

V. Essay upon the art of the foundry among the antients: with some remarks upon the celebrated horses of Chio, now brought from Venise to Paris

M. Seitz

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though my most sensible re-agent for that acid (being the solution of mild nitrate of mercury) would have announced even $\frac{1}{3000000}$ th of a grain of that acid. But I obtained by turnsole paper some traces of an acid which certainly was neither muriatic, sulphuric, carbonic, nor phosphoric acid, since the most sensible re-agents for these acids, which far surpass turnsole paper, did not announce them: it was therefore, in all probability, nitric acid; I always obtained traces of an alkali, which, after all my experiments, was ammonia. I therefore still adhere to my opinion, that the acid and the alkali are formed at the expense of the azote inherent to the water, on the one side by oxygen and on the other by hydrogen.

V. *Essay upon the Art of the Foundry among the Antients: with some Remarks upon the celebrated Horses of Chio, now brought from Venice to Paris.* By M. SEITZ.

[Continued from vol. xxviii. p. 354.]

History of the Horses of Chio, and some Observations upon the Question of what School they belong to.

THIS medal of Nero (Plate I.) was struck upon the occasion of the victory gained by Corbulo over Tiridates, king of Armenia. It represents a triumphal arch surmounted by a quadrigæ, the horses of which have always been regarded as identically the same horses of copper gilt, which our victories have obtained to us, and which now decorate the palace of the Thuilleries. The manner in which they lift their feet and carry their heads, and indeed their whole attitudes, have greatly contributed to give weight to this conjecture, which has been adopted by Maffei and all the Italian authors*. They have gone still further in sup-

* The four horses of Venice are about to be placed in the same situation as those mentioned by the author of this memoir; they will be yoked to a quadrigæ which will bear the figure of the emperor and king Napoleon the Great, and is to be placed upon the triumphal arch which decorates the entrance of the Thuilleries:—this gate, with the quadrigæ, are exhibited upon a fine medal struck for the purpose, and of which there is an engraving in my *Histoire Métallique* of the emperor Napoleon.—Note by M. Millin.

Fig. 1.

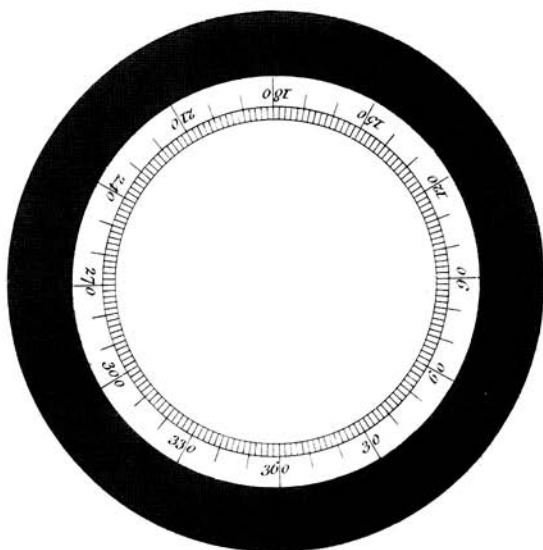


Fig. 3.

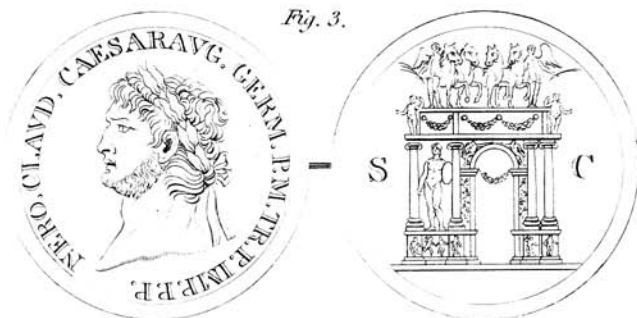
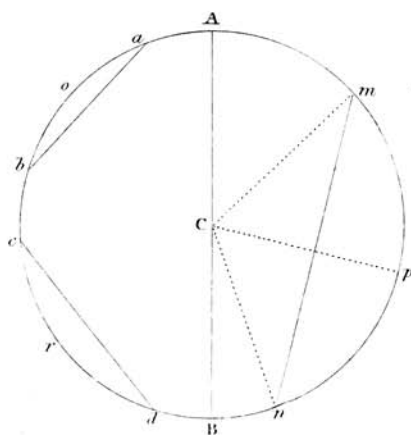


Fig. 2.



