

THE BATTLE OF THE GRANICUS RIVER*

(PLATE Ia)

HISTORIANS have found the battle of the Granicus River the most puzzling of Alexander's battles.¹ For this there are three reasons. First, the ancient sources are at variance over the time and purpose of Alexander's crossing of the river. Second, the purpose and the effect of Alexander's sideways movement in the river-bed have not been satisfactorily explained. Third, the topographical indications in the sources do not correspond fully with the present lie of the ground. It will be well to treat these matters in the same order.

(1) According to Diodorus, the earliest writer of a surviving account, the Persian forces 'encamped alongside the Granicus River, using the river's flow as a defence and Alexander . . . camped opposite so that the Granicus flowed between the camps' (xvii 18.4–19.1). This description agrees with those of Arrian i 13.2 and 14.3 ('both armies standing on the brink of the river'); Plutarch *Alex.* 16.1 and 4, Polyaeus iv 3.16 and Curtius iv 9.22 ('Alexander crossed the Granicus in face of so many thousands of cavalry and infantry standing on the opposite bank'). With the next move the differences begin. Thus Diodorus makes Alexander cross unopposed next morning, and the others make him force a crossing that day in a desperate action. In Diodorus' account the unopposed crossing by Alexander's army of less than 40,000 men in face of 110,000 Persians (both figures being those of Diodorus) who maintained their chosen position (xvii 19.2) is entirely unexplained and inexplicable. Diodorus simply states: 'Alexander in bold mood took his force across at daybreak and arranged it appropriately for the contest before the enemy could arrange their army'. Next, Alexander's chosen order of battle (chosen since he was first in the field) led to two entirely separate engagements: first, cavalry versus cavalry (xvii 19.6–21.4) and second, infantry against infantry (xvii 21.5, 'after the rout of the cavalry the infantry forces engaged one another and contended for a short time'). Such poverty of generalship in Alexander is unacceptable; for he, like his father, owed his victories to the co-ordinated use of cavalry and infantry. Our distrust of Diodorus is increased when we see that the same recipe is used at Issus, where the crossing of the Pinarus is not mentioned at all and there are two separate battles, cavalry versus cavalry (xvii 33.5–6) and then, after the flight of the Persian cavalry, infantry versus infantry (xvii 34.9). These descriptions of battles² should be dismissed as imaginary and childish,

* My visit to the battlefield was helped by a grant from the Council of the British Academy, for topographical work in Macedonia and Turkey. In an early form this paper benefited from comments made when I read it at a Conference on Alexander at the University of Wisconsin at Madison on 15th October, 1977; and Mr G. T. Griffith and Professor P. A. Stadter helped me over individual points.

¹ The following abbreviations are used: Badian: E. Badian, 'The battle of the Granicus: a new look', *Ancient Macedonia* ii (Thessaloniki 1977) 271–93. Foss: C. Foss, 'The battle of the Granicus: a new look', *ibid.* 495–502. Fuller: J. F. C. Fuller, *The Generalship of Alexander the Great* (London 1958). Goukowsky: P. Goukowsky, *Diodore de Sicile XVII* (Budé: Paris 1976). Green: P. Green, *Alexander the Great* (London 1970). Hamilton: J. R. Hamilton, *Plutarch, Alexander: A Commentary* (Oxford 1969). Janke: A. Janke, 'Das Schlachtfeld am Granikus', *Globus* lxxxvi (1904) 129–33. Judeich: W. Judeich, 'Die Schlacht am Granikos', *Klio* viii (1908) 372–97. Kromayer-Veith: J. Kromayer and G. Veith, *Antike Schlachtfelder* iv (Berlin 1929). Lane Fox: R. Lane Fox, *Alexander the Great* (London 1973). Lehmann: K. Lehmann, 'Die Schlacht am Granikos', *Klio* xi (1911) 230–44. Loeb B: Loeb edn of Arrian, i, by P. A. Brunt (1976). Loeb R:

Loeb edn of Arrian, i–ii, by E. I. Robson (1929, 1933). Milns: R. D. Milns, *Alexander the Great* (London 1968). Nikolitsis: N. T. Nikolitsis, *The Battle of the Granicus: a source-critical study* (Stockholm 1973). Pearson: L. Pearson, *The Lost Histories of Alexander the Great* (New York 1960). Tarn I: W. W. Tarn, in *CAH* vi (Cambridge 1927). Tarn II: *id.*, *Alexander the Great* ii (Cambridge 1948).

² They are of a piece with Diodorus' account of the battle at Thebes in 335 B.C., when the Thebans were portrayed as fighting a battle 'in front of the city' (as the Trojans did), Alexander made unsporting use of reserves and the contest was in two rounds, the first remarkable for the epic use of missiles (Diod. xvii 11.3, 12.1–2). In his imaginary battles of the Granicus and Issus the Thessalian cavalry is picked out as the bravest (xvii 21.4, 33.2), and at Thebes the fittest and best-trained men are said to be the Thebans (xvii 11.4). He provides omens for the Granicus battle to foreshadow Alexander's great victory in a cavalry battle and his prowess (xvii 17.6–7), as he had done for the fall of Thebes (xvii 10.2–5). Such *vaticinia post eventum* are literary devices to adorn a fictitious tale. These are all characteristics of his source in these battles, most probably Cleitarchus, who was judged to be 'more of an orator than a historian' and 'notoriously undependable' (Cic. *Brut.* 42, Quint. x 1.74).

of a piece with such inanities as 'missiles hurled so thick that they collided in the air and weakened the force of their impact' during the cavalry battle at Issus (xvii 33.3).³

Nevertheless, what I consider imagination in Diodorus has attracted some writers, first K. Lehmann in 1911, and within the last ten years R. D. Milns, P. Green and R. Lane Fox. Adopting Diodorus as their foundation, each constructs his own version of the battle. The most recent, that of Lane Fox, rests precariously on a speech attributed to Parmenio by Arrian (i 13.3–5). The speech was designed by Arrian to underline the difficulties of a frontal attack, as the repetition of its phrases in Arrian's description of that frontal attack shows. In the speech Parmenio is made to advocate another tactic. 'In my view, sire, it is good to encamp for the present as we are, upon the river-bank, since the enemy being much inferior in infantry will not dare in my view to be stationed near us, and thus there will be an opportunity for the army to cross the channel easily at dawn. We shall cross first and anticipate the enemy before they can get themselves into order.' In the answering speech Alexander does not trouble to knock this cock-shy down. What we have here is not a record of a historical discussion but a literary device for dramatic presentation, which had been used by Greek and Roman historians ever since Herodotus. Arrian was enlarging on points given also by Plutarch in a summary form (*Alex.* 16.2–3), and he added the cock-shy. It is this cock-shy which Lane Fox accepts as a historical record of what the Persians and Alexander did in fact do, and he then marries it to the account of Diodorus. In my opinion this is to sew one fiction onto another, but let us see how likely his version is.

He begins by reversing the numerical strengths as given by the source he proposes to follow: for whereas Diodorus gave the Persians 110,000 men and Alexander 32,000 infantry and 4,500 cavalry (xvii 17.3–4), Lane Fox assigns 35,000 to the Persians and 50,000 to Alexander. While Diodorus states that the Persians stayed in their chosen position, (xvii 19.2, *ἡσυχίαν ἦγον*), Lane Fox has them withdraw from it and build a camp, all in the darkness of the night, 'on a hill a mile or two back' (p. 122). During the construction of this great camp when the Persians were out of formation and surely in some confusion, Lane Fox has Alexander do nothing. But next day at dawn Alexander begins to move the 50,000 men across the river under the nose of the Persians a mere mile away. 'Having stolen a march by stealth at dawn, (Alexander) fanned out his battle line and clashed with a headlong charge of the Persian cavalry.' 'Stealth' is impossible in daylight in an open plain. The crossing of an awkward river-bed by 50,000 men and the 'fanning out' into a battleline of between three and six kilometres in length must have taken at least a couple of hours, and during that time the Persians stood idle. These operations⁴ do not seem any more plausible than Diodorus' account of the ensuing engagements.

Instead of inventing a night-withdrawal by the Persians, Green leaves the Persians in their strong position and invents a night-operation by the Macedonians. They march downstream 'till a suitable ford was found' (the river being from Arrian's description fordable everywhere) . . . 'probably leaving all camp-fires ablaze to deceive the Persians'. He forgets that blazing camp-fires at 40 metres' distance illuminate the scene, and in any case how can one move 49,000 men (Green's figure) and some 6,000 horses without being heard at that distance? Having reached his ford unopposed, Alexander encamps. Green does not let him cross the river at night, as Arrian supposed Alexander did at the Danube and the Hydaspes, but starts the crossing at dawn when the Persians see and attack. Disappointed with Diodorus' battle, Green invents a full battle by lifting the battle-order from the account of Arrian which Green has rejected as wrong and applying a formation which in Arrian was designed for a frontal attack through the river to Green's own battle in an open plain. This uncritical amalgam of two sources provides Green with a battle-plan indeed, but one in which the known strengths of Alexander's units add up to some 18,000 men and not Green's 49,000.⁵ Something similar was done in the *Itinerarium Alexandri* 19–23, where a

³ Diodorus' account has generally been so dismissed; most recently, for instance, by Badian 272–4.

⁴ The notes which he appends seem rather to damage his case. He cites Xen. *Anab.* iii 4.35 which shows how scared Persians were of being attacked at night; in that case they had reason to stay in their chosen defensive position and not to invite attack by dispersing to build a night-camp. He refers to Curt. iii 38 'on Persian night habits', where we read that a peacetime march started at

dawn *orto sole*; from this we infer that the Persians were certainly ready to fight at dawn when Alexander began to move his army across the river. What Persians did at night when facing an enemy may be seen from Arr. iii 11.1: they stayed put, manning their defences. For criticism of Lane Fox here see Loeb B 450 f.

