except for a few insignificant details that probably would not have been visible from the ground (group II), and “template” heads (group...
III), where one small area of the coiffure has been carved, perhaps to serve as a model and guide for the completion of the rest. Interestingly, the unfinished heads (groups II–IV) far outnumber the finished heads (group I). While the characteristics of groups I and IV could be the result of deliberate stylistic choices on the part of the sculptor, the existence of groups II and III indicates that a significant number of heads was unfinished when the pediments were installed. The ramifications of this observation will be explored further after discussion of each of these four groups.

Evidence of 34 anthropomorphic figures survives from the two pediments, 15 from the east and 21 from the west, traditionally identified by capital letters following the designations of the German excavators. The difference in numbers between the east and west pediments is partly because some of the human-headed centaurs in the west occupied the position of teams of chariot horses followed by chariot horses in the east. Finally, at least four of the west pediment figures (A, B, U, V), probably representing late additions or replacements to the original fifth-century composition, are not pertinent to this study and will not be considered. Of the 30 anthropomorphic figures of the fifth-century B.C., 25 preserve their heads in whole or in part: 9 from the east, and 14 from the west (see Table 21.1).

**Finished Heads**

*Group I: Heads with complete carving of hair (East F, K; West D, E, G, L, Q, S)*

A relatively small number of figures in both pediments have hair that appears completely carved, though in some cases parts of the heads have been damaged. A diagnostic feature for these fully-carved heads is that the individual locks of hair, whether of coiffure or beard, are carved in high relief and their surfaces are detailed with many lightly engraved lines to indicate separate strands. Many of the completed locks end in curls that have drilled centers. A surprising feature is the amount of variation among the coiffures of the completed heads: Hippodameia (K) and Sterope (F) in the east have somewhat disheveled heads of hair, in contrast to the highly detailed and orderly treatment given the heads and beards of many of the bestial centaurs.

Noteworthy among these finished heads is that of Apollo (L) in the center of the west pediment, with its long hair rolled at the back and presumably braided around the front; the braids are hidden by a fringe of curls brushed over them around the forehead (Fig. 21.1). A drilled hole in the roll of hair at the nape could have supported a metal wreath which has not survived.
Table 21.1

DEGREES OF FINISH ON HEADS FROM THE OLYMPIA PEDIMENTS

Surviving Anthropomorphic Heads on the Olympia Pediments indicated by the letter x

Degrees of finish (in descending order of completion)
I  Completely finished
II  Nearly finished (small areas remain uncarved)
III Template heads (only a small, patterned section of the hair is completed)
IV Mantled heads (hair left as a smooth, uncarved mass)

EAST PEDIMENT: PREPARATIONS FOR THE RACE OF PELOPS AND OINOMAOS - 9 HEADS TOTAL

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<thead>
<tr>
<th>FIGURE</th>
<th>IDENTIFICATION</th>
<th>DEGREE OF FINISH</th>
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<tbody>
<tr>
<td>A</td>
<td>river god</td>
<td>(head missing)</td>
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<tr>
<td>x</td>
<td>kneeling youth</td>
<td>IV mantled head</td>
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<tr>
<td>B</td>
<td>kneeling charioteer</td>
<td>(head missing)</td>
</tr>
<tr>
<td>C</td>
<td>horses</td>
<td>(not applicable)</td>
</tr>
<tr>
<td>D</td>
<td>seated boy</td>
<td>(head missing)</td>
</tr>
<tr>
<td>E</td>
<td>Sterope</td>
<td>I completely finished</td>
</tr>
<tr>
<td>x</td>
<td>Pelops</td>
<td>III template head</td>
</tr>
<tr>
<td>F</td>
<td>Zeus</td>
<td>(head missing)</td>
</tr>
<tr>
<td>x</td>
<td>Oinomaos</td>
<td>IV mantled head</td>
</tr>
<tr>
<td>G</td>
<td>Hippodameia</td>
<td>I completely finished</td>
</tr>
<tr>
<td>x</td>
<td>seer</td>
<td>II (beard only) &amp;</td>
</tr>
<tr>
<td>H</td>
<td></td>
<td>IV (head)</td>
</tr>
<tr>
<td>x</td>
<td>chariot horses</td>
<td>(not applicable)</td>
</tr>
<tr>
<td>I</td>
<td>seer</td>
<td>II nearly finished</td>
</tr>
<tr>
<td>x</td>
<td>kneeling girl</td>
<td>III template head</td>
</tr>
<tr>
<td>K</td>
<td>river god</td>
<td>IV mantled head</td>
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<tr>
<td>x</td>
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WEST PEDIMENT: CENTAUROMACHTY AT THE WEDDING FEAST OF PRITHOOS - 14 HEADS TOTAL

