

By 71M

PRELIMINARY REPORT  
UPON THE  
EXCAVATIONS  
CARRIED OUT IN  
THE HIPPODROME OF  
CONSTANTINOPLE  
IN 1927

ON BEHALF OF THE BRITISH ACADEMY



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## PREFACE

THE excavations were begun on the 23rd March 1927, upon the site of the Hippodrome of Byzantium at Constantinople, under the auspices of the British Academy, with funds provided by a generous donor who prefers to remain anonymous. The work was carried out under the direction of Mr. S. Casson, M.A., Reader in Classical Archaeology in the University of Oxford, with the assistance of Mr. D. Talbot Rice of Christ Church, and of Mr. G. F. Hudson and Mr. A. H. M. Jones, both Fellows of All Souls College. The expedition was fortunate in obtaining the services of Nechett Cassim Bey of Constantinople as architect.

The thanks of all interested in the archaeology of Constantinople are due to the President and Government of the Turkish Republic, who granted a permit for the excavations, and the members of the expedition are under a great debt of gratitude to Halil Edhem Bey, Director of the Museum of Antiquities, Stamboul, for the facilities accorded them. We are indebted to Mouhieddin Bey, Prefect of Constantinople, for permission to enclose and excavate the Municipal Park which now covers the central part of the Hippodrome, and to Th. Macridy Bey, Assistant-Director of the Museum, who gave continuous help and advice during the conduct of the excavations: by his help it was possible to surmount many difficulties.

Thanks are also due to Fuad Bey, Engineer-in-chief to the Prefecture, for sympathetic help and advice in all matters that concerned the Prefecture. We are particularly indebted to the Evkaf authorities for permission to dig on ground that was their property, and to erect the excavation-hut in the outer courtyard of the Mosque of Sultan Ahmet, the latter a privilege of very great convenience to us.

Finally we must acknowledge the frequent and valuable assistance freely given by Professor E. Tilley of Robert College, and the unfailing kindness of Sir George and Lady Clerk and the staff of the British Embassy, to whom we were indebted for much initial help and for many privileges accorded us.

S. C.  
D. T. R.  
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## I

### THE EXCAVATIONS

THE site itself has never been sufficiently encumbered either by the buildings or by the débris of later ages as to cause it to be forgotten or to lose its title of 'Hippodrome', or for any dispute as to its identity to arise. Its place in the history of the city and of the whole of the Near East was always too fixed and certain for its memory to fade. The three monuments that protrude from the soil—the 'Column of Porphyrogenitus',<sup>1</sup> the bronze Serpent Column, and the Obelisk of Theodosius—have never been wholly beneath the soil since their erection. They give, in consequence, a clue, however slight, as to the emplacement of the Hippodrome and the alinement of its axis, since there has never been any doubt as to their position along its centre. In addition, there has remained in some tolerable state of preservation the Sphendone, or curved end of the Hippodrome, a massive foundation with superstructure in brick and stone, which stands well up from the rapidly falling contours of the 'Place du Sultan Ahmet', and can be seen clearly from the shore below and from the sea. It continues the level of the Hippodrome well out into this descending ground.

But beyond these remains there was nothing of the Hippodrome above soil, and the first problem of the excavation was a considerable one, namely to establish the dimensions and full alinement of the Hippodrome itself, and, in addition, its principal architectural features, such as the character of the colonnade which ran round the upper part behind the topmost seats, the inclination of the seats themselves, and the position of the various supporting walls beneath them, as well as that of the exterior wall of the Hippodrome itself. For none of these problems was there any extant evidence available except that of a series of old views, cut in wood or copperplate, which cover the period 1400-1700,<sup>2</sup> and the various descriptions left by early Byzantine and Turkish historians, or by travellers from other countries, concerning the Hippodrome and its monuments. The only

<sup>1</sup> Often known as the 'Built Column', a meaningless title. The problems that concern the building and date of this column must be left for a fuller publication.

<sup>2</sup> Much evidence of this type has been collected during the course of our researches but it cannot be fully dealt with here.

salient features that emerge from a study of this evidence that concern a preliminary examination of the Hippodrome are:

- (1) That a large number of the columns of the arcade survived up to the time of the erection of the Mosque of Sultan Ahmet *in situ* in the Hippodrome.
- (2) That there were other monuments in the centre along the axis.

To this evidence from literary and artistic sources there might be added, as not without its bearing, the evidence of certain ancient monuments such as:

- (1) The alleged view of the Hippodrome on the sculptured base of the Obelisk of Theodosius. (The upper part of this basis belongs to a different period and bears sculpture of the time of Constantine the Great.<sup>1</sup>)
- (2) The scene of race-starting carved in relief upon a curious monument of the sixth century found in the Hippodrome in 1843 and now in Berlin.<sup>2</sup>
- (3) The view of the Hippodrome shown on the Column of Arcadius (now destroyed) in the drawings of an unknown artist of 1574.<sup>3</sup> (Fig. 1.)

#### *Turkish Buildings on the Site.*

The two best views of the Hippodrome are those of Onuphrio Panvinio and Pieter Kock van Aalst.<sup>4</sup> (Figs. 2, 3.) They show it before any large buildings had begun to encroach upon the site. The view of Panvinio shows it in ruins at a date that must be the close of the Palaeologue period and shortly before the Turkish occupation. The site is virtually desolate and merely an open space with a few surviving ruins and monuments of the Hippodrome. Kock van Aalst shows it about a hundred years later, little changed and with but few additions.<sup>5</sup>

A magnificent miniature, now in the library of the University of Stam-

<sup>1</sup> E. H. Freshfield, *An Epitome of my note-book on Roman History* (privately printed), vol. iii, p. 83; and Wace and Traquair, *J. H. S.* xxix, p. 60.

<sup>2</sup> Dalton, *Byzantine Art and Archaeology*, fig. 82.

<sup>3</sup> In a collection of drawings now in the possession of Mr. Edwin Freshfield, who has very kindly allowed me to study them. See *Archaeologia*, vol. lxxii, p. 87.

<sup>4</sup> The former first published by Panvinio, *De Ludis Circensibus*, Venice, 1600, p. 61; and again, with a newly-cut plate copied from that of Panvinio in Banduri, *Imperium Orientale*, ii. For the latter, see Th. Wiegand, *Jahrbuch*, 1908, pp. 1-11. There is a perfect set of the cuts of van Aalst in the Ashmolean Art Galleries, Oxford. I am able to reproduce one part of them here by the kind permission of the Visitors of the Museum.

<sup>5</sup> Wiegand rightly calls attention to the eclectic nature of his drawing. Van Aalst has filled his note-books with accurate drawings of separate buildings and monuments, but has combined them arbitrarily into the whole composition.





Fig. 3. Kock van Aalst's view of the Hippodrome



Fig. 4. Miniature in the Library of the University of Stamboul

boul, shows, perhaps more accurately, a bird's-eye view drawn about the same time (1530-5).<sup>1</sup> (Fig. 4.)

Soon after this date the great activities of Suliman the Magnificent and his successors began to add buildings to the site. A mosque called the Uchler Djami, built on the ground on the north-west side of the Hippodrome near the street now known as Fazli Pasha Sokak, replaced in 1553 a small nammasgiah that had been built there in 1516 (see below, p. 7). In adjoining ground the famous vizier of Suliman, Ibrahim Pasha, built the elaborate palace which is seen in the miniatures of a fine MS. history of the Sultans,<sup>2</sup> now in the library of the Serai (figs. 5, 6), and which Evliya Chelebi<sup>3</sup> describes as one of the grandest palaces of Constantinople and large enough to hold two thousand slaves. On the site where the great mosque of Sultan Ahmet was later built stood the palace of a certain Güzel Ahmet Pasha.<sup>4</sup> But these palaces were evanescent growths, and in the religious revival that began at the close of the sixteenth century they were largely destroyed and replaced by mosques. Moslems began to discount the material splendours of this world and to spend their money on religious endowments.

#### LENGTH AND BREADTH OF THE HIPPODROME<sup>5</sup> (Figs. 7, 8.)

The problem of ascertaining these dimensions, which are of vital importance for a study not only of all Roman buildings of this type but also of their Hellenic predecessors, notably that of Olympia,<sup>6</sup> was attacked at the outset. The extant foundations of the Sphendone (see plan) were first examined, since it was by no means clear whether the existing curve was a full semicircle or only a segment of a semicircle, so that until this was settled it could not be made certain that the diameter of the curve corresponded to the breadth of the Hippodrome. Excavations (I B on plan no. II) were therefore begun on an open area on the north-west side of the Hippo-

<sup>1</sup> I publish a part of this miniature here (fig. 4) with the permission of Halil Edhem Bey and Prof. Gabriel who is undertaking its full publication for the French Academy.

<sup>2</sup> One out of six miniatures showing the Hippodrome has been published: see J. von Karabacek in *Sitzungsberichte der K. Akad. der Wissensch. in Wien*, 1913, pl. x. The miniatures here shown (figs. 4, 5, 6) are unpublished.

<sup>3</sup> Ed. Von Hammer, 1834, Sect. 24.

<sup>4</sup> Ibid.

<sup>5</sup> The dimensions computed by earlier writers are as follows: Buondelmonti, 690 ells long and 124 wide (p. 122 of his work quoted below). Grosvenor in his pamphlet, *The Hippodrome of Constantinople*, p. 19: length 1,382½ feet, breadth (from Paspatis) 395 feet. Dalton, *East Christian Art*, p. 114: length 370 metres, breadth 180 metres. Prof. Mamboury (*Guide*, p. 307) is the only authority who has given the width almost exactly right. He suggests 118.50 metres. Ebersolt: *Le Grand Palais de Constantinople* (1910) gives a conjectural plan of the Hippodrome.

<sup>6</sup> N. Gardiner, *Greek Athletics*, p. 452, and *Olympia*, p. 287. It is remarkable that no Hippodrome, Hellenic or Roman, has been excavated. We thus had no data to go upon.

drome and on the adjoining road Fazli Pasha Sokak. A trench (I on plan no. II) was also cut in continuation across the centre of the Hippodrome. Massive supporting walls were soon reached, the alinement of the outermost corresponding exactly with the outside wall of the Sphendone at the full diameter of its curve. This made it possible to be certain that the diameter of the Sphendone was, in fact, the diameter of a semicircle and so gave at once the width of the whole structure of the Hippodrome as distinct from that of the course (but including it). The width so found proved to be a total of 117.5 metres, that is to say, twice the measurement from the outer supporting-wall to the axis.

The section of the substructure which supported the seats was established almost completely in this region (see plans I and II and fig. 9). The first and outer supporting-wall has a thickness of 2.75 metres and was standing to a height of some 7 metres. It consisted of alternate courses of rubble and very carefully-laid bricks in four layers and 0.90 metres in depth. The spacing of the alternate courses was not regular in the surviving portions of this wall. The foundations, which were cleared to the bottom, projected beyond the face of the wall 0.24 metres so as to give additional strength and support a heavy vertical thrust from above. The second supporting-wall was 4.9 metres distant from the first, and showed two projecting ledges on its outer side and one on the inner. It had only one brick course, which corresponded in position and character to the top brick course of the outer wall. (Figs 9, 10.)

The deposit between these walls was for some 3 metres confused and largely recent, containing Turkish pottery of all periods and some few Byzantine pieces. It had obviously been much turned over in the course of building and roadmaking. Below this level, however, it became compact and dark, and contained coins which were roughly stratified and covered the period A.D. 400-1400, the earliest being at the bottom and the deposit undisturbed throughout. The majority of these coins were early (see p. 46). This stratum ceased abruptly at about 4 metres, and was succeeded by a solid and compact bedding of yellow clay, unproductive and clearly a filling. This in turn was supported by a layer of roughly-hewn blocks of stone at a depth of 4.75 metres. Below this was a layer of very dark earth, itself based upon a second layer of compact yellow clay, with an intervening layer of white matter resembling lime. No coins or pottery fragments were found below the 4-metre level.

The whole of this stratification is important because it gives us succinctly the history of this space between the walls, which was the main corridor of the Hippodrome, and, as such, corresponds exactly in dimensions with

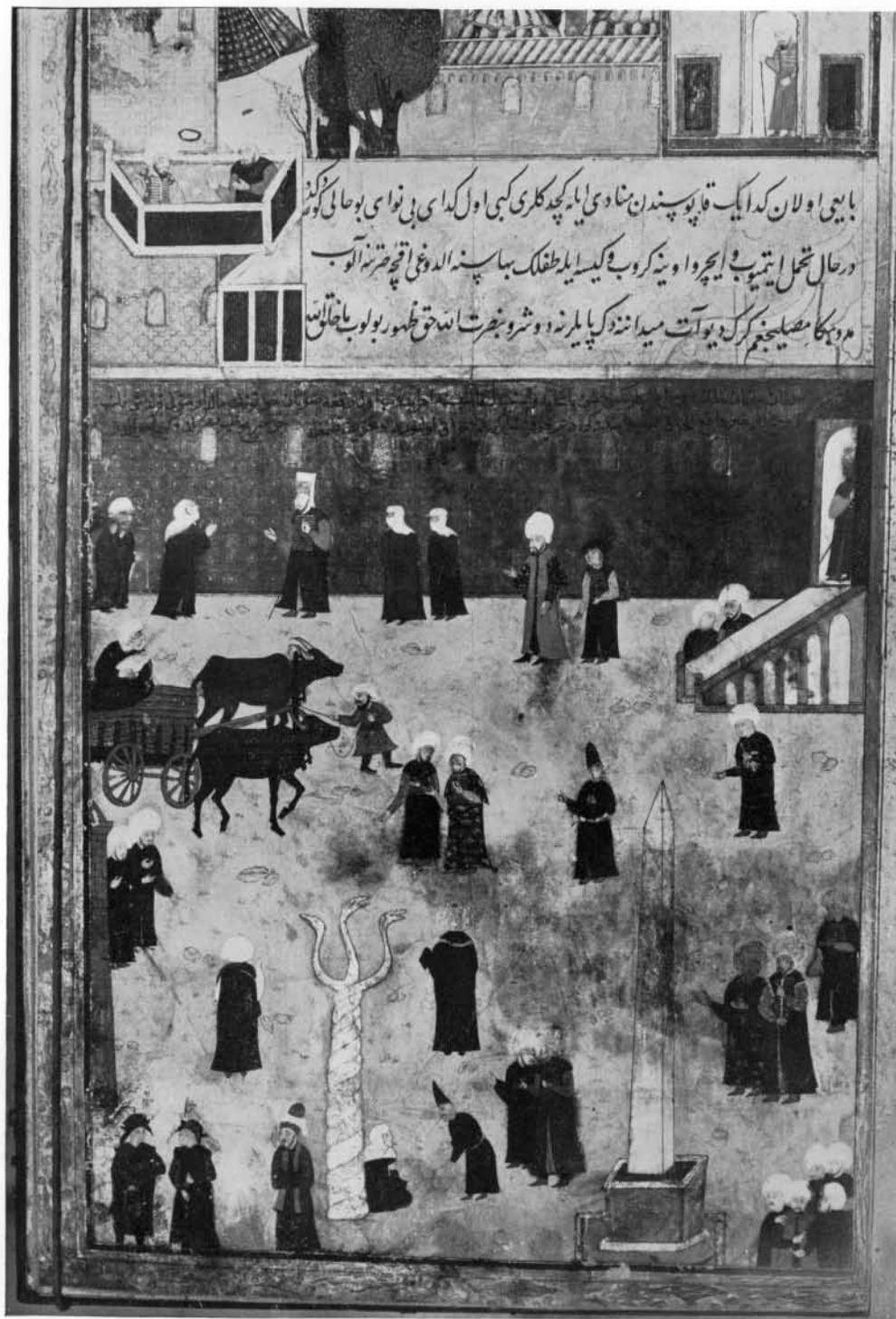


Fig. 5. Miniature in the Library of the Serai



Fig. 6. Miniature in the Library of the Serai

the existing corridor in the Sphendone. The lowest black stratum in all probability represents the floor of a low-level corridor of the original second-century structure. Damage, neglect, or collapse seems to have produced the mass of roughly-hewn blocks which were upon it. The yellow clay bedding above was the floor of the corridor of the period of Constantine, when the Hippodrome seems to have been reconstructed, with a deposit above it of black earth that slowly accumulated until 1453. The coins found in it testify to the regular use of the corridor throughout this continuous period, but indicate that it was more in use in the earlier periods.

Upon the last brick course of the second wall was a solid rubble continuation which may have been the support for the springing of an arch across to the outer wall. Its mortar seemed Byzantine.

The whole of this area, although open, has been much cut into by the Palace of Ibrahim Pasha, which certainly stood here.

The area between the second or inner wall and the third is wide, almost 7 metres, and covers the area of a large inner chamber of greater size than any in the Sphendone. The type and size of the chambers along the sides of the Hippodrome cannot, however, be fixed for certain, because it is not known whether they are regular throughout the building.

The third wall was 2 metres in thickness, and constructed, like the others, of alternate brick and stone courses.

The fourth and inmost wall was 1.5 metres in thickness and of similar construction.