⁵ In his Pelican edn (508–9) Green invents not one but two engagements, which seems to compound his error. For criticism see Badian 272 n. 5.

dawn battle *sub luce* was padded out with details from Arrian's (or his source's) account; but at least the *Itinerarium* did not transfer those details to a different battle-scene.

(2) The sideways movement of Alexander in the river-bed is described by Polyaeus iv 3.16 as a decisive manoeuvre: 'Ἀλέξανδρος Γράνικον διαβαίνων Πέρσας ἐξ ὑπερδεξιῶν ἐπιόντας αὐτοὺς αὐτὸς ἐπὶ ὕδωρ (F, τὸ ὕδωρ M) τοὺς Μακεδόνας ἀναγαγὼν (F, ἀγαγὼν M) ὑπερεκέρασεν. 'While crossing the Granicus Alexander outflanked the wing of the Persians, as they were about to attack from a commanding position, by himself leading them, the Macedonians, (with cod. F) upstream waterwards' (or with cod. M 'towards the water'). That Alexander moved his men upstream to the right is clear from the compound ἀναγαγὼν of cod. F, from the expression 'towards the water'⁶ and not 'with the water', and from Alexander being in command of the right part of the line, as we know from Arrian. In the Teubner text the emendation by Korais of ἐπὶ ὕδωρ to ἐπὶ δόρυ has been adopted. It means 'to the right', which suits me, but the emendation, conforming with the practice of Scrabble rather than any principle of palaeography, should be rejected. The *lectio difficilior* should be retained.

The sideways movement is described by Arrian at i 14.7 in words which deliberately recall Parmenio's warning to Alexander at i 13.5. So let us begin with the earlier passage. Parmenio claimed that a frontal attack in an extended line through the river would be disrupted by deep pockets of water and steep parts of the far bank, and that in consequence 'as we come out (of the river-bed) in disorder and in column, the weakest position of all, the enemy cavalry being already in line formation will fall upon us' (ἀτάκτως τε οὖν καὶ κατὰ κέρας, ἥπερ ἀσθενέστατον, ἐκβαίνουσιν ἐπικεῖσονται ἐς φάλαγγα ξυντεταγμένοι τῶν πολεμίων οἱ ἵππεῖς). Sure enough, the enemy cavalry adopted that position: i 14.4, τὴν μὲν ἵππον παρατείναντες τῷ ποταμῷ κατὰ τὴν ὄχθην ἐπὶ φάλαγγα μακράν, 'extending their cavalry to form a long line on the bank by the river'. Alexander's counter-move is given at i 14.7: αὐτὸς δὲ ἄγων τὸ δεξιὸν κέρας . . . ἐμβαίνει ἐς τὸν πόρον, λοξὴν αἰεὶ παρατείνων τὴν τάξιν, ἣ παρεῖλκε τὸ ρεῦμα, ἵνα δὴ μὴ ἐκβαίνοντι αὐτῷ οἱ Πέρσαι κατὰ κέρας προσπίπτουσιν, ἀλλὰ καὶ αὐτὸς ὡς ἀνυστὸν τῇ φάλαγγι προσμίσξῃ αὐτοῖς. 'He himself leading the right . . . entered the channel, continually extending his formation at an angle where the stream was pulling, in order that the Persians should not fall upon him (i.e. his men) when he was in column coming out but he himself should engage them, he being as much as possible in line.' The purpose, then, of the manoeuvre ('in order that' etc.) was to avoid the danger foreseen by Parmenio, their emerging in disorder and in column, and to give Alexander's cavalry as far as possible the same formation as that of the enemy.⁷

The means by which Alexander achieved this result were that he extended his own formation in line, just as the enemy had done (i 14.4), and that he avoided disorder in crossing the river by advancing with oblique angles in the line where troops had to move against a strong current.⁸ Thus the sideways movement was upstream to the right, as it was in Polyaeus' description. Of course it had to be; for a concertina movement downstream to the left would have involved Alexander's troops passing first through the assault force of almost a thousand cavalry, and then through the royal brigade of hypaspists, and would have weakened the right wing disastrously.

The sentences λοξὴν αἰεὶ παρατείνων τὴν τάξιν, ἣ παρεῖλκε τὸ ρεῦμα are very concise. The antecedent to be supplied with ἣ is ταύτη or ἐκείνη: we may compare i 14.4, ἣ δὲ Ἀλέξανδρον αὐτὸν καθέωρων, ταύτη πυκνὰς ἐπέταξαν τῇ ὄχθῃ τὰς ἴλας τῶν ἵππέων. If we expand the phrase in translation, it means 'continually extending his formation and extending it at an angle there where the current was pulling them'. Now it is this phrase which has, I believe, been mistranslated, so that Alexander extended 'his troops obliquely in the direction in which the current was

⁶ The expression takes its colour from the context, here 'towards the flow', while at i 15.1 'up to the water' means 'to the water's edge'.

⁷ If one disregards the relationship between i 14.4 and 14.7 and then takes κατὰ κέρας with the Persians at 14.7, Alexander's aim was to avoid being outflanked, as in Polyaeus iv 3.16. For the contrast between κέρας and φάλαγγ see LSJ φάλαγγ 2.

⁸ From my experience in fording swift rivers, e.g. Aous, Thyamis and Alpheus, one always goes obliquely against the current, so that if one stumbles into an unexpected deep place or on a rock, one falls against the stream and can recover one's footing; but stumble downstream and you are swept away. This is not realised by Badian 288 n. 51, who has the troops going left 'to take advantage of the current' (as in a boat).

pulling them',⁹ that is downstream to the left. Aware of the absurd jam which would then ensue in the river-bed, Judeich 393 fig. 5 and Fuller 150 map 6 simply lifted the whole of Alexander's army and dumped it 500 m to the west, so that it could carry out a cross-legged manoeuvre in the open at a safe distance from the enemy (all this for a manoeuvre of which the purpose escapes me). It is wiser not to invent but to keep to the texts. I show in FIG. 3 the effect of the sideways movement, Alexander keeping contact with the assault force and extending his line rightwards upstream.

(3) The topographical indications in the sources are very clear. On the Persian side the Greek mercenary infantry was stationed initially and stayed throughout on higher ground (Arr. i 14.4 and 16.2); this was on 'a ridge' (Plut. *Alex.* 16.3), on 'the last slope' of the hills (Diod. xvii 19.2, *ὑπώρεια*). Between these infantry and the Persian cavalry on the lip of the bank there was level ground (Arr. i 15.4, *τὸ πεδῖον*): for the Macedonians tried 'to push the Persians once and for all off from the bank and force them on to the level ground'. This 'level ground' over which a Persian

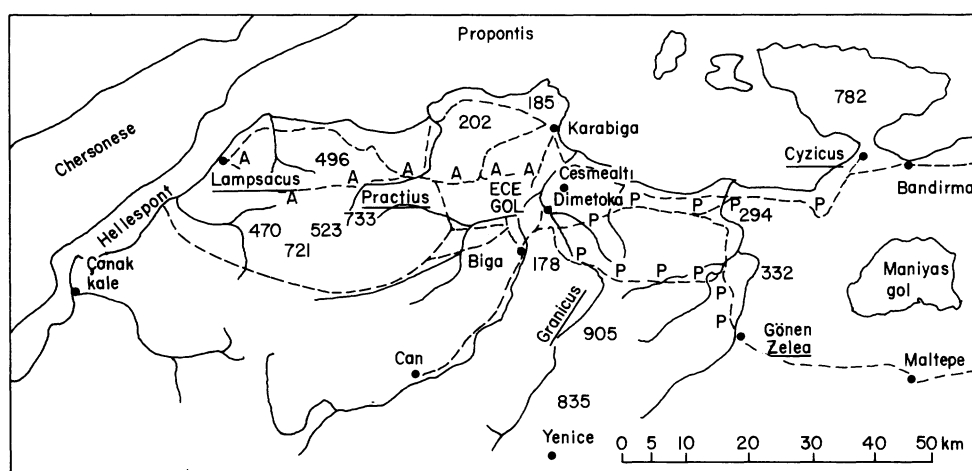


FIG. 1. Routes approaching the Granicus River. The map is copied from Harita Umum Müdürlüğü (1936), 1:800,000, Sheet Istanbul. Broken lines are routes marked on that map. Heights are in metres. A--A = Alexander's probable route; P--P = routes used by Persian forces.

cavalry squadron was able to charge in wedge formation (Arr. i 15.7) cannot have been less than 100 m in depth.¹⁰ We can then dispose the Persian forces as in FIG. 2. But we have still to demonstrate that the disposition was made at that part of the valley.

The Persian commanders placed their forces 'at the crossing of the Granicus' (Plut. *Alex.* 16.1). As they intended to block any advance by Alexander eastwards whether to Cyzicus which his fleet might threaten or to the Persian base inland at Zelea (Gönen), the crossing lay at a defensible nodal point in the communications, a point worthy of Plutarch's description of it as 'the gates of Asia'. When I visited the area, it was clear that this point is at Dimetoka where roads lead to Cyzicus and Zelea (see FIG. 1). Whether Alexander came from the Troad by the road south of the swampy area Ece Göl or by the road north of it, he would then proceed to the Dimetoka gap. It is encouraging that C. Foss, starting from different assumptions, has reached the same conclusion, that the Persian force 'would have taken up position on the right bank of the Granicus in the vicinity of Didymoteichus' (the ancient name generally given to Dimetoka).¹¹ However his term 'vicinity' has a wider meaning than I shall propose. In any case as long as the Persians held the Dimetoka gap, their supply-lines from Cyzicus and Zelea were safe, they had an abundance of

⁹ Loeb B in agreement with Loeb R. One would expect of rather than ἦ for this meaning. Judeich 394 had 'halblinks flussabwärts'.