port of this opinion, upon the authority of historians, who inform us that Constantine the Great stripped Rome and the cities of Greece of their finest ornaments in order to decorate his new capital*. We may conclude that these four horses were comprised in the above, if we give credit at the same time to an antient tradition, which, however, never existed except in the imaginations of some learned men. Zanetti, who has added an engraving of them to his collection of the statues at Venice, even thinks he has discovered some defects in their workmanship; and for this reason he concludes them to be of Roman origin. It is, however, very certain, and we may refer to the authority of Codinus as a confirmation, that these horses were never at Rome. They were found by the Venetians in the great circus of Constantinople. It is among the antiquities of this last city, therefore, that we must seek their origin, and not among the monuments of Rome. Codinus, who enters into a long detail upon the subject of the antiquities of Byzantium,

* The exorbitant sums of money expended by Constantine in order to transform Byzantium into an agreeable residence for the Romans must excite our astonishment. Theatres, circuses, public baths, porticoes, temples, palaces, gymnasia, triumphal arches, aqueducts, columns surmounted by statues, obelisks, cloacæ, were all constructed with as much magnificence and with more regularity than in antient Rome. In order to induce twelve of his friends to reside in his new capital, he first sent them with an army against Sapor, king of the Persians. In the mean time architects were dispatched to take all the dimensions of their houses at Rome; and in order at the same time to induce their families to come to Byzantium, the houses at Constantinople were built exactly upon the same plan, and with all the accessories of luxury they possessed at Rome; and when, at the end of 16 months, the patricians returned from their expedition, the emperor asked them jocularly if they intended to return soon to Italy.—“In two months,” was their answer; “at the beginning of winter we intend to set out.”—“In the mean time (said the emperor) I have prepared lodgings for you.” When they were conducted to them, how great was their astonishment upon seeing transported, as if by enchantment, their palaces from Rome to the shores of the Propontis; and they were much delighted when upon entering them they found assembled their wives and children, with their slaves and every thing that was dearest to them. Codinus, who relates this story, enumerates 22 cities from which Constantine brought away statues. The church of St. Sophia, which was as yet no better than a pagan temple, received 427 of these works of art. Justinian, who consecrated this magnificent temple to the Christian worship, took the statues out of it, and distributed them in the different quarters of the city.

speaks of a car with four horses, which was antiently in the place called Miliūm. These four horses were gilt: they seemed to be at full gallop, and as if drawing the statue of the Sun. Constantine caused this chariot, accompanied by its guards, to be transported into the hippodrome, or grand circus*, in order to celebrate the festival of the Fortune of Constantinople, which he represented by the statue of the Sun. After this solemnity the chariot was carried back with the same escort to its antient station. This chariot with four horses has nothing in it similar to the four gilt horses which the same author speaks of † when he specifies all the monuments in the hippodrome or circus; the latter were placed upon the barriers, and not yoked to any chariot; and Theodosius the younger had them brought from Chio to Constantinople. They were the only horses that were in the Circus; for had there been other quadrigæ, Codinus

* Codinus, *Origines Constantinopolitanæ*, p. 19.

† Codinus, lib. c. p. 28. Οἱ δὲ τεσσαρεῖς κίχρυσαιμῆνοι ἵπποι, οἱ ἐπαφθέν των καν-
κελων ὀρῶμενοι ἐκ της Χίου ἤκασιν ἐπὶ Θεοδοσίου τοῦ μακροῦ. Κανκελλοι, are what the
Romans call *carceres*. It means the place where the horses were confined be-
fore they started in the race. A passage of Nicetas Choniates, where these
same horses are mentioned, deserves to be mentioned here: he informs us
that one Agaremis proposed to fly from one end of the hippodrome to the
other: "*Sua sponte hippodromi turrim conscendit, sub qua carceres sunt unde
emittantur equi; supra (carceres) vero quatuor equi aurati stant, collis incurvis
obversi sibi invicem, alacritatis ad cursum pleni seque stadium transvolaturum
jactat.*" The attitudes are here so distinctly described that they cannot be
mistaken.—*Note by the Author.*