Between the third and fourth walls was a most interesting feature. Neither wall was well preserved, as this region has been much built over, but between them was an almost intact corridor 2 metres wide (like its inner supporting-wall), in which, in the centre, was sunk a conduit 0.60 metre wide and 1.10 metres deep. It appears to have been a water-supply, which ran round the whole of the inner part of the substructure of the Hippodrome as a narrow passage, and presumably supplied the personnel and the under chambers. It cannot yet be reached at the Sphendone without the most difficult and prolonged excavation, but here it is comparatively near the surface.

Beyond this inmost wall, in the direction of the course of the Hippodrome, excavation was impossible because of the presence of an elaborate building, partly Turkish, partly older, which connects several still-used underground water-conduits which are not themselves connected with the Hippodrome system.

The identification of the main outer support-walls at this point made it possible to calculate and plot their exact emplacement along both sides of

the Hippodrome and to join them up with the Sphendone. (They are shown on the plan in dotted lines.) This, in turn, leads to several incidental conclusions of some interest:

- (a) That the gate of the modern prison on the north-west side lies on the old wall and utilized a part of it.
- (b) That the outer containing-wall of the inner courtyard of the Mosque of Sultan Ahmet on the south-east side is actually built, for greater strength, upon the outer wall of the Hippodrome, and alined as nearly as possible with it. (See plan no. II.)

The importance of the excavations in the Fazli Pasha region was enhanced by the examination of a wall of the Turkish period, which had been built against the inner surface of the first wall and bedded on the first yellow stratum. (Fig. 11.) It was attached to the Hippodrome wall with mortar, and was itself composed almost entirely of large architectural elements derived from Byzantine buildings, if not entirely from the Hippodrome. The bulk of these fragments are of marble, but some are in the limestone of Makrikeui (the ancient Hebdomon), and they throw much light on the architecture of the Hippodrome. This wall, having no structural connexion with the Hippodrome, was carefully dismantled. It was almost certainly one of the foundations of the palace of Ibrahim Pasha. The architectural elements so obtained were removed to the Museum of Antiquities. They number 8 in all, and are dealt with below on p. 18.

To check the position and character of the lower walls (the third and fourth described above) revealed in the Fazli Pasha region a further cutting was made in a garden (IV on plan no. II), and in the shell of a ruined house along the road on the north-west side, which was the property of the Evkaf. Here the lower or third wall was again struck and a rectangular chamber revealed. This chamber, of which only the end could be excavated, is of the same dimensions as those of the Sphendone, and it was covered with an arch which sloped at a sharp angle to the level of the Hippodrome (see fig. 12). The arches of the Sphendone chambers, on the other hand, do not slope. It is not alined at right-angles to the walls of the Hippodrome, and remains, therefore, an unexplained problem. It was impossible to excavate more widely in this region because the area dug was closely hemmed in by occupied houses, none of which were of very great stability. An area of some 77 square metres was, however, opened. Conceivably this complex of walls is connected with one of the entrances under the seats on to the course of the Hippodrome.<sup>1</sup>

<sup>1</sup> Gates are shown in this region in the restoration of Djelal Essad in his book *Byzantium à Stamboul*, and by Grosvenor, *The Hippodrome of Constantinople*, p. 63. At the same



Fig. 7. View along the axis of the Hippodrome



Fig. 8. The north-west slopes of the Hippodrome



Fig. 9. Inner face of the outer wall



Fig. 10. The main corridor

Upon these walls were found the ruins of a Turkish building, which, we were told by the local Imam, was the site of a long-buried and forgotten mosque known as Uchler Djami (see above, p. 3), or the 'Mosque of the Three'. Record of this mosque was found in the manuscript work in the Serai library known as Hadikatul Djevami, or the 'Garden of Mosques'.<sup>1</sup> It would appear that an elaborate nammasgiah, or summer praying-place, was erected in 1516 by one Hassan Effendi Iraki Zade of Baghdad. It was superseded in 1553 by a larger building, the mosque of Uchler, which bore the inscription:

*Hasan Ibn Iraqi made the Place of Devotions;*

*With him the day was the Feast (i.e. as holy as one of the great Feasts), every evening a 'Night of Power' (Ramadan 27) and a 'Night of Quittance'*

(Sha'ban 15).<sup>1</sup>

*He adorned the Atmeidan (Hippodrome) with his Place of Worship;*

*He said: Make out the date thereof, viz. The House of the Revival of Prayer 959 (2 + 10 + 400 + 1 + 8 + 10 + 1 + 1 + 90 + 30 + 6 + 400).<sup>2</sup>*

Some little time after we found this record in the Hadikatul Djevami the greater part of the actual dedication itself was found upon a marble slab, buried in an accumulation of marble fragments. (Fig. 13.) It records the first half of the dedication here quoted. It mentions the name of Hasan ibn Iraqi and his 'Place of Devotions' and the fact that he 'adorned the Atmeidan with his place of worship'. The second half of each line of the inscription (which has two lines only) was missing. The letters are finely cut and were originally gilt. The nammasgiah which preceded this mosque is shown, exquisitely drawn in colours, in the miniature mentioned above from the library of the University. It is there shown overhung with almond-trees. The year 1553 is thus a *terminus ante quem* for the miniature, the date of which is not more accurately known than that it falls in the reign of Suliman.

Well below the Turkish level of the mosque of Uchler a narrow passage or conduit was opened, apparently of rather late Byzantine date. Its roof had been made of various marble slabs of different dates, and one of these was a sculpture in low relief of very fine quality, certainly Hellenic work. (See below, p. 26.)

Some good Byzantine fragments were also found in this region of various periods, some of the fine glazed ware with impressed designs (Class II B, time neither author had any evidence to go upon beyond the parallel instances of Roman Hippodromes elsewhere.

<sup>1</sup> Composed in 1281 of the *Hegira*, p. 34.

<sup>2</sup> I have to thank Prof. D. S. Margoliouth for this translation and for the explanation of the chronogram.

see below, p. 35), and also wares of the Palaeologue period. Some interesting brick-stamps were also found here. The length of the Hippodrome is now established, allowing for a small margin of error, as 480 metres. This result was arrived at by the discovery of the building dealt with below (p. 20) and called the 'Baths of Zeuxippos'. The end of the north-east side of the Hippodrome was there approximately established, together with its junction to the Baths, which are said in all records to have been outside it.

#### THE CENTRE OF THE HIPPODROME

The trench (no. I) across the centre of the Hippodrome between the Serpent Column and the 'Column of Porphyrogenitus' was cut for the purpose of establishing the general stratification of the course of the Hippodrome. It was enlarged by an extension up to the pit of the Serpent Column, and by a similar cutting running along the axis to the 'Column of Porphyrogenitus' (IA). Its stratification was checked by two other large trenches (nos. II and III), the former lengthways along the axis, the latter transverse and parallel with no. I, and enlarged by two extensions in the direction of the Obelisk of Theodosius.

Trench no. I was the deepest of all trenches cut, and reached a depth of 8.75 metres. Its excavation was of the greatest technical difficulty and involved elaborate revetment. Eighteen days were taken in its completion, and work ceased only when water was reached.

All these three trenches gave the same results, which can be summarized as follows:

(a) The Byzantine level of the Hippodrome is found in each trench at the almost uniform level of 4.5 metres. There seems, however, to be here and there some slight variation of level, due to releveling at different periods and a certain denudation of the surface in Turkish times seems to have taken place. This denudation (probably by the removal of surface clay for building) has left certain Byzantine conduits standing above the actual yellow clay level (see below, p. 25). The deposit which is here termed the 'level of the Hippodrome' consists of a massive bedding of bright yellow silicious clay, very firm and compact, and easily distinguishable by the abrupt and complete change which it makes from the 4.5 metres of black earth which overlie it. To judge by the depth of the foundations in the Sphendone there may be anything up to 12.5 metres of this bedding of clay, and it was not possible in trench no. I to reach natural soil. This yellow bedding is identical with that found at the foundations of the supporting-wall in the Fazli Pasha region. Yellow clay of this kind is the natural soil of Constantinople at a low level, but the general appearance of its strata here and the occurrence



Fig. 11. Marble architectural fragments in Turkish wall



Fig. 12. Sloping wall at Trench IV



Fig. 13. Dedication of the Mosque of Uchler

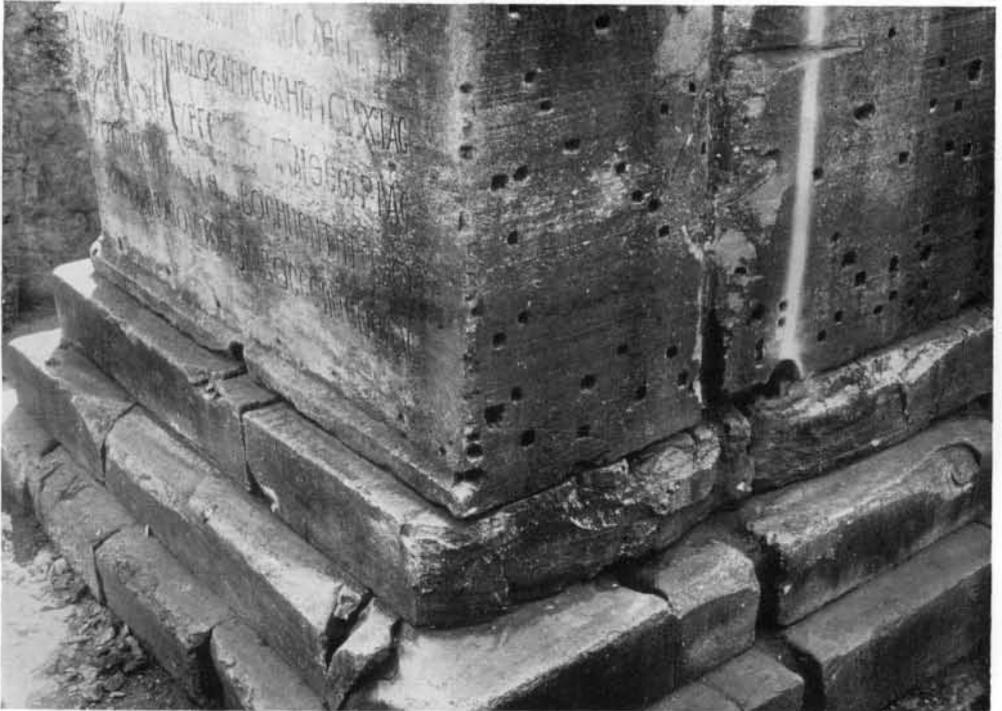


Fig. 14. Basis of the Obelisk of Porphyrogenitus

in it of pottery fragments, of which the majority were Hellenistic, in every place where it was dug in the Hippodrome, even at the lowest levels, showed that it had been brought here as filling. The Hellenistic fragments (and in one instance a sixth-century B.C. Black Figure fragment) suggest that it was procured from near by, perhaps from the site of Hellenic Byzantium at Serai Point, which was not built over in Roman or Byzantine times.

(b) The overlying deposit of earth is, in the centre of the Hippodrome (but not at the sides) almost wholly Turkish. Only in the last half-metre were Byzantine objects found, mainly Byzantine pottery and brick-stamps. In trench no. II a Byzantine coin of the eleventh century was found actually on the clay.

The Turkish remains, however, belong almost in their entirety to the 15th-17th centuries, and anything of later date is extremely rare. From this it may be inferred that the destruction of the palace of Güzel Ahmet Pasha on the site of the present mosque of Sultan Ahmet, and of that of Ibrahim Pasha on the opposite slope, led to the accumulation of a heavy deposit of debris from their ruins. Evliya Chelebi tells us as much when he describes the Serpent Column<sup>1</sup> as being undamaged, but 'buried in mud and earth from the building of Sultan Ahmet's mosque'. All the Turkish tiles and faience found are of high standard, and can be considered as palace débris: the presence among them of pieces of Celadon and Ming porcelain strengthens the conclusion (see p. 53).

(c) Excavations along the axis of the Hippodrome covered a total length of 48 metres, and were both parallel to and at right angles to the axis. The stratification of the centre of the Hippodrome as revealed in trench no. I was the same *along* the axis as *across* it: that is to say, there was no trace of any central disturbance. There was, further, no trace of any central wall or structure which could have run continuously along the axis; the absence of disturbance in the strata shows conclusively that there could never have been any such structure. The excavation of trench no. I, which went slowly and carefully, failed to reveal any central masonry on the axis except a Turkish paved road at about 1.5 metres. Below this, to 8.75 metres, were undisturbed strata of earth and clay. A single trench was obviously insufficient to provide proof for so important a conclusion. If a central wall had been built it might have been discontinuous, and trench no. I might by ill-luck have fallen upon an opening in it. But the subsequent trenches proved this hypothesis to be unfounded. If the central wall had contained gaps amounting to a total length of 48 metres (the

<sup>1</sup> *Op. cit.*, sect. 5 (the seventeenth talisman).

length excavated along the axis) it could hardly be considered as a central wall!

Further examination of the bases of the three extant monuments (see below, p. 11) failed to provide any evidence for a central wall having joined them up. The basis of the Serpent Column is of peculiar importance in this connexion, since it proves to be founded not on masonry at all, but upon a water-conduit which runs at right angles to the axis, and which is itself bedded in the yellow clay.

The importance of the third conclusion (c) is obvious in view of the statement almost universally made by modern Byzantine historians and archaeologists, that along the centre of the Hippodrome, and aligned with its axis, ran a low wall called the *Spina*, which supported the three extant and other lost monuments. Some authorities even give the dimensions of this *Spina*!<sup>1</sup>

It is now clear that the analogy of other Roman Hippodromes cannot be pressed. The Hippodrome of Byzantium was never completed by its original builder, Septimius Severus, and it suffered considerable damage and underwent much reconstruction at an early date. Certainly in the fifth or sixth century (perhaps in the great earthquake of 26th January 447) the whole structure suffered serious damage (see below, p. 17), and the original plan of Severus or Constantine for its completion may have been changed. There may even have been a reversion to the Hellenic tradition of a Hippodrome without a permanent *Spina* (as at Olympia).

It is of the greatest importance to remember in this context that no mention is made of a *Spina* by any Byzantine historian, and of all the travellers who visited Constantinople from 1400 onwards only one says anything that might be construed as indicating the existence of a *Spina*: this is Buondelmonti, who says<sup>2</sup> in the course of his very short account, '*Per medium denique dicti cursus in longitudine humilis est murus*'. Gyllius, on the other hand, speaks no word of it, and his accuracy is as a rule remarkable. Buondelmonti's statement may be explained as referring either to a low mound that had accumulated from the ruins of the monu-

<sup>1</sup> e.g. E. A. Grosvenor, *The Hippodrome of Constantinople*, 1889, p. 27: 'The *Spina* was a wall four to five feet high lying parallel to and in the very centre of the arena.' A. Thiers in *Comptes rendus* for 1913 of the Académie des Inscriptions et Belles-Lettres, Paris, p. 9 ('Les deux mètres qui constituaient approximativement la hauteur de la *Spina*'). E. Mamboury, *Guide to Constantinople*, first ed., Constantinople (N.D. but about 1925), p. 387; the height of the 'Column of Porphyrogenitus' plus that of the *Spina* is estimated at 'about 32 metres'. The 'Column of Porphyrogenitus' is some 28 metres high, so that the *Spina* according to this would be about 4 metres high.

<sup>2</sup> *Christoph. Bondelmontii Florentii librum insularum Archipelagi e codicibus Parisinis regis nunc primum totum edidit* G. R. L. de Sinner (Leipzig and Bonn), 1824.

ments along the axis (see below, p. 15), or alternatively as describing a conduit which was discovered in the excavations to lie exactly along the axis (see below, p. 26) and which protruded from the soil. In any case his observations on Constantinople in general are very brief and lack precision in nearly every case.

A relief on the sculptured basis of the Obelisk of Theodosius is often adduced as representing the *Spina* of the Hippodrome of Byzantium. But the Hippodrome course shown upon it is purely schematic and conventional, and is far removed from representational art: no actual known monument can be identified on it, and it is quite uncertain that any *Spina* at all is shown.

The central row of monuments along the axis would, in any case, serve the essential purpose of a *Spina* for the control of the course. It is even possible that for races wooden barriers were added to join up the isolated monuments. Such may have been done in the early days of Hippodromes, if we can infer it from an obscure passage in Banduri<sup>1</sup> which describes the mythological origin of Circuses.

#### THE THREE EXTANT MONUMENTS

*The 'Column of Porphyrogenitus'.* (Figs. 7 and 14.)

The history, date, and purpose of this column are problems that must be dealt with elsewhere. The conclusions alone from excavation are here given.

The base of the pit in which the column stands was cleared over one-half of its area. The slabs of stone which formed the floors of the pit below the bottom step of the pedestal were removed and the podium of the column examined. A second excavation (I A on plan) outside the containing wall, exactly along the axis of the Hippodrome, was made to find out whether the podium was free or attached to any structure of a *Spina* type.

The clearance of the floor revealed two unexpected features. Firstly, a water-channel some 0.5 metre deep and 0.3 metre in width had been let into the upper surface of the podium (fig. 15), entering the pit exactly along the line of the axis, running round the side of the pedestal, and emerging along the axis the other side of the monument. Here, however, it seems to have perished and cannot be traced beyond the podium.