¹⁰ Badian 277 f. discusses these topographical features but without a map or plan: I do not see the justification of

his translation of Arr. i 15.4 ἐξῶσαι εἰς ἄπαν ἀπὸ τῆς ὄχθης καὶ ἐς τὸ πεδῖον βιάσασθαι, 'push the cavalry down (my italics) from the bank into the plain'; see also ii 10.5.

¹¹ Foss 499: he sets out the evidence excellently for the ancient roads and shows them on his map, pl. 43.

water and much fodder and pasture in May/June, the month of the battle, and they blocked Alexander's route of advance eastwards.

THE TERRAIN

It was from Gönen that I came on 15th June, 1976 to the village of Dimetoka, through which the river of Dimetoka runs into the plain. Its size at the time can be seen from the picture in PLATE I, and its size in flood time can be estimated from the width of the bed (up to the place where I stood to take the photograph). I walked alongside the right bank down to the point of confluence with the river of Biga. The soil through which the river cuts its winding channel, twenty metres wide or more, is solid, stoneless alluvium. On the top of the banks in June the soil was like sand but only to a slight depth. Any moisture makes it set, so that the sides of the channel low down become a firm clay, and the bed itself is hard clay, whether water is passing over it or not. Lorries driven across the bed at Dimetoka left only a faint impression of their tyres. The banks are as much as five or six metres high, sometimes shelving, sometimes steep, and trees and shrubs grow luxuriantly at the sides of the bed and its banks. The most striking thing, however, is a continuous flood bank, artificially added and about a metre and a half high. That it is needed to contain the river in flood time was apparent from driftwood high up in the branches of the trees and shrubs.

Some 300 or 400 m downstream from the bridge at Dimetoka one looks from the flood bank NE across the flat valley-plain to the line of foothills which contains the valley on the east. A little farther on I noticed to my right the line of an old water-bed, running roughly at a right angle to the present river-bed. It was dry and partly filled; for at the place where it had originally joined the present line of the river, it had been blocked by masses of soil. As this water-bed was much larger than any artificial irrigation channel, it seemed either that the river had once run that way or that in a time of flood part of the present river had broken a way through in that direction. As I approached the confluence I found a bulldozer and a crane at work repairing a gap in the flood bank and in the main bank of the Kocabaş on my side of the river. Here too was evidence of the river trying to carve out a new or modified channel towards the right in flood time.

Although the river of Biga has more water in June, the river of Dimetoka has a more violent nature in flood time. It was probably so in antiquity. I have therefore identified the Granicus river with the river of Dimetoka in FIG. 2 (so Janke 129). Below the confluence the channel is wider—up to 40 m—and straighter than above the confluence, but its nature is exactly the same—firm clay with occasional patches of gravel but no boulders. The banks are again of alluvium, making firm clay where wet, as in the lower part of the bank, and sandy when very dry, as at the top of the bank. Some 200 m downstream the right bank became a gradual incline, no doubt through men and animals breaking a way down to the water. Here too, and lower down, the line of the river is marked by the many high trees and bushes which grow at the sides of the bed and on the bank.¹²

In June the river below the confluence looked very peaceful, but in flood time it must be a huge torrent. The wide bed and the straight course are evidently enough to carry the flood waters away; for I did not notice any flood bank. The left bank is generally less steep than the right bank, which indicates that the current in flood time sets towards the right bank.¹³ Leaving the bank of the river we walked parallel to it through extensive fields of cereals, sunflowers, tomatoes, sugar-beet, melons and maize seedlings along the paths of the peasants who cultivate the plain, using water pumped from the river. The surface is not completely flat, because tracks have made

¹² Earlier visitors seem to have worked from the main road west of the river of Biga, concentrating on that river and the joint river below the confluence by Cinarköprü bridge. All have noted the heavy growth on the banks, from *RE* vii.2 (1912) 1814 to Foss 502 ('covered in most places with a thick layer of vegetation composed largely of planes, willows and brambles . . . all the way down to the riverbed'). So too with the banks of the Dimetoka river in the plain. See Foss figs 6–8 (pls 43–4) and Niko-lisis figs on 70 and 73.

¹³ A mile or so below the Cinarköprü bridge Foss 502 noted a gravel slope on the (? east) bank which gave easy egress from the river-bed to the plain: he and Badian 289 put the action of Alexander on such a gravel slope. This is unacceptable if one takes Arrian's and Plutarch's descriptions as correct for the place of Alexander's action (*Arr.* i 15.1–5, *Plut.* 16.2–5); for they say nothing of a gravel slope or anything like it. Such gravel has been deposited by the river in flood at bends in its course.

dips and the spoil of small irrigation channels has made a few small rises. At a clump of fig trees, said to be growing from a ruined 'church', we turned east and went to Çesmealti village, situated on the edge of the rising ground. This traverse showed that the whole area up to the lowest foothills where the village begins is alluvial deposit. Proceeding from Çesmealti to Dimetoka bridge, we followed the edge of the continuous grassy ridge which marks the side of the valley-plain; it was of a uniform height until near Dimetoka, where it was lower and broken. Soon after dawn on the 16th I went from Dimetoka to the southern end of this continuous ridge and looked across the valley floor to Cinarköprü and to the line of trees marking the course of the river, almost three kilometres away.

On the 16th I went to Cinarköprü bridge and walked along the left bank of the river Biga by and above the confluence. The bank here is more shelving and more often breached than the east bank, but of the same soil and nature. Two men were bathing, one wading knee-deep, the other standing in a deeper pocket with water up to his chest. From Cinarköprü I went to Biga and noted the lower but continuous ridge which hems in the valley-floor on the west side and is generally close to the river.

What was the river system in antiquity? The flood banks which now direct the river of Dimetoka into the plain were not there in 334 B.C. Not only was the science of flood control unknown in this area, but the sign also of a stabilised river-bed, the growth of shrubs and trees on its banks, was lacking at the time of the battle, when the Persians on one bank saw the position of Alexander and his entourage very clearly on the other bank, and when the Macedonians were able to contemplate and apparently succeeded in scaling the opposite bank in a continuous line formation—an impossibility if shrubs and trees had covered the bank. When uncontrolled, the river of Dimetoka is likely to have flowed from the Dimetoka gap along the east side of the valley-plain as far at least as to below Çesmealti village. On the other hand there is no clue to the course of the river of Biga in 334 B.C. If it ran on the west side of the alluvial plain, as it does today, Alexander crossed it unopposed before coming to the Granicus. If it ran on the east side, it joined the Granicus at Dimetoka¹⁴ and their joint waters formed the obstacle which Alexander crossed in the battle. The latter is more probable. Both are shown on FIG. 2.

Where was the ford for anyone who intended to pass through the Dimetoka gap? The river in flood time must have been too deep in its channel through the alluvium for fording, but at or near Dimetoka it was no doubt fordable since it runs there over a wide and rocky bed (see PLATE I). Thus 'the crossing' of Plut. *Alex.* 16.1 being there, the Persian disposition, as we have shown it on FIG. 2, enfiladed any approach from the west to the crossing. This is an important point because all previous writers who followed Arrian have placed the battle out in the plain either on the river of Biga above the present confluence with the river of Dimetoka or downstream from the confluence.¹⁵

The ancient accounts of the Battle of the Granicus River mention some topographical features. Arrian incorporates a description of the river in the conversation between Alexander and Parmenio. The river is 'small' but in comparison to the Hellespont, and it has 'many deep places and very high banks of which some are cliff-like' (i 13.4–6).¹⁶ During the battle some Persians 'hurled their javelins from above from the bank into the river', and other Persians 'on the lower'¹⁷ parts of the bank came down even as far as the water' (i. 15.1; also 15.2). Plutarch mentions as causes of alarm to the Macedonians 'the depth of the river, and the irregularity and roughness of the banks' on the east side of the river; 'the sheer places'; 'the current carrying one along and sweeping round one'; and the ground on the far side being 'wet and treacherous because of the clay' (*Alex.* 16.5). Diodorus has the Persians using the river's channel as a defence (xvii 18.4), and Polyaeus makes the Persians attack 'from above'. Everything was as it is today in that part of the river which runs through the deep alluvium (except that there are trees now where there were

¹⁴ The river of Dimetoka must have deposited much rubble on the edge of the plain by Dimetoka since 334 B.C.

¹⁵ Most recently Nikolitsis with an aerial photograph, and then Foss and Badian. Changes in the river systems of the alluvial plains on the Turkish coast are the rule rather than the exception (see *RE* xxiv [1963] 3 for changes of the Pyramus river by Mallus). On visiting our area in 1843

Kiepert thought the river of Biga had once flowed into the Ece Göl swamp, but there is a ridge between.

¹⁶ So too Plut. *Alex.* 16.2, where τὴν τραχύτητα does not mean a 'rocky surface', *pace* Badian 278.

¹⁷ χαμαλώτερα: 'lower', not 'more level' as in Loeb R and Loeb B.

