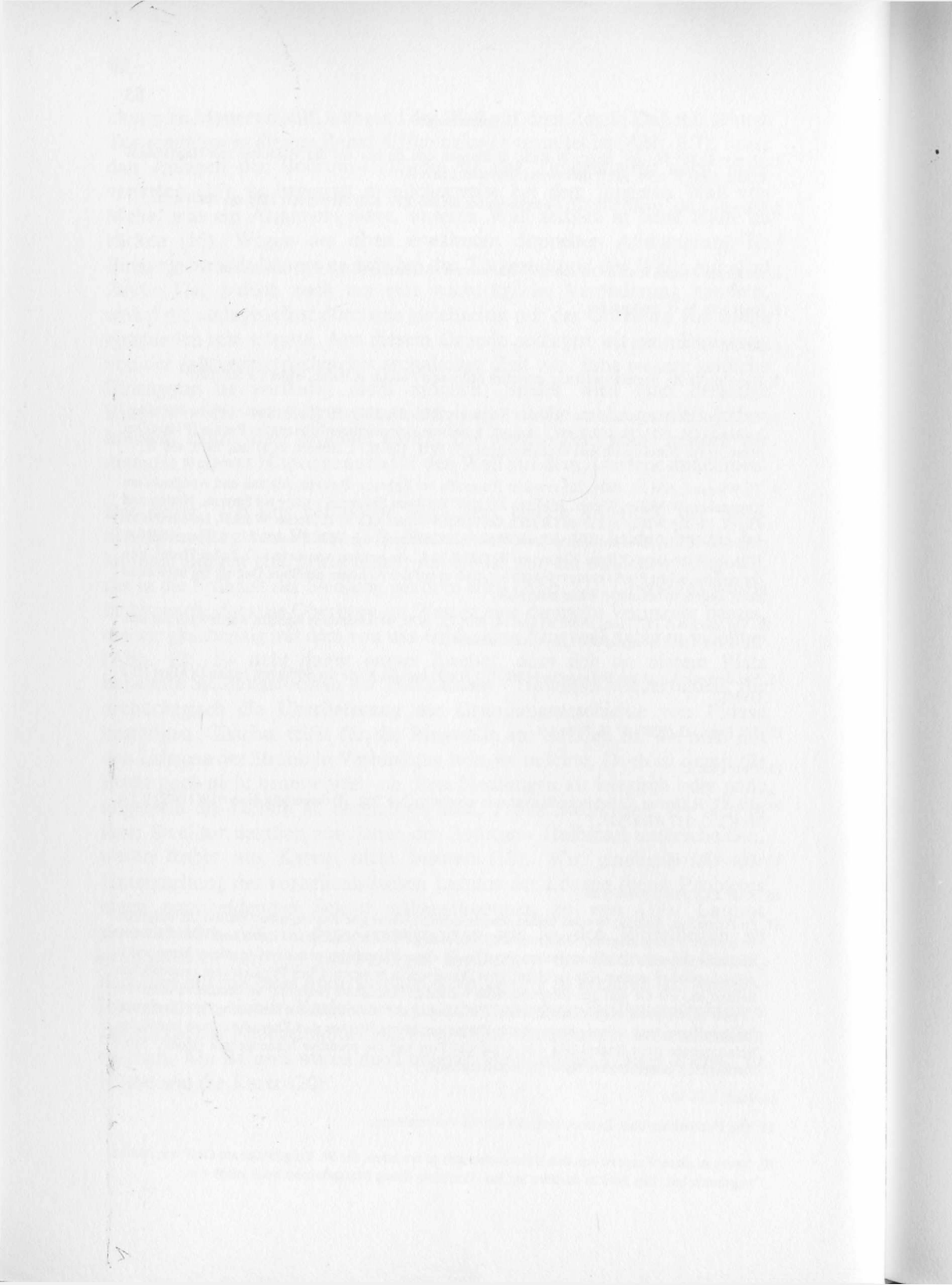


chung im Mauerverlauf, während der Wall auf dem Zeytin Dağ mit seinem Tangentialtor in diesem Punkt differenzierter gestaltet ist (Abb. 6.7); unter den Anlagen der Bodrum-Halbinsel ist das Tangentialtor auch nicht vertreten (15), es begegnet möglicherweise bei dem jüngeren Wall von Melie, was ein Argument wäre, unseren Wall zeitlich in seine Nähe zu rücken (16). Wegen der oben erwähnten doppelten Abmauerung im Eingangsbereich könnte es sich bei der Torgestaltung des Walls auf dem Zeytin Dağ jedoch auch um eine nachträgliche Veränderung handeln, wobei die Anlage selbst durchaus gleichzeitig mit der Oberburg von Melie entstanden sein könnte. Aus diesem Grunde schlagen wir eine Datierung von der spätgeometrischen bis archaischen Zeit vor. Eine weitere zeitliche Einengung ist vorläufig nicht möglich. Später wird man derartige Ringwälle, die verteidigungstechnisch keine Rolle mehr gespielt haben können, kaum mehr errichtet haben. Die gleiche Zeitspanne müssen wir mangels weiterer Hinweise auch für den Wall auf dem Asartepe annehmen.

Der dritte, von uns gefundene Wall liegt östlich unterhalb der hellenistischen Burg von Pidasa (17). Damit kommt zu den beiden bereits bekannten Burgen eine dritte hinzu; selbige ist nur ein schlichter Ringwall, der in die Frühzeit der Siedlung gehören wird (Abb. 11). Übersehen wurde bisher auch, dass die Oberburg im Westen eine doppelte Vormauer besass, die wir gleichzeitig mit dem von uns entdeckten Ringwall datieren möchten (Abb. 12). Es steht damit ausser Zweifel, dass sich an diesem Platz bekannte Siedlungsformen der Halikarnass - Halbinsel wiederfinden, die archäologisch die Überlieferung der Gründungsgeschichte von Pidasa bestätigen. Gleiches trifft für die Ringwälle am Bafasee zu, die man mit den Lelegeia des Strabo in Verbindung bringen möchte. Doch ist damit die Frage noch nicht beantwortet, ob diese Siedlungen als lelegisch oder ganz allgemein als karisch zu bezeichnen sind. Frühe Siedlungen, die sich in ihrer Struktur deutlich von denen der Bodrum - Halbinsel unterscheiden, waren bisher aus Karien nicht bekannt (18). Wir glauben, mit der Untersuchung des vorhellenistischen Latmos der Lösung dieses Problems einen entscheidenden Schritt nähergekommen zu sein (19). Latmos unterscheidet sich in der Gesamtanlage wie in den Einzelheiten so grundsätzlich von den gleichzeitigen Siedlungen der Bodrum-Halbinsel, dass dies nur mit einer andersartigen Bevölkerung zu erklären ist. Archäologisch lassen sich in Karien zwei grundverschiedene Siedlungsstrukturen fassen, die das Nebeneinander von zwei Volksstämmen sehr wahrscheinlich machen. Am Bafasee waren nach unserer Meinung die Leleger ebenso zu Hause wie die Karer (20).