Secondly, on the north-east side of the column was a hole, large enough to admit a man, which ran horizontally beneath the column to the centre of the three-stepped pedestal and below it (Fig. 16.). At a point corresponding exactly with the vertical axis of the column a small hole, some 0.15 metre in diameter, ran vertically upwards. In it and on the floor of the passage

<sup>1</sup> *Imperium Orientale*, 1711, ii, p. 663.

were sections of lead-piping of a type often used in Byzantine buildings. Examination of the marble monolithic pedestal showed that four holes pierced it at right angles (see fig. 14), one on each side; these holes proved to be a double piercing of the block by drillings which crossed in the middle, and communicated at the crossing-point with the vertical hole, in which were the remains of the lead-piping. This at once made it clear that the monolithic pedestal had served as a four-spouted fountain. The excavation outside the podium on the north-west produced, at the level of the podium itself, fragments of loose mosaic, and it seems possible that there were basins of mosaic into which the water fell. No definite traces were, however, found. The occurrence near the level where the mosaic was found and alongside the podium of large numbers of Byzantine water-pots, and several of the largest Turkish faience fragments in the level just above, suggests that the fountain was in use until the sixteenth century. Several fine pieces of 'Golden Horn' ware (see below, p. 52) were found, a ware which dates from the time of Suliman.

The transverse holes in the pedestal were cleared, and the nature of the affixing of the metal fountain-spouts is now clear. The water-channel and the chamber under the pedestal have been left permanently open to view and strengthened with brick and mortar.

#### *The Serpent Column.*

Trench no. I had already revealed an underground conduit at a depth of 2 metres. The conduit was in the main of very late Byzantine fabric, and stood upon the yellow clay bed of the Hippodrome, running parallel with the axis, but 2 metres distant from it. It could be entered, and was explored for some distance. It was found to have a branch communicating with the pit in which the Serpent Column stands.

Clearance of the floor of the pit of the column showed not a stone podium (or any trace of it) or foundation, or any trace of a *Spina*,<sup>1</sup> but instead two water-conduits. (Fig. 17:) Of these one is made of rubble lined with mortar, and runs from the conduit referred to above directly underneath the Serpent Column, and so across the Hippodrome at right angles. It could be entered for some metres in a south-westerly direction, but was not excavated on that side. The basis on which the bronze Delphian Column stands is not alined exactly with the Hippodrome axis, and has itself the appearance of being an old column-capital trimmed and re-used. Its only masonry support is the conduit, whose two walls hold it up athwart them. Beneath the conduit is nothing but the yellow clay bedding. It is

<sup>1</sup> Thiers, *op. cit.*, p. 8, takes the floor of this pit to be the surface of the *Spina*.



Fig. 15. Water-channel round the basis



Fig. 16. The passage under the obelisk

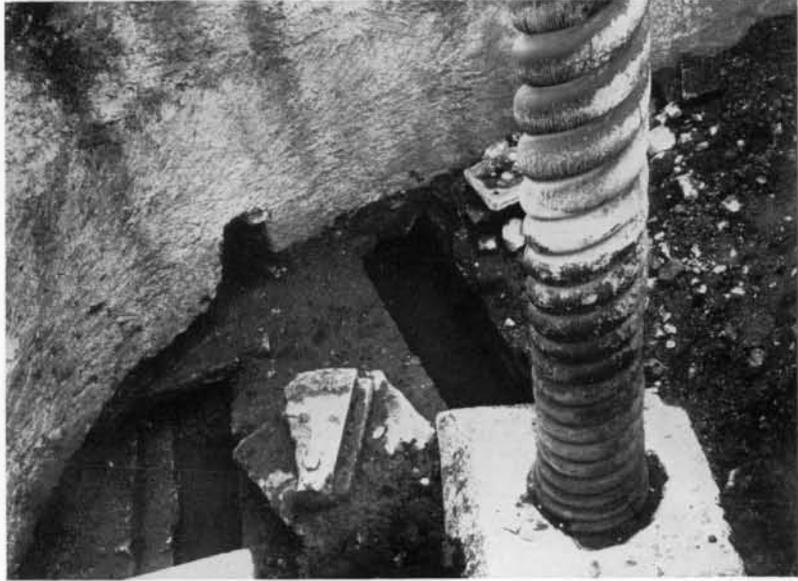


Fig. 17. The Serpent Column



Fig. 18. The Obelisk of Theodosius

upon this precarious foundation, then, and not upon any *Spina*, that the Serpent Column stands.

The other conduit is larger and almost certainly Turkish, inserted later. It runs more to the south-south-west and obliquely to the axis, but it comes from the main large conduit.

These conduits are undoubtedly identical with those cleared by Newton in 1856.<sup>1</sup> Their importance, however, was not realized then, and the fact that both are bedded on the yellow clay was not recorded.

That the conduit upon which the Serpent Column stands was meant to supply it with water is made certain by the fact that there is a hole bored in the centre of the marble basis through which it is possible to look up from the conduit inside and through the column itself. A lead pipe, as in the case of the 'Column of Porphyrogenitus', would have conveyed the supply.

The conduit supporting the column-base has not the appearance of high antiquity. Its masonry is, in any case, not that of the Severan or of the Constantinian eras. The fact that it is on the surface of the clay and not bedded deeply into it suggests an antiquity that is not high. We have, then, to face the possibility of the column having been erected in its present position at a date more at the close than at the beginning of the Byzantine Empire. The absence of any earlier foundation beneath the conduit may mean that the Column was brought to this position at a comparatively late date.

The literary and pictorial evidence that survives agrees almost completely with the archaeological. The first mention of the Column as being in the Hippodrome is that of the Russian pilgrim Ignatius of Smolensk<sup>2</sup> (1389-1405). The Arab Harun ibn Yahya,<sup>3</sup> who described Constantinople after a visit in the ninth century (880-90), gives an account of what must certainly be the Serpent Column, but makes no mention of it being in the Hippodrome (which he mentions elsewhere), and speaks of it as if it were in the courtyard of St. Sophia near the Column of Justinian.

On the other hand, Zosimus<sup>4</sup> and other Byzantine writers all agree that Constantine brought the Delphian tripod-basis to Byzantium, and there is fortunately no dispute as to this being the Delphian tripod-basis.

<sup>1</sup> See Sir Charles Newton, *Travels and Discoveries in the Levant*, vol. ii, p. 28; and Ebersolt, *Constantinople Byzantine et les voyageurs du Levant* (1919), p. 55.

<sup>2</sup> *Itinéraires russes en Orient*. Trans. by B. de Khitrowo, Geneva, 1889, p. 136.

<sup>3</sup> J. Marquart, *Osteuropäische und ostasiatische Streifzüge*, Leipzig, 1903, pp. 206 ff. Yahya gives it four heads, and for this reason Dawkins refuses to accept Marquart's identification with the Serpent Column (*Folk-Lore*, xxv, p. 234). But not all travellers are observant: Tafur (see below) gives it two heads!

<sup>4</sup> ii. 13.

Pictorial evidence is naturally of much less value than the literary, but it is remarkable that the Serpent Column is not represented before about 1530, when it appears in six miniatures of the MS. in the Serai library (see figs. 5 and 6), and again in the miniature of the University Library at Stamboul (fig. 4), and also in the woodcut of Pieter Kock van Aalst (fig. 3). There is no trace of it in the detailed view of the Hippodrome published by Panvinio, nor does it appear in Schedel's woodcut of 1493.

The use of the Column as a fountain is now established beyond any doubt. The strange legend which Pero Tafur,<sup>1</sup> who visited Constantinople shortly before its fall discredits, is now seen to be not devoid of a basis of truth. 'They say', he records, 'that wine poured from the mouth of one [serpent] and milk from the other (he gives it two heads only), but no one can remember this, and it seems to me that too much credit must not be attached to the story.' Buondelmonti, who was at Constantinople only a few years before Tafur, gives the same story, but for a three-headed serpent—'*tres aeneos serpentes in unum videmus oribus apertis a quibus, ut dicitur, aqua, vinum et lac ab eis exhibat diebus lustrantium*'.<sup>2</sup>

The possibility, then, must be entertained that the Serpent Column originally stood elsewhere in or near the Hippodrome, and that it was moved to its present position not long before the Turkish occupation. Its subsequent history cannot be discussed here, but the loss of its three heads and its fall in 1700<sup>3</sup> involve problems that need lengthy discussion.

No fragments of the serpents' heads or bodies were found in the excavation, and the presence in the Turkish strata of numerous crucibles containing bronze slag suggests the fate of all the fragments other than the one surviving head that is now in the Museum at Stamboul.<sup>4</sup>

#### *The Obelisk of Theodosius.* (Fig. 18.)

An extension of trench no. II up to the wall of the pit in which this Column stands brought to light a water-conduit of small dimensions, identical in type and size with that at the 'Column of Porphyrogenitus', and, like it, running exactly along the axis. The yellow bedding of the Hippodrome seems to be slightly higher in the region of the Obelisk, and the conduit was built just upon the floor-level. It runs underneath the lowest step of

<sup>1</sup> In Broadway Traveller series, 1927, p. 143 (translated by M. Letts).

<sup>2</sup> *Op. cit.*, p. 123.

<sup>3</sup> Tournefort, ii. 9.

<sup>4</sup> That the snakes' heads originally had tongues between their open jaws is suggested by the miniature of the Stamboul University, where they are so shown. The miniature is in most other respects remarkably accurate.



Fig. 19. The exterior of the Sphendone



Fig. 20. Chamber in the Sphendone



Fig. 21. Main corridor and 'Cold Cistern'



Fig. 22. Main corridor along the side

the monument, and reappears the other side. Unfortunately a more elaborate examination of the monument was impossible.<sup>1</sup>

The trenches near it produced a stratification identical with that elsewhere in the central part of the Hippodrome.

#### OTHER MONUMENTS ALONG THE AXIS OF THE HIPPODROME

Nearly all our pictorial records and many of the literary give evidence for there having been other columns both between the existing three and elsewhere, so as to make a continuous row. The view of Panvinio gives us four other columns and a fifth surmounted by a statue. On the other hand the 'Column of Porphyrogenitus' is represented there only by a diminutive obelisk. Other miniatures in the Serai Library MS. already referred to show three views of a remarkable monument—a column upon which is a group of a helmeted figure and two children. It also shows views of the Serpent Column in between the other two of Porphyrogenitus and Theodosius, with columns of dark stone on each side of the Serpent Column and equidistant from it (see fig. 6). In Kock van Aalst's view there is another monument, out of alinement with the others, which is a column upon which are three female figures rather in the attitude of the three graces. He further shows two small columns, one each side of the Serpent Column. Gyllius, who visited Constantinople about the same time as Van Aalst, says that there were seven columns standing along the axis—'*in ordine obeliscorum directo in mediam longitudinem Hippodromi septem columnae extant*'.<sup>2</sup>

No trace, however, of any of these monuments has yet been found in the course of excavations.

The bird's-eye view of Vavassore<sup>3</sup> shows a large broken column in the Hippodrome, but the scale is very small, and for detail such as this no very great accuracy can be looked for in views of this kind.

#### *The Sphendone.* (Fig. 19.)

The oldest and best view of the Hippodrome, that of Panvinio, shows the Sphendone with its arcade of columns more or less intact. Much the same view is given in Schedel's woodcut of 1493.<sup>4</sup> The columns in each case have their epistyle and stylobate undamaged. Vavassore's map<sup>5</sup> of c. 1520, and all the subsequent maps derived from it, show a good part of the Sphendone and its arcade. Finally, Van Aalst gives us the most valuable

<sup>1</sup> A detailed study of its sculptures has been made.

<sup>2</sup> Lyons, ed. 1562, p. 91.

<sup>3</sup> Reproduced in *Alt-Konstantinopel* by B. Diez and H. Glück, 1920, p. 16.

<sup>4</sup> *Weltchronik*, folio cclvii.

<sup>5</sup> *Op. cit.*

record of all, with full details of the architectural features of capital, epistyle, and stylobate.

An anonymous Russian pilgrim<sup>1</sup> (1424-53) states that thirty columns united by an epistyle were in his day standing in the Hippodrome. Gyllius<sup>2</sup> says that when he first came to Constantinople there were seventeen columns of the Sphendone standing, but that they were shortly afterwards taken down by the orders of Suliman for use in building. He gives the most detailed and accurate measurements.

The solid masonry substructure of the Sphendone, which Gyllius describes, is the only portion of the Hippodrome building surviving in good condition. Yet beyond the measurements given of only a very small part (three chambers) by Forchheimer<sup>3</sup> in 1893, no attempt has hitherto been made to measure it or to clear it.

One of the main objects of the expedition was to make a thorough examination of this substructure, as it is essential to an understanding of and to the excavation of the rest of the site.

It was found that the semicircular Sphendone up to the diameter of the semicircle contained twenty-five inner chambers, of which twenty-three were intact and accessible, though in some cases partly filled up. The end chamber on the south-west side is really only half a chamber. Presumably there was one corresponding to it on the opposite side, but it is now built up and inaccessible.

All these chambers communicate by a narrow entrance (fig. 20) with the main corridor, and this in turn has a series of large arched windows. All these windows, however, were bricked up at a date very soon after the building of the Sphendone, and access (of modern making) is possible only through one (no. 4, see plan).

The majority of these chambers in the Sphendone, namely, from no. 8 to no. 25 (inclusive), were transformed in Byzantine times into a large cistern, which is still in use and contains some 3 metres of water. (Fig. 21.) It is fed by a channel which enters from the north-west. A flight of steps near the entrance to no. 7 leads to the water in the way almost universal in the cisterns of Byzantium. This is undoubtedly the cistern mentioned by Codinus<sup>4</sup> as in the Sphendone, and called by him the 'Cold Cistern'. It is described later by Buondelmonti.<sup>5</sup>

<sup>1</sup> *Itinéraires russes*, p. 237.

<sup>2</sup> *Op. cit.*, p. 91. Restorations based upon his measurements are possible. His unit of measurement (pes) is 0.31 metre. Where it is possible to check him he is remarkably accurate: his figures for the 'Column of Porphyrogenitus' show an error of only  $\frac{1}{3}$  per cent.

<sup>3</sup> P. Forchheimer and J. Strzygowski, *Die Byzantinischen Wasserbehälter*, 1893.

<sup>4</sup> *De antiq. Constant.* 13.

<sup>5</sup> *Op. cit.*, sect. 65.

The process of transformation of the corridor and its rooms into a cistern was simple enough. The brick and rubble floor and walls were merely covered with waterproof cement and the ends of the corridor closed. The exact date of this change must be kept for further research, but it belongs, in all probability, to the period 600-800, when the attacks on Constantinople were frequent and dangerous, and the need for an internal water-supply consequently greater.

Throughout the corridor along the outer wall a series of powerful buttresses have been added to give further strength besides that provided by the bricking up of the windows, which itself gave additional supporting power.<sup>1</sup>

Beyond the semicircular curve, where the straight side of the Hippodrome begins, the nature of the chambers, as well as of the inner walls of the corridor, changes. The chambers have interior buttressing, and the walls on each side of them are thicker, while the corridor into which the chambers communicate is narrower. In one case two of the chambers intercommunicate.

The corridor is strengthened by a series of arches and its sides have been rebricked. (Fig. 22.) The purpose of this is evidently to prevent the further extension of the enormous cracks which are visible along the key-line of the arched roof of the corridor and elsewhere. These cracks are evidently due to earthquake, and the repairs here clearly explain the different system of strengthening by buttressing adopted in the semicircular part. The five chambers (Nos. 1-5 on plan) which were examined on the southwest side of the Hippodrome are difficult of access, and mostly beneath or among modern dwellings or gardens. More are known to exist, in continuation of this series and on the other side of the Hippodrome, both below the large military building near Fazli Pasha Sokak and under the prison further along in the direction of St. Sophia. No opportunity has, however, been yet afforded for a complete examination of the substructures of these buildings.

The original purpose of the chambers which are found in the Sphendone, and perhaps along most of the length of the Hippodrome, must have been to house personnel, tackle, and perhaps animals. Along the sides the chambers were probably in some cases of greater width: in the Fazli Pasha region the chamber must have been at least twice the area of those in the Sphendone.

In some cases the ends of the chambers had been re-walled, and in no case was access possible farther into the interior of the Hippodrome. At

<sup>1</sup> The same was done in the larger arches of St. Sophia after the collapse of the dome.

Fazli Pasha, however, it was possible to examine the inner face of the inmost wall: here a water-conduit and smaller corridor was found, which may be the private interior water-supply for the Hippodrome, whereas the Cold Cistern in the Sphendone was more probably a public reservoir for supplying water at a good pressure to the low-lying suburb near St. Sergius and St. Bacchus, a purpose it certainly fulfils to-day.

The arcade of columns shown as still standing on the Sphendone in the views of Panvinio, Schedel, Van Aalst, and the cartographers, was known in Byzantine times as the *Περίπατος*.<sup>1</sup> It continued along the length of both sides of the Hippodrome, as shown in the excellent restoration of Djelal Essad Bey.<sup>2</sup> The only accurate record of its columns in detail are in Van Aalst's woodcut and in Gyllius's measurements. From these it is clear that the columns were Corinthian supporting an epistyle. Van Aalst places them in pairs, but it is very uncertain whether this arrangement is correct. Certainly Gyllius does not describe them as so arranged. Van Aalst, like so many Europeans whose final pictures were done at home and based upon the hurried sketches which they had but little opportunity for doing, as infidels, on the spot, may here be drawing too much upon his imagination for the arrangement, even if the detail is correct.