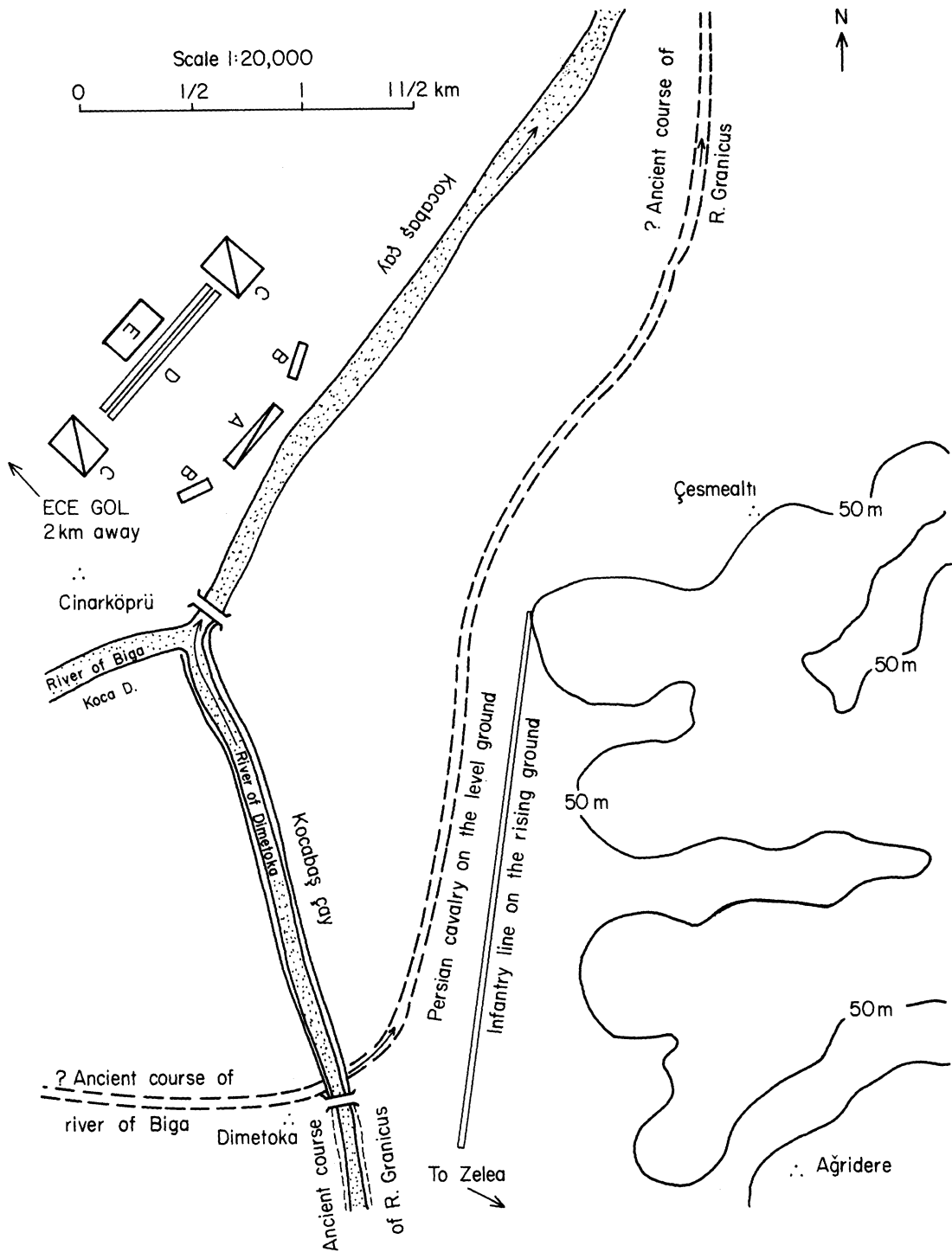


FIG. 2. The Battle of the Granicus River. Alexander approaches; Persians in position.

Key: [] Modern bridge

[] River bed with flood banks

A, Lancers. B, Light-armed. C, Cavalry. D, Double Phalanx. E, Baggage Train (Arr. i 13.1). Note: The map is an enlargement of the German Staff Map, 1941, of which the scale is 1:200,000. The 50 m contour is the first above sea level. See sketch-map in Janke 129.

none). There is less water now. If in 334 B.C. there was less diversion of water for irrigation, more forest higher up the river and the date or season was earlier than June, this is not at all surprising. Plutarch's comment about the clay is interesting. When wet it is very slippery for a man wearing smooth-soled shoes, but it gives reasonable footing for a horse or a man's bare foot if he uses his toes.¹⁸

Arrian makes a distinction which his translators have not appreciated between the river and the channel (*πόρος*); for the river when not in flood runs over only a part of the channel (see PLATE Ia).¹⁹ So in 1976 the channel below the confluence was up to 40 m wide and the river nearer 4 or 5 m. The channel is mentioned in Arrian i 13.3, 14.5 and 14.7, the contrast between *πόρον* and *ῥεῦμα* in this last passage being of importance. Where the distinction is unimportant, Arrian uses *ποταμός* to embrace channel and river.

For the long continuous ridge east of the river on which the Greek mercenary infantry stood the only candidate is that of the foothills between Çesmealti and Dimetoka (see the sketch-map in Janke 129). There is no comparable ridge of such a length or indeed no ridge at all in the valley-plain.²⁰ We conclude then that in 334 B.C. the Granicus River below Dimetoka ran quite close to the east side of the valley-plain. This plain was called 'the plain of Adrastus' (Just. xi 6.10, Str. 587).

THE PRELIMINARIES TO THE BATTLE

The Persian commanders were not agreed upon the strategy they should adopt. They believed they had considerably greater numbers of well-mounted and well-trained cavalry than Alexander, but fewer heavy infantrymen and those of inferior quality with the exception of their Greek mercenaries. Memnon, a Greek commander on the Persian side, who had lived for years at the court of Philip, proposed to avoid any engagement, since 'the Macedonians were far superior in infantry' (Arr. i 12.9; also 13.3, 'Persians much inferior in infantry'); and his suggestion was that, in withdrawing, the Persians should destroy all the standing corn and grass by trampling it down, burn the (ripe) corn in the fields and not spare their cities (i 12.9; so Diod. xvii 18.2). However, the Persian command, which included the local satraps and members of the royal family, decided to draw Alexander eastwards and block his advance by manning a strong defensive position. As the frontier between the Macedonian empire and the Persian empire was so open and there were Greeks on both sides, the Persians probably knew that Alexander had between 30,000 and 40,000 infantry and some 5,000 cavalry. They made their plans accordingly; for they were not to know that he would operate at once and without the majority of the non-Macedonian troops. They assembled forces which in the event exceeded both in cavalry and infantry the numbers deployed by Alexander.²¹

As the Persians chose to contest 'the crossing of the Granicus' (Plut. *Alex.* 16.1), they took

¹⁸ I have found this to be so with pack-horses; the hoof sinks in up to the fetlock usually, as is shown in Nikolitsis' photograph on p. 72. The Plataeans kept their right foot bare in order to get a firm stance on the clay (Thuc. iii 22.2, ἀσφαλείας ἔνεκα τῆς πρὸς τὸν πηλόν). In the course of the battle the pounding of the horses' hooves caused the bank to become increasingly wet and slippery (Plut. *Alex.* 16.5, ὑγρῶν καὶ περισφαλῶν γενομένων διὰ τὸν πηλόν).

¹⁹ See Nikolitsis' photographs on pp. 70, 72 and 73.

²⁰ Judeich 384 and n. 2, magnified some small rises near the right bank into a kind of ridge. Janke 129 ff. put the highest of the rises at 3 m above the level of the bank. I walked over this area and saw only the small rises due to irrigation channel banks and cultivation. Foss 501 writes in general terms 'a slight and rather barren rise behind the river, but no imposing elevations of any kind before the hills behind Dimetoka are reached', and 502 'the plain beyond the river [a mile below Cinarköprü] offers no

significant feature which would be suitable for a defensive position'.

²¹ For the Persians this was the third year of campaigning against the Macedonians, and we may be sure that Philip's and Alexander's plans were well known at the Persian court. That Darius sent forty of his 'Kindred', trained at his court as élite cavalrymen, and squadrons of cavalry from Hyrcania, Media, and Bactria is most understandable (Diod. xvii 19.4, 20.2, 21.1); indeed it would be very strange if he had failed to do so. That there were some Hyrcanian settlers in Lydia (Str. 629) was pointed out by A. Domaszewski, *SAW Heidelberg* 1925/6 1. *Abh.* 53 (so too Lane Fox 516); but this does not mean that they provided the force of 'the Hyrcanian cavalry'—a force led by Darius' son-in-law, and no doubt as strong at least as the 2,000 Bactrians. Since Persia had great numbers of fine cavalry, Arrian's figure of 20,000 is probably correct. Her mistake was not to send a force of archers.

position on their side of the river with cavalry on the lip of the bank,²² cavalry on a flat area 100 or more metres deep behind the lip, and behind the cavalry infantry on the long ridge of grassy ground which rises 20 to 30 m above the flat area. They evidently considered their cavalry best fitted to hold the river-bank and their Greek infantry best placed with a downhill slope in their favour. Persian commanders had made similar dispositions at the Centrites River, as Badian 277 n. 24 has wisely noted (see Xen. *Anab.* iv 3). Memnon had no doubt been impressed more by Philip's infantry in the Balkans; and he knew Alexander's cavalry to be much inferior to his own in number.

When Alexander set out from Macedonia, his forces in Asia were mainly Greek mercenaries. They were holding many places along the Aegean coast (the first Persian garrison mentioned after the Battle of the Granicus being at Ephesus which Philip had held recently) but only a part of the coast facing the Hellespont. Alexander did not recall troops from the Aegean coast. He merely took over such Macedonian troops and Greek mercenaries as were already in the Hellespontine area. On his arrival in the Troad more than half his infantrymen were Greek and Balkan, and he did not use them for his first battle in which he knew he would be facing a large force of Greek mercenary infantry.