Anmerkungen

1. Homer II 865 ff.; vgl. hierzu W.Radt, Siedlungen und Bauten auf der Halbinsel von Halikarnass. *IstMitt* Beiheft 3, 1970, 10 ff. (mit weiterführender Literatur)
2. Herodot I 142; Strabo VII 321; Pherekydes bei Strabo XIV 632; Strabo XII 321; vgl. Radt a.O.
3. ATL s.v.
4. Zu diesen Fragen Radt a.O.; zuletzt S.Hornblower, Mausolus (1982) 9 ff. und passim.
5. Radt a.O. 10 ff. und passim.
6. Strabo VII 321; XIII 611.
7. Herodot VI 20; Sympolitievertrag zwischen Milet und Pidasa: A.Rehm, *Milet* I 3 Nr. 149.
8. J.M.Cook, Some Sites of the Milesian Territory. *BSA* 65, 1981, 90 ff.; W.Radt, Pidasa bei Milet. *IstMitt* 23/24, 1973/74, 169 ff.; H.v.Aulock, Eine neue kleinasiatische Münzstätte: Pedasa (Pidasa) bei Milet *Jb für Numismatik und Geldgeschichte* 25, 1975, 123 ff.; L.Robert, *BCH* 102, 1978, 490 ff.
9. Th.Wiegand, *AM* 29, 1904, 265 erwähnt Ringwälle bei Ephesos, Boirazi, Alatzali und Apollonia am Rhyndakos; W.Müller-Wiener, *JdI Ergh* 23 (1967) 101 Anm 294 nennt weitere bei Smyrna, Notion und Klaros. Zu den Wällen in Karien s.Radt a.O.; Müller-Wiener a.O. 97 ff., ferner W.Radt, *IstMitt* 19/20, 1969/70, 165 ff. Erwähnt werden zwei Wälle bei Chalketor von W.R.Paton - J.L. Myres, *JHS* 16, 1896, 210 f. und von G.Bean, *Kleinasien III* (1974) 49 f., ein weiterer von Bean a.O. 50 bei Hyдай. Von der einheimischen Bevölkerung erfuhren wir, dass es auf den Anhöhen des Ilbira Dağ bis hin nach Iasos noch weitere unbekannte Wälle geben soll.
10. Vgl. dazu AA 1977, 100 f. Abb. 13 und 14; *BSA* 25, 1979, 80. Über diese Anlagen wurde auch auf dem IX. Türk Tarih Kongresi 1981 in Ankara berichtet.
11. Vgl. dazu die Karte des Bafasees in *Milet III I* (1913) und die Karte des Südlichen Ionien in *Milet III 5* (1936).
12. *JdI Ergh*. 23 (1967) 97 ff. Plan 1-2.
13. ebd. Plan 2.
14. ebd. 97; H.Drerup, Griechische Baukunst in geometrischer Zeit. *Archaeologia Homerica* (1967) 0 57; Radt a.O. 137 Anm. 113.
15. Radt a.O. 138.
16. Radt a.O. 138 u. Anm. 120.
17. Zu Pidasa vgl. Anm. 8; von den beiden Burgen existiert bisher nur eine ungenaue Planskizze, aufgrund derer man in der Anlage der Oberburg mit ihren rundgeführten Mauern und innen angesetzten Räumen lelegische Bauweise erkennen wollte. Doch kann diese Vermutung zumindest in dieser Form nicht aufrechterhalten werden. Die veröffentlichte Skizze weicht in wesentlichen Punkten vom tatsächlichen Befund ab, wie die von uns vorgenommene vorläufige Aufnahme (Abb. 12) verdeutlichen mag: der Grundriss, die geradlinige Mauerführung, die Zahnung der Südkurtine, die Verteilung der Türme und das durch zwei nach aussen vorspringende Türme geschützte Westtor sind Züge, die sich an lelegischen Befestigungen nicht finden. Mit diesen hat das Fort nur die primitive Mauertechnik gemein. Seine merkwürdig langgestreckte Form ist geländebedingt.
18. Radt a.O. 10.
19. Die Publikation über Latmos befindet sich in Vorbereitung.
20. Neues zu dieser Frage ist von den Untersuchungen zu erwarten, die W. Voigtländer am Golf von Akbuk begonnen hat. Ein Bericht darüber lag bei Abschluss dieses Manuskriptes noch nicht vor.



DID VITRUVIUS EVER VISIT HALIKARNASSOS?

Kristian Jeppesen

Is Vitruvius' description of the city of Halikarnassos 2.8.10-15 based exclusively on other written evidence or was he actually there to see it himself? It would, of course, greatly enhance the value and importance of the information he gives, if one could be sure that he did not merely quote from an other source without ever having had the opportunity of checking written evidence through a personal visit to Halikarnassos. The question to which extent, irrespective of its true authorship, the passage may be considered plausible and trustworthy will be dealt with in the forthcoming volume 2 on written sources of the Halikarnassos Publication. The objective of the present paper is to discuss the problem whether Vitruvius' occupation as a military engineer in the service of Caesar and Augustus is likely to have provided obvious opportunities for him to visit Halikarnassos. Since Ekrem Akurgal has often shown his helpfulness in supporting the activities of the Danish Halikarnassos Expedition, particularly in the promotion of the MAUSSOLLEION OPEN AIR MUSEUM recently opened in Bodrum under the joint auspices of the Turkish and Danish governments, I hope he will accept this study as a small tribute to his widely acknowledged international merits in the field of Classical Archaeology (1).

