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WERE THE NUDE PARTS IN GREEK MARBLE SCULPTURE PAINTED?

By GISELA M. A. RICHTER

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It is now generally conceded that Greek marble sculpture was painted throughout its career. The evidence is indeed overwhelmingly strong. Since traces of color have been found on the Athenian Maidens and the Siphnian frieze, on the Olympia pediment sculptures, the Mausoleum frieze, and the Alexander sarcophagus – to mention only a few conspicuous instances of different periods – it stands to reason that the custom must have been general from archaic to Hellenistic times. But though there is no escape from the belief in painted Greek sculpture, many people still cling to the idea that such color was confined to the draperies, the hair, and the accessories, and that at least the nude portions were left in the white marble. It is true that in many cases where copious color traces were found on the hair and garments none were discernible on the skin; but since different colors vary considerably in their ability to withstand atmospheric effects this is not surprising.[1] And we have on the other hand a number of examples in which the flesh color is actually preserved.[2] We propose here to discuss this vexed problem and to adduce some new arguments in favor of painted flesh parts.

Let us first turn to a related class of objects where the problem was similar – the terracotta statuettes and reliefs. Though here the initial color was the pinkish buff of the fired clay, the whole surface was regularly covered with a white engobe on which the other colors – red, brown, blue, yellow, black, pink, purple, gilt – were then applied; so that the ground color became identical with that in white marble sculptures. The important question arises, was this white coating considered sufficient for the nude parts of the figures or were they painted a flesh tint? Unfortunately the colors are rarely well enough preserved to let us appreciate the original scheme, for the white easily flakes off and carries the other colors with it, leaving the statuettes mostly in the drab terracotta with some traces here and there of the white coating. But a detailed examination of the well-preserved examples of different periods convincingly shows that the skin was not left pure white – as is sometimes believed[3] – but was painted shades varying from a delicate pink to a reddish brown, with sometimes a deeper tone for the cheeks.

So as to limit our scope we will confine ourselves to citing instances in the Metropolitan Museum collection. Besides numerous examples in which at least traces of this flesh color are extant, there are a number of statuettes in which it is so well preserved that we may obtain a realization of the original effect. In Case K in the Sixth Classical Room a small, brown-haired boy is sitting on a blue seat with his toys (fig. 1; acc. no. 06.1096); his whole body, wherever it is not covered by his tunic, is painted a rose tint, a few traces of red remain on the lips. In Case B in the same room another boy, draped in a yellow chlamys, is sitting on

[1] The fact that the hair and drapery have an uneven, often slightly roughened surface while the nude parts are smooth would help to account for the better preservation of the color on the former. This variety in finish admirably suggests the difference in texture between skin and hair or drapery and was surely not adopted (as some hold) because only the drapery and hair were painted.

[2] See below.

[3] cf., e.g., Walters, p. xxiv. (For this and subsequent references see the list at the end of the article.)

a rock (fig. 2; acc. no. 14.146.4); here again the face, the right arm, the legs, that is, all the nude portions, are a deep pink; the lips are red, the hair brown. In the same case is a black-haired youth partly draped (acc. no. 26.60.26); here the whole skin is painted a brownish red color. In case N in the same room is a stately, brown-haired lady (acc. no. 06.150) wrapped

FIG. 1. TERRACOTTA STATUETTE OF A BOY

in a blue-bordered mantle; her face is painted a beautiful rose pink.

These examples mostly date from the fourth to the third century B.C. But there are instances from other periods. A brown-haired goddess from Sardes, of the fifth century B.C., has pink cheeks, bright red lips, and black eyes (fig. 3). Instances of Hellenistic terracottas with painted flesh color are especially numerous. An excellent example is an Apulian terracotta stand of the third century B.C. On its upper portion are two winged female figures in high relief (fig. 4), painted in the current manner of terracotta statuettes with colors applied on a white engobe; only in this case the white was painted not directly on the red clay but over the black glaze which covers the whole surface of the stand. The colors are exceptionally well preserved – bright pink on the garment; touches of red on the wings; diluted glaze on the hair, wings, shoes, and for the indication of other details; and a pinkish, buffish tone on the flesh parts. The whole is singularly effective in spite of rather shoddy workmanship, an eloquent testimony for the value of color. Another convincing instance of the later period is a flying Eros of the Myrina type with flesh parts colored a soft pink (acc. no. 28.55 in Case M, Seventh Room).

