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## A Roman Bridge on the Aesepus

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## A ROMAN BRIDGE ON THE AESEPUS.

The course of the Roman road along the southern shore of the sea of Marmora between Priapus and Cyzicus has hitherto been known only from the Peutinger table and from a single milestone ${ }^{1}$ (the thirteenth) found in a Turkish cemetery above Tchaoush-keui, not far therefore from its original position. The Peutinger table notes only one point between the places named-the crossing of the Granicus. That of the Aesepus, a much more important river, is still marked by the considerable remains of a fine Roman bridge, which, owing to its secluded position at a turn of the valley, has hitherto escaped the notice of such travellers as have passed along the coast road. ${ }^{2}$ Hearing at Boghashehr, where I had shewn an interest in the fast-vanishing ruin of Ak-kupru, that a similar bridge existed on the road to Gunen, I took that route and was rewarded by the discovery of the bestpreserved ancient bridge in the district.

This bridge, locally called Guvertchin Kupru ('Dove Bridge'), lies about three and a half miles from the mouth of the river, just at its exit from the valley to the plain of Tahir-ovassi.

Its direction is about E.S.E. by E. and though no main arch is preserved in its entirety, the remaining piers-only one has fallen-still

[^0]stand to their full height and even preserve their sections of the roadway intact.


Fig. 1.-Elevation of Bridge.
The main stream was spanned by four arches built solidly of rubble, faced with granite ashlar and vaulted with the same material (Fig. 3). The westernmost, which was the only one accessible at the time of my visit, had a span of about 12.20 metres, the height of the pier (footing-course to roadway) being about 8.80 m . The roadway was borne on four slab-roofed vaults parallel to the direction of the bridge (Fig. 2). The third pier from the west bank has fallen. The piers are planned with sharp triangular cutwaters against the stream, while on the lower side they are furnished with blunt buttresses of hexagonal plan presenting a flat face outwards.


Fig. 2.-View from W. End, showing Vaults supiorting Roadway.
The stream at this point passes close under the west slope of the valley, so that the western abutment is short. It is pierced by a small arch and half-arch with tile vaults, the outer voussoirs being alternately stones and groups of tiles; this is the construction used throughout in the less massive bridge at Sultan Chair to which I shall refer later.



The eastern abutment is much longer than the western, and is well preserved, though much overgrown, right up to the main stream, a distance of about 58 metres (Fig. 3). The westernmost pier is of a different type from the others, having a low, squat cutwater with sloping profile; both this and the easternmost pier are relieved by a vault running across the bridge; the vault is completely masked on the stream side, but on the down side is made conspicuous by the alternate tile and stone voussoirs we have before alluded to. The first dry arch (Fig. 3), which has a span of 12.20 m ., is treated in the same manner, and this construction is continued in the culvert arches, gradually decreasing in size, which support the extremity of the abutment. One of these is completely overgrown and is conjecturally indicated on the sketch-elevation.

The roadway is built of large stones, only occasionally squared, and is about 5.60 metres wide : at the end of the eastern abutment are remains of an exedra in brick (paralleled at the Sangarius bridge of Sabanja), ${ }^{1}$ round which the road forks. An upright cylindrical stone 0.80 m . high and 0.40 m . in diameter, stands beside it and may have been intended to record repairs.

The road from between the bridge and Cyzicus is still to some extent the original Roman way; it is paved with small round stones to a depth of 5 or 6 inches, well pounded or rolled together in earth. It commands magnificent views of the Aesepus mouth and the peninsula of Cyzicus, and was till quite lately the usual route between Boghashehr and Panderma; a lower route fording the Aesepus at its mouth and striking inland at Musatcha is now preferred.

Two hours east of the bridge, behind Tchaoush-keui, are remains of an old Turkish khan, near which, in a cemetery, stands the thirteenth milestone from Cyzicus mentioned above.

For the date of the bridge we have no evidence except such as is afforded by its construction. It is paralleled most closely by the bridge of Sultan Chair on the Macestus, of which measured drawings have been published by Dr. Wiegand ${ }^{2}$ : this is a very similar structure, though the design is varied to fit the wide and shallow bed of the Macestus. The bridge itself is lower and longer, consisting of fifteen arches with a total

[^1]length of about 300 metres. The arches are throughout of tile from just above the springs, the outer voussoirs being of tile and stone alternately. The piers have cutwaters against the stream, but no corresponding buttresses on the lower side; they are lightened by transverse vaults over the piers and in the spandrels. These vaults shew the same decorative treatment of the outer voussoirs, except on the stream side over the cutwaters, where they are masked.

A third bridge with the same characteristics is the Ak-kupru ('White bridge'), now nearly destroyed, which crossed the Granicus below Boghashehr. It is first mentioned by Chishull, ${ }^{1}$ in whose time ( 1699 ) it was still in use ; he ascribes it to Mohammed IV (1648-87), in which he is followed by Kiepert, ${ }^{2}$ and it has certainly been repaired in Turkish times, but the fullest account which has come down to us-that of William Turner who crossed it in 1815-bears witness not only to its antiquity but also to its essential similarity to the bridges we are discussing.