(OMITTING CORNER FIGURES A, B, U, V)

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<tr>
<th>FIGURE</th>
<th>IDENTIFICATION</th>
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<tr>
<td>x</td>
<td>lapith youth &amp;</td>
<td>IV mantled head</td>
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<tr>
<td>C</td>
<td>centaur &amp;</td>
<td>I completely finished</td>
</tr>
<tr>
<td>x</td>
<td>lapith girl</td>
<td>I completely finished</td>
</tr>
<tr>
<td>D</td>
<td>centaur</td>
<td>(head missing)</td>
</tr>
<tr>
<td>x</td>
<td>lapith boy &amp;</td>
<td>I completely finished</td>
</tr>
<tr>
<td>E</td>
<td>centaur</td>
<td>IV mantled head</td>
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<tr>
<td>F</td>
<td>lapith woman &amp;</td>
<td>III template head</td>
</tr>
<tr>
<td>x</td>
<td>centaur</td>
<td>III template head</td>
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<tr>
<td>G</td>
<td>Piritheus</td>
<td>I completely finished</td>
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<tr>
<td>x</td>
<td>Apollo</td>
<td>IV mantled head</td>
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<tr>
<td>H</td>
<td>Theseus</td>
<td>III template head</td>
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<tr>
<td>x</td>
<td>centaur</td>
<td>(head missing)</td>
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<tr>
<td>I</td>
<td></td>
<td>II nearly finished</td>
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<tr>
<td>x</td>
<td>centaur</td>
<td>II nearly finished</td>
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<tr>
<td>K</td>
<td></td>
<td>IV mantled head</td>
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<tr>
<td>x</td>
<td>centaur</td>
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<tr>
<td>L</td>
<td></td>
<td>IV mantled head</td>
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<td>x</td>
<td>centaur</td>
<td>(head missing)</td>
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<tr>
<td>M</td>
<td>lapith woman</td>
<td>II nearly finished</td>
</tr>
<tr>
<td>x</td>
<td>centaur</td>
<td>IV mantled head</td>
</tr>
<tr>
<td>N</td>
<td>lapith youth</td>
<td>I completely finished</td>
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<td>x</td>
<td>centaur</td>
<td>IV mantled head</td>
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<tr>
<td>O</td>
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Even in the case of this "finished" head, important details have not been completed on the right side, which was turned toward the tympanum wall and thus was never meant to be visible (Fig. 21.2). Apollo’s right ear, for example, has simply been roughed out with the point. In addition, the right side of the head has been smoothed, but the strands of hair are carved only as far as the right temple, where they stop abruptly.

The head of Zeus (H) from the east pediment is not preserved, but it is likely that it too was finished completely only on surfaces exposed to the viewer. It is clear from ambiguities of the drapery on both statues that the sculptor was still resolving technical problems in the process of carving these figures.

In addition to Apollo, the grappling pair D and E, a centaur and a Lapith girl (Fig. 21.3), both have heads with fully-carved hair. Both of these individuals are hair-pullers: the centaur grasps a fistful of the girl’s long hair at the back of the head, while she pushes him away by grabbing a handful of his beard and sideburn. Their hair is rendered in shallow relief.

The head of the old centaur (D) however, is anomalous in several respects. The wrinkles in his snarling face are crisply carved, and the eyelids are sharply profiled, lacking the doughy contours found on all other Olympia heads. Likewise, each upper lid has an engraved line that appears on no other preserved head. The facial features, as well as the metallic crispness of the hair, carved as flat, short comma locks, are reminiscent of Polykleitan style. This head comes from a heavily damaged group, and because of the peculiarities in carving it is likely to be a replacement figure made no earlier than the end of the fifth-century B.C., and possibly much later.
West centaur G grabs a Lapith youth (F) whose head is now missing. The forehead and face of the centaur above the lower lip have been sheared away, but the hair at the back of the head and the beard appear fully carved. The centaur's hair on the head forms a mass of loose, curving strands in high relief with hooked ends (not tight curls with drilled centers), while the beard is articulated into flatter, finer locks in lower relief. This mustache and beard have particularly short, fine strands around the mouth, a detail shared by centaur S.

Another group, west R, S, and T, consists of a complex interlocked trio of struggling figures including a Lapith girl, and a centaur being stabbed by a youth. The girl (R) has an unfinished head that is discussed with others in group IV; the head of the youth (T) is lost. The head of centaur S is broken away at the base of the neck, but the lower lip survives, along with portions of the beard which fans out onto the chest (Fig. 21.4). Most of the long wavy locks of this beard have two shallow surface striations, and several locks terminate in curls with drilled centers. This attention to details in the carving of the hair, especially in the enhancement of individual locks, suggests that the centaur's head was completely carved.