The architectural fragments in marble found in the Turkish wall which was dismantled in the Fazli Pasha trenches throw no inconsiderable light upon Van Aalst's cut, and the two together make it possible to essay a reconstruction in detail.

The fragments found that concern the *Περίπατος* are as follows:

(a) A large part of the lower half of a monolithic column in red conglomerate marble. Its circumference measures 2.23 metres (fig. 23).

(b) Half of a section of epistyle, with a panel decoration on the under surface and ridged sides. A slot is cut along the surface of the panel for the insertion of an iron bar or band for strengthening the epistyle, or for holding it together in a place where it had been cracked.<sup>3</sup> The outer surface of this fragment, when found, showed marks on the surface in bright green and red. On examination it proved that these colours were derived from a bronze *appliqué* fixture which had been fastened to the marble, red lead having been employed in the process. The green was a deep stain on the surface of the marble caused by the weathering of the bronze *appliqué*. A large circular medallion, 27 centimetres in diameter, was left on the surface of the marble, slightly raised, to hold the bronze fixture, which was of

<sup>1</sup> Codinus, p. 53.

<sup>2</sup> In *Byzantium à Stamboul*.

<sup>3</sup> A similar crack is seen in the epistyle of the right-hand door of the larger Golden Gate. The epistyle is here of similar style and moulding. See Strzygowski, *Jahrb.*, 1893, p. 11.



Fig. 23. Column from the 'Peripatos'



Fig. 24. Part of the architrave, with medallion

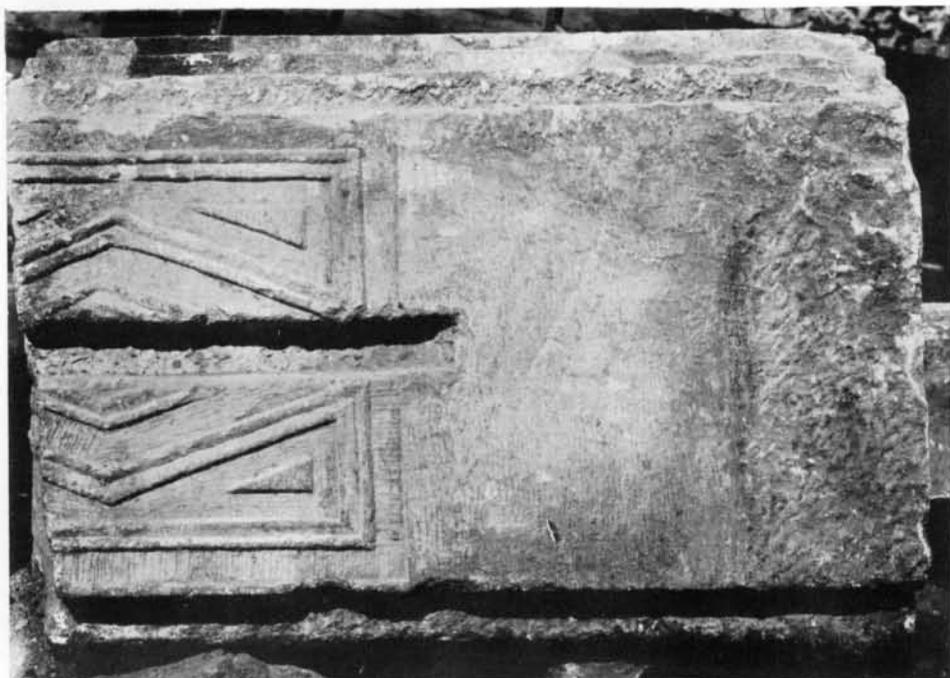


Fig. 25. Part of the architrave



Fig. 26. Impost

exactly the same diameter. That this bronze did not cover the whole marble face was evident from the fact that where it had touched the marble it had fitted close and not allowed moisture to stain the marble green. Elsewhere the marble was bright green, the colour being due to the decomposed bronze washing down over its open surface. The pattern of the *appliqué* could therefore be made out on the marble surface in white against a green background. The shape so detected appears to be a single letter

⊖ with a cross and a circle, thus: . A continuing bar inserted along the length of this section of the epistyle—also in bronze—suggests that a series of such medallions ran round one of the exterior surfaces of the epistyle (see restored section on the plan). It raises the large and important problem of that particular phase of Byzantine architecture of which the bronze-covered 'Column of Porphyrogenitus' is an example, in which bronze and marble are combined.<sup>1</sup> (Fig. 24.)

(c) A similar half of another section of epistyle, but without the medallion. The corner patterns of the panel are not cut. (Fig. 25.)

(d) A large impost with a stepped edge. (Fig. 26.)

(e) A pilaster of a balustrade, almost certainly that from in front of the course below the bottom row of the seats. It has lost the carving in high or hollow-cut relief which is usually found on pilasters of this type<sup>2</sup> running vertically down the centre, but the floral border to this central carving has survived (Fig. 27.) A second similar fragment was found.

(f) Three column capitals to which a specific place in the architecture of the Hippodrome cannot yet be assigned.

A comparison of the column (a) with the twenty-six monolithic columns which are used for the inner courtyard of the mosque of Sultan Ahmet shows that its dimensions are almost identical with those of the larger Ahmet columns. (Fig. 28.) Of the twenty-six columns the largest measures 2·34 metres in circumference, the smallest 2·12 metres. Eleven measure between 2·15 and 2·17 metres. Three are of red conglomerate, the same stone as our column-fragment (a), five are of red granite, twelve of grey granite, and six of white Proconnesian marble. The agreement in general of their diameter with those of our fragment suggests that they are ancient and derived from the Hippodrome. The material of which they are made is, except the Proconnesian marble, the kind most popular in the early buildings of Byzantium. When the Turks wanted rare foreign marble they invariably took what they

<sup>1</sup> It is to be hoped that more evidence on this subject will accumulate. The tenth and eleventh centuries seem to be the period in which it flourished most, but it may well be earlier.

<sup>2</sup> As in the Ottoman Museum, no. 694.

wanted from Byzantine buildings. The proximity of the Sphendone with some seventeen columns intact must have been an opportunity too good to miss for the builders of the mosque. The palace of Güzel Ahmet Pasha can have provided little material of use, and for monolithic pillars coloured and foreign marbles were invariably more sought after than the simple Proconnesian. The fact that Suliman in 1533, or about that time (the second visit of Gyllius), had removed many columns for building his 'Hospital' or Xenodocheion shows that the architects of the mosque in 1610 could well look upon the ruined Hippodrome as a quarry for ready-made columns. In any case we hear no more of Sphendone columns or of the arcade columns after the mosque was built, nor do any figure in subsequent views or maps, except those maps which are based on the prototype of Vavassore of 1520: even they (such as the Augsburg map of about 1680) draw the Sphendone ambiguously, so that it is hard to be certain if columns are intended at all.

It is hardly to be expected that all the columns of the *Περίπατος* would be of exactly the same dimensions; the fact that the majority of those in Ahmet Mosque were of rather smaller girth than the fragment (*a*) may be due to their having been trimmed and refaced by the Turkish masons.

#### *The Seats.*

Only one large slab from the seats was found in the Fazli Pasha region. To judge from Van Aalst's cut it would seem that the seats were few and low, and that the large number of people accommodated would be achieved by the great size of the building rather than by the number of its seats. The restored section on the attached plan shows them thus. Many of the seat-slabs appear to have been used for the flooring of the inner courtyard of the mosque of Ahmet.

#### THE NORTH-EAST END OF THE HIPPODROME

A complicated system of buildings was encountered at the north-east end of the Hippodrome, where excavations were carried out to attempt to fix the limits of its side-walls. (Fig. 29.) The alinement of the walls could be fixed on the plan by means of calculations based on the results of the excavations in the Fazli Pasha region. The open space which lies between St. Sophia and the Turbeh of the mosque of Sultan Ahmet was therefore attacked at the point as near the Turbeh as could be safely excavated without endangering that building. The first foundations reached were within 0.50 metre of the surface, and proved to be the tops of four massive pillars. Three were composed of brick and masonry courses alternating, and one was wholly of ashlar blocks. (Figs. 30, 31.) Between these four pillars, and

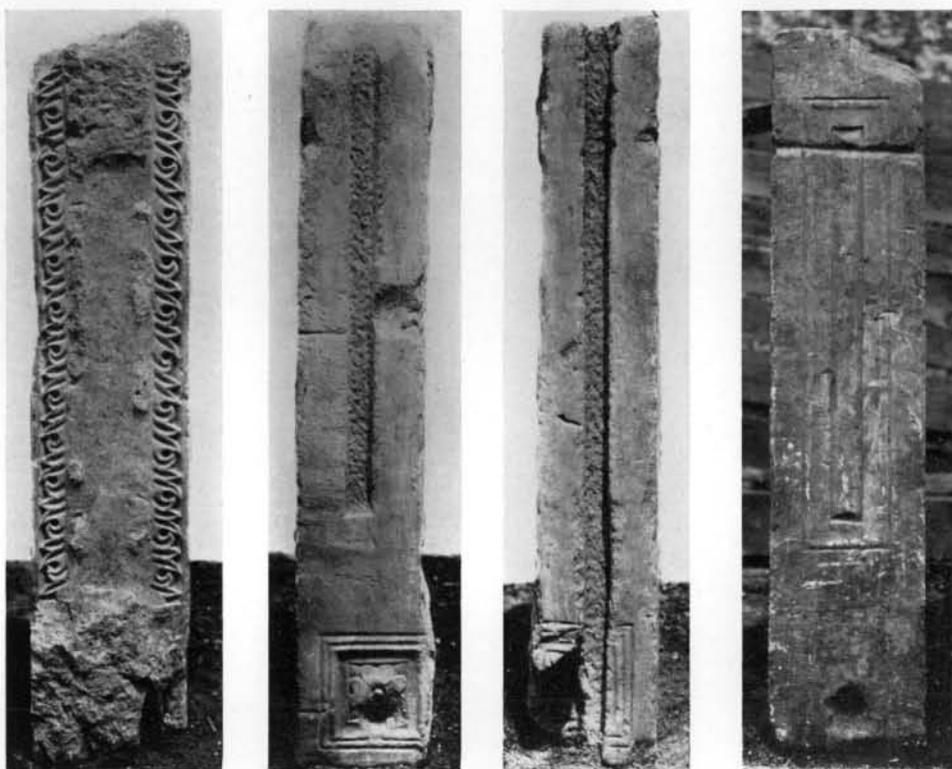


Fig. 27. Marble pilaster



Fig. 28. Courtyard of the Mosque of Ahmet



Fig. 29. Baths of Zeuxippos



Fig. 30. Pillar in the Baths of Zeuxippos

supported by them, was a bridge of interlocking stone blocks of great width—almost 9 metres, but of remarkably small span and length—only some 3 metres. Its curve was very slight, and it seems to have served as a link between the Hippodrome on the south-west and a wholly different structure on the north-east. It must have served as a bridge-roadway over a vacant space or a narrow lane. (Fig. 32.)

The building to which this bridge leads has features both of plan and of construction wholly different from anything in the Hippodrome. It falls principally to the right or east of the exit-bridge from the Hippodrome. Two columns of alternating courses of brick and ashlar were excavated to a depth of some 5 metres. Their outline, with one curved side each, shows that they are two of a complete set of either four or six similar pillars built to support a circular dome. The exact circle can easily be calculated (see plan) from these two columns. It has a diameter of 11.5 metres.

The identity of this building is, until its excavation is complete, a matter of uncertainty. But the following stratigraphical evidence may help to throw light on its identity.

The first half-metre was almost wholly Turkish, with numerous tile fragments which, unlike those from the centre of the Hippodrome, were of poor quality and of the late eighteenth century or later. There followed a slight deposit of about 0.25 metre of earlier date, from which some magnificent examples of 'Golden Horn' ware and similar wares (notably the complete blue vase shown in fig. 42) were found. Below this level, however, the strata were wholly Byzantine. Coins of the Comnene and Palaeologue periods were numerous, and with them fragments of Byzantine pottery bearing monograms of these periods (see Note on p. 41 and fig. 41). At about the 2-metre level, and between this and the 3-metre level, were found five skeletons (one woman, three men, and a child) in disorder upon the stone bridge. Above and near them coins of the above-mentioned periods were common.

Below the 3-metre level coins became more numerous still, and were of earlier date: earlier types of pottery appeared, such as that with lemon-yellow glaze (see below, p. 37, Class II c).

At the bottom of the bridge-level and below the bridge the majority of the coins found were of the fourth to the eighth centuries (see below, p. 49). A remarkable stratification was further established near the two main cupola-pillars. The surface of the brick-courses of these pillars was very badly weathered down to a level of two metres from the top (see fig. 30). The bricks stood out clear from their mortar and were themselves much worn and rounded. Below this level, however, the surface was fresh and

intact and completely unweathered. The soil between the pillars was, from the unweathered level downwards, for half a metre of a deep red, and composed largely of decomposed brick. In this level, and between columns A and C, was found the Roman relief of the Nereid and Dolphin, which, with other slabs of marble, seems to have fallen from the surface of the pillar. Further excavations south-east of these pillars (G on the plan) cleared a wall which had likewise been veneered with marble, and in which was a vertical flue and a doorway—the latter closed at a later date.

Between the pillars A and B was found a narrow water-conduit at the 5-metre level, running almost east and west, and another running south-east passed under the wall G.

The first conclusion from this evidence is that this whole complex of buildings was of very early date, and that it had been destroyed catastrophically and then abandoned for a time as a ruin. The debris of the collapse and destruction of the building had accumulated to the level of the pillars, where their surface was found to be intact and unweathered. But above this level they had stood, stripped of their marble veneer and open to the weather, for sufficient time to disintegrate their surface in the manner seen.

Whether the skeletons on the bridge can be associated with this destruction is uncertain. They are at the right level, in any case, and belong to the stratum of destruction.

It is tempting to assign this destruction to the NIKA riots of 532 and to see in the skeletons some of the victims of Belisarius. The building would then be, most likely of all, the Baths of Zeuxippos, commenced by Septimius Severus, the founder of the Hippodrome. During the riots the rebels are said to have held out in a building called the Octagon, which was finally burned by the troops. The cupola, the marble veneer, the flue and conduits, and the character of the Roman relief of the Nereid (as well as its style which indicates the second or early third century), which was a part only of a larger Sea Scene, all suggests that the building was a Bath. Further confirmation is seen in a series of similar pillars of similar size and structure which belong to baths of the Roman period in the Pontic city of Kallatis.<sup>1</sup>

We hear little or nothing of the Baths of Zeuxippos in the written records, except in a seventh-century document to the effect that it was 'near the Hippodrome and the Palace'.<sup>2</sup> Later authorities are silent. Conceivably

<sup>1</sup> See O. Tafrahi in *Rev. Arch.*, 1925, p. 286, fig. 6. *La cité pontique de Callatis*. The same alternate brick and ashlar courses are used here.

<sup>2</sup> *Chronicon Paschale*, 277.3 (quoted by Unger, *Quellen der Byz. Kunst.*, p. 67). This work was written during the reign of Heraclius.



Fig. 31. Ashlar pillar in the Baths of Zeuxippos



Fig. 32. Bridge from the Baths to the Hippodrome



Fig. 33. Cistern near the Sphendone



Fig. 34. Cistern near St. Eirene

the baths were in ruins for some time after their destruction in the NIKAI riots. Certainly these foundations show no signs of serious reconstruction, only of re-use. We hear of the Baths of Zeuxippos in use again in 713.<sup>1</sup> But the new purpose to which they were put was not necessarily that of baths. A large main water-conduit (H on plan) was at a late date run across the area, cutting into the bridge, which collapsed and was partly propped up on one side by an improvised support, a part of a marble pillar. Whatever its use was, the building was neglected and degraded even in the prosperous days that followed. The complete solution of these problems, however, must await further excavation. The area is in any case a very promising one, since the Baths of Zeuxippos were noted as being virtually a Museum of small works of art of classical times. It is to be hoped that the one relief found here in the comparatively small area opened is the precursor of other similar works of art.

## CISTERNS

In addition to the Cold Cistern of the Sphendone there are two others which have never hitherto been either examined or recorded, which it was thought advisable to survey. One has remained wholly undiscovered, and the other has been only cursorily examined.<sup>2</sup> It seems appropriate to make a brief mention of them.

Both adjoin the Hippodrome and may, consequently, have been connected with the elaborate system of water-supply which was revealed at so many places in the excavations.

I (fig. 33). The first cistern is some 100 metres from the Sphendone and to the south of it. It belongs probably to the Palace, but may also have served in a minor degree for the purposes of the Hippodrome, or have been supplied from it. Its roof is almost entirely Turkish, but out of a total of eighteen columns with fine Corinthian capitals surmounted by imposts there survive intact eleven. The original staircase at the north corner survives, but the cistern is dry and partly filled up with earth and rubbish. Modern houses, in ruins, are above it.

II (fig. 34). A cistern of very great size below the open space between St. Sophia and St. Eirene. I am indebted to Professor E. Tilley of Robert College for telling me of this cistern, which he had entered once before. But, strange though it may seem, it is not recorded by any traveller or

<sup>1</sup> *Theoph.* vi. 205.