In the acknowledgment contained in the preface to book 1, Vitruvius explains the circumstances which induced him to write his treatise on architecture and to dedicate it to the emperor. The emperor had put him in charge, together with three other experts, of the construction and repair of engines of war, and when Vitruvius had resigned from this service, the emperor had graciously granted him a pension which he later renewed on the recommendation of his sister. She was presumably Augustus' elder sister Octavia Minor, Marcellus' mother who, after having divorced M. Antonius in 32 BC, spent many years in Rome where she died in 11 BC, and who is known to have enjoyed the affection and confidence of her

brother. Of the personality of Octavia Major who was his step sister, and the influence she may have exercised, nothing is known. Two of Vitruvius' colleagues, Marcus Aurelius and Gnaeus Cornelius, derived from well-known Roman families, and since the name of the third, Minidius, is not attested in any other context, it seems fairly probable that the word is misspelt and that he belonged to the gens of the **Minicii** or **Minucii**. If so, Vitruvius' colleagues were all men of some distinction which must mean that although he may have come from a family of modest means (cf. below), Vitruvius' career had eventually brought him into a respectable position in Roman society. He was obviously considered an expert in military engineering, and in his chapter on **ballistae** (10.11) he makes it clear that he had acquired his knowledge of poliorcetics not merely from his teachers but also from experience:

"Therefore, in order that even persons who are ignorant of geometry may be prepared, so that they are not delayed by calculation in dangerous situations in warfare, I will specify what I learnt both from personal experience and from my teachers" (...**quae ipse faciundo certa cognovi quaeque ex parte accepta praeceptoribus, finita exponam**).

He must have been trained through personal participation in warfare in the field while he was still a young man, for, as he says, he had transferred his loyalty towards the emperor from his former attachment to Julius Caesar. Consequently he must have served in Caesar's army and must have taken an active part in some of Caesar's campaigns.