The number of instances could of course be endlessly increased by citing examples in other collections. At all events a careful survey of a representative collection will soon convince the observer that the general practice in terracotta sculpture of all periods was to paint the nude parts a flesh color, not to leave them white. But if we assume, as it seems natural to do, that the terracottas followed the traditions of marble sculpture, we obtain here an argument for a similar practice in the two materials. Furthermore in all the terracotta examples where we are able to appreciate the original color scheme we are impressed with its harmonious effect; and we feel that if the skin were left a dead white it would have formed too strong a contrast with the vivid tints used on the rest of the figure. The same would surely apply to marble sculpture. Especially out of doors in the brilliant Greek sun the nude statues or the nude parts of statues would necessarily have been unpleasantly dazzling if left in the pure white marble.

This obvious argument has been countered by the theory that the marble though not painted was treated with a mixture of oil and wax referred to in literature as ganosis (γάνωσις), and that this toned it sufficiently to obviate any glaring effect. As this theory is still currently held,[4] we must carefully sift the evidence. There

[4] cf., e.g., Gardner, p. 29.

are three Roman authors who speak of ganosis —Vitruvius, Pliny, and Plutarch. Vitruvius in his *De architectura* VII. 9. 3-4 gives a long account of how to make the vermilion on polished stucco walls keep its color by an application of ganosis: "Though it [red][5] keeps its color perfectly when applied in the polished stucco finish of closed apartments, yet in open apartments, such as peristyles and exedrae or other places of the sort, where the bright rays of the sun and moon can penetrate, it is spoiled by contact with them, loses the strength of its color, and turns black. . . . And if anyone should be more particular and should wish the red [minium] finish to retain its color he must when the wall is finished and dry rub over it with a stiff brush Punic wax melted and diluted with a little oil; and afterwards with live coals in an iron vessel, heat the wall so thoroughly as to dissolve the wax and make it smooth; then rub it down with a candle and clean cloths, just as nude marble statues are treated [uti signa marmorea nuda curantur]. This process is termed γάνωσις in Greek. The protecting coat of Punic wax prevents the light of the moon and the rays of the sun from licking up and drawing the color of such polished finishing." Pliny[6] gives a similar description, again mentioning Punic wax, known for its purity,[7] and ends by saying "as one treats marble figures to make them brilliant [sicut et marmorea nitescunt]." In both these accounts the whole point of ganosis is that it is a protecting coat over the color. Vitruvius' phrase "as nude marble statues are treated" (which is the single argument of those who hold that ganosis softened the white glare of the marble) is not repeated by Pliny,[8] whose description is so close to that of Vitruvius that he must have drawn from the same source. Pliny simply speaks of the "brilliant" surface which ganosis gave marbles (not neces-

FIG. 2. TERRACOTTA STATUETTE OF A BOY

FIG. 3. TERRACOTTA BUST OF A GODDESS FROM SARDES

[5] *Minium*, though generally translated by vermilion, is really red lead, Pb_3O_4, while vermilion is cinnabar, HgS (mercury). This information I owe to Prentice Duell.

[6] *N. H.* XXXIII. 122. [7] *Op. cit.* XXI. 82.

[8] *Op. cit.* XXXIII. 122.

sarily nude marbles), and this a wax coating would necessarily do.[9] Furthermore Plutarch[10] expressly mentions ganosis as an application on ancient statues for the preservation of the colors: "The 'ganosis' of the statue is necessary, for the red ochre with which the ancient statues are painted soon loses its color" [ἡ δὲ γάνωσις τοῦ ἀγάλματος ἀναγκαία. ταχὺ γὰρ ἐξανθεῖ τὸ μίλτινον ᾧ τὰ παλαιὰ τῶν ἀγαλμάτων ἔχρωζον]. Nothing could be more explicit. It is furthermore noteworthy that the "Punic wax" mentioned by Vitruvius and Pliny in their descriptions of ganosis was known for its purity, while the oil cited in the inventories of Delian temples of 279 B.C.[11] for the κόσμησις of statues (which evidently corresponded to the γάνωσις) is described as ἔλαιον λευκόν, white oil. Clearly therefore the object was not to tone the marble but to apply a colorless varnish over the whole surface for the preservation or retention of the colors.

FIG. 4. APULIAN STAND

This clear literary evidence is further indorsed by practical experiments. If Pliny's receipt for Punic wax[12] is carefully followed and applied in the manner described by Vitruvius and Pliny on marble sculpture the color is scarcely affected; it remains uncompromisingly white. This was ascertained in some experiments which Dr. Colin G. Fink of Columbia University carried on at my suggestion. He first colored the hair, lips, and eyes of a marble head and added a flesh color on one side only,[13] leaving the other in the white marble. After the surface had been allowed to dry "we next applied the bleached beeswax which had been 'tempered with a little olive oil,' using a stiff brush. In place of the live coals recommended by Vitruvius, we used the colorless flame of the Bunsen burner, playing this flame gently over the entire surface, until all the wax was in a very liquid condition. Too high heat must be

[9] This is suggested also by the derivation of γάνωσις from γανόω = to make bright, to polish; γεγανωμένον = lacquered.

