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Manuscript Guidelines for the *Metropolitan Museum Journal*

The *Metropolitan Museum Journal* is issued annually by The Metropolitan Museum of Art. Its purpose is to publish original research on works in the Museum's collections and the areas of investigation they represent. Articles are contributed by members of the Museum staff and other art historians and specialists. Submissions should be addressed to:

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Manuscripts should be submitted as Word files. In addition to the text, the manuscript must include endnotes, captions for illustrations, and a 200-word abstract. Each part of the article should be in a separate file except the endnotes, which should be linked to and appear at the end of the text file.

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ABBREVIATIONS

MMA	The Metropolitan Museum of Art
MMAB	<i>The Metropolitan Museum of Art Bulletin</i>
MMJ	<i>Metropolitan Museum Journal</i>

Height precedes width and then depth in dimensions cited.

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The Etruscan Chariot from Monteleone di Spoleto

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I. INTRODUCTION

The restoration and reconstruction of the Etruscan chariot from Monteleone di Spoleto (Figures I.1–I.4) took place as part of the reinstallation of the galleries of Greek and Roman Art completed in 2007. In its new state, the chariot is illustrated in the book accompanying the reinstallation, *Art of the Classical World in The Metropolitan Museum of Art: Greece, Cyprus, Etruria, Rome*. My participation came about through an agreement between The Metropolitan Museum of Art and the Istituto di Studi sulle Civiltà Italiche e del Mediterraneo Antico (ISCIMA) of the Consiglio Nazionale delle Ricerche (CNR). Both institutions made possible my work on the chariot and this publication.

A. The scope of the article

The project in which I was involved was the reconstruction of the Monteleone chariot according to the recent scholarship on this specific type of ancient vehicle. The work on the chariot took place at the Metropolitan Museum, in collaboration with the Department of Objects Conservation and the Department of Greek and Roman Art at the Metropolitan Museum.

This article traces the circumstances of the discovery and acquisition of the Monteleone chariot, its first reconstruction, the typology of the vehicle, and the nature of its remarkable decoration from both the technical and iconographic points of view; further, this publication identifies the craftsman who created it and the patron who commissioned it. I conclude with a comparison between the original chariot, as I understand it, and the reconstruction.

Several aspects of the Monteleone chariot are not discussed here. First of all, the grave goods are not addressed except in the discussion about the validity of its present structure.¹ Second, this publication does not include the results of the technical scientific examination. Logically,

such information would have had a place here, but since different kinds of work proceed at different paces, I decided not to postpone my part of a publication any longer. I do include the results of some metallographic analyses that support certain observations I present. Kendra Roth, conservator in the Department of Objects Conservation, also graciously allowed me to include technical information regarding the corrosion that had formed on the bronze revetment over time. In the catalogue (Section V) such information is reported in each entry under “Condition.” In Section III.C my remarks concerning the master craftsman and his assistants contain only certain observations; they do not fully address the repoussé work, the tracing and punching techniques, and the application of the ivory inlays. I hope that my observations will inspire further detailed studies by experts on these techniques and lead to future publications on how the chariot was made. Similarly, Sections II and V should facilitate further iconographic and stylistic analysis by more specialized scholars.

The reconstruction drawings of the chariot included here (Figures I.5, II.15, III.1, III.3, III.6–III.8, III.10) update the ones I used in previous publications.² The updated drawings are the result of new information derived from disassembling the old restoration.

B. The chariot

The Monteleone chariot belongs to a two-wheeled type of vehicle in which the box is balanced on the axle, and the pole rises up to the two yoke arms that fit the necks of two draft horses (Figures I.2–I.5). The substructure was completely revetted with bronze, from the nine-spoked wheels to the body, and from the pole to the yoke arms. No cast bronze was used. The revetment of the car itself, the animal elements covering the base and end of the draft pole (a boar forepart and an eagle head), and those on the two arms of the yoke (lion heads) are executed in repoussé work and decorated by incision.

I.1 Detail of the front panel of the Monteleone chariot during the recent reconstruction, before the pole was reattached. See also Figures I.2–I.4.



I.2-I.4 The Monteleone chariot after recent reconstruction, front, back, and side views. The Metropolitan Museum of Art, Rogers Fund 1903 (03.23.1). All new photographs of the reconstructed chariot and its separate pieces are by Peter Zeray of the Photograph Studio, MMA.

The front panel (Figure I.1), which is taller than the side panels, shows Thetis presenting Achilles with a shield and a helmet; both figures stand in profile facing each other. The scene is completed by the forepart of a wild boar who charges a deer while under attack himself by two birds of prey. The boar is separate from the front panel and is placed where the pole exits the chassis.

On the proper right panel (Figure I.7) Achilles and Memnon fight over the corpse of Antilochos, which lies on the ground. A bird of prey seems to redirect the loser's spear. The proper left panel (Figure I.8) represents an unarmed Achilles soaring upward on a chariot drawn by two winged horses (in the *Iliad* his horses are called Balios and Xanthos). On the ground below them is a recumbent woman who raises her left hand; she has been thought to represent Polyxena, who was sacrificed at Achilles's tomb, but she may serve to indicate the ground, or earth. Each of the two junctions between the main panel and the side panels is covered by the figure of a naked youth, or kouros, standing on the protome of a lion flanked by two recumbent animals,

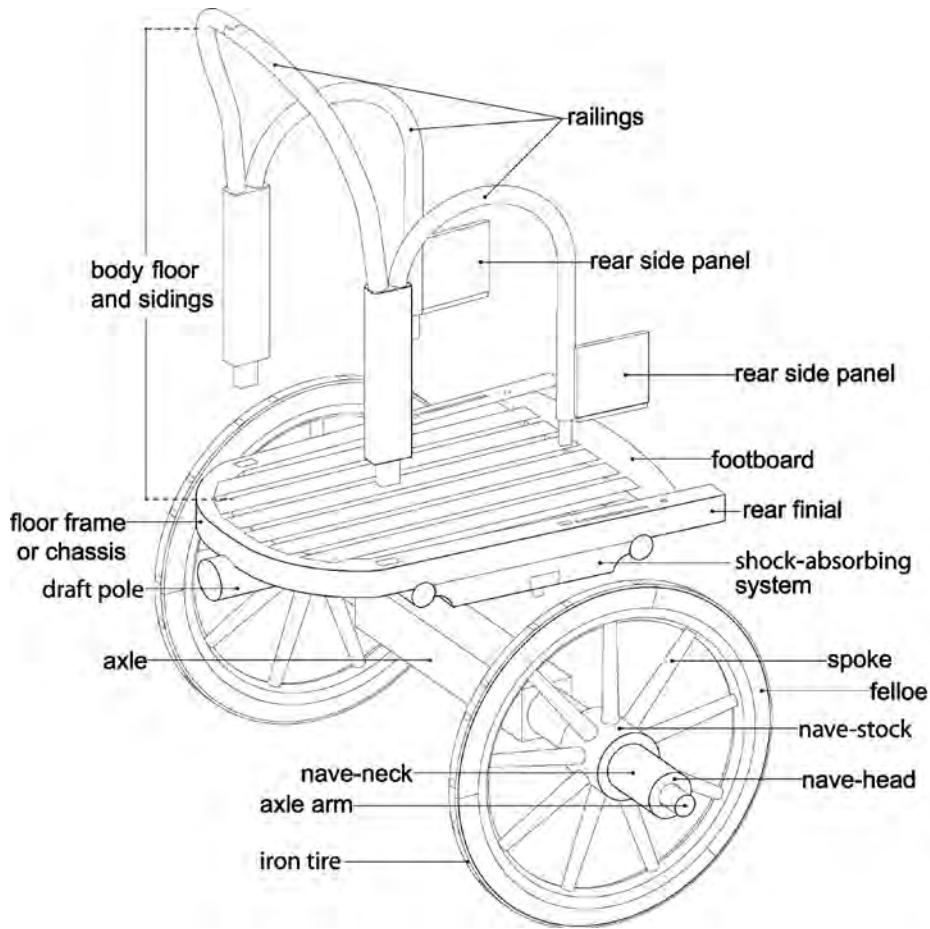
a lion and a ram. Above the head of each youth is a round boss secured by a nail.

Below each side panel is a frieze that covers the part of the chariot's wooden structure that acted as a shock absorber. The scene on the proper right shows Chiron, a seated centaur; Iris, a sprinting winged figure carrying a writing tablet; and Achilles, a young man grasping a panther around its neck and belly. On the proper left side two symmetrical lions face each other, one attacking a bull and the other a stag.

C. The discovery of the chariot in 1902

The site of the excavation. The Chariot Tomb was discovered near Monteleone di Spoleto in Valnerina (see map, Figure I.9), the northern part of the ancient region inhabited by the Sabines, the Italic population famous from the stories of early Rome.³ This area, usually called Inner or Upper Sabina, is a mountainous landscape traversed by wide valleys, streams, and watercourses of varying sizes.⁴ It lies in the heart of the Apennines, northeast of Rome, on the left bank





I.5. Diagram of the Monte-leone chariot. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

of the Nera, a tributary of the Tiber. Today, the area is part of the modern regions of Umbria, Latium, and Abruzzo. The flatland of Monteleone di Spoleto nestles among the mountains of present-day Umbria, fifty-five miles southeast of Perugia and thirty-five miles northeast of Terni, stretching along the upper reaches of the Corno above Leonessa and below Norcia and Cascia, between the valleys of the Velino and Nera, in the highest part of the Sabine area. The hill site where the chariot was discovered, called the Colle del Capitano (3,000 feet above sea level), is about two miles from the village of Monteleone. It is the necropolis of a settlement whose earliest phase was found on Monte Pizzoro (3,300 feet above sea level), above the village. The burials at the Colle del Capitano date from the Bronze and the Early Iron Age, that is, from the end of the twelfth to the tenth century B.C. and from the sixth century B.C.; there is little evidence from the eighth century B.C. and, to date, none at all from the seventh. More recent burials were discovered in nearby areas, indicating that the zone was densely inhabited until the Roman period.⁵

The group of tombs dating to the sixth century B.C. contains graves dug into the rock, some of which are enclosed in stone circles.⁶ In this chronological context the Chariot

Tomb stands out for its architecture and for its bronze grave goods, including the magnificent vehicle. It was the first tomb to be found at the site, and it launched the archaeological campaigns of the twentieth century.⁷ The tomb occupant's wealth derived from the fact that the area near Monteleone di Spoleto controlled the trade routes between the lower valleys of the Nera and the Corno, the Rieti flatlands, and the Adriatic coast. The site also controlled other key hubs in the road system of Valnerina, from the sites of Cerreto, Norcia, and Cascia.⁸ Moreover, it seems that the iron deposits mined on an industrial scale from the seventeenth century on had already been discovered in antiquity.⁹ If this is so, such a resource would have supplemented the other economic activities—sheep-farming, small-scale agriculture, and control of the trade routes—and enriched the local rulers. In an area where there were no urban centers prior to Roman domination, but where groups of warring villages clustered around more important settlements, the occupant of the Chariot Tomb, like the lords of the previous pre-urban Etruscan and Latin centers, seems to have wielded the military, economic, political, and religious power of a princeps.¹⁰ Characteristic cultural features are the weapons buried with the deceased, the grave goods associated with the banquet and the symposium, and above all the burial rite of interring the chariot in the tomb, a custom no longer practiced in the sixth century B.C. in Etruscan and Latin urban areas.¹¹

Early descriptions of the tomb and the vehicle. Italian newspapers began reporting the discovery on July 17, 1902, when the Roman *Giornale d'Italia* published an article providing information from Adolfo Morini, a notary in Cascia.¹² The notice was very vague. Morini mentioned bronze vessels and especially a bronze chariot, which he called a *cisium*. His description of the relief work matched the tales of local inhabitants. According to him, the front panel depicted the Three Graces and Jupiter's head, while the tip of the draft pole carried a ram conjoined with two ivory snakes.¹³ The article speaks of the negligible sum paid to Isidoro Vannozzi, the farmer who owned the land on which the discovery was made, and it cites the effort launched by Italian authorities to recover the items.

Nothing more was reported in the press until the chariot, which had meanwhile been restored, was displayed at The Metropolitan Museum of Art on October 26, 1903. Several New York newspapers published articles and photographs announcing the chariot's unveiling to the public and describing its provenance, the amount paid for it, and other details.¹⁴ The news and photographs were posted worldwide in *Scientific American* on November 28, 1903.¹⁵

Isidoro Vannozzi and his son Giuseppe had accidentally discovered the tomb on February 8, 1902, while building a

farmhouse on their land on the Colle del Capitano for which construction had started in the winter of 1901 (see Figure I.6). They had to level off a hillock to clear a yard in front of the house, but the area they had chosen was what remained of an ancient tumulus, or mound, above the tomb, which they then proceeded to excavate. Not recognizing their value, they kept the objects they had found for several weeks, storing the chariot in the house in Fameso where the family was living while they waited for their new house to be built.¹⁶ Isidoro Vannozzi decided to look for a buyer for the finds when he had to pay for flat tiles and pantiles for the roof of his new house. In late March he took samples to Norcia to show a junk dealer, Benedetto Petrangeli, who in next to no time tricked Vannozzi into selling him everything for the price of scrap iron, that is, six soldi a kilo, for a total of 950 lire (approximately \$6,000).¹⁷

The Italian authorities launched their investigation two months after the discovery. Not before May were telegrams first exchanged between the Prefecture in Perugia and the General Administration for Antiquities and Fine Arts in the Ministry of Public Instruction headquartered in Rome. And not until June 6 was there an archaeological report (see Appendix, document 1), drafted by the archaeologist Giulio Emanuele Rizzo on his way back from Perugia and Norcia, where he had collected information to help the authorities recover the items and keep them from leaving the country. Rizzo mentions neither the site nor the circumstances of the discovery in his report because, according to him, the Norcia *carabinieri* had already sent the information to Rome twice. “It is well known,” he concluded, “that a farmer, Vannozzi, found the items on rural property belonging to him 30 kilometers from Norcia on the left of the Corno River, between Monteleone and Cascia, in a place called ‘Colle del Capitano.’ It is unnecessary to repeat the evidence provided by Vannozzi and the other farmers who saw the objects.” Instead, Rizzo elected to question a Professor Angeletti who taught technical drawing in Norcia and had seen all the material—alas, not *in situ*, but at Petrangeli’s. (Petrangeli knew nothing about works of art but had nevertheless recently set himself up as an antiques dealer.) According to Rizzo, Angeletti had been able to examine the objects at his leisure and thus “remembered their shapes so clearly as to be able to accompany his description with line drawings and sketches.” Rizzo’s account includes a long description of the bronze revetment of the chariot but does not mention the rest of the grave goods, except for statements that allow us to identify the pyxis of buccheroïd impasto, an Attic Little Master lip-cup, five bronze spits, and an iron tripod.¹⁸ Angeletti described approximately twenty bronze vessels; Rizzo recorded “two large *lebes*, about 0.60 m [two feet] in diameter, standing on three small lion-footed bases, surmounted by palmettes, and with mascarons on both sides.”¹⁹



I.6 The Vannozzi farmhouse on the Colle del Capitano near Monteleone di Spoleto. The chariot and other objects were discovered when a hillock was leveled to clear the yard in front of the house.

A teacher from Perugia’s Istituto Tecnico, Ferdinando Del Prato, also collected evidence of the discovery and in November 1902 wrote a report, accompanied by a drawing of the chariot that was based not on direct observation, but on information provided by others (see Appendix, document 3, Figure A.1). It is noteworthy—almost odd—that both the drawing and the description reflect the then widely held conviction that the minor friezes should be placed all around the upper sections of the chariot’s panels and that the two pieces that had been recovered were the most decipherable among other very corroded fragments.

There was only one body in the Chariot Tomb. The report of a mission undertaken by the archaeologist Angiolo Pasqui at the beginning of 1904 reveals disturbing, previously unpublished details that must be considered when reconstructing the grave goods of the Chariot Tomb (see Appendix, document 4). The inquiry was intended “to identify the exact location of the discovery” and to decide whether a regular excavation would be required. Pasqui became friends with Isidoro Vannozzi and visited the “still open” excavation. The farmer also provided him with “a detailed description of the find and how the items were arranged.” The facts were that in the course of the work on the farmhouse “two large tombs were opened, one a fossa grave simply filled with earth and containing two bodies situated at the ends of the long sides with numerous bronze vessels placed between them. The other tomb was larger and almost square, filled with stones that seemed to be laid purposefully, as if to make a vault, thus creating a tumulus that rose just above ground. . . . This tomb contained a single body laid out on a rough layer of slabs, and the dismantled chariot and other large bronze vessels.”²⁰ The tomb containing the two bodies and the bronzes apparently came to light when the foundation of the farmhouse was being laid, and not during the work to level out the ground—the future farmyard—in front of the building, the area that later studies always and exclusively refer to. Pasqui goes on to report his topographical research, which was aimed at helping the Direzione degli Scavi di Roma e Provincia to decide whether



I.7 The Monteleone chariot after recent reconstruction, detail of the proper right side with the wheel removed



I.8 The Monteleone chariot after recent reconstruction, detail of the proper left side with the wheel removed



1.9 The site of Monteleone di Spoleto among ancient Etruscan and Italic settlements

to launch a systematic exploration (this was subsequently carried out by Pasqui himself in 1907, as described below).

The clarification of the number of tombs and the number of bodies in each tomb resolves the confusion about there being two people—a man and a woman—buried in the Chariot Tomb.²¹ The single deceased person, clearly a man, was the vehicle's owner. The misunderstanding, which still persists, arose from a perfunctory reexamination of the information in a passage written by Antonio Minto in 1924, when he commendably published Pasqui's excavation diary of 1907, which describes the tomb architecture.²² Minto added that "two skeletons, one male and one female, lay on the pit floor; twelve iron spits arranged in bundles alongside, and between the two skeletons was the chariot." It is clear why Vannozzi's almost simultaneous find of two pits created confusion. In addition, almost twenty years had passed since the discovery, and the reports of the living eyewitnesses had been tainted by myth. The two impasto spindle whorls collected by Pasqui inside the Chariot Tomb in 1907 must have slipped in from the field level in 1902, when the Vannozzis covered over the excavation to level out the farmyard in front of the house.²³

Given these facts, the unity of the grave goods described by Adolfo Morini in his article of 1904—the first to be published on the find in Italy—can no longer be accepted. His description of the chariot was based on Charles Balliard's photographs, published in *Scientific American* on November 28, 1903, when the chariot was in New York, and hence with no direct evidence from the moment of discovery. The only detail he records as an eyewitness is the piece of ivory he saw at the Vannozzis', which belonged to the chariot's draft pole.

Morini's description of the grave goods only partly matches the items that came to the Metropolitan Museum. The following can be identified: "twenty-eight bowls about 40 cm [15 3/4 in.] in diameter";²⁴ "a bronze shaft with a smooth grip and a sort of hook at the tip, for hurling javelins [lanciare giavelotti]";²⁵ "a two-level bronze tripod [sic, in reality, of iron] formed by two fluted circles and topped by three freestanding rods. A frieze of downward-pointing leaves hangs from the upper circle, while the lower circle has a frieze of upward-pointing leaves";²⁶ "a black earthenware vessel about 30 cm [11 7/8 in.] high with friezes executed in relief, slightly worn by time, of which I have seen only a small fragment. It has a sort of lid that is very high and consists of a pyramid of rams' heads, one on top of another, in such a way that the whole group culminates in a single head at the top";²⁷ "a square iron grate with five longitudinal bars";²⁸ "eleven quadrangular bronze spits about one meter [39 3/8 in.] long, flattened at one end into a small disk the size of a soldo [approximately 1 in. or 2.54 cm] and pierced in the center. I saw one at Vannozzi's soon after the discov-

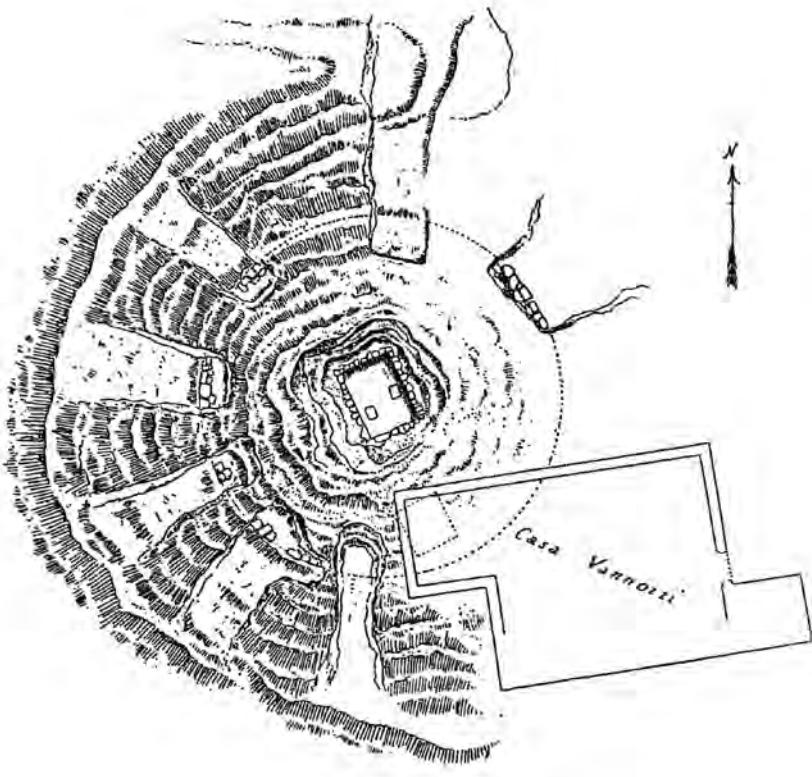
ery and it is so well preserved it looks new. . . . It was seized by the Monteleone *carabinieri* on the orders of the powers that be about a month after I saw it, together with other small ivory scraps and bronze revetments" (see Appendix, document 2).²⁹

Item 3 on Morini's list is "a bronze krater, whose low, cylindrical, decorated rim rests on the backs of three male nudes executed in the same Ionian style as the figures on the chariot. They have clean-shaven faces, their hands are placed on their knees, and they are bent toward them. Among all the grave goods this krater is second—artistically speaking—only to the chariot." Such a piece would be easy to identify, but it was not with the material that came to the Metropolitan Museum. It is difficult to establish whether one of the items in group no. 7 ("seven large, smooth bronze pots, with rims slightly turned so they do not cut the users") corresponds to the Metropolitan's cauldron (03.23.2);³⁰ it is also difficult to identify no. 15 ("a completely smooth bronze *lebes*, or bowl"), while nos. 5, 6, 9, 10, 14, and 16 are not part of the New York material. On the other hand, Morini does not mention several readily recognizable items that came to the Metropolitan Museum along with the chariot, for example the two Attic Little Master lip-cups.³¹

Thus, the main problem is not whether a second lot of bronzes acquired by the Metropolitan Museum in 1921 comes from the Chariot Tomb of Colle del Capitano, but what made up the first lot, since it is thought that the contents of the two contiguous tombs were mixed up in Vannozzi's house.³² Moreover, in his article of 1904 Morini wrote that "about three paces from the tomb [of the Chariot] four human skeletons were found in an excellent state of preservation. Vannozzi told me that the bones were not ordinary in size, and that the skulls had such well-preserved teeth that the discoverers had the strange idea of extracting all the teeth from the jaws and taking them away. The bones were then reburied in the same place."³³ Today there is no way to ascertain the truth.

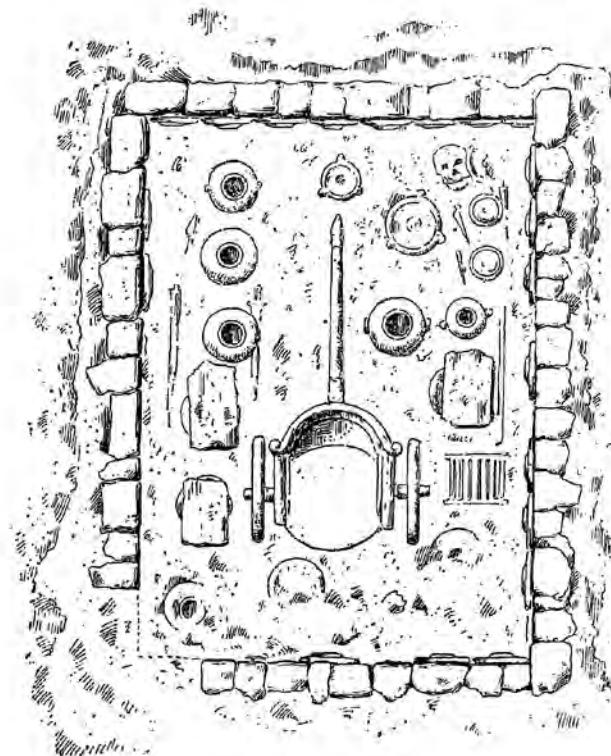
The architecture of the tomb. Pasqui's topographical investigations of 1904 had convinced the ministry to reopen the Chariot Tomb in order to document its structure; the authorities also hoped to find objects that Vannozzi had overlooked in 1902.³⁴ Pasqui headed the excavation that began and ended in 1907 and that extended to the surrounding area, seeking to contextualize the princely tomb within the Colle del Capitano necropolis. The results were not published at the time, but only summarily communicated at the Second Congress of the Società Italiana per il Progresso delle Scienze the following year.³⁵

It was not until almost twenty years later, in 1924, that Minto tracked down Pasqui's excavation diary and published it in two parts, one on the territory of the necropolis



I.10 Plan of the gravesite of the Monteleone Chariot Tomb, also indicating the location of the house of Isidoro Vannozzi. Drawing: Angiolo Pasqui, 1907 (from Minto 1924b)

I.11 Floor plan of the Monteleone Chariot Tomb. Drawing: Angiolo Pasqui, 1907 (from Minto 1924b). The architecture is the result of direct archaeological finds; the arrangement of objects is based on indirect evidence.



covering the northern slope of the Colle del Capitano and dating to the Late Bronze Age, the other on the Chariot Tomb.³⁶ Minto stated that the diagram drawn by Pasqui (Figure I.10) provided an idea of the structure of the tomb; it entirely occupied the top of the hill, which had been modified and crowned with the ancient tumulus.

The text Minto took from Pasqui's diary is very short; I feel it is useful to provide an English translation of the whole description:

Pasqui sampled the tumulus with deep trenches dug from the edge to the center and brought to light a solid wall measuring 4 m [13 ft. 1 1/2 in.] wide and about 1 m [39 3/8 in.] high, made of large stones, surrounding the tomb, and forming a cylindrical drum about 19.6 m [64 ft. 3 3/4 in.] in diameter, the base of which unquestionably contained the plinth of the tumulus. A pavement made of 1.2 m [47 1/4 in.] wide slabs of quarried stone surrounded the plinth, and this floor was ringed by slabs arranged according to size. The plinth wall and paved floor were built on bedrock, and where this was not present, a fill of stones and earth had been added for the foundation. The upper part of the plinth, at the height of the wall, was covered with quarried stone that had originally jutted out from the plinth to create a sort of *grundarium* [gutter] to direct water

trickling from the tomb to the paved floor in order to protect the external face of the plinth. In the center of the plinth a rectangular grave with drystone walls of quarried stone had been dug out (L. 3.8 m [12 ft. 5 3/4 in.], W. 2.8 m [9 ft. 2 1/4 in.], D. 1.45 m [57 1/8 in.]). After the first exploration, the grave had been filled with the same earth, stones from the walls, and slabs from the vault. . . . In a corner of the upper part of the grave, traces of projecting stones belonging to a corbeled corner bracket were found, suggesting a roof formed by projecting courses of stone; this type of covering is fully justified by the size of the grave.

Antonio Minto also provided Figure I.11 from the excavation diary, but it should be emphasized that the arrangement of the objects inside the tomb represents a reconstruction based on information Pasqui collected retroactively from 1904, and that only the arrangement of the shallow bronze salvers along the walls and the pertinence of these salvers to the grave goods of the tomb can be considered reliable.³⁷ As I shall discuss shortly, among the fragments recovered personally by Pasqui there are some fragments of a rim with the same decoration as the other salvers (group [5]).

Minto's article goes on to list the paltry remains of the plunder patiently collected by Angiolo Pasqui, and in the

following list I have added numbers in square brackets to help me refer to the items in the succeeding commentary.

[1] Two biconical impasto spindle whorls, one of them fragmented; [2] a turned, articulated ivory disk (D. 0.055 m [2½ in.]); [3] an ivory eye for an inlay, with an empty pupil, originally inlaid with vitreous enamel . . . (L. 0.04 m [1½ in.]); [4] an ivory lamella with remains of small bronze nails (L. 0.04 m [1½ in.]); [5] fragments of a curled sheet of bronze; [6] a thin ring of silver wire (D. 0.02 m [¾ in.]); [7] a bronze harness buckle in the shape of a ring, with a crosspiece placed off center (D. 0.055 m [2½ in.]); [8] fragments of bronze revetment, with nails; [9] fragments of iron rods; [10] a bundle of iron spits (L. 0.48 m [18½ in.]); [11] fragments of the iron tire of one of the chariot wheels.

All the fragments were taken to the Museo Archeologico, Florence, where they can be found today (inv. 14343–58). As mentioned above, the spindle whorls [1] do not belong

with the grave goods of the tomb, but must have fallen in when in 1902 Vannozzi covered up the grave with the earth and stones from his excavation, as well as with whatever may have been mixed in with them after the house was built. By contrast, the ivory disk [2] (Figure I.12) belongs to the chariot (see cat. 6), the eye [3] (Figure I.13) belongs to the face of the panther on the front panel, and [4] (Figure I.14) is the tongue of the gorgoneion on the same panel (for both, see cat. 1a). The group of bronze fragments [5, 8] includes the missing left foot of the woman on the front panel (Figure I.15), a part of the edging (Figure I.16) from one of the two rear side panels (cat. 15), and a triangular element, pierced near two of its vertices (Figure I.17), which may perhaps belong to the pole. Finally, [11] is a fragment of the iron tire of the wheels, as also reported by Minto.

The farmhouse at Colle del Capitano still exists today. It belongs to Isidoro Vannozzi's descendants, who added a second structure on the other side of the barnyard, leaving free the space occupied by the Monteleone Chariot Tomb (see Figure I.6).

I.12 Bone core of a bronze boss (see cat. 5 or 6) from the Monteleone chariot. Museo Archeologico, Florence (14345). Photograph courtesy Soprintendenza per i Beni Archeologici della Toscana

I.13 Ivory inlay from the panther's eye on the central panel of the Monteleone chariot. Museo Archeologico, Florence (14346). Photograph courtesy Soprintendenza per i Beni Archeologici della Toscana

I.14 Reverse of the ivory tongue originally inlaid in the mouth of the gorgoneion on the central panel of the Monteleone chariot. Museo Archeologico, Florence (14347). Photograph courtesy Soprintendenza per i Beni Archeologici della Toscana

I.15 Bronze fragment from the left foot of the woman on the central panel of the Monteleone chariot. Museo Archeologico, Florence. Photograph: Adriana Emiliozzi

I.16 Bronze fragment from the edging of one of the two rear side panels of the Monteleone chariot (see cat. 15). Museo Archeologico, Florence. Photograph: Adriana Emiliozzi

I.17 Small bronze fragment, possibly from the pole, from the Monteleone chariot. Museo Archeologico, Florence



I.18 Pieces of the chariot and other grave goods, possibly in 1902, before they left Italy



I.19.-I.20 Details of the proper right and left side panels of the chariot (cats. 3a, 4a), possibly in 1902, before they left Italy



D. The acquisition of the chariot by The Metropolitan Museum of Art in 1903

From Italy to Paris. In the introduction to his publication on the chariot in the *Nuova antologia* of 1904, Felice Barnabei wrote: “The first time I heard about the chariot from Monteleone, near Norcia, was on July 11 two years ago [that is, 1902]. I was in Perugia as a guest of the provincial prefect, Count Sormani-Moretti, a senator of the realm.”³⁸ He goes on to speak of the inquiry conducted by the authorities to prevent the find from leaving the country and adds:

On July 12 [1902] I was back in Rome, and the bell tower of Venice collapsed on the 14th, a tragic day. Who gave a thought to the Norcia chariot after that?³⁹ . . . Who was thinking about the excavations and the material from the excavation? It seemed almost wrong not to dedicate all one’s attention, all one’s energy, to repairing the Venice bell tower. The architect Giacomo Boni, favored with the best luck, was carrying on his research in the Roman Forum, but was not allowed to explore a tomb discovered at that time. He had to drop everything and rush to Venice. And just as nobody addressed the discoveries that had aroused such lively interest, such as the discoveries in the Roman Forum, so no attention was paid to other discoveries, and no one heard anything more about the chariot or bronzes from Norcia. What we have seen occur among us recently is really singular. A serious national misfortune, such as the collapse of a famous monument, attracted everyone’s attention, and virtually prevented us from thinking of anything else. As individuals’ reputations are soiled in the midst of ruling passions unleashed violently during exceptional periods, so this other strange phenomenon of public life occurred, that a new disaster, another misfortune, almost drove the previous calamity into oblivion. This happened again just a few days ago after the terrible fire in the Turin Library.

The picture of Italy in turmoil depicted by Barnabei could not have been more dramatic, considering that excavators and antique dealers had descended on Umbria after the sensation caused by the discovery of the Chariot Tomb, recalling the history of the Loeb Tripods from San Valentino di Marsciano, just south of Perugia. As far as I know, the disaster perpetrated on this other princely tomb has never before been causally related to the havoc described by Barnabei, who grieved the loss in terms so emotional that today they may almost sound humorous.⁴⁰ The facts concerning the Loeb Tripods—unearthed in July 1904, purchased in Rome in 1905, displayed in New York in 1907,⁴¹ and ultimately acquired by Munich—did not come to light

until 1935. In that year Antonio Minto wrote of the discovery and departure from Italy of these objects, finally ruling out, once and for all, their initial mistaken provenance from Monteleone di Spoleto.⁴²

Let us return to the Colle del Capitano and our chariot. The archival records contain a report by an inspector, Guido Scifoni, dated June 4, 1904, reconstructing the first transfers of ownership of the material excavated in 1902 (Appendix, document 5). I believe that the noteworthy information—repeated twice—that the Vannozzis kept the unearthed items for a long time because they did not understand their value clears them of the accusation of being tomb robbers, an allegation made by authors who have not conducted serious research. The Vannozzis sold the bronze material to Benedetto Petrangeli on March 23, 1902, and with the proceeds purchased the roof tiles for the house on Colle del Capitano. The condition of the objects at that time can be seen in four old photographs in the archives of the Department of Greek and Roman Art of the Metropolitan. They may not be the photographs reportedly taken in the stable of the Vannozzis’ farmhouse at Fameso, but they must have been taken at Petrangeli’s in Norcia.⁴³ There is one overall view of the parts of the chariot placed on a table covered with a cloth, with other finds placed below (Figure I.18), plus three photographs of the single panels that show—among other things—that the side panels were not soldered onto the kouroi (Figures I.19, I.20).⁴⁴ Most of the items that reached the Metropolitan in 1903 can be seen in the overall view (Figure I.18).⁴⁵ The items purchased in 1921 do not appear, judging from the absence of the large, nailed, round-bodied cauldron and the lebes with a wide lip, which would be easily identified.⁴⁶ The bronzes listed by Adolfo Morini as nos. 5, 6, 9, 10, 13, 14, and 16 are also missing.

Petrangeli contacted the Roman antiques dealers and, after much hesitation because he was not sure he was getting the best price, sold the pieces to Ortensio Vitalini for the sum of 150,000 lire (about \$1.7 million today).⁴⁷ Vitalini had the chariot and other items sent to Paris in February 1903, depositing the best pieces in the vaults of the Crédit Lyonnais until the purchase was concluded. Negotiations with other museums broke down on grounds of price and suspicions that the items were fakes.⁴⁸ In April 1903, Vitalini and Luigi Palma di Cesnola agreed on a price and the material was sent to the United States.

From Paris to New York. The story of the acquisition in Paris on behalf of The Metropolitan Museum of Art was glossed over in the *New York Press*, October 18, 1903, as follows: “The manner in which it reached Paris is more or less a mystery, since the Italian laws are strict against the sending of art objects out of the country. A dealer in Paris obtained the biga, however, and when General Cesnola heard it was

in that city he promptly cabled an offer for it, which was accepted, and the chariot was shipped to New York." The ensuing section is noteworthy, as it debunks the absurd—and undocumented—claims of those who have recently spread the notion that the chariot was acquired by J. Pierpont Morgan:⁴⁹

Then it was that the announcement was made in Paris that the biga had "disappeared," and this was followed by the statement that J. Pierpont Morgan had offered \$60,000 for it. The museum authorities got it for less than that. Shortly after the news of the "disappearance" of the biga was published Mr. Morgan was in the Museum of Art and mentioned that he had tried to buy it. On being asked if he had intended to present it to the museum's collection he replied: "No; I wanted it for myself, but now nobody knows where it is." But somebody did know where it was, and the banker was taken down stairs and shown the pieces of the biga in the two boxes in which it had been sent from Paris.

In addition to these few lines that sum up the at times contradictory information dispersed among the dozens of period documents about the chariot that I have consulted, it is worth citing a short text from the *New York Tribune* dated February 18, 1904. The anonymous article is entitled "Chariot Was Made Here. Merely Mass of Bronze Fragments When Bought in France." It is a kind of interview given by Cesnola, written in narrative form:

The controversy in the Roman Chamber of Deputies over the antique Grecian biga in the Metropolitan Museum of Art has brought out many misstatements, says General di Cesnola, Director of the Museum.⁵⁰ The chariot, which he characterizes as the gem of the Museum, and the finest thing of the kind ever likely to be preserved in any museum, would never have been preserved to the world if the Metropolitan Museum had not acquired it. It came, not from Italy, but from the Crédit Nationale [sic] in Paris, where it had been, a mass of bronze fragments, for nine months. With infinite patience General di Cesnola and an assistant worked over the restoration; the result is an art treasure whose like no other museum has. "The Italian Chamber can do nothing," said General di Cesnola yesterday. "I would never buy anything from Italy, for I know their laws. . . . This chariot was not bought by any merchant for the museum. It was bought by the trustees of this museum, on my recommendation, and paid for out of the Rogers fund. A friend writes me that there is in the Crédit Nationale [sic] a fine collection of bronzes, and that I should send a man there to look

at it. I say, if they want to send the bronzes here for me to see I will inspect them and pay a right price. They came—four cases of bronze fragments. I spread them out. I saw panels—part of carvings. I and my assistant made a plaster frame for the biga, and we fitted and measured until we had it all together all save one or two little fragments which were missing. Then we got a walnut frame, made just like the one in use 2,600 years ago, and on that we fitted the exquisite bronze work as it is in the museum now. For that, I told them, I would pay 235,000 francs, and 15,000 francs for some vases found in the same tomb, not quite \$250,000 for all. After I got the prize the Louvre made inquiries, and the Berlin Museum wrote to Rome about it. This Barnabei who is making the inquiry in the Chamber—I think, if I mistake not, it was in this term that the biga was sent out of Italy, yet he is making the inquiry while the poor inspector was punished.⁵¹ Yet the biga did not leave Italy as an art work—it was a mass of bronze fragments. . . . I will have a fine steel case made for the chariot, in place of the one where it is now. The people may not appreciate its beauty now, but as years go on and no one like it is ever found, they will learn to know its beauty and value."

I would like to acknowledge the prophetic quality of his words.

E. The reconstruction of 1903

Luigi Palma di Cesnola and his assistant pieced together the vehicle (Figures I.21, I.22) using the bronze elements that reached the Metropolitan Museum in 1903. The assistant was Charles Balliard, as reported by Richter.⁵²

We know that Balliard (1841–1916), of Swiss descent, had worked as a watchmaker, initially in Geneva and later at Tiffany's in New York, where he began restoring works of art and musical instruments. In 1879 he became associated with The Metropolitan Museum of Art, where he started to restore Luigi Palma di Cesnola's collection of Cypriot antiquities before specializing as a mount-maker and Museum photographer.⁵³

No records survive specifying criteria for the interventions on the revetments of the Monteleone chariot from restoration to mounting. With reference to the restoration—and pending the publication of a technical report on the new restoration—Figure I.23 shows that Chinese paper was used on the reverse of the bronze revetments to stabilize fractures and cracks.⁵⁴ In the excerpt quoted above from the *New York Tribune* of February 18, 1904, Cesnola spoke of making a plaster support before producing a walnut frame. Figure I.24 shows the substructure that supported the body of the chariot for exactly one hundred years. Regarding



I.21–I.22 The Monteleone chariot as reconstructed in 1903, front and side views.
Photographs taken in 1933





I.23 The Monteleone chariot during recent conservation, showing the Chinese paper used by Charles Balliard in 1903 to stabilize fractures and cracks in the central panel. Photograph: Kendra Roth



I.25 Detail of Achilles's chariot depicted on the left panel of the Monteleone chariot, after recent conservation

I.24 The Monteleone chariot during recent conservation, showing the wooden substructure of the box made in 1903 as it appeared when the bronze panels were removed. Photograph: Frederick J. Sager



contemporary archaeological evidence for the reconstruction, Cesnola and Balliard had only the models depicted on ancient pottery and other archaic figural works to go by.⁵⁵ In 1903, no other example of precisely this type of chariot had been correctly reconstructed after its discovery. They probably drew on the small biga depicted on the proper left panel of the very vehicle they were reconstructing (Figure I.25). Besides, the three main panels of the Monteleone chariot had remained intact, and their original position must have been apparent even to those who were not versed in ancient vehicles. One clue suggests that Cesnola did research on the then-existing Etruscan chariots: he erroneously had the two lion heads (cats. 7 and 8) placed on the wheels because he had seen the biga from Rome/Via Appia Antica in the Museo Gregoriano Etrusco in the Vatican.⁵⁶ There, two lion heads indeed function as axle finials, but, unlike the lion heads from Monteleone, they were made of cast bronze and had holes for the lynchpins. Finally, it is worth remembering that Cesnola was a trained military officer and cavalryman who had seen action in the Crimean War and the American Civil War, on the Union side. He would have had

ample direct experience of wheeled equipment and horse gear. Furthermore, his archaeological activities as American consul in Cyprus between 1865 and 1876 familiarized him with ancient representations of horse-drawn vehicles, most notably on the remarkable early fifth-century sarcophagus from Amathus.

In evaluating Balliard's work, it must be said that he treated the revetments with considerable respect, even if he fixed them to their wooden substructure with a multitude of nails (Figures I.26, I.27), which, during the recent restoration, prevented us from determining which old holes he had used.

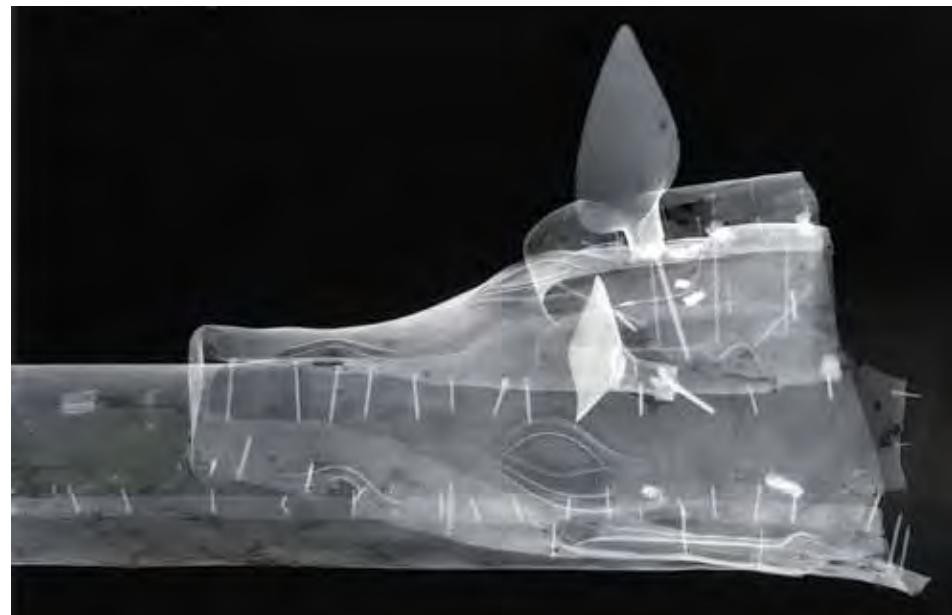
Of the many small fragments of ivory that came to New York with the bronzes (cats. 21–30), some "have been mounted upon a wooden rim shaped exactly like that which was once sited within the chariot body."⁵⁷ Nothing was known about the little fragments of the chariot and the grave goods that remained in Italy until 1924, when Antonio Minto published the list of the items that had come to the Museo Archeologico, Florence.⁵⁸

F. The Bollo drawings

When Adolf Furtwängler published the Monteleone chariot in Brunn and Bruckmann's *Denkmäler griechischer und römischer Skulptur* of 1905, the accompanying drawings showed the bronze panels and their decoration for the first time (see Figures V.3, V.25, V.32, V.54, V.58).⁵⁹ It must have taken a very long time to complete these actual-size (1:1) drawings at The Metropolitan Museum of Art, and they must have been executed between the time the revetments were unpacked and when they were mounted, during the first two weeks of November 1903. The name of the Museum's draftsman, P[aul] Bollo, is written at the bottom of each of the five original folios.⁶⁰

His drawings are excellent: thousands of lines are faithfully reproduced, within the limits permitted by the state of conservation at the time. Among the few liberties Bollo took to speed up the work was to render the small right lion on the strip (illustrated as cat. 9) by reversing the left lion on the strip (shown as cat. 10). I mention this detail because I will show later that one of the two was made by the master craftsman of the chariot, while the other was a copy made by his chief collaborator. Bollo missed only a few elements, one of them being the pendant knot on the belt of the warrior on the front panel (Figure V.5). I have added it to the drawing executed in 2009–10 by Dalia Lamura under my direction (Figure III.3).⁶¹

The following considerations underlie the new drawing. Based upon Bollo's drawings, it gives a view of the chariot box with all of the revetments, including those not drawn by him, such as the two groups of kouroi and the boar protome. In order to make the overall view executed on a smaller scale legible, we decided to outline all the repoussé



work and leave out almost all the detail, except where essential for a correct interpretation of the scenes. In so doing, we rectified errors in Bollo's renderings and completed some figures that the recent restoration had enabled us to interpret better, for example the object carried by the winged figure in the proper right side frieze (cat. 11). Our drawing deliberately left out all the signs of cracking shown by Bollo, the remains of the original nails, the small holes, and the frayed edges visible in 1903, particularly those in the side friezes (Figures V.54, V.58).

I.26 X-ray of the boar protome (cat. 2) on the Monteleone chariot before the 1903 reconstruction was disassembled. X-ray: Kendra Roth



I.27 X-ray of a detail of the proper left panel (cat. 4a) on the Monteleone chariot before the 1903 reconstruction was disassembled. X-ray: Kendra Roth



I.28 Detail of the Monteleone chariot as reconstructed in 1903. Photograph taken in 1990. The bronze boss and the kouros were not placed where the traces of them could still be seen. The nail holding the boss in place was a modern addition.



I.29 The Monteleone chariot after recent reconstruction, top view

G. Reasons for disassembling the chariot in 2002

Soon after the reconstructed chariot was displayed in 1903, doubts were expressed that it did not match the original vehicle, and they were periodically reiterated in the archaeological literature.⁶² The opportunity to assess the extent of the inaccuracy arose about twenty years ago, when the exhibition "Antichità dall'Umbria a New York" was being prepared, and I was invited to write the essay "The Monteleone Chariot: From Discovery to Restoration" for the catalogue.⁶³ On that occasion, thanks to the generous cooperation of the Department of Greek and Roman Art, I was able to examine the chariot in detail.⁶⁴ The reasons for a new reconstruction are detailed in that publication and can be briefly summarized.

The two side panels (cats. 3a and 4a) needed to be raised slightly in order to place the bosses (cats. 5 and 6) where the

traces of them could still be seen (Figure I.28), at the edge of the front panel (cat. 1a). The lower friezes (cats. 11 and 12) had to be moved back, and two smaller rectangular panels (cat. 15) had to be inserted behind the larger side panels (Figures I.7, I.8). The sides of the U-shaped floor frame had to be extended to form the two finials at the sides of the rear running board, which must have been curved and not straight (Figures I.22, I.29). The lion heads (cats. 7 and 8) did not belong to the wheels, where they were incorrectly mounted as axle finials, but were originally positioned under the feet of the small kouroi (Figures I.7, I.8), as indicated by traces on the lion heads (Figures V.44, V.47). Moreover, the deformed lion head belonged under the kouros with boots; in ancient times the feet of this youth had been damaged, together with the underlying head, and the subsequent ancient restoration replaced the boots where

the feet had been. The traces of the two crouching rams (cats. 13, 14), which Balliard placed at the base of the main panel (Figure I.30), were clearly visible at the front of the lower friezes (Figures V.52, V.56); it was also evident that their hindquarters were trimmed in antiquity to fit the underlying reliefs (Figures V.60, V.61). The boar protome (cat. 2) was originally placed just below the deer's curved back on the front panel, as the outline on the surface of the bronze confirms (Figure I.31).

In 2002, the happy moment arrived when work on the Monteleone chariot could begin. This undertaking was part of the reinstallation of the galleries of Greek and Roman art that was completed in 2007.⁶⁵ In 2001, I participated in the formulation of an official agreement between The Metropolitan Museum of Art and the Consiglio Nazionale delle Ricerche's Istituto di Studi sulle Civiltà Italiche e del Mediterraneo Antico (ISCIMA), for the purpose of reexamining and restoring the chariot. Work began in March 2002 in the Sherman Fairchild Center for Objects Conservation. I served as overall coordinator. The principal specialists in the Conservation Department were Kendra Roth and Frederick J. Sager, with the collaboration of Dorothy H. Abramitis. James H. Frantz, then Lawrence Becker were the successive department heads. My curatorial colleague was Joan R. Mertens, with Dietrich von Bothmer and Carlos A. Picón as successive heads of the Department of Greek and Roman Art.

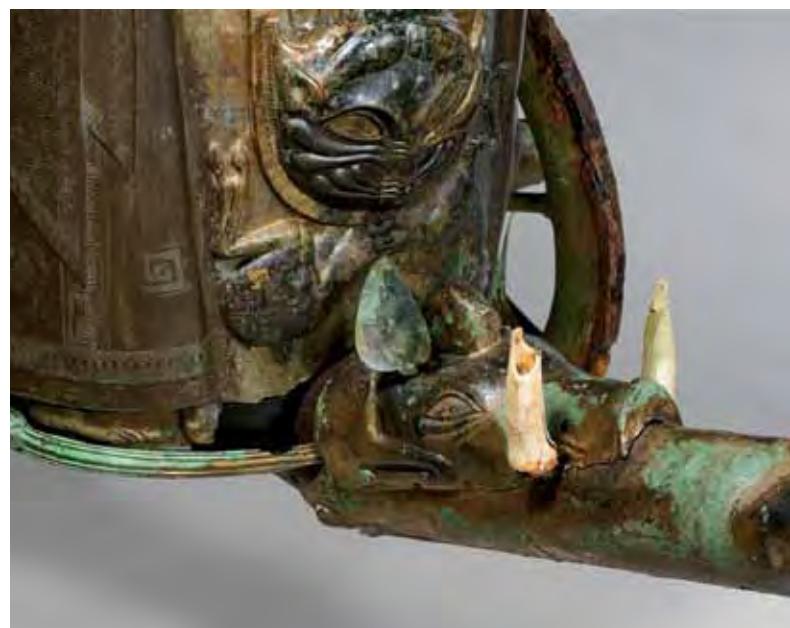
H. A century of studies

News reports in the Italian and American press are discussed above (I.C, I.D) and in the pertinent endnotes. The history of the scholarship on the Monteleone chariot was skillfully and clearly presented by Marisa Bonamici in 1992. My consideration here will highlight only the most significant contributions. The publication history of the chariot appears on page 121. It is unnecessary to retrace the studies on the typology of the chariot prior to the catalogue of the 1997 exhibition "Carri da guerra e principi etruschi," which explains why the vehicle is classified as a parade chariot actually used by its owner in life.⁶⁶ From the first notices in 1903, however, all authors agree that, given the fragile bronze revetment, the chariot could have been utilized only for ceremonies and parades.⁶⁷ Also at the outset—as well as recently, with the discovery of other bronze-clad vehicles—some commentators speculated that it was a specially built funeral chariot or used for votive purposes.⁶⁸ The shortcomings of this view will be shown in Section III.D.

