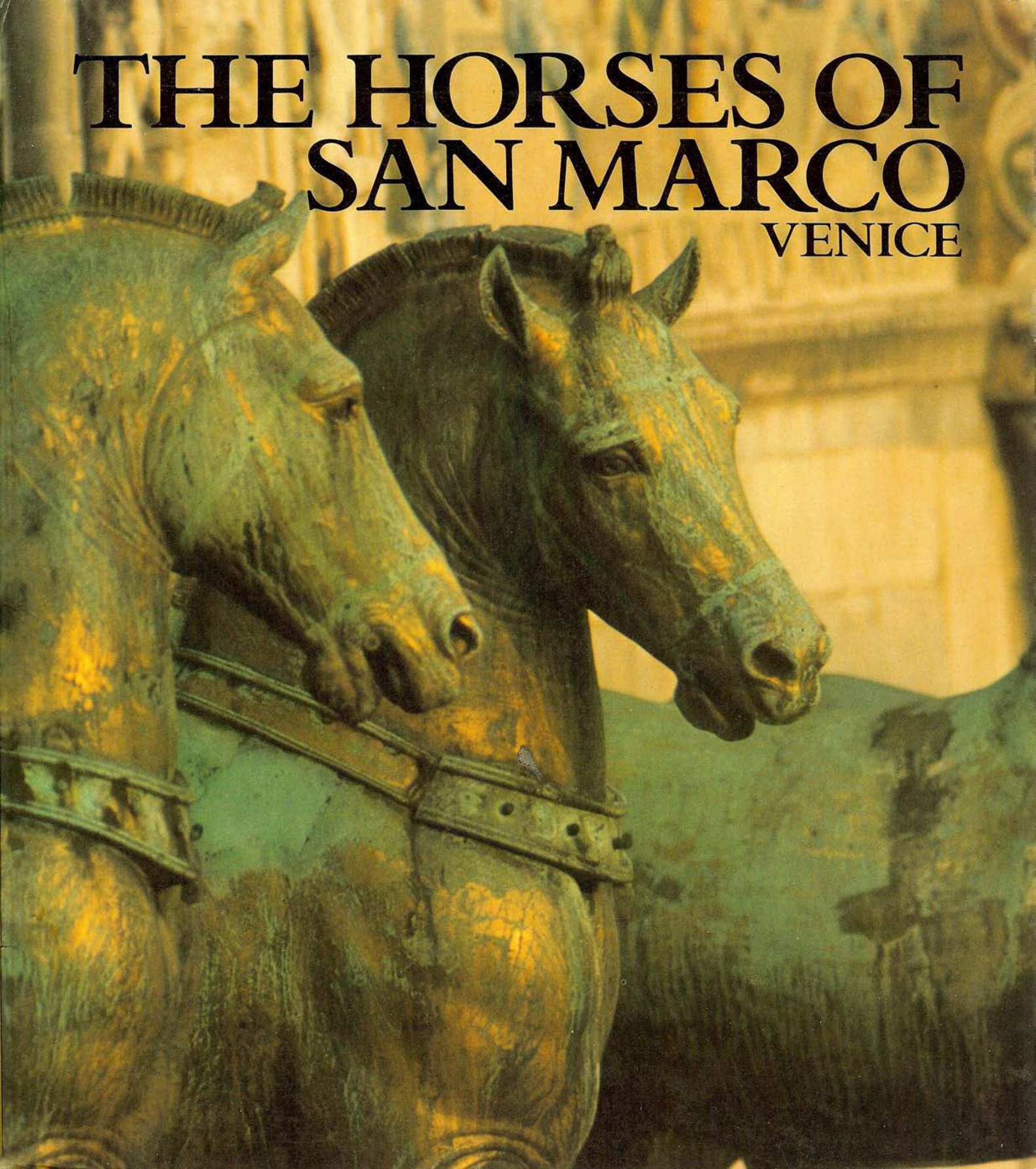
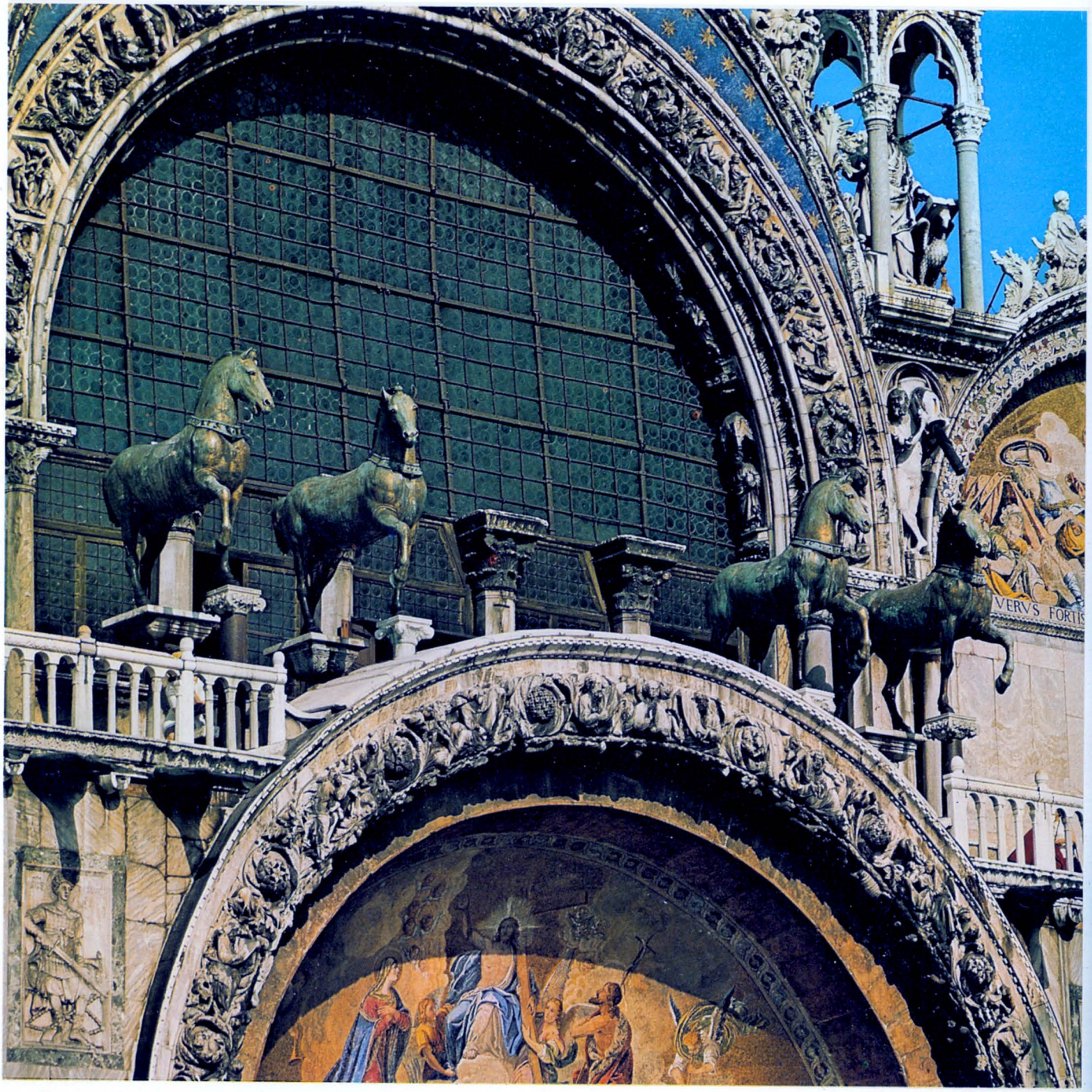
THE HORSES OF SAN MARCO