On the contrary, in my opinion, the very attitudes furnish the best reasons
for doubting that the four horses now in the Thuilleries were really those of
Chio. Their step appears composed, and not at full gallop; they do not throw
up their heads like fiery steeds: from all which circumstances, although the
passages of Codinus, Nicetas, and other authors of the lower empire have been
extremely well known, no person can take upon him to assert in a positive
manner, as the author has done, that these horses are the same as those
of Chio. In no view whatever can we suppose that they were yoked to
a chariot, and we know from the report of Nicetas, that there were several
figures of horses in the hippodrome. This is the reason why M. Heyne,—in
his elegant dissertation *Prisca Artis Opera quæ Constantinopoli fuisse memo-
rantur*, *Memoirs of the Göttingen Academy*, vol. ix. p. 36,—also thought
that these horses are not those from Chio: this, however, has not been de-
monstrated any more than the other proposition. The opinion of M. Seitz,
the author of this memoir, with respect to it, has a good deal of probability,
and it is developed with much interest.—*Note by M. Millin.*

would

would not have failed to mention them. I concluded, therefore, with good reason, that these were the same gilt horses which the Venetians found in that place 800 years after Theodosius II., and saved from destruction by taking them to Venice. It is probable that Codinus has drawn this notion from their inscription; for he says that each statue of the Circus had its inscription, which mentioned from what city it had been carried off.

The resemblance of these horses with those upon the medal of Nero, can be no objection against the authority of Codinus. The antient world was so filled with similar works, and the chefs d'œuvres of the great masters were so often imitated, that one quadrigæ might often resemble another.

The Isle of Chio, at present called Scio, is situated between Samos and Lesbos. It produced the best wine in Greece; it had a city of the same name, which was bounded by Mount Pellenus on the land side, and on the sea shore there was a harbour which contained eighty vessels. All these natural advantages induced the inhabitants to apply early to navigation and commerce; they traded with the Egyptians in the reign of king Amasis, who permitted Greek merchants to settle in Egypt, where they made establishments in common with the Rhodians, the Cnidians, the inhabitants of Halicarnassus and Mytilene.

In the war undertaken by the Greeks of Ionia against Darius, the son of Hystaspes, they furnished ninety ships. In the naval engagement with the king's ships, the Lesbians, the Samians, and all the others fled; but the inhabitants of Chio preferred perishing rather than imitating the disgraceful conduct of their allies; at last, after having performed prodigies of valour, they gave way to the numerous fleet of the Persians. Victims to their zeal for the common cause, they were also crushed by the perfidy of their neighbours. Histius, of Lesbos, who had embraced the cause of Darius, in company with the Lesbians made a descent upon Chios, attacked the people already enfeebled, killed an immense number, and gave the island up to pillage. They were never able to recover from the effects of these disasters; for we find that in the war against Xerxes, the son of Darius,

they were only able to furnish four ships, and they had only seven in the battle of Salamis.

When after that battle Xerxes retired into his own states, the Chians once more enjoyed their antient freedom, by means of which they recovered themselves so quickly, that in the time of the Peloponnesian war they had sixty ships at sea, and their capital was regarded as one of the grandest and richest cities in Greece*. During this war they were always strongly united with the Athenians; but when the latter were defeated in Sicily, they quitted their cause in order to embrace that of the Lacedemonians. This measure, which Thucydides seems to approve of as being very prudent, nevertheless became the cause of new misfortunes. The Athenians besieged their city, overcame them in several engagements; and their island, which had become so flourishing since their struggle with the Persians, was again a prey to all the scourges of war. At last, however, the Athenians were conquered, and quitted their country. From this time these islanders lived in tranquillity; but they were stripped of their antient splendour. The Lacedemonians, their new allies, rendered them tributary in order to contribute to the expense of their numerous expeditions†.

Commerce had been banished from them, and they were too enfeebled to act any part in the affairs of Greece. History loses sight of them until the 105th Olympiad, when they united with the inhabitants of the island of Cos, the Rhodians, and the Byzantians, against the Athenians, in order to revenge some particular outrages they thought they had received from Chares their general. This war lasted three years, and it was known by the name of the social war.

Under Alexander they became the sport of fortune, and they attached themselves, according to the exigency of the moment, at one time to the nearest and at another to the

* Thucydides, lib. vi.

† Xenophon, lib. ii. It was probably from the Lacedemonians they adopted the practice of making young girls wrestle with boys in the Palæstra. Athenæus says that it was with much pleasure people went to Chio to witness this charming spectacle, lib. xiii.

strongest,

strongest. In the war of the *Ætolians* with *Prusias*, king of *Bithynia*, and *Philip* of *Macedon*, they were again maltreated by these two kings, and their city was taken and devastated. When the Romans acquired preponderance in *Greece* and *Macedon*, they placed themselves under their protection; but being too far off to be always vigorously defended, each new war presented them with the sad perspective of new misfortunes. The sovereigns *Eumenes* and *Attalus* treated them well; but *Mithridates* made them feel the dreadful effects of his anger. At last *Sylla*, his conqueror, gave them their liberty and received them among the friends of the Roman people. From friends they became subjects, and under the emperors the beautiful women of *Chios* flocked to *Rome* in order to display their musical talents, and at the same time to make a traffic of their charms*. After the division of the empire, the destinies of this country were united to the empire of *Constantinople* until the year 1207, when this same island, which had formerly ruled the ocean, became the property of a single *Venetian*.