Many hypotheses have been advanced concerning the iconography of the chariot, from generic scenes to depictions of the myths of Herakles and Achilles.⁶⁹ The 1964 study by Roland Hampe and Erika Simon has proved fundamental to subsequent research. Hampe and Simon go beyond Ducati's insights, arguing that the minor friezes were part of the overall program and establishing that,



I.30 Detail of the Monteleone chariot as reconstructed in 1903. Photograph taken in 1990. When the pole was attached the boar protome was not placed where the outline had been chased by the craftsman on the central panel (see Figures I.31, V.1).



I.31 Detail showing the placement of the boar protome as recently restored

among surviving works of ancient art, the chariot is the first to depict the life cycle of Achilles, a subject that remained popular until the end of the fourth century A.D.⁷⁰ Debate continues over this identification. Most scholars have accepted it, thanks to the cogency of Hampe and Simon's arguments, as well as further corroboration by Cristofani in 1996. Nonetheless, reservations were soon expressed,⁷¹ and persisted, but were not based on new, thoroughgoing study.⁷² I believe that the conclusions presented here in Section III.B demonstrate that Hampe and Simon's hypothesis is incontrovertible, setting aside the intractable difficulty of identifying the recumbent woman under Achilles's biga on the proper left panel.⁷³

Debate on matters of style and iconography, which are closely linked to the cultural background of the craftsmen and the location of their workshops, started the moment the chariot was unearthed and continues to the present day. It must be kept in mind that this is a unique work, the predecessor of all parade chariots from ancient Italy, hence it cannot be classified by comparing it with dissimilar contemporary artifacts. Moreover, most European authors who have written about the chariot in their publications—none dedicated solely to the vehicle after those by Furtwängler and Ducati—have not seen it close up. Furthermore, the excellent photographs first published by Tarchi in 1936 were not available until 1933, and most of the comments were based on Furtwängler's type of illustrations.⁷⁴ Thus, it

is not surprising that the chariot was downgraded to "provincial, non-Etruscan" by Pallottino in 1959 and Banti in 1964, or to "Etruscan but provincial" by Torelli in 1976, 1981(a), and 1985. After research by Ursula Höckmann in 1982 resolved the debate about the Etruscan origin of the chariot,⁷⁵ the craftsmanship of the Monteleone chariot was, in some quarters, still considered the same as that of the modest bronze revetments from Todi, better known as the Ferroni *Laminae*.⁷⁶

A new period of research dawned in the 1990s after a critical reexamination of the old restoration included direct study of the object.⁷⁷ Ninety years after Furtwängler's publication—the only one that can be considered scientific—it is clear that both its method and approach are still valid. The insights presented by this great German scholar concerning the chariot's style and iconography, as well as the technical skills of the master craftsman, have been reexamined, the pejorative Etruscan connotations of the decoration questioned, and the activity of East Greek craftsmen operating in Etruria at a time not much beyond the second quarter of the sixth century B.C. suggested.⁷⁸ This revival of a hypothesis assigning a foreign genesis to the chariot's decoration, after the old approaches of Furtwängler (1905, 1913), Ducati (1909), Brendel (1978), and, more recently, Bonamici (1997), is still not convincing,⁷⁹ perhaps because to date there has been no sure evidence. Our publication seeks to place the discussion on a solid, up-to-date foundation.

II. THE MONTELEONE CHARIOT AND ETRUSCAN PARADE CHARIOTS OF THE SIXTH CENTURY B.C.

A. Chariots from Italy as evidence of the type

No Etruscan-Italic parade chariots in their original form had been discovered and documented by professional archaeologists before the Monteleone chariot came to The Metropolitan Museum of Art in disconnected pieces. The restoration of 1903 was based on the shape of the bronze sheets that originally covered the wood and leather substructure and gave rise to inaccuracies of reconstruction (see Sections I.E, I.G).

In 1967 the Centre Belge de Recherches Étrusques et Italiques was the first to unearth scientifically an Etruscan parade chariot, at Castro near Vulci.¹ It had the same structure, with its parts still connected and in a good state of preservation. The vehicle was found upright, propped up by the earth that had entered the tomb over the centuries and supported the substructure as it rotted (Figure II.1). Thanks to the intervention of the Italian Istituto Centrale del Restauro, the body and wheels of the chariot were encased in plaster and extracted from the tomb in three pieces (see Figure II.2). All that remained of the wooden body were fibers mixed with muddy soil. However, the wood of the wheels was preserved in the naves,² in half of the wheel's circumference with the spokes (originally nine), and in a short section of the pole where it exited the chassis. In the subsequent conservation process, soil deposits were removed from the body of the chariot, working from the inside to the underside of the bronze sheets.³ They were progressively detached from the plaster casing, consolidated, documented, and treated until they were mounted onto a wooden reconstruction of the vehicle in 1985 (Figure II.3).⁴ The plaster cast, which is kept in the museum together with the chariot complex,⁵ still shows the imprint of the bronze sheets and parts of the traction structure, that is, a U-shaped floor frame longer than it is wide and balanced on the axle;⁶ the axle beneath, which is square in section; and the part of the pole under the chassis, placed in a groove at the center of the curve and then slotted into the axle.

Although the bronze sheathing had not originally been designed to cover all of the body of the Castro chariot, as is the case with the Monteleone vehicle, the typology of the single parts is comparable: the nine-spoked wheels have cylindrical naves covered in bronze sheet (Figure II.4), the lower part of the front panel presents a curved cut where the pole exits and the edge is bent under the curve of the chassis (Figure II.5), and the U-shaped side panels are joined to the front panel by a band decorated with an embossed kouros in profile surmounted by a knob (Figure II.6). The two chariots are different in that the band with the kouros

was executed separately on the Monteleone chariot, while on the Castro example it is made from the same sheet as the side panel (the sheet does not cover the whole panel but only the rails). Furthermore, in the Monteleone chariot the side friezes (cats. 11, 12) were executed separately from the rear side panels (cat. 15), while in the Castro chariot they are made of a single sheet (Figure II.7). This clearly shows how to reconstruct other vehicles of the same type from ancient Italy that have been taken apart and dispersed after uncontrolled excavations (see Figures II.8, II.9).

The typology of the side panels is also observed in one of the two parade chariots from Castel San Mariano, near Perugia (Figure II.8c).⁷ The typology of the side friezes recurs in the Castel San Mariano chariot (Figure II.9c) and in a group of bronze sheets in the Barsanti collection said to be from central Italy (Figure II.9d).⁸ In both cases they are separately fashioned elements, as in the Monteleone chariot.

There is an approximately forty-year gap between the Monteleone vehicle—the oldest in the group, datable to about 560–550 B.C.—and the latest one, from Castro, which dates to about 520 B.C.⁹ The structural elements of



II.1 The Etruscan parade chariot unearthed in Castro, Italy, in 1967. Photograph: Emiliozzi 1997, pl. XX, 1



II.2 The plaster cast used to encase the body of the Castro chariot so that it could be extracted from the tomb. Photograph: Elisabetta Bianchi for Emiliozzi 1997, pl. XX, 3



II.3 The Castro chariot as reconstructed in 1985. Museo Nazionale Etrusco, Viterbo. Photograph: Marcello Bellisario

this type of chariot, however, do not change; indeed, they remain consistent. The varying execution of the bronze sheets, sometimes in separate parts and sometimes in a single sheet, are merely different technical features regarding the revetment and have no impact on the substructure, just as the limited differences in size do not affect the type.

Two points must be emphasized regarding the reconstruction of the Castro chariot (Figure II.3) and its new graphic reconstruction (Figure II.10) and the 1:1 model made in 1997 for the Castel San Mariano chariot's substructure (Figure II.11). First, the rear finials of the Castro chariot's floor frame are missing in Figure II.3, probably because the rotted remains of the wood were overlooked during the excavation of the tomb and the recovery of the chariot. At that time studies of Etruscan-Italic chariots were in their early stages, and no one imagined that such finials existed. It was understood only later that rear finials must have been present on both the Castro chariot and the Monteleone chariot, where they were covered in ivory. Compare the so-called war chariots, on which the rear finials were covered in rawhide or metal.¹⁰ Second, we reconstructed a flooring of wooden planks for the Castel San Mariano chariot, as previously suggested for the Monteleone chariot, even if the excavation provided no evidence for such flooring

either on it or on the Castro chariot.¹¹ The reconstruction was based on a comparison with the structure of the war chariots.

B. Typological differences between the Monteleone chariot and war chariots of the seventh to sixth century B.C.

Until now, two structurally homogeneous types of chariot, with the box balanced on the axle—the most common type in Italy—have been identified in the reconstruction of Etruscan-Italic vehicles found in tombs dating from the second half of the eighth to the sixth century B.C. The box is long and narrow, and if it was occupied by two persons they did not stand beside each other, but rather the charioteer stood in front with his passenger behind him, with the axle between them.¹² A variant I shall call A is a later version of an earlier vehicle like the one unearthed in Tomb 15 at Castel di Decima, near Rome (720–710 B.C.).¹³ Another variant of this type, which I shall call B, occurs from the time of the vehicle from the Barberini Tomb at Praeneste (675–650 B.C.), also in the ancient region of Latium Vetus.¹⁴ Variant A is more common and is distinguished by its inverted U-shaped side rails. Variant B has been found less frequently, and its reconstruction is progressing slowly.¹⁵ Its most characteristic feature is its ear-loop side rails.¹⁶



II.7 Bronze decoration on the rear panel and the shock-absorbing system on the Castro chariot in Figure II.3. Photograph: Marcello Bellisario

II.6 Bronze decoration on the left panel on the Castro chariot in Figure II.3. Photograph: Marcello Bellisario

For both variants, fast-moving vehicles, the so-called war chariot type, and slow-moving ones designed to advance at the pace of a walking person, that is, the parade chariot type, have been identified. Structural differences underlie the different types of use.

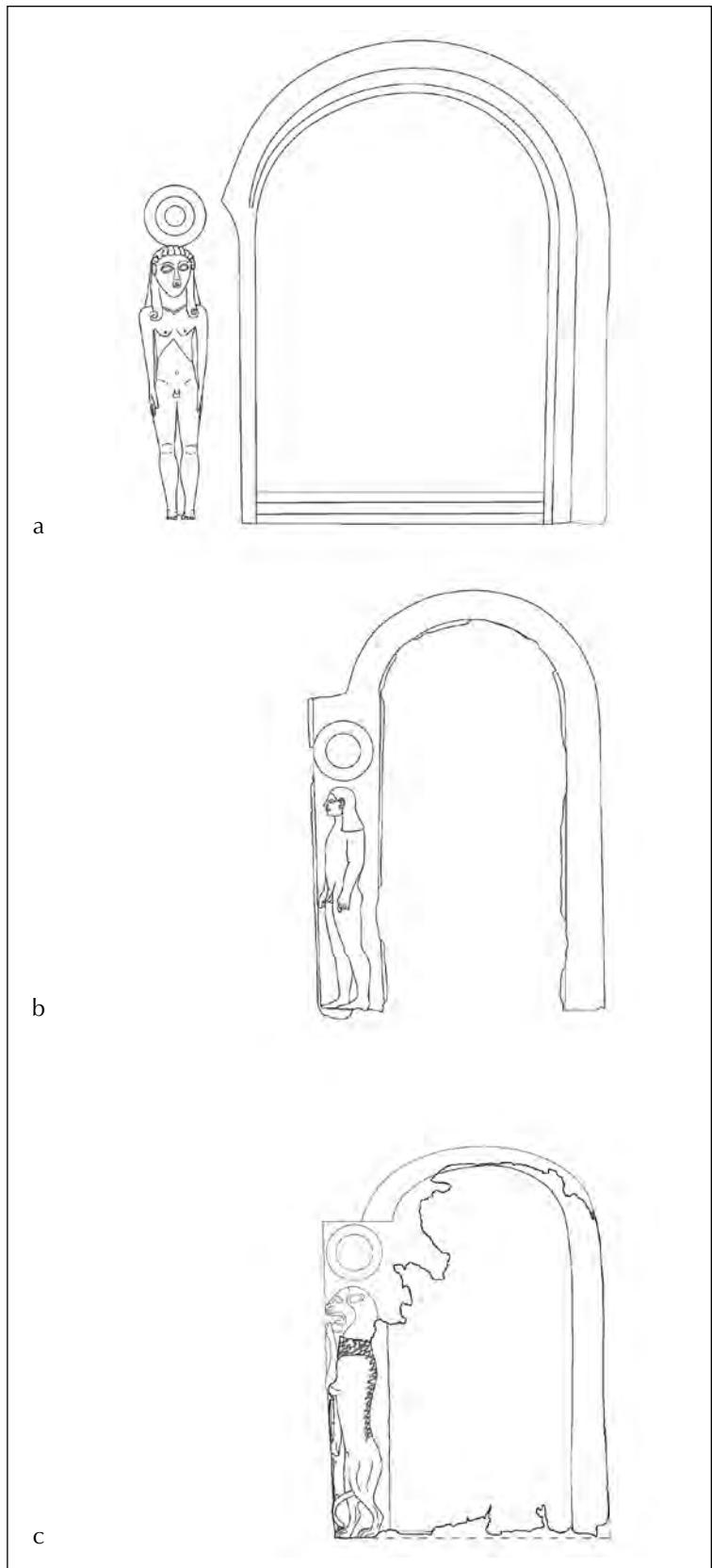
The sidings. "Siding" is a technical term used by scholars of archaeological vehicles to describe the supporting struc-

ture and any materials attached thereto to create the car of a vehicle. Discovered in 1972, the war chariot from Tomb 15 at Castel di Decima (Figure II.12) is one of the oldest ever found in Italy and the oldest that can be graphically reconstructed.¹⁷ The railings run around the entire front and sides of the chassis; the front rail extends to the line of the axle and is followed by the inverted-U-shaped side rails that run from the axle to the rear footboard. The diagram

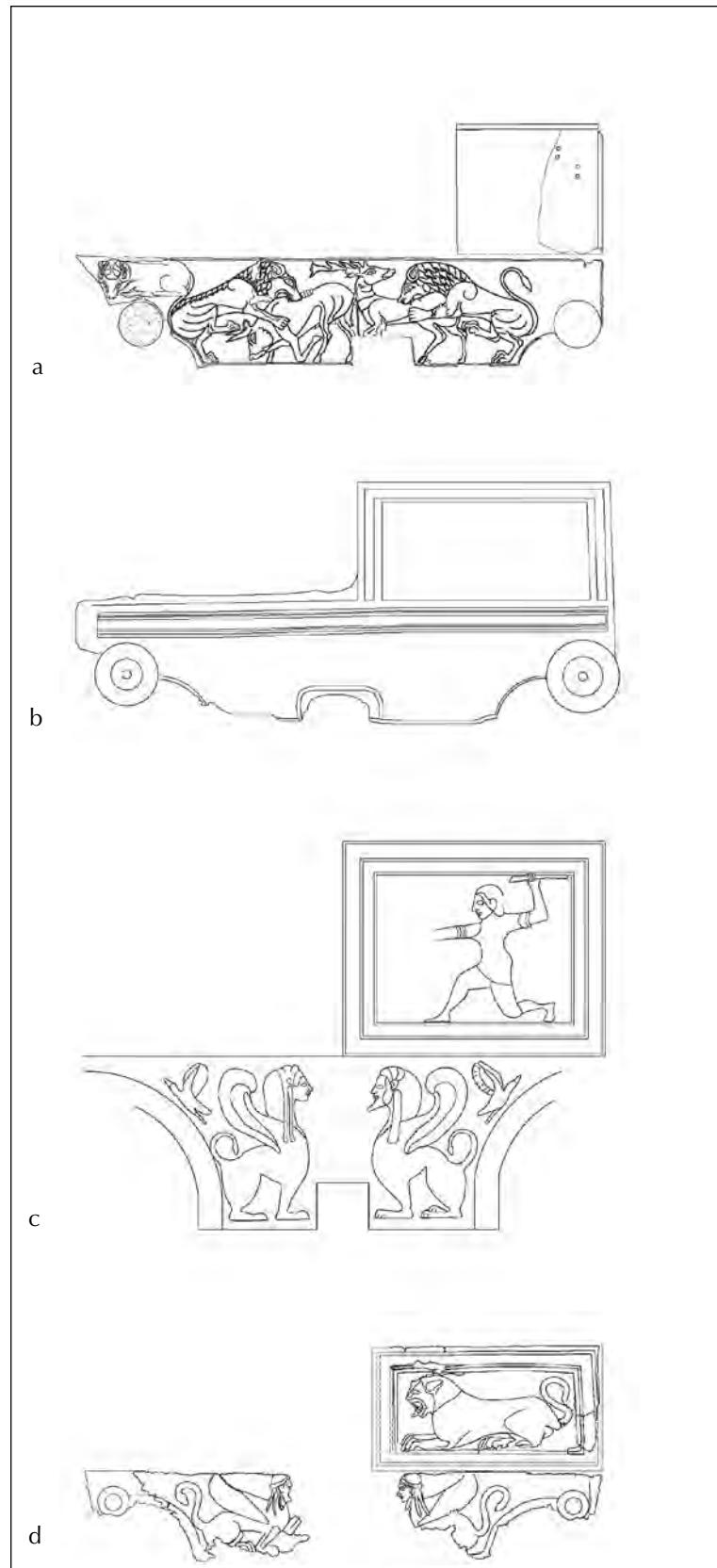


II.4 Detail of the hub of the Castro chariot in Figure II.3. The wood was originally coated with bronze. Photograph: Marcello Bellisario

II.5 Detail of the bronze decoration in front of the central panel on the Castro chariot in Figure II.3. Photograph: Marcello Bellisario



II.8 Bronze decoration on the side panels of the parade chariots from a) Monteleone, (b) Castro, and (c) Castel San Mariano (chariot I). Drawings: Dalia Lamura under the direction of Adriana Emiliozzi



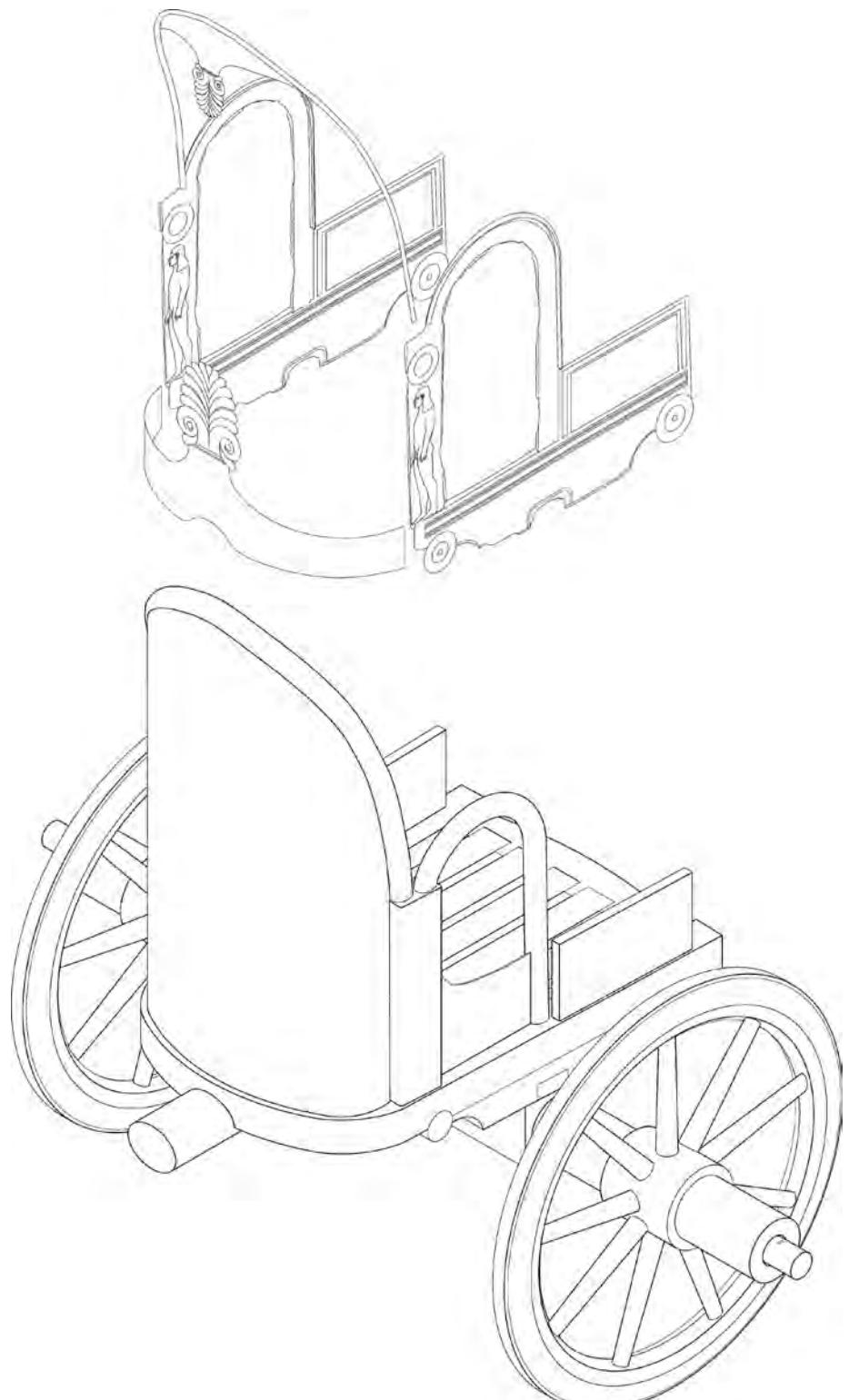
II.9 Bronze decoration on the rear side panels and shock-absorbing systems of the parade chariots from (a) Monteleone, (b) Castro, and (c) Castel San Mariano (chariot I) and (d) the chariot remains from the Barsanti collection. Drawings: Dalia Lamura under the direction of Adriana Emiliozzi

shows the simple design of the rails: A forked branch is set in the center of the curve of the floor frame, and its two extensions are bent at the sides and positioned to form two symmetrical curves. A second forked branch is positioned at the sides, vertical to the axle, and its extensions form a forward-facing elbow bend. The diagram illustrates the passenger area, which is created by stretching leather over the lower and central parts of the space beneath the railings; the space left between the curved branches creates a handhold for mounting the vehicle. Straps fan down from the tops of the curves to keep the leather covering taut. Proof that this system was used is provided by cases where the covering is kept taut by metal frames, and the leather straps, which otherwise have no function, are replaced by small metal rods. Examples of version A are the war chariot from the Tomba dei Carri tumulus in Populonia (Figure II.13) and the Capua vehicle (parade chariot?), while the war chariot from the Barberini Tomb at Praeneste represents version B.¹⁸

The shape of the front rail of Etruscan and Italic war chariots of the seventh century B.C. varies depending on the shape of the floor frame, as shown by the ones that have been reconstructed to date. Examples are the chariot from the Tomb of the Bronze Chariot at Vulci (Figure II.14), with a U-shaped floor frame and a straight front rail that is higher than the side rails; the one from Populonia (Figure II.13), with a nearly rectangular floor frame and an almost straight front rail; and the chariot from a tomb at Narce, with a slightly rounded floor frame and front rail.¹⁹

The tops of the railings in war chariots are never covered in leather because the railings acted as handholds for the standing passenger. Conversely, in parade chariots, designed to move at a walking pace, the railings are not functional parts of the chariot bodies and do not serve as handrails. To keep his balance, all the charioteer needed to do was hold the reins and lean his body against the front panel; the second passenger kept his balance by holding onto the charioteer's shoulder, as can be observed in the many images of chariots in processions.²⁰ The side rails can thus be completely enclosed in leather, even if they are covered with an additional metal sheathing, as observed on the Monteleone chariot and on chariots I and II from Castel San Mariano (to which I will return repeatedly throughout this article).

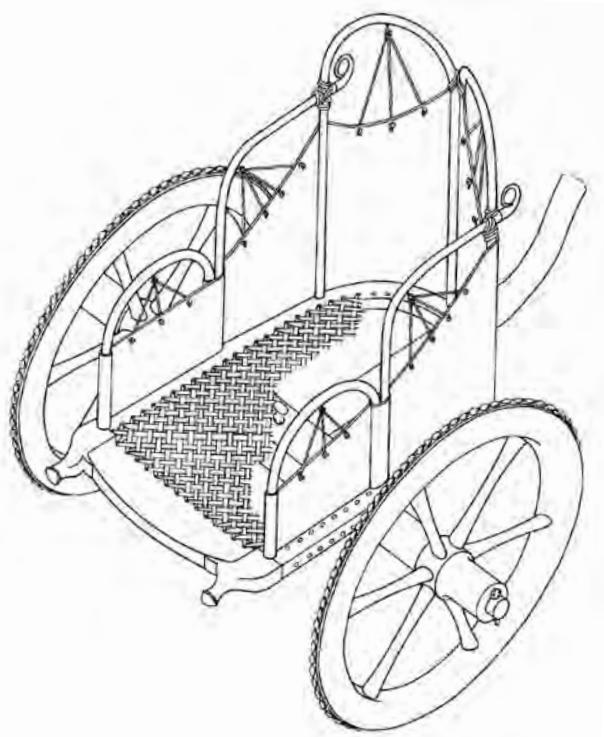
Whether covered only in leather or decorated with additional elements, the front rail is shaped like an inverted U and rises consistently to a height of about $3\frac{1}{2}$ – $3\frac{1}{4}$ in. (80–82 cm) above the front curve of the U-shaped floor frame. The side rails narrow toward the front rail and rise to about two-thirds of its height. In version A, a small rectangular panel is sometimes inserted, as if to fill the space the rails previously occupied behind the axle. This non-functional addition is covered in a bronze revetment in the most sumptuous chariots.²¹ (In the excavated vehicles



II.10 Updated diagram of the Castro chariot (Figures II.1–II.3). Drawing: Dalia Lamura under the direction of Adriana Emiliozzi



II.11 Substructure of parade chariot I from Castel San Mariano as reconstructed for the exhibition "Carri da guerra e principi etruschi" (Emiliozzi 1997, p. 208, fig. 1). Photograph: Elisabetta Bianchi



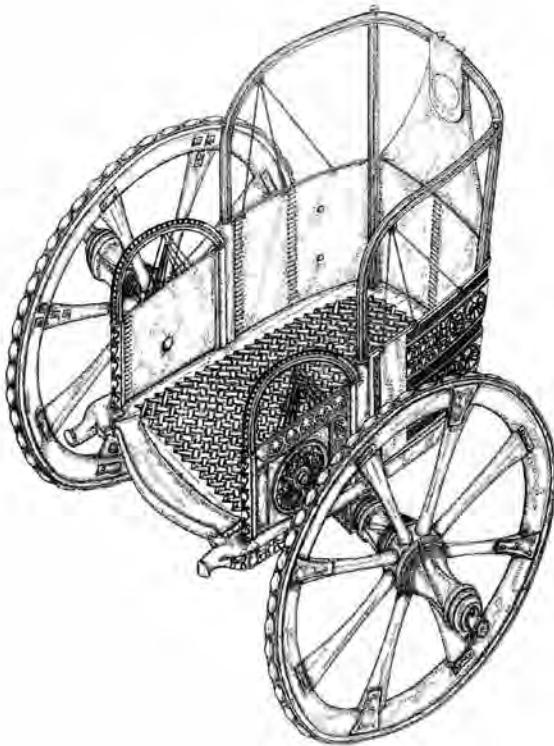
II.12 The war chariot from Castel di Decima as graphically reconstructed for Emiliozzi 1997, p. 96, fig. 1. Drawing: Gabriella Corsi under the direction of Adriana Emiliozzi

reconstructed so far this panel corresponds to the rear side panels on the Monteleone chariot [cat. 15]). The difference can be appreciated by looking at the boxes of the two types of vehicles as if their component parts were shown flattened: in the war chariot type the box has five panels, while in the sixth-century parade chariot type it has three (with or without the two side additions). Also, the wheels seem smaller in the parade chariot, and the length of the chassis is proportionate to the wheels' diameter. We cannot be sure whether there was a general redesign of parade chariots, given that in the sixth century B.C. the same features appear in Etruscan and Latin representations of racing chariots.²² This innovation may have resulted from technology introduced by wheelwrights at the beginning of the sixth century B.C. to satisfy the demands of a new elite (see Section II.C).²³

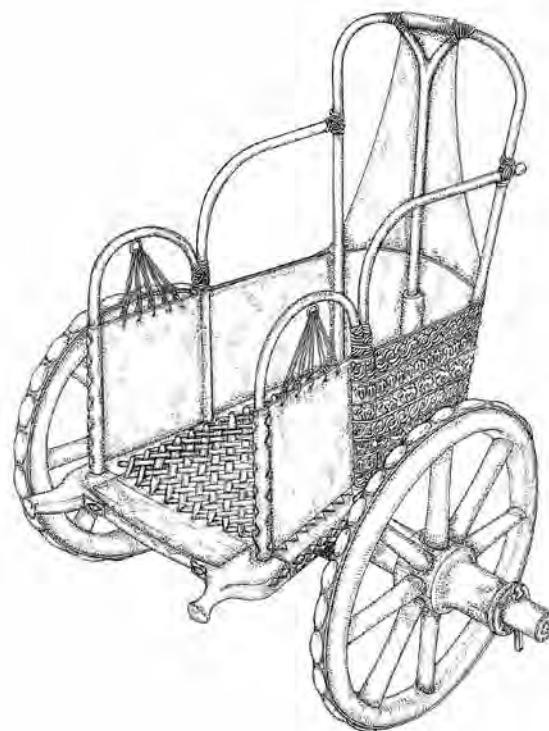
A proposal I recently advanced for the reconstruction of the Dutuit chariot from Capua, which is datable to about 580 B.C., suggests that that vehicle represents an advanced phase of "gestation" of the sixth-century B.C. parade chariot type with U-shaped sides, of which the Monteleone chariot seems to have become the standard.²⁴

The shock-absorbing system. In Etruscan-Italic war chariots the floor frame is always fixed directly onto the axle and draft pole, as in the examples I have noted from the ancient Mediterranean area, whether actual vehicles, models, or representations.²⁵ The reconstruction of Etruscan chariots from Populonia and Vulci (Figures II.13, II.14) shows that the three parts are joined in such a way as to create a rigid traction structure and that the vehicle could only be mounted thanks to a floor of woven leather strips that absorb shocks when the vehicle is in motion.²⁶ The reconstruction is based on a fragment of the floor frame of the Vulci chariot, which shows the holes for the ancient woven leather flooring.²⁷

By contrast, a complex system placed between the floor frame and the axle to act as a shock absorber is reconstructed in the Etruscan parade chariots. The system consists of two facing inverted-trapezoid-shaped pieces of wood presenting curved and rectangular cuts and joined by two cylindrical crossbars parallel to the axle (see Figure II.15). The system sits under the floor frame, and the trapezoidal pieces fit onto the axle by means of two pegs provided with tenons. The two crossbars slot into the pole. As illustrated in the diagram, two narrow curved cuts in the pole receive the



II.13 The war chariot from the Tomba dei Carri tumulus in Populonia as reconstructed in 1997 for the wall labels in the exhibition "Carri da guerra e principi etruschi" (not published in the catalogue [Emiliozzi 1997]). Drawing: Gabriella Corsi under the direction of Adriana Emiliozzi



II.14 The war chariot from Vulci as reconstructed for the exhibition "Carri da guerra e principi etruschi" (Emiliozzi 1997, p. 130, fig. 16). Drawing: Gabriella Corsi under the direction of Adriana Emiliozzi

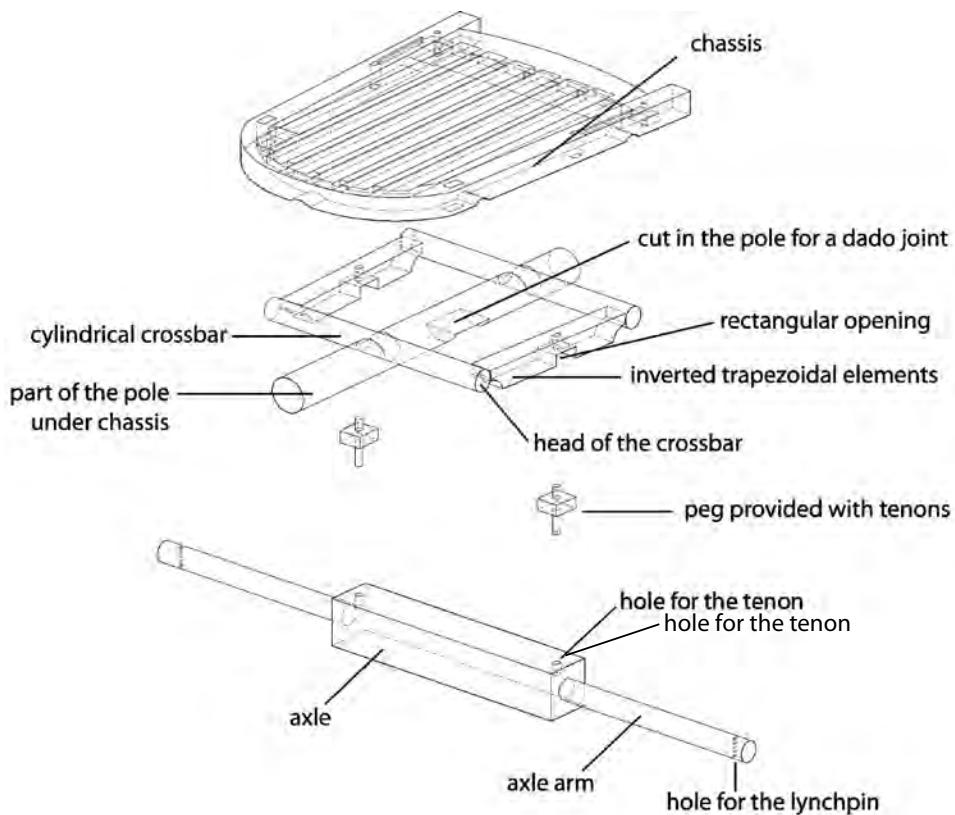
crossbars. The recovery of this type of system—never found in excavations because wood decays—is based on examination of the external bronze sheets covering the chariots from Castro, Castel San Mariano, and the Barsanti collection, as well as the Monteleone chariot. The remains of a parade chariot discovered recently in a sanctuary at Orvieto and dating to the end of the sixth century B.C. present similarly shaped bronze sheets.²⁸ Moreover, a fragment from the chariot found in Tomb XI of Eretum at Sabina Tiberina may belong to an element with the same function and consequently may represent the most ancient occurrence discovered to date in Italy (620–600 B.C.).²⁹

This system seems to have been used to absorb shocks and must have been introduced when there was a rigid floor—in all likelihood made of wooden slats—instead of a woven leather floor. The vehicle could move but it could not go fast, as demonstrated by the fact that the wheels of three chariots equipped with such shock-absorbing systems are completely or partially covered in bronze sheathing.³⁰ Therefore, these vehicles were built only for ceremonial use.

The iconographic sources show several examples of chariots with shock absorbers. They occur on Etruscan-Italic

terracotta plaques representing vehicles in processions, on the bronze sheet covering chariot II from Castel San Mariano,³¹ and on the left panel of the Monteleone chariot (cat. 4a). The latter belongs to the type with ear-loop rails that I called variant B. In some cases the vehicles depicted are drawn by winged, and thus divine, horses.

Almost all Etruscan-Italic war chariots were designed for either three- or four-horse teams. The system for adding a third or fourth horse consists of metal rings or pegs that extend from the top of the front rails and leather loops that hang from these and through which the traces of the outriggers pass.³² The traces were then tied to the chariot car.³³ None of the parade chariots unearthed from excavations and reconstructed so far seems to be equipped with loops for traces. (I suspend judgment on the extremely fragmentary Dutuit chariot.) Among the illustrations of three- and four-horse chariots dating to the sixth century B.C., only one, the frieze of an architectural terracotta from Caere, shows a chariot with holes in the car through which the traces of the outriggers pass, but that vehicle is of a type that has not been identified from the remains of actual chariots from ancient Italy.³⁴ The slow pace of the parade chariot,



II.15 Reconstruction of the shock-absorbing system in the substructure between the chassis and the axle of the Monteleone chariot.

Drawings: Dalia Lamura under the direction of Adriana Emiliozzi

and the fact that a man walked alongside the horses, as shown in some illustrations,³⁵ may have rendered outriggers attached to the car of the chariot unnecessary. This issue lies outside the bounds of the present study, however.

C. Iconographic sources for the use and cultural context of six-century parade chariots

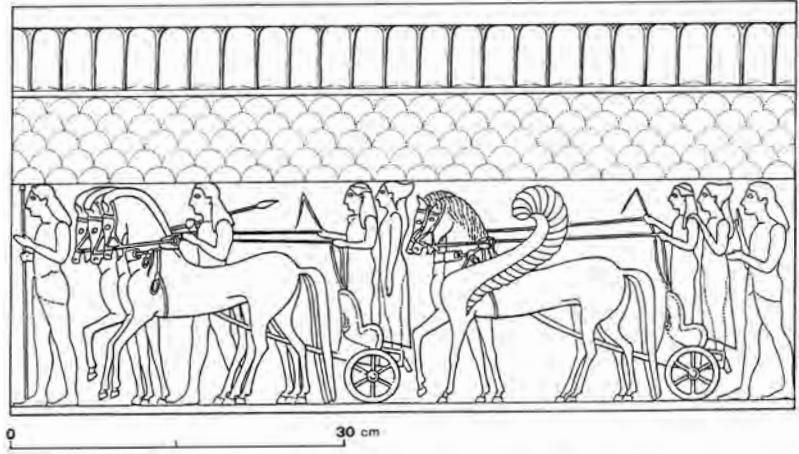
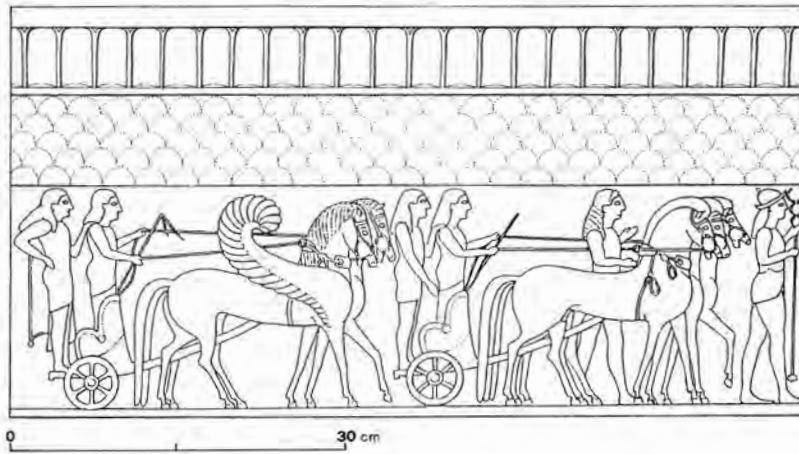
A sixth-century B.C. chariot with a tripartite body could move at a fast pace, as shown by illustrations of races. Thus, a wheelwright had to know what use a chariot would be put to in order to know which shock-absorbing system to install: the traditional woven-leather flooring appropriate for a fast chariot, or a platform, which might sometimes be rigid, suitable for a parade chariot.

The custom of burying vehicles with their deceased owners to show their rank was common in the Italian peninsula during the Orientalizing period. Except in Picenum, it became rare in the Archaic period. However, many Archaic monuments depict scenes highlighting the use of chariots—actual in life and ideal in the afterlife. The terracotta friezes of the temples and princely buildings (*regiae*) of Etruscan and Latin cities are the richest source of visual information.³⁶ These architectural elements (far more than funerary paintings and reliefs, vase paintings, or friezes impressed on bucchero and impasto clay, carved in ivory, or embossed on metal objects)³⁷ provide documentation of princely life

that is iconographically consistent and chronologically continuous. Because they are also less influenced by foreign iconographic conventions, they allow the function (real or idealized) of the Etruscan-Italic chariot to be traced from the first decades of the sixth century B.C. to its end. Discoveries made since the publication in 1940 of Arvid André's work on architectural terracottas have inspired a number of iconographic, stylistic, and interpretive studies on topics ranging from the function of the figurative content in relation to the designated use (civil or sacred) of the buildings to the ways in which wealth and power are symbolized.³⁸ The topic has been so extensively explored that the risk of subjective interpretation is slight.

Illustrations of bigas, trigas, and quadrigas (two-, three-, and four-horse chariots) appear on terracotta friezes from 580 B.C. on,³⁹ but chariots with cars resembling that of the Monteleone chariot appear only around 530–520 B.C. The friezes date to the same period as the Castro chariot (520 B.C.), which in turn presents the same morphology depicted on the so-called Veii-Rome-Velletri plaques, which represent converging nuptial processions (see Figure II.16).⁴⁰ In the procession arriving from the left, the bridegroom stands on a triga behind the charioteer, and the bride does the same in the procession coming from the opposite direction.⁴¹ The car of the bride's chariot resembles the car of the Castro chariot down to the palmette, undoubtedly of metal, that embellishes the leather covering of its front panel. The bride's chariot has rear side panels, which, by contrast, are missing from the bridegroom's vehicle, a parade chariot with ear-loop side rails resembling those mounted on the proper left panel of the Monteleone chariot (cat. 4a). The shock absorbers do not seem to be depicted in the chariots on these terracotta plaques, undoubtedly because the smaller friezes did not allow for great detail. The parade chariots on the terracotta friezes have wheels with six spokes,⁴² whereas the wheels on the Castro and Monteleone chariots, which have the same type of body, have nine. The yokes on the chariots depicted on the plaques, though undecorated, are identical in shape to the yoke on the Monteleone chariot, so the leather collars and the method of attachment must have been identical as well.

Each of the plaques depicts two chariots, one drawn by wingless horses and the other by horses with wings. According to Mario Torelli, the bridal couple in the first chariot (a triga) is "terrestrial," while the pair in the second (a biga) is "divine."⁴³ External evidence indicates that a woman was buried with the Castro chariot, which may have been her bridal chariot. That fact, and the vehicle's sumptuous decoration, point to her exceptional status (see Section II.A). The Monteleone chariot was built for a man, and his gender and high aristocratic rank are clearly conveyed by the scenes depicted on it. Given the similar typology of the



Castro and Monteleone vehicles, the so-called Veii-Rome-Velletri plaques are certainly appropriate for analyzing their intended use. The chronological gap—at least two decades and perhaps twice that long (see Section III.G)—is not a problem. The use of chariots for nuptial ceremonies (albeit mythical ones) has been documented much earlier in the Etruscan world, for example in vase painting dating to the last decades of the seventh (two amphorae from the Agnesi-Piacentini Tomb at Trevignano Romano) and the beginning of the sixth century B.C. (a hydria of the Polledrara Class from the Isis Tomb at Vulci of ca. 580 B.C.).⁴⁴

The earliest terracotta plaques, of 570–560 B.C., depict scenes that disclose the even more important use to which the person who commissioned the Monteleone chariot put it during his lifetime, as a *triumphus*, which in the archaic sense of the term was a ritual celebrating a victorious return from war. Again, Torelli provides a reading of three series of terracotta scenes that supports this assertion: one series from Tuscania and Acquarossa (570–560 B.C.), another from Acquarossa (560–550 B.C.), and a third from Cisterna, near Latina (Caprificio), and Sant’Omobono, Rome (520 and 510 B.C.).⁴⁵ These friezes, too, depict processions converging toward the center, but in a political-military display. Torelli analyzes the different groups of friezes, starting with the ones from Cisterna and Sant’Omobono. The procession coming from the right includes a triga mounted by a warrior, followed by a biga driven by a woman and people walking in front of or alongside the chariots. The procession arriving from the left is led by a triga drawn by winged horses and driven by a goddess, with a warrior mounting the chariot. It is followed by a biga drawn by two wingless horses and driven by a warrior, with people of various ranks walking in front or alongside. Both processions advance slowly, as shown by the position of the horses’ legs. The vehicles are not the same type, nor do they resemble the Monteleone

chariot.⁴⁶ I fully agree with Torelli’s opinion that the scene on the right depicts the departure for battle (*profectio*) of a warrior of princely rank (*regulus*). The narrative implies his future victory, because he will celebrate a *triumphus* and achieve apotheosis (the left frieze) on his return (*reditus*). The interpretation of these friezes is supported by comparing them with those from Tuscania and Acquarossa of 570–560 B.C., where there are no winged horses in similar processions, and with those from Acquarossa of 560–550 B.C., where scenes of Herakles fighting the Nemean lion and fighting the Cretan bull flank the *profectio* and *reditus triumphalis* of the local *regulus* to highlight the inseparable link between heroic deeds and immortality.⁴⁷

The symbolism of power explicit or implicit in these friezes is fully conveyed in the Monteleone chariot, albeit through a different heroic paradigm. The *profectio* is symbolized by the chariot itself at the very moment the *princeps* mounts it (that the chariot is no longer used to reach the battlefield is not important). The event is amplified by a prologue evoking, in the frieze on the proper right side, the *paideia* (training and education of children) and, in the groups with *kouroi* (see my interpretation of these in Section III.B), the *kalokagathia* (physical beauty and moral valor) worthy of a legitimate claimant to the throne, essential prerequisites for the ensuing investiture based on political and military right and represented by a sort of arming ritual that dominates the central panel. The military aspect intimated in the terracotta friezes is clearly depicted on the chariot (proper right panel) to justify the apotheosis of the future *rex* (proper left panel). The apotheosis is not preceded by a *reditus triumphalis* scene because the ceremony is celebrated in the chariot itself.

Achilles never represents a heroic ideal on terracotta friezes of Etruscan and Latin *regiae*, but there are references to Herakles in friezes dating to after the middle of the sixth

II.16 A wedding procession depicted on terracotta friezes from Velletri, 530–520 B.C. Drawings: Fortunati 1993, figs. 5, 6

century B.C. It seems that the stories of Achilles (and Theseus) represent a paradigm of legitimate aspiration to royal investiture for these central Italic princelings, while the stories of Herakles show the tyrant's attainment of personal power, as with Peisistratus in Athens.⁴⁸ If this is so, two distinct groups of Etruscan-Italic parade chariots with figural scenes should be identified on the basis of the type of scene depicted: The first group includes the vehicle from Todi, which is decorated with the stories of both Achilles and Theseus, and the Monteleone chariot, which depicts stories of Achilles.⁴⁹ The second group comprises the two chariots from Castel San Mariano near Perugia. One of the Castel San Mariano chariots shows the Amazonomachy of Herakles on the single large bronze panel enveloping the car;⁵⁰ the other displays the introduction of Herakles into Olympus on one of the side panels, in a depiction unrelated to the main scene on the central panel, which some suggest is connected with the Achilles saga "the genealogical antecedent of the 'nuptial rape' of Thetis by Peleus."⁵¹ If, in fact, there was a distinction between the roles played by such heroes in the Archaic ideology of power, then this symbolic meaning has also to be acknowledged in parade chariots, which, like the terracotta friezes, manifested the owner's eminent position within the family, or society, or both. It seems strange to find the model of hero as tyrant at Castel San Mariano, as this isolated tomb containing chariots (perhaps a total of four spread over two generations) and other splendid bronzes belonged to an aristocratic family.⁵² For half a century, from about 560 to 510 B.C., this clan controlled—from an aristocratic residence, not a city—the trade routes and commerce between the Valle del Chiana and Chiusi before a process of consolidation (*synoikismos*) led to the creation of the nearby city of Perugia.⁵³ In my opinion, the symbolic significance of the bronze panels of the Castel San Mariano chariots, more than the modest works from Todi, was fully appreciated only by the persons who commissioned the chariots in the significant Etruscan centers.⁵⁴ The *principes* who owned them did not identify themselves with Herakles rather than Theseus or Achilles; all three heroes satisfied these princes' desire to assimilate their life histories to that of a Greek hero, according to the aristocratic model in vogue at the time in the outlying centers, where power and prestige were expressed by the accumulation of wealth.⁵⁵

While chariots' iconography underlines their use in sixth-century society, the custom of burying them with the deceased died out in the metropoleis of central Tyrrhenian Italy.⁵⁶ This development, which was obviously linked to changes in funerary customs, does not mean that the two-wheeled vehicle—chariot or cart—was no longer used as a means of transportation in daily life by high-ranking persons.⁵⁷ The sixth-century parade chariots from the Via Appia Antica (three miles outside Rome), Castro (twelve miles from Vulci), Castel San Mariano (six miles from Perugia), and Todi, and surely also the Barsanti chariot said to be from central Italy, all come from strategically situated places in areas outside of (or preceding the formation of) major urban centers, or from districts such as Valnerina, where the Monteleone chariot comes from (see Section I.C), that had never been urbanized before the Romans. In these very areas the custom of burying the deceased owners with other kinds of vehicles continued, whether the vehicles were comparable to war chariots, that is, able to travel at a fast pace, or to carts used for various purposes, including ceremonies. Examples are the finds from Annifo at Foligno and Gubbio in the province of Perugia in east central Umbria,⁵⁸ Tomb 36 of the Eretum necropolis in Sabina Tiberina,⁵⁹ Pitigliano in southern Tuscany, and San Giovenale in southern Etruria.⁶⁰ The custom of burying fast chariots and carts continued elsewhere, but in areas that were not urbanized until the Roman conquest, such as Piceno, Lucania, and Daunia.⁶¹ The recent discovery at Orvieto of the bronze revetment of a parade chariot inside a sanctuary, not in a funerary context, is noteworthy and confirms that in a sixth-century Etruscan metropolis such vehicles were no longer buried in tombs, although they were still being built and used by the living.⁶²

I must emphasize that none of the sixth-century parade chariots found in Italy, whether contemporary with the Monteleone vehicle or later, with or without scenes expressing aristocratic prestige, possesses as complex and coherent a figural program as the one created by the Master of the Monteleone Chariot. The cultural background of this craftsman will be elucidated in Section III. The identity of the person who commissioned the chariot will be discussed separately in Section III, because there is reason to believe that he was not the person who was buried in the tomb with the vehicle.

III. THE CONSTRUCTION AND DECORATION OF THE MONTELEONE CHARIOT AND ITS LIFE BEFORE IT WAS BURIED

A. The ancient framework

All of the results of studies carried out on ancient vehicles agree that the different parts of the wooden framework were attached without pins or metal nails, but simply using joints, secured by rawhide straps as required. The Monteleone chariot was no exception, and if a pin was needed it was also made of wood. Indeed, neither pins nor nails were found among its metal remains, apart from those belonging to the iron tire and those, of bronze, used to attach the revetment. Comparison with the Castro chariot (see Figures II.3, II.10) confirms that the absence of metal pins and nails is not because finds were dispersed in an uncontrolled excavation, but because they were not part of the original substructure.