Alexander set off with the Macedonian part of his army and some special units of whose loyalty he had no doubts. Needing a victory in a pitched battle to solve his problems of supply, finance and communication, he headed for Zelea, known to be the enemy's base. Passing Colonae on an inland route,²³ he adopted an order of march which he had used when afraid of being attacked by superior numbers of Getic cavalry in a plain (*Arr.* i 4.2). This is shown on FIG. 2: A, lancers (probably 600 strong), and B, 500 light-armed infantry²⁴ in advanced reconnaissance; then D, 12,000 phalangites, with a front of 750 men and a file of 16 men but with an interval between the eighth and ninth man so that the formation was 'the double phalanx', from which a rectangular box could be formed, if necessary;²⁵ C, cavalry on each flank; and E, baggage-train behind (*Arr.* i 13.1). This shows both that he was in the extensive plain to the north of Ece Göl and that he expected the Persian cavalry to be much more numerous than his own. He was 'not far away from the river Granicus' when scouts galloped back to report that the enemy were in position on that river on the far side, drawn up as for battle. Alexander marched on, and occupied his side of the river Granicus.

When Alexander halted, his forces were in the disposition of their order of march. Alexander and his commanders (we may assume) inspected the ground, viewed the enemy positions and held a council of war. When he had decided on his plans, Alexander arranged for the placing of the baggage train and laid down the battle-order, into which the army then deployed. It seems that the period between halting and deploying was described by some authors as 'camping'.²⁶

THE ACCOUNTS OF THE CROSSING OF THE GRANICUS

The chief account is that of Arrian, whose sources were, as he tells us earlier in the book, Ptolemy and Aristobulus. The fullness of detail on the Macedonian side—the exact battle-order, the unit-commanders named usually with patronymics, the orders issued by Alexander, individual troop movements, Alexander's movements, Alexander's feats in action, and detailed losses—is a remarkable feature of Arrian's account. It is not peculiar to this battle but is found for almost innumerable engagements throughout the seven books of his *Anabasis*. The details are far too consistent and coherent to be regarded as a giant fiction, and this massive control of detail

²² This is stated repeatedly and is clear from the nature of the fighting: in placing the Persians back 'at some distance from the river' Badian 280, 289 runs counter to the texts.

²³ For the route see Judeich 378 fig. 1 and Foss 497 f. That he was inland is clear from the fact that he sent a detachment to take over Parium on the coast (*Arr.* i 12.7); if Hermotus is a variant form of Hermaeum in Polyaeus. vi 24, he was some 20 km from Lampsacus and some 7 km from Parium.

²⁴ These were probably the Agrianians.

²⁵ For the double phalanx see *Arr. Tact.* 28.6.

²⁶ Frag. Sabbaiticum, *FGtH* 151 F 1 (1) *ἔστρατοπεδεύετο ἐπὶ τοῖς χεῖλεσι τοῦ Γρανίκου*, *Diod.* xvii 19.1 *ἀντεστρατοπέδευσε τοῖς πολεμίοις*. Arrian provides a dramatic setting for his conversation between Parmenio and Alexander by having Alexander begin to deploy his army (imperfect *συνέταπτεν*) before Parmenio interrupts him.

must be due to a record made at the time, whether in the *King's Journal*, as I prefer, or in very full notes kept by Ptolemy (and perhaps also by Aristobulus).²⁷ I now give a summary of Arrian's account with comments and explanations usually in parentheses.

Arrian gives the enemy forces as up to 20,000 Persian cavalry and little short of 20,000 mercenary infantrymen, predominantly if not entirely Greek (i 12.8, τοῖς Ἑλλησι τοῖς μισθοφόροις; i 14.4; i 16.6, τοὺς μισθοφόρους Ἑλληνας).²⁸ The cavalry were extended to form a long line on the bank by the river (both on the lip and on the level ground), and the infantry were placed behind the cavalry on the high ground beyond the bank²⁹ (from Alexander's point of view). The Persian commanders massed their squadrons of cavalry at a point on their bank (on the lip and on the level ground) opposite Alexander's initial position which they had recognised from his brilliant equipment and his aides' activity. The Persians intended 'whenever the Macedonians went into the channel (τὸν πόρον) to attack them as they were coming out' (i 14.5).³⁰

(We may estimate approximately the length of the Persian line. If we allow 2½ km for the 20,000 mercenary infantry in a phalanx 8 men deep in the usual Greek manner,³¹ and the same length of line for the 20,000 cavalry, then the cavalry would have had some 1,250 troopers at 2 m each in the front line and a depth of 16 troopers. Lines of this length are shown in FIG. 3.)

On the Macedonian side Alexander saw the enemy's position before he arranged his forces, of which he put the left half under Parmenio's operational command and the right under his own. The order of battle (i 14.1–3) is described as if the troops were marching out from a centre in column.³² 'In front, on the right (i.e. on the right wing), there were under Philotas' command Companion cavalry (1,600, being less one squadron), Archers (? 500), Agrianians (? 500);³³ next to Philotas there were under Amyntas' command Lancers (? 600), Paeonian horse (? 150),³⁴

²⁷ The alternative which has been suggested is a good memory for events which had happened as much as fifty years before, if Ptolemy wrote his book c. 285–3 B.C. (this seems most probable, despite Badian in *Gnomon* xxxiii [1961] 665–6 and R. M. Errington in *CQ* xix [1969] 233 f.; see now Goukowsky xxvi–xxx). But to remember detailed battle-orders, day-to-day marches, names of unit-commanders and so on through twelve years of war seems impossible, at least to judge by my own memories and those of friends about far fewer operations in 1940–45.

²⁸ Since the time of Xenophon's *Anabasis* Greek mercenaries on Asiatic soil were numbered in tens of thousands, fighting both for and against the Great King (see my *History of Greece*² [Oxford 1967] 667). In 336 B.C. Memnon, a Greek mercenary captain, was sent by Darius to attack Cyzicus with a corps of 5,000 Greek mercenaries in Asia in 335 B.C. (Diod. xvii 7.10), and Alexander had 5,000 there at the beginning of this campaign. That Darius in the third year of the war had the need and the money to hire 20,000 Greek mercenaries is obvious.

²⁹ ὑπὲρ c. acc. = 'beyond', not 'above' (as in Loeb R and B), which needs a genitive; see LSJ s.v. B 1.

³⁰ ὅποτε ἐσβήσονται ἐς τὸν πόρον, ὡς ἐπικεισόμενοι ἐκβαίνουσι. For πόρον being the channel see p. 80 above. Loeb R, 'to fall upon them emerging from the river as soon as they should attempt the crossing', and Loeb B, 'to fall on them emerging from the river whenever they attempted the crossing', are both wide of the mark.

³¹ Allowing one metre of fighting-space in the front line to each man; see Kromayer–Veith 79 and 358, and my *Studies in Greek History* (Oxford 1973) 542 for the length of the line at Chaeronea.

³² That is why the prefix προ- is used in προετάχθησαν, translated incorrectly by Loeb R and better but not clearly by Loeb B: 'in front of his right he had already posted Philotas'. In Arr. i 14.1, προετάχθησαν δὲ αὐτῷ τοῦ μὲν δεξιῶ Φιλώτας, the τοῦ μὲν δεξιῶ is answered by τοῦ δὲ ἐωνύμου at i 14.3. The translation should be 'Of the right

(part of the line, called a κέρας in the preceding sentence) those stationed in advance were Philotas etc. . . . Of the left the first (i.e. leading the deployment) were the Thesalian cavalry'. The central point from which the deployment was envisaged was the brigade of Philip, which is therefore mentioned twice (i 14.2 fin. and 3 fin.), not because there were two such brigades, as Nikolitsis 23 supposed, nor through carelessness, as is generally supposed. The second mention (this time without the patronymic) avoids any possibility of misunderstanding. When the army turns into line and faces across the river, then the advanced troops designated by πρὸ τούτων at i 14.6 are in front of the line. The first mention of Craterus is due to interpolation, as Loeb B points out, and not to carelessness by Arrian, as Bosworth (n. 50) 126 has supposed; the effects of scribes and commentators in the transmission of Arrian's text are quite alarming, as the fortunes of the words ἀσθέταιροι and ἀσθιπποι have shown (see Bosworth, *CQ* xxiii (1973) 245 ff. and Hammond, *CQ* xxviii (1978) 128 ff.).

³³ Diod. xvii 17.4 gave 1,000 for the two together, and I have split them in equal numbers; it is interesting that Alexander had at least twice as many on his Balkan campaign where he faced many more light-armed troops than he expected in Asia (Arr. i 6.6 'up to 2,000').