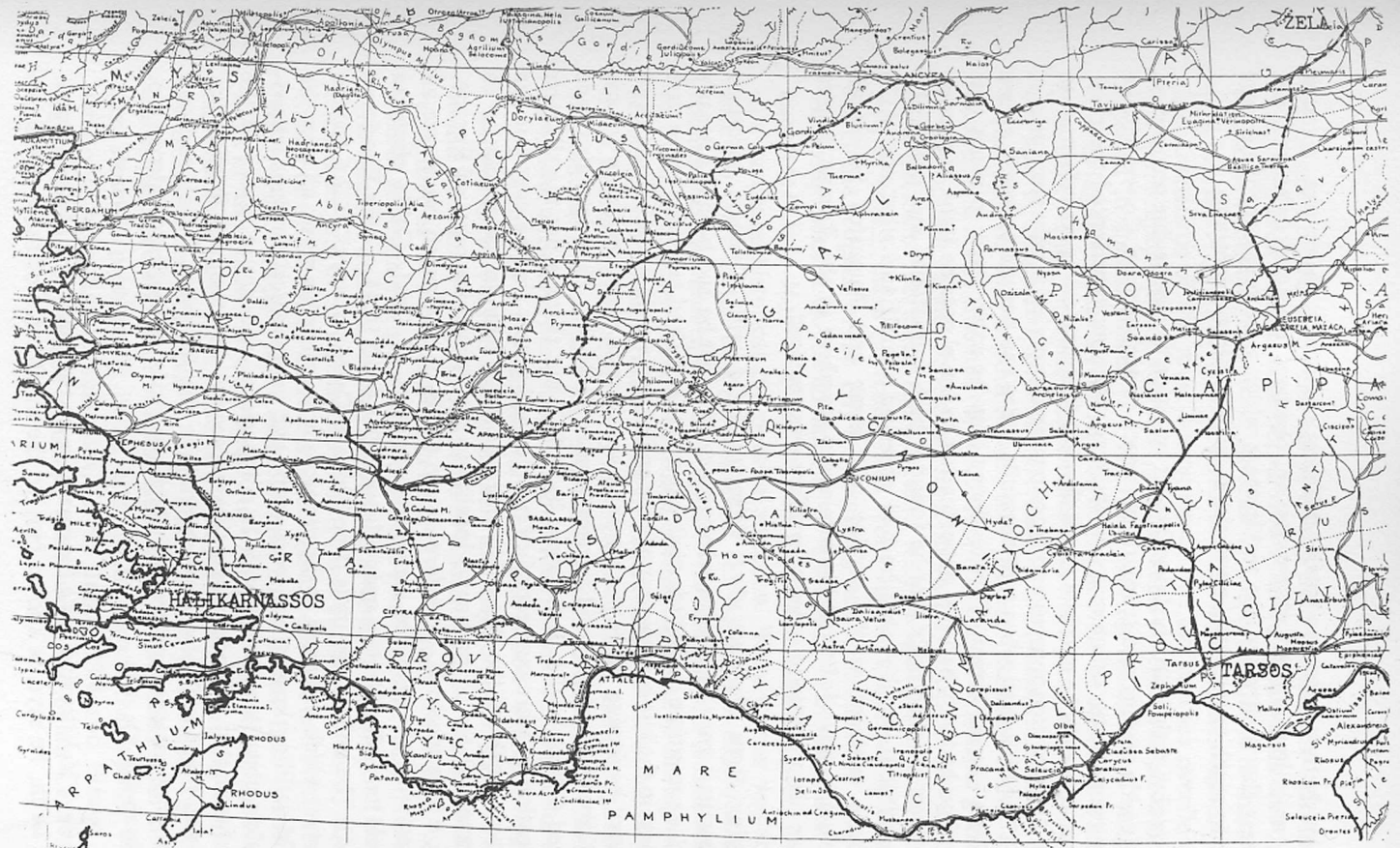
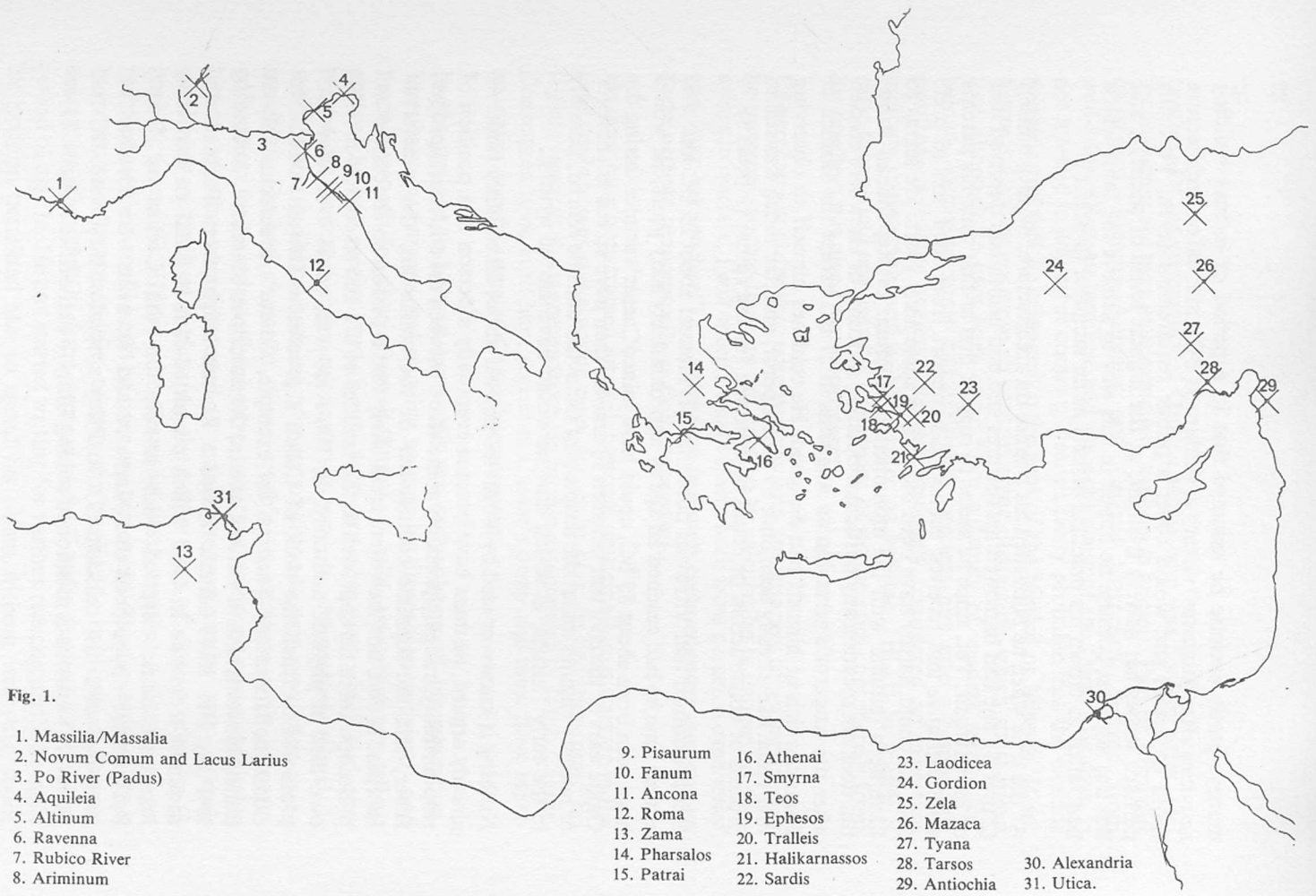
In the preface to book 6 he recalls the early phases of his education. Thanks to his parents, and possibly because his disposition was weak and made him unfit for physical work (2 pref. 4: **mihi...staturam non tribuit natura**) he had received an all-round literary education which had also aroused his interest in technical matters (6 pref. 4: **philotechnis rebus**). It had apparently always been his primary ambition to gain reputation as an architect. He had, however, been unable to compete with ignorant contractors (as he repeatedly observes with an undertone of unmistakable bitterness) who were interested in making money at the cost of their employers rather than in pursuing the nobler aims of their profession (3 pref. 3; 6 pref. 5). He was therefore, he admits, rather unknown as an architect, and he could boast of only one major building for which he had been personally responsible, namely the basilica he had built at Fanum some time after 27 BC (cf. the expression 5.1.7 **aedis Augusti**) i.e. in a late period of his life. He had started writing for various reasons: partly because his pension permitted him to spend his otium without worrying about

money, partly because he assumed that in a period of intense building activities after Augustus' victory at Actium 31 BC a manual on architecture could be useful and would cover a public requirement (even, Vitruvius perhaps somewhat naively thought, at the highest levels of society); and last but not least because he hoped in this way to achieve the fame which had failed to crown his practical efforts as an architect (6 pref.5).

At the time when he published his treatise on architecture, he says himself (2 pref.4), age had harrowed his features and bad health had deprived him of his strength. Yet, since he seems to suggest that at that time his parents were still alive and received economical support from their son (6 pref. 3-4), he could hardly have been older than some sixty years. He seems to have been familiar with the monumental buildings of Republican Rome but does not mention any particular building at Rome or elsewhere erected after the emperor's accession as **Augustus** in 27 BC except the basilica at Fanum which he himself had designed. He confines himself to observing that much had already been built by the emperor, and that much was still in process of construction or could be expected for the future (1 pref. 3).

If it is assumed that Vitruvius published his manual about 25 BC and that at that time he had reached an age of approximately sixty years, he would have been born about 85 BC, could have joined Caesar's armies during the Gallic wars or the civil war between 58 and 45, then have served as surveyor of military engines under the auspices of Octavian until he retired, possibly in the early Thirties, at which time he would have started writing.