He describes it as 'a very magnificent Roman bridge built with brick and small stones and cased with large squares of fine marble. It consisted of eight arches, four large ones over the river, and four small ones, two at each end, at the extremities on land: the largest arch was of eighteen paces' span and eight in width: it was irregular, for it was one of four with none large enough to correspond with it. The pressure on the bridge was lightened by small arches built immediately under the pavement. The width of the river's bed was 75 feet, but of these only 22 feet were now provided with water.' ${ }^{3}$

Tchihatchef, who passed the bridge on his road from Gürelje to Bogashehr in 1847, still saw enough to convince him that the bridge was ancient, ${ }^{4}$ and Janke's description points in the same direction. ${ }^{5}$

I passed the remains of this bridge in 1906; much has disappeared

[^2]even since Janke's description, the ruins having been plundered for material during the building of the Karabogha-Boghashehr chaussée; the principal relic is a tile-vaulted arch of the western abutment with the adjoining pier. The span of the arch is 2.70 m ., and the width of the roadway, which was traceable by the foundations of its bounding walls for some yards, 7.40 m . The outer voussoirs of the arch have been removed with the ashlar facing of the bridge, leaving the plain tile vault bare; inside the arch alone a few courses of ashlar survive. The upper part of the bridge, so far as it exists, is of very rough rubble with tile carelessly used. This is certainly due to Turkish repairs, and Mohammed IV may be responsible. The road was an important one in Turkish times as leading to Gallipoli.

A fourth of the series is probably to be found in the ruined bridge on the Rhyndacus at Ulubad (Lopadium); of this again very little remains, no arch is entire, and only a few ruined piers still exist on the north bank. ${ }^{1}$ It is consequently impossible to say more than that the bridge is built of ashlar-faced rubble. The Rhyndacus bridge was built after 258 A.D., ${ }^{2}$ and was known in Byzantine times as the 'bridge of Constantine'; on it stood a chapel dedicated to him by S. Helena. ${ }^{3}$ We know that Constantine remodelled the road system of Asia Minor to make it converge on Constantinople, and it is to a period subsequent to the change of capital that we must assign the Sultan Chair bridge, since it implies an eastward deflection of the important Macestus Valley road which led originally to Cyzicus. The Sultan Chair bridge is, as we have seen, closely connected by its style with those on the Aesepus and the Granicus, so that we have some reason for assigning to the age of Constantine the construction of the series of bridges of which Guvertchin Kupru is the best example in this part of the country.

F. W. Hasluck.

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[^0]:    ${ }^{1}$ B.C.H. xvii. 546 (35) 'above Tchaoush-keui'=C.I.L. iii. Supp. ${ }^{2}$, 13687 ; cf. C.I.L. iii. 1, $7178=$ Eph. Epigr. 2, 351. Both are thirteenth milestones, if indeed the stones are not identical.
    ${ }^{2}$ W. Turner, Journal of a Tour in the East (1820), iii. 200 ff. ; O. F. von Richter, Wallfahrten im Morgenlande (1822), 421 ff. ; F. Ruge in Petermanns Mittheilungen, xxxviii. (1892) p. 228 (map) ; W. Judeich in Sitzber. Berl. Akad. (1898), ii. $55^{\circ} \mathrm{ff}$.

[^1]:    ${ }^{1}$ Texier, Descr. de l'Asie Mineurć, i. 55 (pl. iv.) : l'extrémité du pont va s'appliquer directement contre une montagne; et la route tourne à angle droit pour se diriger au nord. . . et au sud. Une grande niche de 6.33 de large, avec des portes latérales qui existent encore, fermant sans doute une salle vô̂tée qui offrait un abri aux voyageurs.
    ${ }^{2}$ Athen. Mitt. xxix. PI. XXIV.

[^2]:    1 Travels in Turkey (1747), p. 60.
    ${ }^{2}$ Das Schlachtfela am Granicus (based on researches of 1842) in Globus, 1877, xxxii. pp. 263-4.
    ${ }^{3}$ Journal of a Tour in the East (1820), iii. 206.

    * Asie Mineure, i. 212 'très-beau pont antique . . . repose sur trois arcs et s'est écroulé à sa moitié.' See also his route book (ed. Kiepert, Petermanns Mitt. Ergänzungsheft 20), p. 5, Dec. 13, 1847, which shews that the bridge was on the Granicus itself, not on its western affluent, as Texier, Asie Minevere (L'Univers, xii), p. 155.

    5 Auf Alexanders des Grossen Pfaden (1894), p. 137. 'Am linken Ufer stehen noch mebrere Bogen mit runden Gewölben und Ziegel, während die Pfeiler auf schön behauenen, 1 m. langen $\frac{1}{2} \mathrm{~m}$. hohen Steinen ruhen. Oben ist die Strassenanlage eingestürzt. Auf dem rechten Ufer steht noch ein Pfeilerrest dessen Unttrbauten besonders regelmässig scheinen.'

[^3]:    ${ }^{1}$ The ruins are shown in Landron's drawing of Ulubad (Le Bas, Voyage Archéologiquc, Itineraire, pl. 44.
    ${ }^{2}$ Ramsay, Hist. Geog. 160.
    
    