VENICE





1. The bronze Horses of San Marco on the façade of the Basilica

A descriptive analysis of the Horses of San Marco

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It is fairly difficult for the visitor to observe and admire the horses of San Marcos on the loggia of the Basilica. As more than sixty years have passed since the first and last complete descriptive study of the horses [1] this analysis needs to be brought up to date. The four gilded bronze horses (fig. 158) form the only quadriga from the classical era which has survived the ravages of time. In ancient illustrations of four-horse chariots (fig. 159) the two outside horses generally have heads turning outwards, while the inner horses have inward-looking ones. In this case, however, the normal arrangement was abandoned because of the Basilica's central arch which determined the sub-division of the four horses into two pairs. The unusual nature of this arrangement as compared with the traditional pattern is one of the most original aspects of the San Marco quadriga. The similarity of the two couples does not mean that the two pairs were cast from identical moulds, even if it had been technically possible (see Leoni, p. 175). This problem will only be solved when all four horses have undergone photogrammetric analysis (see Sena, p. 229); this could reveal much important information concerning ancient technology.

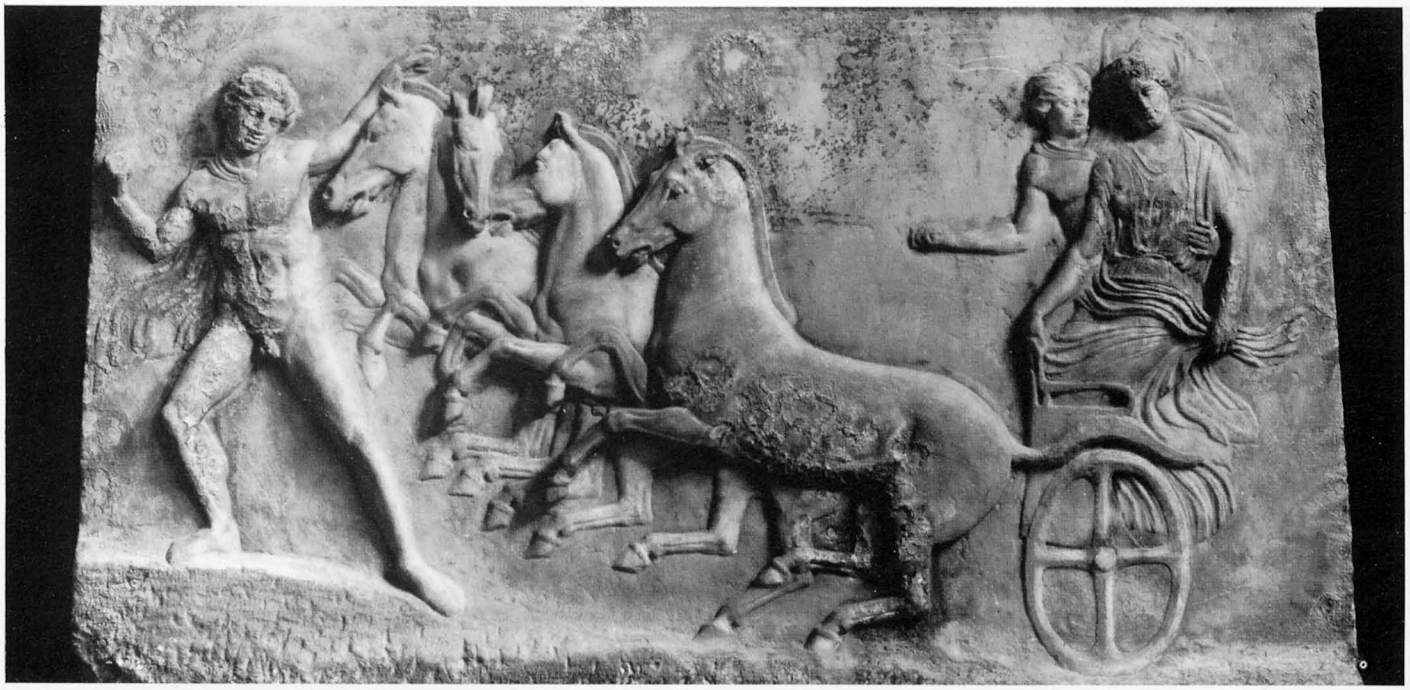
The Heads

The heads of the four horses (figs. 160-161) are exceptionally expressive. When one looks at them, one senses their intimate, vibrant, dynamic power, which is intense though firmly restrained. They consist of extensive luminous surfaces delicately enlivened by a complex network of veins and by robust muscular contours which are more in evidence where the skin is tightly stretched. The bone structure of the skull is difficult to distinguish since it is covered by a layer of fairly thick skin, and the profile of the head is arched in line with the nasal bone system (see Azzaroli, p. 155). The head itself is composed of many extremely interesting features; the fact that one is bent to the right and another to the left is not an end in itself, for this movement directly governs the opposing positions of the ears (fig. 162). In fact, if an ear points forwards, the other points outwards, always following the direction in which the horse is looking. But all this is of secondary importance when compared to the unusual treatment of the ears themselves. Along the outer edge there is a wide, hairy border having a clearly marked parting and a series of wavy incisions creating a pattern of ordered and symmetrical tufts on either side. This is certainly not a realistic representation but is, in fact, an instance of extremely elegant stylisation. It is this very feature which convinced Magi that the horses dated from the Antonine era onwards (second century A.D.) because this type of stylisation is the "trade-mark" of the era concerned[2]. The forelock is tied together betwen the ears by a narrow band with its ends falling down each side. It probably terminated in a final tuft which, although missing today, appears in an engraving by the Zanetti cousins (fig. 165)[3] who were faithful students of all Venetian matters during the eighteenth century. Also of interest are the delicate folds in the skin, emphasising the protuberance above the eyes (fig. 163) and also resembling similar effects found in the heads of the gilded bronze horses of Cartoceto from the first century A.D.