Of the surviving heads from the east pediment, only the prominent women, Hippodameia and Sterope, had fully-carved heads. The battered figure K (probably Hippodameia, who adjusts her garment), has hair carved in long, wavy strands ending in a row of curls with drilled centers. Although little remains of the head of the other standing female figure (F) who probably represents Sterope, the surviving right half of the crown shows rather disorderly strands of worm-like hair, with curls completely carved in high relief.

UNFINISHED HEADS

Group II: Heads with nearly complete carving of hair. Insignificant or scarcely visible areas left unfinished. (East L, N; West P, Q)

One dramatically posed figure, east seer N, is represented as an aging individual with an unusual bald forehead. Hair occurs at both sides and in the back, where the fully-carved, wavy strands end in curls with drilled centers (Fig. 21.5). Virtually all of the beard is treated the same, except for a band under the lower lip and the mustache (Fig. 21.6). These areas remain as mantles of stone that were meant to be carved into individual strands; the preliminary incisions for two of these are visible beneath the lower lip. There is a difference between the detailing of strands on the head and in the beard, indicating that the latter is not as finished as the former. On the head, the individual thick locks are carved separately and are incised with surface lines to indicate strands of hair. The locks in the beard have no carved strands, and those on the cheek, from temple to lip, are carved only in rough outline, with hooked ends lacking drilled centers. Perhaps an effort was made throughout the pediment to distinguish between beard and hair textures.
The hair of the other putative seer in the east pediment, figure L, demonstrates a combination of finishes. The hair on the head is carved only as a rough mantle of stone, to be discussed below with group IV. The beard, surviving only on the right cheek (Fig. 21.7), is carved in high relief as locks with “fishhook” ends. Striations, representing individual strands of hair, are not present, but whether these were intended is unclear. Engraved lines are present on the beards of some centaurs, but not on that of east seer N, though they do exist in his hair. In any case, the importance of figure L is that the beard is given a degree of finish different from the hair on top of the head.

A young Lapith and centaur pair in the west pediment, P and Q, is only slightly unfinished (Fig. 21.8). As with the west figures D and E, there were important compositional details to be resolved because of the complexities of the centaur (P), biting the forearm of the Lapith youth (Q), who has wrapped his arm around the back and right side of the monster’s head. The only unfinished part of the centaur’s hair is the corner of the beard against the right cheek. This area to be sure is nearly obscured by the crook of the Lapith’s arm, but it would not have been difficult to carve. The edge of the beard below the Lapith’s right arm is separated from it by a narrow channel. An unusual feature of this centaur’s head is the hair surrounding the face like a ruff. At the left and right temples is a pair of deep cuttings which Treu suggested served as points for anchoring equine ears (Pferdeohren). If so, this would be the only centaur who had them. Since these cuttings interrupt the carved locks of hair, particularly noticeable on the right, unbroken side, they must represent a later modification, of uncertain date.
The Lapith youth (Q) has a full head of short, tight, curly locks, many of which have incised lines and drilled centers, hallmarks of the completely finished heads. At the same time, some odd features occur. Over the center of the forehead, a small uncarved patch remains, which Ashmole and Yalouris (following Blümel) thought was a plumb-bob bump used in the process of copying the figure from a model. If so, the bump has been removed too deeply, leaving no stone available for carving the forehead curls in this area. Also, the surface of some finished curls behind this patch appears to have been removed in the process of carving this area.

What has never been discussed, however, is the unfinished left ear of the youth (Fig. 21.9) which resembles the “cauliflower” ear of a boxer or wrestler. There is nothing, however, to suggest that the Lapith boy is a pugilist, and a comparison of his ear with that of Theseus’ (west figure M: Fig. 21.10) illustrates the great difference between a cauliflower and normal ear.

Group III: Heads with “template” carving of hair (East G, O; West I, K, N)

A number of individuals in both pediments have heads on which one small area of the hair has been fully carved, perhaps to serve as a template for the completion of the remainder.

East G, probably Pelops, shows signs of several reworkings, including the addition of a metal cuirass over a torso that had been fully carved. Most of G’s head is covered by a helmet, which had cheek flaps added in metal; his crest, carved of stone, is mostly broken off. At the sides and back of his head, however, below the edge of the helmet, an ovolo band of stone survives which probably represents the exposed edge of his hair. At the right side of the back of the head, a preliminary effort was made to carve the hair into short locks; at the left side of the head, only one lock was completed, terminating in a curl, but the vertical incisions marking out additional locks are indicated. These sketchy carvings may have served as guidelines for the completion of the rest of the hair, a project possibly abandoned because the effort would have been scarcely visible from ground level.

