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TROY AND THE SEA

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Professor Ekrem Akurgal has achieved fame above all through his wide-ranging scholarly work in western Asia Minor. No part of the country has escaped his attention, and of course no place there has a greater appeal for scholars and the wider public than Troy. It would be a pleasure to offer an authoritative essay to this volume. But the issues here involved are complex ones depending on scientific techniques which require up-to-date specialist knowledge. So this little contribution consists rather of a query raised by an amateur which will perhaps be regarded as nothing more than an abortive rearguard action.

The prevailing assumptions about the relationship of Troy to the sea have been transformed by new palaeogeographic reconstructions of the Plain of Troy which are based initially on a number of cores drilled in 1977. After a preliminary exposition in *Science*, 15 August 1980 (vol. 209, no. 4458, pp. 776-82), the three scholars concerned, John C. Kraft, Ilhan Kayan, and Oğuz Erol, set their findings out fully in Part 1 of *Troy, the Archaeological Geography*, Supplementary Monograph 4 (ed. G. Rapp and J. A. Gifford) published in 1982.

This Troy Monograph is an important step forward in various respects. In its geomorphology it seems soundly based; what is questioned here is the precise application of the time scale. The general picture that results is that during the last 7000 years the Scamander plain, which had become submerged by a rapid rise in sea level (marine transgression), has been filling up (progradation, with aggradation of the alluvium deposited). A tentative sea level curve for the region in the last 35,000 years, constructed by Erol, is given in Monograph Fig. 4. This is used as a scale for the series of palaeogeographic reconstructions of what we call the Plain of Troy and is therefore essential to their dating. According to Erol sea level from before 6000 BP had risen to 2 metres higher than its present-day level and, with some slight fluctuations, it has remained at or around the present level ever since. At the assumed time of the Trojan War (c. 3250 BP) and again in Strabo's time (c. 2000 BP) it was the same as the present-day one.

That the coast at the north end of the Plain of Troy was less advanced

in antiquity (and presumably even less so at the time of the Trojan War) is proved conclusively by the 1977 drillings. The reconstructions on Figs. 17 and 19 of the Monograph present a deep bay. Fig. 17 (c. 3250 BP) shows it stretching 7-8 km. inland from the present shore line with the Scamander entering it about 4 km. south-west of Troy (which was then situated on something of a promontory). Fig. 19 (here reproduced) of c.2000 BP shows a semicircular bay with the Scamander and Simois meeting in the plain and then flowing into the bay at $3-3\frac{1}{2}$ km. north-west of Troy. Whereas the earlier reconstruction depends solely on the scientific data brought into play, that for 2000 BP is acknowledged to have been adjusted to conform to statements transmitted by the Greek geographer Strabo who was writing about that date. Literary evidence of this sort offers some control over the scientific findings; and it is this one reconstruction that is being considered here.

Strabo had not been to Troy. Without knowledge of the terrain he was involved in trying to make sense of a lengthy disquisition that he found in a writer of the first half of the second century B.C., Demetrius of Scepsis. Unfortunately Demetrius was not concerned with objective description but with an argument. His Contention, apparently already advanced by a lady named Hestiaea who wrote on the subject of Homer's Iliad, was that the Greek city of Ilium (rivalled in Trojan legend by his native city of Scepsis) had no just claim to recognition as Priam's Ilios (Troy). This was a controversial theory, for we know that not only the people of Ilium itself but Herodotus, Hellanicus, and Alexander the Great amongst others had not hesitated to recognise Ilium as Troy.

Herodotus had surmised (II 10) that the Plain of Troy (**ta peri Ilion**) had been filled in by river-borne alluvium, but he gave no indication of the time scale. Hestiaea and Demetrius carried the matter further. They assumed that the rate of in-filling was rapid and that at the time of the Trojan War the sea came up too close to Ilium to allow space for the Achaeans' camp and a battlefield. If that were the case, Priam's Troy would have had to lie further back on the plateau to the east where a site (the 'Village of the Ilians') was available 30 stades from (New) Ilium. In the absence of excavations such as modern archaeologists have carried out this was not an untenable hypothesis. But it was a heretical one which has gained undue notoriety because our principal surviving authority on ancient geography, Strabo, was relying mainly on Demetrius here. In support of it Hestiaea and Demetrius were bound to press their argument to the extreme limit.

Strabo's account is given in his book XIII; the paragraph numbers that I cite for convenience are the current ones as fixed by Kramer in section 1 of that book. In § 31, 32 and 36 Strabo speaks of what he calls the Achaeans' Harbour (**Akhaion Limen**). It was, he says, only 12 stades (2.2 km.) from (New) Ilium, which must on the map place it on the east side of the plain. But it is clear in § 36 that this was not the 'now so-called **naustathmon**' (presumably that which the Achaean fleet was popularly thought to have used) which Strabo says was 'near Sigeum' in the vicinity of the Scamander outlet (which he tells us was at 20 stades from 'New' Ilium). The **Akhaion Limen** which Strabo speaks of at 12 stades from Ilium thus seems to be something conjured up by Hestiaea and Demetrius as a booster to their argument and not to be relevant to the distance of Ilium from the sea.

Strabo (§ 36) thus gives 20 stades as the distance from Ilium to where the Scamander debouches near the **naustathmon** (which, as he has just remarked, is near Sigeum). But he has also asserted (§ 34) that the two rivers, Scamander and Simois, meet in the plain in front of Ilium and debouch to Sigeum. We must also note that the town of Sigeum was almost certainly not on the crest (Subaşı Tepe) where it is marked on Monograph Fig. 19 which is shown here, but at the ancient site at Yenişehir (see my **The Troad** (1974) chapter 5), so nearly 2 km. further north than it appears in the reconstruction. Thus Strabo's statements, derived from Demetrius, would imply that the river flowed considerably further to the north-west. Not knowing the terrain at first hand, he had to accept Demetrius figure of 20 stades; but we may suspect that in the interests of his controversial theory Demetrius had grossly underestimated the distance.