The eyes in particular have recently been the subject of study [4]. This is largely because of the characteristic *lunula,* that is the half-moon type of incision which gives the pupil a vivacious quality and creates certain effects of light and shadow. The actual depth of the eye socket enhances this impression as do the thickness of the upper eyelid and the projection of the vigorous, arched eyebrow. "Far from being naturalistic it attempts to convey a pictorial effect involving a gleam of light at the top of the cornea; the darker the half-moon shaped cavity is the brighter the gleam ... However, the deep corneal furrow is strongly realistic and anatomically correct ... The half-moon cavity ..., which we observe in the Venetian horses' eyes, is a way of representing the pupil which was a common practice in Constantine's time ..." [5]. The *lunula,* therefore, could be used to date the horses.

The mouth is half-open (fig. 164) with folds evident at its extreme corners; the lips partially reveal the precisely sculptured, even teeth; the tip of the tongue curls upwards. All these indicate that the mouth is being stretched by the bit, only its ring ends still being visible. In fact, in a letter written in 1815, a Venetian noblewoman wrote that the bit was broken off by her fellow Venetians, so that nothing capable of restraining the horses should be seen since they were a symbol of the power wielded by the Most Serene Republic of Venice [6].

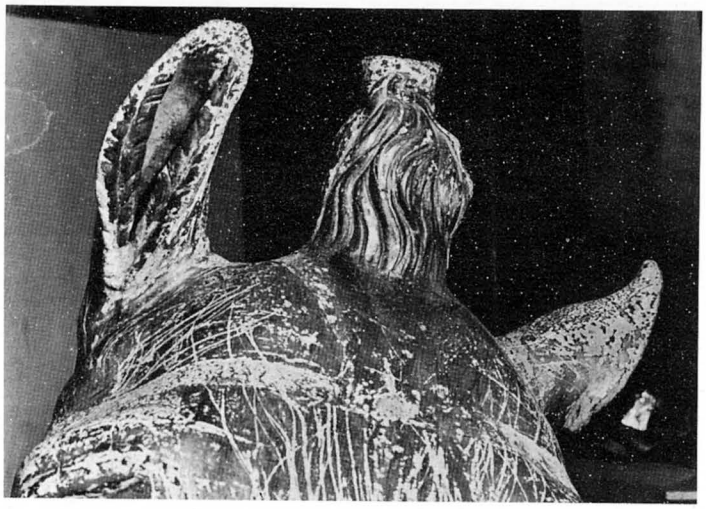
The holes visible above the bit and on the cheek (fig. 161) indicate where the nails, which formerly fixed the now lost straps of the harness, were originally driven into the head [7]. Fortunately