Nothing is known or said by Vitruvius himself about his military rank. As already argued, he must have become eventually a person in a position of responsibility, ranging probably somewhere between the craftsman proper, **faber**, and the supreme commander of the craftsmen, the **praefectus fabrum**. It does not, however, seem likely that a person so concessive and philosophical in his approach to the realities of life and so conscious of his own lack of physical authority, as Vitruvius was, could ever have been promoted to reach the rank of Caesar's **praefectus fabrum**, one of his closest collaborators. Such as, for example, Caesar's **praefectus fabrum** during his campaign in **Gallia Comata**, the notorious Mamurra. According to Pliny NH 36.48 Mamurra was a Roman knight from Formiae and acquired a fortune in Gaul which permitted him to build an extremely luxurious house revetted with marble on the Caelius at Rome. P.Thielscher's hypothesis that Mamurra and Vitruvius were identical has been met with just criticism (2). In Pliny's opinion they were different persons (Vitruvius is mentioned among Pliny's authorities in book 1) and



obviously they were also totally different characters, Mamurra a tough and ambitious upstart, Vitruvius an obedient employee who did not possess the vitality and the recklessness which were necessary if he were ever to reach an outstanding position in the military hierarchy.

It was obviously Vitruvius' most ardent ambition to receive due recognition of his wide reading and scholarly approach to architecture. Conversely, he seems remarkably uninterested in showing off as an experienced traveller. In one case only he makes it perfectly clear that he derives his information both from written sources and from personal experience on water springs, 8.3.27 *ex his autem rebus sunt nonnulla, quae ego per me perspexi, cetera in libris graecis inveni*. This tendency may be interpreted to mean that Vitruvius had only had few opportunities to travel outside Italy. However, it is equally conceivable that he found it both immaterial and practically impossible to specify what he had observed himself and what not. As a military engineer in the service of Caesar and Augustus he would necessarily have followed his employers anywhere in the Roman empire where his presence in cases of warfare was required.

Judging from the fact that Vitruvius sided with Caesar's successor Augustus it must be considered almost certain that he had been in Caesar's service some time during the civil war and that he had taken an active part at least in the last campaigns until the end of that war in 45 BC, if not from its very beginning in 49. As we shall see there is patent evidence for his participation in the Numidian campaign in 47/46 BC. He might also have joined Caesar in the Gallic wars 58-51 BC, but there is not the slightest indication in Vitruvius' record of peoples and places that he ever saw the regions north of the Alps. Nowhere does he refer to **Germania** or to **Britannia** or to any particular locality in the transalpine parts of Europe, and, where specified, his references to **Gallia** or to Gaulish places are all understood to mean the southernmost parts of Gaul, **Gallia cisalpina** (1.4.11) or **Gallia Narbonensis** (**Massilia**, 2.1.5; 10.16.11; **Gallia Rhodanus** 8.2.6). The only exception is "the Rhine in Celtic territory" (8.2.6 **Celtica Rhenus**) which, however, is mentioned among other big rivers all over the world as Pliny knew them from maps and geographical writings (**chorographiis picta itemque scripta**). In comparison, evidence in favour of the conclusion that Vitruvius was active in Caesar's service during the civil war is much more explicit and substantial. In the following I shall review a number of passages in Vitruvius which seem to be of particular interest (cp. the map fig. 1):

In 2.9.14-16 Vitruvius has a long passage on the usefulness of larch wood. The larch, he says, is known only to the inhabitants of those municipia

which are situated along the banks of the river Po and the Adriatic sea (2.9.14). Larch wood is transported down the Po to Ravenna and is also available at Fanum, Pisaurum, Ancona and other municipia in that region (2.9.16). In 1.4.11 Vitruvius deals with another natural phenomenon which is characteristic of this area: during storms the agitated sea overflows the marshes round Altinum, Ravenna, Aquileia and other municipia which are situated in similar places (1.4.11), thus leaving the marshes salty and destroying their brackish fauna. Moreover, in 9.1.1 he mentions Piacentia (Piacenza). That Vitruvius was familiar with these parts of Northern Italy can also be concluded from his reference to the basilica at Fanum. In all probability he was entrusted with that project because he was locally known; and if this assumption holds true, it is also a reasonable guess that he was born at Fanum or somewhere in its vicinity and that he spent most of his period of retirement there together with his aged parents. This would not, of course, have prevented him from visiting occasionally Rome to watch the progress of the city's rebuilding on the initiative of Augustus. Vitruvius' passage on the advantages of larch wood is accompanied by an anecdote (2.9.15-16) which is of unusual interest because it appears to refer to a particular historical and political situation. When Caesar was staying with his army in the neighbourhood of the Alps (*circa Alpas*) and had commanded the municipia in this region to furnish supplies (*commeatus*), a fortified place called **Larignum** refused obedience, but after having offered resistance for a while from a tower of fire-resisting larch wood of which there were abundant supplies in these parts of Italy, the stronghold was surrounded by a rampart and eventually forced to surrender. Obviously **Larignum** must have been situated somewhere in the areas adjoining the Po where according to Vitruvius (2.9.16) larch wood was growing, i.e. Cisalpine Gaul, but it is utterly unlikely that any community in this region would have dared to refuse obedience to Caesar while he was still officially recognized as the representative in chief of the Roman senate in Gaul. The episode to which Vitruvius refers could not possibly have taken place until after Caesar's decision to cross the Rubico in 49 BC when the civil war had broken out and every Italian community must choose whether to side with Caesar or with Pompey and the senate. Caesar's soldiers had been recruited largely from Cisalpine Gaul, and it is known that Caesar had "borrowed" some of his regiments from Pompey to whom they had sworn the military oath (*Bellum Gall.* 6.1.2; Plutarch, *Pompey* 52.3). Moreover, while after 89 BC all other municipia in Italy had obtained full citizen rights, this status was not conferred to Transpadane Gaul by the senate until in 49 BC (*lex Roscia*), presumably in an attempt to secure the loyalty of this territory. According to Suetonius, *Divus Julius* 28.4 and Strabo 5.1.6, Caesar had already settled a number of colonists at **Novum Comum** and

endowed them with citizen rights. Consequently some of the communities in Cisalpine Gaul, perhaps especially those north of the Po, may have found themselves in an extremely precarious situation when the civil war broke out (3). It is not known where **Larignum** was situated, possibly in transpadane territory. In Vitruvius' opinion the name derived from the adjective **larignus** which, however, is not found elsewhere in Latin literature and could have been postulated to account for the name of **Larignum**. The latter word was not necessarily of Latin origin but might well be aboriginal, and it was perhaps etymologically related to the **Lacus Larius** (Lake of Como). After having crossed the Rubico, Caesar took Ariminum (Rimini), and when negotiations with Pompey proved fruitless he advanced further southwards and occupied Pisaurum (Pesaro), Ancona and Fanum, each with one cohort (**Bellum Civile** 1.11). This situation may have provided Vitruvius with a direct opportunity to offer Caesar his service, and hence to follow him until the end of the civil war.