<sup>2</sup> It is mentioned by Prof. E. Mamboury in his *Guide Book*, p. 484 ('Cistern of the Great Byzantine Palaces'). But he gives it '14 columns, 6 of which have been replaced by pillars'. It has in fact 18 columns, of which 7 have been replaced.

archaeologist<sup>1</sup> of any period, nor does it seem to be known to any of the inhabitants of Constantinople, except the authorities of the Military Museum in St. Eirene, by whose permission and with whose material help we were able to make the difficult descent into it.

No original entry survives, but a hole has, at some period, been opened in the roof by the sinking of a well, and water has for years been drawn from it in buckets, as at Yeri Batan, without any curiosity being aroused as to the source from which the water came. We entered the well and found the cistern filled with about 1.25 metres of clean water. The cistern itself was a rectangular building with a very massive roof, supported by fifty-two monolithic columns with plain capitals and no imposts. The mortar on the walls was everywhere intact, and the cistern is in almost perfect condition. It is alined north-east and south-west, like the Hippodrome. At its south-east end, at a point almost exactly underneath the north-east wall of St. Sophia, is the usual flight of steps, but in this case they lead not above ground but to a passage which runs directly underneath St. Sophia. This passage is, however, bricked up and at present inaccessible.

The *enceinte* wall of the Serai precinct passes through the cistern and cuts it into two parts, which communicate by means of an arched door. Whether this precinct wall is, in foundation, Byzantine, as now seems probable, or whether the cistern was cut into in early Turkish times, is uncertain. The general impression made on us was that the cistern was built to conform to the already existing *enceinte* wall. At the eastern corner of the cistern is a small additional chamber. The floor everywhere seems to be of solid natural rock.

Cistern no. I is entirely without mention in the records. There is no certain mention of no. II, but Harun ibn Yahya<sup>2</sup> says, 'near the dome of this Palace (St. Sophia) is a cistern some 200 paces away', which is much more likely to refer to no. II than the description of a cistern given by Dr. Covel<sup>3</sup> in his diary, which clearly describes a cistern of masonry columns which lies exactly under St. Sophia itself. Pero Tafur<sup>4</sup> appears to describe the same cistern as Covel and not our no. II.

<sup>1</sup> It is remarkable that it escaped the notice of Walter George when he made his admirable survey of St. Eirene. He seems to have suspected its presence. See *The Church of St. Eirene at Constantinople*, p. 16.

<sup>2</sup> Marquart, *op. cit.*, pp. 215 ff.

<sup>3</sup> *Extracts from the Diaries of Dr. John Covel* (Hakluyt series) (1893), p. 170.

<sup>4</sup> *Op. cit.*, p. 139.

## WATER-CONDUITS

One of the unexpected results of the excavation was the discovery of the astonishing size and complex character of the ancient water-supply of this part of Stamboul. Over twelve different conduits were reached in excavation, and the whole area of the Hippodrome was found to be penetrated in every direction by water-channels of various dates. The region of the Serpent Column shows on the plan no less than seven.

Obviously partial excavation can cast but little light upon the complete systems involved, but it is clear that every Emperor and every Sultan whose care it was to improve his city did his best to add to or to improve the existing systems of supply.<sup>1</sup> The system over the whole of Byzantium must have been of amazing complexity, and into this system are fitted fifty-eight known cisterns, apart from those that may yet be discovered.

In the Hippodrome the main central conduit was entered and explored. It is a narrow passage with an arched roof, and it is composed wholly of brick. It can be entered at the fountain near Fazli Pasha Sokak. It runs from there more or less obliquely across the Hippodrome. Not far from the Serpent Column it meets another large conduit that runs parallel with the axis. Parts of this main conduit were tapped in trench II and a large part of it cleared in trench V. It was measured and explored from the entry near the fountain to a point near the tramway line in front of St. Sophia, where a manhole makes egress possible. The water in it runs in the direction of St. Sophia, and is still the principal source of supply for that mosque. The water comes into the conduit by a side-channel from the north-west, running in at the fountain in alinement with Fazli Pasha Sokak. It is said by residents to come ultimately from Egri Kapou. The conduit has been repaired, and re-made to a certain extent in Turkish times. But in origin it seems to belong to the fourteenth or even fifteenth century, since where it was uncovered in trench no. V it was in a stratum of the Palaeologue period. It is large enough to allow passage to a man of moderate height, if slightly stooping.

Abandoned conduits were more common than working conduits. Two, running parallel (one with lead-piping), were found in trench I at the 2-metre level. Both had been superseded by the larger conduit broached at the upper end of the trench. In trench II a terra-cotta pipe, containing clear running water, was reached at a depth of 6 metres, far into the yellow

<sup>1</sup> Unger, *op. cit.*, pp. 191-5, where one can realize the periodic improvements made in the water-supply from the time of Constantine onwards. Suliman was the greatest benefactor to the city in Turkish times. An elaborate panorama map now in the Serai Library shows the system he inaugurated.

clay. Byzantine pottery was found near it. But the clay bedding was imposed upon it, and there was no sign of it having been inserted. It must be therefore one of the oldest surviving means of supply.

When more evidence has accumulated it will be possible to classify the numerous types of conduit in use in Byzantine and early Turkish times. At present two clear classes can be established, namely, those for the carrying off of surface-water and those for conveying a water-supply. The former, as at the 'Column of Porphyrogenitus', are rectangular, tile-lined, and narrow, mere gutters in fact. The latter vary greatly and can be (a) arched, (b) flat-roofed, (c) with lead-pipes in a brick and mortar casing, (d) plain terra-cotta pipes. Of these types (b) is almost certainly Turkish, while (d) is the oldest, being found both *incorporated* in the masonry of the Sphendone and in the Hippodrome at the lowest depths.

#### SCULPTURES

Two large sculptures in relief were found and one small marble statuette. A number of other minor fragments were also found, but cannot be dealt with here.

I (fig. 35). In the garden near Fazli Pasha Sokak (see p. 7 above) was found a fine fragment of a relief in Greek island marble, probably Parian. It measures 0.565 m. in height, 0.33 m. in width, and 0.13 m. in depth. The depth of the carving in relief is 0.045 m. The back is roughly tooled.

The relief shows a woman seated on a *δίφρος* or low stool, the one visible leg of which has a double moulding. A cushion is upon the stool. The figure wears a heavy himation, which is drawn round to cover the head. The right arm is outstretched, while the left arm is straight, supporting the weight of the body, with the hand pressed on the corner of the cushion.

The head is missing and the right hand chipped away. The legs below the knees are gone, but they clearly hung over the end of the stool.

Below the stool are five vertical grooves, the purpose of which is not clear. They are joined by a rough horizontal cut at the bottom.

The relief evidently continued below, and may have been a composite work with several scenes. At the lower left corner is an outline which may be that of the head of a figure.

The style is free and unlaboured. The figure is of graceful proportions and in a graceful attitude. The folds of drapery are admirably rendered and show no trace of over-elaboration. One fold falls over the edge of the cushion on to the stool, so avoiding the break between the figure and the stool which would otherwise have resulted. The arrangement of folds between the legs and between the left arm and the body is particularly successful.



Fig. 35. Greek relief



Fig. 36. Greco-Roman relief



Fig. 37. Portrait-bust



Fig. 38. Capital with monogram

The attitude is almost an exact counterpart of that of the figure of Phaedra on the magnificent early Hellenistic sarcophagus of Hippolytus in the cathedral at Girgenti in Sicily, though the treatment and nature of the drapery is there different. The only difference between the attitude of the figure in the two works is that here the head is erect, while in the Girgenti sarcophagus it droops on to the left shoulder. Otherwise the pose is identical and the hand of the Phaedra holds the cushion at the corner of the stool, and is the same in every respect as in this figure.

The stool is of a type, with double-moulded legs, and no back, common in Greek art of the fourth and early third centuries B.C., though not very frequent before or later. A close parallel is seen in a fourth-century relief in the National Museum at Athens (no. 1028).

The general treatment and style of this piece, coupled with the nature of the marble, compel us to attribute it to a Hellenic or Hellenistic sculptor. The date of its achievement is more difficult. About 300 B.C. would seem the most likely time, but in view of the apparently composite nature of the relief it might possibly be the work of a Greek artist of the Augustan period under strong Neo-Attic influence. The former date, however, would seem the more likely. In any case it is a work which was imported from Greek regions to the Hippodrome.

II. This relief (fig. 36) was found at the foot of pillar A in the north-east end of the Hippodrome, on the site tentatively identified as the Baths of Zeuxippos (see trench V on plan). It is of local Proconnesian marble, and its dimensions are as follows: height 0.68 m., width 0.74 m., depth 0.125 m. The width of the decorative border is 0.145 m.

It is broken away at the top, but the remaining three sides are undamaged. Another panel continuing the subject shown in the relief evidently fitted on to the right side.

It shows, within an elaborate decorative border, a Nereid or sea-goddess, perhaps Thalassa herself, half-facing to her left. The body is shown from the waist upwards, the plain edge of the decorative border here cutting it off. The figure is bent slightly backwards, with the left arm outstretched as if in defence and the right fore-arm bent up across the breast. The haft, perhaps of a trident, is seen across the left arm. The hair is flowing and loose and falls down the back. Above the right shoulder is a dolphin.

The relief has suffered little damage, but the nose and chin have been badly rubbed. The decorative border continued originally along to the left, where it is rather too damaged to detect easily. The outline of the corner of a second panel can there be made out, though no identification

of its contents is possible. The slab which originally fitted on to the left would have given the bulk of the composition of this panel.

The sculpture was found lying face upwards in a thick deposit of red earth, mainly composed of decayed brick from the pillar at the foot of which it lay.

The subject is evidently a sea-scene, though the absence of the main figures makes greater precision impossible.

The surface of the marble is only roughly finished, and the marks of the chisel are everywhere evident. It seems certain that this roughness was left because, in its original condition, the surface of the sculpture would have been wholly covered with colour, perhaps some kind of thick *tempera*. The surface of the plain edging to the decorative border would also have been thickly covered.

The style is original and vigorous, and certainly unusual. The piece was cut locally since it is of local marble (a stone which cannot be confused with any other of the Greek marbles). It belongs certainly to the Roman period, and perhaps to the second century A.D. But it is difficult to adduce any parallel work, it may reflect a local Anatolian survival of the Pergamene manner.

The panel, with a series of similar panels, perhaps decorated the walls of the building in which it was found. Other plain marble slabs seem to come from the same building, and at the place D on the plan several were found in the same position at the foot of a wall. Allowing for another panel of the same size on the right of this one, perhaps the scene would have been completed in a total width of about 0.70 metre. But this is problematical and the discovery of more of this interesting series of panels must be awaited.

III (fig. 37). A small marble statuette from the hips to the neck of a male figure. It is of Greek island marble and measures 0.135 m. in height, 0.125 m. in width, and 0.06 m. in depth. Its surface is damaged, and the right arm and left hand have been knocked off.

The figure appears to be wearing a toga, and resembles both in style and attitude the figures on the upper reliefs of the Obelisk of Theodosius. It is of the period of Constantine the Great, and is, perhaps, a statuette of the Emperor or of some Imperial personage.

IV. Among the sculptures may be classed a fine column capital with elaborate floral decoration. It bears a monogram that may be that of Nikephoros Phokas (fig. 38).

S. CASSON.

## II THE BYZANTINE POTTERY

### I. INTRODUCTORY

A REALLY satisfactory classification of the Byzantine pottery is rather a difficult matter, for there is such a number of systems on which to work. The most reliable data for the purpose of a preliminary report seem to be a consideration of the general technique of decoration combined with the actual class of the ware or body. The majority of fragments discovered belong to the same type of pot, namely open bowls or plates, without handles. Hence the actual form is of little use for detailed classification. Here and there more elaborate vessels, such as jugs, flasks, or the curious 'cooking pots' mentioned below under II A, occur, but as far as can be gathered from this year's work the more elaborate wares or systems of decoration were not usually employed for such pottery. For the time being vessels of the type can be included in the undecorated group, and it seems best to leave them there as isolated examples until more material of the kind has been brought to light, with which they can be compared.

The forms of the bases, which are invariably of the hollowed-out type, differ considerably, but only within certain defined limits, which seem to be in close correlation with the class of body and the technique of decoration. The forms of base within a class are restricted to variations of two or at most three essential types. Flat bases occur now and then, but they seem to be associated with special types of jugs or beakers.

The rims of bowls and plates are even less variable. The 'simple' rim is by far the most common. Only among the white-ware pots of class II, with impressed or scratched decoration, or with no decoration at all, do two, three, or fourfold types appear.

The sides of the plates and bowls were seldom preserved, but a few scanty examples serve to show that flat plates, plates with a doubly-curved side, like the modern soup-plate, and deeper bowls of 'porridge-bowl' form, were apparently all equally common and were all mounted on the same types of base. These features are discussed at greater length under the classes with which they are associated.

## II. CLASSIFICATION OF WARES

The order in which the wares have been classed is based on the idea that the most common classes should be considered first, and within the classes the most extreme examples of a technique are considered, where possible, before the more moderate examples, which are perhaps derived from them. The figure refers to the class, as determined by the type of body and the technique of treatment, the letter to the more individual character of closely related types.

## I. RED WARES

Fragments of type A were found throughout, but otherwise the majority of examples, with the exception of a few of the less characteristic, came from trench V.

Vessels falling within this class are of numerous types, ranging from the pots where a thin scroll-like decoration is scratched through the slip with a narrow point, to those where whole sections of the slip are scraped away. The technique is essentially the same throughout. The clay is covered with a fairly thick slip, white or pale buff in colour, while it is still damp. The slip is scratched or scraped away to form the decoration, the scraping sometimes cutting right into the body. The whole is then glazed. The usual glaze turns to a yellow colour above the slip and to a brown or black where the slip has been removed. Green glazes, varying from a yellow-olive to a deep emerald colour, are also used, but they are on the whole rarer. It seems most satisfactory to regard pots so treated as separate sub-classes.

The body of pots of this class is invariably a fine red or less often a buff colour. The clay is usually good, though for common work poor gritty material is sometimes used.

*Group A. Common Incised Ware.*

The body is of a brick-like consistency and is often rather poor. The most common forms are small bowls or plates or, less often, larger dishes. The bases are usually shallow, with fairly broad margins, but sometimes they approach cup-like form. Very occasionally flat bases appear, but they seem to be rather rare exceptions. The rims are invariably 'simple' in form.

The outsides of the pots are plain, the insides are covered with a thick orange or paler yellow glaze on a white slip. The decoration, which consists of one or more circles around the base, sometimes with vertical parallel lines above, has turned to a brown varying from light to dark with the firing. Other forms of decoration, such as crossed lines, brush marks,

or definite patterns, appear occasionally, but these are rarer and seem to belong to a type more or less well defined, which can be regarded as intermediate between A and B.

Pottery of this type seems to have been in common use from fairly early

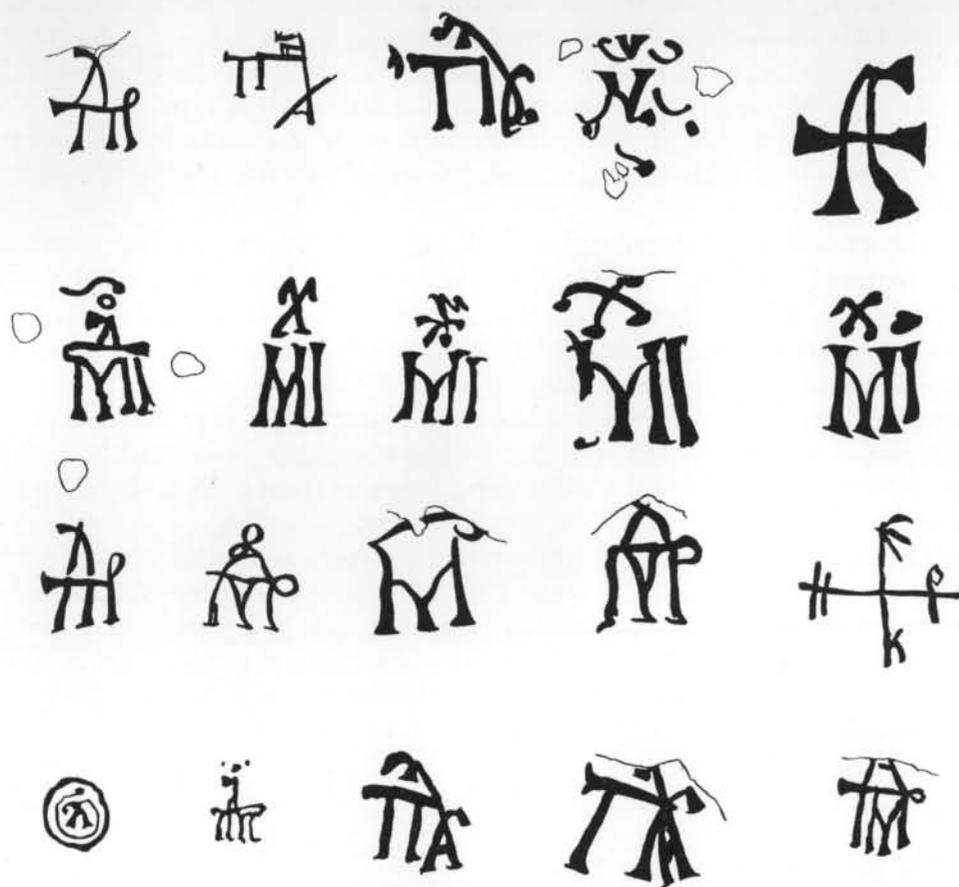


Fig. 39. Monograms on Byzantine pottery.

times almost until the present day. It is difficult to assign a definite date to examples except on purely archaeological grounds.