[10] *Quaest. Rom.* 287 D. [11] Homolle, p. 499.

[12] *N. H.* XXI. 49. "Punic wax is prepared in the following manner: the yellow [unbleached] wax is placed for a long time in the open air. Then it is boiled in sea water, obtained from the sea, with nitrum added. Then the top, that is, the purest part, is skimmed off with a ladle and poured into a cool vessel. When this has been repeated three times, the wax is then dried on woven rushes in the sunlight and the moonlight. This process bleaches it. It is whiter still if it is boiled once more in the sunlight. The sun dries it without melting it and it is covered with a soft linen cloth."

[13] The colors used were the simple earth colors: brown ochre for the auburn hair, yellow ochre for the yellow fillet, red ochre for the lips, diluted red ochre for the nude portions. In order to make the colors adhere to the marble sufficiently to prevent the molten wax from lifting them out again, caseine acts as a useful binder. What binder the ancients used is not known. White of egg would not have been very practicable, since during the heating operation the white of egg would be apt not only to darken, but to char and lose all binding qualities. It is quite possible that caseine or milk was used also in ancient times. (Cf. on this subject Laurie, *Greek and Roman Methods of Painting*, p. 68.)

avoided as the marble disintegrates and spalls. Then the marble was allowed to cool slowly and the surface was rubbed with a piece of beeswax and finally smoothed with a clean cloth."[14] As a result the part where the flesh had been left unpainted was still a dead white, contrasting unpleasantly with the other colors and much less harmonious in effect than the other side where the skin had been tinted. It was the result of these experiments that convinced me that "ganosis" was insufficient to tone the marble.

As a concluding piece of evidence for the use of color on the nude parts of statues we will quote from Lucian's[15] description of an ideally

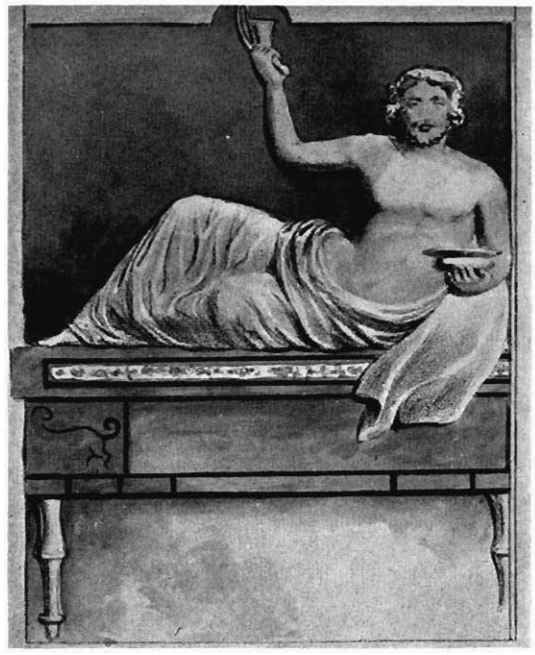

FIG. 5. RELIEF FROM THE ROCK TOMBS AT MYRA. IN SITU

beautiful statue. He borrows for it not only various features from famous sculptors but apportions its painting among the most illustrious artists of antiquity. The statue has been completed except for the color. "One source of beauty" is therefore yet to be supplied; and "not the most unimportant, unless you will maintain that perfection of form is but little enhanced by color and appropriateness in each detail, so that just those parts will be black which should be black, and those white which should be, and the flush of life will glow upon the surface and so forth. I fear we will stand in

[14] The quotation is from a letter of Dr. Fink's to me dated July 21, 1927. I will quote also his important findings regarding "Punic wax": "In the preparation of the Punic wax, I have had some misgivings of the exact meaning of the word 'nitrum.' Our English word niter is derived from the word nitrum and this refers to potassium nitrate, as given by Dana, the mineralogical authority of this country. Zirkel, the German mineralogist, points out that potassium nitrate occurs naturally in Ceylon, Calabria, Aragon, and Algeria. 'Natron,' which is the translation of 'nitrum' as given by Cassel, 'a natural soda used for washing, as mentioned by Cicero,' occurs in a very impure state and was derived from the alkali lakes of Egypt.

"The Century Dictionary states: 'The word niter was used in early times to signify any kind of saline efflorescence and therefore included a number of substances now recognized as distinct. . . . The nitrum mentioned by Pliny, which gave off a strong smell on being sprinkled with lime, must have been a salt of ammonia, probably the chloride; but it also referred to KNO_3.'