After having secured his position on the whole of the Italian peninsula while Pompey had fled to the Dalmatine coast, it was Caesar's next step to attack Pompey's strongholds in Spain. During that campaign the city of Massalia (Marseilles) offered stubborn resistance and sustained a siege of more than half a year before it had to surrender to Caesar's forces. Vitruvius' description of some episodes during this siege (10.16.11) is possibly based on his own experience. Like Caesar (**Bellum Civile** 2.1. ff.) he refers to the use of fire by the besieged. However, his description of the measures taken by the defenders to prevent tunnelling from outside is unparalleled in Caesar's account and may well derive from personal observations.

When Massalia had fallen and Spain had been taken, Caesar defeated Pompey at the battle of Pharsalos in Greece, then proceeded to conquer Alexandria and the rest of Egypt. After having fulfilled this plan, he is reported to have ascended the Nile with a large number of ships to explore the country in company with Cleopatra (Appian, **The Civil Wars** 2.90; Suetonius, **Divus Caesar** 52.1).

Vitruvius' prescription that "if sacred temples are raised along rivers, as by the Nile in Egypt, they ought to seem to regard the banks of the river" (4.5.2 **Item si secundum flumina aedis sacra fiet, ita uti Aegypto circa Nilum, ad fluminis ripas videantur spectare debere**) suggests that he may have taken part in this expedition. Admittedly, not all temples along the banks of the Nile were orientated to face the riverside, but notable examples may be mentioned, such as the temples at Kom Ombo (on the east bank) and at Abu Simbel (on the west bank).

While Caesar was busy in Egypt, Pharnakes of Pontos had challenged Roman rule, and in the spring of 47 Caesar left Egypt to settle affairs in Asia Minor (*De Bello Alexandrino* 65 ff.). Via Syria he set out for Tarsos in Cilicia, then proceeded northwards across the Tauros mountains to reach Mazaca, the present Kayseri, thus approaching Pontos and the boundaries of Galatia. At midsummer time Pharnakes' forces were totally defeated at a battle at Zela not far to the south of Gaziura, the capital of Pontos. Pharnakes fled, and it was left to the Romans to plunder the royal possessions. The military objectives having been attained, it only remained for Caesar to see that order in those parts was restored. The sixth legion of veterans was instructed to leave for Italy and, on receiving its rewards and honours, to retire from active service while two legions were left in Pontos to prevent any uprising. Caesar himself marched through Galatia and Bithynia into the Roman province of Asia, i.e. the western part of Asia adjoining the Aegean, then hurried back to Rome. It can be estimated that after the battle at Zela about five months passed until Caesar was ready to embark from Sicily for Africa where his Roman adversaries and Iuba, the king of Numidia, were making preparations to prevent his arrival. Since it was at that time midwinter, Caesar decided to establish a bridgehead on the African coast and to postpone the transfer of his main forces until the beginning of springtime when navigation would become less risky. Vitruvius certainly joined Caesar on this campaign, but not necessarily from its beginning. The passage 8.3.24-25 seems to refer to the last stage of the campaign when the enemy had already suffered decisive defeat and there was nothing for Vitruvius to do except to wait and to spend his time discussing learned matters with a Numidian descendant of Masinissa who had been adopted by Caesar and was the owner of vast fields around the town of Ismuc twenty miles from Zama, King Iuba's capital. The surrender of the latter city was one of the last events of the campaign (*De Bello Africano* 92).

If, in actual fact, Vitruvius followed Caesar against Pharnakes and was temporarily dismissed from service after the battle at Zela, he might well have been on leave for altogether some 7 or 8 months which would have permitted him to visit various sites on his way back to Italy. It may have been one of Vitruvius' duties in the field to trace adequate sources of potable water for Caesar's soldiers. At any rate, he displays a keen interest in the study of the properties of water which is one of the topics he discusses with his Numidian friend (8.3.25); and, as we have already seen, his knowledge of water sources is based both on his own experience and on his reading of Greek authors (8.3.27). His observations on such phenomena in various parts of Asia Minor are therefore of special interest

as regards the issue of the present paper. At Tarsos he mentions the river Kydnos "in which gouty persons bathe their legs to relieve the pain" (8.3.6 **in quo podagrici crura macerantes levantur dolore**). Pliny NH 31.11 has the same story which he claims to have read in a letter from Cassius Parmensis to Marcus Antonius (**Cydnus Ciliciae amnis podagricis medetur, sicut apparet epistula Cassi Parmensis ad M. Antonium**). C. Cassius Parmensis was, like the better known Cassius, among Caesar's assassins. In 42 he was in charge of a fleet and an army in Asia where he collected funds for the cause of the exiles (Appian, *The Civil Wars* 5.2) and possibly had the opportunity of visiting Tarsos. In 36 he sided with Marcus Antonius against Octavian and was executed after the battle at Actium. Cassius' letter may or may not have been known to Vitruvius. It is not surprising, however, that Pliny refers to Cassius rather than to Vitruvius as his authority, for Vitruvius is not among the Latin writers Pliny quotes as his sources for book 31.