*Group B. Elaborate Incised Ware.*

This is to be distinguished from the common incised ware of group A by a slight difference in the body, which is finer, more carefully worked and no longer of a coarse 'brick-like' consistency, and by the distinct difference in working. The forms of the vessels are more elaborate, the glazes are

purser and brighter, and the decoration is more carefully worked. It sometimes shows first-class drawing and care of treatment. (For some typical examples see fig. 40.)

Pots of this type are invariably small with sides curved like the modern soup-plate. The bases are tall, narrow at the point of junction with the body, but broaden out like inverted toadstools below. Their margins are thin at the bottom but thicken upwards, to form cup-like hollows beneath. The form of base is particularly characteristic of this type of pot. The rims are thin and well worked. In form they are 'simple'. They are often decorated with circular bands, worked like the rest of the decoration.

The exteriors are usually glazed, but the colours vary. Most common is a glaze of a bright emerald-green above, where it is set on a fine white slip; below, where there is no slip, it varies from light to dark brown. Cream or other glazes as inside are also found. The lower extremities of the bases are usually plain. Incised vertical lines, which start from one, two, or three incised bands just above the junction of base and body, are sometimes added for decoration. Inside the glaze is invariably white-cream to cream-yellow on a white slip. It varies from a bright light brown to a fine black where the slip is scraped away.

The actual motives of the decorations, which are usually not merely scraped through the slip but cut well into the paste, vary considerably. This is a feature one would naturally expect to find in a free-hand drawing, for it is a remarkable fact that instruments such as compasses never seem to have been used, even for the most geometrical of designs. The types of decoration fall into eight main classes, which can be most easily distinguished by tabulation.

(1) Monograms (see fig. 39). These are incised at the centre of the bases of bowls or plates, and are found on the interior surfaces only.

(2) Interlacing rope-like bands.

(3) Stars, or more accurately, series of radii emanating from a common centre. This motive is very common throughout Byzantine art. It is probably of Egyptian origin, being a copy of the design on the small circular glazed tiles used for inlaying.

(4) Crosses, of the normal Greek type.

(5) Various combinations of (2) and (3) or (3) and (4).

(6) Lines, somewhat indeterminable geometric patterns or similar devices.

(7) Chequered patterns, arranged to form a square like a draught-board at the base of the interior of the dish or bowl.

(8) Birds, such as doves, eagles, and pheasants (?), often surrounded by foliage. These are often very carefully drawn and show the work of the



Fig. 40. Specimens of Byzantine pottery designs used in Class I B and c.

Byzantine potter at its best. In many cases the work is of high artistic merit.

A few small, steep-sided, flat-bottomed cups or small beakers show exactly similar technique and body. The very distinct form is the only feature that serves to distinguish them from the above.

*Group C. Shiny Olive Incised Ware.*

The majority of examples came from trench V. The ware is usually a fine buff-red, but sometimes it is coarser, approaching brick-like consistency. Dishes or plates with hollowed bases of medium depth and simple form seem to have been the most common types. The rims are always 'simple' and are usually decorated with bands made by scraping away the slip.

The slip is white and fairly thick. It covers the whole of the inside, except where it has been scraped away for decoration, and the upper part of the outside. The most distinguishing feature of the class is the glaze, which assumes a bright, shiny, thick cream colour above the slip and turns to a shiny medium-brown or more often a light olive-green above the actual ware. The decoration, which consists of concentric circles around the base, S-shaped patterns at the centre or up the sides, thin lines, single or in series, clubs or mushroom-like trees, is made by scraping through the slip only. There is no trace of the habit of cutting into the ware, so common in group B. Splodges or streaks of thick bovril-like brown glaze are sometimes added here and there on the inside.

In one example the design shows what appears to be a man or warrior, but the fragment is small and it is difficult to distinguish his appearance or attitude.

*Group D. Glossy Incised Ware.*

The glaze resembles but is not quite the same as the shiny cream glaze of group C. It varies from a greyish- to a brownish-green colour inside. The colours on the outside are more variable. The decoration is distinctive, consisting of thin scratched lines similar to those in the Sparta I type.<sup>1</sup> At the rim series of bands occur, between which are zig-zags, V-shaped scratches, and other simple freehand patterns. These turn to a medium brown under the glaze. The ware is red, often rather coarse and brick-like. Apparently the most common classes of vessels were plates, with shallow hollowed bases of medium breadth. The rims were apparently always simple.

*Group E. Fine Graffito Ware.*

This type is exactly similar to that published as Class I by Dawkins and Droop. The ware is red and rather soft. The sides of the vessels, which

<sup>1</sup> Dawkins and Droop, 'Byzantine Pottery from Sparta', *B. S. A.* xvii, 1910-11, p. 26. Compare our Class I. E.

usually consist of shallow flat plates, are rather thick. The bases consist of a mere band of clay around the exterior of the bottom of the plate, which forms a wide but very shallow hollowed base.

The exteriors are usually covered with a white slip, but there is never any glaze. Sometimes they are left plain. The insides are covered with the same white slip and afterwards glazed above in yellowish cream. The decoration consists of circles or bands, enclosing zig-zags, scrolls, or comma-like dots. The lines are thin, lightly incised, and executed with spirit and expression. Occasionally the decorative effect is intensified by the addition of splodges or patterns in green paint.

*Group F. Green-glazed Incised Ware.*

Certain green wares from various trenches, which are definitely Byzantine, seem to form a separate class, but unfortunately there are only very few examples to judge from. The ware is red or whitish, but more often red. Pots or bowls, with slightly hollowed or flat bases, seem to be the most common forms. The glaze, which is found on the inside only, is of a bright or dark emerald green, on a white slip. The class of decoration, which does not seem to be very closely allied to that of the other types, is characteristic. It consists of lines incised through the slip, but not into the ware, which have turned black with glazing. Circles, sweeps, or formal trees seem equally common. In one case the decoration is geometrical, which suggests that a separate subdivision should be supplied for this type. Further material only can determine this.

*Group G. 'Chanak' Wares.*

The ware is red, the glaze, brown or green on a white slip, is the same inside and out. Large dishes with shallow, or more often, with wide, deep, hollowed bases are the most common. The decoration consists of lines, circles, or leaf-like patterns scraped through the slip, which turn a very dark brown under the glaze.

Ware of this type was found in the upper levels only. It is all late, and a great deal of it is certainly of Turkish manufacture. Some may belong to the later days of Byzantium, but it can be distinguished from the Turkish by archaeological data only.

## II. WHITE WARES

The majority of examples came from the Hippodrome trenches. Trench V, so prolific in the better examples of red ware, was singularly lacking in white, a fact which suggests that better examples of the two types were not in use simultaneously.

The chief characteristic is the fine white body and the type of glaze, which is laid direct on to the body, without the thick white slip characteristic of other types. If a slip is present at all, it is very thin and consists of a wash, made by brushing over the damp clay of the body with water rather than by applying a definite paint-like coat. The glaze ranges from a green-cream to a yellow-brown colour.

*Group A. Plain Glazed Wares.*

The body is made of rather coarse white paste, covered with cream-yellow, greenish, or brownish glaze on the inside only. The outsides are left plain. Dishes, plates, or bowls with hollowed bases of medium depth are most common. Flat-based cups, beakers with steep sides, and jugs are rarer. Two curious vessels, standing on high bases, with perforations around the sides, belong also to this class. They are apparently designed to hold some hot substance. The bases, though still of normal hollowed form, are different from those usually associated with typical red-ware pots and serve as yet another distinguishing feature.

Several examples of vessels shaped like large egg-cups were found in trenches I A and B and in no. IV. Our examples are poor, roughly made, and uninteresting, but it seems likely that vessels of this form were in common use as dishes for fruit or similar substances at large banquets in later Byzantine times.<sup>1</sup>

It seems likely that this type of ware and glaze was that most commonly used in the making of plates, bowls, or jugs for everyday use, where a large amount of breakage would naturally be expected. The forms and decoration of other groups bear out this supposition, for the plain pots or those with impressed designs would require far less cleaning than the elaborately decorated examples of Class I.

*Group B. Stamped Wares.*

The body is always white, but the paste is finer than is usual in group II A. The glaze, which is yellow or greenish yellow, is laid direct on the paste on the inside. The outsides are usually plain. The size varies from very large to quite small, but the form is remarkably constant. Flat plates or dishes, with wide hollowed bases, are apparently the only types treated with this class of decoration. The rims are simple, double, or even more complicated, but in the absence of complete specimens it is impossible to be certain which rims belong to group B and which to A and C.

<sup>1</sup> See the illustrations of Banquets in the monasteries of Mount Athos depicted in the frescoes. Various reproductions appear in Millet, *Les Monuments d'Athos*, vol. i, Paris, Leroux, 1927.

The decoration is found at the centre of the interior of the base or perhaps around the rim. At the centre of the base it was made with a stamp while the paste was wet, the pattern being in slight relief. The most common motives are stars, decorative patterns, birds or animals, usually surrounded by indented circles. Our best examples show a duck, a horse, and a gryphon.

*Group C. White Inscribed Ware.*

The body here is exactly as in groups A and B. The glaze, as in group A, is more variable than in group B. It is laid direct on the ware, so that there is no change of colour between the scratched and untouched portions of the pot after the glaze has been fired.

Small hollow-based dishes or plates are most common, with sides flat and rims sometimes elaborate in form. Most usual is a twofold rim, with an incised zig-zag between the two folds. Treble or quadruple folds also occur, but here the zig-zag is usually omitted, for the horizontal bands have to be close together. The incised patterns consist usually of mere scratches, 'herring-bone' branches, zig-zags, or perhaps even letters. Birds, animals or fishes occur, but these seem to be less common. Occasionally thick brown blobs of glaze are added, but these seem to be due to careless or haphazard work rather than to a desire to alter the design with the aid of careful brushwork.

*Group D. Petal Ware.*

The ware itself is white or pink and the glaze, which is on the outside only, is usually the same as in groups A and C, or more elaborate, where fine yellow alternates with brown-green. The forms of vessel seem variable, but the most common, as far as can be judged from a few examples, are flat-based jugs and pots and hollow-based bowls. The rims are simple, and their decorative powers are assisted by no more than the blobs.

The characteristic feature is a series of horizontal bands of clay blobs stuck on to the outside of the pot with the thumb. In some cases these are glazed as the body, in some cases they are glazed differently. Often alternate rows are glazed in different colours. The blobs vary in size. Sometimes they are large and remain detached from the body at one end; sometimes they are mere strips. In the most degraded, but perhaps the most attractive, examples they consist of raised blobs of brown bovril-like glaze. They are usually directed downwards, but there seems to be no definite rule about this.

In one example, where the ware and apparently the form are of the usual type, a series of impressions take the place of the blobs.

## III. PAINTED WARES

The wares included under this head form a very definite class which does not seem to be closely related to either of the above. It may perhaps be found necessary, when more examples come to light, to regard the white-ware and red-ware examples as two definite classes rather than as two groups of the same class, for the difference in form and technique is closely correlated with the difference of body. For the purposes of a preliminary classification it seems simplest to regard the wares as belonging to the same group.

*Group A. Coloured Glazed Wares. White Ware.*

This is by far the most important group among the painted wares. Examples come from all trenches, including some from the lower levels of no. V. It appears that the better examples are early and the less-carefully executed ones late, but it is as yet impossible to dogmatize on this point.

The pots are made of fine white paste, similar to that used in II B. It turns to a pink colour under severe heat. The most common forms are plates, varying in size from small to very large, with wide, rather shallow hollowed bases, also similar to those of Class II B. The outsides are usually plain, though sometimes a thin, speckly, pale emerald-green glaze, laid direct on the ware, is present. The insides are glazed in a thick cream, on a white slip. The texture varies from a poor 'matt' to a fine 'porcelain'. The decoration is thickly glazed in one or two colours. What appear to be the earlier examples have splodges, scrolls, circles, lines, or crosses in blue, manganese purple, brown, or, less often, green. What appear to be the later have the same types of decoration in a combination of manganese purple or brown and a dirty emerald green. The work varies from poor to elaborate, some of the better examples being valuable artistically as well as archaeologically.

*Group B. Painted Wares. Red Body.*

These are certainly later than group A, most of the examples coming from the upper levels of trenches I A, C, and D, II, and III, and are probably of late Byzantine or early Moslem date.

The ware is buff or red, hard-baked and flint-like in texture. The most common forms are small bowls or dishes, with very shallow hollowed bases, consisting of little but raised bands of clay around a slightly convex base. The outsides are either plain or covered with a darkish red slip—the insides are glazed in greyish cream on a white slip. The decorations, which consist of scrolls or circles, are thinly painted on in green, manganese

purple, brown, or a combination of green and either of the other colours. The lines of paint are broad and runny and give a general idea of careless work.

*Group C. Painted and Incised Wares. Red Body.*

The ware, glaze, and decoration is exactly as above, but in addition to the glazed colour thin lines, bands round the rim, or zig-zags are scratched through the slip. They turn different colours in firing, according to the nature of the surrounding glaze. When the glaze is emerald green they turn black, when it is yellow or cream they turn medium brown, and when it is light brown they turn dark brown. The most common forms are small cups or bowls with simple rims which turn slightly outwards at the top. The bases are similar to those of group B.

It is hardly certain on archaeological grounds that these two last classes are Byzantine. They are unimportant specimens of a late ware, which is probably of local manufacture.

This type approaches most closely to that ware generally known as 'Mediterranean', which seems to be specially characteristic of Cyprus.

Some few fragments of white-ware lustred pots were found in trench V, in association with ware of class I A and B. The fragments are small, and the fact that only a very few were found suggests that they were importations. They are akin in texture and decoration to similar pottery from Fostat,<sup>1</sup> but it is impossible to affirm their place of origin. Similar ware is found alike at Fostat, Rakka, and in Persia, and for the moment it must remain uncertain to which group our fragments are to be assigned. The style of ware and decoration suggests that they should be assigned to the eastern group rather than to the more western Hispano-Moresque types.

### III. DATING

On the evidence available at the moment it is hardly safe to make any attempt at assigning definite dates to any of the classes of pottery. Rough estimates can be made in some cases.

Class I B, elaborate incised ware, probably belongs in the main part to the thirteenth and fourteenth centuries. Some is perhaps earlier, some later. The monograms which are characteristic of the type are associated with various Palaeologue Emperors. Coins from the same levels mostly belong to this period.

The better examples of this type of pottery were confined almost entirely

<sup>1</sup> Evans, *Lustre Pottery*, Lond. 1920, pl. 1, nos. 3 and 4, ch. i.

to trench V, specimens from the other trenches being scarce, and when found, poor and degraded. On these grounds we may conclude that the type was characteristic of the Palaeologue period.

Class I E, delicate graffito ware, is identical with the ware published by Dawkins and Droop as Sparta I.<sup>1</sup> Numismatic evidence seems to date the bulk of the recent Sparta finds to 1100-1250.<sup>2</sup> Anyhow, the very earliest examples must be later than the middle of the tenth century.

It seems likely that this ware is earlier than the coarser work of the same technique, which is included here under class I A and B.

Some authorities consider that the white ware with impressed design,<sup>3</sup> class II B, is early, but there seems to be little evidence for this assumption. Judging by the fact that body and glaze of exactly the same type are characteristic of the poorest pottery which was probably in use throughout the ages of Byzantine history, it seems safe to conclude only that elaborate treatment of the ware by stamping or incising designs fell out of or came into use at a period which can only be determined by further investigation of an entirely archaeological nature.

Class I G, 'Chanak' ware, certainly belongs to a late period. A large quantity of it is Mohammedan. It is made and used in the Near East to-day and has probably been in use at least since the thirteenth century in one form or another. The neater bowls with elaborate decoration of leaf-like designs are anyhow late, and it is hardly safe to regard them as definitely Byzantine.

The wares described in class III, groups B and C, are again late. They apparently continue in use well into Moslem times, but the work becomes degraded as time progresses. The earliest examples probably belong to the fourteenth century.

The dates here suggested are open to revision. We hope, however, that further investigation will permit a more certain and a more satisfactory system than can be ventured upon in a preliminary report of this nature.

D. T. R.

<sup>1</sup> Dawkins and Droop, 'Byzantine Pottery from Sparta', *B. S. A.* xvii, p. 26.

<sup>2</sup> We take this opportunity of thanking Mr. A. M. Woodward for this information.

<sup>3</sup> e.g. Mon. E. Mamboury, author of the *Guide to Constantinople*. His evidence seems to be provided by excavation with the French shortly after the war.

## NOTE ON A FRAGMENT OF BYZANTINE POTTERY (FIG. 41)

This fragment was found in trench no. V within a metre of the surface. It is part of a flat plate, and is of the type I c (see above, p. 34). It shows a man holding over his shoulder a lance upon which is a pennon bearing a cross and four Bs. The dress of the man is tight-fitting and short-sleeved. He wears a moustache.