³⁴ At this time (Arr. i 12.7) there were at least four squadrons of Lancers (also called Scouts) and one squadron of Paeonian horse. The Companion cavalry, 18,000 strong, were probably in eight squadrons as at Gaugamela (Arr. iii 11.8). These make up the thirteen squadrons with which Alexander entered the river (Plut. *Alex.* 16.3). So Loeb. B lxxiii. The strength of the individual squadrons of Lancers (4), Paeonians (1) and Thracians (1) was probably 150, and the six squadrons made up Diodorus' total of 900 for these units (xvii 17.4)—restoring καὶ between δὲ and πρόδρομοι with Milns in *JHS* lxxxvi (1966) 167. There are two confusions in Diodorus' troop-list at xvii 17.3: first it is introduced as the number after the crossing into Asia (xvii 17.1), the review being evidently in the

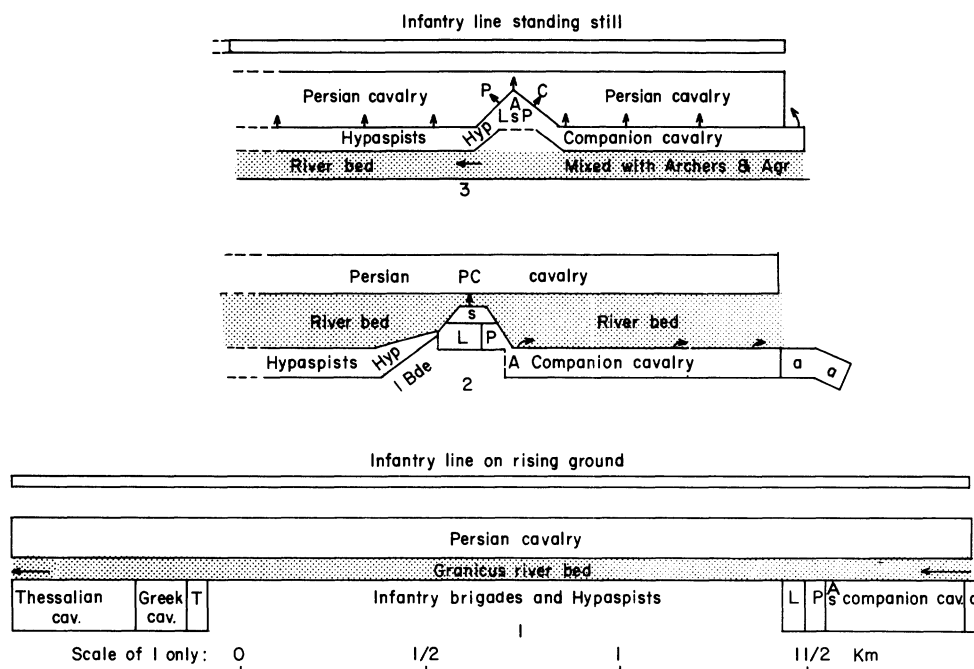


FIG. 3. Phases in the Battle. The plan is schematic, since the river-bed was not straight.

1. Positions at rest. T, Thracian cavalry. L, Lancers. P, Paeonian cavalry. A, Alexander. S, Socrates' squadron. a, Archers and Agrianians.
2. Opening the attack. Hyp I Bde, Royal Brigade of Hypaspists. L, Lancers. P, Paeonian cavalry. S, Socrates' squadron. A, Alexander. aa, Archers and Agrianians. PC, Persian Commanders.
3. Alexander about to break through the Persian cavalry. Hyp, Royal Brigade of Hypaspists. A, Alexander. L, Lancers. S, Socrates' squadron. P, Paeonian cavalry. PC, Persian Commanders.

Socrates' squadron of Companion cavalry (200);³⁵ then came the infantry, being Hypaspists (3,000) and six 'phalanx brigades' (9,000), and cavalry, being Thracian (? 150), Greek allied (600) and Thessalian (1,800). These are shown on FIG. 3. The total, then, was probably 5,100 cavalry and 13,000 infantry.³⁶

(Alexander will have made his line as long as the Persian line, in order to avoid being outflanked, for any overlapping Persian cavalry could easily cross to his side of the river. As the infantry had to fight their way in line up the bank, wielding long pikes against horsemen, it was undesirable to pack them at the normal phalanx depth of 16 men. He seized the chance to immobilise the bulk of the much superior number of Persian cavalry by giving to the phalanx a more extended front, so that his own cavalry, posted on the wings of the line, would be not too much inferior in number to their opponents. If we allocate a front of 1,500 m to the phalanx at a

camp at Arisbe (Arr. i 12.6), and it is concluded by the statement that this was the number who crossed with Alexander to Asia (xvii 17.5); the second confusion is that the individual figures of the cavalry add up to 600 more than his total, 4,500. Since Ptolemy in Arr. i 11.3 gives 'not much more than 30,000 infantry and over 5,000 cavalry' for Alexander on his way to the Hellespont, it is best to accept Diodorus' total of infantry at 32,000 infantry and the aggregate of his individual figures at 5,100 cavalry as those who crossed. There were troops already deployed in Asia, holding much of the coastal area perhaps as far as Smyrna, but these could not have been recalled for the Granicus campaign without abandoning ground already won. On the numbers see Loeb B lxix f.

³⁵ The order on the right is not absolutely certain. I take it that in each separate command the order is given from outwards, so that the Archers and Agrianians were

on the right wing, Socrates' squadron was next to the block of Companion cavalry and the Hypaspists came next to the Lancers. This position of the Agrianians and Archers on the wing is what we find also at Issus and Gaugamela, and the position of Socrates' squadron as the leading squadron on that day is appropriate.

³⁶ The strength of the units in the battle-line is not seriously in doubt, and any alteration makes only a marginal difference. Some have asserted that Alexander had a second line which is never mentioned in the sources; this to accommodate, say, the 7,000 Greek allied infantry and 5,000 Greek mercenary infantry. Nothing supports this conjecture. At Issus and Gaugamela Arrian mentioned the Greek infantry in Alexander's army, and at Gaugamela he mentioned the second line in action. There is no reason to suppose that he would not have mentioned both if they had existed in the battle of the Granicus.

depth of 8 men,³⁷ there are 500 m available for each wing. The 2,550 troopers of the left wing would occupy this space with a front of 255 troopers and a depth of ten troopers. The extreme right wing was held by Archers and Agrianians. In consequence the troopers of the right wing were at a greater depth than ten.)

(Alexander had three problems, for which the speech of Parmenio has in part prepared us. The first was to keep formation in line while crossing the river, while breaking a way up the bank on the far side of the river and while pushing the Persians off the lip of the bank. If he pushed them off at some points and not at others, the successful groups as they emerged would be enfiladed by the enemy. What he wanted was to cross both the river and the channel in line, like a roller about to break on a shore, and reach the top of the bank all along in line. The second problem was to prevent the Persian cavalry behind the lip of the bank from enjoying freedom of movement, either to concentrate on any Macedonian break-through group or to outflank him by crossing the river beyond his own wings. The third was when he reached the lip of the bank to move forward over the level ground not in groups but in line. This applied particularly to the infantry line. Disordered groups of pikemen were at the mercy of cavalry or of infantry charging in formation. On the other hand a solid line of pikemen could not be charged frontally by any cavalry force.)

'For a time the two armies . . . stood still in deep silence' (i 14.5). The silence was broken by Alexander calling aloud to his entourage to follow him (thus leading the Persian commanders and the picked troops opposite, whom he saw, to expect an attack from him in person). In fact Alexander did not enter the channel. Instead he ordered four units to go ahead into the river: first and ahead³⁸ of the others Socrates' squadron of Companion cavalry, named in the day's orders as the leading squadron, and then behind that squadron (from left to right) one brigade of Hypaspists (the Royal Brigade), the Lancers and the Paeonians. (To fulfil this order Socrates' squadron probably moved straight ahead; the Paeonians moved to the right upstream to occupy the place in the line vacated by Socrates' squadron, and the other two units moved to their right in order to keep touch. Presumably the infantry phalanx expanded its line to the right likewise but without drawing on the left wing.) Next, Alexander brought the whole of that part of the line which was to the right of the Paeonians into the channel (*τὸν πόρον*), trumpets fanfaring and battle-cries resounding (to make the enemy expect an immediate onslaught). Once in the channel he kept to his side of it, out of effective range of the enemy javelins, and kept 'continually extending his formation at an angle where the stream was pulling, in order that he (i.e. his men) should not come out in column so as to be charged by the Persians, but he should be as far as possible in line in engaging them'. See Phase 2 in FIG. 3 and p. 75 above.

(The attack by the assault force which ensued and the fear of attack by those to the right of the assault force pinned down not only the strongest concentration of the enemy cavalry but also the whole line of enemy cavalry along the bank facing Alexander's right. For the Persians there had not had any orders to extend their formation to their left to counter Alexander's move and they dared not do so now in case a gap should arise and invite attack. While his men were moving to the right upstream Alexander made them keep formation so that no gap on his side should invite attack; when they were in the river itself this was achieved by moving obliquely against the current. When his formation was already extended to his right, the right-hand troops overlapped and outflanked the enemy (Polyaen. iv 3.16), and the Archers and Agrianians began to mingle with the cavalry where we find them later.)

Socrates' squadron suffered severely from showers of javelins and in horse-to-horse encounters at the foot of the steep bank, especially where Memnon and the pick of the Persian cavalry were fighting. So too in their turn the Paeonians and the Lancers, as they began to cross the river and go into action.³⁹ Some of Socrates' squadron were already falling

³⁷ At Issus, where the infantry had to scale a difficult river-bank, the line was eight men deep (Callisthenes in Plb. xii 19.6, 21.8); so too Nikolitsis 63.

³⁸ Arr. i 14.6 *καὶ πρὸ τούτων*. Loeb R had 'before these' and Loeb B more accurately 'in advance'. See n. 32 above.