In 8.3.9 Vitruvius mentions a large lake (**lacus amplius**) on the road between Mazaca and Tyana in Cappadocia (**Cappadocia in itinere, quod est inter Mazaca et Tyana**), the water of which is so heavily saturated with solid substance that a reed (**harundo**) or another object which is let to fall into it and is taken out the next day will be found to have "turned into stone" (**invenietur lapidea**). This phenomenon compares, Vitruvius adds in the following passage, to the "stony crust" (**crusta lapidea**) deposited by the springs at Hierapolis (modern Pamukkale). Clearly, what Vitruvius means is that, on being taken up from the lake and dried, the reed would appear to be covered with a thick incrustation of minerals. The water of the springs at Hierapolis he compares with "fluid similar to rennet" which when exposed to the air and the heat of the sun becomes solid (**congelari**), just as happens in salt pits (**in areis salinarum**).

Tyana was situated just north of the pass called the Cilician Gates and approximately midway between Tarsos and Mazaca; and the ancient road between Tyana and Mazaca corresponded roughly to the course of the modern highway between Niğde and Kayseri. Ca. 4 km east of the village of Yeşilhisar on this road and at a distance of some 40 km from Kayseri and some 60 km from Niğde, there still exists a "seasonal saltlake" about 4 km in diameter which is called Kurbağa Göl ("Frog Lake"). According to modern geological maps it is included in a much larger area of "alluvial soils, saline and/or alkaline" which reaches as far as some 30 km west of and some 60 km south of Kayseri. Because of strong evaporation in this region the lake will tend to dry up in summer time (4). The Kurbağa Göl may well be the lake to which Vitruvius refers. It was presumably much like

any other saline or alkaline lake in the ancient world and may have been mentioned by Vitruvius mainly because he remembered having seen it himself. Pliny confines himself to observing, in his section on salt pits and salt lakes in NH 31. 73, that while in some salt lakes in Sicily the banks only dry up, "the evaporation is more extensive, reaching in fact to the middle of the lake, in Phrygia and Cappadocia and at Aspendos".

In 8.3.14 Vitruvius refers briefly to springs in the territories of Clazomenai, Erythrai and Laodicea (**inque agris Clazomeniorum et Erythraeorum et Laodicensium fontes**), and in 8.3.24 to the springs of Magnesia; while in 2.8.12-13 one of the topographical characteristics by means of which he describes the city plan of Halikarnassos is the fountain at Salmakis (**fons Salmacidis**).

According to a mistaken opinion, Vitruvius reports, the latter fountain is thought to make effeminate and shameless those who drink of it. But as a matter of fact, he adds - as if he had tasted the spring himself - its water is perfectly clear and has an excellent flavour (**sed est eius fontis potestas perlucida saporque egregius**). In Vitruvius' opinion it obtained its reputation by gradually mollifying the savage minds of the Carians and Leleges whom the civilized Greeks had cast out and driven to the mountains when they settled at Halikarnassos.

However, Vitruvius is also interested in the local varieties of building technique which can be seen in different countries. "For the style of building" he says "ought manifestly to be different in Egypt and Spain, in Pontos and Rome, and in countries and regions of various characters" (6.1.1 **namque aliter Aegypto, aliter Hispania, non eodem modo Ponto, dissimiliter Romae, item ceteris terrarum et regionum proprietatibus oportere videntur constitui genera aedificiorum** etc.). His observation in 2.1.5 that "roofs without tiles, made of earth kneaded with straw are to be seen at Massilia" (**Massiliae animadvertere possumus**) may well have been made while he was there at the above-mentioned siege in 49 BC; and similarly his information in 2.3.2 that at Utica unbaked bricks were not used for building walls unless they had been stored for five years and were perfectly dry was in all probability obtained in connection with his presence at the surrender of this city during the last stage of Caesar's African campaign in the summer of 46 BC (**De Bello Africano** 90). Detailed descriptions are given of the traditional dwellings said to be typical of the settlements of the Colchians in Pontos and of the Phrygians (2.1.4.5). Those of the Colchians are built of entire logs of timber and in

the form of square towers (**turres**). Judging from these characteristics they may have resembled or have been identical with the tall wooden towers called **mossynes** which according to Greek writers were used by the tribe of the **Mossynoikoi** living in the mountains along the shore of the Black Sea west of Kerasus. However, apart from these general features, the **mossynes** are not described in any technical detail, while Vitruvius gives an accurate account of the houses of the Colchians: their sides are built of beams crossing one another at the ends, and the gaps left between them by the thickness of the timber are blocked up with splinters and clay. Such details are mainly of interest for the technician and likely, therefore, to have been observed by Vitruvius himself rather than by a writer he quoted. At any rate, Vitruvius' passage does not contain the slightest indication that he had read about the **mossynes** and the **Mossynoikoi**, and that he assumed the houses of the Colchians to be identical with or to resemble the **mossynes**. No exact geographical position being indicated, they could have been situated anywhere in Pontos by which Vitruvius usually understands the whole region around the Black Sea inclusive of Southern Russia (compare 8.2.6 and 8.3.11). The phrase "the nation of the Colchians" (2.1.4 **natio Colchorum**) is probably used as a collective name for the numerous tribes of which the native population in this region was composed, cf. Strabo 13.3.10 ff. Following the passage on the wooden habitations in Pontos, Vitruvius describes in similar detail at 2.1.5 the primitive dwellings on the Phrygian plains which, owing to the absence of forests, were dug out in natural mounds and roofed with a pointed arrangement of logs covered with reeds, brushwood and earth.

If the evidence already mentioned and discussed is correctly interpreted to mean that Vitruvius was present at the battle at Zela, it seems likely that he would have followed the Persian Royal Road through Phrygia towards the Aegean on his way back to Italy (fig.2). In that case he could easily have visited Laodicea and Hierapolis before reaching Sardis, cf. his reference to the palace of Kroisos at Sardis in 2.8.10. From Sardis he could have proceeded to see Smyrna with its **Stratoniceum** (5.9.1), the temple of Dionysos erected by Vitruvius' favourite architect Hermogenes at Teos in the neighbourhood of Clazomenai and Erythrai (3.3.8 cf. 8.3.14), the great city of Ephesos (on which he dwells at notable length in 2.9.13; 3.2.7; 7.6.1; 10.2.11-15), Hermogenes' temple at Magnesia (3.2.6; 7.6.1; 8.3.24), various buildings at Tralleis (2.8.9; 5.9.1; 7.5.5); and eventually the city of Halikarnassos. Fig. 2 shows roughly which route he may be assumed to have followed from Tarsos to Halikarnassos. From Halikarnassos a ship could have brought him to Athens with which he seems to be familiar (1.6.4; 2.1.5; 2.8.9; 3.2.8; 5.9.1; 8.3.6).