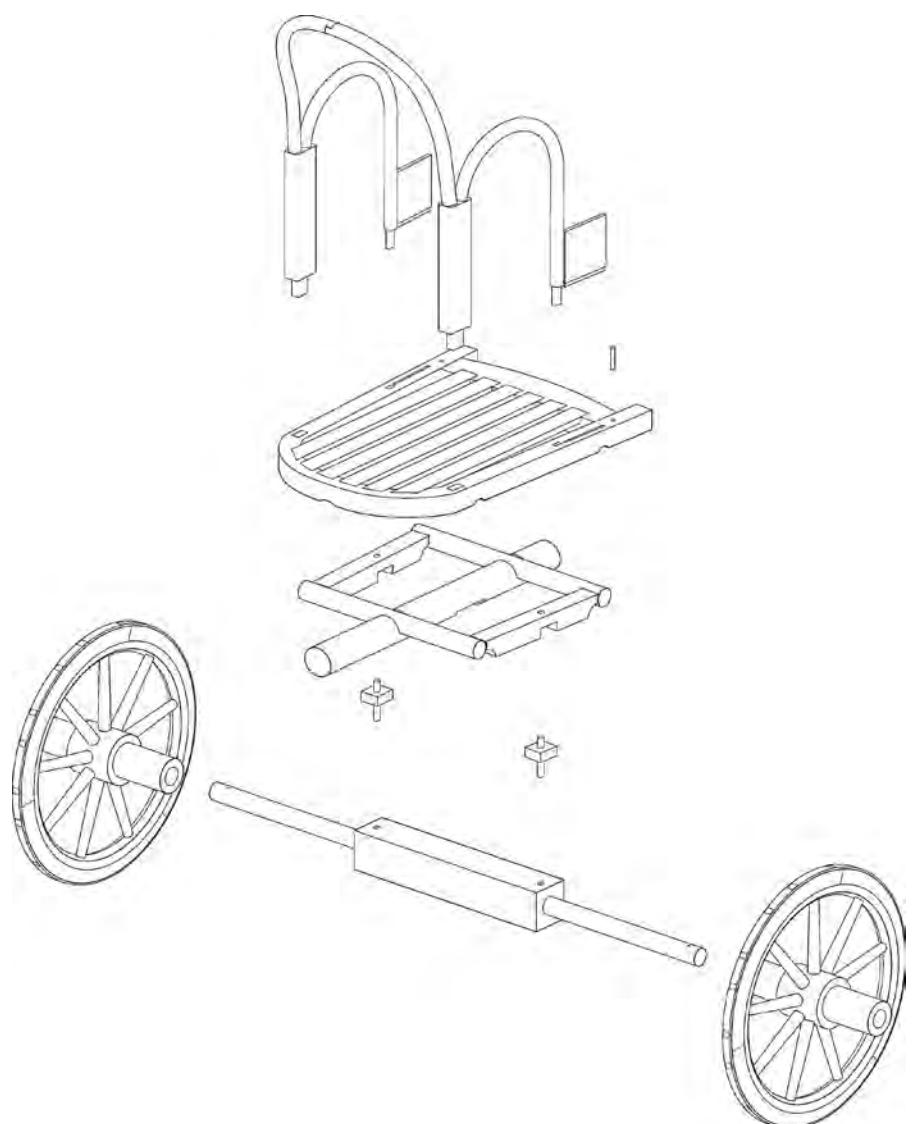
The reconstruction (Figure III.1) shows the individual parts of the framework of the Monteleone chariot and how they were made and assembled.¹ The axle consists of a single piece of wood cut from a tree trunk measuring more than 4 inches (10 cm) in diameter. It was whittled down to less than 1 3/4 inches (4.5 cm) in diameter for the arms that received the naves of the revolving wheels. The central section, which supported the body, was squared to a height of about 4 inches (10 cm) per side. The squared section was suggested by the remains of the Castro chariot, while the height of the square's sides was determined in relation to the diameter of the nave arms: the bronze nave cap (diameter 3 1/2 in. [8.9 cm]) had to revolve around a surface of the same size, or slightly larger, as I hypothesize. The length of the entire axle is about 58 3/4 to 59 1/2 inches (149–151 cm), or the sum of the length of the two naves (16 1/8 in. x 2 = 32 1/4 in. [82 cm]), the width of the chassis (22 1/2–23 1/4 in. [57–59 cm]), and the length of the two end sections of the axle arms that held the lynchpins that prevented the wheels from slipping off (about 2 in. x 2 = 4 in. [10 cm]).² X-rays of the proper left wheel (see Figure V.75) do not show the number of segments in the felloe, so I have hypothesized the lowest odd number that could contain the nine spokes, that is, three per segment. (The wheels' construction is described under cats. 19 and 20.) The odd number of spokes is not unusual; the wheels of the Castro chariot, for example, also have nine spokes (see Figure II.10).

The draft pole crossed the center of the axle and ran under the entire floor frame. The joint between the two parts must have been strengthened by rawhide straps.³ This type of joint, known as a dado joint (shown in Figures II.15 and III.1), has a cut in the pole but not in the axle, to avoid weakening the axle. The presence of this and other cuts is inferred from calculations of the thickness of the following

superposed elements: axle, draft pole, shock-absorbing system, and floor frame. If the proposed cuts were not present in the draft pole and the floor frame, the accumulated thickness would be much greater than the height of the bronze sheets covering the wooden structure.

The front curve of the U-shaped floor frame is wide enough to permit the assumption that a single branch was heat-bent with steam, but it is also possible that the branch was partially shaped as it grew. It was also squared from a diameter of just over 2 inches (5 cm), perhaps before it was heat-bent, to obtain a section of 2 x 2 inches (5 x 5 cm): the first measurement is determined by the edges of side friezes (cats. 11 and 12), the second by the ivory casing (cat. 29a) applied to the rear finials. Into these rear finials were

III.1 The individual parts of the framework of the Monteleone chariot. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi



inserted the tenons of a curved board that finished the back of the floor frame and served as a running board for mounting the chariot. Wooden pegs pierced both the finials and the inner tenons. As I have said, I am not sure if the flooring was made of woven strips or wooden slats, but I am inclined to favor the second possibility (see Figures II.15, III.1 and Sections II.A, II.B).

Each of the two inverted-trapezoidal elements in the chariot's shock-absorbing system (see Figures II.15, III.1, and Section II.B) was 14 $\frac{5}{8}$ in. (37 cm) long and 2 in. (5 cm) high. The rectangular opening on each of the side friezes (cats. 11 and 12, and see Figures II.9a, III.3), which was also re-created in the wooden substructure, indicates that the element was joined to both the axle and the chassis by a parallelepipedal peg (2 $\frac{1}{4}$ x 2 x 1 in. [5.5 x 5 x 2.5 cm]) provided with tenons.⁴ In each end of the inverted trapezoid was a curved cut that ran into the floor frame and formed a semicircle; this semicircle accommodated the heads of the pair of crossbars positioned between the floor frame and the draft pole, which in turn had semicircular indentations to hold the two crossbars. There is no evidence showing whether these joints were lashed together with rawhide straps.

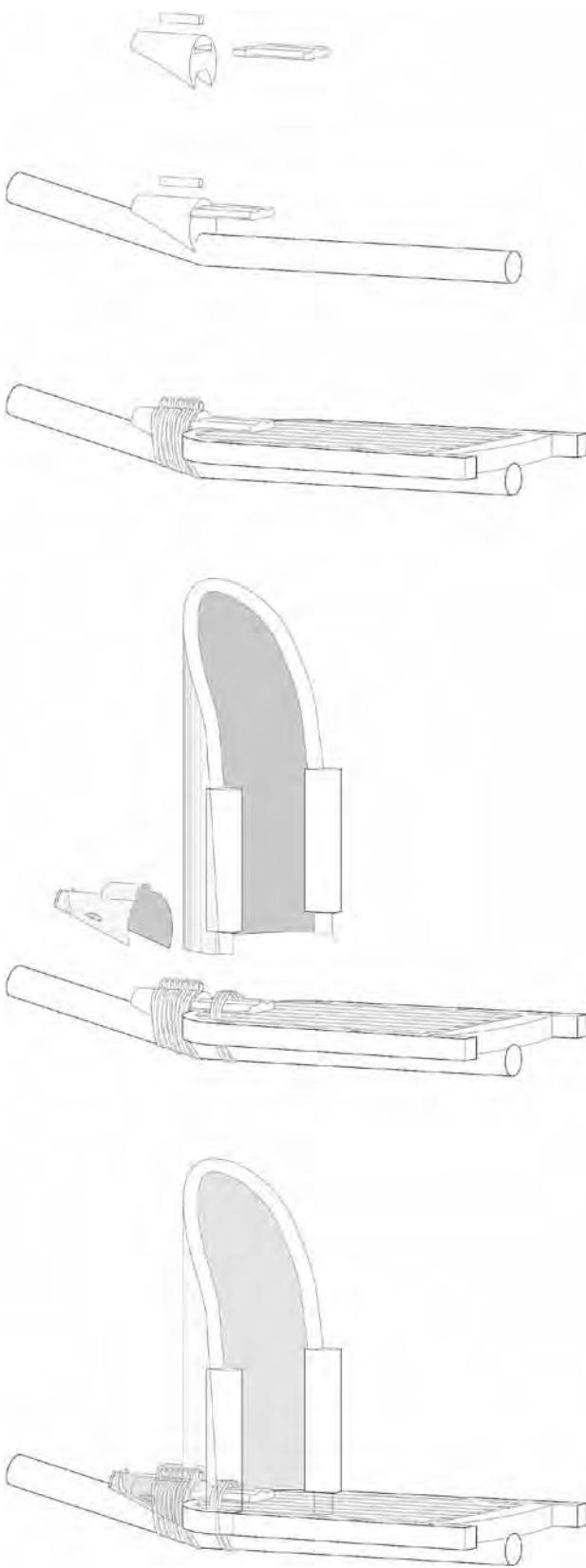
The sidings of the chariot's body were made from an inverted-U-shaped wooden front rail and two similarly shaped side rails. Leather was stretched over three sides and enclosed (partially or totally) the chariot's car. Leather must also have been present in chariots like the Monteleone and Castel San Mariano vehicles that were completely covered by embossed bronze sheets. It served the dual purpose of protecting the work of the master craftsman and ensuring that the occupants of the chariot did not come into contact with the metal. The dismantling of the old reconstruction of the Monteleone chariot allowed me to observe the back of the bronze revetments and understand the shape of the original wooden substructure. The railing was made from only two forked branches, stripped of bark, appropriately bent, and mounted as follows (see Figure III.1): The trunk of each fork was squared to about 14 $\frac{5}{8}$ inches high, 3 inches wide, and 1 $\frac{5}{8}$ inches thick (37 x 7.5 x 4 cm),⁵ leaving a tenon underneath that measured at least 1 $\frac{5}{8}$ x $\frac{7}{8}$ in. (4 x 2 cm). Each tenon was inserted into a specially prepared hole where the curve of the floor frame ends and was secured under the floor frame by a wedge. One of the branches of each fork had been heat-bent to form an inverted U from where it forked, and its end was inserted into the chassis behind the axle; the other branch was used to make half of the front rail. The two parts of the front rail were joined by whittling their diameters to half their original width, superimposing them, and lashing them together with rawhide straps. After they were bent the rails were filed into an oval section.

Because of the extremely fragmented state of the metal in the rear side panels (cat. 15) there is no direct information

about their wooden substructure. Comparison with the Castro chariot suggests that a small rectangle of wood fitted into the floor frame had a batten intended to be attached to the corresponding side rail. This hypothesis is supported by the illustrations of parade chariots on terracotta friezes on Etruscan and Latin buildings (see Section II.C and Figure II.16). A chariot depicted on a black-figure Etruscan hydria in the Museum of Fine Arts, Boston, has rear side panels made from a further extension of the forks forming the rails.⁶

The traction system of the Monteleone chariot is perfectly consistent with that of Etruscan-Italic chariots of the first millennium B.C., as seen in clay and metal models, illustrations, and some actual pieces.⁷ There were two horses under a neck-yoke that was connected to the vehicle by means of a central draft pole. Depictions of neck-yoked chariots usually show a draft pole rising in a gentle curve. The pole of the Monteleone chariot, however, seems to be unique, not because it was totally revetted but because of its profile (including the part under the chassis), which is made up of two obtuse angles. The current reconstruction of the section projecting beyond the chassis follows the line of the bronze revetment: it consists of only two pieces and reveals the shape of the lost wood.⁸ The pole so articulated is clearly made from a solid double-forked branch, one of whose extensions was cut off at the fork (the part with the largest diameter under the chassis) and the other toward the end (the part with the smallest diameter). The reasons for this solution are less clear, unless it is related to the particular system of straps and wedges under the boar protome (cat. 2).

My sketch of the system (Figure III.2) is based on this reasoning: First, the pole on chariot I from Castel San Mariano is also covered by a boar protome. Second, that chariot had a heavy bronze revetment on the front panel that was made separately from the side panels. Third, the thin bronze nails used to attach the front panel of the Monteleone chariot were not sufficient to stabilize a similar bronze sheet (see cats. 1a, 1b), and undoubtedly a supporting system was concealed under the boar protome. Fourth, the boar's head, with its crest, may have been more suitable for covering the supporting system than the head of a lion (or other feline to be connected with the deer depicted in the scene).⁹ And fifth, the front panel of the Monteleone chariot shows the cutout at the center of the base (cat. 1a). Something comparable may have existed in the fragmentary chariot I from Castel San Mariano but not in the Castro chariot, where nothing is placed over the pole where it projects from under the chassis. In the Castro example the bronze revetment of the front panel is only partial and hence light, and at its base there is only the faint arc of a circle above the pole (Figure II.5). In such a case, the junction of the pole and the front curve of the chassis could have been secured by simpler devices.



III.2 The system of straps that might have existed in the substructure under the boar protome of the Monteleone chariot. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

The boar protome on the Monteleone chariot thus concealed a system for securing the pole to the chassis and stabilizing the bronze front panel. The system may have resembled the one shown in Figure III.2 and described below. A piece of a branch was cut into a cone the length of the boar protome, and into this was slotted a tenon that was flat on the bottom and corrugated on top. The cone was hollowed out lengthwise and placed on top of the pole where it projected from the chassis. The pole and the cone-shaped element were lashed together with rawhide thongs tied at the top. A short, very narrow wooden cylinder was placed over the knots, and the thongs were tied once more and the ends cut off. The tenon rested on the floor frame, and the base of the bronze front panel—previously cut to accommodate it—sat on the tenon. Two of the floor slats lay on the pole; the tenon, the slats, and the pole were lashed together with rawhide thongs knotted on the underside. The cone, wooden cylinder, and knots all fit snugly inside the boar's head, while the broad base of the conical element and its corrugated tenon kept the heavy bronze front panel steady.

We do not have direct comparisons for the lost wooden parts of the neck-yoke, as no complete ancient examples have been found. Nevertheless, a full-scale (33½ in. or 84 cm in length) late Classical bronze model from Chianciano and a close replica (two-thirds lifesize) in the clay group with winged horses from Tarquinia from the same period both confirm that the yoke of the Monteleone chariot consisted of a wooden crossbar with two curved extensions that rested on the necks of a pair of horses.¹⁰ The thickness at the end of the two extensions equaled that of the superimposed embossed sheets that were attached to the wood by long, thin bronze nails; holes had to be made in the wooden ends (as in the bronze sheets, cat. 18) for the harness. The thickness of the wood in the extensions cannot be determined, as it also included extra padding around the horses' necks.

B. The iconography of the decoration of the Monteleone chariot

Before focusing in detail on the decorative program of the chariot, we must consider the requirements the person who commissioned it would have communicated directly to the chariot maker and the bronzerworker. First, the customer must have requested that the chariot maker build a parade chariot provided with the features described in Section III.A, in particular the shock absorbers. The wealthy customer also wanted the chariot revetted in bronze embellished with a bespoke figural decoration; in other words, it was custom-made to represent him in his eminent role in society. I believe the chariot maker first found a metalworker capable of sheathing the pole and wheels in bronze—already an exceptional accomplishment—but not skilled enough to design and execute the decoration on the chariot car. A



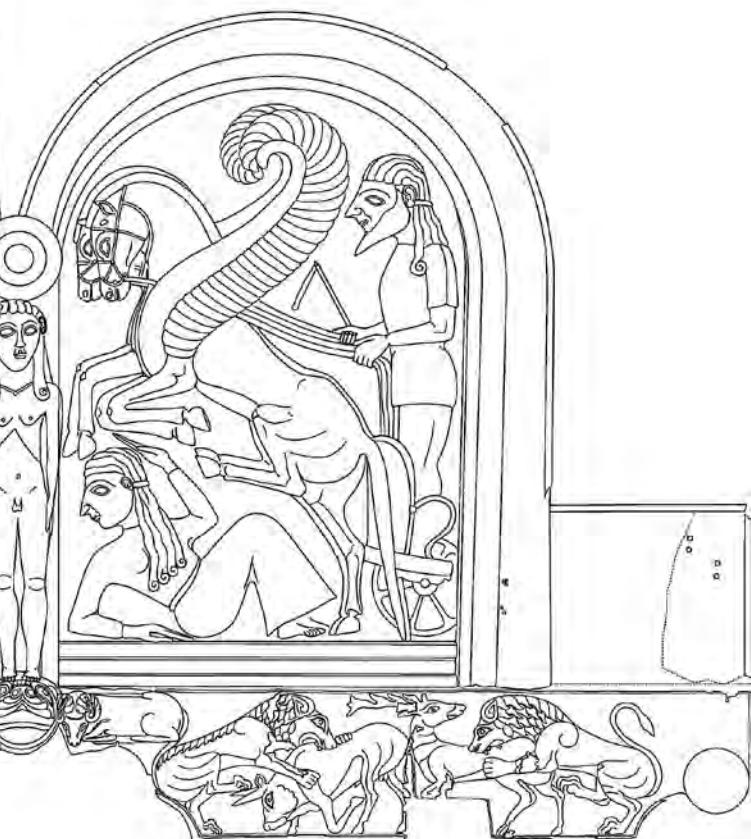
III.3 The box of the Monte Leone chariot with all of the revetments. The drawing outlines only the repoussé work and leaves out the traced detail except where it is essential for a correct interpretation of the scenes. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

master bronzeworker then came into the picture, an artist who might never have decorated a vehicle before but who was an expert in repoussé and tracing and a master of figural scenes and their language.

The vehicle was therefore created by several workers: The chariot maker built the entire wooden framework and made sure the chariot functioned properly. He then delivered the chariot box (the floor frame plus railings) to the master bronzeworker, gave him the measurements, and had him make a cover for the system of lashings and supports where the pole exits the chariot floor frame at the base of the front panel (see Figure III.2). The other parts of the chariot remained at the chariot builder's, and he himself was

responsible for sheathing the wheels and pole in bronze.¹¹ The master bronzeworker and his staff undertook the mammoth task of executing the revetment of the box, including the ivory inlays. Another person executed the small side friezes and the revetment of the neck-yoke (and perhaps the two little rams). Finally, everything was returned to the chariot maker, who attached the leather around the railings, mounted the bronze panels and the other revetments, and supplied the finishing touches.

Most scholars agree with Roland Hampe and Erika Simon that the scenes in the "triptych" (the front and two side panels) and the proper right frieze depict the continuous tale of a single hero.¹² Hampe and Simon followed Pericle



Ducati, who in 1909 championed the idea of narrative unity and, going beyond Adolf Furtwängler's proposal, identified the hero as Achilles. Not everyone concurs.¹³ The task of verifying the narrative unity and the identity of the hero is closely connected with an examination of the story the artist carefully elaborated for his patron.

It would have been clear to the artist presented with the task of composing the three panels that the most important moment in the narrative of the hero had to be depicted on the central panel (see Figures III.3–III.5). For the person who devised the iconography, that moment was when the warrior, identified as such by his greaves, received his armor. The side panels had to show a sequence of scenes culminat-

ing in the protagonist's apotheosis, earned by his heroic deeds in battle. In the main panel the creator of the decorative program isolated the presentation of the armor from the wild outdoor setting. The artist played with different heights of relief to convey three levels of meaning: the principal group in the center is executed in high relief, the background events are depicted in low relief, and the greatest projection highlights the elements in the foreground, in this case at the base of the pole. The final result presents three distinct but contemporary actions (Figure III.6): in the middle ground, the armor being presented in the center of the field; in the background, two birds of prey plummeting toward a deer lying on its back; and in the foreground, the boar who has attacked the deer and tossed it into the air.¹⁴

The scene on the central panel is organized around a vertical axis (arms and boar at the center, figures at the sides) and two intersecting horizontals (birds of prey at the top and deer at the bottom), creating a perfect symmetry. There are no additional filling ornaments. The scenes on the side panels are similarly laid out. The artist drew two parallel horizontal lines and positioned the bodies of the figures between them (see Figure III.7). He aligned the heads of the standing figures in the proper right panel (to the left when one is facing the chariot), where the warrior is engaged in a heroic duel in which he vanquishes an adversary of equal status to avenge the death of a heroic companion in arms, with the head of the charioteer in the panel on the proper left. The combatants' feet could not be aligned with the driver's because he is standing on the chariot, so they are instead aligned with the vehicle's wheels. (The artist could not reduce the overall height of the driver because he is not merely a charioteer but the highborn peer of the two combatants on the opposite panel, so his legs are cut off at the ankles, but the chariot conceals the discrepancy.) The designer placed a more or less recumbent human figure on the ground on each side panel. On the proper right the figure of a dead or dying warrior behind the antagonists' legs is rendered in progressively lower relief. On the proper left the recumbent woman is on the same plane as the near horse, and the far horse and the far wheel of the chariot appear in the background.

The wooden framework of this type of chariot required a shock-absorbing mechanism connecting the floor frame to the axle (see Section II.B). The connection was sometimes covered by a bronze revetment that followed its profile. It therefore became necessary for the master to integrate the side friezes into the overall design as well. The question then arises whether the scenes depicted on them pertain to the theme of the three principal panels and, if so, whether they were part of the original iconographic program. Furthermore, did the same artist design the friezes?

Before attempting to answer these questions, let us look at how the program joined the three panels, on the one



III.4 Montage of photographs showing all the revetments on the box of the Monteleone chariot

hand, and the front panel and the chariot's curved chassis, on the other. On each side the joint between the panels consists of four elements executed individually and combined to create a single unit (see Figures III.3, III.4): a naked youth (cats. 3c, 4c), a disk over his head (cats. 5, 6), a lion protome under his feet (cats. 7, 8), and a strip attaching the central panel to the chassis and terminating in a small crouching lion alongside the lion protome (cats. 9, 10). I believe the design must have included a mirror image—a second crouching lion—on the other side of the

lion protome (see Figure III.8). The second crouching lion must have been placed on the side frieze panels where there is a plain surface. I suggest that this second lion was executed in ivory and then glued onto the bronze sheet. During the life of the chariot, the ivory lion was replaced with a bronze ram, which must originally have been placed elsewhere on the chariot (see cats. 13, 14, and Section III.D).

Although they were executed by another craftsman, the side friezes seem therefore to have been integral to the fig-



ural design from its inception. The representation on the proper right frieze (cat. 11) shows a centaur, a winged figure, and a youth with one arm around a recumbent panther. The front part of the centaur is human and wears a garment like those in Greek depictions of Chiron or Pholos, which differentiates him from common centaurs.¹⁵ Furthermore, he sits on a stool and looks as though he is watching the youth who has caught the panther. The composition suggests that the artist strove to capture the moment when the winged figure flew into the center of the scene.

The winged figure's ankle bracelet and especially the object that hangs from her right shoulder identify her and thus explain the episode. This object, not previously remarked, is Iris's writing tablet.¹⁶ It may also support Hampe and Simon's hypothesis that the master artist of the Monteleone chariot chose the moment when at Zeus's command the divine messenger goes to Mount Pelion to terminate Chiron's education of the young Achilles, announcing that it is time to set off for the war against Troy.¹⁷ This detail may be the key to the entire iconographic program and thus to the identification of the protagonist. Achilles's childhood, relegated to the minor frieze, is the prologue to the drama that will unfold in three acts on the main panels: the hero receiving his new armor, forged by Hephaistos, from his mother, Thetis; the hero vanquishing Memnon over the body of Antilochos; and, finally, the hero gaining apotheosis. As Mauro Cristofani has brilliantly noted, the program thus satisfied the wishes of the person who commissioned the chariot by comparing the patron to the hero par excellence while highlighting the values of a paideia marked by physical training.¹⁸

Given this context, what is the symbolic significance of the animals depicted in the figural decoration, where they appear both on their own and interacting? At present twelve predators can be seen. Lions appear eight times (there may originally have been ten; see Figure III.8b), attacking in only two cases. Birds of prey are depicted four times, twice attacking. Panthers appear three times, never in a posture of attack and once defeated. There is one attacking boar. There are four defeated animals: a fawn attacked by a boar and birds of prey, a deer and a bull attacked by a lion, and a hare bagged by the centaur. There are three rams that are neither predators nor prey; indeed, the protome of one of them crowns the protagonist's helmet.

It is widely held that the attacking lions here symbolize the victorious hero in combat, and I agree. The possible significance of the other lions occurring on different parts of the vehicle has not been studied in sufficient detail, however.¹⁹ The feline heads at the ends of the neck-yoke that



III.5 Boar protome that sheathed the system of straps attaching the draft pole to the floor frame at the front of the Monteleone chariot (see cat. 2a, Figures III.2–III.4)

III.6 Diagrams of the central panel of the Monteleone chariot, showing (a) the boar protome in the foreground and the deer and birds of prey in low relief in the background and (b) the main scene in high relief in the middle ground. Drawings: Dalia Lamura under the direction of Adriana Emiliozzi

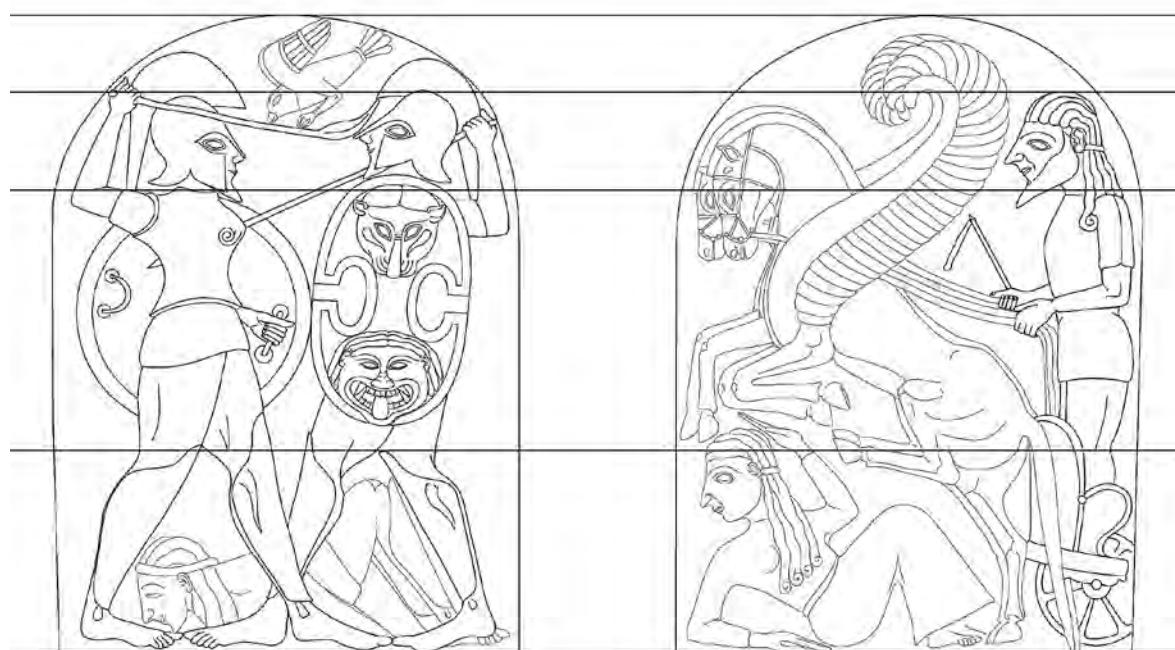


dominated the team of horses might suggest identifying the hero's physical strength with a lion's. Most interesting by far, however, are the groups of felines associated with the kouros on each side of the chariot body. The naked youth seems to dominate the lion, since he stands on its head. Moreover, according to my reconstruction (Figure III.8b) this lion was flanked by two other full, recumbent lions. Since in ancient Greece the kouros represented a youth no longer adolescent but not yet mature, I suggest that the person who devised the program intended to create a link between Achilles's initiation rites on Mount Pelion during his adolescence and

his mastery of the art of warfare at Troy. Thus the iconography stresses not only the *paideia* connoted by the defeated lion but also the *kalokagathia* of both characters (the owner of the chariot and Achilles), embodying the Greek ideal of human perfection.²⁰

If this interpretation rings true, the two groups of lions with kouroi are part of the figural program of the Monteleone chariot, just as the frieze of equestrian races is integral to the so-called Upper Building at Poggio Civitate (Murlo).²¹ Indeed, aristocratic youths engaged in contests to prove their valor during initiation rites for *ephebes* have been con-

III.7 Alignment of the heads and feet of the figures on the side panels of the Monteleone chariot. In order to depict the three figures the same height, the artist shortened the legs of the charioteer and replaced them with a chariot wheel. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi



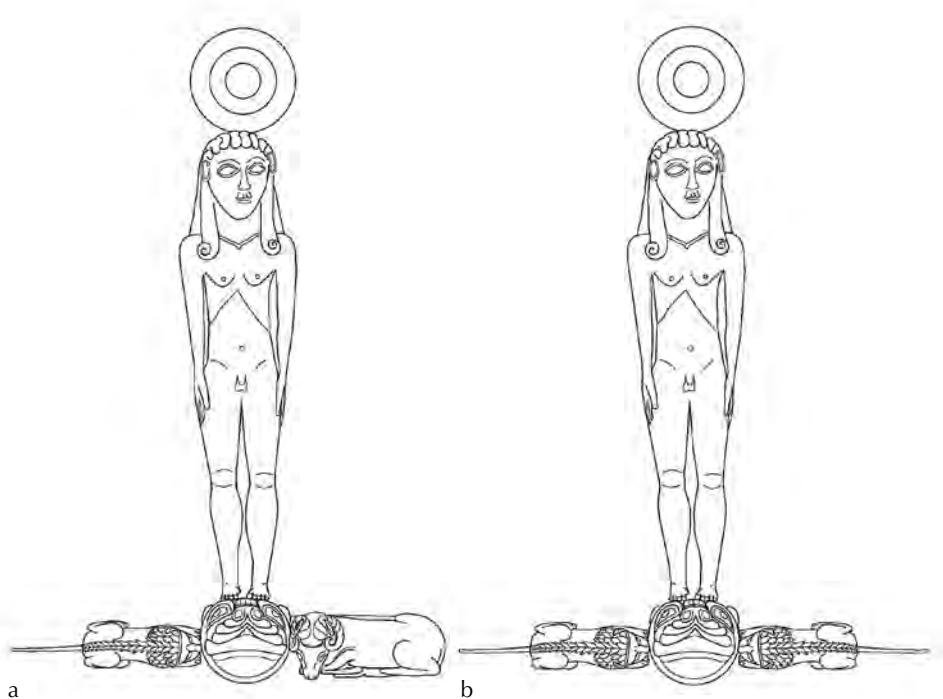
vincingly identified in this frieze.²² According to Bruno D'Agostino, "This concept was well known in ancient Greece: if we could be sure it existed in Etruria, our knowledge of archaic society would be greatly enriched."²³ I believe the Monteleone chariot is another piece of the puzzle, which, together with the clues furnished by the clay friezes, may encourage further research in this direction.

Scholarly literature has repeatedly stated that deer and fawns represent cowardice in battle, as is clearly shown in the *Iliad*.²⁴ In the case of the chariot, while I reiterate that the deer has no connection with the panther just above it in Achilles's shield, but relates only to the boar and the two birds of prey (Figure III.6a), I agree with Steven Lowenstam that "Achilles will enter battle with his new armor, act intrepidly like an eagle, and frighten the Trojans, who will flee like deer."²⁵ But the Achaean hero also rushes furiously forward, just as the boar hurls itself in the same direction as the chariot that carries its illustrious owner.

As for the two birds of prey, their significance as divine omens of good or bad fortune (good if they fly from the right of a figure, bad if from the left) seems ancillary.²⁶ On the front panel they form a group only with the deer and the boar, and I agree with Lowenstam that the single bird depicted on the proper right panel is not flying in any specific direction.²⁷

The ram head on the front panel is totally in keeping with the helmet's function, suggesting as it does that the warrior's head is not only protected but perhaps also involved in battering his adversary. We can compare the helmets of Chalcidian type, which are either shaped like rams' heads or have rams' heads on the cheekpieces.²⁸ The bronze helmet discovered at Metapontum in 1942 (Figure III.9) is the most striking example of the second type. The silver crest supported by a ram protome that for many years raised doubts about the helmet's authenticity has been removed, as have the restored horns.²⁹

The pair of recumbent rams (cats. 13, 14) deserve greater attention. After the chariot was disassembled, examination showed that they had been placed in their current location during an ancient repair to the chariot that occurred before it was buried in the tomb (see III.D). The rams were originally placed on the floor frame in the space between the rear side panels (cat. 15) and the ivory covering the rear finials (cat. 29a–c). In this location, the animals resembled the cast-bronze hook-shaped finials of the Orientalizing Etruscan-Italic war chariots. The finials served a precise structural function. Among those of animal shape, two have the forequarters of a lion and one the protome of a horse, and all of the heads face outward.³⁰ On the Monteleone chariot, the two small rams—which had no structural purpose but were merely ornamental—are the only elements linking, albeit loosely, the sixth-century parade chariot to the ancient war chariot. Such elements in the decorative



III.8 Proper left kouros on the Monteleone chariot, showing (a) the old repair, with a ram in the place of the original animal, and (b) a possible reconstruction of the original group, with a second lion. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

program filled every possible space in order to enhance the symbolic meaning of the varied bestiary.

The question of the identity—and therefore the significance—of the woman under Achilles's chariot on the proper left panel remains unresolved. The most sensible proposal in my opinion was advanced by Furtwängler, who identi-



III.9 Helmet. Greek, 525–500 B.C. Bronze with ivory and bronze restoration, 19 $\frac{3}{8}$ x 12 $\frac{3}{4}$ x 6 $\frac{3}{4}$ in. (49.2 x 32.4 x 17.1 cm). Saint Louis Art Museum, Museum Purchase (282:1949)

fied the female figure as Earth, whence the chariot springs into the sky.³¹ Hampe and Simon's objection that such a personification was impossible when the chariot was built (they date it to 550–540 B.C.) is a major obstacle, unless the master craftsman who designed the Monteleone chariot is to be considered a forerunner. Identification of the woman as Polyxena, the Trojan princess who was sacrificed at the tomb of Achilles, has so far not found general acceptance.³²

By representing the paideia, kalokagathia, arete, and apotheosis of Achilles, the master craftsman and his customer created the most eloquent heroic paradigm of the Archaic age discovered so far in areas of Italy not under Greek rule.

The inspiration for the epic subjects. Since I agree with Hampe and Simon's interpretation of the narrative content of the scenes and their reference to the saga of Achilles, I refer to their studies on the sources of inspiration underlying the iconography of the Monteleone chariot. In the interest of completeness, however, I shall outline their conclusions, pointing out any differences of opinion. The Monteleone chariot depicts episodes of the story of Achilles that are not in the Homeric poems on the Trojan War but instead are in the epic cycle, episodes that were handed down orally and used by artists in various appropriate contexts. Only the delivery of arms on the front panel appears in the *Iliad*. Hampe and Simon demonstrate that Thetis is presenting Achilles with his new armor, specially forged for him by Hephaistos. It replaces the armor that Achilles provided to Patroklos and that, except for the spear, Hector stripped from Patroklos after he killed him. Note that Achilles is not presented with a spear, because he still possessed the one made by Chiron for his father, Peleus.³³ The combat in which Achilles kills Memnon by transfixing him with the spear is the climax of the *Aithiopis*, which ends with the death of Achilles and with his mother, Thetis, carrying his ashes to the island of Leuke, at the mouth of the Danube. That epic, however, does not speak of the hero's apotheosis.

In order to identify Achilles with the immortal horses Xanthos and Balios depicted in the scene on the proper left panel, Hampe and Simon drew on a passage of Alkaios that hints at the heroic kingship of Achilles, as well as on the conclusion of the *Ilioupersis* by Arktinos of Miletos and also the *Cypria*. They suggest that, following a little-known variant, the hero is returning to the isle of Leuke, the realm of the afterlife of heroes, after leaving it to savor the blood of Polyxena, who was sacrificed to him by the Greeks after the conquest of Troy.³⁴ The fact that the presumed Polyxena, recumbent under the winged horses, is depicted as alive, and thus before her sacrifice, has sparked animated and unresolved debate among scholars. Thus, the identification of the woman remains uncertain.³⁵

The scene on the proper right side frieze depicting the centaur Chiron tutoring the boy Achilles on Mount Pelion is inspired by the *Cypria*. Although some still question Hampe and Simon's interpretation of the scene,³⁶ I agree with their analysis, on the basis of the additional evidence I have advanced in this section.

It is evident from this review that the person who designed the decorative program was acquainted with the Homeric and Cyclic poems through various sources of oral transmission, so that different versions of the stories at times intertwine and overlap. The artists and craftsmen who specialized in executing such images would choose individual episodes of a story according to their particular background and training, the function of the object they were decorating, and the probable taste of their customers or a specific request by the person who commissioned it.³⁷ Though it was imported from Athens and made by Greek artists, the famous François Vase, which Beazley has hypothesized was commissioned for an aristocratic wedding, makes an interesting comparison.³⁸ Regarding the two male figures seated on a throne sculpted into the Tomb of the Statues (680–670 B.C.) in Cerveteri, near Cerveteri in Etruria, Francesca Serra Ridgway wrote of "customers who surely knew very well what they wanted and, through relationships with their peers in other countries, knew where to find the specialists who were capable of producing it."³⁹

In the case of the chariot, the person who commissioned it probably decided the iconographic program. He may even have presented the artist—whom he would also have chosen—with his specifications in some form. The patron was certainly well versed in the Greek epics and knew that "in the Etruscan world, Achilles seems to have taken on a function of ideal reference in the definition of the values befitting aristocratic society."⁴⁰ The scenes depicted on the chariot conveyed the message that he had been tutored during his childhood just as the hero had been taught by Chiron, that in his youth he had attained physical perfection and moral integrity, and that in his adulthood he was a warrior and had participated in military actions that achieved supremacy for his own group, over which he was already either invested with supreme power or expected to be through legitimate succession. The further implication was that divine honors due to the rex awaited him in the afterlife (see Section II.C).

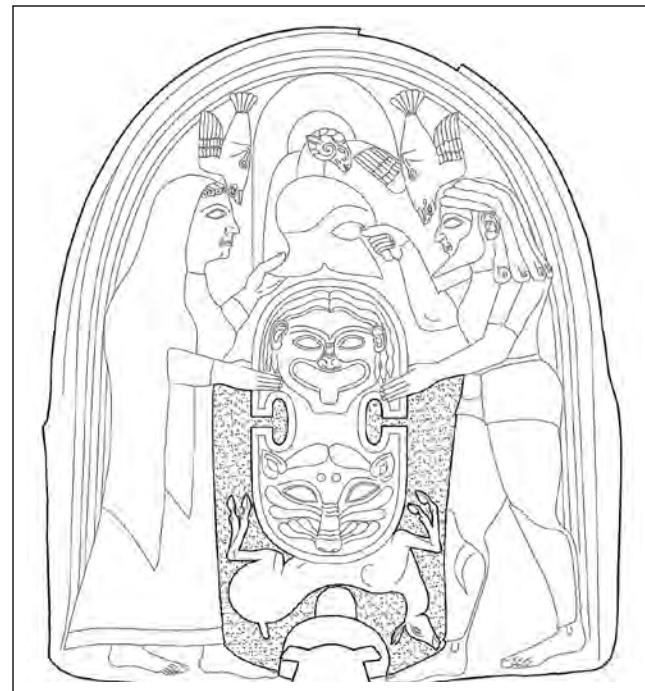
In all likelihood the myths surrounding Achilles and the representations circulating at the time did not include a journey down to the underworld on a chariot drawn by winged horses, and all scholars have encountered difficulties in interpreting the proper left panel correctly using available literary and visual sources. The scenes on this panel must have resulted from a joint decision by the purchaser and the artist: the decoration seems to be a mixture of scenes of *triumphi* as depicted in contemporary friezes on Latin

and Etruscan public buildings, notably royal residences and temples (see II.C), and the little-known myth of the return of Achilles to the island of Leuke in the afterlife.

Even if he controlled a group of minor settlements (see I.C), the chieftain of an ancient community like Monteleone di Spoleto could not have commissioned this chariot. Although I cannot demonstrate that this leader lacked the cultural background, the wealth, and a network of roads that would have allowed him to seek an exceptional artist, it is certain that in his village there were no political or social structures that would justify the iconography and its message. The person who commissioned the vehicle must have been a prince or the king of a proper city, where there was a social *raison d'être* for the parade chariot and its decoration. I believe that the lord of Monteleone was the second owner of the vehicle. Features on the chariot itself underlie my hypothesis (see III.D). Other technical aspects must engage our attention before we can come to a conclusion.

The chromatic effects. "All three scenes of the biga are framed by a border consisting of three bands diminishing toward the interior and inlaid with ivory," Adolfo Morini reported in 1904 after having gathered information on the find directly from those who unearthed it or their trusted friends. Along the length of the pole, he continued, "ran other ivory inlays, of which I had occasion to see a piece shown to me by the farmer Vannozzi."⁴¹ The memory of the existence of this account, recorded during the first frenzied publications following the discovery, was soon lost. Proof of the use of ivory for the chariot's decoration remains in the cavities in the repoussé work, where it is clear that eyes and mouths were meant to be inserted.⁴² I believe, however, that some of the ivory fragments that reached the Metropolitan Museum in 1903 (see cats. 21–30) belong to the pole (cats. 23a, b), the central panel (cats. 21a, b and perhaps 21c, d), the side panels (cat. 28), and the rear finials of the floor frame (cat. 29a–c)—in other words, to areas other than the eyes, mouths, and teeth of faces and heads. Based on the evidence of our research, we can visualize the sequence of the ivory decoration, starting at the tip of the pole.

The eagle head had inlays in its eyes, ivory in the sclera and what may have been another material in the iris. An ivory strip ran underneath the pole. The boar protome had inlaid eyes, and its tusks, which were executed separately and then added, were made of ivory with another material at the tips and bases. All of the eyes in the central panel were inlaid using ivory for the sclera and another material for the iris and pupil, as we can see from the inlay in the right eye of the panther in the Museo Archeologico, Florence (Figure I.13). The mouth of the gorgoneion on the central panel was inlaid with ivory; on the fragment that remains (cat. 22) there are no traces of the pigment that must have



III.10 Diagram showing the ivory covering that was originally attached to the central panel of the Monteleone chariot. The technique may have involved cutting a very thin layer of leather following the outlines of the figures in relief, gluing a mosaic of single ivory strips onto the leather, and then gluing the leather to the bronze. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

been used, at least for the tongue, which was perhaps painted red.⁴³ Nor can we confirm the presence of precious metal on the teeth, in particular on the canines, an adjunct I suggest was used to complete the boar's tusks (cat. 2d).

The rumors that spread the day after the discovery of the chariot maintained that the three main panels were edged with ivory strips, but we found only one fragment of ivory edging (cat. 28), from one of the two side panels. On the other hand, we were pleasantly surprised to find two fragments (cats. 21a, b) that provide clear evidence that ivory covered the bronze surface of the front panel from which the relief projects. The ivory covering may have been attached to the lower half of the panel, starting just below the hands holding the shield (Figure III.10). The technique may have been to cut a very thin layer of leather around the figures in high relief and glue a mosaic of single ivory strips onto it prior to gluing the leather to the bronze.⁴⁴ The shallower relief work in the upper half of the panel may have ruled out this technique, and paint may have been utilized to create the same light background for the repoussé work.⁴⁵ If this hypothesis is correct, the same solution of painting the background was used to enhance the scenes in low relief on the side panels. (Evidence for this procedure appears in the execution of the goad that Achilles holds: had the hanging thongs not been highlighted with paint—in this case in a color that contrasted with the light background—the use of tracing alone would have left them almost invisible.)

The bronze bosses (cats. 5 and 6) that hide the junction between the front and side panels were inlaid with either ivory or some other material. Moreover, I propose that the

outside wheel of Achilles's chariot was fashioned of ivory or a precious metal.⁴⁶

The chromatic effects in the three main panels thus served to highlight the embossed figures left the color of the gleaming bronze against a light background,⁴⁷ to enliven the figures in relief by providing them with eyes and mouths inlaid with various materials, and to contain the three scenes within ivory frames.

A different chromatic effect was sought for the rear side panels (cat. 15) and the finials of the floor frame. On the little rear side panels the lost ivory figures stood out against the bare bronze,⁴⁸ and against the ivory-covered wood finials and the inlaid frames of the side panels the bronze rams would have been highly visible. A solution appropriate to both the chariot box and the pole with its adjuncts seems to have been used for the friezes below the side panels. I refer to the pairs of small ivory lions I suggest flanked the two kouroi (Figure III.8b) and also to the roundels, which I suggest were ivory, placed at the outer edges of the friezes so as to conceal the front crossbars of the shock-absorbing system (one of the roundels, filled with dots, is reconstructed in Figure II.9a).⁴⁹

I believe that this refined combination of bronze and ivory clearly shows the master craftsman's intention to create the chromatic effect of a chryselephantine monument on the less precious bronze surface.

C. Observations for an inquiry into the master craftsman and his collaborators

The decoration of the individual panels must have begun with drawings prepared by the master craftsman on some kind of perishable material, exactly what we cannot know. Nor can we know whether the drawings were executed on the same scale as the finished product, although certain clues—such as the lopsided fit of the scene in the proper right panel (cat. 3a)—indicate that they were smaller.⁵⁰ The preparation of the bronze revetments and all other steps preceding the execution of the repoussé work are not addressed in the present study, nor are the tools used in the preparatory phases. My examination begins with observations on the different levels of quality that can be detected in the repoussé work. It proceeds to the complex tracing work, revealing that the execution was shared by the master craftsman and at least two collaborators. A comparison of the toolmarks produced by the master craftsman with those on other important Archaic bronzes opens up the possibility of analyzing his artistic training.

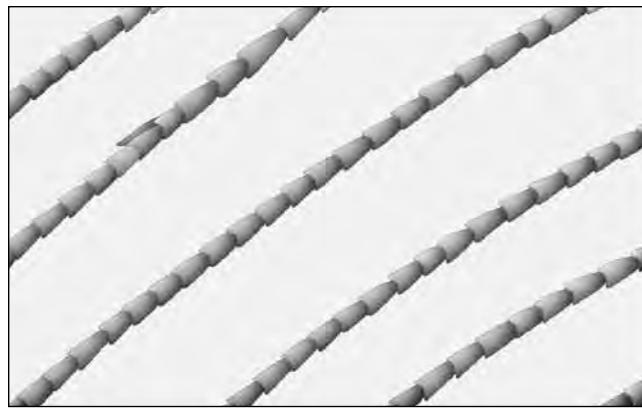
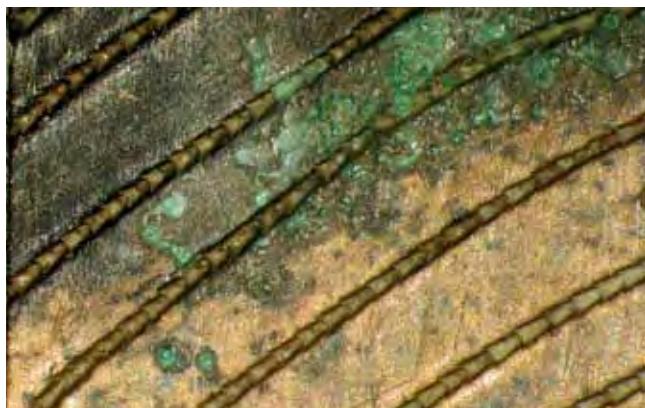
The quality of the repoussé work on the front panel (cat. 1a) is superb, executed with a very steady hand and without any errors in the placement of the scene within the available field. The height of the relief is perfectly graded, as required for the different planes. Both the high and low

reliefs rise evenly and cleanly from the background. All the cavities for the inlays are prepared with extreme precision, as if they were to remain visible after they had been filled in. Given the evidence, I do not hesitate to attribute all this work to the master craftsman.

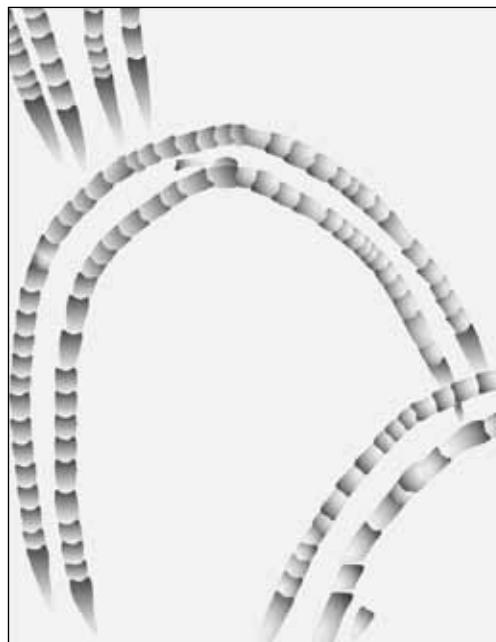
The same cannot be said for the work on the proper right panel (cat. 3a), where the outlines of the hoplite shield and the spear shafts—the edges of which are not parallel—are rendered with an uncertain hand. The worker misunderstood the master's preparatory drawing, so that the Boeotian shield is embossed on an oval, which is itself embossed. The victorious warrior's right hand is depicted in reverse, and the worker forgot to render the combatants' necks. The space required for the hoplite shield was not calculated when the scene was transferred to the bronze; consequently the victor's right arm is short. Also, the body of the fallen warrior is out of proportion, the torso being too small. These shortcomings, which drew attention from the first scholarly publications of the chariot,⁵¹ led to its being dismissed as "Etruscan," in other words, "barbaric," rather than Greek. The poor workmanship in this panel can really only be attributed to a workshop collaborator, as is confirmed by the execution of the traced decoration.

The same assistant must have completed the proper left panel (cat. 4a), to judge by the fact that the right hand of the recumbent woman under the horses' hooves is represented as her left. Note also the irregular outlines of the chariot wheel. Nevertheless, the quality of the workmanship in the very low relief that renders the wheel in the background must be emphasized. The other wheel was executed separately and secured by placing its hub into the small, specially made hole. The position of the horse in the foreground is natural.⁵²

The collaboration between the master craftsman and his assistant is evident in the pair of kouroi (cats. 3c and 4c), the lion heads under their feet (cats. 7 and 8), and the reclining lions (cats. 9 and 10). The master craftsman executed the pieces on the proper left side of the chariot, and these served as models. The copies on the opposite side by his assistant are inferior in the repoussé work and the inner detail. The boar protome (cat. 2a) is of the same quality as the central panel.⁵³ The repoussé and tracing on the eagle head on the end of the pole and the lion heads on the arms of the yoke (cats. 17, 18) are different. On the eagle head the repoussé work is mediocre, compared, for example, with the eyebrow and the preparation of the eye cavity. On the lion heads the repoussé work articulates the eye areas (the eyes were not inlaid) but not the other parts. Comparing the muzzles of these lions with those of the panther on the front panel and with the lion heads under the feet of the kouroi rules out the possibility of the yoke's having been fashioned by the same person.