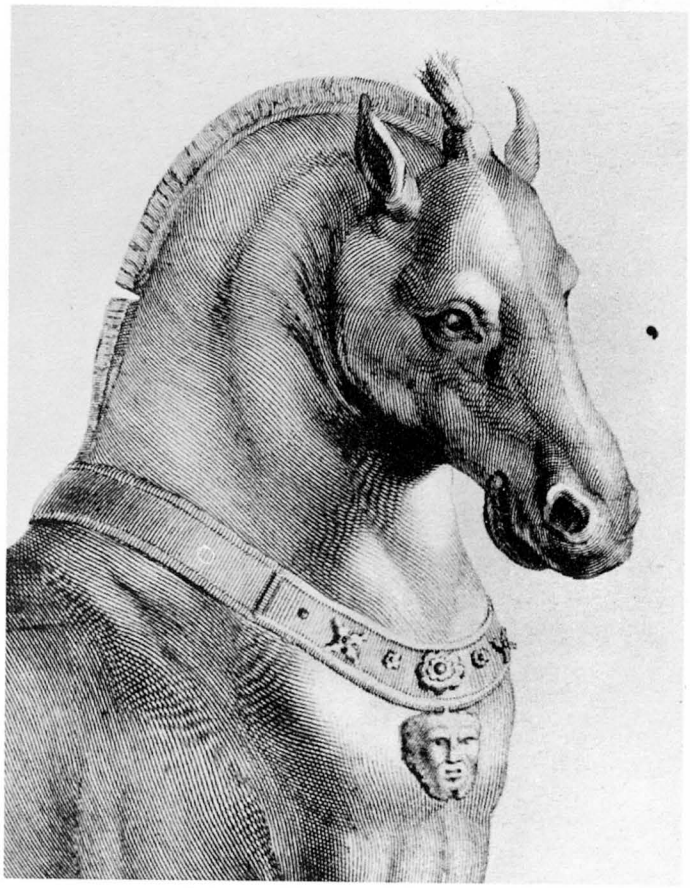


159. Attic relief of a quadriga. End of 5th century B. C.

160. Head of Horse "D" seen foreshortened.

161. Head of Horse "A" seen in profile.





162. Detail of head of Horse "A" showing the ears and forelock.

163. An eye of Horse "A".

164. The nostrils and mouth of Horse "A".

165. The head of Horse "C" in 1740.

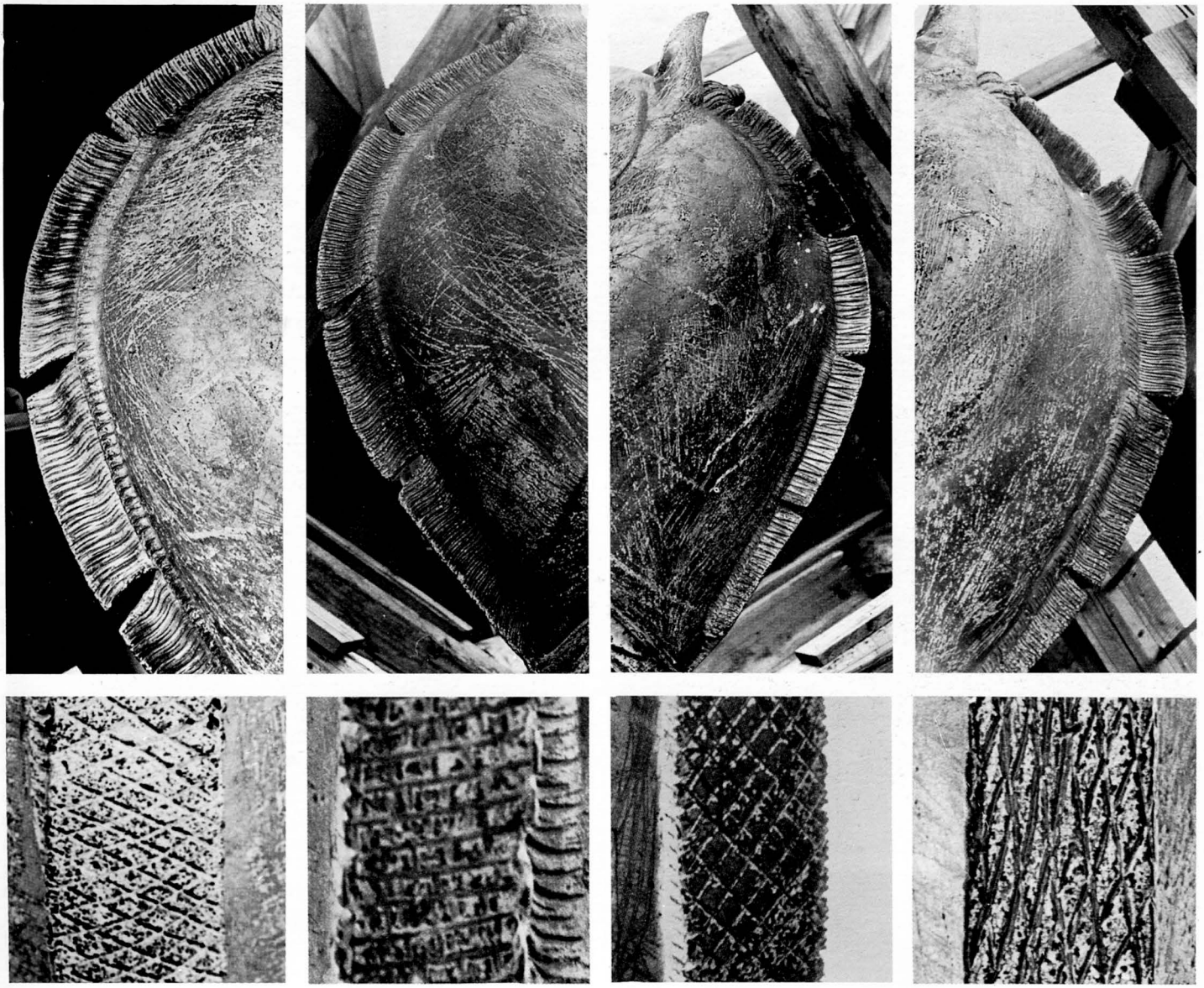
166. Photograph taken during the restoration of 1903 showing a reconstruction of the head harness of one of the Horses.

one can reconstruct the original arrangement (fig. 166) because the horses were gilded after the separately cast parts of harness had been attached [8]. Therefore, the areas which were formerly covered by the harness are now without gilding and thus fairly easy to identify (see Azzaroli, pp. 161-162). Two low fringes cut the same length on either side of the mane are relieved by an undulating pattern (the width varies from 4--6 cm. (figs. 167-170). The manes do not follow the shape of the neck in an unbroken curve but, instead, have gaps in various places; in particular, horses A and C[9] have similar manes with three notches, whereas horses B and D have four of them. There are other differences to be found in the treatment of the mane; for instance, in three cases, (horses A, C and D), the side of the mane is marked by flowing lines, whereas in the case of horse B, this portion of the mane is characterised by rather coarse and rigid, slanting lines that converge at the tip and base of the mane. A similarly odd divergence is to be found in the way the top of the mane is defined. The manes of horses A, B and D, with their criss-cross slanting lines, are inexplicably different from the perpendicular line pattern found on horse C (figs. 171-174).

As far as the technical aspects of the manes are concerned, Kluge thought that what one now sees is a badly executed repair, done in order to hide the loss of the original long and undulating mane [10]. Theunimpaired state of these parts,alreadyrecognised by Crome [11] is, however, certain and represents a style which supports the "classicism" of the horses. In fact, the highly-curved forelock bound upright and the hogged mane are Greek characteristics. As these elements were to be frequently imitated in subsequent centuries, they could just as much represent a surviving fashion as provide accurate clues for dating.

The horses have a collar at the base of the neck (fig. 175). This is well modelled and is entirely surrounded by a double border with a roundish outline. The part at the back was cast with the rest of the body, whereas the front part consists of a separately-worked band which serves to soften the transition from the neck muscles to those of the chest. Today the collar is ornamented with six spherical studs on horses A and C; whereas on horses B and D there are actually seven small spheres. The engraving described above (fig. 165) shows that these decorative elements are simple replacements for the four-petalled flowers and roses which were lost not all that long ago since the Zanetti cousins were able to see and record them in the mid-eighteenth century [12].

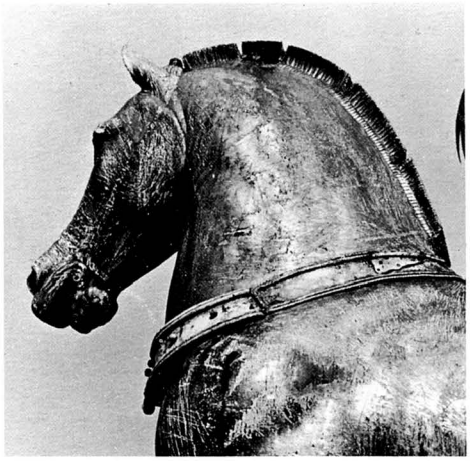
There are signs indicating that even the front part of the collar is a substitute for the original which was lost (see Leoni, p. 175). Evidence from Bellini's painting (fig. 119) showing the horses with what seem to be pointed, not circular, collars, completed by an indistinct appendage, certainly supports this theory. The graphic evidence left behind by the Zanettis enable us to identify the two rings which today hang from the lower edge of the collar (fig. 178) as part of a hinge for attaching some kind of decoration similar, perhaps, to the small bearded mask which belongs to the Procuratoria of San Marco (fig. 176). From Figure 175 it is evident that the collar juts out over the horse's chest. This could mean that the collar is not an original part of the sculpture, and



167 - 168. The manes of Horses "A" and "C" seen in profile.