Another “template” figure is east O, a kneeling girl whose original position is uncertain. Only over the forehead, which is now weathered and battered, is the hair carved as short curls, while the remainder of the hair is left uncarved. There is as well an unusual raised band on the forehead that merges into the temples, and thus cannot represent a hairband. It could be the remains of the stone mantle from which the forehead curls were carved.
The west pediment centaur (I) struggles with a Lapith woman (H) perhaps the bride, Deidameia. Over the left shoulder and chest, his beard ends in a row of distinct “template” curls, but the surface is plain without indication of locks of hair. A further indication of the lack of completion is the preliminary separation of the mustache from the bulging cheeks by deeply-carved channels. An arc of five drilled holes over the right temple, perhaps for the attachment of a garland, may be work of the fifth century B.C. or later.

West pediment head (K) is usually identified as that of Pirithoos and associated with body fragments of a man brandishing a sword over his head. Although the head is in poor condition, it is clear that the smooth calotte is encircled by a broad, raised band, and the forehead is framed by a roll of marble that is partially carved into curls (some with drilled centers) on either side of a pronounced central part. Because the curls are damaged and worn, it is difficult to know how far their carving had progressed, but it is clear that the head is not finished. An additional roll of marble at the nape has mostly been cut away, in marked contrast to this area on the head of Theseus, figure M.

West figure N, a centaur clutching a struggling Lapith girl, presents one of the best examples of a head with “template” hair (Fig. 21.11). A flat, raised mantle of stone runs across the forehead, descending over the temples into the beard. Framed by this projection of stone, the face of the creature seems small, and the mouth—its lips and teeth fully formed—appears embedded beneath the unformed mustache. Likewise, the fingers of the Lapith girl are sunken into the unfinished mantle of marble on the centaur’s left cheek. Of the beard, only the lower edge has been fully carved as individual curls and tendrils of hair. These locks are especially visible on the right side of the neck, terminating abruptly near the right cheek of the centaur.

Group IV: Heads with uncarved “mantles” of hair (East B, I, L, P; West C, H, M, R)

A large number of surviving heads have hair left as a mantle of marble, which may have been intended for fuller carving. It is possible that the hair was left unfinished intentionally and that paint completed the details, but no evidence for this survives.

Among these “mantled” heads are east B, a kneeling youth (Mytilos?), and P (a river god, Kladeos or Alpheios), on which the lack of carved details enhances the simple, bold outline of the profiles rather than detracting from them (Fig. 21.12). On figure P, a contour of curls is visible at the left side of the face, but whether this implies an intention to carve a cap of short, tight curls, as on west Lapith Q (Fig. 21.9), is uncertain.

Figure 21.11 West figure N: centaur (DAI Hege 414).

Figure 21.12 East figure P: river god (DAI OL 652).
The helmeted head of east figure I, probably Oinomaos, is woefully incomplete, but probably was another unfinished, "mantled" head.\textsuperscript{58} Most of the face and the front of the helmet have been sheared away; however, thick, smooth bands of marble over the mouth and around the chin and left cheek survive. These unfinished areas could have been carved as individual curls or completed in paint.

East figure I, possibly a seer, is interesting because it presents an odd combination of a "mantled" coiffure with a beard that was evidently finished completely or nearly so (Fig. 21.7).\textsuperscript{59} Although the entire left side of the face and chin, and much of the right, is broken away, a series of fully-detailed "fishhook" curls is still visible in the sideburn area next to the right ear, discussed above as a characteristic of group II.\textsuperscript{60}

The hair on top of the head survives as a mantle that was in the process of being worked when progress on it was abandoned. The smooth surface of the calotte, carved into three concentric undulating bands that encircle the cranium, led Säflund to identify it as a "headress,"\textsuperscript{61} but it is unlike any other male headgear (the \textit{philos} is only superficially similar in shape). Instead, these undulating bands probably represent the first stage of work for a coiffure of wavy strands of hair, like that of Apollo (west figure L; Figs. 21.2 and 3) which has similar bands still visible on top of its head. A smooth finish like that on the head of east seer L may have been desirable before proceeding to the next stage of carving individual strands. Interestingly, this technical process has been misunderstood on one of the Roman additions to the west pediment.\textsuperscript{62}