³⁹ Arr. i 15.1 brings them all to the assault together; *ἢ πρῶτοι οἱ ἀμφὶ Ἀμύνταν καὶ Σωκράτην πρόσεσχον τῆ δὲ χθῆ*—first that is as compared with Alexander and the

right wing going into action. Loeb R is wrong in saying 'the vanguard . . . held the river bank'; and B alters to 'touched the bank'; but the emphasis is on *πρῶτοι*, 'where the first to land on the bank were the troops of Amyntas and Socrates, there the Persians etc'. Evidently the Hypaspists came into action somewhat later, although they had entered the channel at the same time as the troops of Amyntas and Socrates (i 14.6); as we have explained, they

back,⁴⁰ when Alexander (coming up on their right) was nearing them. He was the first at the head of his men to charge the mass of Persians, the commanders being among them. The fighting round Alexander was intense; but meanwhile the brigades of cavalry to his right were crossing over with less difficulty and were pushing in line up the bank. The Persians tried to prevent the Macedonians from emerging and indeed to push them back into the river, and the Macedonians tried to push the Persians once and for all off the bank and force them onto the level ground (i 15.4). From this moment Alexander and his entourage were getting the better of it (i.e. pushing the enemy off the bank), because of their physical strength, their experience and the advantage they had in fighting with cornel-wood lances against javelins.⁴¹ Alexander's own actions follow (out on the level ground): his broken lance, his acceptance of Demaratus' lance, his riding out to meet a wedge-shaped formation of charging Persian cavalry, his unhorsing of Mithridates, his helmet sheared half off by Rhoesaces' scimitar, his spearing of Rhoesaces, and his being saved from Spithridates' scimitar by Cleitus cutting off Spithridates' arm. Meanwhile 'those of the cavalry for whom it was going well along the river'⁴² were coming out onto (the level ground) and joining up with Alexander's entourage' (so that Alexander's narrow bridgehead was now becoming a continuous area held by his men in line to his right).

(This crucial part of the battle is clarified somewhat by Plut. *Alex.* 16.3. As soon as Alexander had mastered the bank, 'he was compelled to fight in confused order, man by man (as they emerged) engaging those who charged down on them, before those who were crossing could get into any formation'. In other words, as men came in dribs and drabs through the gap opened by Alexander, they were charged on the level ground by the Persians who had been waiting in formation for this very moment.)

Now it was the Persians who were being struck from all sides, the Macedonians driving their lances into the faces of men and horses. The Persians were pushed back by the cavalry, and suffered much from the light-armed (Archers and Agrianians) mingling with the horsemen. They broke first where Alexander was taking risks in front (*προεκινδύνευε*). See Phase 3 in FIG. 3. Then, when their centre had given way,⁴³ the wings of the line were broken also (i 16.1). And the flight was headlong. Of the Persian cavalry up to a thousand were killed. There was not much pursuit, because Alexander turned towards the mercenaries.

(The Archers and Agrianians evidently worked down along the line from the right wing, helping⁴⁴ the cavalry to break their way over the bank against the enemy cavalry and then attack in formation on the level ground. On Alexander's left too the infantry line, engaging probably

had to move to their right and the time-delay allowed the infantry line to take up the extension. They were not part of 'the first assault' (i 15.2).

⁴⁰ Principally under pressure from 'Memnon and the sons of Memnon' who were among the Persian commanders massed at the point where they had expected Alexander to attack (i 14.4 fin., 15.3 fin.). These commanders were not with the units allotted to them in Diodorus' battle-order (xvii 19.3-4), of which it is impossible to assess the worth.

⁴¹ The remarks about physical strength and experience applied in particular to the Bodyguards (*somatophylakes*) and the entourage of Alexander. The Persians were variously armed, some having spears in Plut. *Alex.* 16.4.

⁴² *ἐπεκβαίνοντες αἰεὶ τῶν ἰππέων ὁσοῖς προῦχώρει κατὰ τὸν ποταμὸν προσεγίννοντο τοῖς ἀμφὶ Ἀλέξανδρον*. Loeb R is loose: 'those of the cavalry who had made good their way on the river bank kept coming up and joining the little band round Alexander'. Loeb B has 'cavalry who had made good their way down stream kept coming up and joining the band round Alexander'. The impersonal does not imply a literal movement or a lateral one. On my interpretation they moved downstream to join Alexander, but the Greek does not say that. For my translation of *κατὰ τὸν ποταμὸν* compare i 14.4 *κατὰ τὴν ὄχθη*, and

Xen. *Anab.* iv 3.23 *κατὰ τὰς . . . ὄχθας*.

⁴³ While Alexander was with the right wing (i 14.7, 15.3) and faced the enemy's left wing (i 14.4), the centre of the line lay with the infantry brigades, its mid-point being between the brigade of Philip and that of Amyntas (i 14.3 fin.). It was the infantry brigades which caused the enemy centre to give way (i 16.1); so too in Polyæn. iv 3.16, 'the phalanx's charge routed the enemy'. The right wing of the phalanx had been covered by the gallant actions of the cavalry assault groups and then of Alexander's entourage, so that as soon as the hole was punched in the enemy formation the whole infantry line attacked, the righthand brigade of Hypaspists being already in position to outflank the enemy (see FIG. 3). The part of the infantry is missed by Goukowsky 181 ('si des fantassins macédoniens avaient tenté de franchir le Granique, ils auraient été massacrés') and Badian 292 who thinks the break-through in the centre first was 'perhaps . . . one last blunder' in Arrian's 'catalogue of carelessness'. Arrian cannot win!

⁴⁴ For infantry helping cavalry cf. i 6.6 and in general *ἄμιπποι*. Agrianians were probably trained to fight against cavalry, like other Thracians (Thuc. vii 30.2). Such infantry in a close-fought cavalry action were no impediment, *pace* Badian 285 n. 46.

when he engaged, must have driven the Persian cavalry back with their long pikes,⁴⁵ established themselves in formation on the level ground and routed the Persian cavalry of the centre. For we find in Plut. *Alex.* 16.12 that, when Alexander's entourage was in its greatest hazard, 'the infantry phalanx of the Macedonians was getting across',⁴⁶ and in Polyaeus iv 3.16 that after the completion of Alexander's manoeuvre it was 'the phalanx' which 'fell on the enemy and routed them'. No doubt the infantry attack was launched in accordance with Alexander's order issued in advance.)

The mass of mercenary troops (i 16.2) stood where they had originally been posted, not of set and calculated purpose but through sheer amazement at the unexpected development. (They had had a fine view of the fighting from the ridge [see PLATE Ia], but they failed to charge down the slope against the Macedonian phalanx when their own cavalry was breaking into flight.) Against them Alexander now led the infantry phalanx. He ordered the cavalry to attack them on every side. Thus surrounded the mercenaries were soon cut down. About 2,000 were taken alive.

(The Macedonian phalanx of 12,000 men was inferior in numbers to the 20,000 mercenaries, tough professional soldiers of much experience, who were fresh for action. The Macedonian pikes no doubt outreached the mercenaries' spears, but it was the cavalry which made the difference by charging onto the mercenaries' flanks and rear and so breaking their formation. According to Plut. *Alex.* 16.14 these desperate fighters inflicted the majority of the wounds and casualties which the Macedonians suffered in the battle. The mercenaries evidently fought to the death except for the 2,000 taken alive, who presumably surrendered and were thus taken prisoner. Arrian mentions no other infantry; but Plutarch refers to other infantry, which fought but soon fled, and to the Greek mercenaries, who stood firm [σοστάντες] on a ridge.)

In Arrian's account, although the Macedonian losses by death were small,⁴⁷ the battle is portrayed as a desperate one. Alexander gained an advantage by deceiving his opponents and extending his line rapidly to the right, but even so, when Alexander's entourage alone was established on the level ground, the issue hung in the balance and Alexander escaped death only through the quickness of Cleitus. In Arrian's account, then, he came closer to failure in this battle than in any other.⁴⁸

Let us turn now to Plutarch and Polyaeus. Plutarch is describing the same battle in the same place and sequence, but he never coincides precisely with Arrian. Thus his preliminary introduction is of a different kind; he put 13 squadrons with Alexander but did not name them; his account of the Persian attack on Alexander was fuller and had different details (e.g. Alexander killed Rhoesaces with a sword, not a lance, and Cleitus struck Spithridates with a lance and not a scimitar); native infantry was present as well as mercenary infantry; and an attempt was made by the Greek mercenaries to parley. 'They asked Alexander for the pledges' i.e. for terms under oath (but what terms? The expression does not mean an unconditional surrender). 'And he with more

⁴⁵ The success of the Hypaspists on Alexander's left was due to the long reach of the pike driven into horse or rider from below. That the best infantry unit, the Royal Guard of the Hypaspists, was armed in set battles with the pike is clear from the actions at Chaeronea (Polyaen. iv 2.2), Pelium (Arr. i 6.2), on this occasion, and at Gaugamela (Arr. iii 14.3, the Hypaspists being next to Alexander). I am not convinced by the arguments of M. M. Markle, 'The Macedonian sarissa, spear and related armor', in *AJA* lxxxi (1977) 326 f., that the Hypaspists in pitched battle were armed like hoplites with the large shield and short spear; infantry so equipped would have found it much harder than the pike-men did to drive the cavalry back up and off the river-bank.

⁴⁶ Here too the important part played by the infantry phalanx emerges. It is a characteristic of Arrian's very detailed accounts of the major battles that they describe the actions of Alexander and the units with which Alexander was concerned. This in itself is a strong indication that the accounts come finally from the *King's Journal*, which concentrated on the King's actions. The Thessalian

cavalry and Parmenio pass unmentioned although they defeated the opposing cavalry.

⁴⁷ By our standards the number of wounded in relation to the killed was no doubt disproportionately high; protective armour was good, and javelin and sword wounds were rarely lethal.