"A. P. Laurie cannot explain exactly why the nitrum was added, but it seems from all I have read that the purpose of adding the nitrum, which means any salt collected at volcanoes or from the Ceylon nitrate fields, was in order to break up the beeswax into very small globules. Accordingly I performed a number of experiments by adding various salts to the sea water which I obtained from the Atlantic. Using the nitrate alone added to the sea water did not produce the emulsification of the wax as readily as when I used sea water with natron, Cassell's interpretation of 'nitrum.' The wax was produced in very fine globules which I could filter off on filter paper and the big surface exposed would assist the bleaching by the sun.

"To sum up, it seems that the only reason for adding the salt to the sea water and boiling the wax in the sea water was to produce a very large surface of the wax, in order to facilitate the bleaching by the sun, which is a very slow process at best. As it takes from three to six months to bleach beeswax to pure white by the sun process, I have procured samples of the best beeswax produced in this country from the Theodor Leonhard Wax Co., of Paterson, N. J. . . This wax is purer than the wax samples I prepared according to Pliny's directions."

[15] Εἰκόνες 6. 27.

need of the most important feature! Where then can we get all that? Or shall we call in the painters of course, and particularly those who excelled in mixing their colors and in applying them judiciously? Come then, let us call in Polygnotos and Euphranor of old, and

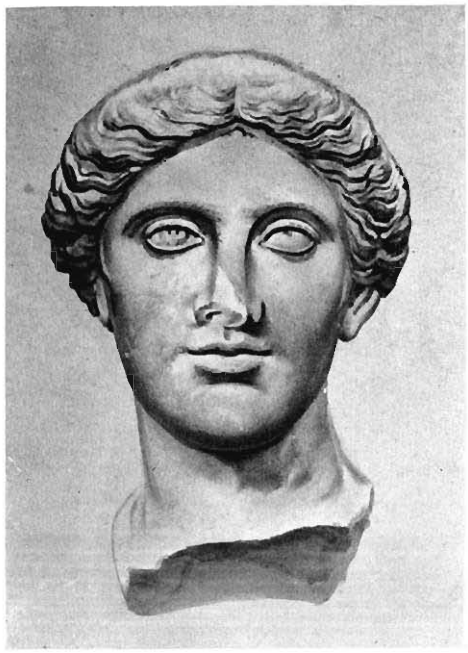

FIG. 6. MARBLE HEAD FOUND IN ROME IN THE BRITISH MUSEUM

Apelles and Aëtion. Let them divide up the work, and let Euphranor color the hair as he painted Hera's; let Polygnotos do the becomingness of her brows and the faint flush of her cheeks, just as he did Kassandra in the Lesche at Delphi, and let him also do her clothing, which shall be of the most delicate texture. . . . The body Apelles shall represent after the manner of his Pakate, not too white but just diffused with red; and her lips shall be done by Aëtion like Roxana's. But stay! We have Homer, the best of all painters, even in the presence of Euphranor and Apelles. Let her be throughout of a color like that which Homer gave to the thighs of Menelaos when he likened them to ivory tinged with crimson; and let him also paint the eyes and make her 'ox-eyed.' The Theban poet, too, shall lend him a hand in the work, to give her 'violet brows.' Yes, and Homer shall make her 'laughter-loving' and 'white-armed' and 'rosy-fingered,' and, in a word, shall liken her to golden Aphrodite far more fittingly than he did the daughter of Briseus."

The application of a delicate flesh color on a marble statue suggestive of the "flush of life" was evidently a task worthy of the great painters Apelles and Polygnotos. From all this evidence it would seem to follow that in Greek marble statues the flesh parts were not left white, but painted pink or buff, similar to the color used on terracotta statuettes, and that the flesh colors preserved on such monuments as the Alexander sarcophagus,[16] the Mausoleum frieze,[17] the Myra reliefs[18] (fig. 5), the Esquiline head[19] (fig. 6), and the fragment of an archaic head from Ephesos[20] represent a universal custom.[21] In other words, the practice we note in Egyptian, Chinese, and Gothic sculpture applies also to that of Greece.

[16] Hamdy Bey and Reinach, pls. XXXIV ff.: light yellow on the figures of the Greeks, a darker yellow on those of the Persians.

[17] Newton, II, p. 131, speaks of the flesh of the figures as a dun-red. It has since disappeared.

[18] Fellows, plates after p. 198. The nude parts are painted a flesh color.

[19] Treu, pl. I. The head is now in the British Museum (basement). The pink on the flesh is beautifuly preserved.

[20] Pryce, B93. The skin is painted a reddish color.

[21] Extant examples of painted sculptures, moreover, teach us that the color did not hide the beautiful surface of the marble, and that the fine material still had its intrinsic value.

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