III.11 Detail of the toolmarks on the helmet crest on the central panel of the Monteleone chariot. The photographs in Figures III.11, III.13, and III.15–III.40 were all taken with a microscope by Kendra Roth.



III.13 Detail of the toolmarks on the feathers of the bird on the right on the central panel of the Monteleone chariot

III.14 Toolmarks in the detail in Figure III.13. Drawing: Dalia Lamura under the direction of Adriana Emiliozzi

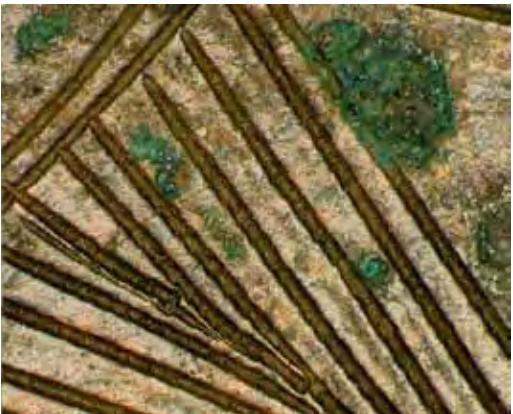
Examination of the tracing allows us to affirm that the yoke was executed by at least two people helping the master craftsman. The traced lines were executed by repeatedly hammering a tracing tool held at an oblique angle (see the technical observations under cat. 1a). A screwdriver-type tracer point was used, and the triangular shape of the toolmark results from the angle at which the tool was held against the metal surface. It is deeper at the wide end of the triangle and shallower at the tip: the more acute the angle, the shorter the triangle. The tool did not leave separate strokes; they are superimposed and create an imbricated sequence: the denser the superimposed strokes, the less evident their triangular shape. The feathers of the birds' plumage were rendered not with a single mark produced by a curved sharp-edged tracer but with a sequence of strokes produced by a straight-edged tracer.

The master used this technique and this type of tool for most of the central panel, some areas of the proper right and

left panels, the lion heads, and small areas of the boar protome and the eagle head on the pole (Figures III.11–19).⁵⁴ The freshness of the master's work is evident, though signs of fatigue are also visible (Figures III.20–III.25). It is not easy to establish whether the poor quality of the tracing in other areas of the same panels (Figures III.26–III.28) is to be attributed to the master's fatigue or to the lesser skill of his collaborator. The hand of the collaborator can be identified in the less accomplished tracing work on the proper right panel (Figure III.29), and I believe the same craftsman did the repoussé work. His style can be detected elsewhere, as in the two side panels, the kouroi (Figures III.30–III.33), and possibly most of the eagle head on the pole. It is quite instructive to compare the execution of curved lines, as in the palmettes and the imbricated feathers. The master craftsman started from the center of a curve and worked clockwise and counterclockwise toward the ends, which always terminate with the tip of the triangular toolmark (see



III.15



III.16



III.17



III.18



III.19

Details of the toolmarks on the Monteleone chariot: III.15 On the woman's chiton on the central panel. III.16 On the shield on the proper right panel. III.17–III.18 On the spots and the eyebrow of the panther on the central panel. III.19 On the feathers of the eagle on the draft pole

Figures III.13–III.15), whereas the collaborator generally hammered the tool in a single direction (Figure III.28).

A totally different working method is observed in the side friezes (cats. 11, 12). The repoussé work is finished with chasing and a tracing tool with a different point, and it appears thicker and shorter (see Figures III.34–III.37). The rectangular rather than triangular shape of the strokes making the lines suggests that the tool was held less obliquely, at times almost vertically. This is certainly the work of a third craftsman, whose technical skills differ from those of the master and his other assistant. The repoussé work of the crouching rams (cats. 13, 14) is also attributable to this craftsman.

It is difficult to ascribe the elements of the yoke (Figures III.38–III.40), but intervention by the master must be ruled out. The warts are filled with concentric rings of dots instead of the scattered dots observed elsewhere. Here also the incisions are executed with tracing, punching, and chasing, but the tools were used in a slipshod fashion, especially the tracing tool, which was dragged across the bronze before being hammered. This feature, also evident in the feathers of the eagle head, is extremely awkward. The current lions

may have replaced a previous pair of arms on the yoke, perhaps when a second team of horses replaced the first during the chariot's long use prior to being buried (see cats. 2a, 16, and III.D). If this was the case, the eagle head must have been retouched for reasons now unknown.

In order to distinguish the workshop tradition of the master of the Monteleone chariot, I investigated the tracing techniques on bronze objects found in Italy, both locally made and imported and both contemporary with and earlier than the chariot. My findings revealed two different traditions. The first method uses a tracing tool with a hull-shaped point. The tool is held almost vertically and tapped continuously, producing lines consisting of a succession of strokes that are wider in the center and pointed at the ends and that occasionally overlap at the apexes (Figure III.41). A skillful craftsman can execute the individual strokes so that the lines appear continuous and regular. Specially pointed tools were also used for the small circles, semicircles, and crescents articulating the spots in the fur of some of the mammals, the plumage of the birds, and the scales of the hybrid figures that populate Archaic art. The curved points of these tracing tools are not sharp, but slightly dentate.



III.20



III.21



III.22



III.23



III.24



III.25

Details of the toolmarks on the Monteleone chariot: III.20 On the hair of the charioteer on the proper left panel. III.21 On the braid of the gorgoneion on the central panel. III.22 On the breast of the woman on the central panel. III.23 On the helmet crest on the proper right panel. III.24 On the eyebrow of the lion head under the feet of the proper left kouros. III.25 On the eye of the lion head under the feet of the proper left kouros



III.26



III.27



III.28

Details of the toolmarks on the Monteleone chariot: III.26 On the border of the shield on the central panel. III.27 On the sleeve of the woman on the central panel. III.28 On the feathers of the bird on the proper right panel



III.29



III.30



III.31



III.32



III.33

Details of the toolmarks on the Monteleone chariot:
III.29 On the spots of the panther on the proper right panel. III.30 On the hair of the fallen warrior on the proper right panel. III.31 On the hair of the woman on the proper left panel. III.32 On the hair of the proper left kouros. III.33 On the leg of the bird on the left on the central panel

The second method uses a pointed tracing tool like a screwdriver that makes the marks observed in the tracing on the Monteleone chariot. The tool is held obliquely and the single strokes create a triangular pattern. Each stroke is deeper at the base and shallower at the tip, which is covered by the next stroke, thereby forming an imbricated line (Figures III.12, III.14, III.42). The final result is an uninterrupted traced line made of deliberately visible strokes, the more precise the work the more distinguishable the strokes. Here, the craftsman's skill lies not in the evenness of the traced lines but in the dazzling effects of reflected light. Thus even the smallest curves, which could have been fashioned more easily and rapidly with a curved punching tool, are meticulously traced with the same straight pointed tool as all the other lines.

The first technique appears on the large bronze front panel and eagle head of the chariot from the Via Appia Antica, which is chronologically closest to the Monteleone chariot.⁵⁵ It was also used on the panels of the slightly older Castel San Mariano cart,⁵⁶ as well as the panels of the more recent chariots I and II, the sphyrelata (wooden statues covered in bronze), and other bronzes from the same complex

that I was able to examine in the Museo Nazionale dell'Umbria in Perugia.⁵⁷ Furthermore, the same technique was used on the cart in Tomb XI of the Eretum necropolis in Sabina Tiberina, which dates to the last quarter of the seventh century B.C.⁵⁸ Other scholars have observed this technique on contemporary and later Etruscan and Italic bronzes.⁵⁹ None of the few studies of Archaic Etruscan-Italic tools has compared them with tools from other areas. Nor have I investigated them systematically. Nonetheless, every example of traced line work securely identifiable by me and others as Etruscan-Italic indicates a hull-shaped point. The point used on the Monteleone chariot is definitely different.

The second method, the method used on the Monteleone chariot, has so far not been adequately studied.⁶⁰ It appears on some bronze vessels thought to come from a Rhodian workshop. Among those from Italy, I call attention to a phiale from the Saline at Tarquinia, now in the Louvre.⁶¹ The phiale seems to show the same toolmarks and procedure for fashioning curved lines, such as the fronds of the palmettes. The master craftsmen of the Monteleone chariot and of the phiale from the Saline both started working from the center of a curve, then continued outward in a clockwise



III.34



III.35



III.36



III.37



III.38



III.39

and counterclockwise manner to the ends, which always terminate in the tips of the triangular toolmarks (see Figures III.14, III.42).

The tracing technique used on another phiale, the so-called Tyszkiewicz patera from Sovana, near Vulci, is revealing.⁶² Alain Pasquier compares this phiale with the phiale from the Saline, pointing out its superior artistic quality but not the differences in the traced lines. He classifies both phialai as Etruscan, from different workshops. According to him, the Tyszkiewicz patera can be dated to 630–620 B.C. Thanks to Pasquier's photographic enlargements (one of which was the basis for Figure III.41),⁶³ I realized that the tools utilized for the two phialai were different and that the lines on the Tyszkiewicz patera follow the first method described above, which was not used on the phiale of the Saline at Tarquinia and the Monteleone chariot. I believe the question is one of workshops following different traditions, Etruscan or East Greek. These observations could be tested on other examples to see whether the Tarquinian bronze, like the technique, was imported or made in Etruria by a skilled immigrant bronzeworker who founded a school.⁶⁴

Details of the toolmarks on the proper right frieze of the Monteleone chariot: III.34–III.35 On the hair and head of the young man. III.36–III.37 On the winged being

Details of the toolmarks on the lions on the yoke of the Monteleone chariot: III.38 On a forehead. III.39 On an eyebrow. III.40 On the warts



III.40

III.41 Toolmarks on the inner decoration on the bronze phiale from Sovana known as the Tyszkiewicz patera. Villa Kérylos, Beaulieu-sur-Mer, France. Drawing (after Pasquier 2000, fig. 5): Dalia Lamura under the direction of Adriana Emiliozzi



III.42 Toolmarks on the fronds of the palmettes on the bronze phiale from the Saline at Tarquinia. Musée du Louvre, Paris (Br 4351). Drawing: Dalia Lamura under the direction of Adriana Emiliozzi



I formulated these comparisons while studying some bronzes found in Italy, but the tracing technique that deliberately highlights lines consisting of imbricated wedges occurs on an East Greek gold artifact from Scythia, the Kelermes rhyton of the end of the seventh century B.C.⁶⁵ There are perspectives that I have not been able to pursue here, leaving them to other investigators, particularly conservators.

D. Ancient repairs, wear, and alterations: Evidence and meaning

There is evidence that the Monteleone chariot was damaged in an accident and that modifications were deliberately made to the vehicle during its subsequent use in antiquity. According to a note in the Metropolitan Museum's archives, the chariot was lying on its right side when it was unearthed, although we have not found confirmation among the documents in the Italian state archive. The assertion, if true, would explain some additional damage on the

embossed decorations on the right side.⁶⁶ This was in fact the side showing damage and repairs carried out prior to the chariot's burial in the tomb.

The main evidence for ancient repairs is provided by the pair of boots that replaced the bare feet of the proper right kouros (cat. 3c). The force that ripped the youth's feet off up to the ankles seems to have struck the revetment from below, as shown by the dents under the chin of the lion head attached beneath the kouros's feet (cat. 7). Given the placement of the kouros, the lion head, the reclining lion (cat. 9), and the nailed boss (cat. 5) on the axle, it seems plausible that at some time the right axle arm snapped, causing the lion head to hit the ground and take with it the part of the revetment with the feet of the kouros. The impact affected every part that jutted out prominently, that is, the face of the youth below the nailed boss, the head and hind-quarters of the recumbent lion, the right ear of the boar protome (cat. 2c), and perhaps also the roundel of the proper right frieze (cat. 11), even if it did not project. When the accident occurred the crouching rams (cats. 13 and 14) must still have been on the rear finials of the chassis. Indeed, the head of the ram currently on the proper left frieze (cat. 14) shows signs of repair that can only be explained by the fact that the rams were not initially on the frieze.⁶⁷

The damage to the chariot tells nothing about its subsequent existence prior to its burial in the tomb. Such damage could even have occurred shortly after the chariot was built. Other varied evidence of its long use before burial is provided by the deterioration of and repairs to various elements and also by changes to and the repositioning of structural and ornamental elements. During the restoration of the ears of the boar protome, Conservator Kendra Roth concluded that the right ear is an ancient replacement that was also repaired in antiquity (see cat. 2c). In the early repairs, which I suggest mended the damage from the accident, the right ear was completely redone and held in place by a riveted strap. Later, the strap needed repairing, and intervention is visible in the lower rivet on the reverse. Furthermore, I reiterate my proposal that originally two ivory lions flanked each of the lion heads beneath the feet of the kouroi (Figure III.8b). After they deteriorated due to wear—or were lost—the two animals were replaced with the rams taken from the rear finials of the chassis.

The ram originally on the proper right (now proper left, cat. 14) had its original base and tail removed in antiquity and was repositioned in place of the lost ivory lion at the front end of the proper left frieze. Because the ram was larger and overlapped the tail of the lion embossed on the frieze, a notch was made in its hindquarters to fit it onto the relief. The same modification was made to the ram on the opposite side, which overlapped the head of the panther on the proper right frieze (see Figure III.3).

It appears that the tusks of the boar protome at the base of the pole were also replaced, given that the current tusks (cat. 2d) are disproportionately large for the animal's head. If, as I maintain, the protome was made by the master craftsman, it seems unlikely that he failed to check the finished work of the artisan who crafted the ivory. (And quite apart from any consideration of the aesthetic character of the chariot, the tusks are hippopotamus ivory, not elephant ivory, which was what was used for many of the chariot's original inlays.) The tusks may have been replaced when the revetment of the protome was removed (and the underside cut) in connection with a change of draft horses: the new horses may have been taller and thus required changes to the angle of the pole (see cat. 16). The substitution of horses would have depended on factors we cannot identify, and the possibility cannot be ruled out that the chariot outlived the horses.

So when and why was the chariot completely refurbished? The simplest answer to both questions would be when it was placed in the tomb for the burial ceremony. Nonetheless, the possibility exists that the person who commissioned the chariot was not the person buried in the tomb with it (see III.F). I believe that this exceptional parade chariot was initially owned by the person who commissioned it, who used it for a long time in a major urban center, and that it later became the property of a powerful village chieftain in the upper Sabina who controlled the trade routes through the Apennine valleys. The change of ownership may have occasioned a refurbishing of the chariot.

E. Observations on iconography and style

The most cohesive and well-documented examinations of the iconographic, stylistic, and antiquarian aspects of the figures on the chariot were provided by Ursula Höckmann and Marisa Bonamici in 1982 and 1997, respectively.⁶⁸ Their research has been fundamental to my synthesis of previous investigations and the modifications I introduce here.

The iconography of the front panel is based on an Ionian prototype that has an antecedent in the amphora from Delos in the Archaeological Museum in Mykonos. The vase, sometimes thought to be of Melian or Cycladic origin, is dated before the end of the seventh century B.C.⁶⁹ The scenes on the amphora and the chariot share the same model. Charles Dugas compared the symmetrical composition of the chariot's figures with the paintings on a clay plate found at Delos.⁷⁰ In his opinion, the potter's source was probably high-quality Ionian bronze works, something like a pair of Cretan shields, or, even better, the Monteleone chariot.⁷¹ The similarity between the chariot's front panel and this exceptional clay plate further supports the hypothesis that our artist working in the first half of sixth century B.C. was of Ionian extraction. Another Melian amphora, said to show Apollo, provides a prototype for a series of representations

of two warriors fighting over the body of a third that includes the scene with Achilles and Memnon dueling over Antilochus's body on the proper right panel of the chariot.⁷² The scene on the chariot seems somewhat static compared to the well-known Euphorbus plate from Rhodes, which is datable to about 600 B.C. and shows Menelaus and Hector fighting over the fallen Euphorbus.⁷³ It is difficult to say whether the competence of the craftsman or the shape of the bronze panel is responsible. The same scene depicted later on one of the Loeb tripods is slightly more dynamic because the trapezoidal shape of the picture field allowed the artist to show the movement of the legs.⁷⁴

No counterpart is known for the composition of the entire scene depicting Achilles on the chariot, but the team of horses and the woman have parallels on the slightly later silver sheet (from a chariot?) overlaid with electrum from Castel San Mariano.⁷⁵ The strikingly Ionian features of the sheet suggest the same iconographic source for the two works, perhaps a more complex scene from which individual elements were derived and recombined. Many years before the recent restoration, I had noticed the similarity between the group of the boar charging a deer on the front of the chariot and the famous pair of gold revetments from Delphi published by Pierre Amandry.⁷⁶ The revetments include the motifs of a lion carrying on its back a kid(?), a young deer (or doe, because it has no antlers, as on the Monteleone chariot), and a stag (with antlers). The scenes are in low relief and show the prey upside down on the wild animal's back as if lying along its body. Sometimes the prey's legs stick up in the air—as on our chariot—and sometimes its hind legs hang down, as in the case of the kid(?), but the lion is always turning its head to sink its fangs into the prey's throat.⁷⁷ The rendering on the chariot shows what must be the natural position of the prey with respect to the predator (see Figures III.3, III.6), whether a charging boar or an attacking lion. There is no sense of perspective in the gold revetments from Delphi or other East Greek works or in four examples of similar motifs from Etruria, all datable after 550 B.C., in which the predator is not always a lion.⁷⁸ The motif does not appear on mainland Greece during the sixth century B.C., with one isolated exception.⁷⁹ It does, however, occur sporadically six or seven centuries earlier in Egypt.⁸⁰ It may have been Egypt—where the predator is always a lion—that furnished the archetype, but the long gap in time makes such a statement tenuous, because the motif appears only in about the mid-seventh century B.C. on East Greek pottery.⁸¹

On the Monteleone chariot the motif of a predator with its prey on its back no longer appears by itself but forms a group with two birds of prey. Is it because the master craftsman knew that a boar charges, but does not devour, its prey? Or is it because he adopted a composition (to date not

attested from excavations) developed in the Greek–Eastern Mediterranean sphere where the motif had reemerged a century earlier? Substantiation of the latter hypothesis is found in the face of the panther on Achilles's shield on the front panel, in particular in the relief articulation of the whiskers and the two swellings under the eyes. (The boar and the panther on the proper right panel have only one swelling under each eye.) Here, too, the closest parallels for both features are found on representations of lions from the Near East, first of the late second millennium⁸² and then of the Achaemenid period, for instance on a rhyton in the Metropolitan Museum (54.3.3). The swellings under the eyes do not appear in Etruscan art (apart from on our chariot), while in the Greek world they occur in Rhodes, Corinth, and areas of southern Italy that had close ties with Corinth.⁸³ The warts on the foreheads of all the felines on the chariot tell a similar story. The detail came into vogue in Etruria in the seventh and sixth centuries B.C. (especially at Tarquinia), and Llewellyn Brown has questioned whether the features came from Greece or the Near East.⁸⁴

A woman wearing her cloak over her head, like Thetis on the front panel of the Monteleone chariot, has been taken to represent “the mother.” The iconography appears on the Caeretan hydriae, produced in Etruria about 530–510 B.C. by a group of Ionian artists.⁸⁵ The motif of a cloak over a woman’s head can be found in Etruria from as early as the end of the seventh century B.C.,⁸⁶ but not worn as it is on the chariot as well as the alabaster-like gypsum statuette from the Isis Tomb at Vulci and the Vix krater, with the drapery over the forearm, following Ionian conventions.⁸⁷

The gorgoneion is depicted twice on the chariot, once on Achilles's shield on the front panel (cat. 1a) and again on the hero's shield on the proper right panel (cat. 3a). All the details on the shield on the side panel have been completely finished in the bronze, so that one can guess how the gorgoneion on the front must have looked when it still had the ivory inlays for its eyes and teeth. The difference in the quality of execution reflects the varying abilities of the two craftsmen, the master and his principal assistant. The head of the gorgoneion on the side panel, executed by the assistant, lacks the finely traced beard of the one on the main panel, a simplification perhaps necessitated by its different position within the oval shape of the Boeotian shield.

Unfortunately, the fact that the gorgoneion on the side panel was finished in bronze, and therefore looks complete, has caused scholars to take it as the representative gorgoneion on the chariot. Ingrid Krauskopf maintains that the gorgoneion on the side panel shows the almost standard Etruscan type of the last quarter of the sixth century.⁸⁸ The shape of the head is basically oval, the open mouth occupies the full width of the face and shows the fangs, the protruding tongue coincides with the shape of the chin so

that it does not extend beyond the outlines of the face, the wrinkles on the base of the nose widen out toward the tip, and the hair is parted in the center, falling in wavy locks that reveal the ears, which are attached very high. But as Krauskopf has pointed out, like many Etruscan gorgoneia of the period this one seems to be missing a beard. This gorgoneion shares features with some terracotta plaques from the *columna*, or gable post, perhaps from a *mutulus*, or part of a Doric cornice, and from antefixes of the so-called Upper Building of Poggio Civitate (Murlo) that are earlier (580–575 B.C.) and with a type of antefix from Vulci from which those of Murlo may be derived.⁸⁹ The hair parted in the middle of the forehead—rather rare—is the same, although the eyes are still large and the mouth less so. Here, too, the beard is lacking.

The terracotta workers from Murlo and Vulci must have simplified a bearded model, which also served for the gorgoneion on the main panel of the Monteleone chariot. On the face of the gorgoneion on the cart from Castel San Mariano of 580–570 or 560 B.C. (?) the section of the forehead that would have shown the top of the hair is missing, but the locks flowing down behind the ears strongly suggest a central part.⁹⁰ Artistic quality aside, such a gorgoneion is based on the same model as the one the master of the chariot adopted for the bearded gorgoneion. No evidence exists in or outside Etruria to indicate the origin of this model, though all of its aspects point toward an Ionian setting.⁹¹

There is a connection between the panther heads on the central and proper right panels analogous to the one observed between the gorgon heads on the same panels. The panther face on the side panel was fashioned by the main collaborator and simplifies the model executed by the master craftsman on the shield in the central panel. The iconography of the copy recalls the two panther heads on the ends of the overfold of the gorgon’s garment on the short side of the Castel San Mariano chariot; the only significant difference is the absence on the cart of the swellings below the eyes. This feature is totally foreign to Etruscan art but occurs on the Monteleone chariot and, as I have said, in Rhodes, Corinth, and southern Italy.

The head of the panther in the proper right frieze (cat. 11) relates to a different iconography represented by a series of terracotta plaques from the so-called Upper Building of Poggio Civitate (Murlo).⁹² In both examples the face is round, the ears have the same wavy leaf shape with outer and inner ridges forming an inverted V, and the forehead has a central vertical groove. The eyes are markedly oblique, and the arc of the eyebrows is identical. The felines on the Poggio Civitate plaques do not have the characteristic warts of those on the Monteleone chariot, however. While the composition of this frieze is unique, the individual elements occur in Ionian gold work, as Marisa Bonamici has noted.

She points to the Kelermes rhyton, whose iconography shows the hero fighting a lion and holding its body in his arms and the centaur carrying his prey slung on a branch after the hunt.⁹³ The closest iconographic match to the latter is the seated centaur on a Pontic vase by the Tityos Painter.⁹⁴

The subject of the frieze on the proper left side of the chariot has a long history and was very popular throughout the Mediterranean world. To quote Chrysoula Kardara's description of a jug from Rhodes of the early second half of the seventh century B.C.: "A lion is drawn attacking a bull, an oriental theme known to the Mycenaeans, from whom it was transferred to the Levant in the late second millennium B.C."⁹⁵ Following the preferred East Greek iconography, the bull stands upright on its four legs before succumbing. The image of the bull kneeling on its front legs found in Etruria seems to belong to the Attic tradition, as it is depicted on imported pottery, the most famous example being the François Vase (ca. 570 B.C.) found at Chiusi.⁹⁶ The iconography of such local works as the Pontic vases made at Vulci in the second half of the sixth century B.C. and examined by Maria Antonietta Rizzo seems to follow this tradition.⁹⁷

Since 1996 I have focused on the motif of the kouros standing on a lion protome between two confronted images of a recumbent animal. The group was made to hide the joints of the three panels of the chariot, with the addition of a boss above the kouros.⁹⁸ Here I suggest that the two recumbent animals must originally have been lions (see Figure III.8) and that the animal on the right was later replaced by a crouching ram. The composition of those groups may be compared with that of the figural handles of bronze hydriae and oinochoai attributed mainly to Laconia (produced between 575 and 525 B.C.) and Corinth (produced between 540 and the early fifth century B.C.).⁹⁹ These handles show a naked youth (a kouroslike figure) with two crouching rams and, below them, an inverted palmette. The youth's arms are bent upward, and his hands hold the tails of two symmetrically placed lions that are fixed to the rim of the vase. There are examples of this type where the naked youth stands on a gorgon head and not on the more common palmette,¹⁰⁰ just as the kouroi of our chariot stand on lion heads. In the Corinthian group, the most complete of the five known handles with gorgoneia belongs to the hydria from an Illyrian tomb with rich bronzes and other precious grave goods in Novi Pazar, which Stibbe dated about 540–520 B.C.¹⁰¹ The Laconian series seems to have been made almost solely for export, traveling as far afield as the Carpathian basin in eastern Hungary, although some examples have been found in Laconia, demonstrating their provenance.¹⁰² Our bronzerworker may have been inspired by the same sources followed by the Laconian handles and later imitated by the Corinthian ones.¹⁰³ The artist who adapted the models to fit the chariot and satisfy the requirements of

his patron replaced the gorgoneion and the rams at the feet of the kouroi with lions (Figure III.8). He did not totally eliminate the rams, however, which are often depicted on Laconian handles from mainland Greece and Magna Graecia,¹⁰⁴ but placed them on the rear finials of the chassis.

The influence of Peloponnesian art can be seen in the iconography of Achilles's helmet on the central panel. The ram protome matches the famous helmet from Metapontum (Figure III.9), even if it is later than the chariot.¹⁰⁵ In the debate over where this helmet was made, Marisa Bonamici proposes an East Greek origin, basing her suggestions on the decorative border and ram protome on the shield found with it in the same tomb.¹⁰⁶

Other features of the scenes on the chariot have East Greek parallels. The figure of Thetis is very like the gypsum statuette from the Isis Tomb at Vulci (575–550 B.C.), which today is associated with Rhodes.¹⁰⁷ The hair of Achilles and of the woman under the horses in the proper left panel resembles that of some small kouroi from Naukratis and on terracotta vases from Rhodes.¹⁰⁸ Though different in style, these vases also favor subjects like boar heads, eagle heads (see Figure III.43), and recumbent rams.¹⁰⁹ The human faces have been likened to those on bronze sheets from Olympia considered Samian. These works also provide parallels to the garments worn by Thetis and the woman on the proper left panel, as well as to the male figures' unpleated *chitoniskoi*, or short tunics.¹¹⁰ The faces of the kouroi have been compared to those of the female sphyrelata from Castel San Mariano and the male faces on the *infundibulum* (funnel with sieve) from Capua, both of which are clearly of Ionian stamp.¹¹¹

In her study of archaic Greek kouroi Gisela Richter claimed that the naked youths on the Monteleone chariot, which she believed were Etruscan, showed a lack of anatomical development compared with the contemporary East Greek examples.¹¹² However, she also agreed with the majority of scholars, who date the chariot about 540 B.C. (not before 550–540 B.C.) because of the two Little Master Attic lip-cups among the grave goods in the tomb (Figure III.44). As I shall show presently, the chariot must be dated earlier for reasons other than of iconography and style. The anatomical features that Richter rightly deemed archaizing if dated to 540 are therefore perfectly appropriate for the kouros in East Greek art of about 555 B.C., which she described thus: "The head is large in proportion; the ears are flat; the lower boundary of the thorax forms an angle far below the pectorals; there is no protrusion at the flanks; the vasti are not differentiated." These features appear on an Ionian kouros in Stockholm, certainly a little older than our chariot, that Richter considered Greek, as against others who identify it as Etruscan.¹¹³ Even if it shows more flowing surfaces—perhaps because it was cast, not

III.43 Aryballos in the form of an eagle head. Greek, Rhodian, ca. late 7th–early 6th century B.C. Terracotta, L. 4 1/8 in. (11.1 cm). The Metropolitan Museum of Art, Purchase, Anonymous Gift, in memory of Sleiman and Souad Aboutaam, 2006 (2006.267)



hammered—it resembles the *kouros* on the chariot in the position of the arms and legs. Regarding the chronology of the chariot's youths, the positions of the arms, hands, and legs are not as developed as they are on another group of small Ionian statues from Samos dated between 550 and 540 B.C., where the arms are slightly bent, the hand makes a fist, and the right leg is slightly forward.¹¹⁴ A fragmentary but magnificent cast-bronze statue found near Vulci and attributed to East Greek craftsmen by Antonella Romualdi has been compared to the Samian statuettes. She dated it 550–540 B.C. and suggested it was imported, rather than made locally by an immigrant artist.¹¹⁵

The chariot's reliefs include elements that, notably in their embellishment and stylization, underlie my conclusions as to the artistic background of the master of the Monteleone chariot and his collaborators. I have gathered these elements over many years of study and seek here to marshal them appropriately.

The large eight-pointed star with circumscribed palmettes in the lower part of Thetis's chiton (Figures V.3, V.4) resembles the one in the center of the phiale from the Saline

III.44 Little Master lip-cups. Greek, Attic; left: ca. 550–525 B.C., right: ca. 565–550 B.C. Terracotta; left: H. 3 1/8 in. (7.8 cm), right: H. 6 5/8 in. (16.8 cm). The Metropolitan Museum of Art, Rogers Fund, 1903 (03.24.32, 03.24.31)



at Tarquinia that I singled out for its tracing technique and that is considered an export from Rhodes.¹¹⁶ The chiton also incorporates an Ionic star-shaped pattern within the meander. The motif occurs, furthermore, at Sardis around 560–550 B.C. and on the Monteleone chariot it represents a link between those prototypes and later Etruscan imitations.¹¹⁷ The stylization of the spotted fur of the deer and the panther's forehead has been compared with the gold revetments from Delphi mentioned above.¹¹⁸ By contrast, the group of the boar protome, the deer, and the two birds of prey on the front of the chariot (see Figures III.3–III.6) was invented by the master of the Monteleone chariot.

F. The identities of the chariot master and his patron

For decades, the prevailing view of the Monteleone chariot was that it was made by Etruscan craftsmen influenced by East Greek art. I have shown here that the Monteleone chariot is an Etruscan-Italic chariot (see Section II) and described how it was made by a wheelwright and a bronzeworker, in tandem and in the same city, but each within his own workshop (see III.B). Scholars have tried to identify the city and most agree that it was Etruscan, opting for Orvieto (Volsinii) or Vulci, or simply Vulci.¹¹⁹

Recent literature has reduced the number of hypotheses concerning the cultural background of the master of the Monteleone chariot to three possibilities: he was an Etruscan under Ionian stylistic influence, he was an Eastern Greek who worked in Etruria and adapted to local requirements, or he belonged to a group of Etruscan and East Greek bronzeworkers who were active for a time in a single shop and influenced each other.¹²⁰ Iconographic, stylistic, and artistic arguments have been advanced to support each of these three hypotheses, but only recently have the technical aspects also been considered—cautiously for the tracing and firmly for the repoussé work.¹²¹ I should like to focus on those technical aspects, which have revealed the presence of more than one worker in the execution of the project. The tracing technique characteristic of the master craftsman and his main collaborator (see III.C) can be found in older Ionian products imported into Etruria, but it does not seem to have been used by other Etruscan bronzeworkers either before or after; in fact, later use of tracing remained anchored in the indigenous tradition. It is a question not merely of using the tracing tool in a different way but also of a different conception of how the final result should look. The artists of the Monteleone chariot produced a wedge-shaped line to reflect light, while the purely Etruscan bronzeworkers tried to conceal the gaps between the single strokes in executing single lines.

The repoussé work confirms that our master craftsman was innovative in using high relief, as Ursula Höckmann has pointed out.¹²² His mastery can also be seen in the skillful rendering of foreground and background effects. This

skill is not matched on the certainly Etruscan high-relief panels of chariots from Castel San Mariano, nor in the lower-relief yet very plastic effects of the Loeb tripods from San Valentino di Marsciano. According to Höckmann, the high-relief technique did not appear in mainland Greece but reached Ionian bronzeworkers from the Near East before being directly, or indirectly, transmitted to the Etruscans by immigrant artists. Also according to her, bronze high relief gradually disappeared in Etruscan art as Ionian influence waned.

We can dispose, once and for all, of the notion that a good craftsman (rather than an artist) misinterpreted the iconographic sources for the Monteleone chariot. The weaknesses were those of the master's collaborators.¹²³ One of them may be considered the pupil, while the person responsible for the side friezes seems to have been an Etruscan collaborator. On the friezes the panther held by Achilles does not have swellings under its eyes, and its whole face differs from the ones on the main panels. Moreover, the panther looks more like a statue than a living animal. Iris's wings do not seem to be part of her body. Unlike all the other male heads on the chariot, the centaur Chiron has curls on his forehead. All the faces have very receding foreheads, long pointed noses, and indented chins forming triangular profiles. Furthermore, the animal fur was not rendered in the manner of the East Greek gold sheets from Delphi,¹²⁴ but, apart from the bellies, was executed with tiny punched dots, so that the creatures appear to be hairless and look painted. Finally, the low relief, though of good quality, is flat, with a pictorial rather than plastic appearance that is exaggerated by the outline.

In his study of the Tyszkiewicz phiale Pasquier claims that there is an iconographical link between the phiale and related pieces on the one hand and the frieze at the base of the bronze female bust in the Isis Tomb at Vulci on the other.¹²⁵ I agree with him. In my opinion, the Etruscan workshop that produced the bronze phialai derived from the type found in the Saline at Tarquinia was not located inland, as Chiusi is—and as Pasquier postulates—but was instead on the coast at Vulci, where the Isis Tomb bust was found.¹²⁶ I propose that imports from East Greece were followed by the arrival of an artist (from Rhodes?) and his pupil who had been invited especially to work in Vulci.¹²⁷ Rather than setting up his own workshop, the artist worked on the premises of the local bronzeworker, who, in addition to the bust from the Isis Tomb, may have decorated the chariot from Via Appia Antica, which also shared the wheelwright who worked on the Monteleone chariot.¹²⁸ The workshops of the Vulci wheelwright and the bronzeworker who made the two chariots may have been active for at least three to four decades, that is, until, thanks to their skills, they were also able to produce the parade chariots from Castel San Mariano (chariot I) and Castro. Vulci evidently specialized

in chariots until the following century, if the quadriga discovered there in 1845 (and then lost) and another from Via Appia Antica (parts of which still remain) are to be attributed to a workshop in that city.¹²⁹

Studies of the Archaic bronzes from Castel San Mariano, near Perugia, have led most scholars to attribute the cart from there, the oldest vehicle in the complex, to Chiusi.¹³⁰ Some date it to about 560, others to 580–570 B.C.¹³¹ The earlier date matches that of the terracottas from Vulci recently rediscovered by Anna Maria Sgubini Moretti and Laura Ricciardi among material from old excavations in an important building near the north gate.¹³² (There is no known documentation indicating the building's function.) Besides the gorgon-headed antefixes mentioned previously, the terracottas include a plaque fragment, perhaps belonging to a procession scene, that helps to classify the structure of Etruscan and Latin princely buildings and temples that are the cultural context of our type of chariot. Thanks to this evidence Vulci has been identified as the center that introduced models that were then adopted in inland settlements as far away as Poggio Civitate (Murlo). It may be that the Castel San Mariano cart, too, came from the same Vulci workshop, which progressed from low-relief repoussé work to high-relief repoussé after the master of the Monteleone chariot arrived and became established.¹³³

I would like to advance the hypothesis that during the second quarter of the sixth century B.C. the building in Vulci was part of an urban plan—and also a political one, by way of its iconography—created by a noble family whose scion, the first owner of the Monteleone chariot, inherited power. We will never know how the vehicle passed into the hands of the chieftain buried on the Colle del Capitano, but it is certain that the custom of burying a chariot with its dead owner was no longer practiced in Vulci or other Etruscan and Latin Tyrrhenian cities during the sixth century. I propose that the chariot was a gift made to the chieftain after it had long been used by the first owner and perhaps after his death. It was not buried with the original owner due to changes in funerary rituals in the larger urban centers (see II.C).¹³⁴ The heirs of the first owner in Vulci may have used it to obtain influence along the trade routes crossing the Apennines. If it is true that a third of Attic Little Master lip-cups come from Vulci,¹³⁵ the chariot may have become the property of the lord of Monteleone at about the same time as the two lip-cups found in his tomb (see Figure III.44).

G. Dating the Monteleone chariot

Beginning with the first scholarly publications, including my own, the dating of the chariot was anchored to that of the Little Master lip-cups. That the cups belonged with the grave goods is unquestioned in the unpublished documents from the time of their discovery. The cups represent an independently datable element among the materials

that reached the Metropolitan Museum with the chariot, and therefore their dating to about 550–540 B.C. can be considered the terminus post quem of the burial of the last owner of the chariot.¹³⁶ The cups, however, do not date the vehicle, which carries many unmistakable signs of a long life prior to burial. Our typological examination showed that its structure points to the end of a gestation process of the sixth-century parade chariot, of which the Monteleone example is the standard (see II.B). It follows a less developed vehicle, such as the chariot from Capua datable to about 580 B.C., and it predates the canonical type

represented by chariot I from Castel San Mariano of 530–520 B.C. and the one from Castro of 520 B.C. Moreover, the shape of the side panels of Achilles's vehicle on the proper left panel of the Monteleone chariot greatly resembles that of the Via Appia Antica chariot, which can be placed no later than the second quarter of the sixth century B.C. The East Greek iconographic parallels cannot date beyond the mid-sixth century either and must predate the so-called Etruscan-Ionian style of the second half of the century. All considerations therefore point to a date of between 560 and 550 B.C. for the construction of the Monteleone chariot.¹³⁷

IV. THE RECENT RECONSTRUCTION OF THE MONTELEONE CHARIOT

A. The substructure of the newly reconstructed chariot

The material used for the new substructure is not wood, which the Metropolitan Museum's conservators deemed detrimental to the bronze revetments. The substructure was made of solid plastic, in places with an internal metal support. For reference during the reconstruction, I made a 1:1 model of easily worked synthetic material.

Resemblance to the original vehicle. Even though some of the evidence required for an exact replica of the original chariot was lost during the illegal excavation, the revetments' excellent state of conservation enabled me to identify the shape of each of their lost supports and to compare their shape with chariots of the same typology (see Section II). After five years of intensive work to replace the 1903 substructure, the new one, completed in 2007 (Figures IV.1, IV.2), closely resembles the original except for the following details:

1. The front of the floor frame is less curved than it would have been originally. As the wooden frame of the central bronze panel deteriorated in the tomb, the undiminished tensile strength of the bronze caused the panel to flatten, a condition that could not be reversed (see cat. 1a). As a result, the distance between the two arms of the floor frame is greater than it would have been on the original substructure (compare Figures I.29, IV.1, and IV.2 with Figures I.5 and III.1).

2. The shape of the chariot's footboard was reconstructed from calculations based on existing evidence in earlier counterparts, such as the Populonia chariot (see Figure II.13), the footboard of which is covered with bronze sheathing.¹

3. Because of the uncertainty about whether the original floor was made of woven leather strips or wooden slats, the floor was reconstructed as a thin, smooth piece placed on top of the floor frame (see Figure I.3). I believe it is more probable that the floor was made of wooden slats (see Figures II.15, III.1).

4. Because the length of the piece of axle projecting from the hub to hold the lynchpin could not be determined from internal evidence or by comparison with similar vehicles, I chose a measurement of 1 5/8 in. (4 cm) for convenience. The metal lynchpins have been left out of the reconstruction (see Figure II.15) so as not to suggest an inaccurate shape for the missing originals.

5. The full length of the wooden tenon running from under the boar protome onto the chassis and lashed to the underlying slats and pole (see Figure III.2) has been only partially re-created, as there was no information to determine its original length.



IV.1–IV.2 The new substructure for the Monteleone chariot: under construction (top) and completed (bottom). Photographs: Frederick J. Sager

6. The head of the eagle at the tip of the pole may have been secured by an iron band, traces of which are still attached (see cat. 17). In the absence of proof it was not reproduced.

7. The piece joining the two bronze elements of the yoke is purely hypothetical, given that an actual reconstruction would have been arbitrary even if it had been feasible using comparable vehicles from more recent periods.² The position of the yoke is also hypothetical: the crossbar would have been closer to the end of the pole, but the reconstruction called for a more convenient position with a completely reversible system of attachment.

Other adjuncts and materials. All the parts of the chariot originally made of leather—most particularly the covering of the rails that encased the body of the car and at the same time served as a backing for the bronze revetments—have been omitted. All the lashings, straps, and other elements that connected the individual parts of the chariot have been left out as well. They would have been made of rawhide and other organic materials such as fibers. Their omission was based primarily on aesthetics. Leaving the backs of the three bronze panels of the car exposed allows visitors to see both sides of the splendid repoussé work, and specialists and conservators can now inspect all surfaces. Most of the few fragments of ivory inlays for which a location on the chariot seemed identifiable were omitted because the small white spots would have distracted from the repoussé and tracing work. The tusks on the boar protome were repositioned because they are integral parts of the animal's anatomy, and the inlays on the rear finials are part of the substructure, not

the bronze embellishment. All the decisions concerning details of the chariot's display were taken in 2004 after repeated consultation with everyone responsible for, and participating in, the project, under the guidance of then Museum director Philippe de Montebello.

B. Measurements of the chariot as reconstructed

Apart from slight differences of a few centimeters more or less due to missing evidence, the measurements of the reconstructed chariot match those of the original vehicle.

Overall

Total height 50 in. (127 cm)

Total length 120 in. (305 cm)

Total width 56 1/4 in. (143 cm), perhaps plus 3/4–1 5/8 in. (2–4 cm)

Gauge (distance between the wheels)

36 5/8 in. (93 cm)

Body

Height 33 1/2 in. (85 cm) (with the strip partly overlapping the base)

Length 35 3/8 in. (90 cm)

Width of body on axle 19 3/4 in. (50 cm)

Draft pole

Total length 86 3/4 in. (220.5 cm), perhaps plus 3/8–3/4 in. (1–2 cm)

Distance from end of pole to body of chariot (projection onto the ground) 86 in. (218.5 cm)

V. CATALOGUE OF THE PIECES OF THE MONTELEONE CHARIOT

In this catalogue each piece of the disassembled chariot has its own entry. The exceptions are the side panels with their respective kouroi, because they were not separated during the recent restoration. The state of conservation described in the condition sections refers to the condition after the recent restoration. The description of each piece is detailed because the objects had not been described since they were published by Furtwängler in 1905 and 1913 and Richter in 1915 (no. 40). When not otherwise specified, the object is made from bronze sheets.

Central panel

1a. Central panel (Figures V.1–V.9)

H. 32 1/2 in. (82.5 cm); perimeter at base 28 in. (71 cm); H. of relief: helmet 1 3/8 in. (3.5 cm), shield 2 in. (5 cm), head of woman 1 1/8 in. (3 cm), head of man 1 1/4 in. (3.2 cm); thickness of sheet .1 cm

Description. Curved at the top and straight at the bottom, the panel revetted the front of the chariot car. The top of the panel is articulated with convex and concave moldings that continue along the sides. The figures in high relief are finished with tracing. A woman clad in a chiton and cloak hands a shield and helmet to a warrior facing her. The latter wears greaves and takes hold of the two pieces of armor occupying the center of the scene. No cuirass is depicted. A dying deer below the shield is positioned so that its arched back follows the contours of the boar protome that marks the point where the pole projects in front of the car of the chariot. Two birds of prey swooping down fill the space on either side of the warrior's helmet crest.

The woman stands on the ground, one foot behind the other; she faces right, the helmet in her left hand, the shield in the long, extended fingers of her right. A fringe of spiral curls, embossed and finished with tracing, escapes from the cloak covering her head. Her long garment does not cover her bare feet. Her fingernails and toenails are well defined by incisions, as are her finger joints. Her eyelashes and eyebrows are finished with faint tracing. Her eye was originally inlaid with another material inserted into a specially made cavity. The woman's only jewel is a chain necklace adorned with lotus-bud and palmette pendants. Her long-sleeved, clinging chiton flares at the bottom and is decorated with traced ornaments as follows: a checkerboard and hourglass pattern between dotted double lines at the collar, an hourglass pattern along the gathered seam of the sleeve and around the cuff, and a large rosette with lotus buds and palmettes surrounding a small central disk on her prominent breast. At the lower edge of her garment is a chain of

pendant lotus flowers and buds between double-outlined rows of dots; a row of double-outlined diagonal bars runs around the hem. A band outlined by rows of dots and patterned with squares inside a cross meander, one hatched and the other void, runs down the chiton's side seam; the four squares are filled with different patterns: concentric squares, a checkerboard, a quatrefoil with tongues in the interstices, and an eight-pointed star with palmettes. At the sides of the band, in the spaces not occupied by the cloak, there are two large patterns; the one at the front has a stopped meander, the one at the back an eight-pointed star with encircled palmettes. The clinging cloak is draped over the woman's forearm, its corner held down by a triple drop-shaped weight. The background of the cloak is studded with dot rosettes. The vertical borders are decorated with a dotted meander with checkerboard squares, while the lower border has a single checkerboard square at the beginning of a complicated meander filled with dots. The lining of the cloak visible in the part draped over the woman's arm has a hatched meander border.

The warrior receiving the armor is depicted in profile facing the woman, his right foot in front of his left. His outstretched hands mirror those of the woman: he grasps the shield with his left hand and the nosepiece of the helmet with his right. His long hair is finished with serried traced lines and consists of four full locks that seem to originate at the center of his forehead, pass behind his ear, and hang down to his shoulder, where each lock ends in a large spiral curl. His eyelashes, eyebrows, moustache, and pointed beard are finished with fine incisions. His eye was originally inlaid with another material inserted within a specially made cavity. His fingernails and toenails are well defined, as are his finger joints. The warrior's short chiton is belted at the waist, and the background is studded with the same dot rosettes as the woman's cloak; the knot of the belt falls on the right. The collar trim looks like fabric interlaced with a ribbon. Two hatched strips arranged in a herringbone pattern run along the sleeve seam; a band of alternating vertical and horizontal hourglasses runs along the seam and hem of the sleeve; on the left sleeve the hourglasses are filled with dots, while on the right one they are all vertical and void. An ornate herringbone border divided by rows of dots and ending in a pendant palmette runs down the side of the chiton. The hem has a stopped and dotted meander border. The greaves are decorated with an inverted palmette on the knee and edged with a row of dotted rectangles.

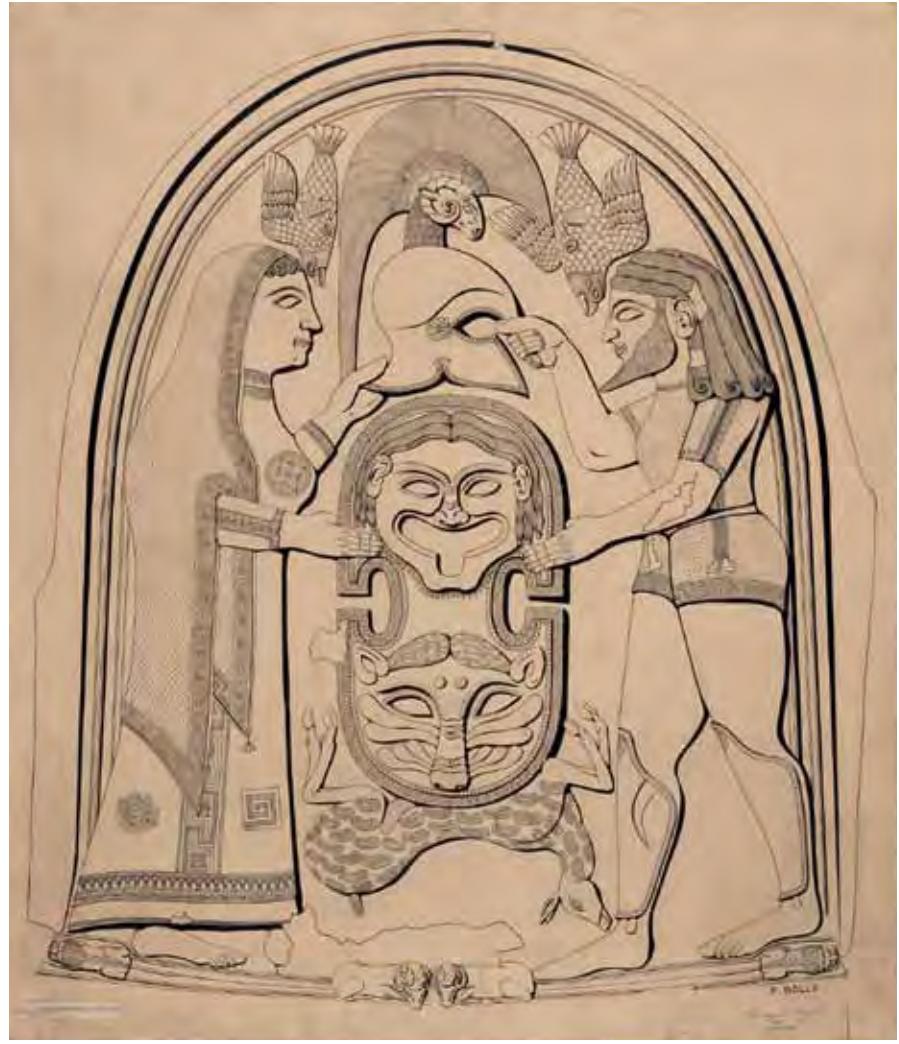
The Boeotian-type shield is richly embellished. A running spiral pattern along the edge is followed by a tongue



V.1 Central panel of the Monteleone chariot after the 2002 restoration. Credit line for all the parts of the chariot illustrated in this section: The Metropolitan Museum of Art, Rogers Fund, 1903 (03.23.1). All new photographs of the chariot pieces were taken by Peter Zeray, Photograph Studio, MMA.



V.2 Central panel, back



V.3 Central panel. Drawing by Paul Bollo, 1903

pattern. Each half of the shield carries one device: a gorgoneion in the upper part and the face of a panther in the lower. The Gorgon's hair is parted in the middle, and three locks are arranged behind the ears. These flow down the sides of the head to where the woman's and the warrior's hands hold the shield, hence the locks are not the same length on the two sides. The very ends of the single locks are caught in rings and terminate in a knot. The chin and cheeks are framed by a beard with flamelike incisions. The eyelashes and eyebrows are finished with tracing. Two groups of three incised lines on the nose represent wrinkles; the eyes and mouth were originally completed with ivory inlays that were themselves inlaid with other materials. The panther in the lower part of the shield is shown full face. It is very stylized and its nose abuts the edge of the shield. The fur on the forehead is parted into two clumps containing a serried pattern of large, irregularly flattened oblong rings filled with tiny punched dots bordered by double traced lines; two

circular dotted protuberances indicate the warts; the very pronounced double swellings under the eyes and the whiskers on either side of the nose are created by a pattern of long, petal-shaped forms in relief finished with tiny punched dots. The eyelashes and eyebrows are finished with tracing. The eyes were originally completed with ivory inlays that, in turn, were inlaid with other materials to differentiate the irises and the pupils.¹

The Corinthian helmet faces right and is surmounted by a ram's head supporting a crest. The lower edge and cheekpieces show the same pattern as the one incised on the borders of the warrior's greaves. A palmette is traced in the rear corner of the eye opening; there is a lotus flower where the neck guard meets the cheekpiece. The anatomy of the ram's head is executed in detailed relief; its eyelashes and eyebrow are finished with tracing, as is the nose area, with its fine, dotted pattern. The fleece of the ram's long neck has imbricated, pendant curly locks executed in relief.