169 - 170. The manes of Horses "B" and "D" seen in profile.

171 - 174. The manes of Horses "A", "C", "B" and "D" seen from above.



175. The projection of the collar on Horse "B".

176. Probable copy of an ornamental feature which originally hung from the collars of the Horses of San Marco.

177. Head and collar of Horse "A".

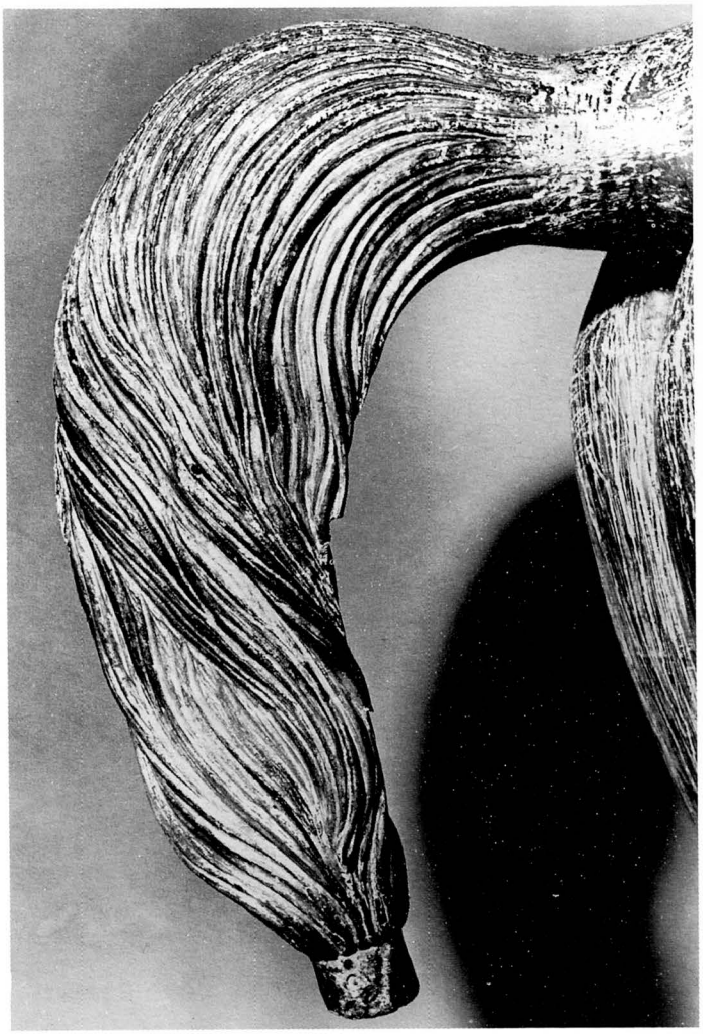
178. Detail of collar of Horse "A" showing rings projecting from the lower border.

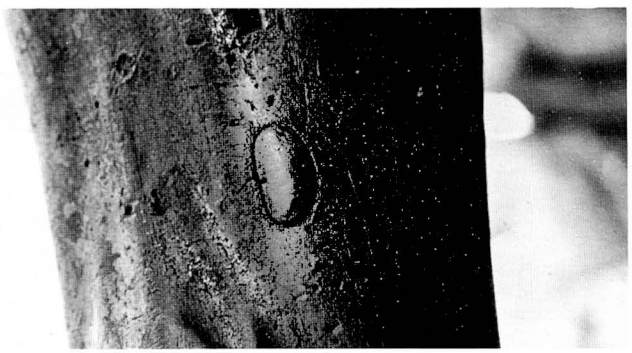
179. Horse "B" during the restoration in 1903.

that the mask through its convex shape served to disguise the uneveness between adjacent surfaces.
Apart from these considerations, there is no doubt that the presence of the collar and harness proves that the horses of San Marco were at one time drawing a chariot which has unfortunately long since disappeared.
It should be emphasised that the collar's function is also to hide where the head joins the body, since it is not soldered but attached by a series of screwed-on bolts. In fact, every horse can be separated into three parts (figs. 177-179) - the front part of the collar, the head and the body.
The neck is very muscular; its unnatural position depends, perhaps, on the pulling action of the bit. The large area of the neck includes lightly indicated creases in the skin which turn into real folds under the throat, then becoming more numerous and pronounced on the side the head is turning.

The Body

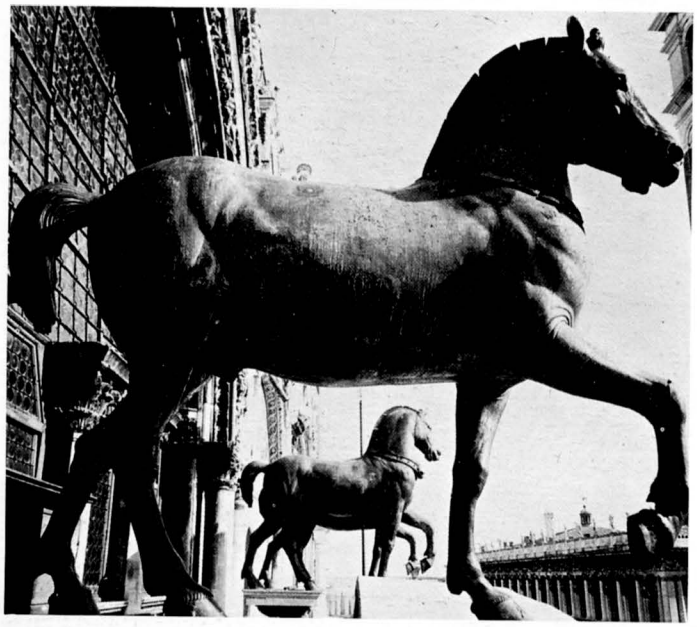
The rounded chest muscles (fig. 184) are sensitively joined; the broad mass of the shoulder is particularly marked while the muscles underneath slant slightly inwards. From a comparison between horse B's right flank and horse A's left one (figs. 182-183), it is evident that the muscular patterns of the shoulder and thigh alter according to the positions of the legs. As far as anatomical accuracy is concerned, the abdomen, corresponding to the false ribs, is broad and formless, without that prominent line from the breast bone to the groin region which definitely makes horses look slimmer and is particularly evident in the representation of restless Greek horses rearing or impetuously galloping.
Besides this, the loins are rather too long and the rump not sufficiently high to compensate for a certain sagging effect in the structure of the body in each horse. But, as Goethe had already noticed[13] when they are observed from the Piazza the horses appear much thinner than when seen from the loggia itself. These presumed defects were, therefore, technical expedients intentionally used in order to counteract the elongated appearance of all objects viewed from quite far below. This would suggest, therefore, that the horses must have been placed in a high position from the very beginning, perhaps on pedestals[14] or on a triumphal arch[15] or, indeed, as has already been suggested, perhaps overlooking the starting point in Constantine's hippodrome[16].
Underneath the belly of each horse and close to the front legs there is a square aperture (fig. 185), somewhat roughly plastered over. This relates to the main support which held the complex structure of core, wax, potter's clay, inlets and small vents together during the casting (see Leoni, p. 175).
The tails (fig. 180) are full and flowing, arched gracefully and held well out from the body of each animal. Their surfaces are broken up by a series of highly worked, long and soft strands of hair which are prevented from getting tangled by a tight band at the end of the tails. There is a hypothesis concerning even the tail; namely that its extremity has been lost. Once again, the Zanetti