⁴⁸ By the same token the Persian command came close to success. This has not always been realised, e.g. Tarn I 361: 'it has often been explained since that this was not the way to hold a river-bank; but that was not their intention'. Fuller 148 f. is puzzled. He, it appears, would have put the Greek mercenary infantry on the river-bank, some cavalry on the flanks and the rest behind; but he forgets that the Persians considered themselves inferior in infantry (with justice in the event), and that his own disposition would have nullified most of the Persian cavalry. He goes further in saying that it was 'military etiquette'—the cavalry being too proud to put the infantry in the line—which prevented his plan from being adopted by the Persians; yet they put infantry in the line at Issus and Gaugamela!

passion than sense led the attack in person and lost his horse from a sword-thrust into its ribs.⁴⁹ In Plutarch's account the minute details of Alexander's narrow escape (e.g. when the blow pierced his helmet, the edge of the blade touched the first hairs on his forehead) and the mention of Alexander's moods make one think that the source was very close to Alexander in a personal way, and this points to Aristobulus. Further, Plutarch cites Aristobulus as his source for the losses on the Macedonian side: 34 killed of whom 9 were infantrymen. As Arrian gives different numbers (25 Companion cavalrymen in the first assault, 60 other cavalrymen and over 30 infantrymen), and as his sources are Ptolemy and Aristobulus, we conclude that Arrian is here following Ptolemy. The difference is extended into the matter of the statues set up at Dium (in Plutarch 34 and in Arrian 25, although Plutarch's figure is probably his own error rather than that of Aristobulus), and Plutarch is alone in mentioning the sending of spoils to Olympias. One may conclude with fair confidence that Plutarch drew mainly on Aristobulus, whereas Arrian drew mainly on Ptolemy.

Polyaenus and Arrian are alone in describing the sideways movement of Alexander's part of the army. It is most likely that they got it from the same source, namely Ptolemy. Further, we can infer that Ptolemy's account was fuller than that in Arrian; indeed here and elsewhere Arrian was clearly abbreviating. While Polyaenus chose to emphasise two points, the outflanking of the enemy position and the effectiveness of the phalanx, Arrian chose to emphasise only one, for which he had prepared the way in his account of the Parmenio–Alexander discussion, the danger of the line breaking in the channel and of isolated groups reaching the level ground. All three points are vital to an understanding of the battle, and Ptolemy probably made all three. Polyaenus may owe to Ptolemy his other contribution at iv 3.15: that Alexander ordered the Macedonians to leave Memnon's estates untouched and so made the Persians suspicious of Memnon. Alexander's order may have been issued in 336 B.C. or 335 B.C.; and the suspicion may have started before Memnon's advice was rejected at Zelea.

In conclusion there are three points to be made. A historian today has to choose between the account of Diodorus, which came probably from Cleitarchus, a non-participant, an armchair writer, notoriously undependable, and the accounts of Ptolemy and Aristobulus (as seen through the texts of Arrian, Plutarch and Polyaenus), both participants and close friends of Alexander, and both judged dependable by Arrian. The choice is a decisive one. To choose Diodorus as sound is to dismiss Ptolemy and Aristobulus not only as liars but also as most thorough impostors, since it is their accounts which become fictitious; and what is to hold for the Granicus battle should apply equally to other battles, e.g. at Thebes and Issus. My belief is that Diodorus' accounts of these military operations are worthless. His aim, or rather that of his source, was to exalt Greeks and Persians and to belittle the Macedonians, and he appeals naturally to those who share his predilections. On the other hand, Arrian had what we do not have, the books of Ptolemy and Aristobulus. He judged them to be historically accurate and truthful, and we can escape from Arrian's judgement only by supposing him to have been incompetent⁵⁰ or/and

⁴⁹ To ride ahead and attack a hoplite line was foolhardy in the extreme, but it is typical of the passion in action which is portrayed in the famous mosaic. Plutarch comments on *this* passion in Alexander. He is not saying that the general attack on the mercenaries was due to anger on Alexander's part, as Hamilton (41) and others take it. Sympathy with the mercenaries and talk of an angry massacre are features of recent writing, but one must bear in mind the number, the quality and the confidence of the professional Greek mercenaries. They were the finest infantry in Asia and might well expect to defeat the visibly smaller numbers of Macedonian infantry. They had had no experience of Macedonian Companion cavalry, and they probably hoped to fight their way out, as Xenophon's 10,000 had done and as many were to do at Issus. Alexander had good reason to prevent their escape, since they were Darius' best troops and Macedonia's worst enemies; moreover, he regarded them as sacrilegious traitors. Dionysius had crucified Greek mercenaries in Carthaginian service, and when Philip captured the

sacrilegious mercenaries of Onomarchus, he drowned them (Diod. xvi 35.6). Alexander put these mercenaries to work as state prisoners.

⁵⁰ A. B. Bosworth, 'Errors in Arrian', *CQ* xxvi (1976) 117–39, attacks Arrian's competence. I have commented on two of his points in n. 32 above; on his p. 124 (being a pursuit) in *CQ* xxviii (1978) 140; and note now that *ἔστῳσι* in Arr. i 16.4 is vivid for *ἔστασαν*, like *ἀποθνήσκει* for *ἀπέθανεν* in 16.3 and *ἀποπέμπει* for *ἀπέπεμψε* in 16.7, and does not indicate an unawareness in Arrian that the statues had been removed (Bosworth 173, followed by Loeb B). Critics of Arrian seem not to have appreciated his habit of mentioning a thing once and assuming his reader will take it to apply to later occasions. In this the first campaign of the actual *anabasis* he mentions that Alexander heard the wounded's stories, buried the Greek mercenaries, and sent hillsmen back to their properties (i 16.5–17.1); no doubt he did the same after Issus. So too Arrian used Macedonian terms here for which he later used his own terms: *οἱ ὑπασπισταὶ τῶν ἐταίρων* (i 14.2)

biased.⁵¹ If we trust Arrian we shall be going through him to recorded facts and personal memories. But we must remember they have come through the filter of Alexander and his Macedonians' viewpoint.

Secondly, what is our judgement of Alexander's personality and generalship in this campaign? He acted against the advice of his commanders, but his orders were executed by them to the letter and they fought at his side heroically. He set his men an extremely difficult task and they did not fail him. His will was dominant. It was fired by a passionate determination. He showed the same passion in combat, scaling the bank, spurring out to meet the Persian charge and riding ahead to attack the Greek mercenaries. But this was not to the exclusion of calculation and foresight. He knew that he had to break through the Persian position. For if he withdrew and campaigned in Ionia, his lines of communication would have been cut by the satraps' army and the possibility of Persia carrying the war into Europe might have become an actuality.⁵² On the other hand he could not turn the position of the Persians without running the risk of the very numerous Persian cavalry getting behind him and a superior number of professional infantry blocking his retreat. Whether Aristobulus or Ptolemy was the source of Plut. *Alex.* 16.1, it was he who saw the situation in its true light: 'To fight the battle was perhaps necessary; it was as if he stood at the gates of Asia, demanding entry and authority'. If then it had to be a battle, the sooner the better when the Persians had no chance to alter the disposition of their forces. Alexander issued his orders in advance, foreseeing the opportunity to lengthen his line and gain that advantage which just, and only just turned to scales in his favour. 'Alexander indeed had daring to the highest degree; but the charge that he was too daring cannot be pressed because it was never possible to decide whether or not he had acted in a foolhardy manner' (Curt. iv 9.23). Victory after all is unanswerable.

Last, it is only too easy to castigate the defeated side for incompetence, in the light of after-knowledge. But we should recall that the Persians expected Alexander to attack with an army of some 5,000 cavalry and at least 30,000 infantry, of which the Macedonian infantry phalanx had already proved itself superior in hand-to-hand fighting to the best Greek hoplites. To have put their 20,000 Greek hoplites on the lip of the bank against so superior a force of infantry would have been to court disaster. On the other hand, 20,000 cavalry (Persia's best arm) against 5,000 cavalry looked very promising; and it was customary in warfare to attack cavalry with cavalry. In the event, but for Alexander's personal drive and the use of infantry trained to fight among cavalry (a Thracian speciality), it seems most unlikely that the cavalry would have forced a way through the Persian cavalry. On the other hand, the readiness of the Macedonian infantry to suffer the hail of missiles and then push up a steep bank against the weight of horses was something the Persians did not expect to find. No other infantry of that period could have done it. The worst fault on the Persian side was the multiple command; for it was presumably due to this that the Greek mercenaries were not brought into action as soon as and where the Persian cavalry was weakening.⁵³

N. G. L. HAMMOND

*Institute for Research in the Humanities,
The University of Wisconsin at Madison*

which indicates that they belonged, like the *pezhetairoi* and *asthetairoi* to the companionship of the king; ἡ φάλαγξ for an infantry brigade, for which later he used *taxis*; and *σαρισσοφόρους* resumed at i 14.6 by *προδρόμους*, his usual term. These terms do not reveal a change of source, much less a doublet, as Bosworth suggests (126).

⁵¹ Neither Arrian nor any other surviving writer used for this battle the account of Callisthenes, which presumably put a better face on the affair while concealing Alexander's tactics during wartime. Arrian shows how

close Alexander came to disaster.

⁵² As suggested by Memnon in Diod. xvii 18.3; reasonably enough as Artaxerxes Ochus had raised opposition to Macedon in Greece and had landed mercenaries on the European side of the Bosphorus. Alexander may have studied the campaigns of Agesilaus in Asia.

⁵³ Memnon's ability as a mercenary commander was wasted; for he fought among the cavalry on the riverbank (i 15.2).



(a) The Kocabaş by Dimetoka; looking downstream from the bank just below the bridge.



(b) Inscription of Apollonius of Tyana now in Adana (Courtesy, J. Marcillet-Jaubert).

THE GRANICUS RIVER (a)
AN EPIGRAM ON APOLLONIUS OF TYANA (b)