The interest of this piece lies in the fact that it shows a pennon bearing the armorial design of the house of the Palaeologi. The identification of the cross and four Bs as the arms of this family has been shown by Svoronos in *Journ. Internat.* ii. 383 ff. The arms occur on coins of Michael VIII and of Andronikos II. Furthermore, Tafur (*op. cit.*, p. 123) tells us that Michael VIII, who recaptured Constantinople from the Latins, 'could never be prevailed on to relinquish the arms which he formerly bore, which were and are two links joined, and to assume the Imperial arms which belong to the throne. But he replied always that he had won the Empire bearing those arms and nothing would induce him to part with them, and so it is to this day.' The 'two links joined' must be two Bs, a design frequent enough on Palaeologue coins instead of the four Bs.

Ebersolt (*Mélanges Schlumberger*, p. 433) has shown that a Genoese shield in marble, now in the Constantinople Museum, which bears the cross and four Bs, as on our fragment, is derived from a group of Genoese arms and was added to them to show the suzerainty over the Genoese colony of Andronikos II.

Of the many interpretations suggested for the Bs by Svoronos and others the simplest seems to be: *Βασιλεὺς Βασιλέων Βασιλεύων Βασιλεόντων*. But Svoronos prefers to use the cross and read: [Σταυρὲ] *Βασιλέως Βασιλέων Βασιλεῖ Βοήθει*. Hasluck (*Letters on Religion and Folk-lore*, 1927, p. 23) suggests, I think rightly, that the four Cs of the Serbian and Montenegrin coat of arms, which is read by the Serbs as '*Samo Sloga Srbina Spasova*', is derived directly from this Palaeologue coat of arms. The Cs are certainly back to back, as in all the better versions of the Palaeologue arms, and the lines of the cross pass between them. Hasluck further connects the arms with the 'briquets' of the order of the Golden Fleece.

The identification of the arms on the pennon thus makes it possible to



Fig. 41.

be certain of the period of the type of pottery to which this fragment belongs. It must belong to the period 1261-1453, but more to the first half than to the second, since the arms were more in evidence at the beginning of the Palaeologue period than at its close.

The view of the walls of Constantinople given in Schedel's *Weltchronik* of 1493 shows shields with armorial bearings on the towers. Each shield bears a cross with a mark between each limb. The coarseness of the wood-cut prevents greater detail being shown, but we have here almost certainly the same arms. No surviving fragments of such shields are known.

S. C.

### III THE INSCRIPTIONS<sup>1</sup>

**T**HERE are four inscriptions existing above ground in the Hippodrome, that on the Serpent Column, the two on the base of the Egyptian Obelisk, and that on the base of the other obelisk. The first has received very full treatment already; I need only note that my own independent reading of the text, in particular of the top coil, entirely agreed with that of Fabricius (published in Dittenberger, *Sylloge*<sup>3</sup>, 31, Hicks and Hill, *Greek Historical Inscriptions*<sup>2</sup>, 19, Rohl, *Imagines*<sup>2</sup>, p. 28). The other three are less well known. Those upon the base of the Egyptian obelisk have been several times published in modern times (*C. I. G.* 8611; *C. I. L.* iii. i, p. 137; Dessau, 821, Wace, *J. H. S.* xxix, p. 60). That on the base of the other obelisk only once, and then incorrectly (*C. I. G.* 8793).

The inscriptions on the base of the Egyptian Obelisk consist of five Latin hexameters on the east face and two Greek elegiac couplets on the west face. The Latin inscription runs as follows:

DIFFICILIS QVONDAM DOMINIS PARERE SERENIS  
IVSSVS ET EXTINGTIS PALMAM PORTARE TYRANNIS  
OMNIA THEODOSIO CEDVNT SVBOLIQVE PERENNI  
TER DENIS SIC VICTVS EGO DOMITVSQVE DIEBVS  
IVDICE SVB PROCLO SV[PERA]S ELATVS AD AVRAS

This may be rendered in a similar style:

'Of lords serene a stubborn subject once, bidden to bear the palm to tyrants also that have met their doom—all yields to Theodosius and his undying issue—so conquered I in thrice ten days and tamed, was under Proclus' judgship raised to the skies above.'

The Greek inscription is to a like effect:

ΚΙΘΝΑ ΤΕΤΡΑΠΛΕΥΡΟΝ ΑΕΙ ΧΘΟΝΙ ΚΕΙΜΕΝΟΝ ΑΧΘΟΞ  
ΜΟΥΝΟΞ ΑΝΑΣΤΗΞΑΙ ΘΕΥΔΟΞΙΟΞ ΒΑΣΙΛΕΥΞ  
ΤΟΛΜΗΞΑΣ ΠΡΟΚΛΟΞ ΕΠΕΚΕΚΛΕΤΟ ΚΑΙ ΤΟΞΟΞ ΕΞΤΗ  
ΚΙΩΝ ΗΕΛΙΟΙΞ ΕΝ ΤΡΙΑΚΟΝΤΑ ΔΥΩ

<sup>1</sup> Over a hundred bricks with stamped inscriptions were found, but their full publication must be deferred.

This may be rendered, keeping the nominativus pendens:

'A four-square pillar, ever lying a burden on the earth, alone the Emperor Theodosius daring to upraise; Proclus was summoned, and so huge a pillar rose in two and thirty suns.'

In both inscriptions the name of Proclus is inscribed over an erasure; and as in the Greek inscription it defies both prosody and grammar, it would be natural to assume that it replaces another, presumably his predecessor's, which in the accusative case would provide the anapaest or spondee required. The historical data, however, forbid this. The erection of an obelisk in the Hippodrome is dated by Marcellinus Comes in 390; a certain Proculus was *Praefectus Urbi* from 389 to 392, succeeding a certain Nebridius (*Cod. Theod. prosopogr.*, pp. 374 and 381). In 392 he was impeached, condemned, and executed through the machinations of Rufinus (*Zos. iv. 774*). On the latter's fall in 395 his memory was restored to honour (*Cod. Theod. ix. 38. 9*). It thus appears that Proculus erected the obelisk, that his name was erased upon his execution, and re-engraved upon the restitution of his memory. It remains a puzzle that he should have honoured himself with an unmetrical inscription, for ΠΡΟΚΛΟΝ and not ΠΡΟΚΛΩ which *C. I. G.* and Mr. Wace in *J. H. S.* incorrectly read, and which *C. I. L.* and Dessau suggest as the original text, alone could follow the middle verb ἐπικαλέομαι in the sense of 'to call to one's aid' which it always bears, and which is here clearly appropriate.

The phrase *extinctis tyrannis* has always been taken to refer to Maximus and Victor. The natural run of the lines, however, would make one take *extinctis tyrannis* as the rhetorical doublet of *dominis serenis*. The point of the epigram would then be that the stubborn column which had defied all previous kings, good and bad, yielded only to Theodosius. This interpretation is confirmed by the fact that the Greek inscription makes no allusion to Maximus, but only to the difficulties of the task of erection.

The third inscription is in Greek iambic trimeters, and is as follows:

† ΤΟ ΤΕΤΡΑΠΛΕΥΡΟΝ ΘΑΥΜΑ ΤΩΝ ΜΕΤΑΡΞΙΩΝ  
ΧΡΟΝΩ ΦΘΑΡΕΝ ΝΥΝ ΚΩΝΣΤΑΝΤΙΝΟΣ ΔΕΞΠΟΤΗΣ  
ΟΥ ΡΩΜΑΝΟΣ ΠΑΙΣ ΔΟΞΑ ΤΗΣ ΣΚΗΠΤΟΥΧΙΑΣ  
ΚΡΕΙΤΤΟΝ ΝΕΟΥΡΓΕΙ ΤΗΞ ΠΑΛΑΙ ΘΕΩΡΙΑΣ  
Ο ΓΑΡ ΚΟΛΟΞΕΣΟΣ ΘΑΜΒΟΣ ΗΝ ΕΝ ΤΗ ΡΟΔΩ  
ΚΑΙ ΧΑΛΚΟΣ ΟΥΤΟΣ ΘΑΜΒΟΣ ΕΣΤΙΝ ΕΝΘΑΔΕ:

It may be translated in its own pedantic style:

'The four-square marvel of the welkin, wasted by time, now Constantine the

Emperor, whose son is Romanus, the glory of the kingship, restores above the spectacle of old time. For the Colossus was a wonder once in Rhodes, and this is now a brazen wonder here.'

The Constantine referred to is not (as *C. I. G.* 8703, reading *ὁ Ρωμάνου παῖς* for *οὗ Ρώμανος παῖς*) Constantine IX (1025-8), but Constantine VII Porphyrogenitus (independent reign 945-58). The meaning is somewhat obscure. The obelisk seems to have been erected before his day; it is worth noting that two obelisks are depicted in the view of the Hippodrome carved on the base of the Egyptian Obelisk; perhaps Theodosius, in order to complete the symmetry of the Hippodrome without incurring the expense of transporting and erecting another obelisk, built this imitation of masonry and plastered it. The improvement which Constantine introduced, which made it rival the bronze Colossus of Rhodes, was to cover it with the bronze sheets, which the Crusaders stripped off and melted down.

The verses are of the usual Byzantine model; no resolutions are permitted and the tonic accent always falls on the penultimate syllable; the classical rules of scansion are strictly observed except where proper names occur, where more licence is allowed than the classical poets permitted themselves. The stilted phraseology and the learned allusion are also typical of the period and more particularly of the author,

A. H. M. JONES.

## IV THE COINS

**A**BOUT seventeen hundred coins were found in all in the course of the excavation. They are exclusively of bronze, and as a rule in bad condition; more than half have no mark whatever to distinguish them. They are, as might be expected on a site like the Hippodrome, mostly coins of small denominations—small change such as might easily have been lost—and of the local currency, ranging in date from the foundation till the fall of Constantinople. There are no specimens from the western mints of the Empire, nor from Alexandria, nor from Thessalonica; one specimen each comes from Antioch, Cherson, and Cyzicus, and only three from the neighbouring mint of Nicomedia. Foreign coins are not common till the last period of the Empire, when there are about twenty-five specimens of Crusading coinage, including half a dozen of the type attributed to Edessa. About sixty Turkish coins were also found, and a few modern European.

Amongst the coins there are a number of rare, if not unique, types. It is impossible to speak with any certainty from a draft catalogue, without verifying my conclusions from a further examination of the actual coins; but it seems probable that about a dozen previously unknown types of the flat and scyphate coinage of the last four centuries of the Empire have come to light. The new types are principally of the period of the Palaeologi, and should be a valuable addition to our very scanty knowledge of that obscure period.

As it is impossible to discuss the individual types, it remains only to describe the chronological distribution of the finds in the various levels in each trench. For this purpose the coins will be classified into seven main divisions, viz.:

- I. 330-491 A.D. During this period the pagan Roman reverse types prevail for the most part, occasionally varied by the Cross.
- II. 491-717. In 491 Anastasius I radically reformed the bronze coinage, greatly increasing the size of the coins and placing on the reverse marks of value (M, K, I, E, &c.). This type of currency survived, more or less unaltered, till 717.
- III. 717-867. The M (and occasionally the K) type is still used, but variations of the latter are introduced, such as placing a bust or busts over the denominational letter.

IV. 867-1081. During the first half of this period (867-969) the reverse of the coin is occupied by the superscription of the reigning Emperor or Emperors; during the second half (969-1081) the hitherto invariable practice of representing the Emperor or Emperors on the obverse is abandoned, and both sides devoted to religious portraits, symbols, or inscriptions.

V. 1081-1204 and 1261-1453. During these periods the normal bronze currency (now bearing the portrait and inscription of the Emperor once more) is supplemented by the scyphate bronze coinage.

VI. Latin coins.

VII. Turkish and modern European coins.

The trenches in the centre of the Hippodrome were disappointing in their results, as also was trench no. IV. Few coins were discovered; those that were, were for the most part uninteresting and the upper soil had been disturbed. For instance, in no. I of the five decipherable coins found, two were of Class I, one of Class II, one of Class V, and one Turkish; all were at the same level (3-4 metres). In no. I A two coins were found, both at the surface, one of Valens (364-78) and the other of John the First (969-76); in no. I C again two only, one Turkish and one Roman. The following tables give the results for nos. II, III, and IV.

No. II.	I.	II.	III.	IV.	V.	VI.	VII.	Obscure.
0-2 m. . . . .	-	I	-	-	-	-	2	-
2-3 m. . . . .	-	-	-	-	-	-	I	-
3-4 m. . . . .	-	-	-	I	-	-	I	I
Clay-level . . . . .	-	-	I	I	-	-	-	I
Sand-level . . . . .	-	I	-	I	-	-	-	-
5-6 m. . . . .	-	-	-	-	I	-	-	-

No. III.	I.	II.	III.	IV.	V.	VI.	VII.	Obscure.
0-2 m. . . . .	-	I	-	-	-	-	-	I
2-2½ m. . . . .	-	I	-	-	-	-	7	3
2½-3½ m. . . . .	-	2	-	I	2	-	9	6
3½-4½ m. . . . .	-	-	-	-	2	-	-	I
4½-6 m. . . . .	I	2	I	-	-	-	-	-

No. IV.	I.	II.	III.	IV.	V.	VI.	VII.	Obscure.
0-2 m. . . . .	-	2	I	2	-	-	4	7
2-3 m. . . . .	-	I	-	7	-	-	I	I
3-4 m. . . . .	-	2	I	I	-	-	6	6
4-5 m. . . . .	-	I	-	I	I	-	-	-

Trenches nos. I B and V were far more productive and more interesting. In no. I B a distinction was kept between the coins found in the inmost

vaulted corridor along which ran a conduit, those found in the main corridor between the outer and second walls of the Hippodrome, and those found elsewhere.

- (1) In the first corridor there were only four, three of which date from A.D. 969 to 1034, while the fourth is a coin of Basil I and Constantine (869-79).
- (2) In the main corridor between the two walls were found altogether ninety-eight coins. Of these a few are of late date, three being Turkish, seven scyphate, one from the county of Edessa, three of the Macedonian period, and five of the Iconoclastic. The great majority, however, are of an early period, thirty-eight being of Class I and ten of the early part of Class II (Anastasius to Phocas). Of the thirty-one specimens which were undecipherable, over two-thirds must from their fabric and module be either of Class I or the smallest denominations of the early part of Class II. That is to say, nearly 75 per cent. of the coins found in this area date from A.D. 330 to 610.
- (3) The remaining coins found in no. I B are eighty-six in number. Among these too, the earlier types are in a majority. The later coins comprise four Turkish, three of Class V, three of Class IV, and a farthing of George I. From Class III there are twelve, from Class II sixteen, from Class I thirteen. There are thirty-three which were undecipherable, but of these over one-half on evidence of fabric and module must be of early date (330-610).

It was in trench no. V and its two extensions, which are here called nos. V a and V b, that the great majority of the coins were found. The following table gives a summary of the results.

No. V.	I.	II.	III.	IV.	V.	VI.	VII.	Obscure.
0-1 m. . . .	1	-	-	2	2	-	1	2
1-2 m. . . .	-	-	-	-	46	-	2	13
2-2½ m. . . .	-	1	2	8	24	6	2	16
2-3 m. <sup>1</sup> . . . .	3	6	1	24	17	5	6	25
3-4 m. . . .	42	66	5	25	12	2	4	436
4-5 m. . . .	18	30	1	31	7	3	4	253
5-6 m. . . .	2	5	1	4	7	-	2	35
Below the 'bridge'	3	8	-	1	1	-	-	27

No. V a.

1-2 m. . . .	1	1	-	-	9	-	1	3
2-3 m. . . .	1	1	-	-	10	-	-	6
3-4 m. . . .	-	2	-	8	-	-	-	3

<sup>1</sup> At this level was found the oldest coin discovered, an issue of the Roman colony of Samosata, founded by the Emperor Hadrian.

No. V b.										
0-1 m.	.	.	-	-	-	1	6	-	-	4
1-2 m.	.	.	-	3	1	4	1	-	-	5
2-3 m.	.	.	-	1	-	7	-	-	-	2
3-4 m.	.	.	-	3	-	-	-	-	1	1

In no. V (the principal trench) allowance must be made for various causes of confusion in addition to those inherent in excavation, such as the falling of earth from the sides of the trench in trimming; in particular may be noted the insertion, probably in the last centuries of the Byzantine era, of a water-conduit, a proceeding which would throw up coins from a depth of 5 or 6 metres to the surface, and permit the penetration of late coins to a low level. When this is allowed for, it will be seen that the stratification was complete.

The first metre was unproductive, containing only coins thrown up in earlier disturbances. In the next metre were found almost exclusively coins of the Comneni, the Crusaders, and the Palaeologi. Amongst the Byzantine are several of the new types alluded to above, principally issues of Michael VIII; there were found apparently none of the latest Emperors. The Latin coins found include, besides various forms of Tournois (one of Clarentia in Achaea), several of the type attributed by Sabatier to the Latin Emperors, but now usually believed to have belonged to Edessa or to one of the Latin principalities in Syria or Palestine founded in the first Crusade.

In the third metre the coins of the Macedonian era gradually became more numerous, eventually outnumbering those of the later dynasties.