If it is assumed that he left Pontos about the end of July and that he reached Athens before the beginning of the winter season, i.e. not later than at the end of October, he could have spent about 70 days altogether on his way to Halikarnassos, of which 40 would have sufficed for the travel, while the remaining 30 days could have been used for sightseeing en route. Subsequently, after a couple of weeks at Athens, he could have arrived at Rome (or Sicily) in the course of about 50 days, i.e. at the beginning of the new year in which case he might have joined Caesar even from the beginning of the Numidian campaign. (5)

The hypothesis discussed in the present paper does not, of course, imply that Vitruvius managed to visit all the places in Asia Minor and Greece which he mentions or to which he refers in some detail. Undoubtedly, much of his information was drawn from written sources. On the other hand, this fact should not be understood to indicate that Vitruvius never travelled abroad. He must have done so while he was in Caesar's service which he certainly was. As I have tried to show, he probably joined Caesar at the beginning of the civil war and was also present at the last stage of the African war. In all likelihood, therefore, he also participated in the intermediate campaigns in Egypt and in Pontos, and from Pontos the way back to Italy would naturally have taken him right through the Aegaeon and Greece where at no great expense he could have visited several of the famous sites he knew from his reading.

No other passage in Vitruvius is so entirely out of place in the context in which it is set as the one on Halikarnassos, and it is difficult to see why Vitruvius would have insisted on telling this long digression, if it was merely copied from the impressions of another writer. Quoting a famous authority might have added, in Vitruvius' opinion, to the merits of his own work, but in that case the name of the informant would presumably have been mentioned. The passage on Halikarnassos is clearly intended to lend variety to the long and dry discussion of the technicalities of building materials which is the subject of book 2. It is a show-piece demonstrating Vitruvius' own capabilities as a writer, and it seems likely that he chose for this purpose a theme with which he was particularly familiar, more so perhaps than any other writer whom he might have quoted, had he not visited the spot himself. Though it cannot be proved, it does seem possible, even likely, that he did do so and that he should be considered a first-hand authority on the topography of Halikarnassos.

Notes

- (1) A preliminary presentation of some of the arguments on which the conclusions of the present paper is based will appear in vol. 2 of the Halikarnassos Publication to which I must refer for further references as well.
- (2) See, for instance, Klaus Sallmann, *Der kleine Pauly* 5 (1975) s.v. Vitruvius, col. 1309-1313.
- (3) On these aspects see *The Cambridge Ancient History IX*, The Roman Republic 133-44 B.C. (1971) 638 ff.
- (4) *The Times Atlas of The World* (1973) pl. 36, square H4; *Soil Map of Europe* (FAO 1965); H. Walter and H. Lieth, *Klimadiagramm Weltatlas* (1964), Mittelmeerraum (8) Typus VII 414.
- (5) am indebted to Tønnes Bekker-Nielsen MA, who is working on a research project concerning communication in the Roman Empire, for having calculated the following hypothetical time-table for Vitruvius' itinerary:
- Zela-Halikarnassos (ca. 1200 km) = 40 days
 Halikarnassos-Athens (on ship across the Aegean) = 10 days.
 Athens - Aulona (ca. 600 km) = 20 days
 Aulona - Brundisium (on ship across the Adriatic) = 3 days
 Brundisium - Rome (ca. 500 km) = 20 days

It is a matter of conjecture how many days it might have taken Vitruvius to cross the Aegean from Halikarnassos to Athens. Provided that he obtained passage to Rhodes, there would probably have been frequent opportunities for him to get onboard a vessel bound directly for Athens. According to Vegetius of the 4th century AD (*re milit.* 4.39) the sailing season par excellence was from 27 May to 14 September, while the outside limits were 10 March and 10 November (L. Casson, *Ships and Seamanship in the Ancient World* (1970) 270). The daily average distance by land is here rated at 30 km which is a moderate figure. Ancient itineraries such as *Itinerarium Antonini* and *Itinerarium Burdigalense* indicate that it would normally vary between 20 and 30 Roman miles i.e. 30 and 45 km and might exceptionally amount to as much as 50 miles or more.

LETO AND THE CHILDREN

Brunhilde S. Ridgway

Ekrem Akurgal has always been interested in all aspects of Anatolian art and culture; it is hoped that he will enjoy this study which attempts to interpret a well-known sculptural type in the light of Lycian legends.

The type in question is that of a peplophoros in a running pose, holding in her arms, at shoulder level, two children who have been identified as Artemis and Apollo with their mother Leto. Known at first only from depictions on coins and two marble statuettes in Rome (Fig. 1), the composition has now acquired additional importance through the discovery of three over-life size replicas: one in the theater at Miletos (Figs. 2-3), one from Building Q in Pisidian Kremna and another from nearby Seleukia (Figs. 4-5) (2). Although these large copies are headless and fragmentary, only scars or breaks occurring at the shoulders where the children once rested, the appearance of the original can be approximately reconstructed through one of the two statuettes in Rome, in the Torlonia Museum. This piece, too, was severely damaged and has been extensively restored (for instance, all three heads are modern), but the lower bodies of the children remain, and enough of Leto's neck muscles to show that she was looking back while running to her right. A third statuette now provides additional evidence (3). At present on loan to the J. Paul Getty Museum in Malibu, California (Figs. 6-7), the piece is, to my knowledge, unrestored, although Artemis' head, which once broke off and was repaired in antiquity, has been reattached. Leto and Apollo are headless, but the children's bodies are almost entirely preserved, showing that the infant Apollo had his arms outstretched in the opposite direction from the flight. His bare upper torso contrasts with that of his sister, who is heavily covered by chiton (?) and himation. We shall return to this statuette later, to determine its relationship to the other replicas. For the moment, let us examine the meaning of the scene. "

It has been generally assumed that Leto is depicted while fleeing from Python, the monster sent by jealous Hera to chase her around the world.