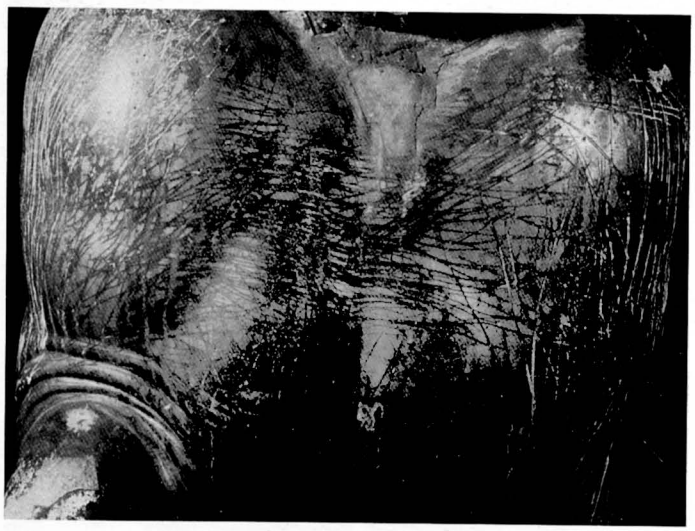


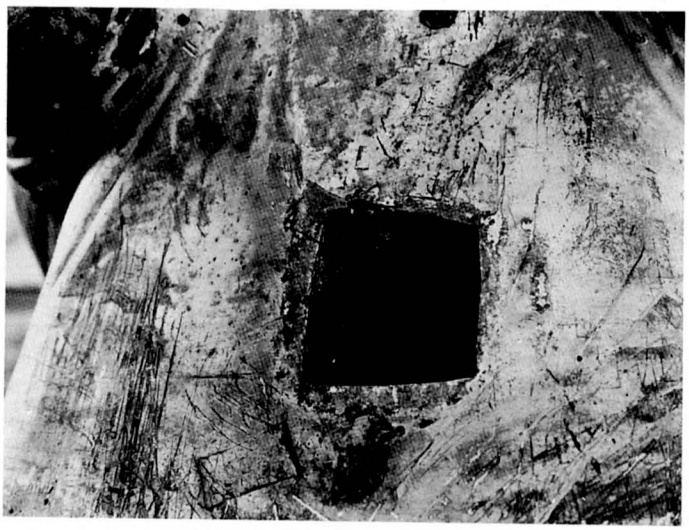


180. Tail of Horse "A".

181. The chestnut of the rear leg on Horse "B".







182. The right flank of Horse "B".

183. The left flank of Horse "A".

184. Pectoral muscles of Horse "A".

185. Rectangular aperture under the belly of Horse "C".

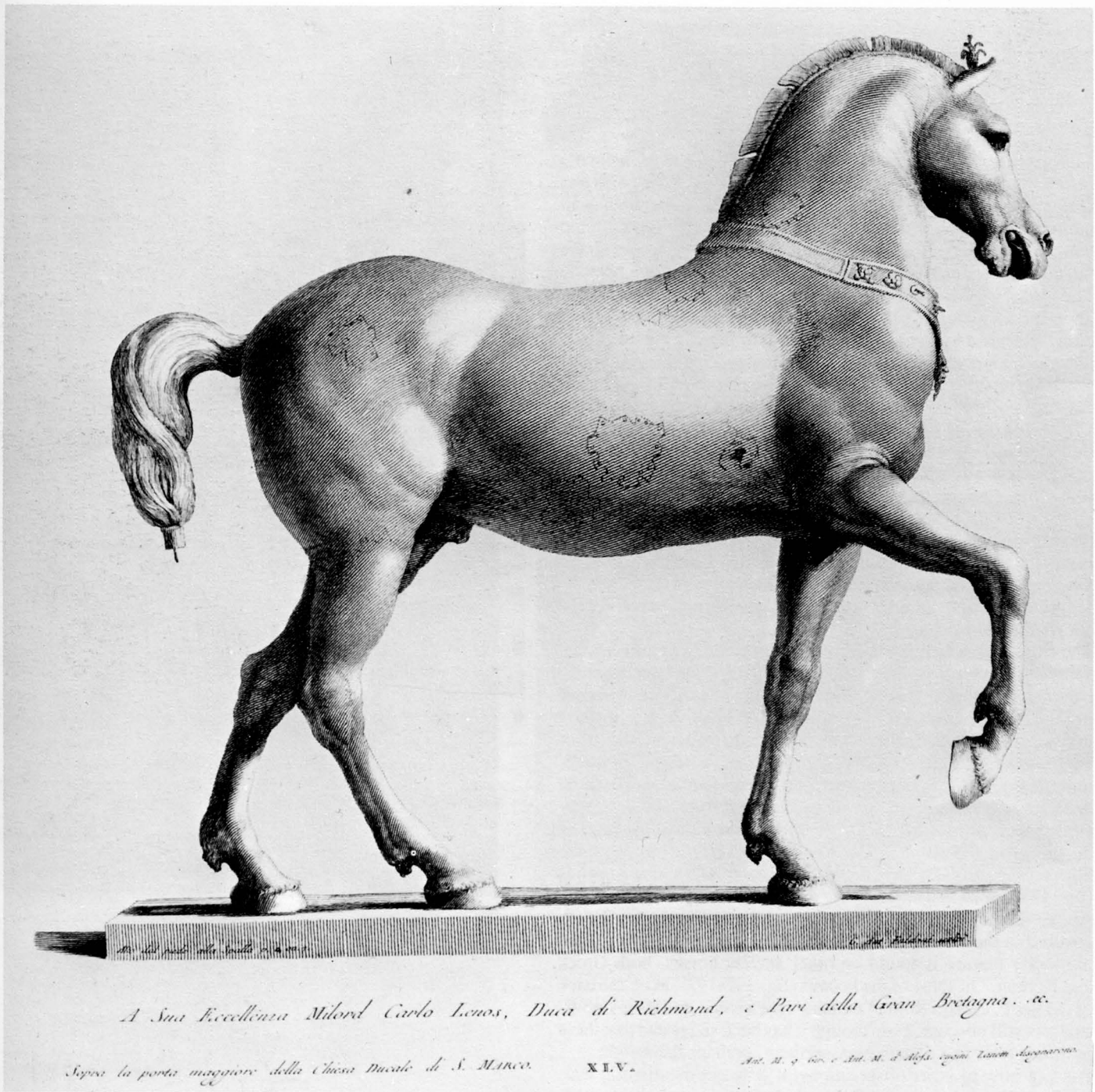
cousins provide the evidence [17] since one of their engravings (fig. 188) clearly shows an unusual extension to the final binding in the horse's tail. Could this represent the only remaining element of an even more splendid tail?