V.4 Central panel, right profile

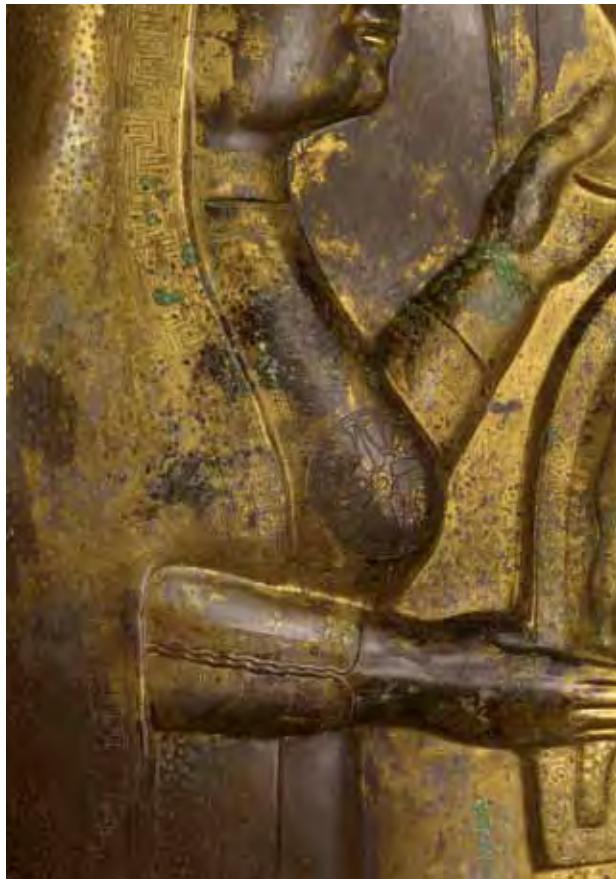


V.5 Central panel, left profile

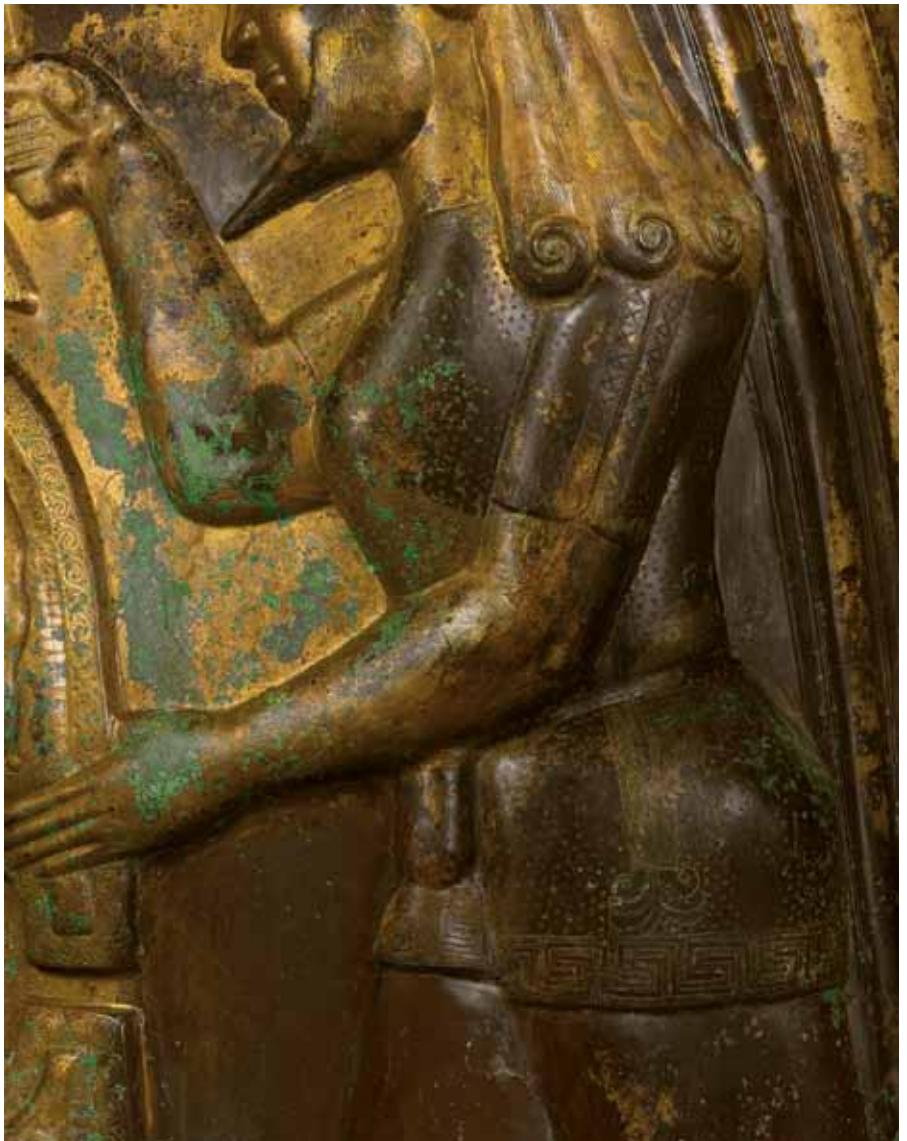
A fanlike crest rises from the animal's head, and its long tail falls behind the woman's hand; the horsehair is represented by serried traced lines. The crest holder is decorated with three concentric bands, the outer one having a stopped meander filled with dots, the central one vertical bars, and the inner one diminishing triangles.

The birds of prey are not accurate representations of eagles, as they do not have hooked beaks. Their stylized bodies and plumage make it difficult to identify them specifically. The bodies are shown in profile, while the tails are displayed frontally, fashioned with "petals" converging at

the bases, where horizontal strips separate the plumage from the scaly bodies. The long wing feathers have double-outlined cusps. The legs bent against the bodies present lines of traced bars representing feathers until halfway down; the shins are bare, apart from feather collars around the ankles. The hooked, closed talons are executed in profile with two simple lines in relief. Double-outlined rows of dots separate the heads from the bodies. The softest head feathers are represented by tiny punched dots that contrast markedly with the solid beaks executed only in relief. The bird of prey on the right has both wings displayed to fill the



V.6 Central panel, detail of the woman's breast



V.7 Central panel, detail of the warrior's body

spaces between the helmet and the warrior's head; the bird on the left presents only one wing, as if both wings were perfectly superimposed.

The deer has no antlers and thus is a fawn or a doe. Its upturned body is depicted in profile facing right, its legs are slightly crossed, and its head is drooping; its belly is partially hidden by the shield. The spots on the coat are executed conventionally, in the same manner as the panther's head. The same punched dots are used for the underbelly and muzzle, as well as for the calluses on the hind legs. The tail is covered in serried, unbroken lines. The eyes have neither irises nor pupils, whereas the eyelashes and eyebrows are finished with tracing.

Condition. The panel is basically complete and flexible despite the narrow cracks that were present in 1903 and consolidated on the reverse by Charles Balliard (see Figure I.23). Some losses of metal that were clearly visible at the time that Paul Bollo made his drawing (Figure V.3)

were restored during the recent conservation work: two in the warrior's hair, one in his left arm, and one in his right thigh, plus another rather large one at the lower section of the shield and a small one at the hem of the woman's chiton. A fragment that in 1903 had already been placed behind the woman's right heel was repositioned there, while the replacement Balliard applied on top of the border was removed. The missing part of the woman's left foot is in the Museo Archeologico, Florence (see Figure I.15). Hence it was decided not to fill in either that part or the surrounding area. The cutout made in antiquity to slot the pole into place (see below) should not be mistaken for metal loss.

The outer surface of the panel shows areas of plain metal and others covered with brown tarnish; there are patches of considerable green corrosion. The interior surface shows mottled dull black corrosion with spots of green corrosion. There is an accumulation of iron corrosion at the bottom center edge, near the area where the pole was attached.

V.8 Central panel, detail of the Boeotian shield



V.9 Central panel, detail of the helmet



Evidence of modern solder repairs remains on the interior surface.

Technical observations. The curved border of the panel is modeled to fit the now-lost wooden rail to which it was originally attached with nine nails placed at regular intervals. The edging (cat. 1b) runs from the top of the curve to almost halfway down the side. The edge is flat and irregular in the lower half where the front panel is joined to the bronze side panels; there are some holes for nails, either reused or made *ex novo* in modern times. An opening was cut in the bottom center of the panel in antiquity for what was certainly a wooden element, now lost (see the observations on the boar protome [cat. 2a] and Section III.A).

The reliefs were produced in the repoussé technique from the inside. The most important forms, such as the figures, shield, and helmet, are in the highest relief, while secondary elements, such as the deer and the birds of prey, are in lower relief. In the devices on the shield, the bronze sheet is worked so thin that a negative image of the decoration traced on the obverse is visible on the reverse.

The incised lines were executed by repeatedly hammering a tracing tool held at an oblique angle (Figures III.11, III.12). The triangular shape of the toolmark is a result of the angle at which the tracer was held against the metal surface. It is deeper at the wide end of the triangle and shallower at the tip. Thus, the more acute the angle, the shorter the triangle. The tool did not leave separate strokes; instead,

they are superimposed, creating an imbricated sequence: the more strokes are superimposed, the less evident their triangular shape (Figures III.14, III.13). The scales of the birds' plumage were rendered not by a single hammer stroke on a curved point, but by serried strokes of a straight-pointed tracer. The length of the triangles can be measured at the end of the lines (and in accidental strokes): they are generally .6 mm long, but .4 mm long in the eyelashes and eyebrows of the human and animal faces, and in the warrior's moustache. In rare cases the tracing creates a row of single marks rather than a line, as in the plumage on the legs of the birds of prey (observed by microscopic examination of the left bird's feather; see Figure III.33). Exceptionally, the tool's point produced small lines that barely assumed the triangular shape and increased in length to 3 mm. Round-ended tools made punched dots of various sizes: .8 mm dots in the lower border of the woman's chiton; .5 mm dots (observed by microscopic examination of the rows of dots in the woman's sleeve, but used as a rule in the rows of the same type of dots, as shown by Figures III.22, III.27); .5–.3 mm dots (the dot rosettes, executed using a number of different tools, and all the fields of dots, produced by repeatedly hammering a single tool with different amounts of force).

It is not easy to judge if the inconsistency among the hundreds of lines produced by thousands of strokes are a result of a single engraver's fatigue or of the different degrees of skill among assistants. The same goes for understandable moments of distraction, such as the lack of dots in the hourglasses along the border of the warrior's right sleeve, on which, as previously mentioned, the hourglasses are all horizontal, unlike those decorating the left sleeve.

Inlay. One of the ivory fragments that came to the Metropolitan Museum with the bronze panels of the chariot seems to belong to the gorgoneion's teeth (cat. 22). The gorgoneion's tongue is in the Museo Archeologico, Florence, as is the panther's right eye, which no longer contains the material formerly inserted into the iris and pupil (see Figures I.13, I.14). According to reports made at the time of the clandestine excavation, there seem to have been ivory inlays along the edge of the panel; two of the fragments that arrived in New York fit the flat bronze surface at the sides of the shield (cats. 21a, 21b). The absence of rivet holes indicates that the inserts were slotted in and glued, though no traces of the adhesive have survived.

Shape. The curvature of the panel echoes that of the upper half of the shield that Thetis is holding. The curvature of the panel at its base is of the same width and depth as the curvature at the top.²

Composition of the figures. The figures are placed perfectly symmetrically: the two human figures mirror each other on either side of a vertical axis marked by the shield with the helmet at the top and the three-dimensional boar head at

the bottom. The birds of prey and the deer are positioned, respectively, above and below two horizontal lines that intersect the vertical axis. The monotony that could have resulted from such a rigid schema was avoided by making the tails and wings of the birds of prey, the woman's back and chiton, and the warrior's shoulder, curls, buttock, and leg overlap the border. Careful examination reveals details that were applied to create symmetry and harmony: the artist cropped the length of the single segments of the locks framing the Gorgon's head to prevent the woman's hand, which is placed a little higher on the shield than the man's, from partially covering the monster's hair.

1b. Edging of central panel (Figure V.10)

Perimeter 48½ in. (123 cm), W. 5/8 in. (1.6 cm)

Description. The inverted-U-shaped band that runs around the curved part of the panel forms an obtuse angle in section. The holes at regular intervals on top of the edging were for nails that secured the panel to the lost wooden railings. A notch made by the bronzeworker to mark the midpoint, perhaps before bending the band, is visible at the top of the curve.

Condition. Almost all the edging is made from fragments pieced together, with a section missing near the top of the curve. None of the ten original nails survive; the current ones were inserted during the 1903 restoration. The edging is primarily covered with brown tarnish and areas of metallic surface with scattered areas of heavy green corrosion.



V.10 Edging of the central panel



V.11 Boar protome



V.12 Detail of the boar protome, right profile



V.13 Detail of the boar protome, outer side



V.14 Detail of the boar protome, inner side

Boar protome

2a. Boar protome (Figures V.11–V.14)

H. 6 $\frac{1}{8}$ in. (15.5 cm), at the nose 1 $\frac{3}{4}$ in. (4.5 cm); L. 10 $\frac{1}{4}$ in. (26 cm), at the top 9 $\frac{1}{4}$ in. (23.5 cm); W. 5 $\frac{1}{2}$ in. (14 cm), at the nose 2 $\frac{3}{8}$ in. (6 cm)

Description. The boar protome sheathed the system attaching the pole to the floor frame in front of the car (Figure III.2). It represents the forequarters of the beast, with the head

placed between the raised and bent forelegs. Its ears and tusks were worked separately. The fur is not rendered, nor are the bristles of the crest, which shows only transverse stripes whose function is not known. The eye areas and eyebrow arches are executed in relief and finished with traced lines. The eyeball was inlaid with another material. Two elongated, petal-shaped forms executed in relief and covered with fine dots create raised swellings under each eye.



V.15 Left ear of the boar protome, front



V.16 Left ear of the boar protome, back



V.17 Right ear of the boar protome, front



V.18 Right ear of the boar protome, back

The lip areas above the tusk sockets are also executed in relief. The nostrils are not indicated, and the lower jaw does not seem to have been envisaged by the bronzeworker. Two large, irregular holes were made in the bronze sheet for the ears (cats. 2b, 2c); the ivory tusks (cat. 2d) were slotted into two smaller holes and attached to the bronze pole sheathing by a lost connecting piece.

Condition. Some cracks and tears in the bronze sheet are concentrated mainly on the upper part of the head, where recent conservation repaired a marked loss of metal on the crest. There is a slight dent above the right eye. Part of the bend in the crest dates back to the moment in antiquity when it was assembled, as the same deformation can be seen in the outline traced on the front panel. The holes for the nails that attached the protome to the pole were reused when the chariot was assembled in 1903.

The outer surface is primarily covered with brown tarnish and a thin layer of black corrosion; there are patches of heavy green corrosion. The interior surface shows mottled dull black corrosion with spots of the same green corrosion. There is an accumulation of iron corrosion inside the proper right cheek, and a corresponding "spongy" metallic spot on other side. There is a tan accretion inside the left cheek. There are no ancient solder joins.

Technical observations. The sheet is cut at the back so that it tightly abuts the panel below the deer's back. The oblique cut was deliberate, to accommodate the angle of the pole. The recent restoration demonstrated that the pole was attached at three different angles in antiquity.³ That the lowest position dates to the time when the chariot was made is shown by the hammered rim of the sheet. The two later points of attachment can be located thanks to the additional

chisel cuts. For a discussion of the meaning of such evidence, see Technical Observations in the description of the pole (cat. 16).

Repoussé and tracing. The tools and the way they were used are the same as those adopted for the front panel.

Inlay. As previously mentioned, the eye cavities were made to contain inlays of another material; ivory fragment 25 seems to fit the left eye cavity.

Commentary. The boar protome with its forelegs was designed by the artist as an integral part of the scene depicted on the front panel. The animal is shown running forward in the same direction as the chariot. The intention is to show the deer upside down slung over the boar's back (Figures III.3, III.6a), a subject depicted on other categories of artifacts (see Sections III.B, III.E, note 76). A boar protome, albeit not part of a figured panel, occurs in a similar position on Chariot I from Castel San Mariano near Perugia, which is later than the Monteleone chariot (see Sections II.A, III.B), and on a different type of car depicted on certain Etruscan terracotta plaques, which are also later (530–510 B.C.).⁴ In our case, the artist decided not to depict the animal's lower jaw: indeed, there is no visible point of fracture suggesting that it was detached from the rest of the protome, nor are there any traces of attachment on the underlying thin layer sheathing the pole.

2b. Left ear of boar protome (Figures V.15, V.16)

L. without modern pin 3 1/2 in. (8.9 cm), W. 2 in. (5.1 cm), thickness .13 cm

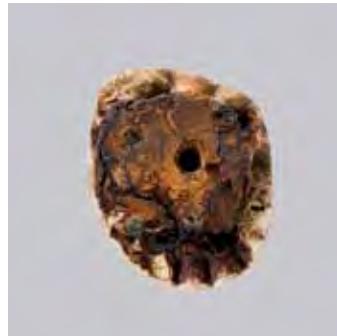
Description. A heart-shaped, smoothly cut piece of bronze sheet. The base was crumpled to make the ear canal and scalloped so it could be inserted into the slot made in the



V.19 Proper right tusk of the boar protome



V.20 Proper left tusk of the boar protome



V.21 Base of the proper right tusk of the boar protome



V.22 Base of the proper left tusk of the boar protome

boar's head for that purpose. Ancient deep scratches are visible above the canal. A long modern pin dating to the 1903 restoration is attached to the back.

Condition. No significant losses of metal or cracks. The surface is covered with brown tarnish and thin black corrosion. There are spots of massive green corrosion and accretions of soil.

2c. Right ear of boar protome (Figures V.17, V.18)

L. without modern pin 4 in. (10.2 cm), W. 2 1/4 in. (5.8 cm), thickness 3/8 in. (.8 cm)

Description. This ear is different from the left one: the auricle is a flatter mirror image and is inserted by a bronze strap attached to the back by two rivets. In the 1903 reconstruction, a pin was also added to this ear.

Condition. The heart-shaped bronze sheet is intact. Not all of the riveted strap has survived because it was cut in modern times to attach the pin. The surface is covered with brown tarnish and a thin layer of black corrosion. There are spots of massive green corrosion and accretions of soil. There are corrosion and loose burial accretions under the strap; the rivets are covered with green corrosion.

Technical observations. This ear is an ancient replacement that was also repaired in antiquity. It is cut from a thinner sheet than the proper left ear. The riveted strap is of old metal, attached in antiquity; the lower rivet has remains of

an earlier repair, visible on the back. Microscopic examination revealed that the cut edges—except those at the base of the riveted strap—are not recent and display a uniform layer of corrosion and accretion.

Commentary. The available evidence indicates that this ear was replaced in antiquity after an accident, when the chariot fell onto its right side (see Section III.D).

2d. Tusks of boar protome (Figures V.19–V.22)

Hippopotamus ivory

Proper right element: H. 3 3/4 in. (9.5 cm), with ancient iron support 3 7/8 in. (9.9 cm); Diam. due to rupture 1 1/2 in. (3.7 cm), at base 1 in. (2.3 cm); proper left element: H. 3 5/8 in. (9.3 cm), with ancient iron support 3 3/4 in. (9.6 cm); Diam. 1 1/4 in. (3.1 cm), at base 1 in. (2.6 cm)

Description. The pieces are carved in a generally conical shape, with a wider base. They are at least partly hollow and curve slightly. Both the base and the apex have scalloped edges, with the cut at the apex made deliberately for the attachment of a different material. Inside each base there is a notched iron disk secured by a dowel 1 3/4 in. (4.5 cm) long. Four iron pins visible on the iron disks attached the tusks to wooden supports, traces of which remain.

Condition. Much of the ivory is missing from both pieces, which are recomposed; one of the two has also split along

its length; the ivory color of the other has turned green through contact with the bronze.

Technical observations. According to a technical report provided by Anibal Rodriguez, the morphology of these tusks does not resemble that of the upper canines of either a domestic or wild pig (which are somewhat triangular in section), and the shape of their base is not natural for any animal tusk. Examination of the pieces suggests that they are modified hippopotamus incisors. As noted previously, the tips of the tusks were made of another material and applied as decoration. A separate element—a wooden core—must also have been present under the base. Its purpose was to secure the tusks to the boar's upper jaw, and the jaw to the underlying pole; iron disks applied to the tusks and the small rectangular cuts on the revetment of the pole (see cat. 16) are the only signs of the lost attachment system.

Proper right panel and related kouros

3a. Proper right panel (Figures V.23–V.25)

H. 18½ in. (47 cm), W. 14½ in. (37 cm), maximum H. of relief (at gorgoneion on shield) 1 in. (2.5 cm); thickness of flat bronze sheet .1 cm

Description. The right panel of the chariot is covered with a bronze sheet that is curved at the top and straight below. The convex border was shaped to fit the lost wooden rail to which it was nailed and secured with edging (cat. 3b). Within the border the figures are framed by a concave band and a ribbed molding. At the base two smooth horizontal moldings frame a concave band that was originally inlaid with a ribbed ivory strip. The figures in high relief are finished with incisions.

Two warriors clad in armor engage in a duel and a fallen warrior lies behind their feet. The warrior on the right has just thrust his spear into his opponent's chest, while the left-hand warrior's spearpoint appears to bend against his opponent's helmet. A bird of prey in flight grazes the loser's spear with its talons and beak.

The bodies of the warriors are mirror images: each raises an arm and holds a spear and stands with almost straight legs placed one behind the other; the victor's right hand is shown as the left, displaying the back of his fist. Their faces are in perfect profile and the absence of relief makes virtually no provision for their necks. The pointed beards, eyelashes, eyebrows, and irises are articulated with tracing. The drawing made in 1903 does not show the warriors' moustaches (hidden by corrosion), which are represented by punched dots, rather than by small bars, as on the front and left panels. The knuckles of the hands holding the spears are evident, while the toenails do not seem to be depicted. The Corinthian helmets of both warriors are low-crested, but otherwise almost identical to the one on the front panel. A double row of dots is traced along the edge of each helmet,

a traced palmette occurs at the corner of the eye opening, and there is a lotus flower where the neck guard joins the cheekpiece. The warrior on the right holds a Boeotian shield like the one depicted on the front of the chariot, but it is represented most unusually: The shield itself is embossed over an oval in relief. The devices are the same, albeit reversed, with the gorgoneion in the lower half and the panther's head in the upper half. The panther's spotted fur is executed as in the central panel, but in a less ordered manner. Its eyes slant sharply, and there is only one swelling filled with dots below each eye. The panther has a long snout and the nose has no nostrils. Double converging lines depict the whiskers, while the soft tissue they issue from is shown by rows of dots. The gorgoneion resembles the one on the front panel more than the panther resembles its counterpart, even if its face is wider; its teeth, fangs, and protruding tongue are embossed. The beard is missing. The eyelashes and eyebrows in both faces are finished with tracing, and the irises are executed with a circle. A dotted guilloche running around the perimeter of the shield is interrupted by the Gorgon's protruding chin.

The two opponents wear identical greaves, each decorated with a double row of dots. All the armor of the left-hand warrior is visible. He wears a corselet on top of his short chiton, both elaborately embellished. Dot rosettes cover the garment, as on the figures of the front panel. A band of dotted meander hooks ornaments the hem. The border of the sleeve is made up of a band of double-outlined hourglasses. The side seam is depicted by a herringbone pattern and flanked on either side by a checkerboard pattern ending with a pendant lotus flower. The thickness of the corselet padding is shown in relief and the corselet's surface is lavishly decorated with tracing. A band of pendant and elongated tongues, each surrounded by two lines, runs under the collar and is followed by a series of lines to halfway down the chest. Next are five horizontal bands: the first has lozenges outlined with a double line and with punched dots ending in a spiral at the pectorals of an anatomically contoured cuirass; the second has a running spiral with dots in the spaces; the third has dotted meander hooks; the fourth, at the waist, is highlighted by a narrow dotted band and has triangles outlined with two lines and with punched dots; the fifth, on the lower border, has a band of vertical tongues. This warrior holds a round shield with a complex decoration on the inner side—where there is not one handle (*antilabē*) but two opposite each other. Starting from the outer rim and going inward are four concentric bands with the following decorations: upturned triangles filled with diminishing triangles; a dotted stopped meander; upright triangles filled with diminishing triangles; and a running spiral. Only a part of the central circle is visible and it is not decorated. Five or six bands that fan out hang from the disk-like handle attachments.



V.23 Proper right panel and related kouros, front



V.24 Proper right panel and related kouros, back



V.25 Proper right panel. Drawing by Paul Bollo, 1903

The body of the fallen and dying warrior (the eye in profile is half closed) lies behind the overlapping legs of the standing warriors; his upper body and head face the ground, while his pelvis and legs—the latter parallel with knees pointing upward—are depicted in a supine position. His arms are not represented. His long hair is finished with serried traced lines, and his thick locks pass behind the ear and fall from forehead to chest; a fillet encircles the base of the skull. Rows of traced vertical strokes depict his beard, which extends from temples to chin. His eyelashes and eyebrows are executed in the same manner as the other figures'. His only armor is the pair of greaves, still in position on his legs. He wears a short chiton covered with dot rosettes and with a horizontal hourglass pattern at the hem. The bird of prey flying between the warriors' heads is the same as the one on the front panel. It is depicted in left profile with the two wings overlapping; its beak is half open as if it were about to seize the horizontal spear shaft its talons brush against.

Condition. The bronze panel is almost complete, except for slight metal losses at the edge of the base, which were repaired in the recent restoration. The original nails that attached it to the side rails of the vehicle have not survived.

The rear left edge was cut in recent times (perhaps in 1902),⁵ from the base up to a height of 6 1/8 in. (15.5 cm): it may have been ragged and thus squared off. The surface is largely metallic with thin brown tarnish; there are areas of green corrosion associated with some black tarnish and blistering. There is green corrosion, primarily at the rear end of the panel.

Technical observations. Modern trimming of the left edge suggests that the bronze sheet originally extended to cover all, or part, of the small rectangular panel that ends at the side of the body and is now reconstructed in wood (cat. 15). There are two pairs of small ancient holes on that area of the border that may have been used to assemble the various parts. This hypothesis is supported by the presence of similar holes in the left panel.

Repoussé and tracing. The same tools and procedures used for the front panel were adopted for the side panel, but the quality of the work suggests that two artists were involved, the master and an assistant.

Inlay. A small fragment (cat. 28) is all that remains of the ribbed carved ivory strip that was originally embedded in the channel at the base of this panel and of the left panel. Tiny ancient holes along the channel were made to attach



V.26 Edging of the proper right panel

some material, either behind or above the bronze sheet. If behind, it may have been to secure even more firmly the layer of leather wrapped tightly around the rail and covered by the bronze sheet (see Sections II.A, II.B). If above, the small holes may have been used to attach the ivory inlays that were mentioned in 1902, just after the clandestine excavation of the tomb.

3b. Edging of proper right panel (Figure V.26)

Original perimeter 27½ in. (70 cm)

Description. As observed in the central panel of the chariot, the inverted-U-shaped band running around the upper part of the panel was bent to form an obtuse angle. The edging was nailed along the top at regular intervals to better secure the panel to the wooden railings, now lost.

Condition. Fragments of about four-fifths of the original perimeter remain. Almost all of the ancient holes were reused in 1903 to hold mostly modern nails; only four of the original nails remain and are currently stored to ensure better conservation. The surface is largely metallic with thin brown tarnish; there are areas of green corrosion associated with some black tarnish and blistering.

Commentary. The trimming of the left margin of the side panel at the time of the first restoration has already been mentioned. A fragment of edging that had been misapplied to the cut area at that time (see cat. 15) prevented a full understanding of the chariot's typology until recently.⁶

3c. Kouros attached to proper right panel (Figures V.27, V.28)

H. from top of bronze sheet to boots 11½ in. (28.2 cm), H. from head to boots 10¾ in. (27.2 cm); W. at shoulders 3 in. (7.5 cm), maximum H. of relief (at face) 1½ in. (4 cm)

Description. The figure in high relief masked the join between the front and right side panels. It is made from a rectangular sheet of bronze that was later cut along almost the entire perimeter, except for a smooth trapezoidal flap at the nape of the neck that served for attachment. The ankles were broken in antiquity (Figure V.28), and a pair of boots, instead of feet, applied to them.

The standing youth is naked and his arms extend down close to the sides of his body, to which his hands are

attached, with the four fingers joined and the thumb set apart. The right hand is longer than the left. Clavicles and nipples are evident on the chest. The subcostal arch forms an angle far below the pectorals; the navel is fashioned with a carefully hammered circular indentation. The genitals are rendered less accurately than those of his counterpart (cat. 4c). The head is large and the profile of the face is pointed; the latter protrudes much more than the body, which is rendered in relatively low relief. His long hair is parted into eight locks, passes behind his ears, and flows onto his shoulders and pectorals, where it ends in a large spiral curl at each side. The hair is finished with serried, wavy traced lines. His features seem to have been altered after an accident in antiquity (see Section III.D). In particular, the upper lip is deformed; originally it should have resembled the lip of the twin kouros on the opposite side of the chariot. The irises are incised within the large, protruding eyeballs. The eyelashes and eyebrows are finished with tracing. The figure has high, prominent cheekbones. The ears are level with the eyes, the auricles being depicted schematically and flattened against the temples; conversely, the little flap known as the tragus is very accentuated.

Condition. The bronze sheet has been visibly dented at the mouth, left cheek, and temple area and presents radiating cracks. Corrosion has caused small losses of metal on the right shoulder, under and between the clavicles, on the right thigh, and above the left knee. The feet are missing up to the ankle joint, where the tear in the bronze sheet is concealed by the added boots. The surface is largely metallic with thin brown tarnish, areas of green corrosion associated with some black tarnish, and blistering. The tear on the missing feet presents the same type of corrosion.

Technical observations. See cat. 4c.

Alloy analysis of bronze (percent by weight). Fe .09, Co .01, Ni .02, Cu 89.1, Zn nd, As .04, Ag .01, Sn 10.6, Sb .02, Pb .1.

3d. Boots applied to kouros attached to proper right panel (Figure V.29)

H. 1½ in. (3.8 cm), W. at top 1½ in. (3.9 cm)

Description. The right and left boots are formed in high relief from a single sheet with a section of plain metal between them; there is a nail hole in the center at the top. The upper



V.27 Proper right kouros, front



V.28 Proper right kouros, back

margin is cut into three semicircles that have been incised to represent the front tongue and the sides of high boots. The laces have also been executed with tracing: they start at the foot and then are laced over each other repeatedly in front of the ankle before being tied twice around the tops of the boots, where they end in a large knot in the center.

Condition. Most of the two big toes have been lost, and the soles did not exist, at least in the preserved piece of the two parts (see Sections I.F, III.D). The bronze sheet is folded outward in the lower area of the right boot. There are still traces of ancient solder where the lower border was joined to the lion head (see below). The exterior surface is largely metallic with patches of green corrosion; the interior surface presents massive corrosion.

Technical observations. The outer side edges of the boots were probably squared off by bending and cutting along the edge with a chisel. The upper edges of the boots are



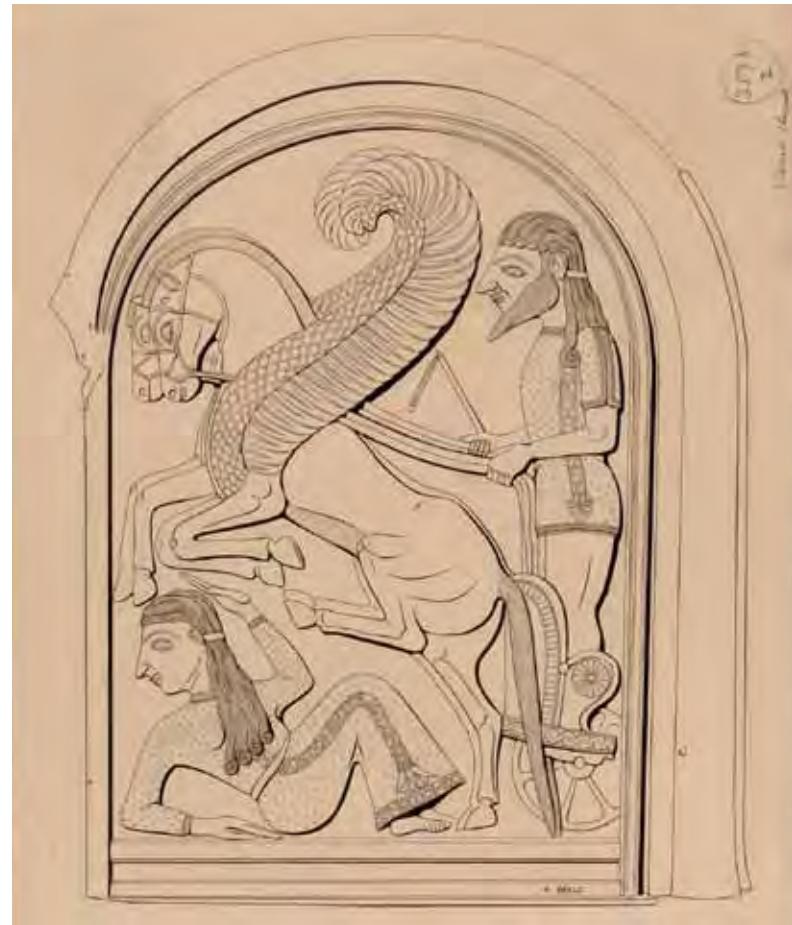
V.29 Proper right kouros, boots



V.30 Proper left panel and related kouros, front



V.31 Proper left panel and related kouros, back



V.32 Proper left panel. Drawing by Paul Bollo, 1903

unfinished except for abrasive polishing. The point of the tool used for the tracing is like the one utilized to execute the kouros, but in the case of the boots it was applied unskillfully and made uneven lines.

Alloy analysis of the bronze (percent by weight). Fe .13, Co nd, Ni .01, Cu 89.0, Zn nd, As .05, Ag .03, Sn 10.6, Sb .01, Pb .12.

Proper left panel and related kouros

4a. Proper left panel (Figures V.30–V.32)

H. 18½ in. (47.5 cm), W. 14¾ in. (37.5 cm), maximum H. of relief (at horse's thigh) 1⅛ in. (2.8 cm), thickness of flat bronze sheet .1 cm

Description. This panel differs in size from the panel reveting the right side by some 5 millimeters. It is worked like the other one and has the same function. It also has the small holes for applying ivory inlays. An unarmed man standing in a chariot urges the team of two horses to take flight toward the left. A recumbent woman lying under, or perhaps behind, the forelegs of the rearing horses seems to be urging them on rather than protecting herself from their hooves.

The charioteer, in strict profile, resembles the warrior in the central panel and wears the same short chiton filled in with dot rosettes. The garment is less ornate, as the collar, sleeves, and hem have strips of dots and small oblique strokes framed by lines; the ornamental band running down his side contains vertical and horizontal dotted hourglasses between two lines and ends with a pendant palmette. The charioteer's hair is like that of the kouros, with a band around the locks at the level of the ears. The knuckles and nails of the hands holding the reins are traced with care. He uses a goad, from which hangs a cord, to urge on the horses: the handle is rendered in low relief, while the cord was executed with only a tracing tool.

The chariot driven by the figure is similar in structure to the vehicle I am describing here, but the car belongs to the "ear-loop" type, which takes its name from the characteristic shape of its side rails (see Section II.B). The proper right wheel is executed in very low relief, while the left one, now missing, was worked separately and inserted together with its nave in a very carefully made hole in the bronze sheet. A traced decoration of running spirals decorates the floor frame, a tongue pattern appears under the edge of the rail,



V.33 Edging of the proper left panel

and there is a large sixteen-petal rosette within the curvature of the side panel. The chariot pole, which is not visible, is understood to be hidden by the bodies of the horses.

The two animals overlap so that the body of the one behind appears from the hind legs to the neck; the heads are more differentiated, as is the motion of their forelegs. Only the left wing of each horse can be seen, implying that the right one is exactly underneath, and the spacing of the two wings creates a harmonious effect. These large wings have curled tips and are the most evident part of the repoussé work on the panel: the short feathers are traced with scales between double outlines, the long ones embossed and finished with traced central ribs. The manes are cropped and defined by a band of vertical lines. The long tails, which reach the ground, are filled in with wavy vertical lines; fittingly, only the tip of the tail of the horse in the background can be seen behind the car of the chariot. The barrel of the horse in the foreground has been highlighted by shading with tiny punched dots. The harness includes bits, headstalls, and reins.

The recumbent woman faces backward; her chest is executed in a three-quarter front view and the rest of her body in a right profile view. She props herself up on the ground on her right forearm, with the hand represented as if it were the left one. Her left arm points upward with the palm facing up, as if she were urging the horses on. As in the case of the warrior depicted on the front panel, a mass of hair issues from the top of her skull, and the very long locks tied by a ribbon at the level of her ears spill down onto her breast, where they curl up at the ends. She wears a long-sleeved chiton that is belted at the waist and falls to her feet but does not cover them. Her feet are bare and executed rather perfunctorily, and the contour of her back foot is not well defined. Her garment is filled with the usual dot rosettes, and the collar and cuffs present the same bands of oblique lines and dots observed in the man's short chiton; a band with dotted checkerboards and hourglasses between two lines runs around the hem; the same pattern marks the side seam where it ends in a lotus flower.

The eyelashes, eyebrows, and irises of both the human figures and the animals are finished with tracing; the man's moustache is rendered with small vertical strokes.

Condition. A tear in the top left corner of the bronze sheet was repaired in 1903 and consolidated in the recent resto-

ration, along with other widespread cracks. The surface is largely metallic with thin brown tarnish, areas of green corrosion associated with some black tarnish, and blistering. The green corrosion is primarily at the rear ends of both left and right panels.

Technical observations. See description of proper right panel (cat. 3a).

4b. Edging of proper left panel (Figure V.33)

Original perimeter 27 1/8 in. (69 cm)

Description. Same form and function as 3b.

Condition. Most of the perimeter is fragmentary. Old and modern nails were inserted into the original holes during the 1903 restoration; the surviving seven original nails and four original nail heads are stored separately to ensure better conservation. The tarnish and corrosion on the metal is similar to those observed in cat. 3b.

Commentary. As previously observed in cat. 3b, a fragment of edging belonging to another part of the box was incorrectly inserted during the 1903 restoration; the fragment was removed during the recent restoration.

4c. Kouros attached to proper left panel

(Figures V.34–V.36)

H. from top of sheet to feet 10 7/8 in. (27.7 cm), from head to feet 10 3/8 in. (26.5 cm); W. at shoulders 2 3/4 in. (7 cm); H. of relief on face 1 5/8 in. (4 cm), on feet 1 1/8 in. (3 cm)

Description. The naked youth is almost identical to his counterpart, cat. 3c, except for minor details due to the fact that both were handmade individually. This figure has a lower forehead, the coils of his curls are more accentuated, his subcostal angle higher, his collarbones and groin creases more evident, his genitals more prominent, his thumbs closer to his fingers, and his calves not so far apart.

Condition. The figure is complete except for the tip of the left toe and small losses of metal due to corrosion in the right shoulder, right thigh, left knee, the bottom edges of both calves, and between them. The surface is largely metallic with thin brown tarnish, areas of green corrosion associated with some black tarnish, and blistering. The modern solder (1903) joining the back of the kouros to the panel was not removed during the recent restoration.



V.34 Proper left kouros, front



V.35 Proper left kouros, back



V.36 Proper left kouros, right profile

Technical observations for both kouroi (cats. 3c and 4c). As previously mentioned, after the repoussé work and tracing were completed, the two bronze sheets were cut—possibly with a chisel—along the outline of the figures, except around the tops of their heads. There, the part of the sheet that was not cut out was used to hold the two kouroi with the bosses (cats. 5 and 6). Their feet rested directly on the two lion protomes (cats. 7 and 8), secured by nails. We know for certain that each figure is now in its original position, replaced during the recent restoration, as the imprints are still visible.

Repoussé and tracing. The two kouroi were worked with the same tools and techniques as the three principal panels. Nevertheless, the lines in the hair are rather irregular, and not parallel, as in the central panel; instead, they resemble the locks of the fallen warrior on the left side panel. The kouros

on the proper left side is more skillfully executed: in all likelihood it was the work of the master craftsman and provided a model for the second kouros, which may have been fashioned by another bronzedworker. In any case, the differences in size and anatomy between the figures derive from the fact that they were made by hand and not from a mold.

5. Right nailed boss (Figures V.37–V.40)

Boss: H. of relief $\frac{1}{2}$ in. (1.2 cm), Diam. $2\frac{1}{2}$ in. (6.2 cm); nail: H. as preserved $1\frac{1}{4}$ in. (3.3 cm), Diam. of head $\frac{3}{8}$ in. (.9 cm)

Description. The round bronze sheet was executed in repoussé, creating three concentric circles, the central one being much larger than the other two. It is not merely ornamental, but was used to hold the trapezoidal bronze sheet extending from the kouros's head. The nail in the center



V.37 Right nailed boss, front



V.38 Right nailed boss, back



V.39 Right nailed boss, top view



V.40 Nail related to the right nailed boss

secured the boss to the underlying wooden structure between the front and side panels; the head is spherical and its shaft quadrangular in section. There are two slightly concave cuts in the edge of the outermost ring of the boss where it overlaps the convex edge of the panels.

Condition. The relief is dented in many places, with cracks and losses of metal in many areas. The obverse surface is mostly metallic, with superficial brown tarnish and a thin layer of black corrosion; there are scattered spots of green corrosion associated with losses. Corrosion and soil accretions appear on the reverse, with possible solder-related corrosion present at the outermost ring. The modern nails with large heads inserted during the 1903 reconstruction (see Figure I.28) were removed from both bosses during the most recent restoration and replaced with the original nails (Figure V.40), which Charles Balliard had inserted into the edge of the central panel.

Technical observations. The boss is executed in repoussé and is not finished with tracing. The dent in the boss may date to an accident that occurred in antiquity, when the chariot toppled over onto its right side (see the comments on the kouros [cat. 3c] and Section III.D). For this and other observations, see cat. 6.

6. Left nailed boss (Figures V.41, V.42)

Boss: H. of relief $\frac{1}{2}$ in. (1.3 cm), Diam. $2\frac{1}{2}$ in. (6.2 cm); nail: H. as preserved $1\frac{3}{8}$ in. (3.5 cm), Diam. of head $\frac{3}{8}$ in. (.9 cm)

Description. Same shape as cat. 5.

Condition. The element is in good condition. The cracking associated with the central hole is a result of deformation, as if a nail that was larger in diameter than the hole was inserted. The cut in the outermost ring of the bronze sheet was not caused by fracturing, but dates to antiquity: it may

have been made when the boss was applied at the level of the kouros's head—indeed, the cut matches his locks.

The surface is mostly metallic with superficial brown tarnish and a thin layer of black corrosion; the holes present on the surface and the loss along the outer edge correspond



V.41 Left nailed boss, front



V.42 Left nailed boss, top view



V.43 Right lion head, front



V.44 Right lion head, top view



V.45 Right lion head, bottom view

to areas of green corrosion. There is solder visible under the corrosion on the reverse of the outermost flat surfaces, as well as on the obverse surface of the outermost ring. The corrosion in the central well may relate to an earlier inlay or other material that held moisture in that area.

Technical observations. In the 1903 restoration the two nailed bosses were erroneously switched (proper right ↔ proper left). They were returned to their original positions in the most recent restoration, and, indeed, the cut fitting the youth's hair revealed that cat. 6 matches the head of the kouros on the right. Consequently, it was observed that the other boss—the dented one (cat. 5)—belongs to the right side, where all the highest relief work on the sheet was damaged when the chariot fell over onto its right side (see Section III.D). Moreover, it was seen that the craftsman had to widen the cut on the upper corner of the side panel (cat. 4a) when it was first assembled in order to nail the left boss to the wooden structure. The nails are of different sizes, suggesting that one of the two was replaced when the right boss (cat. 5) was repaired in antiquity after the chariot toppled over. Finally, the bone roundel housed in the Museo Archeologico, Florence (see Figure I.12), filled the center of one of the two bosses; however, I cannot establish whether both bosses had central bone inlays when the chariot was built, or whether the roundel was applied to the right boss only after it was damaged when the vehicle fell over.

Repoussé and tracing. The boss is executed in repoussé work and is not finished with tracing.

Inlay. The traces of superimposed material in the central hollow of this boss may indicate the presence of an ivory inlay (see Section III.B).

7. Right lion head (Figures V.43–V.45)

H. of relief (deformed by flattening) 2 in. (5 cm); Diam. of

base: exterior $2\frac{1}{8}$ – $2\frac{3}{8}$ in. (5.5–6 cm), interior $1\frac{3}{4}$ –2 in. (4.5–5 cm)

Description. The head is executed in very high relief. The bronze sheet flares out to form a flat border at the base that was specially created to attach the piece with nails; of the eleven holes present today only two preserve their original edges, while the others were either reused or created *ex novo* in the 1903 reconstruction. A small indentation in the metal was made on top of the lion's head, between its right eye and ear, to indicate the position of the kouros's feet. The head is not framed by a mane. Two oblong protuberances represent stylized ears, while two small circles defined with tracing and studded with dots convey the idea of the warts. The wide, embossed, almond-shaped eyes, with the irises represented by traced circles, are set under eyebrows that depart from the nose; there are no pupils. The eyelashes and eyebrows are finished with tracing. The top of the nose is depicted by four vertical double fillets in relief, each with a row of hammered dots; the tip of the nose and the nostrils are indicated in relief. Three rows of embossed, elongated, and curved petal-shaped whiskers, each finished with a line of hammered dots, issue from between the nostrils. The mouth is closed and the chin is summarily rendered.

Condition. The piece is damaged, with conspicuous dents as well as losses and cracks due to pitting corrosion, mostly at the right eye and brow, and on the muzzle. Major losses are also present in an area close to the left eye. The surface is largely metallic, with thin brown and thicker black tarnish; there is massive green corrosion associated with blistering, especially under the chin and on the brow and outer sides. There is solder/solder-related corrosion corresponding to the placement of the kouros's feet on the top of the head.

Technical observations. See cat. 8.



V.46 Left lion head, front



V.47 Left lion head, top view



V.48 Left lion head, profile

8. Left lion head (Figures V.46–V.48)

H. of relief 2 1/4 in. (5.5 cm); Diam. of base: exterior 2 1/8–2 1/4 in. (5.5–5.6 cm), interior 1 3/4–2 in. (4.5–5 cm)

Description. Same shape as cat. 7.

Condition. The head is complete. There are small losses due to pitting corrosion, mostly centered on the top right side of the brow and on the muzzle. The surface is largely metallic, with thin brown and thicker black tarnish; there is massive green corrosion associated with blistering, especially on the left side of the face, under the chin, and on the brow. There is solder/solder-related corrosion corresponding to the placement of the kouros's feet on top of the head; there is solder on the edge of the flange below the left ear.

Technical observations. The lion heads (cats. 7 and 8) were mounted as axle finials in the 1903 restoration (see Sections I.D, I.F). In the recent restoration, they were placed in their original position under the feet of the kouros, where traces of their original location were still clearly visible. This lion head certainly belongs under the proper left kouros (cat. 4a) because one of the two ancient nail holes on the lion's flange perfectly matches up with a hole in the corner of the left frieze.

Repoussé and tracing. The types of tools and methods used for working both heads are the same as for the three main panels. The bronze sheet of the proper right head is slightly thinner than the other; in all likelihood this is due to the fact that the amount of bronze prepared for the two heads was not accurately weighed.

9. Right strip with recumbent lion (Figures V.49, V.50)

L. 11 7/8 in. (30 cm), W. 1 5/8–3/4 in. (4–2 cm), H. of relief 3/4 in. (1.8 cm)

Description. The curved strip was created to finish the base of the front panel and attach it to the floor frame. The bottom

edge of the strip and its counterpart (cat. 10) were therefore bent at a 90-degree angle. This strip has four convex ribs that decrease in size from the center out. The left end has been hammered out to create a small recumbent lion in high relief facing left. The lion is not applied but of a piece with the strip. There are four small original holes for the nails used to mount the strip; the other nine date to the 1903 restoration.

The lion is well rendered and its muzzle resembles those of the lion heads (cats. 7 and 8). Executed in relief and tracing, the mane forms a crown that frames the forehead. The mane then flows over the lion's back in flame-shaped locks along both sides of a traced central line.

Condition. The piece retains its original shape, except for dents on the lion's head and back. There are small losses and cracking along the edge of the strip. Part of the surface is metallic, with superficial brown tarnish and thin layers of black corrosion on the lion; the other part is covered with green corrosion.

Technical observations. The undecorated end of the strip was attached to the wood by two small nails. A short section of it was covered by the boar protome, as indicated by two rows of three small indentations on the metal. The decorated end—which was attached below by two small nails—is concave, to accommodate the lion head (cat. 7) when the various elements were assembled.

This strip is crucial for our reconstruction on paper of the U-shaped curve of the chassis of the chariot (Figures II.15, III.1). It is slightly more open than the reconstruction made on the chariot itself. The modern frame for the object needed to respect the deformed central panel that had closed slightly once the original wood decayed.

Repoussé and tracing. The types of tools used are the same as for the three main panels.



V.49 Right strip with recumbent lion



V.50 Detail of recumbent lion on right strip



V.51 Left strip with recumbent lion

10. Left strip with recumbent lion (Figure V.51)

L. 11 7/8 in. (30 cm), W. 1 5/8–3/4 in. (4–2 cm), H. of relief 3/4 in. (1.9 cm)

Description. The piece is a mirror image of cat. 9, and serves the same purpose. Its lower edge was also initially bent to a 90-degree angle, and then flattened in antiquity. At least seven of the nine nail holes are original.

Condition. There are losses along the outer edges; the one on the lower edge is evident and was filled in with a possibly foreign but ancient fragment of bronze sheet in the 1903 and recent restorations. The surface is mostly metallic, with

superficial brown tarnish and a thin layer of black corrosion; there are scattered areas of green corrosion. Spot losses due to massive green corrosion are evident on the lion.

Technical observations. Here, too, the undecorated end of the strip was attached to the wood by two small nails and a short section of it was covered by the boar protome. Two rows of three small indentations and one of the three incisions on the metal reveal where they were covered. The decorated end—attached by two small nails—is also concave-cut, to accommodate the lion head (cat. 8) when the elements were assembled.



V.52 Frieze on proper right side, front



V.53 Frieze on proper right side, back



V.54 Frieze on proper right side. Drawing by Paul Bollo, 1903



V.55 Frieze on proper right side with the related superimposed ram and the part of the sheet that was inserted in 1903 to complete the lower left corner and removed during the recent restoration

11. Frieze on proper right side (Figures V.52–V.55)

H. 3 7/8–4 in. (10–10.2 cm), L. as reconstructed 19 3/4 in. (50 cm), H. of rectangular cutout 1 1/4 in. (3.2 cm), Diam. of roundel 1 7/8 in. (4.8 cm), Diam. of semicircular cut 2 in. (5 cm), thickness of bronze sheet .07 cm

Description. The bronze sheet is of roughly trapezoidal shape and nailed along the edges. Its function was to cover the wooden connection between the chariot chassis and the axle—the shock-absorber system. Thus, its short ends were articulated as follows: on the left side, there is a short vertical border above a concave roundel and then an arc-shaped cut. On the right, a diagonal cut from right to left occurs above a semicircular one (to accommodate a roundel?) and another arc-shaped cut. On the lower edge, there is a rectangular opening, now part of a larger gap. A border finished with tracing runs around the upper edge and the left vertical edge, while the lower one is now lost. The sheet is decorated with figures in low relief and finished with tracing and chasing.