The history of the prosperity and adversity of a people forms at the same time the history of the arts they exercised. The Muses delight in tranquillity, and shun the unfortunate. The æra of the greatest riches and prosperity of the island of *Chios*, commences with the 30th and ends with the 92d Olympiad. It was at the commencement of this period that the arts of *Asia Minor* were communicated to the islands of the *Ionian Sea*.

The most antient statuary of *Chio* was *Melas*, who must have lived between the 30th and 40th Olympiad. His son *Micciades*, and his grandson *Anthernus*, became celebrated in the same art. *Anthernus* had two sons, *Anthernus* and *Bupalus*, both of whom attained the greatest celebrity, and were cotemporary with the poet *Hipponax*†. The neighbouring

* Horace, lib. iv. ode 13.

————— *Cupidinem*
Lentum sollicitas. Ille virentis, et
Doctæ psallere Chie,
Pulchris excubat in genis.

† Plin. lib. xxxvi. § 5. This *Hipponax* lived in the 60th Olympiad. As he was

bouring islands of Chio, Delos, and Lesbos, were full of their works; and in Chio was to be seen a Diana by Bupalus. All these sculptors made use of the beautiful marble of Chio; but we do not see that they wrought in bronze. It would be pushing the mania for antiquities too far to pretend to name the artist who made the horses of Chio; but if the examination of a monument which time has spared, added to the descriptions of those which antiently existed, can still suffice for distinguishing the different schools, such an inquiry will not, perhaps, be without interest in the history of the arts.

We must not imagine we see in these horses a chef d'œuvre of antient art. So early as the time of Cicero all that was valuable in the island of Chio had been brought to Rome in order to decorate the houses of the rich*. The emissaries sent by Nero into Greece, in order to carry off all the works in bronze they thought worthy of decorating his edifices, although they did not neglect to visit the islands of Rhodes, Samos, and Chio, yet they did not meddle with these horses; nor were they comprised in the general requisition made by Constantine of all the objects of art, which might adorn his new residence; it was only under Theodosius II., when the world was already stripped of all the chefs d'œuvres, that they were thought worthy of being transported to Constantinople. Would they have remained so long in their places; would they have escaped the rapacity of the Roman governors, the depredations of Nero, and the requisitions of Constantine, if their workmanship had been fine enough to charm the eyes of connoisseurs, or to entitle them to be compared to a work of Calamis, Lysippus, or an artist of the school of this grand master?

was very plain in his person, these two sculptors amused themselves at his expense, by exposing to public view a ridiculous caricature of him. Hipponax, indignant at seeing himself the object of the insolence of the public, made a poem, and satirized them so unmercifully that they repented their temerity in ridiculing the son of Apollo. It must be observed that ~~this~~ Bupalus is not the same with him who flourished in the 107th Olympiad, and wrought at the monument erected by Artemisia to Mausolus, and whose works, brought to Rome by order of Augustus, were thought worthy of being compared to those of Praxiteles. The great distance in point of time is a proof of this.

* Septimius Verrinus, cap. 48.

Lysippus

Lysippus lived in the time of Alexander, a period when the inhabitants of this island had neither enough of riches nor tranquillity to decorate their city with works of art. Besides, the style of the design and of the sculpture by no means answers to that of Lysippus; his horses were lighter, their manes floated in long tresses, in order to indicate the swiftness of a race. It was here he displayed his talents for working tresses of hair, which he expressed so naturally and so gracefully as to charm every eye. The horses of Chio are in a heavy style; their design represents strength rather than agility; their manes appear as if cut, which proves that the artist did not know how to design horses; at least, we may see from the ringlets of their tails that he was not very expert at this kind of work. Their heads, however, deserve our admiration; their nostrils extended and their foaming mouths seem to breathe the fury and impetuosity of the horses of the sun; and, without leaning too much to conjecture, we may say that we find more in them of the style of Polycleles and Miro* than that of Lysippus. The works of these two artists were vigorously designed; we perceive in them starting muscles, and in general more strength than gracefulness. Neither the one nor the other knew how to work tresses of hair, and both of them lived at a period when the inhabitants of Chio were in a state of profound peace, and enjoyed a kind of naval superiority. They were enriched by commerce, and had consequently leisure and the means of thinking of the embellishments of their capital. This period lasted from the 75th to the 92d Olympiad: it comprehended a space of 70 years, and was the happiest time this city ever enjoyed. If we fix upon this æra as that in which these horses must have been founded, they would now be 2248 years old†. They would thus be more antient than any other bronze monument we know of, and they must have existed in the