A lack of carved strands on a calotte which is modeled as undulating bands, which I consider here as an indication of unfinished hair, begins before the Severe period.\textsuperscript{63} Late Archaic heads like that of Kroisos (the Anavysos kouros),\textsuperscript{64} of Euthydikos’ kore,\textsuperscript{65} and figures on grave stelai\textsuperscript{66} all show the same smoothing of the calotte which differs from other types of unfinished surfaces.\textsuperscript{67}

Other important technical features on east figure L include the cutting flat of the top of the head, doubtless to fit into the angle of the raking cornice.\textsuperscript{68} Across the forehead, a slightly raised band is probably not a wrinkle but is a trace of the original edge of a roll of hair. This raised edge spans the entire forehead (compare the shorter line in the forehead of Theseus, west figure M) and represents where the hair was cut back to its present position, leaving a plumb-bob bump over the center of the forehead.\textsuperscript{69} Unfinished masses of stone appear to wind around a thin fillet and were probably meant to be carved into locks of hair.

Similar hairstyles are worn by a bronze statue from Scelinus,\textsuperscript{70} Castelvetrano,\textsuperscript{71} by the marble Kritios Boy\textsuperscript{72} and of course by Apollo in the Olympia west pediment, except that his side locks are short. On all of these figures, the hair is combed outward and down from a single radiating point on the top of the head\textsuperscript{73} perhaps suggesting how the calotte of Olympia L was originally meant to have been carved.

The plumb-bob bump over the forehead and the adjacent locks over the front of the temple, however, have roughened surfaces that contrast markedly with the masses over the ears and at the back of the head.

Among the figures with mantled heads from the west pediment are C,\textsuperscript{74} a nude kneeling Lapith youth who hangs against an attacking centaur, D (whose head was completely finished) and Lapith woman H (Pirithoos’ bride, Deidameia),\textsuperscript{75} who struggles with the previously mentioned centaur I (who has a "tem-plate" type of beard).

Figure H wears her hair bound and covered by a scarf or mitra which is wrapped several times around the head and knotted above the forehead.\textsuperscript{76} The scarf is given the smooth but unpolished finish of other areas of drapery, but exposed hair is left as roughened masses of stone. Just in front of the right ear,\textsuperscript{77} however, the edge of the scarf is rough and almost indistinguishable from the hair beneath it, probably indicating that the sculptor had not yet completed this area of the head when work on the figure ceased. At the top of her head, the hair, pulled back in a bun, can also be seen as an unfinished mass. A comparison between her rough, unfinished hair (Fig. 21.13) and the finished locks of Lapith girl E (Fig. 21.3) is instructive.

\textbf{Figure 21.13} West figure \textit{H}: Lapith woman (DAI Hege 414).
The statue usually identified as Theseus, west M (Fig. 21.10), has a “mantled” head, which is one of the least finished from this pediment. The hair on the calotte has been left as a smooth, rounded bowl which matches in surface texture the roll of marble over the forehead. At the back of the head, however, the mantle is extremely rough, and a deep, unfinished channel outlines a nearly finished ear. The unfinished appearance cannot be due to weathering but is the result of the abandonment of carving before its completion.

Lapith woman R, part of a complex group of three figures which includes a centaur (S), discussed in group I, and a fighting Lapith, youth T, who is headless, has a “mantled” head: the masses of hair are roughed out with no details added. A narrow groove around the right ear indicates that the sculptor was still in the process of separating the ear from the surrounding hair when work on the figure stopped.

It should be pointed out that this head is broken from its body and may not belong with the draped torso to which it has been restored. If it does belong, it may have been separated at a relatively early date, having been exposed to much harsher weathering conditions than the body. The head’s discovery in 1941 at the Roman Baths, far from the temple and this body, could support either view.

**THE METOPES**

Similar degrees of finishing of hair observable on the pediments occur on the metopes. All the heads of Herakles are at the mantled stage, while the heads of other figures show more advanced stages of finishing. Although a complete analysis cannot be offered here, a few examples should suffice.

On the three-figured Atlas panel, three different degrees of finish are visible. The coiffure and facial hair of Herakles are left as a soft, smooth but unfinished mantle of marble (group IV). A slightly more finished treatment occurs on the head of Atlas, where two curls only have been separated, but not further articulated, from the mantle of stone at the left side of the head. Athena’s hair over the brow and right temple has been carved into thick, zigzag strands, but the hair on the crown and at the back of the head is left as a smooth mass. None of the locks of her hair, however, has engraved lines to delineate the individual strands of hair, indicating, I believe, a preliminary stage of carving.