The decoration of the frieze faces right, in the direction the chariot moves. At the left, a bearded centaur with a human torso and equine hindquarters rests his forequarters on a low, voluted stool (see Figure V.54) and holds a branch carrying a hare suspended by its four legs. Then comes a winged figure walking toward a youth who holds a panther around its neck and belly. In order to fit the restricted space, the heads of the figures are on one level and the figures assume appropriate poses. The centaur's hind legs are drawn up under him. The forelegs are part of the larger loss already documented in the drawing of 1903. The winged figure and the youth are represented in the *Knielauf* fashion—the archaic convention for conveying rapid movement—in contrast to the panther, which crouches motionless on its hindquarters. The feline follows a traditional convention with a frontal face and raised front paw; its left paw is not depicted.

All the figures with human bodies wear abbreviated, plain, short-sleeved chitons and have the same pointed profiles. The youth's and the centaur's long hair ends in spiral curls. The surviving wing of the central figure—displayed behind the body in a rather inorganic manner—has a broad band of feathers and scales ending in two rows of long feathers. All the figures are outlined with chasing and their anatomical details are executed with tracing.

Condition. In the central area of the frieze there are major losses at the head, wing, and leg of the central figure; the centaur's forelegs; and part of his body. A drawing of the centaur made in 1903 (Figure V.54) illustrates a fragment of the body, and thus it is included in our description. Cracks and minor losses are present in other areas. The left roundel became detached from the rest of the bronze sheet in antiquity.

The surface is primarily metallic, with areas of compact brown tarnish and black corrosion. There is green corrosion corresponding to the areas of loss. Solder/solder-related corrosion (on the outline of the overlapping ram) on the front end overlaps the panther's head and extends to the farthest tip on an undecorated area; this is also visible on the reverse within the recess of the outer edge. The reverse surface is predominantly green corrosion, supporting the idea that it touched another surface, such as wood, resulting in prolonged contact with moisture in these areas.

Technical observations. All the nail holes seem ancient, as indicated by observation under the microscope. Thus, the nail holes surrounding the tear in the sheet around the roundel are signs of an ancient intervention to repair the damage caused when the chariot fell over onto its right side. The part of the sheet that was inserted in 1903 to complete the lower left corner (Figure V.55) was removed during the recent restoration, since comparison with other vehicles (see Sections II.A and II.B and the results of technical analysis revealed it was not part of the original revetment. The crouching ram (cat. 13) was mounted with solder on the upper right corner in antiquity; this addition does not date back to the time the chariot was built, but rather seems to date to a later period of the vehicle's life as described in Section III.D.

Repoussé and tracing. The frieze was first executed in low relief from the inside, and then the sheet was reversed and the figures outlined by chasing on the front. The figures were finished with tracing, using the same technique adopted for all the other bronze panels, though the tracing tool here may have had a thicker, shorter point. The rectangular, rather than triangular, shape of the imbricated toolmarks creating the lines suggests that the tool was held vertically instead of obliquely.

Alloy analyses of the bronze (percent by weight). Frieze: Fe .08, Co nd, Ni .02, Cu 89.2, Zn nd, As .05, Ag nd, Sn 10.6, Sb nd, Pb nd; roundel: Fe .09, Co nd, Ni .02, Cu 88.5, Zn nd, As .04, Ag nd, Sn 10.3, Sb .02, Pb nd; 1903 addition to lower corner: Fe .11, Co .01, Ni .02, Cu 88.3, Zn nd, As .05, Ag nd, Sn 11.6, Sb .02, Pb nd.

12. Frieze on proper left side (Figures V.56–V.58)

H. 3 7/8–4 in. (10–10.2 cm), L. 19 3/8 in. (50.3 cm), rectangular cutout 1 x 2 1/8 in. (2.4 x 5.5 cm), Diam. of roundel 1 3/4 in. (4.6 cm), thickness of bronze sheet .07 cm

Description. This frieze is of the same shape as and the mirror image of the proper right frieze and serves the same purpose. The decoration in low relief depicts two symmetrical facing lions, the left one felling a bull, the right one attacking a stag.

The lion on the left sinks its teeth into the bull's back as it seizes its body with its front paws; the lion's hindquarters



V.56 Frieze on proper left side, front



V.57 Frieze on proper left side, back



V.58 Frieze on proper left side. Drawing by Paul Bollo, 1903

rest against the curve of the bronze sheet and its left foreleg is placed on the ground, while the other is raised. The bull's left foreleg has buckled to the ground and its head has sunk below the feline's body. Behind the bull is the stag with large antlers, its body to the left and its head turned back. The second lion attacks it and sinks its teeth into its back. The heads and bodies are depicted in profile and the raised lions' tails form esses. Their manes are traced in a flame pattern outlined with two lines. The mane of the lion on the right is fuller but covers only the head and neck, while the mane of the left lion is flatter and runs along the feline's

back. Both animals' bellies are punched with tiny dots, as are the soft parts of the bull's muzzle.

Condition. The frieze is complete, although it is made up of three joined pieces with slight losses. The parts of the lower edge shown in the drawing made in 1903 (Figure V.58), together with some of the original nail, are missing. The surface is primarily compact brown tarnish with large zones of green corrosion and some small metallic areas. The losses correspond to the areas embrittled by corrosion. The reverse surface is primarily green corrosion, supporting the idea that—in this case, too—it touched another surface, such as

wood, resulting in prolonged contact with moisture in these areas. The outline of the ram that was attached at the left end of the revetment results from the solder/solder-related corrosion on the surface.

Technical observations. All the nail holes running along the edges seem ancient. As concerns the recumbent ram, it also is ancient and was attached with solder. As indicated for cat. 11, the placement of this element does not seem to date from the original fabrication of the chariot but to a later phase, for which see cat. 13 and Section III.D.

Repoussé, tracing, and chasing. The same tools and procedures were used on cats. 11 and 12.

Alloy analysis of the bronze (percent by weight). Frieze: Fe .08, Co nd, Ni .01, Cu 89.2, Zn nd, As .05, Ag nd, Sn 10.7, Sb .01, Pb nd; 1903 addition to lower corner: Fe .12, Co .01, Ni .01, Cu 88.3, Zn nd, As .05, Ag nd, Sn 11.5, Sb .02, Pb nd.

13. Right recumbent ram (Figures V.59, V.60)

H. 1 1/4 in. (3.2 cm), L. 3 3/8 in. (8.5 cm), W. 1 3/8 in. (3.5 cm)

Description. The recumbent ram is embossed in high relief. It originally rested on a base that was then cut off in antiquity, together with the tail; its head is turned outward and faces right. Six small original nail holes run along the surviving part of the base.

Condition. The surface is primarily black corrosion mixed with brown tarnish overall, except for the back of the body, with a massive layer of green corrosion and some blistering and loss; there is olive green corrosion on the back of the body. The interior surface displays green and black incrustations. There is solder along the underside of the flange; it also appears on the bottom edge of the flange at the neck, as well as on the exterior beside the cut on the rump.

Technical observations. The thickness of the bronze sheet is the same as that of the three main panels. The ancient cut at the base was made to fit the figure to the smooth surface of the frieze (cat. 11): in particular, the notch in the area where the tail once was slightly cuts into the panther's head on the frieze. For the hypothesis that this ram and its counterpart (cat. 14) originally occupied a different position on the chariot, see Section III.D.

Repoussé and tracing. The ram is executed in repoussé and is not finished with tracing.

14. Left recumbent ram (Figure V.61)

H. 1 1/8 in. (2.8 cm), L. 3 1/2 in. (9 cm), W. 1 1/4 in. (3.3 cm)

Description. This ram resembles cat. 13, but its head is turned to the left. The ancient base is cut in the same manner and still has five nail holes.

Condition. The surface is primarily black corrosion mixed with brown tarnish overall except for the back of the body, with a massive layer of green corrosion and some blistering



V.59 Right recumbent ram



V.60 Right recumbent ram, back



V.61 Left recumbent ram

and loss; there is thick black corrosion on the head, with the disturbed surface showing bare metal; olive green corrosion occurs on the surface, at the rear left leg. The interior surface is encrusted with green, black, and red corrosion. There is solder along the edge of the right side of the body, as well as on the back of the head, with the odd patch on the surface.

Technical observations. In addition to the features reported for cat. 13, the ram has three tiny holes at the top of the

V.62 Bronze fragments as reconstructed on the left rear side panel



slightly dented left horn. These were made in antiquity so that the bronze sheet could be pulled out with a small rounded tool to restore the lost volume of the dented relief. The notch in the area of the cut-off tail overlaps the lion's tail on the frieze (cat. 12) and obliterates its tip.

15. Fragments of two rear side panels (Figure V.62)

Bronze and ivory (lost)

Reconstructed panels: H. 4 $\frac{7}{8}$ in. (12.5 cm), L. 5 $\frac{3}{4}$ in. (14.7 cm) \pm 3/8 in. (1 cm), thickness of wood 3/8 in. (.9 cm); edging of longer side: L. as preserved 5 $\frac{5}{8}$ in. (14.4 cm), W. 3/8 in. (.9 cm); edging of shorter side: L. as preserved 4 $\frac{5}{8}$ in. (11.6 cm), W. 3/8 in. (.9 cm); fragment of sheet (recomposed): 4 $\frac{5}{8}$ x 2 $\frac{1}{8}$ in. (11.7 x 5.5 cm)

These two panels were not included in the reconstruction of the chariot in 1903. Their original position had not been understood, and some of their bronze remains were used to repair losses in other sections of the chariot. Of the flat sheet bronze that originally made up the rear side panels only two pieces were identified with relative certainty after the chariot was disassembled in 2002. Despite the evident differences, two segments from their edgings had been mounted onto the side panels (cats. 3a, 3b, 4a, 4b; see Section I.G). The certainty that these segments of edgings belong to the chariot is supported by a third matching segment in Italy that was recovered after the tomb was reopened in 1907 (Figure I.16). As no available evidence indicates how the few surviving fragments should be allocated between the two rear side panels, in the recent reconstruction it was decided to attach all of them to the proper left panel.

Description. This is a flat sheet without tracing. Three small nail holes (one of which was reused in 1903) can be seen at

regular intervals along the ancient edge; farther from the edge are two pairs of larger holes (1/8 in. [.35 cm]), one of which was reused in 1903. The other holes, which are scattered over the sheet, are all modern (1903 restoration). The original sheet joined one of the two panels (cat. 3a or 4a) on one side and lined up with a frieze (cat. 11 or 12) at the base (nothing is known about its profile). The two free sides were finished with edging worked in two parts, joined at the angle where they met, and nailed to the wooden support at regular intervals.

Condition. One of the segments of the edging, which preserves a finished end, is almost intact, while both ends of the other are incomplete. The sheet-metal fragment has been recomposed from two pieces that were cut in 1903 and placed at two different points under the revetment of the right side of the chariot. The sheet is uniformly covered with brown and black corrosion layers and also with patchy areas of massive green corrosion. Some areas of metallic surface also remain. A solder line is visible along the original edge.

Technical observations. The solder is certainly ancient, because the function the fragment served in 1903 did not require soldering. I believe that the two pairs of 1/8 in. (.35 cm) holes served to secure some other decoration of a different material. For example, similar holes are found in Etruscan ivory inlays that were meant to be attached to a support by pins, also made of ivory.⁷

16. Draft pole (Figures V.63, V.64)

L. without head of bird of prey at front end 81 $\frac{3}{4}$ in. (207.5 cm), circumference of bronze sheet 10 $\frac{1}{4}$ –7 $\frac{7}{8}$ in. (26–20 cm); Diam. of wooden reconstruction 3 $\frac{1}{2}$ –2 $\frac{3}{4}$ in. (9–7 cm)

Description. Two sheets of different lengths (61 $\frac{5}{8}$ in. and 20 $\frac{1}{8}$ in. [156.5 cm and 51 cm]) sheathed the lost wooden pole and were attached to it by a row of nails running along the edges on the underside. These edges do not fit together, nor do they overlap, as had been thought in the reconstruction of 1903. That the space, approximately 3/4 in. (2 cm) wide, left between the edges was filled with an ivory strip is confirmed by eyewitnesses, who saw the remains of the chariot at the time of the excavation. The shape of the pole—bent at an angle in the forward third—called for two pieces of metal. The section of the pole is not exactly circular, but slightly horizontally oval, and the diameter diminishes from the boar protome to the finial. The wide end of the bronze sheathing begins just below the floor frame at the front of the chariot. The top part of the sheathing at the wide end is cut to accommodate the various lashings covered by the boar protome. The cut even includes rectangular openings for the tusks. The numerous nail holes running along the edges of the cut, originally used to attach the protome placed on top, were reused in the 1903 restoration.



V.63 Bronze sheathing of the draft pole, top view. The fragment at the bottom was attached to the chariot. The two above covered the front end of the pole.



V.64 Bronze sheathing of the draft pole (see Figure V.63), bottom view

Condition. The longer sheet is broken into two pieces. The numerous cracks and metal losses were filled in during the recent restoration. For unknown reasons, a corner of the sheet of the shorter piece was removed in ancient times from near the join attaching it to the longer piece. The sheet is primarily yellow metal with transitions to thin brown tarnish and black corrosion. Scattered areas of massive green corrosion are also evident overall. A pattern of diagonal banding along the front end of the pole shows significantly less green corrosion and indicates a wrapping that protected the metallic surface. There is an accumulation of iron corrosion at the bottom center edge, near the area where the pole is attached.

Technical observations. The area where the pole and the boar protome joined was carefully examined during the recent restoration. The placement and correspondence of all the nail holes on the sheathing and the protome were recorded, revealing that in antiquity there were three different positions for the boar on the pole (see also cat. 2a). In the earliest position, the protome was all the way back, its rear edge flush with the edge of the sheet of the pole. The edge of the sheet of the pole is hammered and wavy, not cut. The second position is with the boar farther forward and covering a later, chisel-cut opening in the pole under the boar's snout. The back of the boar protome was cut with a chisel to establish a different angle for the pole. The third position for the boar—the final one before the chariot was buried—is a slight modification of the second. The same nail holes were used on the proper right side of the pole, but on the proper left side the protome was set a little lower down on the pole, creating a new set of nail holes. A further

modification to the boar protome was observed. Its crest was cut to create a slightly concave profile so it could fit over the deer on the front panel, suggesting that in the first position the boar protome slightly overlapped the deer. The angle of the pole in the first position was less acute than in the other two positions—that is, the pole was lower—and, in the first instance, perhaps no horses were yoked to it; they would have had to be very small. Thus, the chariot was used with the pole in the two later positions, possibly with two pairs of horses taking turns drawing it. The last pair may have measured between 44 1/8 in. and 45 1/4 in. (112 cm and 115 cm) at the withers. Traces of diagonal bands around the shorter piece of the pole revetment were left by the straps, perhaps of rawhide, that lashed the yoke to the pole.

Inlay. The fragments in cat. 23a (Figure V.76), which are provided with holes for bronze nails, may belong to the ivory segments attached to the underside of the pole's revetment. Traces left on the bronze indicate how the strip was attached. On one edge the ivory was placed between the bronze sheet and the wooden pole (or between the sheet and the leather layer covering the wood) and attached by nails. On the other edge, where only the sheet was attached with nails, the segments of the ivory overlapped freely to prevent them from breaking under stress. If this reconstruction is correct, the entire ivory strip was probably about 1 5/8 in. (4 cm) wide, and only 1 1/8 in. (3 cm) of it was visible.

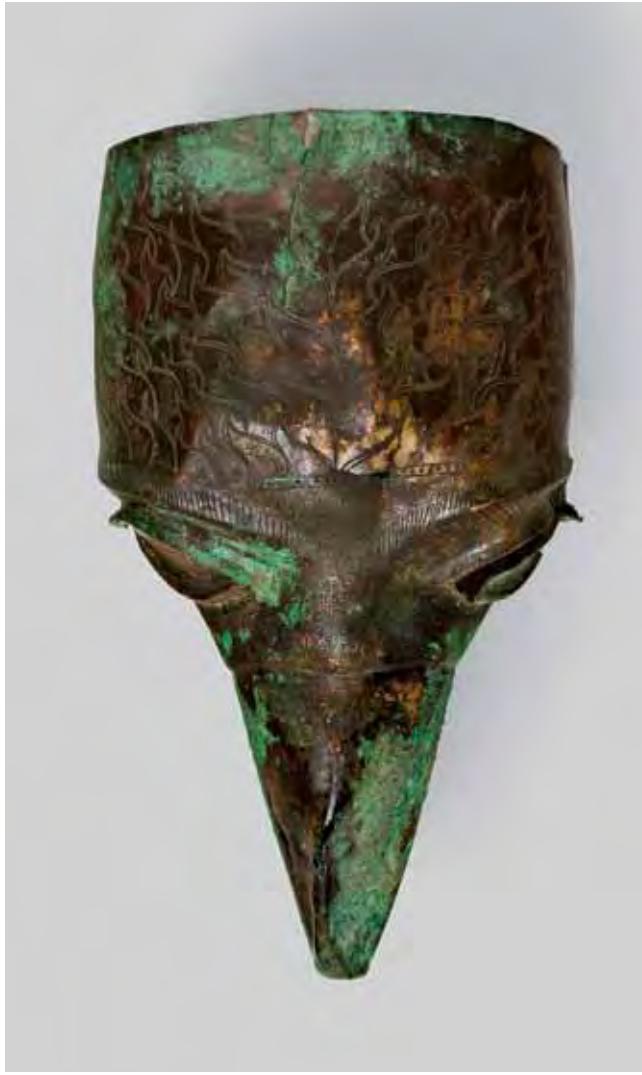
17. Eagle head (Figures V.65–V.67)

L. 5 1/8 in. (13 cm), Diam. 2 1/2–2 3/4 in. (6.5–7 cm)

Description. The embossed finial decorating the front end of the pole is made from a single piece of bronze. Nail holes,



V.65 Eagle head from the end of the pole, right profile



V.66 Eagle head from the end of the pole, top view



V.67 Eagle head from the end of the pole, bottom view

some of which were reused during the 1903 restoration, run along its edge. There is a triangular cut dating to antiquity below the bird of prey's throat; its function is not clear. The traced feathers on the head are rendered by flamelike forms outlined with two lines. A row of dots between lines delimits an area from the forehead to the base of the beak that is covered with smaller dots. The eyes were specially made to receive an inlay of a different material, and the eyelashes and eyebrows are executed in relief and finished with tracing. The beak is slightly hooked and embossed, without tracing. *Condition.* The left eye and the top of the beak show cracking and losses. The exterior surface is partially metallic with a thin film of brown tarnish and areas of compact black or green corrosion. There are iron-rich deposits inside and along the outer edge.

Technical observations. Surviving traces suggest that an iron ring, now lost, originally joined the eagle head to the pole sheathing.

Repoussé and tracing. The tools and methods used are the same as those adopted for the three main panels (cats. 1a, 3a, 4a).

Inlay. The specially made cavities for the eyeballs were executed using the same procedure as described in the central panel (cat. 1a) and in the boar protome (cat. 2a). Hence, the method and the material inserted must have been the same.

18. Yoke (Figures V.68–V.71)

Each element: perimeter of arch $17\frac{3}{4}$ in. (45 cm), chord of circle $12\frac{5}{8}$ in. (32 cm), maximum W. $3\frac{1}{2}$ in. (9 cm)

Description. The two sheets covered the curved ends of a neck yoke and are mirror images. The end of each sheet is fashioned into a lion's head and has one hole at the mouth and another above the head, through which the harness was attached. The opposite end of each sheet is cut into an arc of a circle to fit onto the horizontal part of the lost yoke, which would have been made only of wood and other



V.68 Lion head from the proper left end of the yoke, front



V.70 Lion head from the proper right end of the yoke, front



V.69 Lion head from the proper left end of the yoke, top view



V.71 Lion head from the proper right end of the yoke, bottom view

organic material; its original appearance can no longer be reconstructed. Behind the lion head, each bronze sheet was articulated with three ribs, the central one being wider than the others. The edges were bent in at a right angle so they could be nailed to the lost support; some of the bronze nails are still in place.

The lion heads are elongated and stylized. The oblong and slightly folded ears have some volume, but are only somewhat articulated. The mane with flamelike tufts issues from a band executed in relief with large hammered dots separated by rows of dots between lines. Rows of dots, with and without framing lines, divide the lion's forehead, fill the warts, depict a fold on the nose, and highlight the relief of the whiskers and the cavities of the nostrils; scattered dots cover the nose. In the eyes both irises and pupils are rendered by double concentric incised lines. The eyelashes and eyebrows are finished with tracing.

Condition. One of the two elements is intact, while the nose and left eye of the other lion are flattened and show three areas of metal loss (in the left eye and ear and in the hole beneath the muzzle) plus diffuse cracks. The exterior surfaces of the heads are partially metallic with a thin film of brown tarnish and areas of compact black or green corrosion; there is some blistering on the muzzles; the attaching elements are largely covered with more massive green corrosion; the interior surfaces are mottled metallic, black, and dark and light green.

Technical observations. As elsewhere, the reliefs were produced in the repoussé technique from the inside. The surface finishing was completed with tracing, punching, and chasing.

19–20. Proper right and proper left wheels

(Figures V.72–V.75)

Bronze, iron, and wood

Each wheel: Diam. without iron tire 24½ in. (62 cm); felloes: H. 2 ½ in. (6.5 cm); spokes: L. 7 ⅛ in. (18 cm); nave: L. 16 ⅛ in. (41 cm), Diam. of stock 4 ⅜ in. (12.5 cm), Diam. of neck 3 ⅜ in. (8.5 cm); iron tire: W. 1 in. (2.5 cm)

Description. The wooden part of each wheel is composed of a double felloe, nine spokes, and a revolving nave, and is completely sheathed with a bronze sheet and fitted with an iron tire. X-rays (see Figure V.75) show that the outer layer of the felloe is made from segments of planks (an indeterminable number of segments), while the inner layer is made from a single bent board.⁸ The iron tire is nailed, with the nails spaced about 4 ⅜ in. (11 cm) apart. The heads of the nails were probably countersunk into the surface of the tire, sitting flush with the surface. The tire is probably formed from a single band of iron that was hot-worked into a circle; an X-ray of the proper left wheel clearly shows the junction of the ends of the band, with nails securing each end. The spokes are inserted into the inner layer and do not come in



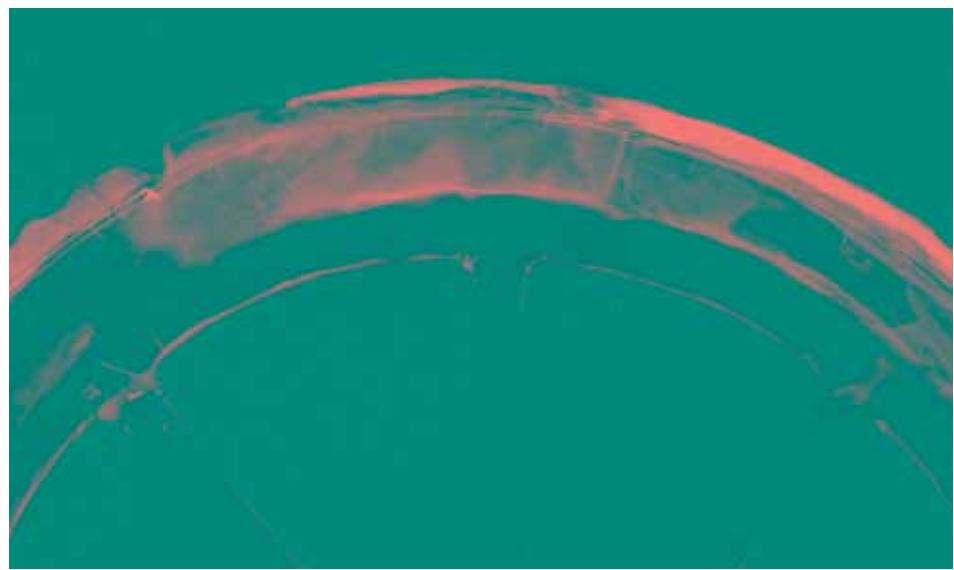
V.72 Proper right wheel



V.73 Bronze revetments from the arms and stock, proper right wheel



V.74 Proper left wheel



V.75 X-ray of the felloe of the proper left wheel. X-ray by Kendra Roth

contact with the outer one. The nave is obviously made from a single piece of wood and fashioned into three consecutive cylinders. The spokes are inserted into the central cylinder, that is, the nave stock, and the inner nave neck (L. 6 in. [15 cm]), which flanks the nave stock, is slightly longer than the outer one (L. 5 3/8 in. [13.5 cm]).

The bronze sheathing ($\frac{1}{4}$ in. or .7 cm thick) on each wheel is assembled as follows: Two rings of bronze sheet cover both sides of the felloes. On the outer part they are nailed along the edges, just below the iron tire, while on the inner part the edges are wrapped around the bases of the spokes and barely overlap in the spaces between spokes where they are nailed. Each spoke is covered with a sheet that is nailed along the two edges that do not overlap; the nails occur inside the wheel. A short section of the sheet on each spoke is inserted into the sheathing of the felloe and nave, but does not cause friction. Each nave is reveted by the two halves of two tubular bronze sheets (Figure V.73) molded around the nave and wrapped around the bases of the spokes, where they are nailed between the spokes. Each nave head has a bronze nave cap, whose ribbed ring overlaps the nave head by $\frac{1}{2}$ in. (1.2 cm) on the outer edge and $\frac{3}{8}$ in. (.8 cm) on the inner. The opening through which the axle arm passed has a diameter of $1\frac{3}{4}$ in. (4.5 cm). All of the small nails utilized to attach the bronze sheets to the wood are also of bronze. The lynchpins did not come to New York with the chariot.

Condition. Most of proper right wheel (cat. 19) appears to be intact and nearly all of the wooden core remains. The sheathing presents minor losses, hairline cracks, and partial warping, in particular where the wood has expanded and applied pressure from within. The remaining parts of the iron tire cover about half the perimeter and X-rays reveal the remains of nine(?) nails. The proper left wheel (cat. 20) appears to have been reassembled in modern times from individual parts, as the bronze sheathing does not fit as snugly as it does on the proper right wheel. The bronze sheathing is intact, except for small losses. Three-quarters of the wood remains; modern wood was used, perhaps in 1903, to replace the hub and many of the spokes. The remains of the preserved iron tire cover about three-quarters of the perimeter and X-rays reveal the remains of twelve(?) nails.

The bronze surface of both wheels is covered with thick burial accretions, with scattered areas of metallic, brown, and green corrosion. The outer edge has remains of the iron tire that now appears as red-brown corrosion (iron oxides). The nave is partially metallic, with a thin film of brown tarnish and areas of compact black or green corrosion.



V.76 Fragments of ivory inlay
(cats. 21a-d; 23a, b; 24a, b)

Fragments of inlay

21a. Fragment of inlay from central panel (Figures V.76, V.77)

Elephant ivory⁹

L. 3 1/4 in. (8 cm), W. 1 3/8 in. (3.6 cm), thickness at ancient edge .23 cm

Description. This is a thin strip that is slightly convex along its length. The preserved edges form a right angle, are cut obliquely, and have crisscross incisions running over the surface of the cut. An indentation the size of a fingertip is visible near the longest preserved edge, about 1 1/4 in. (3 cm) from the corner.

Condition. An edge 3 1/4 in. (8 cm) long and forming a right angle with the first, another edge, 1/8 in. (.3 cm) long, have been preserved. The outer surface is well preserved, whereas the inner one is eroded.

Technical observations. A comparison with the fragments described below indicates that crisscross incisions resembling those running along the edge were almost certainly

present over the entire inner surface. They served in the attachment of the strip with an adhesive, increasing the bonding surface.

Commentary. See cat. 21d.

21b. Fragment of inlay from central panel (Figures V.76, V.78)

Elephant ivory

L. 2 3/4 in. (7 cm), W. 3/4 in. (2 cm), thickness at ancient edge .23 cm

Description. This thin strip resembles the previous one and preserves the same type of ancient edge for a length of 2 5/8 in. (6.6 cm). Crisscross incisions occur on the underside and also along the obliquely cut edge, near which the same indentation appears as on the previous fragment.

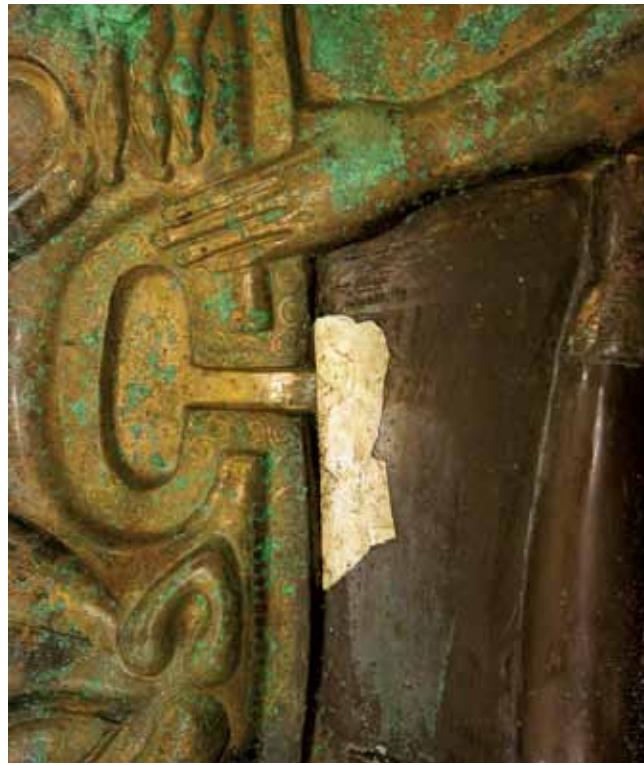
Condition. The fragment has been recomposed from two pieces.

Technical observations. See cat. 21a.

Commentary. See cat. 21d.



V.77 Location of ivory fragment 21a (Figure V.76) on the central panel, to the left of the Boeotian shield



V.78 Location of ivory fragment 21b (Figure V.76) on the central panel, to the right of the Boeotian shield

21c. Fragment of inlay (from central panel?) (Figure V.76)

Ivory

L. 1 1/4 in. (3.2 cm), W. 1 in. (2.5 cm), thickness at ancient edge .2 cm

Description. This thin strip resembles the two preceding ones; its ancient edge is preserved for a length of 3/4 in. (1.8 cm). Crisscross incisions are present on the underside and along the obliquely cut edge.

Condition. The strip is in three pieces, the central one being larger than the other two.

Technical observations. See cats. 21a, 21b. The state of the fragment did not allow identification of the animal order the ivory belongs to.

Commentary. See cat. 21d.

21d. Fragment of inlay (from central panel?) (Figure V.76)

Ivory

L. 3 5/8 in. (9.3 cm), W. 3/4 in. (1.8 cm), thickness .18 cm

Description. This thin strip resembles the preceding ones, having the same type of edge, albeit cut more obliquely.

Condition. The fragment is made up of two pieces. The underside is eroded.

Technical observations. See cats. 21a–21c. The state of the fragment did not allow identification of the animal order the ivory belongs to.

Commentary. In its convexity, ancient edges, and indentation near the edge, the thin strip (cat. 21a) fits snugly into the

space between the woman's right hand and the shield on the central panel. In particular, the indentation lines up with the horizontal cutout of the Boeotian shield (Figure V.77), as if the artist wanted to level the surfaces of the ivory inlays, which must have filled the shield's lateral cutouts. This seems to be confirmed by the fact that strip 21b fits the opening on the opposite side of the shield (Figure V.78). If our analysis is correct, then thin strips 21c and 21d, which are rather similar in appearance, probably also come from the lower area of the central panel (see Section III.B).

22. Three fragments of inlays from central panel (Figures V.79–V.81)

Ivory

Largest fragment: L. 1 in. (2.6 cm), W. 5/8 in. (1.7 cm), thickness .23 cm

Description. These are strips with small rectangular projections below and with a hole at the center of each. The reverse of the largest strip is covered with crisscross incisions. A green ring caused by contact with bronze can be seen around each hole and on the sides of the three projections, on both the obverse and reverse. The diameter of the shaft of a tiny cylindrical bronze pin (Figures V.79, V.80) seems to fit the holes perfectly. The two smaller ivory fragments are the outer halves of two other perforated projections.

Condition. The outer edges of the projections are well preserved and do not present the crisscross incisions observed



V.79 Fragments of ivory inlay, front



V.80 Fragments of ivory inlay, back

on the previous examples; the other ancient edges are missing.

Technical observations. The surface around the small holes on the obverse of the largest strip shows encrustation-like accretions. For the crisscross incisions on the reverse, see cat. 21a. According to Anibal Rodriguez, an examination of the largest fragment suggests it is made from hippopotamus, rather than elephant, ivory.¹⁰

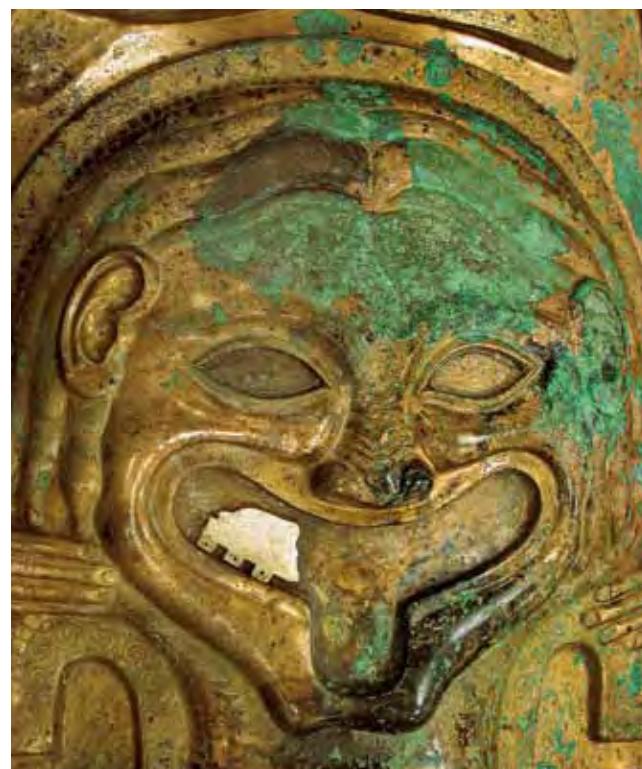
Commentary. The fragments seem to belong to the inlays articulating the mouth of the gorgoneion on the shield of the central panel; the ivory tongue located in Italy was certainly also part of the mouth (see Figure I.14). An ideal reconstruction of the whole can be found in the gorgoneion on the proper right panel. The curve of the largest of the dentate strips seems to fit the lower jaw: it must have terminated at the side of the tongue and supported the actual teeth, which were attached by tiny bronze pins and, in all likelihood, were modeled separately in a material I cannot identify. The fracture line on the tongue indicates it was part of the same layer of ivory as the dentate fragments; the whole layer must have run around the entire perimeter of the mouth, with perforated dentils underlying the teeth of the upper jaw and the two pairs of tusks that are usual in gorgoneia; I do not know if the tusks were contained within the mouth as in the side panel or if they stuck out.¹¹ The presence of a small hole for a bronze pin in the tongue, on which nothing was superimposed, suggests that the entire ivory composition was “sewn” onto a thin support (perhaps of leather) that was glued to the ivory and then to the bronze.

23a. Fragment of pole decoration (Figure V.76)

Elephant ivory

L. 9 in. (23 cm), W. 1 3/8 in. (3.5 cm), thickness .19 cm

Description. The strip is slightly convex along its length. There are five holes, each .22 cm in diameter, at regular intervals of 1 1/8 in. (2.9 cm) along the ancient edge. There may have been two more holes at the ends, which are broken. A green stain caused by contact with bronze runs along the line of holes, but not around or between them.



V.81 Location of ivory fragment 22 (Figures V.79, V.80) on the central panel, in the mouth of the gorgoneion

Condition. The fragment has been recomposed from six pieces. The obverse is well preserved, while the reverse is corroded.

Technical observations. A comparison between the holes in this strip and those of strip 22 reveals that the absence of stains caused by metal rules out the use of bronze or iron pins to affix the ivory, implying that an organic adhesive was used.

Commentary. Accounts of the discovery of the chariot mention an ivory decoration along the pole, but do not specify where.¹² I believe the remains of these fragments (and perhaps cat. 23b) can be identified as belonging to the pole's decoration because of their slightly convex shape—the stain suggesting they were originally covered with bronze

for much of their length—and the sequence of holes for nonmetallic pins. The diameter of the holes is the same as observed along one of the edges of the bronze sheathing of the pole; the interval between them differs slightly (by a few millimeters) and hence they are not perfectly superimposed.

The hypothesis I would like to advance runs as follows: It is clear that the ivory was worked in numerous strips to match the length of the pole. The perforated edges of the strips were positioned under the proper right edge of the bronze that revetted the pole and “sewn” with leather threads; about $\frac{3}{8}$ in. (1 cm) of the width of the ivory strip was covered by bronze. The opposite edge of the bronze sheathing, about $\frac{3}{4}$ in. (2 cm) away, was nailed to the wood of the pole. The edge of the ivory opposite the holes overlapped the nailed bronze edge without being attached to it, so as to prevent stress, as revealed by the stain about $\frac{3}{8}$ in. (1 cm) wide left on the bronze (Figure V.64). Once it was assembled, the visible surface of the ivory measured about 1 $\frac{1}{4}$ in. (3 cm) wide; hence, the single ivory strips were about 1 $\frac{5}{8}$ in. (4 cm) wide.

23b. Fragment of decoration (from the pole?)

(Figure V.76)

Elephant ivory

L. 6 $\frac{1}{2}$ in. (16.7 cm), W. 1 $\frac{1}{8}$ in. (3 cm), original thickness not preserved

Description. The strip resembles the preceding one, but without the ancient edge. Here, too, there is a green stain caused by contact with bronze along the line that may have contained the perforated edge.

Condition. The fragment has been recomposed from two pieces. The obverse is well preserved, while the reverse is eroded.

Technical observations. See cat. 23a.

Commentary. See cat 23a.

24a. Fragment of decoration (Figure V.76)

Elephant ivory

L. 3 in. (7.5 cm), W. 1 in. (2.6 cm), thickness .2 cm

Description. The strip has two preserved ancient edges: the longer one has a sharp oblique edge toward the inside with crisscross incisions; the other edge is scalloped. Along the first edge are two holes for attachment; they measure $\frac{1}{8}$ in. (.2 cm) in diameter and have always been open. A tiny hole on the shorter edge is surrounded by a green stain caused by contact with a small bronze nail or bronze wire. The whole reverse is crisscrossed by incisions.

Condition. The fragment is slightly concave lengthwise toward the obverse, perhaps due to desiccation over time. Both sides are well preserved.

Technical observations. The larger holes share the same typology as the ones in cat. 23a, whereas the smaller one

resembles the description in cat. 22. For the crisscross lines on the underside, see cat. 22. The piece was not examined to determine to which animal order the ivory belongs.

Commentary. See cat. 24b.

24b. Fragment of decoration (Figure V.76)

Ivory

L. $\frac{3}{4}$ in. (2 cm), W. 1 in. (2.5 cm), thickness .2 cm

Description. Part of the strip is identical to the preceding one, in that only a short piece of scalloped edge containing a similar tiny hole survives.

Condition. The reverse is eroded.

Commentary. It is not known whether fragments 24a and 24b were part of a single strip or were two identical strips mirror reversed. They originally fit on the flat surfaces of a part of the chariot, or of the horses' harness, that cannot be identified.

25. Fragment of inlay of an eye (Figure V.82)

Ivory

L. 1 in. (2.6 cm), W. $\frac{5}{8}$ in. (1.7 cm), thickness .44 cm

Description. The lens-shaped piece preserves about half of its original edge, which is cut slightly obliquely toward the outside. There are traces of crisscross incisions on the reverse.

Condition. Two slivers have been superimposed to recompose the fragment. The reverse is quite eroded.

Technical observations. The crisscross lines on the cut of the edge of cat. 21a are missing on cat. 25 as on cat. 22. On cat. 25, however, the incisions are present on the reverse. The uneroded area of the reverse is reddish brown in color as a result of contact with iron or another, perhaps organic, material. High magnification revealed small, shining areas where ancient adhesive may have been applied.¹³ The piece was not examined to determine to which animal order the ivory belongs.

Commentary. The curvature and length of the fragment can only fit the left eye of the boar protome, but with the following reservations: The thickness of the inlay is about twice that of the cavity prepared in the bronze, and it cannot be established whether this is a result of a natural expansion of the ivory due to the particular conditions of contact with chemical and microbiological agents within the tomb. In



V.82 Fragments of ivory inlays from an eye (cat. 25) and perhaps from an eye (cat. 26)

width, the surface of the fragment represents about half that of the eyeball and it does not have a cavity for the iris, unlike the panther's right eye on the central panel, which also has a hole for the pupil (see Figure I.13). Given the smaller size of the inlay, it is likely that the iris in the boar's eyes was painted.

26. Fragment of inlay (from an eye?) (Figure V.82)

Ivory

L. $\frac{5}{8}$ in. (1.5 cm), W. $\frac{1}{4}$ in. (.5 cm), thickness .42 cm

Description. The piece is of lenticular shape. The outer edges are not preserved, only the inside one from the middle of a hole that was probably located in the center of the object. There are the familiar crisscross incisions on the underside.

Condition. The whole fragment is stained brown as if from contact with iron or another, perhaps organic, material.

Technical observations. For the crisscrossed lines see cat. 21a. The piece was not examined to determine to which animal order the ivory belongs.

Commentary. The thickness and the appearance of the stain resulting from contact with another material indicate that, like the preceding piece, this one comes from an eye, perhaps the right eye of the boar protome. If so, there must have been a pin of a different material that served the dual purpose of representing the pupil and attaching the inlay to an organic support placed between the ivory and bronze. See cat. 22 for a discussion of this method of applying inlays into prepared bronze cavities.

27. Fragment of inlay (Figure V.83)

Possibly elephant ivory

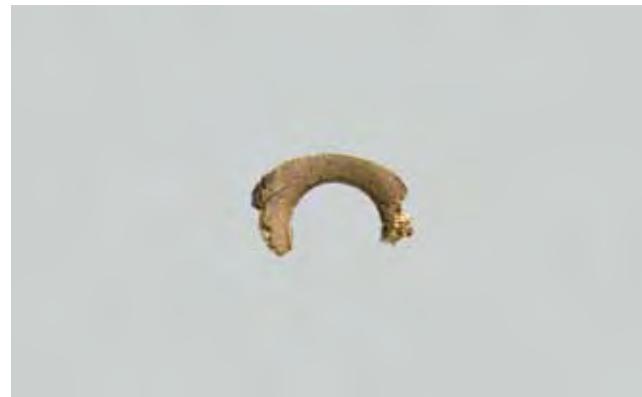
L. $\frac{7}{8}$ in. (2.2 cm), W. $\frac{1}{2}$ in. (1.3 cm), average thickness $\frac{1}{4}$ in. (.64 cm)

Description. The ringlike fragment has an ancient central hole measuring $\frac{1}{2}$ in. (1.14 cm) across. Contact with bronze has turned the whole piece green. No crisscross incisions have been observed on the upper or lower side.

Condition. About one-third of the ancient hole is missing, but its internal edge is well preserved. None of the ancient outer edge has been preserved around the perimeter of the fragment. Soil accretions adhere to one of the surfaces.

Technical observations. The absence of crisscross incisions clearly shows that the method of application used for this piece differed from the one adopted for the other ivories examined so far.

Commentary. Previously I attributed the fragment to the eye inserted in the helmet of the central panel because its noteworthy thickness matches the height of the relief at that point.¹⁴ I still hold this opinion, but further study of the chariot has led me to believe that the presence of the eye in the helmet was not part of the artist's original project (see Section III).



V.83 Fragment of ivory inlay

28. Fragment of inlay from a side panel (Figures V.84, V.85)

Ivory

L. $\frac{3}{8}$ in. (1.1 cm), W. $\frac{3}{8}$ in. (1 cm)

Description. The strip has four carved grooves running the length of the surface and spaced so as to form five horizontal ribs, the central one being the widest and the side ones progressively narrower. Unlike cats. 21, 22, and 24–26, there are no crisscross incisions on the reverse.

Condition. The original execution can be recognized on both sides, even if some chipping is present. The two edges are also well preserved within the small fragment.

Technical observations. The narrow grooves are deep and rectangular in section. The dimensions of the fragment and the treatment of the surface make clear that the original fillet



V.84 Fragment of ivory inlay from one of the side panels



V.85 Possible location of ivory fragment 28 (Figure V.84), which was originally inlaid at the base of one of the two side panels



V.86 Fragment of ivory decoration from the floor frame (cat. 29a), top view



V.87 Fragment of ivory decoration from the floor frame (cat. 29a), bottom view



V.88 Fragment of ivory decoration from the floor frame (cat. 29b), bottom view

was inlaid in the small concave band at the base of one of the two side panels (see description of cat. 3a). Thus, it must have been 10 $\frac{1}{8}$ in. (27.5 cm) long and could have been made in separate pieces; I cannot suggest how it was attached to the bronze. No specific examination was performed on the surviving fragment to determine to which animal order the ivory belongs.

29a. Fragment of decoration from the floor frame (Figures V.86, V.87)

Elephant ivory

L. 2 $\frac{5}{8}$ in. (6.6 cm), W. 1 $\frac{7}{8}$ in. (4.7 cm); reconstructed W. 2 in. (5 cm); original thickness $\frac{5}{8}$ in. (1.5 cm) or more
Description. A decorative adjunct of one of the two rear finials of the chariot's floor frame, the piece can be reconstructed as roughly trapezoidal, with one of its short sides cut obliquely toward the top as an arc of a circle. A bronze pin (now lost) inserted through a .29 cm hole in the corner of the upper side was used to attach the piece to the wood: indeed, the pin left a conspicuous green stain around the hole. The underside presents extensive losses: it is crossed by two parallel horizontal grooves, the depth of which can no longer be reconstructed. By contrast, on the better-preserved side it is possible to determine the width, which tapers from $\frac{3}{8}$ in. (.9 cm) on the outside to $\frac{1}{4}$ in. (.6 cm) on the inside, whereas the other groove measures $\frac{3}{8}$ in. (.9 cm) along its entire length. Their function must have been to hold the strips of ivory inlay in the wood.

Condition. The deterioration of the ivory is very advanced and has caused the various layers within the thickness of the piece to flake. There are significant losses on the underside

and less severe ones on the top. What is visible today results from research and the recomposition of joining pieces.

Technical observations. Given the loss of the original surface of the underside, I do not know if it presented the criss-cross lines observed in most of the ivories that have been examined. However, given that the piece had to be mounted on the wood with a sturdy bronze pin and was also slotted into two grooves, I believe that adhesive was not used (see technical observations for cat. 21a), and hence that no criss-cross incisions were made.

Commentary. See cat. 29b.

29b. Fragment of decoration from the floor frame

(Figure V.88)

Elephant ivory

L. 2 $\frac{1}{2}$ in. (6.5 cm), W. 1 $\frac{1}{2}$ in. (3.7 cm); reconstructed W. 2 in. (5 cm); original thickness $\frac{5}{8}$ in. (1.5 cm) or more

Description. The shape of the fragment indicates that the element was a mirror image of the preceding one (cat. 29a): the hole used for attaching it does not appear in the remaining part, and must therefore have been in the missing part.
Condition. The deterioration of the ivory destroyed more than half of the piece; what exists today is the result of a patient search for, and joining of, matching edges.

Commentary. During the reconstruction of the chariot we opted to position elements 29a and 29b on the upper side of each rear finial of the floor frame, but each finial may have been decorated on at least the three visible sides. The fragments I present under cat. 29c may belong to cats. 29a and 29b, but frankly I believe they are too many, as none can be joined, despite numerous attempts to find matching edges.



V.89 Fragments of ivory decoration from the floor frame (cat. 29c)

29c. Seventy fragments of decoration from the floor frame (Figure V.89)¹⁵

Elephant ivory

I do not consider it worthwhile to identify the dimensions of each of the numerous fragments, some of them very small. They all result from the disintegration of pieces either identical or similar to cats. 29a and 29b after deterioration of the ivory caused the layers to flake apart.

30. Fragment of a handle or grip(?) (Figures V.90, V.91)

Hippopotamus ivory

L. as preserved 3 1/4 in. (8.3 cm), Diam. 1 in. (2.5 cm)

Description. This hollow cylinder shows decorative scalloping at one end. The cavity, which has a subquadrate section, tapers internally from the scalloped end, where its diameter is 5/8 in. (1.5 cm). There is a large, rust-colored stain around the cavity caused by contact with iron.

Condition. The fragment is recomposed from three pieces and incomplete at one end; a crack 1/8 to 1/4 in. (.4 to .6 cm) wide runs along its length.

Commentary. The rust-colored stain indicates that an iron element was inserted inside the cavity and that the ivory may have been the handle or grip. In my opinion, it is the handle of a goad used to urge the horses, like the one held by the charioteer on the left panel (cat. 4a). It may have belonged to the owner of the chariot and been placed in the tomb along with the harness, of which a pair of horse bits and a buckle have come down to us (see page 19, no. [7]).



V.90 Fragment of an ivory handle or grip(?)

V.91 Detail of the base of the fragment in Figure V.90



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APPENDIX: TRANSCRIPTION OF SIGNIFICANT ARCHIVAL DOCUMENTS

The transcribed documents that follow belong to a file in the Archivio Centrale dello Stato in Rome (location 1902–1907, Serie M.P.I., AA.BB.AA., III vers. 2^a serie, busta 50, fasc. 111, s.f.2) opened in 1902 immediately following the clandestine excavation of the Tomb of the Monteleone Chariot, when the Italian government authorities sought to track down the finds to prevent their export.

Document 1. Rome, June 6, 1902: letter from Giulio Emanuele Rizzo, director of the Museo Nazionale Romano, to the minister of public instruction in Rome. Subject: Official visit to Perugia and Norcia.

... Non mi dilungherò qui sul luogo e su altre circostanze della scoperta, perché nulla avrei da aggiungere alle notizie fornite dal tenente, nei suoi rapporti. Si sa che il contadino Vannozzi trovò gli oggetti in un fondo rustico di sua proprietà, sito a 30 Km da Norcia, alla sinistra del fiume Corno, tra Monteleone e Cascia, in un luogo denominato "Colle del Capitano." È anche soverchio ripetere qui le deposizioni del Vannozzi stesso e di altri contadini, che videro gli oggetti. Premevami piuttosto, avere su di essi notizie meno imprecise dall'unica persona capace, fra quanti li videro, di averne riconosciuto ed apprezzato, in certa qual guisa, le forme e le ornamentazioni, come quella che deve, non foss'altro, aver l'occhio adusato alle linee. È questa persona il Sig. Angeletti, professore di disegno nelle scuole tecniche di Norcia, il quale fu da me lungamente e minuziosamente interrogato.