At a depth of from 3 to 5 metres the coins became far more abundant, and their character changed. A considerable number of Macedonian types were still found, and a certain number of Comnenian, but the vast majority were of a very small module and fine fabric. Those which were decipherable, a small minority, proved to be either of Class I, or of the smallest denominations ( $\epsilon$  or  $\iota$ ) of Anastasius, Justin I, Justinian I, or, less commonly, their immediate successors. If, then, to Class I and Class II on the table be added at least 85 per cent. in the fourth metre, and 75 per cent. in the fifth metre, of those classified as obscure, the great predominance of early coins will be seen. In the sixth metre the coins were less abundant, but, though the fact is not apparent from the table, the same proportions were maintained, about two-thirds of the obscure ones being of an early date. Beneath the broad stone vault, which was broken through by the late Byzantine conduit, the predominance of early types is yet more marked, only one Macedonian and one Comnenian coin being found; of the obscure specimens over two-thirds are early.



In the subsidiary trenches the stratification was more or less parallel to that of the main trench. In no. V A the Macedonian coins began at a rather lower level and the coins of the earlier period were not reached. In no. V B the stratification seemed to begin directly from the surface, the layers occurring one metre higher than in the main trench.

The coins, then, besides their intrinsic interest, which is yet to be fully determined, give valuable chronological data. In no. V in particular they should be of assistance in dating the large quantities of Byzantine pottery found in conjunction with them. In general they indicate at what date the various buildings excavated were most frequented. The passages of the Hippodrome were apparently not much used after the end of the Iconoclastic period; the period of greatest use is from the foundation of Constantinople to the reign of Justinian or perhaps a few reigns later. The building, whatever it may be, discovered in trench no. V, on the other hand, was in continuous use from the foundation of the city till the middle of the fourteenth century, though far more frequented in the first two and a half centuries of the city's existence.

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NOTE ON ANTIQUITIES OF THE TURKISH PERIOD  
FOUND ON THE SITE OF THE HIPPODROME

THE excavations brought to light, as was to be expected, a large quantity of débris of the Turkish period. This material included numerous fragments both of tiles and of *pièces de forme* from the golden age of Turkish faience, forming a substantial addition to the surviving remains of that great and sumptuous art. Of the individual finds, perhaps the most beautiful was the almost complete blue-and-white Kutahia vase shown in fig. 42.

Apart from the high aesthetic value of many of the fragments, certain of them have significance relative to problems in the history of Turkish ceramic. First of these problems in chronological order, and perhaps also in general interest, is that of the overlap, if any, of Byzantine and Turkish ceramic art. At a cursory view there is no obvious continuity, but rather a clean break between the two eras; the Osmanli conquerors brought with them faience styles derived from Persia, which already at Konia, at Karaman, and at Brusa had achieved triumphs far beyond the compass of the Byzantine potter, and the dominant Persian influence was heavily reinforced when, in 1514, Selim I settled in Turkey seven hundred families of the best Persian craftsmen taken captive as part of the spoils of Tabriz. Nevertheless, the development of Turkish faience proceeded, as is well known, on very different lines from that of Persian. The former at its highest level of attainment in the later years of the sixteenth century is definitely distinguished among Islamic wares by the 'Rhodian' red and the technique of its use, by a peculiar strength and vividness of colour, and in design by floral motives of naturalistic tendency unknown to Persia or Syria. For this art the Turk may well claim credit; the aesthetic synthesis is the work of a Turkish culture; yet one may suspect that the tradition of the older civilization on the Bosphorus made some small contribution to so remarkable a development. Such a contribution is indeed probable on several grounds. The Turk of the sixteenth century had a genius for assimilation comparable to the Roman, and this no less in art than in politics. Byzantine culture had left behind it as a legacy, first, the tradition of the

colour yielded by mosaic—mosaic which since the Fourth Crusade had languished from economic causes—and, second, that new spirit in art which Dalton and others have revealed stirring in the last years of the Byzantine era and manifest in Kahrieh Djami. Isnik, which became the centre of the Turkish tile industry, had been, as Nicaea, the rallying-point of the Byzantines in the days after the Latin conquest. It is by no means far-fetched to see in the innovations in design and colour on the Isnik tile influences native to the soil and descending from the past, thus rendering superfluous the hypothesis of Migeon, who seeks origins in the Italian Renaissance.

The Hippodrome finds provided several examples of the persistence of Byzantine ceramic technique with Turkish designs. The graffiato technique has actually survived in the cheap Chanak ware down to the present day, and it was also found in combination with Turkish blue-and-white decoration on specimens from the Hippodrome. Other pieces of inferior ware almost certainly Turkish showed the use in the Byzantine manner of spots and streaks of paint in the glaze so as to produce a sort of low relief. This is precisely the technique adopted by the Isnik tile-makers for the 'Rhodian', Armenian bole, or 'tomato' red; with their limpid alkaline glaze it achieves the greatest splendour of effect. The Rhodian red itself first appears on the tiles about the middle of the sixteenth century. Butler<sup>1</sup> considers that it may have originated in attempts to imitate in Turkey a Kubasha red, appearing on a fifteenth-century dish in the Kelekian collection. If so, one of the Byzantine fragments from the Hippodrome suggests that the potters did not have to seek far for the required colour. One of the colours of the polychrome dove on a pottery base appears to have been originally the Rhodian red, though so faded that it is impossible to speak with certainty.

Other pottery fragments of interest for Turkish ceramic history were those in the style attributed by Migeon and Sakisian<sup>2</sup> to the workshops of the Golden Horn. The Golden Horn products were, according to Evliya Chelebi, 'without parallel except in the ceramic of China and of Isnik'. Recent fires in Stamboul, and especially in the quarter of Ak-sarai, have led to the discovery of numerous pottery-fragments, among which was prominent a type of blue-and-white decoration of great elegance, apparently peculiar to Constantinople and showing a close affinity in certain of its elements to the monograms (*tughra*) of Suleiman the Magnificent. A complete plate in this style is in the possession of the Musée des Arts

<sup>1</sup> *Islamic Pottery*, London, 1926.

<sup>2</sup> *La céramique d'Asie Mineure et de Constantinople du XIII<sup>e</sup> au XVIII<sup>e</sup> siècle*, Paris, 1923.

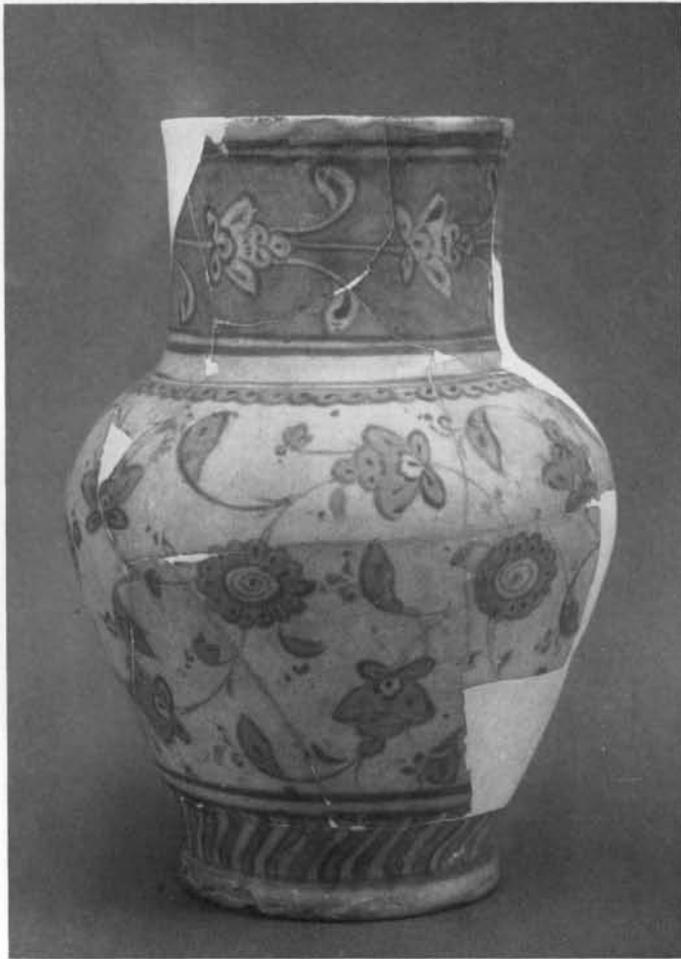


Fig. 42. Turkish sixteenth-century faience vase

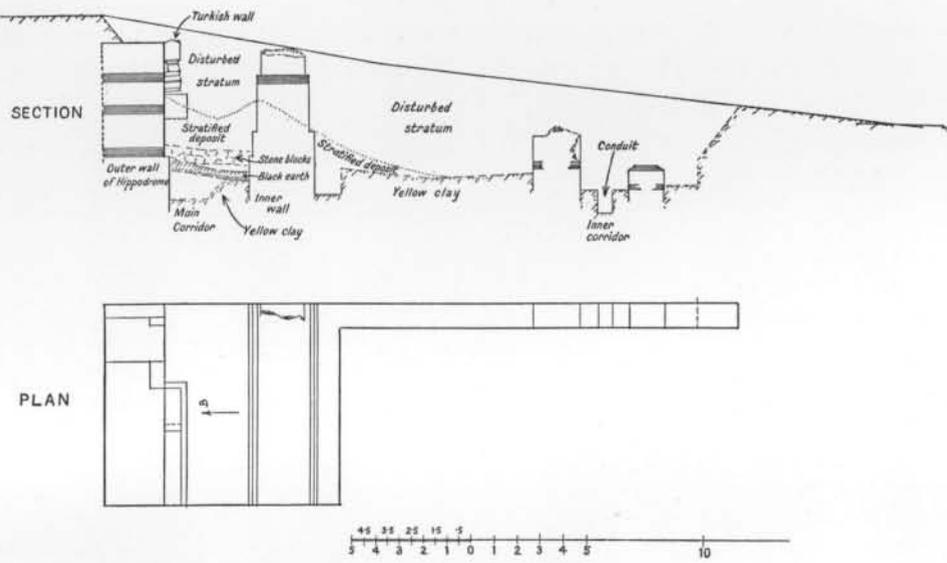
decoratifs in Paris; it has a pattern of fine spiral lines with calligraphic twists. Specimens of almost precisely similar design were found in the Hippodrome as well as many other pieces of the same general type, all, however, fragmentary; so far the results of the excavation thus confirm the thesis of Migeon and Sakisian. But in order to derive from this material a criterion for distinguishing Golden Horn ware it is necessary that there should be proof of the absence of the type on the sites of other former centres of Turkish ceramic production, and in the present state of our knowledge such proof cannot be forthcoming; on the contrary, Professor Riefstahl claims to have found a fragment in the supposed Golden Horn style in the fields near Isnik. The question must therefore remain for the present *sub iudice*, but the Hippodrome excavation has at least emphasized the abundance in Constantinople during the great days of the Turkish Empire of a type of ware of accomplished excellence still very inadequately represented.

A third group of pottery remains relevant to the study of Turkish art were the Chinese imports. These were both numerous and varied in kind, and included some fine specimens of Ming celadon and blue-and-white ware; considered in conjunction with the magnificent collection of Chinese porcelain preserved in the Old Serai, and shortly to be published by Dr. Zimmermann of Dresden, they provide important evidence as to the conquests made by the Chinese ceramic in sixteenth-century Turkey. Strzygowski has stressed the significance of China for the art of Islam from the thirteenth century onward; the contact between China and western countries brought about by the Mongols was never obliterated for Islam, as it was for Christendom until the discovery of the sea route to the Far East, and the Osmanli Turks inherited the Persian taste for chinoiserie. The remains in Constantinople show that the westward migration of Chinese porcelain and the demand it implies were such as to have been a very powerful factor in the development of the native ceramic. The Chinese influence did not lead, as in Europe, to an endeavour to produce porcelain, but to the imitation in faience of Chinese motives and effects; these have modified the whole aspect of design over a wide range of Turkish pottery, as was very manifest in such a representative collection as that from the Hippodrome. The lotus, the 'chi', the lightning and globe emblem adopted by Tamerlane constantly appear; much of the blue-and-white Kutahia ware attains an approximation to the Chinese manner. One version of the lotus in faience of the finest quality provided an example of the fusion of Chinese and arabesque elements which must be almost unique; the treatment of the lotus both on this and on two

other sixteenth-century fragments showed an adaptation of Chinese forms eminently successful because of the calligraphic accomplishment which enabled the artists to apprehend their originals with a directness seldom, if ever, possible to European decorators adapting from the Chinese.

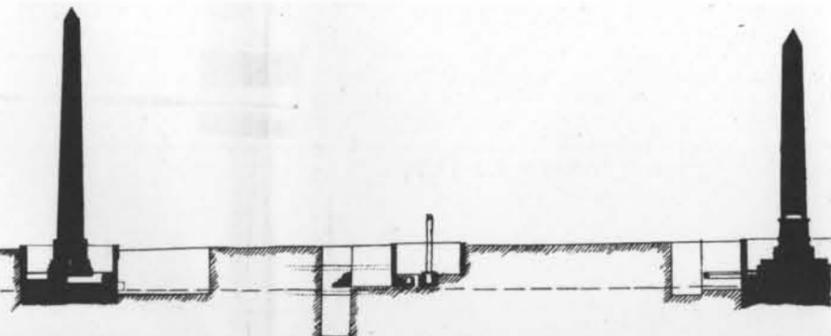
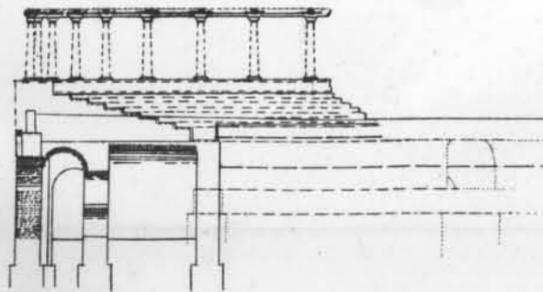
G. F. HUDSON.

PLAN NO. I

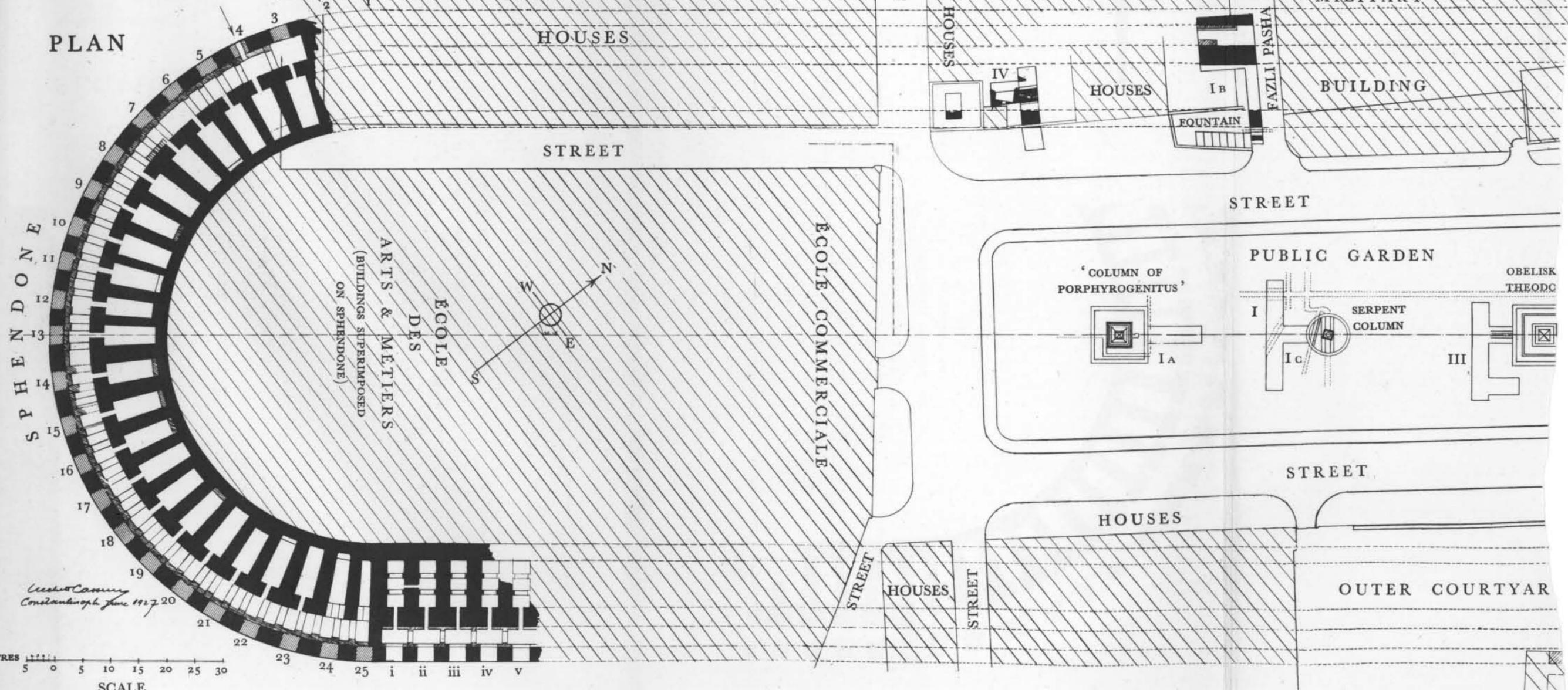


Section of substructure of the Hippodrome at trench I B. (See p. 4)

SECTION



PLAN



*Leslie Comyn  
Constantinople June 1927 20*

# PLAN AND SECTION OF THE HIPPODROME

Areas shaded are covered  
by modern buildings