The Legs

Various folds of skin which tend to shift in relation to the animal's position (fig. 158) are found both in the regions of the groin and upper part of the inside foreleg. One life-like detail is shown in all the horses - the chestnut (fig. 181) - a well-hidden, horny lump which is seen inside the leg. In the forelegs it is located just above the knee, while in the hind ones it occurs just below the hock [18].
The legs, which are long and muscular, are particularly thin around the cannon bone; here the taut skin reveals bones, muscles, veins and tendons, although close to these accurate details there is evidence of various kinds of damage, coarse surfaces and sectional repairs (fig. 16). After all, it should not be forgotten that the very position and delicacy of the legs made them particularly vulnerable during the casting process as well as to the ravages of time. In fact, some of them have been broken and repaired; in one case at least a completely new piece has been substituted, as the following passage records: "Four large gilded, bronze horses, which were at Constantinople, were brought to Venice .... One of these horses was on the ship of Ser Domenico Morosini Sopracomite, and through misfortune a hind foot broke off ... the said Ser Domenico Morosini wanted to keep that as a memento. Thus, the Signoria ordered another one to be made and added to the appropriate horse" [19].
The front leg, which is raised in a very life-like way, reveals the supple tendons of the foot; on account of this, the hoof which is no longer bearing any weight, bends backwards (fig. 189) revealing the under part made smooth by a plaster finish. The unshod hooves are broad and rounded, being framed by a raised fringe of hair known as "the coronet" rendered by a series of small, oblique lines which curve slightly, still keeping roughly the same distance apart. This is a particularly unusual stylisation, especially when compared, for example, with the equivalent parts of the horse in the Palazzo Dei Conservatori (fig. 188) or of the horse belonging to the equestrian statue of Marcus Aurelius (fig. 191), both in Rome.
Above the hoof there is a horny protuberance inside the fetlock covered in the case of all four animals by more tufts of hair. This particular feature is found on other ancient horses, both Greek and Roman. On some of the hooves (fig. 192-197), as on the back of the neck, certain Roman numerals are visible, but their significance is still obscure, even though it has been suggested that these numbers refer to a certain measurement, perhaps the weight.
Passing now to other observations, it is worth mentioning that, while one leg is being raised, the others firmly rest on the ground. Since only when walking can a horse have three feet on the ground together, the horses of San Marco must consequently be walking. The front leg is raised to an average height which consequently limits the forward thrust of the horses. There are no

186. Capital supporting the hind legs of Horse "B".

187. Capital supporting the unraised foreleg of Horse "B".

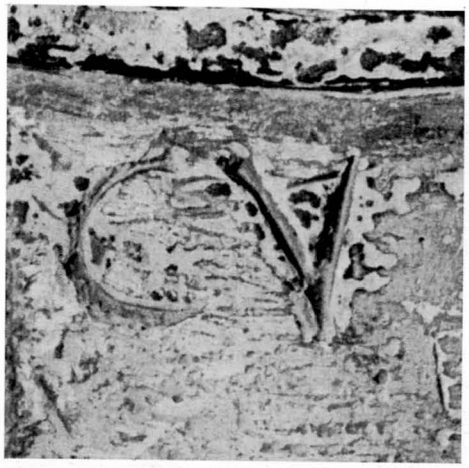


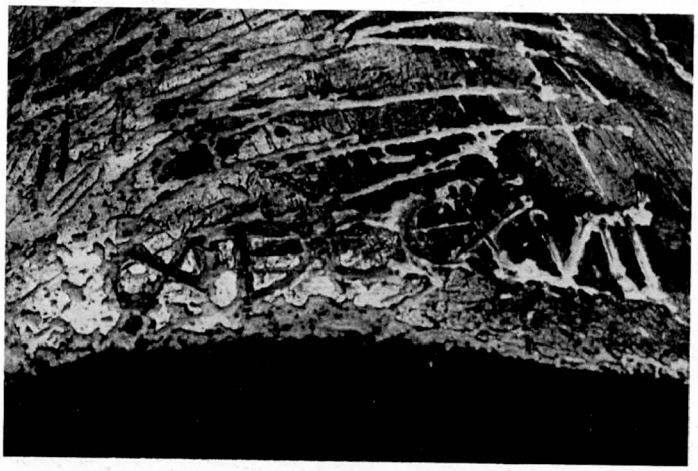
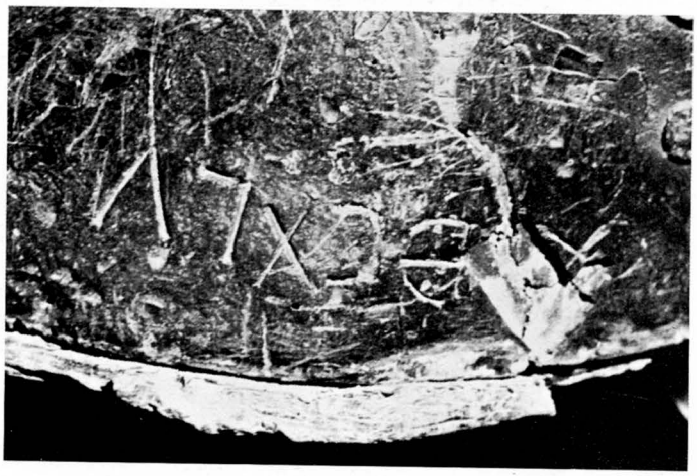
188. Horse "B" in an engraving published in 1740.