Egli vide, per invito del Petrangeli, tutti gli oggetti scoperti; e avendo potuto esaminarli con agio, ne ricorda le forme talmente, da accompagnare la sua descrizione con contorni e schizzi. Le mie numerose domande, che miravano ad avere elementi sufficienti per un probabile giudizio sulla tecnica, sull'età e sul pregi, e le risposte dell'Angeletti, spoglie di termini scientificamente precisi, ma perciò, anzi, più sincere ed attendibili, mi permettono di riferire sull'entità della scoperta, in modo assai probabile. L'oggetto principale e veramente insigne, è il rivestimento quasi completo in lamina di bronzo dorato, pertinente ad una biga. Il lavoro è a sbalzo (au repoussé), ripreso a bulino; la doratura è conservata in alcune parti. Sulle guance del carro era rappresentata da un lato una monomachia, dall'altra una biga tirata da cavalli alati e guidata da un auriga in lunga veste [sic!]. Sulla fronte sotto l'antyx, un grande scudo adorno da mascheroni e fiancheggiato da due figure stanti, virile l'una, muliebre l'altra. Questi tre riquadri, contenenti le rappresentanze principali, erano contornati da una gola rovescia fortemente sbalzata; e intorno intorno correva un ricco fregio di tigri, di leoni, di pantere e di altre belve affrontate e combattenti. All'estremità posteriore della biga, le pareti frontali terminavano in mascheroni di leone. I riquadri delle guance di circa m. 0.45 di altezza per 30 di larghezza, erano assai bene conservati, il rivestimento centrale frammentato in più pezzi, ricomponibili. Conservato era pure il timone, sorgente da una grande protome di cinghiale e finiente a testa d'aquila. Delle ruote, di circa 45 cent. di diam., una era molto ben conservata, l'altra meno. . .

Fan parte inoltre dell'importante scoperta una ventina circa di vasi di bronzo, fra cui l'Angeletti ricorda benissimo due grandi lebeti, di circa m. 0.60 di diametro, reggentesi su tre pieducci a zampe leonine, sormontate da palmette, e

con mascheroni sui due lati; e di questi vasi l'Angeletti, alieno da ogni conoscenza archeologica, segnava sul mio taccuino i contorni, in modo da farmi riconoscere con precisione l'oggetto, ch'egli, naturalmente, non sapeva chiamare e classificare. Così anche delle parti principali della biga; così di due vasi fittili, che servono assai bene a lumeggiare la scoperta. Essi sono una pyxis di bucchero e una kylinx (o skyphos) greca a figure nere. Tra i bronzi vi erano anche cinque asta a sezione quadrangolare, di un centimetro circa di lato e lunghe circa m.1.20, con piccolo foro all'estremità inferiore, e finienti quasi a punta sottile. La doratura era ben conservata. Un altro oggetto, anch'esso notevolissimo era un tripode di ferro di forma, come m'asseriva l'Angeletti, assai strana; e dallo schizzo che egli me ne tracciò, non esito a riconoscervi il tripode classico dell'arte etrusca o greco-ionica. Né mi soffermo su altre cose meno interessanti, della cui esistenza mi informò lo stesso prof. Angeletti. . . .

È impossibile non aggiustar fede alle informazioni dell'Angeletti, anche perché egli, non archeologo, non avrebbe avuto mezzi e capacità per crear di sua testa, con frode cosciente, tipi di oggetti e notizie che rispondono a fatti archeologici conosciuti. D'altra parte è notevole che le descrizioni del Vannozzi, del Regoli e del Petrangeli, che sono meno precise nella espressione, perché fatte da uomini rudi, non discordano punto da quella dell'Angeletti, né quanto al numero né quanto alle forme degli oggetti scoperti. . . .

Document 2. Perugia, July 16, 1902: letter from the administration of the Regional Office for the Preservation of the Monuments of the Marches and Umbria to the Prefect of Umbria. Subject: The discovery of ancient objects in the territory of Monteleone di Spoleo—partly sold at Norcia.

In seguito alla consegna fatta personalmente al Prof. Lupattelli degli oggetti pervenuti a cotesa Regia Prefettura a mezzo del Sig. Comandante la Sezione dei R.R. Carabinieri di Norcia, e dal medesimo ritirati da Vannozzi Isidoro e Rotondi Luigi di Monteleone di Spoleto, mi prego rimetterle l'elenco descrittivo degli oggetti stessi conforme all'ordinativo dell'E.V. III.ma. BRONZI

1. Asta quadrangolare in bronzo dorato, a foggia di spiedo, della lunghezza di un metro, acuminata all'estremità inferiore, con piccolo foro nell'estremità superiore, che si potrebbe supporre destinato ad applicarla a qualche congegno per darle un regolare movimento rotatorio, come si usa con gli attuali girarrosti;
2. Piccoli frammenti in bronzo, quattordici di lamina per rivestimento; una fibulina mancante di ardiglione; un chiodetto con capocchia terminato a taglio ed altri due a punta; un elegantsimo animaletto (grifo) adoperato forse come piccolo gancio, avente all'uopo un apertura circolare alla estremità;
3. Frammento di lamina decorativa ad impronta a tortiglione ed in tre linee, forse parte di un ombone di scudo;
4. Due piccoli oggetti di forma ovoidale, uno dei quali incavato (asse maggiore mm: 37; asse minore mm: 33—spessore mm: 8), con tre fori in ciascuno;

FERRO

5. Un pezzo di ferro ricurvo, della lunghezza di m. 0.23—e in sezione della misura di mm. 25 x mm. 10, parte di un cerchio

di ruota, con due forazzi dove incassare i raggi, uno dei quali chiuso dal frammento di raggio rimastovi;

6. Due fibule quadrangolari;

7. Un piccolo puntale;

8. Mezza borgognetta del sec. XVII

TERRACOTTA

9. Sette piccoli frammenti fittili di olle e di urceoli, alcuni in argilla nerastra impura, lavorati a mano

Osso

10. Vari frammenti di lamine ossee, forse rivestimento di piccole ciste, cinque dei quali decorati a linee e a dentelli.

Non si è tenuto conto di un pezzo di metallo in forma di piccolo pomo e di altro pezzo a forma di uncino, come quelli che non hanno alcun carattere di antichità, essendo oggetti del tutto moderni.

Document 3. Perugia, November 3, 1902: account of Professor Ferdinando Del Prato, head of the Royal Technical Institute in Perugia, to an unspecified recipient, but probably the minister of public instruction in Rome.

... Nell'anno 1901 certo Vannozzi, piccolo proprietario di Cascia, scopriva per puro caso a Monteleone, nella località detta Colle del Capitano, un elmo di bronzo ed una statua di bronzo dorato, figurante un guerriero. L'elmo, secondo ciò che dice il Vannozzi, fu comperato per poche lire da certo Petrangeli, negoziante di Norcia; e la statuetta di bronzo (alta circa 35 centimetri) dopo aver servito di trastullo ai figliolietti di Vannozzi, venne da costui ceduta in cambio di un coltello, datogli da un coltellinaio girovago. Nel Marzo del corrente anno 1902 il detto Vannozzi nella stessa località denominata Colle del Capitano scopriva un grande vano sotterraneo, pieno in parte di sabbia, entro la quale trovò una biga di bronzo dorato, un grande vaso di bronzo figurato, molti piatti di bronzo (alcuni dei quali contenevano avanzi di ossa di piccoli animali), molti piccoli vasi fittili, quattro grossi lancioni quadrangolari di durissimo bronzo dorato, ed una grande catinella di bronzo. . . .

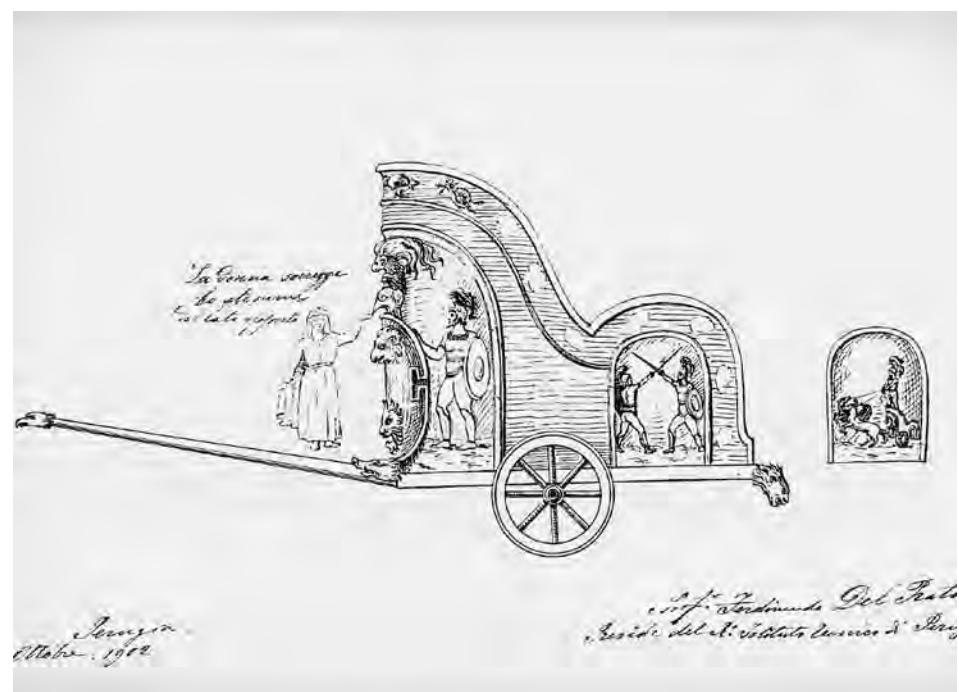
Valendomi delle attestazioni e delle descrizioni di coloro che hanno veduto ed esaminato la biga, ho procurato di farne il disegno, il quale potrà peccare in qualche particolare di secondaria importanza, ma nel suo completo riproduce fedelmente l'importantissimo oggetto (Figure A.1). La biga, per i suoi caratteri generali, per le modalità degli ornamenti, per la specie e qualità degli oggetti che con essa erano sepolti, appare etrusca e non romana. Il corpo della biga è costituito da una grossa lastra di bronzo fortemente dorato. Nella parte superiore corre una specie di larga fascia ornata di piccoli medaglioni, raffiguranti animali, ed ottenuti col processo detto a sbalzo, rifiinendo poi col bulino la faccia anteriore. Di tali medaglioni pochi solamente sono in buono stato, mentre gli altri sono così logori da non essere più riconoscibili. Sembra che questa condizione sia provenuta dal fatto che alcuni erano stati coperti dalla sabbia asciutta, mentre altri erano rimasti scoperti e perciò esposti all'azione deleteria dell'umidità e degli agenti esteriori. La parte anteriore della biga reca un grande medaglione, contenente teste di leone, sorretto da un guerriero e da una donna e sormontato da una specie di

stemma. Il grande medaglione è conservatissimo: le figure del guerriero e della donna sono ad alto rilievo di circa 5 centimetri. I lati posteriori della biga sono parimenti ornati di medaglioni. In uno campeggiano due guerrieri che incrociano le spade; ma sulla spada di un guerriero evvi un uccellino, il quale raffigura l'anima del morto. Nell'altro medaglione è rappresentato un guerriero sopra una biga, tirata da due pegaso. Notevole è pure il timone della biga, costituito da un robusto cartoccio di bronzo dorato, entro il quale stava il timone di legno. All'innesto del timone con la biga c'è una grossa testa di cignale, ed alla punta del timone una bella testa di aquila. Le ruote, i fusi, il mozzo sono parimenti di bronzo dorato. Mancano l'assale delle ruote ed il fondo della biga che manifestamente erano di legno e non hanno potuto resistere all'azione deleteria del tempo. . . .

Document 4. Rome, February 8, 1904: letter from Angiolo Pasqui from the Office for the Excavations of the Ara Pacis Augustae in Rome to the minister of public instruction. Subject: Monteleone di Spoleto, excavations at the Colle del Capitano.

La lettera ministeriale 22 giugno e gli accordi che io dovevo prendere in ordine a questa lettera colla Direzione degli Scavi di Roma e Provincia richiesero una mia gita a Monteleone di Spoleto, dove si dicevano avvenute le scoperte di un carro di bronzo e di una considerevole quantità di vasi pure di bronzo. Lo scopo di questa mia ispezione era quello di constatare il punto preciso delle scoperte, di rilevare l'importanza archeologica, dato che la località fosse adatta per uno scavo regolare e proficuo. . . . Io forse ebbi la notizia più completa dei ritrovamenti, perché mi recai sul luogo delle scoperte, e venuto in familiarità col proprietario Isidoro Vannozzi, visitai lo scavo tuttora aperto, raccolsi la narrazione dei ritrovamenti, i più

A.1 Idealized reconstruction of the chariot drawn by Ferdinando Del Prato in 1902 (see Appendix, document 3)



minuti dettagli sulla disposizione degli oggetti, e potei infine stabilire che erano state aperte due grandi tombe, una a fossa, semplicemente ricolma di terra, con due cadaveri disposti a piè delle pareti lunghe, e tra essi un gran deposito di vasi di bronzo, altra più grande e quasi quadrata, ripiena di sassi che sembravano accomodati in modo da formare una volta, e in conseguenza un tumulo un poco emergente sul livello del terreno. Vidi parte del rivestimento delle pareti tuttora a posto, e pensai che la tomba non fosse stata del tutto esplorata.

In questa tomba si trovò un solo cadavere disteso sopra un rozzo strato di lastre, e il carro disfatto e altri grandi vasi di bronzo. Queste due tombe dicesi che fossero state scoperte pei lavori di fondazione di un casale rustico.

La mia ispezione non poteva essere limitata a queste semplici costatazioni. Due tombe in quel luogo deserto, a più che 900 m. sul livello del mare, in mezzo ad un giogo di monte non potevano trovarsi isolate: dovevano avere relazione con qualche centro abitato, e, stabilito questo, dovevano dare indizio di un vero sepolcreto. Non fu difficile scoprire in prossimità delle dette tombe il luogo, ovvero la città, a cui poteva riferirsi il sepolcreto. Questa è rappresentata da un gigantesco rialzo che trovasi isolato ed a picco del fiume Corno, propriamente in continuità del giogo, ove furono scoperte le tombe.

Riconobbi lassù molte opere di difesa, che costituivano varie cinte e piantavano tutte sopra tagli artificiali della rupe: riconobbi il punto maggiormente fortificato, l'arx, le abitazioni attorno al pomerio, e la sede di un tempio, di cui si vedono emergere dal terreno le rozze pareti. Il luogo è detto Castelvecchio e Monteleone Vecchio, ed è ancora viva la tradizione nei Monteleonesi, che la loro sede primitiva fosse quella.

E la tradizione questa volta corrisponde al fatto vero, cioè non solo siamo di fronte ad una località abitata in epoca antichissima, ma è ancora riconoscibile in tutta la sua estensione il sepolcreto, della cui importanza testimoniarono le scoperte delle due ricche tombe.

Tutto il giogo del monte, che si muove dal piede del rialzo ove ebbe sede la città, rappresenta il sepolcreto. Emergono nella parte più depressa alcune elevazioni parziali di terreno

che accennano a presenze di tombe uguali nella struttura a quella, dove fu trovato il carro. Per tutta la costa saliente del giogo l'occhio esperimentato negli scavi intravede la disposizione delle tombe e ad intervalli nel terreno rimosso a causa dei lavori agricoli riconosce i frammenti di stoviglie che debbono provenire da tombe rovistrate. Dal modo come si è manifestata la scoperta di questa località antica e del suo sepolcreto arguisco l'importanza di uno scavo regolare e fin d'ora approvo l'intendimento del R. Governo di non lasciare a privati campo di speculazione dannosa. Sarebbe quindi, a mio parere, di somma importanza archeologica una esplorazione regolare, avuto anche riguardo alla ricchissima regione, dove scavi sistematici non sono stati mai fatti, ma dove di tempo in tempo si scoprono cimeli di singolare valore. . . .

Document 5. Rome, June 4, 1904: account of Royal Inspector Guido Scifoni to the director of the Office of Excavations and Discoveries of Antiquities in Rome. Subject: Inspection made by the undersigned in the territory of Monteleone di Spoleto.

Terminata la missione ordinatami da V.E. III.^{ma} con lettera 16 Maggio n.s. N° 459, riferisco quanto appresso. . . . Vannozzi Isidoro, alquanto tempo dopo che ebbe rinvenuta la pregiata suppellettile, nella tomba suddetta, e alla quale egli non avrebbe saputo attribuire importanza, trasportò in Norcia, alcune parti del rivestimento in bronzo a lamina, appartenenti alla biga, facendo capo dal di lui amico Pacifici Marco. Questi, sapendo che Petrangeli Benedetto, ferraio, erasi dato al commercio di cose antiche, lo indirizzò a lui. Il Petrangeli . . . avuti quei frammenti se li trattenne e subito li portò in Roma per farli esaminare dall'antiquario Vitalini [. . . omissis . . .]. Intanto, la famiglia Petrangeli inviava a Monteleone il sensale Regoli il quale conchiuse l'acquisto del tutto per £ 900. . . .

Il giorno che tornai al Colle del Capitano mi fermai al casale del Vannozzi e chiedendo da bere e permesso di riposarmi cominciai a interrogare la moglie ed i figli circa il trovarsi da loro fatto; ma nessun particolare nuovo raccolsi tranne quello che la suppellettile rimase per molto tempo, oggetto di trastullo dei suoi figlioli. . . .

NOTES TO SECTION I (PAGES 9 – 28)

1. Leach 1991, pp. 398–414.
2. Emiliozzi 1991, drawings on pp. 104, 122; Emiliozzi 1996a, figs. 1–3; Emiliozzi 1997d, figs. 3–6.
3. For the history and legends of the Sabine people and the boundaries of their territory, see Poucet 1963; Salmon 1970; Poucet 1972; Pallottino 1973, fig. 1; Musti 1985; and Mansuelli 1996.
4. As distinct from Lower or Tiburtine Sabina (see Santoro 1973 and 1986). This ancient region is usually divided into two separate entities—Inner Sabina with its cities (using the Latin names they were given at the time of the Roman conquest) at Reate (Rieti), Amiternum (near L'Aquila), and Nursia (Norcia), and Tiburtine Sabina with its centers at Cures, Eretum, Trebula Mutuesca, and Forum Novum (which are found respectively near present-day Passo Corese di Fara in Sabina and Montelibretti, Monteleone Sabino, Mentana, and Vescovio di Torri in Sabina), as well as modern Poggio Sommavilla and Magliano Sabina, the ancient names of which are no longer known. This division of ancient Sabina into two parts seems to have had its origins in Roman historiography; see Musti 1985, pp. 78–83, and Stalinski 2001, p. 27.
5. For an annotated bibliography, see Bonamici 1992, although De Angelis 1991 should be added to it.
6. De Angelis 1985b and 1991.
7. After Angiolo Pasqui's explorations in 1907 (Minto 1924a, 1924b), professional excavations began again in 1978 (De Angelis 1979, 1985a, 1985b, 1991).
8. For a succinct, annotated overview, see Stalinski 2001, pp. 59–72, and for Monteleone di Spoleto in particular, pp. 66–67.
9. Bonomi Ponzi 1982, p. 139; Manconi 1985; Stalinski 2001, pp. 19 and n. 26, 23 and n. 39 (with further bibliography).
10. For the disposition of territory in the Valnerina in the Archaic period, see Stalinski's annotated summary (2001, pp. 27–30), and Cordella and Criniti 2008, pp. 33–41, both with bibliographies.
11. For an overview of the aristocracy in ancient Italy, see D'Agostino 1999d; Delpino and Bartoloni 2000; Naso 2000; and Bartoloni 2003. On the sixth century in Etruscan and Roman cities, see Section II, note 23.
12. "Lettere ed arti," *Il Giornale d'Italia*, anno III, no. 187 (July 17, 1902), p. 2; this brief notice is transcribed in Corona [2000], p. 20.
13. It is worth pointing out that for some time the lion heads on the two arms of the yoke were identified as serpent heads because of their elongated and therefore unnatural form.
14. *New York Press*, October 18, 1903, which described the chariot, summarized the story of its discovery, referred to the different opinions on the identification of its narrative scenes, and announced that the chariot would be on display at the Metropolitan Museum on October 26, 1903; *New York Tribune*, October 18, 1903, which announced the same event; *New York Tribune*, *Illustrated Supplement*, October 18, 1903, pp. 8–9, which published four photographs of the chariot, one including several bronze vases.
15. *Scientific American* 1903, pp. 385–86, with four figures with the following captions: 1. (three-quarter view, right) "An Etruscan Biga or Chariot. Used Probably About 600 B.C. Found at Norcia, Italy and Acquired by the Metropolitan Museum of Art"; 2. "The Front of the Chariot. Hercules Presenting His Helmet and Shield to Minerva"; 3. "One Side Panel, Representing Hercules Killing Laomedon, Father of Priam"; and 4. "The Other Side Panel, Representing Hercules Killing One of Laomedon's Children." The identification of the scenes was attributed to Luigi Palma di Cesnola, disagreeing with Alexander S. Murray, who identified the principal scene as representing Achilles and Thetis.
16. La Ferla 2007, p. 39.
17. Interview with Giuseppe Vannozzi published in Corona [2000], pp. 7–9. Morini (1904) confirmed that the sale to Petrangeli was completed on March 23.
18. Leach 1991, nos. 24 (pyxis), 3.20, 3.21 (lip-cups; it is impossible to know which of the two cups he was referring to), 3.17–19, 13 (spits), 19 (tripod). Seven spits came to the Metropolitan Museum, five in 1903 and two in 1921. An eighth remained with Vannozzi and was seized by the *carabinieri* in June 1902 along with other items said to have come from the Tomb of the Chariot (see Appendix, document 2). Today it is in the Museo Nazionale dell'Umbria in Perugia. Other spits were found in 1907 when Angiolo Pasqui reopened the tomb (he spoke of a "bundle" of spits); they entered the collection of the Museo Archeologico in Florence. They are made of iron and are shorter than the others (see, for example, Leach 1991, no. 21). The mention of the tripod (MMA 03.23.53) is especially important in judging its genuineness given that it was restored at the Metropolitan Museum, an intervention described as radical even in the accession file: "mostly modern; made out of a few ancient pieces by W. Richards at General Cesnola's request." For this reason it was not exhibited (see Richter 1915, p. 180).
19. This might be identified with the cauldron in Leach 1991, pp. 398–99, no. 2, although the description is too vague to be certain.
20. Pasqui may have seen a part of the revetment of the walls in place and thought that the tomb had not been explored in its entirety. Morini (1904, p. 10) said that the bones of the deceased were found partially disturbed but that there was only one skull, a fact also underscored in Compagnoni-Natali 1905, p. 571.
21. For example, Martelli Cristofani 1977, p. 17; Woytowitsch 1978, pp. 18, 47, no. 85; Bonamici 1997, pp. 180–81. The two spindle whorls Pasqui found in 1907 are cited as evidence by Bonamici, although they were clearly imported into the tomb in the backfill when it was closed (see note 23 below).
22. Minto 1924b, p. 149.
23. The spindle whorls are now in the Museo Archeologico in Florence (inv. 14343, 14344) along with other fragments Angiolo Pasqui found in 1907 when he reopened the tomb. See page 19, no. [1].
24. Morini 1904, no. 2; Leach 1991, pp. 182–84, nos. 3.13–3.16 and p. 401, no. 4 (in total, twenty-six and twenty-eight). Leach gives the MMA accession numbers for the objects.
25. Morini 1904, no. 13; Leach 1991, p. 408, no. 17.
26. Morini 1904, no. 4; Leach 1991, pp. 409–10, no. 19.
27. Morini 1904, no. 6; Leach 1991, pp. 411–12, no. 24. This description of the cover of the pyxis does not correspond with the piece in the Metropolitan Museum, although I do not believe this suggests the existence of a second, more elaborate lid that disappeared on the antiquarian market. It seems instead that Morini, who had not seen the whole object, was referring to an exaggerated description of someone who had.
28. Morini 1904, no. 11; Leach 1991, pp. 407–8, no. 15.
29. Morini 1904, no. 12; Leach 1991, p. 184, nos. 3.17–3.19, and p. 406, no. 13. A total of eight spits have been traced; nothing is known of the other three (see note 18 above).
30. Leach 1991, pp. 398–99, no. 2.
31. Furtwängler 1905, pp. 586–87, no. 1; Richter 1953, nos. 16, 17; Leach 1991, pp. 185–86, nos. 3.20, 3.21.
32. Leach 1991, pp. 395–96, 401 under no. 4 (inv. 21.88.53–56, 21.88.61), 406 under no. 13 (inv. 21.88.59, 21.88.60), 411ff., nos. 25, 26.
33. Furthermore, returning to the objects Morini (1904) described as from the Tomb of the Chariot, we find, under no. 16: "Several eagles, several dogs and rams, all in bronze and about 15 cm. in length and 8 cm. high; all together there are about twenty." If these are not appliqués removed from the large bronze vessels found in the two tombs excavated in the winter of 1902, then the objects were even more mixed up, both in the Vannozzi household and while they were in Petrangeli's possession. We know in fact from the same publication by Morini (1904, p. 11) that Isidoro Vannozzi also

found in the nearby small valley known as Chiuse "small, terracotta vessels and bronze idols" and that his friend Antonio Rotondi found at the top of Monte Pizzoro "five or six bronze putti five centimeters high and with open arms, the hands of which end in points like feet. They were very crudely made; the extremities had no detail to them, and the head can be recognized only because it is a little wider than the torso." These are votive rather than funerary objects and from a different period, as may also be the case with the eagles, dogs, and rams that ended up among the objects identified as from the Tomb of the Chariot.

34. This decision was made, at Luigi A. Milani's suggestion, during the deliberations of the Commissione Centrale per i Monumenti e le Opere di Antichità e d'Arte, which was convened November 6–13, 1906 (see *Bollettino d'arte del Ministero della P. Istruzione* 1 [1907], p. 35).

35. Pasqui 1909, p. 487.

36. Minto 1924a and 1924b respectively.

37. All the evidence is in agreement, from Morini 1904, p. 8, no. 2, to Pasqui, who in 1907 included them in his plan of the tomb (Minto 1924b, fig. 2; Figure I.11).

38. At the time the chariot was expatriated Barnabei was a deputy in Parliament after having served as Director General of Antiquities and Fine Arts from 1897 to 1900 (see Barnabei and Delpino 1991, p. 31).

39. The Monteleone chariot was first called the "Biga of Norcia," both because Norcia is the largest town in the Corno Valley and because Benedetto Petrangeli, the first person to acquire the bronzes, lived there. See Barnabei 1904, n. 1.

40. After the collapse of the bell tower at Saint Mark's in Venice Barnabei (1904, p. 645) said that "everyone was consumed by a single thought, everyone had only one fear, the fear that other bell towers would collapse. It seemed as though all the most famous bell towers in Italy were at the point of falling down. Every day telegrams arrived from all over Italy calling on the government to hurry, after such negligence, if it wanted to avoid other irreparable damage."

41. Chase 1907 and 1908.

42. Minto 1935. A letter written by Angiolo Pasqui on July 6, 1907 (Archivio Centrale dello Stato, Rome; see Appendix) gives an idea of the confusion that at the time surrounded the provenance of the tripods.

43. Mario La Ferla (2007) mentions a series of photographs from that period. This information should be approached cautiously because the author writes as if the chariot were already, at that time, reconstructed, or worse, as if it had been discovered with its substructure intact. Furthermore, the large oval table in Figure I.18 would not have been suitable furnishing for a stable.

44. Most of the components of the chariot appear to be in the following condition: 1) the side panels are separated from the central panel and from the kouros, which do not appear in the photo; 2) the front panel appears intact, in contrast with its earlier fragmentary condition described by G. E. Rizzo (Appendix, document 1); 3) the four figural fragments making up the two lower friezes are visible; only one of the two concave roundels can be seen, while the two small, angular sheets seem to be missing (see cats. 11 and 12); 4) the crouching rams (cats. 13 and 14) appear to be detached from any support; 5) the boar protome, without its ears, and the eagle belonging to the pole are both isolated; none of the bronze sheets covering the pole are recognizable; 6) the two pieces of bronze sheeting from the yoke are separate; 7) only one of the wheels is clearly shown, complete with the nave and the lion's head, incorrectly attached as an axle finial.

45. Among the most precious objects that are missing are the two Attic Little Master cups, which were not thought to be worth much on the antiquarian market given the wide availability at the time of Greek pottery.

46. Leach 1991, pp. 411ff., nos. 25, 26.

47. Ludwig Pollak's memoirs (1994, pp. 132, 148, 166 [for our chariot], 234) give some information about the dealings of Commander Ortensio Vitalini, an intermediary for King Vittorio Emmanuel III who was especially interested in coins but also in ancient bronzes, sculpture, and gold. For the correspondence relative to the sale on the Paris market of the chariot and other objects from Monteleone, see Musée Royal de Mariemont 1967, pp. 101, 103, fig. 123; and Tillet-Haulot 2005, pp. 118–19.

48. The price seemed high to Mariemont in Belgium; see Van den Eynde 1970, p. 156 and n. 85; Verbanck-Piérard 2002, p. 322 and n. 60. For suspicions about authenticity I refer to a letter from the Italian ambassador in Paris to the Italian minister of public instruction of January 28, 1903 (in the archive cited in the Appendix), from which we learn that the London firm of Pitt & Scott, which was interested in acquiring it, wanted the ambassador, who was still ignorant of the discovery, to verify that the objects were genuine and their exportation legal.

49. Most specifically La Ferla 2007. In reality it was Vitalini himself who informed Cesnola that the bronzes were about to arrive in Paris (MMA inventory notes).

50. Cesnola is referring to the parliamentary questions posed by Felice Barnabei, who had become a deputy in Parliament (see Barnabei and Delpino 1991, pp. 30–31, on his career). The texts of these questions were published in Corona [2000], pp. 60–69.

51. See Barnabei in Corona [2000], p. 62.

52. Richter 1915, p. 29.

53. The sources of this information are the brief obituary published in the MMAB 11, no. 8 (August 1916), p. 181, and Merrillees 2010, pp. 112–117, 123.

54. The restoration was undertaken by Kendra Roth and included studies of the method of manufacture, the identification of the materials used, and its physical history, with the results of the tests, the XRD data, and more. My thanks to her for graciously allowing me to publish the photographs she took.

55. An entry for *currus* existed in the *Dictionnaire des antiquités grecques et romaines*, by Charles Daremberg and Edmond Saglio (Paris, 1887), vol. 1, pp. 1633–43, and a list of chariots discovered in Etruscan-Italic regions through 1903, as well as representations of Etruscan chariots, is accurately described in Nachod 1909, pp. 43–71.

56. Emiliozzi 1991, pp. 110, 116; Colonna 1996a, pp. 346ff. (which refers to four horse bits associated with the find, although in reality they are four cheekpieces for two bits); Camerin and Emiliozzi 1997, no. 36; Camerin 1997, fig. 1; Buranelli 1997, fig. 2; Emiliozzi 1997a, figs. 6, 7; Buranelli and Sannibale 1998, figs. 179, 184, 186.

57. *Scientific American* 1903, pp. 385–86. The fragments mounted in this way were the only ones to receive an inventory number and to be included in Richter's catalogue (1915, p. 28).

58. Minto 1924b, pp. 147ff.; and see also page 19. They are occasionally cited in the later literature (Martelli Cristofani 1977, p. 27n54; Emiliozzi 1991, pp. 103, 113; Leach 1991, p. 414; Bonamici 1997, p. 180). The small group that was seized from the Vannozzis by the carabinieri in 1902 (see above, page 17, note 29, and Appendix, document 2) and that eventually went to the museum in Perugia could not be located until very recently, when they were recognized in storage by Mafalda Cipollone, who graciously informed me that they had been found and then allowed me to see them, with the kind permission of the Soprintendenza per i Beni Archeologici dell'Umbria.

59. Furtwängler 1905; this text relates to plates 586, 587. The same information was later published separately (Furtwängler 1913).

60. Von Bothmer and Noble (1961, p. 17n47) noted his qualifications. I found the drawings in the archives during my 2000 visit to New York.

61. The architect Dalia Lamura worked with me through a collaborative agreement with the Institute for the Study of Italic Civilizations and the Ancient Mediterranean (ISCIMA) of the National Research Council (CNR).

62. This began with Furtwängler 1905, p. 5.

63. Emiliozzi 1991. I am grateful to Larissa Bonfante and Francesco Roncalli, curators of the exhibition and editors of the catalogue, for having offered me the opportunity. The content was repeated in Emiliozzi 1997d.

64. Carlos A. Picón graciously allowed me access, and Joan R. Mertens provided valuable assistance. Permission was given to the curators of the exhibition and editors of the catalogue by Director Philippe de Montebello.

65. De Montebello 2007.

66. Emiliozzi 1997a, 1997d, 1997e, 1997f, and afterward Emiliozzi 2006.

67. The anonymous author of the article in *Scientific American* 1903 (p. 386) noted, "Such is the delicacy of its workmanship that the vehicle could hardly have been used as a war chariot. Perhaps it was an *ex voto*, or a ceremonial chariot used by its noble owner on rare occasions."

68. *Scientific American* 1903, p. 386; Brendel 1978, p. 151; Boitani 1985b, p. 220, and Colonna 1996b, p. 177, for the Castro Chariot; Maggiani 2003, p. 165.

69. For generic iconography see Furtwängler 1905 and 1913, Richter 1915, and later Leach 1991; for Herakles, see Barnabei 1904; and for Achilles, see Ducati 1909.

70. Simon 1966.

71. Camporeale 1964, pp. 445–48; Brommer 1965; Banti 1966; Jucker 1966; Schefold 1967, p. 321.

72. For example, Brendel 1978, pp. 145ff.; Leach 1991; and Mehren 2002, p. 47.

73. Lowenstam 2008, p. 134.

74. This series of black and white photographs was made on January 24, 1933. There were no color photographs until those made in 1990 for my research and included, in part, in Emiliozzi 1997d.

75. See Haynes 1958 and then Brown 1960, Jucker 1967, Schefold 1967, Zazoff 1968, and Hus 1975, all cited in the Publication History of the Chariot on page 121.

76. See Torelli 1981a and 1985. It is astonishing to read that "objects found in Orvieto, like the disk with a Gorgon at the Museo Faina, or which come from within the sphere of Orvietan influence, like the chariot fronts from Todi and Monteleone di Spoleto or the sheets from Bomarzo, represent a taste in which the underlying Ionic tradition is expressed in forms that are sometimes provincial and sometimes uncertain, pointing to the limits of the local culture and suggestions of the metal working skills of the coastal cities translated into simplified forms that are rounded and unarticulated, and on which the often casual surface decoration calls on a memory of more ancient and inorganic examples" (Torelli 1985, p. 108).

77. Emiliozzi 1991, 1996a, and 1997d.

78. For information on Furtwängler, see Flashar 2003. For a reexamination, see Bonamici 1997.

79. Höckmann (2005) reaffirms its Etruscan manufacture, although with respect to her 1982 publication she adds the debt owed to eastern Greece both in terms of style and the high relief technique. In this context, she suggests that Etruscan and eastern Greek artists worked together temporarily in Etruria and thus influenced each other.

NOTES TO SECTION II (PAGES 29–38)

1. Colonna 1970; Woytowitsch 1978, p. 40, no. 36, pl. 4; Boitani 1985a, 1985b, 1986, and 1987; Höckmann 1982, pp. 120–21; Boitani and Aureli 1988, pp. 127–28; Emiliozzi 1991, pp. 107–9, 115–16; Boitani 1997. For the tomb (found plundered) and the remains of its rich treasure, see Sgubini Moretti and De Lucia Brolli 2003, pp. 380–83, figs. 27–39 (with bibliography and an up-to-date archaeological assessment, especially on the princely complex of the Tomb of the Bronzes). These two authors have suggested that the high-ranking person buried there may have been a woman. According to some, the site of present-day Castro may correspond to ancient Statonia, which is recorded in ancient sources (discussed in Bonamici 1990), although Stanco (1994) disagrees. A summary of historical and archaeological information about this ancient Etruscan center is offered in Bonamici 1990 (with bibliography, including the literature on the chariot and the pair of horses buried there).

2. Tests done on a sample taken from one of the two hubs showed traces of oak (Boitani and Aureli 1988, p. 127).

3. Boitani 1987, figs. 3, 7–14; Boitani and Aureli 1988, pls. LIIIa,b, LIVc.

4. The chariot was reconstructed for the exhibitions held at the Museo Archeologico Nazionale in Florence and the Palazzo dei Priori in Viterbo in 1985 and 1986 (see Boitani 1985a and 1986). One wheel was excluded from the reconstruction, although its parts—a wooden hub with its bronze revetment (Figure II.4) and the wooden remains of its spokes and rim with an iron band—were and continued to be displayed in a separate case.

5. The cast was exhibited at the Museo Nazionale Etrusco di Villa Giulia in Rome together with the chariot before it was transferred to the Museo Archeologico Nazionale in Viterbo in March 2005.

6. The box measures 80 by 47 centimeters. Its length, reconstructed at 68 centimeters, should be at least 5 centimeters longer with the addition of the rear finials of the wooden frame, the impressions of which were not seen during its recovery (see Section II.A).

7. For the separate sheets of revetment, see Feruglio 1997. For a correct reconstruction, see Emiliozzi 1997f. For the vast bibliography on the burial complex from which the chariots come, see Bruni 2002, pp. 21–23.

8. Emiliozzi 1997a, p. 102, fig. 7; Camerin and Emiliozzi 1997, no. 253. On the Roman antiquarian Alfredo Barsanti, see Pollak 1994, pp. 141–42. The sheets are now in Rome at the Museo Nazionale Etrusco di Villa Giulia (17375–77, 17379).

9. There is agreement about a date of about 520 B.C.; see Höckmann 1982, pp. 120ff.; Martelli Cristofani 1988, p. 23; Colonna 1997, p. 20; and Boitani 1997. The chronology of the tomb in which the chariot was found is based on the objects found in it (for a bibliography, see note 1 above), which include the imported *lydion* (Martelli Cristofani 1978, p. 183, no. 13).

10. Emiliozzi 1997a, pp. 100–101, fig. 3; Emiliozzi 1997b, p. 147, pl. IV.1, fig. 13. The term "war chariot" here denotes a fast chariot used both for long journeys over roads and for quick maneuvers in events like hunting tournaments. War chariots were used in a military context only to transport high-ranking warriors to and from the battlefield, since the terrain of the Italian peninsula did not permit a chariot to be used as a mobile platform during battle. The same was true in Greece, where chariots were never used in battle (see Crouwel 1981, pp. 119–45, and 1992, pp. 53–65), but not in Egypt and the ancient Near East (see Littauer 1972; Crouwel 1981, pp. 119–45; Spruytte 1993; and Littauer and Crouwel 1997 for a summary).

11. Emiliozzi 1997d, fig. 4 (Monteleone), and 1997f, fig. 1 (Castel San Mariano). The presence of identical flooring in the graphic reconstruction published in Boitani 1997 was my suggestion, and I offer it again in the updated diagram (Figure II.10).

12. The chariots known from representations from mainland Greece from the seventh century B.C. on have a different traction system and are in fact vehicles with wider flooring, intended to accommodate two passengers standing side by side. The different structures seem connected to different manners of harnessing the team—a neck yoke and shoulder traction in the Etruscan-Italic chariots and a dorsal yoke and breast traction in the chariots from mainland Greece. For a summary of this argument, expanded to include the civilizations of the ancient Near East, see Spruytte 1997 (with bibliography).

13. Emiliozzi 1996b; Camerin and Emiliozzi 1997, no. 19; Emiliozzi 1997a, p. 96, fig. 1.

14. Emiliozzi 1992, p. 102, fig. 21; Emiliozzi 1997a, p. 97, fig. 2; Camerin and Emiliozzi 1997, no. 25 (with bibliography). The chariot has not yet been reconstructed either physically or graphically, although I have examined all the remains, and the type of rails used is clear.

15. Thus far eight type A chariots other than the one from Monteleone have been reconstructed, either physically or graphically. Four were exhibited in the three venues of the exhibition "Carri da guerra e principi etruschi"; see Emiliozzi 1997, pp. 139ff. (from Vulci), 155ff. (from Populonia), 203ff. (from Castro), and 207ff. (from Castel San Mariano). I reconstructed the example from Narce that is now on display at the Museo Nazionale Etrusco di Villa Giulia in Rome (Camerin and Emiliozzi 1997, no. 203; an unlikely wheel that was not properly checked in the reconstruction is illustrated correctly in the explanatory panel I edited and published in De Lucia 1998, pp. 34–35, fig. 48). The other three are from Vetulonia (Cygelman and Pagnini 2006, pp. 34–44, figs. 9, 10), Matelica (De Marinis and Palermo 2008), and Capua (the Dutuit chariot; see Emiliozzi 2006). Of type B chariots only the example from the Via Appia Antica in Rome has been physically reconstructed (Emiliozzi 1997, pp. 191ff.).

16. The ear-loop side rails seem also to have been present during the Etruscan Orientalizing period, in the chariot from the Regolini Galassi Tomb at Cerveteri (Camerin and Emiliozzi 1997, no. 103), which is now being studied so that it can be reconstructed both graphically and physically, and perhaps also in the one from the Bernardini Tomb at Praeneste (Emiliozzi 1992, p. 102). For the Archaic period we need only cite the chariot from the Via Appia Antica outside Rome (see note 15 above) and the contemporary representation in relief with incision on the proper left side panel of the chariot from Monteleone di Spoleto (cat. 4, Figures V.30, V.32, and especially I.25).

17. Emiliozzi 1996b and 1997a, p. 96, fig. 1.

18. For the war chariot from Populonia, see Emiliozzi 1997c, figs. 4, 5, pl. VI; for the Capua vehicle, see Camerin and Emiliozzi 1997, no. 11 (with bibliography), and Emiliozzi 2006. Among the representations, the stele from the Certosa of Bologna (Sprenger and Bartoloni 1977, fig. 206) is eloquent of the persistence over time of the use of leather straps when the chariot box was composed only of wood and leather.

19. See note 15 above. For the Vulci chariot, see especially Emiliozzi 1997b, figs. 13, 16, pl. III.

20. For examples, see Winter 2009, nos. 5.D.2.a,c, 5.D.3.a,c, and Figure II.16. I have deliberately excluded from consideration here the racing chariots known from representations (see Bronson 1965, Jannot 1984, and Decker 1991), although in these cases, too, the side rails did not serve as handrails because the driver balanced himself by leaning his knees against the front panel.

21. On the chariot represented on the Etruscan hydria in the Museum of Fine Arts in Boston (01.8062; Fairbanks 1928, no. 573), which has been associated with the style of the Micali Painter by Spivey (1987, p. 31), this part is made of a bent branch. In other representations it either has the same form found on the excavated vehicles or is absent (although in those cases we cannot be sure if it was actually missing or if the artist omitted it to simplify the representation).

22. Representations of racing chariots do not appear in Italy until the beginning of the third quarter of the sixth century B.C. (see Bronson 1965 and Stary 1980). The closest comparisons with parade chariots can be found in terracotta friezes; see Winter 2009, pp. 353ff. (590–520 B.C.).

23. Clear syntheses of Etruscan and Roman social history from the sixth century B.C. are offered by Torelli 1981b, pp. 139–81, Colonna 1985, and Menichetti 2000.

24. Emiliozzi 2006.

25. For the Near East and Egypt, see Littauer and Crouwel 1979, pp. 50ff., 62ff., 74ff., 101ff., 144ff.; 1985, especially pp. 67ff.; and 1997 (synthesis). For Cyprus, see Crouwel 1987. For Greece, see Spruytte 1978 (the results of his experiments with harness systems) and Crouwel 1992. Reconstructions to date of Etruscan-Italic chariots (see note 15 above) demonstrate that the same system was adopted.

26. Emiliozzi 1997b and 1997c. The reconstructions do not reproduce the leather thongs that were certainly used to reinforce the mortise joints at the front of the floor frame.

27. Emiliozzi 1997b, pl. V.1. The principle is the same in Egyptian chariots; see Littauer and Crouwel 1985, especially p. 67, no. 3, pl. LXIX bottom (chariot from the Tomb of Yuia and Tuiu), and Spruytte 1983, pp. 24–40 (the results of his experiments).

28. These sheets have not been published. Stopponi Simonetta provided information about them and showed images of them during her presentation on April 9, 2010, on the tenth season of excavations at Campo della Fiera at Orvieto.

29. Emiliozzi 1997, p. 296, no. 9 (mistakenly counted among the bronze sheets from the chariot box). That it came from a chariot became clear to me after examining in 1998 and reexamining in 2005 the remains of the two vehicles now in the Ny Carlsberg Glyptotek in Copenhagen.

30. In addition to the Monteleone chariot, see the ones from the Via Appia Antica in Rome (Emiliozzi 1997e) and Castel San Mariano (Emiliozzi 1997f).

31. The shock-absorbing system is clearly visible in Crouwel 2010, figs. a–d (chariots on terracotta plaques), and Höckmann 1982, pl. 30 (left side of the image; the example from Castel San Mariano). This feature was not understood and thus not included in the drawing Höckmann published as fig. 25 on p. 43.

32. For examples of metal rings, see Emiliozzi 1997a, figs. 1 (see also Emiliozzi 1996b and Figure II.12) and 4 (see also De Lucia 1998). The following finds are similar to these: Camerin and Emiliozzi 1997, nos. 21, 28, 58, 130, 143, 146, 166, 189(?), 203, 208, 212, 255. For examples of pegs, see Emiliozzi 1997c, pp. 165ff., figs. 4, 5, pl. VI (Populonia, Tumolo dei Carri; see Figure II.13). The following bronze finials have a function similar to these pegs: Camerin and Emiliozzi 1997, nos. 24, 172, 198, 227, 238, 241, 242, 244, 245.

33. This system is similar to that of the Greek four-horse teams that were the subject of Spruytte's 1978 experiments. See also Crouwel 1992, p. 14, fig. 1. In this figure, once the traces pass through the leather hoops and enter the chariot car they are tied to the ends of the side rails. On p. 44n181 Crouwel corrects the reconstruction proposed by Spruytte in 1983, ill. pp. 62–63.

34. Colonna 1997, p. 17, fig. 2; Winter 2009, pp. 288–92, no. 4.D.8.g (where the traces are mistakenly interpreted as a second pole extending from the front of the chariot).

35. Winter 2009, nos. 5.D.1.e,f; 5.D.2.a–d; 5.D.3.a–d.

36. For scenes that contain chariots, see Winter 2009. Etruscan cities: Acquarossa (nos. 4.D.4.a–d), Caere (nos. 4.D.7.a, 4.D.8.g, 6.D.1.a), Castel d'Asso (no. 4.D.4.b), Castellina del Marangone (nos. 4.D.4.a,c), Orvieto (nos. 5.D.1.b,f; 5.D.5.c), Poggio Buco (nos. 4.D.5.a,b), Pyrgi (no. 4.D.8.g), Rusellae (nos. 4.D.4.a,c; 5.D.1.f; 5.D.4.a; 5.D.5.c), Tarquinia (nos. 4.D.4.a; 4.D.6.b,d; 4.D.8.b,c; 5.D.4.b; 5.D.5.d,e), Tuscania (nos. 4.D.4.a,c; 4.D.6.a,c; 4.D.6.d?), Veii (nos. 4.D.1.a,b; 4.D.2.a,b; 4.D.2.c–e; 5.A.1.a; 5.D.2.a,c), and Vulci (no. 4.D.5.a). Latin cities: Caprifico, Cisterna (nos. 5.D.1.b,e,f; 5.D.3.b,d), Ficana (no. 4.D.4.e), Palestrina (nos. 5.A.3.b; 5.D.1.a), Roma (nos. 5.A.1.f; 5.D.1.a,e,f; 5.D.2.a,c,d; 5.D.3.a,c), Satricum (no. 6.D.1.a), and Velletri (nos. 5.D.1.a; 5.D.2.a–c; 5.D.3.a).

37. "Wagendarstellungen" in Woytowitsch 1978, pp. 80–107, offers a list of representations of this material; it will soon be superseded by the forthcoming *Chariots and Other Wheeled Vehicles in Italy before the Roman Empire*, by Joost Crouwel. Objects with narrative scenes, some of them mythological, dated between the late seventh and the first half of the sixth century B.C. include two amphorae from Trevignano (Colonna 1985, p. 245, no. 9.3, ill. p. 247); an Etruscan-Corinthian oinochoe (Szilágyi 1992, p. 122,

no. 102, pl. XIIa,b); a krater by the Swallows Painter (Giuliano 1963, figs. 2, 4, 11, 12); a hydria from the Isis Tomb at Vulci (Colonna 1997, fig. 5); painted ostrich eggs from the Isis Tomb at Vulci (Haynes 1977, pp. 22ff., figs. 1, 2); Pontic vases (*Lexicon Iconographicum Mythologiae Classicae*, vol. 1 [Zürich and Munich, 1981], s.v. *Amphiaraos*, nos. 17 [Amphiaraos Painter] and 18 [Tityos Painter]); the Caeretan hydriae (Hemelrijk 1984, nos. 6, 8, 28, 31); bucchero and impasto clay with roller-stamp decoration (Camporeale 1972, pp. 68ff., 120–21, friezes XXI–XXIII; Reusser 1988, p. 45, no. E.55; Pieraccini 2003, friezes E1, E2, J3, analysis on pp. 195–96; Serra Ridgway 2010, frieze DA, commentary on pp. 203–4); impasto clay omphalos from Murlo (Stary 1981, p. 400, no. 6, pl. 21.3,4); carved ivories, the first Pania pyxis (Cristofani 1996; Lowenstam 2008, pp. 136–38); embossed bronze sheets (Santoro 2005, fig. 1); a band said to be from Canino and once incorrectly included on a female bust from the Isis Tomb at Vulci (Haynes 1991, pl. III).

38. Andrén offered a coherent reconsideration in 1971. The exhibition “Case e palazzi d’Etruria” (see Stopponi 1985) was an important step forward in the scholarship. All of the subsequent literature is listed in Winter 2009. See, in particular, Cristofani 1975 and 1981a; Torelli 1983; Pairault-Massa 1986; Cristofani 1987; Chateigner 1989; D’Agostino 1991 and 1999b; Bartoloni 1992; Pairault-Massa 1992, pp. 36–59; Torelli 1992; Bartoloni 1993; Torelli 1997, pp. 87–121 (a revision of Torelli 1992); and Torelli 2000b, pp. 74–75.

39. See Winter 2009, pp. 223ff.

40. *Ibid.*, pp. 311–93.

41. Torelli 1992, pp. 252ff., and 1997, pp. 97ff.

42. Winter 2009, ill. pp. 362, 364, 367, 369.

43. See note 41 above.

44. On the amphorae, see Colonna 1985, p. 245, no. 9.3, and Caruso and Pisu 2002, p. 31, fig. 18. On the hydria, see Menichetti 1994, pp. 65–67, figs. 37, 38, and Colonna 1997, p. 18, fig. 5. The departing spouse could be Ariadne.

45. Torelli 1992, pp. 258ff., and 1997, pp. 99ff. Torelli’s studies supersede the overly cautious interpretations by other scholars (Cristofani 1987, pp. 106ff; D’Agostino 1991, pp. 224–25) of the relationship between the triumphal friezes, a relationship noted, however, by Chateigner (1989, pp. 124–27). See also Winter 2009, pp. 262ff., nos. 4.D.4.a,c (warrior and chariot scenes from Tuscania and Acquarossa; the same or similar scenes occur on the terracotta plaques from Castellina del Marangone near Civitavecchia, Rusellae, and Tarquinia); pp. 265ff., nos. 4.D.4b,d (the Labors of Herakles and chariot scenes from Acquarossa; there are also fragments of the scene in no. 4.D.4b, from Castel d’Asso); pp. 358ff., 368–69, nos. 5.D.1.e,f, p. 365, nos. 5.D.2.d (no ill.), 5.D.3.b (scenes with warriors, women, and chariots from Cisterna and Sant’Omobono, Rome).