* This conjecture seems to us too daring; for we have no evidence whatever in modern times as to the particular style in which the animals of Myro or Lysippus were executed.—*Note by M. Millin.*

† It seems impossible to assign so distant an æra to these horses; they rather seem to have been moulded at a time when the art had begun to decline.—*Id.*

time of Thucydides, Alcibiades, Herodotus, Pericles, Sophocles, Euripides, Socrates, Hippocrates, and Plato.

If in the days of Cicero * a middling-sized bronze statue was worth 120,000 sesterii, which is more than 12,000 francs in French money, what price shall we put upon this unique piece of antiquity, which, among the whole of similar works, with which the antient world was filled, alone escaped universal destruction?

The horses of Chio were cast in copper and gilded. We know that copper is better adapted than bronze for receiving gilding, and it seems they were originally intended to be gilt †. It is wrong, therefore, to reproach the Romans with their decided taste for gilding, since the Greeks also gilded their quadrigæ. It is, however, certain that the fine bronzes were not gilt. Their colour was fine enough to make this ornament to be dispensed with, as we have seen. Lysippus would have been vexed to have seen that by gilding his works, the exquisite finishing, which formed his chief merit, was concealed. We see in Pliny ‡ how much Nero was blamed for having caused this artist's statue of Alexander to be gilt, and how much the connoisseurs regretted to see a Venus by Alcamenus covered with gold. When we read in Pausanias § that there was at Delphos a gilt statue of Phryne, executed by Praxiteles, and that the Athenians had dedicated at Delphos a gilt Minerva on the occasion of a victory they had gained, we must be of opinion that this practice of gilding proceeded from motives of emulation, and in order to approach, as much as possible, the magnificence of the other

* In Verrem, orat. 4. c. 7.

† Vitruvius, lib. iii. cap. 2, says that it was usual to ornament the fronts of temples with statues of copper gilt in the Tuscan fashion, as we see in the temple of Ceres and Hercules near the Grand Circus; this passion of the Romans for gilding was therefore of Etruscan origin. According to Buonaroti, *Osservazioni sopra alcuni Medaglioni*, p. 370, the gold employed by the antients in fire-gilding was, in the proportion of gold employed in modern gilding, as 6 to 1; and for common gilding their gold leaves were as 22 to 1. All the antient gilding found below-ground has still its natural lustre, and we might have been able to say the same of the gilding upon the horses of Chio, if it had not been almost entirely scraped off.

‡ Lib. xxxiv

§ Lib. x. cap. 15.

statues of massive gold which were in this temple. As to the quadrigæ, it seems they were always gilded when yoked to the chariot of the Sun, in order that the lustre of the gold might imitate the splendour of that orb. The four horses seen at Constantinople harnessed to the chariot of the Sun, were also gilded. The island of Rhodes adored this divinity, whose worship naturally extended to the other islands of the Ionian Sea; and it is very probable that the four horses which now decorate the palace of the Thuilleries were formerly yoked to the car and statue of the Sun.

[To be continued.]

VI. *Facts for a History of the Gallic Acid.* By
M. BOUILLON-LAGRANGE.

[Concluded from vol. xxviii. p. 297.]

*Examination of the Action of Caloric and Water upon
* Gall-nuts.*

ACTION of Caloric.—M. Deycux having examined, in a particular manner, all the products of distillation of gall-nuts in the open fire, I only considered the acid liquor obtained from this substance.

This operation was conducted in the manner pointed out by this chemist: the liquor of the receiver was aromatic, a little milky, very acid; did not precipitate glue, and gave with the sulphate of iron a violet blue passing to the dirty green. Lime and barytes yielded a colour of pea blossoms. The nitrate of mercury formed a blackish precipitate in it; it was white with the acetate of lead and the muriate of tin.

I saturated the acid liquor with potash; I obtained by evaporation a brown empyreumatic matter, which by the addition of the sulphuric acid exhaled a pungent smell analogous to that of the acetic acid.

Action of Water upon Gall-nuts.—I shook, for four minutes, gall-nuts in fine powder and in cold water; the liquor, after having been filtered, was of a golden yellow colour: one part was distilled in a retort placed in a sand-bath, the other was saturated by means of the carbonate of soda.

The