A treatment similar to that of Athena’s is visible on the head of Eurystheus from the Erythraean Boar metope. Eurystheus’ hair is roughed out as smooth masses bulging above and below a thin fillet, but over the brow and alongside the ear, these masses are carved into long individual locks. Incised lines for individual strands, however, are not included, and the hair at the top and back of the head was never completed.

**CONCLUSION**

This brief survey of the evidence makes it clear that not only the pediments but also the metopes include a significant number of figures with unfinished or partially finished coiffures and beards. That some heads were actually completed is indicated by figures discussed in group I (Figs. 21.1, 3, 4). The unfinished areas on the heads of group II (Figs. 21.6, 8) would have been scarcely visible from the ground and therefore remain in their penultimate, not final, stage of completion. The “template” heads of group III (Fig. 21.11), with hairstyles that are marked out but which are not completed, can only indicate that a significant number of the surviving figures (five in all) had not been finished to the degree probably anticipated in the original plans. The “mantled” heads of group IV (Figs. 21.7, 10, 12, 13) might then be read as statues awaiting at least two additional stages of work: first, the carving of “template” areas, and next, the final carving of the entire coiffure. In this case, the “mantled” heads of group IV are not indicative of a Severe stylistic trait whereby unfinished heads were completed in paint—rather, they may be indicative of an unfinished state, particularly when occurring on architectural sculpture.

It seems clear that both the Olympia metopes and the east and west pediments were installed unfinished, although all were completed to a sufficient degree for viewing from ground level, more than 16 m below. It is significant that figures within each pediment—and even within pairs of figures carved from a single block as some of the west pediment combatant groups—show different degrees of finishing. This observation must mean that the progress on the figures by a team of sculptors was uneven even within one block. There may have been craftsmen concentrating on specific types of work, who proceeded from one figure to the next in a progression that is no longer clear to us. (Additional work could obviously be done in this area).

Also important is that heads may not be the only unfinished parts. For example, west figure O, a Lapith woman, wears a sheer chiton under a much heavier mantle. The doughy folds of the mantle conform to the treatment of drapery that is considered typical of the Severe period, and the elaborate, closely spaced folds of her chiton recur on a number of other original Severe works. Figure O’s left underarm has been patched with a piece of similar, but not identical, drapery that has been cannibalized from another figure no longer extant. Perhaps the doughy drapery of other figures—the women in par-
ticular—was originally intended for further carving in more detailed folds; the treatment of the costumes of east pediment K (Hippodamia) and Athena in the Augeian Stables metope seems curiously flat.56

The detection of unfinished areas on both the pedimental figures and the metopes has serious implications for an understanding of how the temple was built. We assume that the figural metopes on Greek temples were usually finished and installed first, before work proceeded to the pedimental sculptures. On the Parthenon, a stylistic evolution has been observed from the carved exterior metopes to the frieze and finally to the pediments.57 At Olympia, however, the unfinished areas may suggest that work on the sculptured metopes and the pediments was going on simultaneously rather than sequentially, and that the upper portions of the building were installed relatively rapidly.

It is hardly surprising that the Zeus temple included some unfinished sculptures given the huge size of the project: the Olympia temple pediments are far larger (26.39 x 3.47 m) than the slightly earlier, and finished, Aegina pediments (11.65 x 1.74 m).58 and the mostly under life-sized figures from the latter now appear doll-like in contrast to the Olympia figures, which range from life-sized to colossal (ca. 3.10 m in height in the case of Apollo). Even the Parthenon pediments (28.8 x 3.4 m) are scarcely larger than those at Olympia.

The Olympia metopes (1.6 m on a side) are much larger than the preceding cycle of metopes from the Athenian Treasury at Delphi (0.67 x 0.63 m on a side)59 and larger even than the Parthenon metopes (ca. 1.25 m wide by 1.20 m high),60 though there were of course many more of them on Athena's temple on the Akropolis.

The execution in marble of the decorative program of the temple of Zeus at Olympia was the single most ambitious sculptural project attempted up to that time anywhere in the Greek world. It involved thinking about architectural sculpture in a new way and on a new scale, and it is inevitable that technical problems of execution arose (not limited to the completion of the metopae and pedimental figures) which would only be more successfully resolved in the Parthenon, roughly one generation later.61

Even the transportation of the marble to Olympia was probably an impressive technical feat, beginning with the quarrying and rough shaping of the figures in the quarries on Paros62 and their transfer to the coast of the island. Their transportation by sea to the Isthmus of Corinth followed; there, they had to be unloaded, carted across the Isthmus, and reloaded on a ship that carried them through the Corinthian Gulf to Eia.63 A long transfer by land brought them to the sanctuary for finishing and installation. Since the distances involved in shipping the marble blocks are far greater than for the figures of either the east pediment of the late archaic temple of Apollo at Delphi64 or the so-called Pisis-trad temple of Athena on the Akropolis,65 some of the rough carving of the Olympia sculptures may have been completed before the blocks ever left the quarry. Since the temple of Zeus was built of local limestone, the quarrying and transportation of the marble blocks for the sculptures are likely to have been the most expensive items in its budget.