46. That representations of chariots drawn by winged horses are a mainland Greek type may have some importance in the reading of a local frieze and could contribute to identifying the charioteer as a god.

47. Torelli 1992, p. 264.

48. The Etrusco-logical literature (Colonna 1980, pp. 308–9; Cristofani 1981b, pp. 194–95; Cristofani 1982, pp. 43ff.; Torelli 1981b, pp. 174ff., and 1983, p. 488; Pairault-Massa 1992, pp. 36ff., especially pp. 46–47; Torelli 1997, pp. 96–97; Colonna 1997, p. 20; D’Agostino 1999c, p. 150) agrees in general with John Boardman’s position (see especially Boardman 1972, 1978, 1984, and 1989) on the connection between the Peisistratid tyrants and depictions of Herakles’s introduction on Mount Olympus in Attic pottery of the second half of the sixth century B.C. I think, however, that Bruun’s skepticism (1993, p. 271) is justified. Bruun noted that the debate on the “Greek” side has no equivalent on the “Etruscan/Roman” side (at least at the time his article was published). Moreover, the problem of the reception of Herakles in the West is complex and has been the subject of successive critical studies (see, for example, La Genière 1999 and Briquel 1999). For a synthesis of the argument on the Greek side, see Cavalier 1995. Martelli Cristofani’s position (1989, p. 793) on Etruria appears to be quite astute: “In other terms, whether or not it goes beyond the politics of the place of origin, the theme was transmitted with heroic values that assume symbolic connotations that are tied to the political realm only if the context itself suggests it, as in the case of the architectural decorations or the votive anathemata of sanctuary items of the period.” According to Cerchiai (1999, p. 139), the apotheosis of Herakles on chariot I from Castel San Mariano serves as a mythic paradigm for the celebration of the values of an aristocratic class, just as the apotheosis of Achilles does on the Monteleone chariot, and I agree. Indeed, it seems reasonable to evaluate these depictions in different ways depending on whether or not they come from urban centers (see Menichetti 1994, pp. 76–117, and 2000, p. 224).

49. The bronze remains of the Todi vehicle are the so-called Ferroni Laminæ; see Minto 1922, pl. I.1,2; Krauskopf 1974, pp. 11, 17; Cristofani 1978, p. 104, fig. 71; Torelli 1981a, p. 56, fig. 8 (where its provenance is given correctly as Todi rather than Chiusi); Höckmann 1982, p. 109 (with further bibliography in n. 551); Martelli Cristofani 1983, p. 29, 31–33, figs. 16–19 (with an examination of the context of its discovery); Roncalli 1988, p. 401; Colonna 2000, pp. 282–83; and Bellelli 2006, p. 74n182. The fragmentary condition of the sheet has thus far not allowed us to draw any conclusions about the type of chariot it might be from.

50. Hampe and Simon 1964, pp. 11ff. (with ill.), pl. 21; Cristofani 1978, p. 104, figs. 73, 74; Höckmann 1982, pp. 42ff., fig. 25, pls. 30, 31; Martelli Cristofani 1983, pp. 26, 33, fig. 15.

51. Colonna 1997, p. 20. Colonna suggests that the pelt incised on the bronze sheet from the front panel of the Via Appia Antica chariot alludes to Herakles, hypothesizing that it might represent a lion skin. I believe, more realistically, that it represents a parapet covered not with leather alone but with a full pelt, including the fleece. Given that the fur points downward, it must have helped to waterproof the parapet and preserve it from the weather. A pelt stretched in the same way, that is, with the fur pointing downward, in the representation of a chariot on the Pontic amphora by the Amphiaraos Painter (*Lexicon Iconographicum Mythologiae Classicae*, vol. 1 [Zürich and Munich, 1981], p. 695, no. 17) excludes the possibility that this is the Herakles lion skin. What may be a lion skin appears on an ivory plaque from Montefortini Comeana (Francesco Nicosia in Emiliozzi 1997, p. 62, no. 4), which is a century older, however.

52. See Bartoloni 2005 for the possibility that fragments of a sheet from a fourth vehicle (a cart) come from the complex at Castel San Mariano.

53. Feruglio 1993, Bruschetti 2002, Stopponi 2002, Berrichillo 2004.

54. Colonna (1985, p. 242) is correct in saying that the splendid bronze-clad chariots of the sixth century B.C. were “destined to serve as ceremonial gifts in non-urban areas.” The Monteleone chariot changed owners after its long use primarily within one of the great Etruscan cities (see Section III.D).

55. See Feruglio 1993, pp. 37–38.

56. This change from the widespread funerary practices of the preceding century can be seen especially in Etruria, given that in Rome and ancient Latium the phenomenon could be connected with new norms that prohibited conspicuous displays at funerals beginning in about 580 B.C. (see Bartoloni, Nizzo, and Taloni 2009, with earlier bibliography).

57. That there are no chariots in tombs dating to the sixth century in urban centers has led to distorted cultural valuations, even in recent years; see, for example, Zaccagnino’s statement in his otherwise valuable article of 2006 (p. 230): “Con l’affermarsi della società urbana in Etruria il carro, segno di potere regale, esce

dall'uso [sic!] e sopravvive per un certo tempo in aree periferiche e attardate, nelle quali si mantengono assetti sociali tradizionali" (With the rise of urban societies in Etruria the chariot, a symbol of regal power, went out of use but survived for a time in peripheral and backward areas that followed more traditional social practices).

58. See Camerin and Emiliozzi 1997, no. 90 (Annifo at Foligno), suppl. no. 15 (Gubbio).
59. I excavated this chariot, which was reduced to very small fragments, between 2005 and 2006, and it is now being studied. For preliminary information, see Benelli and Santoro 2009, where the tomb is dated to the second half of the sixth century B.C. The vehicle has no decorated bronze revetment like that found in the older Tomb 11 (see Section III, note 58).
60. Camerin and Emiliozzi 1997, nos. 119 (Pitigliano, 510–490 B.C.), 127 (600–525 B.C.).
61. Fifty-seven excavated vehicles from the Piceno area dating to the Orientalizing and Archaic periods are listed in Camerin and Emiliozzi 1997, nos. 42–86, suppl. nos. 2–14. For finds published after 1997, and especially for the careful presentation of a chariot and cart dated to the seventh century and for a list of the literature (in n. 6) on three other Orientalizing vehicles from the same Picene center, see De Marinis and Palermo 2008. For Lucania, see *ibid.*, nos. 1–3, and for Daunia, nos. 4–7.
62. See note 28 above. The news of an Orvietan provenance for the pole finial with a lion protome in the Museum of Fine Arts, Boston, now seems more significant; see Höckmann 1982, pp. 44n256, 117; Camerin and Emiliozzi 1997, no. 118.

NOTES TO SECTION III (PAGES 39–62)

1. The reconstruction published in Emiliozzi 1997, pp. 184–85, figs. 3, 4, was refined after the bronze sheathing was removed from the old mount on the chariot.
2. Exact measurements are not possible because the wood in all ancient Italian examples has disappeared.
3. The system is visible in a later representation of a chariot on a Faliscan volute krater by the Aurora Painter (Woytowitsch 1978, no. 239, pl. 46; Crouwel 1992, pl. 31.1).
4. The existence of this peg was only revealed during the reconstruction of the Monteleone chariot, and it therefore is not mentioned or represented in my previous publications.
5. The first measurement was made on the back of the area where the front and side panels join, and it corresponds to the width of the sheet that was used to make the kouros and that covered the seams on each side. The second measurement is calculated on the basis of the width of the floor frame into which this trunk was inserted. The third measurement corresponds essentially to the height of a kouros plus the diameter of the nailed boss above its head.
6. See Section II, note 21.
7. For the models and representations, see Woytowitsch 1978, pp. 67ff. ("Wagenmodelle") and 80ff. ("Wagendarstellungen"). Finds of sheets of revetment from leather collars have been confirmed at the Barberini Tomb at Palestrina (675–650 B.C.; Museo Nazionale Etrusco di Villa Giulia, Rome, 13201–2; Camerin and Emiliozzi 1997, no. 25); for three horses in Tomb 8 (LXI) at Contrada Morgi at Narce (675–650 B.C.; *ibid.*, no. 203; De Lucia 1998, with a graphic reconstruction by me); at Tomb 11 at Colle del Forno at Eretum (620–600 B.C.; Camerin and Emiliozzi 1997, p. 296, no. 10, figs. 20, 21; Emiliozzi in Emiliozzi, Moscati, and Santoro 2007, p. 152, fig. 4, pl. VIII; another sheet similar to the one from Eretum but without provenance is now in the Ny Carlsberg Glyptotek, Copenhagen; see Johansen 1971, pls. XX–XXIII, XXVIII; and Martelli Cristofani 2005, pp. 123, 127, fig. 13); and at the Tomb
- of Warrior B at Sesto Calende (575–550 B.C.; Camerin and Emiliozzi 1997, no. 241). Revetment for a yoke similar to that at Monteleone can be connected with chariot I from Castel San Mariano (Feruglio 1997, p. 222, no. 8, fig. 13). It has recently been suggested that the sheets identified as revetments for the yoke of the Castro chariot (see Camerin and Emiliozzi 1997, no. 100) may come, instead, from a funerary bed (Sgubini Moretti and De Lucia Brolli 2003, p. 380, fig. 29).
8. The earlier reconstruction included an oblique, straight pole that was convincing because of its simplicity and because it is similar to the lifesize model at Chianciano (see note 10 below). Following the observations made during the restoration (see cat. 16), however, it would have been difficult to adapt the pole to the horses' backs because its slant is determined by the position of the boar protome, and if the pole had been straight the yoke would have been too high for the small animals used at that time (see Emiliozzi 2009).
9. A feline head (a lion's?) is placed at the base of the pole of the (perhaps divine?) chariot represented on chariot II from Castel San Mariano (see Höckmann 1982, pp. 42–43, fig. 25, pl. 30).
10. For the Chianciano model, see Spruytte 1983 pl. 2.1; Littauer and Crouwel 1988, p. 195, pl. V (with bibliography); and Bonamici 2003, ills. pp. 45, 54 (with bibliography). The yoke is 33 inches (84 cm) long and is attached to the draft pole, which is about 75 inches (190 cm) long. This unusual model is extremely interesting because it is a faithful reproduction in bronze of the system used to attach the yoke and pole, and it allows one to imagine how they must have been connected on the Monteleone chariot, given the marks left on the draft pole (see cat. 16). The Tarquinia group has been discussed at length in the literature, most recently in Bagnasco Gianni 2009; Emiliozzi 2009, especially p. 147; and Bagnasco Gianni 2010, fig. 1.
11. I have suggested (see Section III.F) that this chariot maker was also responsible for the Via Appia Antica chariot, which has bronze-clad wheels like those on the Monteleone chariot.
12. Hampe and Simon 1964, pp. 53–67.
13. Furtwängler 1905, p. 8; Ducati 1909. For the scholars who disagree or at least have some doubts, see Brommer 1965, pp. 280–81 (objections about Polyxena and Frieze 11 with Chiron, Iris, and Achilles); Banti 1966 (Herakles and Pholos instead of Achilles and Chiron in Frieze 11); Brendel 1978, p. 150 (the protagonist hero could be Achilles as easily as Aeneas); Schiffler 1976, p. 139 (Frieze 11 cannot represent Achilles's childhood because the winged figure is male and thus cannot be Iris, because the centaur can be better identified as Pholos, and, more generally, because the frieze has no fixed narrative); Camporeale 1981 (leans toward Banti's position); Höckmann 1982, p. 118 (doubts about Polyxena); Leach 1991, p. 398 (raises doubts, but uncritically, that the three panels can be related to one another thematically); Bonamici 1997, p. 185 (perplexity over Polyxena); Mehren 2002, p. 47 (doubts concerning the identification of Achilles and Memnon in the dueling scene); and Lowenstam 2008, p. 134 (perplexity over Polyxena and Iris).
14. The connection between the birds of prey and the deer was underscored by Furtwängler (1905, p. 10). Not suspecting the further connection with the boar, he explained incorrectly that it was already dead before being attacked by the birds. Furtwängler also observed that the scene takes place in a space behind the protagonists, given that the border of the shield overlaps the deer's belly.
15. Schiffler 1976, pp. 30ff., 257ff.
16. A scene on an Attic lekythos painted in Six's technique by the Diosphos Painter (ca. 490 B.C.) shows the goddess holding the same object before her, grasping the thongs from which it hangs in her left hand; see Haspels 1936, p. 235, no. 76, pls. 38, 4, 37, 3; and *Lexicon Iconographicum Mythologiae Classicae*, vol. 5 (Zürich and Munich, 1990), p. 745 (Iris I, no. 16, ill.).

17. Doubts about the identification of Iris were quickly voiced by Brommer in 1965, and they have periodically reemerged since then (see note 13 above). Lowenstam (2008, p. 198n45) says that “the winged figure in the lower panel is difficult to interpret, in part because it is only partially preserved. I doubt that it represents Iris preparing Achilles to go to Troy.”

18. Cristofani (1996, pp. 7–8) accepts Hampe and Simon’s (1964) interpretation of the entire figural cycle of the chariot.

19. Hampe and Simon (1964, p. 56ff.) emphasize lions, and they insist especially on “eagles.”

20. The kalokagathia consists of a canon for physical representations and one for the representation of behavior, and many examples of such images were created in the literature and visual culture of ancient Greece (see Bourriot 1996, Bonfante 1989, especially p. 550, and Martinkova 2001). This proposed interpretation goes beyond Cristofani’s intuition (1996, pp. 7–8), since he did not consider the two groups of *kouroi*, stating that “the literary model, noted by Hesiod, is that narrated in the *Kypria*, but it hinges completely on the aspects of the *paideia* destined to evaluate Achilles’s physical attributes and transcending his moral education.” Given these assumptions, I do not agree with Colonna’s suggestion (1996b, p. 177, and 1997, p. 20) that the *kouroi* on the Castro chariot represent the Dioscuri.

21. Winter 2009, ill. p. 152, pp. 153ff. (dated 580–570 B.C.).

22. Pairault-Massa 1986, shared by D’Agostino 1991, pp. 225–26, and 1999a, p. 6.

23. D’Agostino 1991, pp. 225–26.

24. See, most recently, Lowenstam 2008, pp. 132, 171.

25. Ibid., p. 133. Lowenstam (p. 197n32) agrees with my repositioning of the boar protome on the front panel of the chariot but does not concur with the idea that it forms a single unit with the deer and the birds of prey: “I do not believe that the boar should be constructed with the fawn, which is connected with the eagles. The artist further associated the fawn with the shield by ornamenting both the fawn and panther head of the Boeotian shield. The artisan who added the boar protome—possibly the same artist—juxtaposed the head of the boar with those of the gorgon and panther on the shield.”

26. In our case the omens would be good for Achilles and bad for Thetis on the front panel and good for Achilles and bad for Memnon on the right side panel. Following Hampe and Simon (1964, pp. 54–58), this has been the most readily accepted interpretation of the presence of the birds of prey in the scene on the Monteleone chariot.

27. Lowenstam 2008, p. 133.

28. For helmets shaped like rams’ heads, see Calzecchi Onesti 1985–86. On the symbolism, see Mitten 1977 and Griffiths 1985. For the second type, with the cheekpieces, see Kunze 1967, pp. 160ff., pls. 88–95. For the provenance of the few known examples, which must have been made in an urban center in Magna Graecia, and the literature on them, see Montanaro 2007, p. 123.

29. Hampe and Simon 1964, p. 55 and n. 14; Höckmann 1982, p. 118 and n. 624 (with bibliography). Höckmann compares the helmet of the Monteleone chariot to the one from Metapontum (Figure III.9; it is not important that it is later) and affirms that the chariot is the oldest example of its kind in Etruria for which the inspiration came from southern Italy. I have suggested that since the artist who made the chariot must have been of Greek extraction (see Section III.F), the inspiration for both helmets is directly Greek and, given Furtwängler’s (1905, p. 10) comparison with the Ionic electrum fish from Vetttersfelde, it must be East Greek (see note 106 below). Moreover, Höckmann herself (1982, pp. 118–19) talks about the influence of Magna Graecia on Etruscan metalwork (both in its style and in its tendency toward high relief), and about the East Greek influences on Magna Graecia metalwork, referring to Kunze 1967, pp. 178–79. Lo Porto (1977–79) demonstrates that the silver crest mounted on the helmet in the old restorations actually belongs to a shield from the same tomb in Metapontum as the helmet. In addition, I am pleased to publish the following note sent to me on August 3, 2009, by Sidney Goldstein, then curator of ancient and Islamic art at the Saint Louis Art Museum:

There is correspondence in early January, 1950, between the Museum’s Director, Perry Rathbone and the Los Angeles dealer Adolph Loewi asking to contact the owner about any additional fragments which might help reconstruct the shape, especially the crest. The New York restorer Joseph Ternbach worked on the helmet, reconstructing the crest with plastic and modern silver sheet based on the preserved ancient fragments. An article in *The Illustrated London News* on August 5, 1950, illustrated the fully restored helmet. Dr. Thomas T. Hoopes, Museum Curator, related that the crest was attached to a holder that “. . . was supported by three lugs (of which traces remained on the helmet).” The crest is currently attached by a modern plate that also supports the horns (modern) of the protome. At some time in the early 1960’s, Professor Dietrich von Bothmer expressed doubts that the silver crest belonged to the helmet. On September 5, 1962, Professor Emil Kunze wrote to Hoopes agreeing with von Bothmer. In a reply, Hoopes noted his observations, confirmed that the silver fragments were two-sided and assured him that he was open to other interpretations of the crest unit. Ten years later, May 5th, 1972, Dr. Betty Grossman, Museum Program Coordinator, sent a memo to Emily Rauh, Museum Curator, noting that Dietrich von Bothmer said, “The silver which is restored as a crest represents a galloping deer and is a shield device.” Less than a year after I joined the Museum, I visited the Metropolitan and met with Prof. von Bothmer to say hello and to inform him of my new position in Saint Louis. He suggested I rotate a photograph of the helmet 90% and would see that the silver element was the body of a running deer; not a crest ornament. He noted that Hoopes had rejected his idea more than thirty years ago. His suggestion seemed quite plausible. The crest was removed from the helmet in early 1985 before its reinstallation in the ancient galleries in 1987. The fact that the ancient silver elements on the reconstructed crest suggest that it was two-sided is still problematic.

30. For finials in the shape of animals, see Emiliozzi 1992, figs. 5, 6, 9, 10A, 22; Emiliozzi 1997a, p. 100, fig. 5; and Camerin and Emiliozzi 1997, no. 257. For nonfigural examples, see Emiliozzi 1992, figs. 10B,C, 13, and 1997c, p. 163, fig. 12, pls. VI, VII.2,3.

31. Furtwängler 1905, p. 11.

32. Hampe and Simon 1964, pp. 60–61. For those who are skeptical, see note 13 above.

33. Hampe and Simon 1964, p. 56 (*Iliad* 16.140ff., 19.387ff.). Arguments in favor were put forth by Lowenstam in 2008 (p. 132), with reference to his 1993 study of this specific subject matter in Greek art.

34. Hampe and Simon 1964, pp. 60ff.

35. Lowenstam 2008, p. 134, and see also note 13 above.

36. See notes 13 and 17 above.

37. See the lucid reflections of Lowenstam (2008, pp. 1ff., on the Greek world, and 124ff., on ancient Etruria).

38. Beazley 1986, pp. 25–34. For the basic literature on the vase, see also Beazley 1956, p. 76, and 1971, pp. 29–30; Cristofani 1981a; and Lowenstam 2008, pp. 20–27. For doubts that it was a commission that came from somewhere in Etruria, see Stewart 1983, p. 69, and Menichetti 1994, p. 77. For a local example of a commissioned object, see the Ricci hydria, attributed to a North Ionic painter transplanted to Etruria who was capable of using unusual mythological subjects to satisfy a specific form of patronage coming from a Hellenized aristocracy; Martelli Cristofani (1981, pp. 9ff.) calls him the Painter of Louvre E 739. On the relationship between patronage and the figural program of parade chariots of the sixth century B.C., see Cristofani 1989, pp. 602–3.

39. Serra Ridgway 2001, p. 352.

40. Cerchiai 1999, p. 134, referring to the subject of the duel between Achilles and Memnon represented on the Ricci hydria and the figural program of the Monteleone chariot.

41. Morini 1904, p. 2.

42. Furtwängler (1905) described the cavity intended for the inlays but without the ivory fragments now in the Metropolitan Museum, which Richter did not note until later (1915, p. 28). The existence of the fragments that Angiolo Pasqui recovered in 1907 and that are now in Florence would be noted only much later (Minto 1924b, p. 148) and were not the subject of serious consideration until 1991 (Emiliozzi 1991; Leach 1991, p. 414).

43. For gorgoneia inlaid with ivory, see Montanaro 2007, pp. 458–59, nos. 103.13–15, fig. 352 (from Ruvo di Puglia).

44. Proof that this area was meant to be inlaid with ivory is provided by the outline that was traced intentionally on the front panel to mark the area reserved for the boar head (see Figures I.30, V.1).

45. Despite careful observations no traces of any paint have been found, although it is worth noting that almost as soon as they were discovered the three main panels were subjected to a harsh cleaning meant to uncover the presumed gilding of the surface. For the painting of bronze in antiquity, see Born 1990, pp. 188ff.

46. A separately applied outer wheel appears in the reliefs on chariot II from Castel San Mariano, as Hampe and Simon (1964, pp. 14, 60n36, ill. p. 11, pl. 21) have already noted.

47. Here I would like to amend my own assertion about a presumed artificial patina, which I made before laboratory tests were available and before consulting with specialists (Emiliozzi 1991, pp. 110, 120).

48. See the technical observations in cat. 15 on the original presence of ivory decoration. I would like to suggest, however, that rather than small, separately attached figures—as in the kriophoros from Castel San Mariano (Martelli Cristofani 1985, p. 208, fig. 5)—there was only one figural ivory plaque of the kind from Tarquinia (ibid., figs. 1–4) that is generally thought to come from small caskets.

49. A comparison with diagrams of chariot rear side panels on which both roundels were made from the same bronze sheet (Figure II.9) demonstrates that a second roundel must have existed in each of our friezes. The state of conservation of the bronze sheet from the proper right side of the chariot (cat. 11) allows us to affirm that the lost roundel was not made from the same sheet but was added, and thus may have been made of ivory rather than metal.

50. Even though the panel was executed with the help of an assistant, there is reason to think that the assistant respected the master's drawing and would not have handled the space incorrectly if he had had a 1:1 scale model to work from.

51. Until very recently these errors have led to a negative judgment of the chariot's artistic quality; see Höckmann 1982, p. 118, and Lowenstam 2008, pp. 130ff.

52. The notion that all four feet are off the ground comes from scholars who used the drawing of 1903 and early photographs, rather than direct examination. This point was made by Brendel (1978, p. 149 and n. 9).

53. The ears, I think, were a collaboration, as this would have been too simple a task for the master. I cannot offer an attribution for the tusks (cat. 2d) because in my opinion they are a substitution made while the chariot was still being used (see III.D).

54. Kendra Roth made the detailed photographs of the tracing on the chariot at my request using a microscope. I am grateful to her for permission to use them in this article.

55. Enlarged photographs of the incised marks on the eagle head can be found in Buranelli and Sannibale 1998, fig. 18.

56. Höckmann 1982, pp. 10–32, pls. 1–13 (the reconstruction as a wagon in fig. 12 should instead be a cart); Bruni 2002, pp. 27ff. (with updated bibliography), figs. 8, 9, 11–14. I do not agree with the reconstruction of the vehicle proposed by Bruni, except for the presence of two rather than four wheels. See also note 130 below for scholars' suggestions regarding the location of the workshop (most think it was Clusine). For the various opinions on chronology, see note 131 below.

57. Höckmann 1982, pls. 4, 8, 9, 14.5, 31, 34.3, 34.4; Feruglio 1997, figs. 6–9, 11, 12.

58. Now reconstructed in the Ny Carlsberg Glyptotek in Copenhagen (www.principisabini.it); see Emiliozzi in Emiliozzi, Moscati, and Santoro 2007, pp. 150–54, fig. 4, pls. VII, VIII.

59. For the Tyszkiewicz patera, see Pasquier 2000. For Etruscan mirrors, see Zimmer 1995 and 1996; Galeotti 1994; and Sannibale 2000 (disagreeing with Galeotti 1994 in n. 27). Formigli (1986, pp. 127ff.) describes this procedure as it was used on a casket from Praeneste. For the use of this tool in the classical world, see Maryon 1949, pp. 115ff., and Steinberg 1968, pp. 12–13.

60. Bonamici's comparison with the *prosternidion* of Samos should be considered generic with regard to the use of the tracing tool (and not a burin), although it was not used in the same way.

61. Villard 1956, pp. 23–28, 36–41, pl. IV; De Juliis 1968, pp. 48–49; Martelli Cristofani 1978, pp. 168–69; Camporeale 1984, pp. 64ff., no. 1, pp. 121–22, pl. XXI.a; Gras 1987, p. 143, pl. XII.1; Pairault-Massa 1993, pp. 131ff., fig. 15.a–c; Pasquier 2000, pp. 373ff., figs. 18, 22–26; Rocco 1999, pp. 81, 106n442; Torelli 2000a, p. 571, no. 84, with an excellent photograph on p. 100. Hiller (1964, pp. 32ff.) disagrees with Villard's arguments in favor of a Rhodian provenance and suggests instead that the phiale was made in Etruria. De Juliis and Martelli Cristofani agree with Villard. Other authors abstain from judgment, while Pasquier expands on Hiller's thesis.

62. Pasquier (2000) rediscovered the Tyszkiewicz patera in the collection at the Villa Kérylos in Beaulieu-sur-Mer, France, which was formerly the property of Théodore Reinach.

63. *Ibid.*, figs. 5, 6b, 7.

64. The question of whether "Rhodian" oinochoai were imported or made locally is a major issue, especially after Shefton (2009) modified his own position (in Shefton 1979) regarding items he had first thought to be imported. Metallographic tests were performed on the Rhodian-style oinochoe that has been associated with the phiale from the Salines (Shefton 1979, no. A1). The results were used by Frey (1964, pp. 19ff.) and Hiller (1964, pp. 36–37) to conclude that both the oinochoe and the phiale are Etruscan.

65. Maksimowa 1966.

66. The note, made by Gisela M. A. Richter, is in the Greek and Roman Department files at the MMA. It is possible, however, that this was an inference of Cesnola and Balliard to explain the dents in the areas of highest relief on the right side of the chariot.

67. This reasoning works either for the suggestion that a repair using small holes in the head was made after the ancient accident or for a scenario in which the damage happened in the tomb. However, the hypothesis that this repair was undertaken during the 1903 restoration should in my opinion be discarded.

68. Höckmann 1982, pp. 119–21; Bonamici 1997, pp. 188–90 (Bonamici's kind response to my invitation to contribute an essay to the catalogue for the exhibition "Carri da guerra e principi etruschi"). In 2005 Höckmann returned to the argument from the point of view of repoussé technique in Archaic Etruria.

69. Melian according to Schefold (1964, pp. 42ff., pl. 10), Cycladic according to Dugas (1935, p. 19, pls. XII, XIII), both cited by Bonamici (1997, p. 190), who wonders how this circumstance went almost unnoticed in the specific studies of Friis Johansen (1967, pp. 104ff., fig. 34), and Kemp-Lindemann (1975, pp. 152ff., 209ff.). See also Lowenstam 1993, pp. 212–13, fig. 10, for a reference to the scene as the second arming of Achilles.

70. Dugas 1925–26, pp. 30ff.

71. For references to the Cretan shields, see *ibid.*, p. 30 and n. 1.

72. Friis Johansen 1967, pp. 104ff., fig. 34; Kemp-Lindemann 1975, pp. 152ff., 209ff.

73. *Lexicon Iconographicum Mythologiae Classicae*, vol. 4 (Zürich and Munich, 1988), p. 69, no. 1 (British Museum GR1860.4-4.1).

74. Krauskopf 1974, pl. 10 (tripod C1).

75. Haynes 1958; Sprenger and Bartoloni 1977, pl. 111; Brendel 1978, pp. 159ff. and n. 18, fig. 106; Höckmann 1982, p. 125, pl. 37.1; Cristofani in Cristofani and Martelli 1983, p. 302, no. 198b, ill. p. 194.

76. Emiliozzi 1991; Emiliozzi 1996a, pp. 333–34, fig. 1; Emiliozzi 1997d. Amandry (1962, p. 54, fig. 2) cited the scene on the Monteleone chariot among his comparisons, but because of the old restoration, which separated the boar from the scene on the front panel, he believed it was a misunderstood excerpt of the figural scheme on the Delphi revetments. Lowenstam (2008, p. 197n32) disagrees that there is a connection between the boar and the deer.

77. Amandry 1962, pp. 48ff., fig. 1, pls. 6–9.

78. For other East Greek works, see *ibid.*, p. 54, pls. 14.2, 15.4. The four Etrurian examples are a bronze sheet from Castel San Mariano (Brown 1960, p. 83, pl. XXIXe; Amandry 1962, p. 54n125; Höckmann 1982, p. 79, pl. 38.2); a bucchero vase in Chiusi (Amandry 1962, p. 54n126; Batignani 1965, p. 144, fig. 1; Donati 1968, p. 338, no. 106; Nardi 1997, p. 454n29); a brazier from Cerveteri (Nardi 1997, pp. 451ff., no. 2, fig. 3; Pieraccini 2003, pp. 130–31, fig. 82); and a black-figure amphora of the La Tolfa Group (Gaultier 1987, p. 210n7).

79. Amandry 1962, p. 54 and n. 128 (British Museum B.102, 23).

80. *Ibid.*, pp. 52–53 and nn. 117–22.

81. *Ibid.*, p. 54 (with bibliography in nn. 123–24), and see also Cook 1999, p. 80, no. 6.

82. Akurgal 1949, pp. 52–53, pls. 27a, 29, 33b, 35 (with further references to Greece and Phrygia); Akurgal 1968, pp. 43, 60–61, figs. 24–29, pl. 37.

83. For Rhodes, see Schiering 1957, pl. 15.1.3, cited by Höckmann 1982, p. 118 and n. 625; for Corinth and areas with ties to Corinth, see *ibid.*

84. Brown 1960, pp. 103–4 and n. 3.

85. Bonaudo 2004, p. 65. In hydria no. 15 it is Maia.

86. The motif appears on the amphora of the Amsterdam Painter (ca. 650 B.C.; Martelli Cristofani 1987, p. 4, figs. 7, 10), a pair of amphorae from Trevignano Romano (630–600 B.C.; Colonna 1985, p. 9.3, ills. p. 247); a *tintinnabulum* from Bologna (ca. 600 B.C.; Morigi Govi 1971), and a bronze statuette in the British Museum, London (ca. 600 B.C.; Bonfante 1975 and 2003, pp. 186–87, fig. 95).

87. For the Isis Tomb at Vulci, see Bonfante 1975 and 2003, pp. 47–48, 188–89, fig. 99. Bonfante compares this mantle to the one Thetis wears on the front panel of the chariot and suggests that its form is less influenced by artistic conventions; in the rendering of the actual garment, the two front hems would have been applied separately. For the Vix krater, see Bonfante 1975 and 2003, pp. 186–87, fig. 97; and Rolley 2003, pp. 88–89, 116–17, pls. 5, 106, 107.

88. Krauskopf 1976, p. 323, pl. XLII.4, and 1988, pp. 341, 353 no. 64.

89. For the *column* and *mutulus*(?) plaques from Murlo, see Neils 1976, pp. 20ff., nos. 30, 29, pls. 10.3, 10.1; and Winter 2009, pp. 192, 191, 193, nos. 3.D.9.A, 3.D.9.B, figs. 3.24, 3.25. For the antefixes, see Neils 1976, pp. 7–18, groups A–E, and miscellaneous, pls. 1–9; and Winter 2009, pp. 172ff., no. 3.C.2.A, fig. 3.8, 170, fig. 3.3.4. For the antefix from Vulci, see Sgubini Moretti 2003, p. 10, fig. 2; Sgubini Moretti and Ricciardi 2004, no. 1.c.1, and 2006, p. 103, figs. 10.4, 10.6; and Winter 2009, p. 159, roof 3.9.

90. Höckmann 1982, pls. 11, 12, 1, enclosure 2. For the diverse opinions on dating, see note 131 below.

91. See Pairault-Massa 1993, especially pp. 130–31, figs. 11, 12.

92. Phillips 1983, figs. 1–31; Winter 2009, pp. 193–94, no. 3.D.10, figs. 3.26–3.28, dated 580–575 B.C.

93. Bonamici 1997, p. 189.

94. Banti 1966, pp. 372–73, no. 3, fig. 1/b, pl. LXXIII.

95. Kardara 1978, p. 68, fig. 6.

96. For the basic literature on the vase, see Beazley 1956, p. 76, and 1971, pp. 29–30; Cristofani 1981a; and Lowenstam 2008, pp. 20–27.

97. See Rizzo 1983. Rizzo attributes too late a date to the Monteleone chariot.

98. Emiliozzi 1996b, pp. 25–26, fig. 3 (note, though, that here the draftsman incorrectly included the tail of the lion in the proper left frieze and because of this error the ram seems to have a long tail).

99. See Stibbe 2000. According to Stibbe (p. 27 and n. 2), this type was the subject of early experimentation around 600 B.C. before becoming canonical.

100. Hill 1958, nos. 20, 21, pl. 50, fig. 9, pl. 51, fig. 6; Rolley 1982, pp. 87ff., pls. XXXIX, XLIII, figs. 184, 185, 195–97 (from Novi Pazar).

101. See note 100 above and Stibbe 2000, pp. 48–49, no. 18, fig. 32; Vasić 2003, pp. 130ff., figs. 89, 90.

102. On exportation, see Vasić 2003, pp. 129ff., and Stibbe 2003, p. 135. For the finds in Laconia dating from the third quarter of the sixth century B.C., see Rolley 1982, p. 36, nos. 1–3 (with bibliography); for their chronology, see also Stibbe 2000, pp. 45–46, nos. 14, 17.

103. For the originality of the Laconian group, see Rolley 1982, p. 37 and n. 52. Johannowsky (1974, pp. 17–20) proposes Samian mediation in the diffusion of Laconian products, and Bellelli (2006, p. 93) affirms that this proposal is valid.

104. Stibbe 2000, pp. 21ff., nos. 2–4, 8, 10, 11, with figures, dating from 575–555 to 555–540 B.C. (later examples were omitted from this list).

105. In the context of the second half of the sixth century B.C., see Lo Porto 1977–79 (with earlier bibliography) and Guzzo 1992, pp. 36, 255–56, no. 103. See also note 29 above.

106. Bonamici 1997, p. 190. Höckmann (1982, p. 118 with n. 624) maintains it was made in Magna Graecia; Guzzo (1992, pp. 36, 255–56, no. 103) suggests manufacture either in the Peloponnese or locally in Metapontum. Because of the Ionian features, Furtwängler (1905, p. 10, and 1913b, pp. 16, 29, pl. 1) had already compared the helmet to those of the electrum fish-shaped shield emblem from Vetttersfelde and the deer from Kul Oba.

107. The comparison, already made in Bonfante 1975, pp. 47–48, and Brendel 1978, p. 151, is repeated in Bonamici 1997, p. 189. Zevi (1969, p. 48) suggests a Rhodian origin or at least roots, and Bonamici (1997, p. 189) agrees.

108. For kouroi from Naukratis, see Höckmann 1982, p. 119 and n. 632, citing Richter 1970a, nos. 28, 58, 82. For vases from Rhodes, see Höckmann 1982, p. 119 and n. 632, citing Higgins 1959, pp. 14ff., nos. 1608–12, and also Bonamici 1997, p. 189, citing Ducat 1966, p. 51, pl. VII.4.

109. Ducat 1966, pp. 113–14, type A and type B, pls. XV.6, XV.7 (eagle heads), p. 149, nos. 1, 2, pl. XXII.6 (boar heads), p. 100, II, type A, nos. 1, 2, pl. XIII.7 (recumbent rams).

110. See Bonamici 1997, p. 189, referring to Yalouri 1972 and Brize 1985.

111. Brown (1960, pp. 110–12) attributes the *sphyrelaton* and the *infundibulum* to a workshop in inner Etruria. Höckmann (1982, pp. 62–64, under nos. 24, 25, *sphyrelaton*, figs. 43, 44, pl. 34, and pp. 119–20) discusses the similarities and differences between the heads of the *kouroi*, the *sphyrelata*, and the *infundibulum* and suggests that the last was a Greek work from Campania (a theory Cianciani 1984 does not accept). Neither this worthy work nor any of the earlier or later literature has a photograph of the second female face, which is not the same as the first. For Johannowsky (1983, p. 72) the *infundibulum* is East Greek (although his chronology is excessively early). Bellelli (2006, pp. 41ff., under no. 1, *infundibulum*, pl. XII) again takes up an examination of the pieces (with the exception of the second *sphyrelaton*) and

suggests that they were all made by Etruscans but with south Ionic influence; the workshop might have been in inner Etruria and the *infundibulum* might date to around 565–550 B.C. I would like to emphasize—reinforcing Höckmann's earlier impression—that the faces of the kouroi on the Monteleone chariot are clearly different from the other two in the treatment of the hair on their foreheads (which are broader), the treatment of the upper lip, the distance between the eyes, and especially the handling of the eyeball (which is large and protrudes beyond the eyelids). If there are similarities, they are with the face of the second *sphyrelaton*, which unfortunately is in too fragmentary a condition to judge.

112. Richter 1970a, p. 93, fig. 364.
113. Ibid., pp. 56–57, no. 26, figs. 123–25, and see also Mitten in Mitten and Doeringer 1968, p. 51, no. 33 (with further bibliography).
114. See Mitten in Mitten and Doeringer 1968, p. 52, no. 34, which cites other very similar examples.
115. Romualdi 1998, pp. 367–78, pls. CV–CVII.
116. References in note 61 above.
117. For Sardis, see Winter 1993, pp. 236–37 (dated 560–550 B.C. with later versions at Miletus and Gordion); and Winter 2009, p. 398 (for later Etruscan examples that depend on them).
118. Bonamici 1997, p. 189.
119. Orvieto: in a roundabout way Martelli Cristofani 1983, pp. 27, 29. Orvieto or Vulci: Höckmann 1982, pp. 118–20. Vulci: Emiliozzi 1996a, p. 337; Bonamici 1997, p. 190. Bellelli (2006, pp. 51–54) argues against Vulci. Riis (1998, pp. 103–4) remains convinced that the old hypothesis about Chiusi is correct.
120. For the first hypothesis, see Höckmann 1982, pp. 118–20 (who at the time believed it filtered through Campania) and then the majority of scholars through Lowenstam 2008, pp. 128–39. For the second, see Bonamici 1997, p. 190. The third, attractive, hypothesis was advanced by Höckmann in 2005, in an illuminating discussion of the origins of high relief in the large Etruscan repoussé bronzes of the sixth century B.C.
121. For the engravings, see Emiliozzi 1996a, pp. 335ff., and 1997d, p. 183 (at that time, before tests were done in the course of the recent restoration, I believed erroneously that the artist traced his lines beginning at the farthest point and working toward himself); followed by Bonamici 1997, p. 189, where the comparison with the engraving technique used in the equine pectoral (*prosternidion*) from Samos does not seem pertinent to me. For repoussé, see Höckmann 2005, pp. 314ff., in which she updated her statements of 1982.
122. Höckmann 2005, pp. 314–15, figs. 1–3.
123. The lists of the “errors” in the execution of the reliefs is a recurrent motif in the literature (see, for instance, Hampe and Simon 1964, pp. 53–67), and this preamble to any discussion of the chariot (Höckmann 1982, p. 118; Lowenstam 2008, pp. 130ff.) debases its artistic level.
124. Amandry 1962, p. 46n72.
125. Pasquier 2000, p. 387.
126. Cristofani 1985b, pp. 289–90, no. 111, ills. p. 217.
127. This suggestion was made by me (Emiliozzi 1996a) and Bonamici (1997). Bellelli (2006, pp. 41–54) does not agree in his in-depth study of the famous *infundibulum* with the head of a bearded man from Capua, where he reviews the hypotheses offered in all the preceding literature on the group of laminated and repoussé bronzes from Castel di San Mariano and Monteleone di Spoleto. But Martelli Cristofani (1988, p. 27) showed that Vulci was the primary location in Etruria for other types of manufacture and that in the second half of the sixth century B.C. various kinds of skilled artisans from eastern Greece settled there, giving rise to a decorative arts tradition that met the demand of aristocratic consumers and “contributed decisively to the formation of a local figural cul-
- ture.” I believe that the master of the Monteleone chariot must have arrived at the very beginning of this phenomenon.
128. It is important to remember that the cast bronze eagle head finial at the end of the pole was attributed to Chiusi by Haynes (1985, p. 254, no. 24, ill. p. 154) and that most scholars share this opinion (see Colonna 1996a, p. 347, n. 51, fig. 8; Buranelli 1997, p. 202, fig. 9; Buranelli and Sannibale 1998, pp. 350–51, figs. 191, 182; and Bellelli 2006, p. 74). Even if this piece was made in Chiusi, that does not mean that the entire chariot was made there, especially given the fact that similar accessories were interchangeable and could have circulated in the ancient marketplace beyond where the chariots themselves were made. I have already made this suggestion (in Emiliozzi 1992) for the cast bronze terminals on the chassis of the Orientalizing chariot from the Bernardini Tomb in Praeneste, and this eagle only strengthens that hypothesis. Haynes dated it to 600–550 B.C., but that was before the chariot itself had been examined during the most recent campaign to restore and reconstruct it (Emiliozzi 1997e), and Colonna's reasons for suggesting it was made in Chiusi permit an early dating. I would suggest that this piece was acquired somewhere else for a chariot made and decorated in Vulci just before the creation of the Monteleone chariot.
129. Buranelli 1995, pp. 105ff.; Colonna 1996a, p. 348n54, and, for the fragments of a quadriga from Via Appia Antica, pp. 349–50.
130. Höckmann (1982, pp. 107–11) suggests that it was made in Chiusi. She is followed by, among others, Martelli Cristofani 1984, p. 182, Haynes 1985, p. 114, Bruni 2002, pp. 35ff., and indirectly also by Maggiani 2007, p. 95. Riis (1998, pp. 103–4) said that after reading Höckmann's 1982 book he was convinced that almost all the bronzes from Castel San Mariano are North Etruscan and either Perusine or perhaps more likely Clusine. The small cast bronze lion might be an exception (Höckmann 1982, p. 82, no. 37, pl. 45.3,4).
131. Höckmann (1982, pp. 40–42), followed by a majority of scholars, dates it to 560 B.C.; Bruni (2002, pp. 36–39) dates it to 580–575 B.C. Maggiani (2007) thinks it should be dated after 580–570 B.C., that is, after the Paolozzi Sheets.
132. See Sgubini Moretti 2003, p. 10, fig. 2; Sgubini Moretti and Ricciardi 2006, p. 103, figs. 10.4 and 10.6; and Winter 2009, p. 159, roof 3.9.
133. My hypothesis is not different from Maggiani's opinion (2007, p. 95) that in the case of the oldest of the Paolozzi Sheets of Clusine manufacture, a group of workers came to Chiusi from southern Etruria, perhaps from Vulci, and influenced the artists who made the cart from Castel San Mariano. Nor does it contrast with Höckmann's (2005) suggestion that the introduction of a high-relief technique by eastern Greek craftsmen occurred in a bronze workshop that was organized ad hoc and commissioned to create a large work that could not be accomplished by a single metalsmith. This hypothesis seems to fit the sequence of work on the sheets for our chariot (see Section III.C), except that that work is moved a decade or two back.
134. On parade chariots as gifts, see Colonna 1985, p. 242.
135. Leach (1991, pp. 185ff.) made a count based on Beazley 1956.
136. For the (generally accepted) dating to about the mid-sixth century B.C., see Richter 1953, text to pls. XII.16a–d, XII.17a–b, XXXVIII.16, 17; and Leach 1991, pp. 185–86, nos. 3.20, 3.21.
137. Brendel (1978, p. 452n17) dates the chariot reliefs to 560–550 B.C. because of the lack of drapery folds in the clothing. Maggiani (2007, p. 92, n. 594) accepts this date.

NOTES TO SECTION IV (PAGES 63–64)

1. Emiliozzi 1997c.
2. See Section III, note 10.

1. The evidence comes from the ivory inlay from the panther's eye that is preserved in the Museo Archeologico in Florence (see Figure I.13).
2. This observation was made keeping in mind that the base of the panel is more curved than it was originally, the reason for which is explained in Section IV.A.
3. I am indebted to Kendra Roth for this information. She and I examined this piece very carefully in order to establish the degree of slope in the first section of the pole.
4. Brown 1973–74, pp. 60ff.; Cristofani 1987, p. 104, fig. 18; Torelli 1992, pp. 258–86, fig. 10.
5. The rear of the panel seems to have been cut off even in the old photographs taken in 1902, before the chariot arrived in New York (see Figures I.18–I.20).
6. Until Emiliozzi 1991; see Sections I.G and II.
7. Martelli Cristofani 1979, p. 78, discusses these types of holes in Etruscan ivory plaques.
8. Without the assistance of X-rays, I was wrong in my earlier belief (Emiliozzi 1997d, p. 78) that the felloe was made up of a single bent branch.
9. In examining the ivory fragments presented in this catalogue I received valuable assistance from Anibal Rodriguez, Senior Museum Technician in the Division of Anthropology at the American Museum of Natural History in New York, and from his report to Joan R. Mertens dated February 11, 2005.
10. See note 9 above.
11. As they do, for example, on the gorgoneion on the probably Laconian handle datable to the early sixth century B.C. published in Mitten and Doeringer 1968, p. 76, no. 71, which except for the curly hair on the forehead is fairly close to the one on the shield here.
12. Morini 1904, p. 7.
13. We can exclude a modern adhesive because this fragment had not before now been included in the restorations of the chariot.
14. Emiliozzi 1991.
15. The very small splinters that came from the flaking of the fragments have been deliberately omitted from Figure V.89.

PUBLICATION HISTORY OF THE MONTELEONE CHARIOT

Barnabei 1904; Laureti 1904; Morini 1904; Offord 1904; Petersen 1904, pp. 155–56; Furtwängler 1905; Robinson 1906; Chase 1907; Chase 1908, pp. 311–23; Ducati 1909; Nachod 1909, pp. 43–54; Baur 1912, p. 97, no. 233; Reinach 1912, p. 206; Furtwängler 1913; Richter 1915, pp. 17, 29, no. 40; Richter 1917, pp. 62–64; Van Buren 1921, pp. 58, 67; Hausenstein 1922, pp. 13, 19–20, pls. 4, 5; Minto 1922, cols. 255–56; Duhn 1924, pp. 591–94; Minto 1924b; Dugas 1925–26, pp. 30–32; Ducati 1927, vol. 1, pp. 279–80, vol. 2, pl. 108; Ducati and Giglioli 1927, p. 37; Richter 1927, pp. 70–74; Della Seta 1928, pp. 286–88; Lamb 1929, pp. 122–24; Kaschnitz-Weinberg 1933, p. 150; Mercklin 1933, pp. 101, 119, 161; Giglioli 1935, pp. 19–20; Minto 1935, p. 124; Tarchi 1936, vol. 1, p. 14, pls. LXXX–LXXXVI; Kukahn 1936, p. 39; Besig 1937, pp. 67–68, 108, no. 281; Ducati 1939, pp. 206–8; Richter 1940, pp. 26–27; Goldscheider 1941, p. 32; Riis 1941, pp. 131–33, 159–60, 170, 191; Richter 1942, p. 153; Hoopes 1953, p. 835; Riis 1953, pp. 61–62; Åkerström 1954, pp. 200–203; Scerrato 1956; Haynes 1958, p. 14; Pallottino 1959; Bargellini 1960, pp. 88–90; Brown 1960, pp. 84–88 *passim*, 103, 108–12 *passim*, 114, 120; *Enciclopedia dell'arte antica*, vol. 3 (1960), s.v. "Etrusca arte," p. 482; Richter 1960, p. 93; Heurgon 1961, pp. 160–61; Amandry 1962, pp. 53–54, 70; Rocchetti 1963, p. 167; Camporeale 1964, pp. 446–48; Hampe and Simon 1964, pp. 53–67; Brommer 1965; Snodgrass 1965, p. 118; Banti 1966; Gamber 1966, p. 32; Jucker 1966, pp. 19ff., 65–76; Jucker 1967, p. 627; Schefold 1967, p. 321, pl. 401; Thieme 1967, pp. 52–57; Zazoff 1968, pp. 1–16; Poulsen 1969, pp. 14, 60–61; Richter 1970b, p. 74; Pallottino 1971, p. 87; Picard 1973, pp. 183–85; Roncalli 1973, p. 68; Camporeale 1973–74, pp. 109–13; Camporeale 1974, p. 127; Krauskopf 1974, pp. 17, 34, 68–69; Bonfante 1975, pp. 33, 35, 37, 48, 61, 95, 117, 123, 175; Hus 1975, pp. 32, 76–78, 82–84; Kemp-Lindemann 1975, pp. 157–59, 215–17, 229–31; Borbein 1976, p. 508; Krauskopf 1976, p. 343; Lollini 1976, p. 167; Schiffler 1976, p. 139; Torelli 1976; Sprenger and Bartoloni 1977, pp. 34–35, 114; Brendel 1978, pp. 116, 146–51, 158–59, 161; Cristofani 1978, pp. 103–5; Woytowitsch 1978, pp. 6–7, 10–11, 15–16, 18–19, 22–23, 30, 47–48, 92, no. 85; Colonna 1980, p. 315; Schwarz 1980, pp. 86ff.; Stary 1980, *passim*; Camporeale 1981, pp. 206–7, 209, 213, nos. 100, 123, 148; Kossatz-Deissmann 1981, pp. 835 no. 31, 837; Stary 1981, pp. 235–40, *passim*; Höckmann 1982, pp. 118–20, and *passim*; Martelli Cristofani 1983, pp. 27, 29; Pallottino 1984, p. 190; Bartoloni 1985; Torelli 1985, p. 108; Gisler-Huwyler 1986, p. 244, no. 82; Galeotti 1986–88, p. 98; Krauskopf 1988, p. 341, no. 64; Cristofani 1989, pp. 602–3; Schwarz 1990, p. 220, no. 194; Emiliozzi 1991, pp. 113–20, 396–98, no. 1; Leach 1991, pp. 396–98; Thomson de Grummond 1991, p. 101; Bonamici 1992, *passim*; Kossatz-Deissmann 1992, pp. 455 no. 59, 461; Cerchiai 1995, pp. 84, 87; Cristofani 1996, pp. 8–9; Emiliozzi 1996a; Bonamici 1997, pp. 183–90; Camporeale 1997, pp. 16–17; Colonna 1997, pp. 20–21; Emiliozzi 1997d; Riis 1998, pp. 103–4; Cerchiai 1999, p. 134; Corona [2000]; Mehren 2002, p. 47; Bonfante 2003, pp. 33, 35, 37, 48, 61, 95, 117, 123, 175; Camporeale 2005, p. 293; Höckmann 2005; Bellelli 2006, pp. 45, 47–49, 51–54, 67, 71; Emiliozzi 2006, pp. 135–37, 144, 148; Maggiani 2007, p. 92; Picón et al. 2007, pp. 278–81, 470–71, no. 323; Lowenstam 2008, pp. 128–36; Burgess 2009, pp. 22–26; Crouwel 2010, pp. 124, 127–28.

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