Strabo has naturally attracted the attention of modern scholars concerned with the historical topography of the Trojan War. The classical writers who were not so concerned have tended to be overlooked. In fact there are two very relevant testimonies to the state of the plain. Ps.-Scylax, author of a mariners' guide dated about 350 B.C., mentions Ilion with the express remark that it is 25 stades from the sea. This could refer to Aeantium at İn Tepe, where a harbour town may by then have been springing up (my **Troad** 86f.); but we should in any case infer that the coast was at no point less than $4 \frac{1}{2}$ km. from Ilium. Secondly, Herodotus in the mid fifth century B.C., referring to the town of Sigeum as a Pisistratid refuge (V 65), speaks of it as 'Sigeum on the Scamander'. With Sigeum placed at Yenişehir and the Scamander outlet in the position shown in the reconstruction the description would be a strange one; further, Erol's sea level curve shows the first millenium B.C. as a period of marine

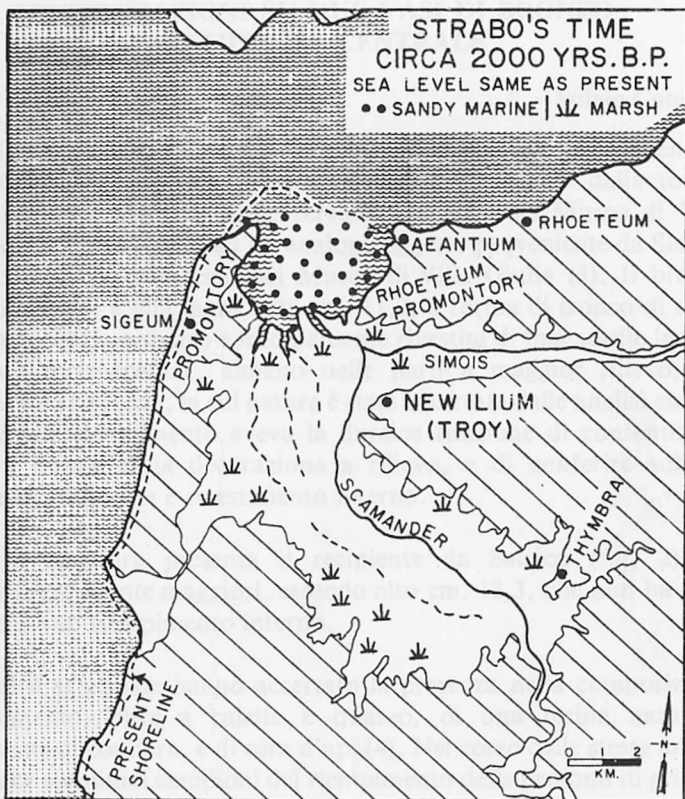
transgression with sea level rising to as much as a metre above the present one (Monograph p. 18f. with Fig. 4), and if that were correct we should expect to find the sea closer to Ilium than in Strabo's time, not (as would appear) further away.

This does not prove, as I was inclined to believe at first (cf. Greenbank Colloquium, Liverpool University, on the Trojan War, March 1981), that the reconstruction here shown is erroneous. But it does lend itself to the view that observations transmitted to us can be interpreted as indicating that the Scamander flowed out near Sigeum, and therefore that the bay was not so deep as that shown. If that were so, the one likely non-instrumental cause of error would seem to be a faulty sea level curve.

On Monograph p. 18 the statement is made that "recent observations concerning the sea level rise along the east coast of the Aegean.....now allow us to draw a curve"; this refers to Erol's work in the 1970s, and the curve is plotted on their Fig. 4. The writers also say (their p. 32) that their curve has the support of a large quantity of evidence from the shore lines of Anatolia. On p. 19, however, they concede that there are at present several schools of thought, including the suggestion that sea level has been rising rapidly during the holocene epoch (the last 10,000 years) and is still slowly rising; the curve shown in their Fig. 4 is presented as the best approximation, but with the admission that they do not presume to solve the on-going argument.

For several generations archaeologists have been interested in the well-known phenomenon of the rise in sea level since antiquity, and innumerable examples have been remarked in the literature. On the coasts of the East Aegean over 20 observations of it have entered my own field notebooks; inevitably there must be very many more. In general, field archaeologists have never doubted that there has been continuing marine transgression; estimates of the rise since ancient times have tended to be in the region of 1.5-2 m. A full-scale study of this phenomenon would be helpful. Meanwhile, if such a 'curve' were adopted, the effect on the reconstructions in Monograph would be considerable. The 1977 drillings were few, and the hypothetical 'surges' further complicate the issue. But it could be, to judge by Monograph Fig. 10, that the result of applying the archaeologists' 'curve' would be to push the head of the bay 2 km. or more north from where it is shown in the reconstruction for 2000 BP. This would of course react on the reconstruction for 3250 BP.

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risultati differenti, come pure, per le calce, ma in proporzioni diverse da quelle del tempo della tazza, si registra la presenza di una sostanza che è un probabile indizio di provenienze orientali (6). La diversità dei ritrovamenti sembra escludere che entrambi i siti possano provenire da una stessa officina, o da officine distinte, in cui si seguivano però gli stessi procedimenti di lavorazione. Sull'origine orientale, soprattutto, dei calderoni con protoni di griffone, non ci dovrebbero essere ormai più dubbi (7). Resta da chiarire la provenienza delle tazze di Palatium e di Sarico.