Once at Olympia, there are also several reasons why sculptures might have been installed on the Zeus temple pediments before the final details could be completed. First, the pedimental figures could have been put into position deliberately unfinished to be completed in situ, so that installation before completion may have been desirable. Second, the builders may have run out of money, a chronic problem in the construction of Greek temples.66 Third, it may have been decided that the lack of final finishing would not be noticed once the figures were in place—a notion that actually accords well with Greek economy and practicality, both ancient and modern. Another possible explanation has to do with the chronology of the building. We know that a shield from the battle of Tanagra (457 B.C.) was hung at the peak of the east gable,67 probably by 456 B.C., and that the temple must have been essentially complete for the shield to be attached above the pediment. But it has been overlooked that 456 coincides with an Olympic year;68 a hasty completion of the temple, including the installation of the sculptures, may have been prompted by the desire to dedicate the temple during this major panaeleic festival of Zeus.69

Some of the figures in the pediments, moreover, show signs of having been cut down at the last moment in order to fit them into the gables, a practice visible in the pedimental sculptures of other temples. Thus, east seer L had the top of its head cut off at an angle60 and his plinth removed; these adjustments allowed him to be set farther to left (south) into a corner of the east pediment.71

Finally, the observations presented here further underscore an essential problem in the study of Greek sculpture: conclusions about style of figures and the meaning of monuments need to be based first and foremost on sound technical observations,72 not on literary and historical sources. Clearly, not everything has yet been said about the Zeus temple and its sculptures, even though we regard it as one of the best known monuments of ancient Greece. But when the Olympia heads are allowed to "speak for themselves," as Bruni has suggested we do with all ancient sculptures, they have interesting new stories to tell: that both the metopes and the pediments of the Zeus temple were installed unfinished, and that our definition of what constitutes Severe style is still capable of further refinement.
Notes

1 I am grateful to the following individuals who read and commented on drafts of this article: A. Ajoonian, J. Binder, E. Harrison, J. Hurwit, A. Steiner, the editors of this volume, and especially J.G. Younger, with whom I have been collaborating in a study of ancient repairs to the Olympia pediments. He joins me in saluting Professor Ridgway, and many of the observations presented in this paper are the result of our joint researches and collaboration. Direct access to the pedimental sculptures was graciously provided in 1993 by the Greek Archaeological Service; in particular, we thank Dr. Ζένη Αργυρογιάννη of the Olympia Museum for her kind assistance.

The following abbreviations are used:


Olympia III G. Treu, Die Bildwerke in Steen and Thon (Olympia III, Berlin 1897).


1 These dicta were often repeated in class. For related comments, see B.S. Ridgway, Roman Copies of Greek Sculpture. The Problem of the Originals (Ann Arbor 1984) 1–4; eadem, “The State of Research on Ancient Art,” Arch 68 (1986) 7–23, esp. 22: “new questions are now being raised from the evidence, which can elicit revolutionary answers.”

2 Ridgway, esp. 17–23 on Olympia.

3 The initial date for the project is derived from Pausanias 5.10.2: έποιήθη δὲ ὁ ναός καὶ τὸ άγαλμα τοῦ Διός ἀπὸ λαξάριν, ἡνίκα πίσον οἱ ἤλειοι καὶ ἄσσοι τῶν περιοίκων ἄλλω συναπτότας πολέμω πολέμω καθέλων. He also provides the finishing date, 5.10.4. We know little, however, of the circumstances under which the Greeks might use the spoils of a war with another Greek city to finance a major building project. Pausanias’ explanation seems unlikely to me, and certainly ignores the fact that Olympia was a very rich sanctuary and must have accumulated much of its wealth in the years directly after the Persian Wars. In addition, the temple may have remained unfinished for quite a long time: Paionios, who must have a floruit ca. 420, supplied the central east akroterion for the Zeus temple (according to the Nike inscription), and Phidias supplied the statue of Zeus perhaps a little earlier. B. Ashmole, Architect and Sculptor in Classical Greece (New York 1972) 3–4, argued similarly.