189. Detail of raised front hoof of Horse ''D''.

190. Detail of raised front hoof of bronze Horse in the Palazzo dei Conservatori, Rome.

191. Detail of raised front hoof of horse in the equestrian monument of Marcus Aurelius, Piazza del Campidoglio, Rome.




192 - 197. Examples of numerals visible on the collars (190-191) and hooves of the Horses of San Marco.

198. The Horses of San Marco in the loggia.

particular signs of haste or liveliness in the rhythm of these slow-moving animals which advance with short, measured steps; according to Schlegel, their progression is solemn, magnificent and ceremonial [20]. The position of the forelegs inevitably affects that of the hind ones; in fact, if the horse raises the right foreleg, the right hindleg advances (horses A and B), and once the limbs on the right-hand flank have completed their forward movement, those on the left begin their advance (horses C and D). The horses of the San Marco quadriga have captured two moments in this action and frozen them in time. In fact, as we have already seen (p. 141) the horses' bodies are paired by the position of their legs. This, however, does not result in two pairs of exactly identical animals in their posture since the bodies and heads are related in such a manner as to represent four diverse horses.

This analysis cannot be considered complete without paying some attention to the pedestals (fig. 186-187) which, oddly enough, have not as yet been seriously studied. They consist of eight small capitals on short, slender columns; the ones which support the unraised foreleg are delicate and smaller, while those holding two hind-legs are larger, sturdier and more massive [21].

As for the weight, both Mustoxidi and Bussolin [22] agree that each horse weighs 834.75 kgs., but during the most recent examination the weight was found to be 897 kgs.

Although the gilding and alloy of the horses will be discussed later, it is worth observing in advance that the four horses of the Basilica of San Marco are made of almost pure copper. Finally, the dimensions of the four sculptures are as follows: the total height is 2.33 ms., the length 2.53 ms. and the width varies from 71-75 cms [23].

(1) L. VON SCHLOEZER, *Die Rosse von San Marco,* in R.M. XXVIII (1913), pp. 129-182.

(2) F. MAGI, *Ancora sulla data dei cavalli di San Marco,* in *Rend. Pont. Acc.* XLIV (1970-71), pp. 209-217.

(3) ANTON MARIA DI GEROLAMO ZANETTI, ANTON MARIA DI ALESSANDRO ZANETTI, *Delle antiche statue greche e romane, che nell'antisala della libreria di San Marco, e in altri luoghi pubblici di Venezia si trovano,* Venice 1740, vol. 1, tab. 44.

(4) F. MAGI, *La data dei cavalli di S. Marco,* in Rend. Pont. Acc., XLIII (1970-71), pp. 187-201.
G. BECATTI, *Interrogativi sul problema dei cavalli di San Marco,* in *Rend. Pont. Acc.* XLIII (1970-71), pp. 203-206.

(5) F. MAGI, *La data dei cavalli di S. Marco,* in Rend. Pont. Acc. XLIII (1970-71), pp. 188-191.

(6) G. RENIER MICHIEL, *Dei quattro cavalli riposti sul pronao della Basilica di S. Marco,* Venice 1893, p. 10.

(7) The harness was dispersed by Dandolo's soldiers in the Sack of Constantinople (G. DAMERINI, *I cavalli sulla Basilica, Amor di Venezia,* Bologna, 1920, p. 96).

(8) "The harness was cast separately" (K. KLUGE, K. LEHMANN HARTLEBEN, *Die Antiken Grossbrozen der Romischer Kaiser-zeit,* Berlin-Leipzing 1927, II p. 83).

(9) The horses have been allotted the following letters A, B, C and D, beginning with the first animal on the left as one looks at the façade of the Basilica of San Marco.

(10) K. KLUGE, K. LEHMANN HARTLEBEN, *op. cit.*, p. 83.

(11) J. F. CROME, *Die goldene Pferde von San Marco und der goldene Wagen der Rhodier,* in Bull. Corr. Hell. LXXXVII (1963), p. 214.

(12) ANTON MARIA DI GEROLAMO ZANETTI, ANTON MARIA DI ALESSANDRO ZANETTI, *op. cit.*, tab. 44.
These ornaments disappeared when the horses were carried off to Paris (A. DALL'ACQUA GIUSTI, *I quattro cavalli nella facciata della Basilica di San Marco,* Venice 1894, p. 22).

(13) J. W. GOETHE, *Italienische Reise,* Leipzig 1913, I, pp. 87-88.

(14) J. F. CROME, *op. cit.* p. 221 and ff.

(15) P. GIUSTINIANI, *Rerum venetarum ab Urbe Condita ad annum 1575 Historia,* Venetus 1576, II p. 36.

(16) P. GILLES, *De Topographia Constantinopoleos et de illius antiquitatibus,* Lugduni 1562, liber II, cap. XIII, pp. 92-93.

(17) ANTON MARIA DI GEROLAMO ZANETTI, ANTON MARIA DI ALESSANDRO ZANETTI, *op. cit.* tab. 45.

(18) A horse's knee corresponds to the wrist of a human being while the hock corresponds to the human ankle. The hoof, however, is little more than an enlarged and highly developed equivalent of the nail on our third finger.

(19) M. SANUDO, *Vite de' Duchi di Venezia,* in Rerum Italicarum Scriptores tomus XXII, pars. IV, columns 520-526.

(20) A. W. SCHLEGEL, *Lettre aux éditeurs de la Bibliothèque Italienne sur les chevaux de bronze de Venise,* Florence 1816.

(21) Of the front capitals I is the same as IV, while II is the same as III. Those at the rear are all different.

(22) A. MUSTOXIDI, *Sui quattro cavalli della Basilica di S. Marco in Venezia,* Padua 1816, p. 53. P. BUSSOLIN, *Lettera al Signor Direttore dell'I. R. Zecca di Venezia Dottore Leopoldo Berchet socio dell'Ateneo di Treviso, ecc. Esponente l'analisi chimica del metallo, di cui sono composti i quattro cavalli esistenti sul pronao della I.R. Basilica di S. Marco eseguita da Pietro Bussolin capo assaggiatore presso la Zecca stessa,* Venice 1843, p. 6.

(23) G. PIAZZA, *La R. Basilica di S. Marco,* Venice 1835, p. 3. The horses C and D at their broadest are 75 cm. while A and B are 71 cm. (J. F. CROME, *op. cit.* p. 222).