5 While the myth of Pelops is specific to the Peloponnesian, and local to Olympia since he had a hero there, the importance of the centauromachy was far more widespread. See recently K.R. Cavalier, “The Centauromachy—at the Feast on the Parthenon in Athens: An Allusion to Contemporary Politics?” AJA 97 (1993) 310.

6 These fall into nine stylistic groups, indicating that some were replaced over time. They are often forgotten in discussions of the Olympia sculptures, and I thank J. Binder for reminding me of their importance.

7 Olympia III, 44–113. The valuable observations herein should be the basis for any discussion of the sculptures.

8 Ashmole and Yalouris. Cf. the review by B.S. Ridgway, Archaeology 22 (1969) 72–75.

9 Herrmann. The many reconstructions of the east pediment were surveyed by Säflund and by P. Grunauer, “Zur Ostansicht des Zeus-Tempels,” OBer X (1981) 256–301. There has been no recent corresponding survey for the west pediment.


76 Ashmole and Yalouris, pl. 114.

77 *Olympia III*, 76-79, pls. XXVI, XXVII; Ashmole and Yalouris, pls. 92-97; Herrmann, pl. 6, 7a.

78 This detail is particularly clear on Ashmole and Yalouris, pl. 96.

79 Ashmole and Yalouris, pl. 127.

80 For details, see Ashmole and Yalouris, pls. 128-33; cf. Herrmann, pl. 15.

81 Best view: Ashmole and Yalouris, pl. 128.

82 Ashmole and Yalouris, pl. 127, 130-33.


84 On the metopes, see especially Ashmole and Yalouris, 22-29; Ashmole (supra n. 3) 60-89; H. Geer-


86 Ashmole and Yalouris, pl. 186, 188, 189-90; Lullies and Hirmer, pl. 107.

87 Ashmole and Yalouris, pl. 192-93.

88 Ashmole and Yalouris, pl. 188, 191.

89 Ashmole and Yalouris, pls. 174, 176.

90 E.g., the oriental archer from the west pediment at Aigina (Ridgway, pl. 5); note that some of the other heads from this temple have much more finished coiffures. Compare also the head of the "young victor" on the Soumion Stele in the National Museum, Athens (Ridgway, 50, pl. 70). The "mantled" head of the young man on the Nisyros stele in Istanbul (Lullies and Hirmer, pl. 133) is remarkably similar to that of Olympia east figure P (Lullies and Hirmer, pl. 116).

91 E.g., west H-1, R-S, P-Q.

92 Ashmole and Yalouris, pls. 89, 101, 105.

93 E.g., the women on the Ludovisi throne: for illustration, see Ridgway, pl. 71.

94 A careful look at the piece has convinced J.G. Younger and myself that this belongs to the upper arm of another figure. A curved piece is inserted into a rectangular cutting which does not accommodate it very well.

95 For illustrations, see Ashmole and Yalouris, pls. 19, 21, 202. Alternatively, E. Harrison suggests that the flat drapery may have been intended so as not to distort the elaborate border patterns painted on the overfall and hem of the peplos (personal communication).

96 Ridgway (supra n. 23) 16-17, 42, 79-80.


98 P. de la Coste-Messelière, *Sculptures du Trésor des Athéniens* (Fild 4 A, Paris 1957); E. Harrison, *Agora XI. Archaic and Archaistic Sculpture* (Princeton 1965) 9-11; P. de la Coste-Messelière, "Métopes Delphiques," *BCh* 90 (1966) 699-703; Boardman (supra n. 64) fig. 213; Ridgway (supra n. 64) 236-38; A. Stewart (supra n. 10) 131-33, 343 (bibliography).


103 Only the east pediment was carved in marble in the round; the west, of poros, was in relief: Stewart (supra n. 10) 86-89; Ridgway (supra n. 64) 206-209. W.A.P. Childs proposes on stylistic grounds an early date for the east pediment (ca. 530-525 B.C.): "Herodotus, Archaic Chronology, and the Temple of Apollo at Delphi," *JdI* 108 (1993) 399-441.


106 Pausanias 5.10.4; quoted with translation in Ashmole and Yalouris, 31.
I thank J. G. Younger for reminding me of the importance of this date.

The observation that both the metopes and the pediments were unfinished supports the notion that the installation of the sculptures was hurried. But the Parthenon was dedicated in a Panathenaic year ten years after its construction, even though six additional years were required for the completion of the pedimental sculptures.

For illustration, see Säflund, 92, fig. 50.
The flat cutting of the backs of some figures, and even their hollowing out, is a complicated problem that will be addressed in a future study by P. Rehak and J.G. Younger.